

## **Communication during XIII Expedition**

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### **Introduction**

**An effective and continuous communication link between Maitri station and mainland is of prime necessity for survival and keeping the morale of winter members high.**

**The major task of communication team in XI wintering was to maintain communication link between Maitri, India and other wintering stations of Antarctica through HF, Satellite communication, TELEX and FAX. Apart from this convoy communication, camp communication and ground to air communication with helicopter on as and when required basis.**

### **Long Range Communication**

**The HF communication with COMCEN Delhi commenced with departure of the ship on 08 dec'93. Most of the messages were routed on this net from ship. This net was maintained at Maitri and thereafter on return journey of XI wintering team, till their arrival in India on 29 Mar'95. The communication throughout the winter was successful with good signal strength, except during the days of magnetic storms and ionospheric disturbances when poor strength or nil contact was experienced.**

**During the days of heavy blizzards the antenna connection to balun and load resistor were snapped, which in turn disrupted communication for one or two days, communication was also disrupted due to heavy static charge. During blizzards the static charge measured upto 400 volts (with reference to earth) which can cause damage to communication systems.**

**The 5KW Tx sets provided most successful service throughout the expedition. However, one 5 KW became non-operational but defect was rectified by cannibalizing the spares from 100 W set and the set was put on road.**

**BEL 1KW Tx fitted in radio room performed satisfactorily. This was used to communicate with Polar bird and with neighbouring stations. In good propagation conditions this set was also utilised to communicate with India. The total number of words transmitted over HF were nearly 2 lakhs, the RATT mode of transmitter was non-ops due defective PA.**

### **Communication with Convoy**

**Two convoy vehicles were fitted with Dittel VHF Tx/Rx, effective communication was established with these vehicles till 2/3 rd distance of the convoy route, thereafter HFset at DG was utilised to communicate with Maitri. A round the clock listening watch was kept on VHF (Freq 125 MHZ) and on HF (Freq 4460 Khz) to listen any emergency call.**

**Following equipment were fitted on Convoy vehicles:-**

- (i) Dittel VHF Tx/Rx - In piston bully vehicles  
(2 sets, one on each vehicle)**
- (ii) BEL 100W Tx/Rx - At DG hangar**
- (iii) PWSL 100W Tx/Rx - At DG hangar**
- (iv) PWSL walkie talkie - For communication between  
convoy vehicles**

### **Communication with Neighbouring Stations**

**There was a regular schedule between stations mentioned below and Maitri.**

- (a) Russian station Novolazarevskaya (70°46'S, 11 °49'E) at 1000 Z every-day. During the period information was exchanged on frequency 125 Mhz. Apart from schedule, round the clock watch was kept by Maitri and NOVOLAZAREVSKAYA on 125 Mhz to contact Russian station at any given time.**
- (b) German station George Foster (70°45'S, 11°49'E) every day during summer period ( Feb'94 to Apr'94 and Jan'95 to Feb'95) on 125 Mhz at 1000 hrs and round the clock watch was kept on the frequency.**
- (c) German station Neumayer (70°37'S, 8°22'W). Contact was made daily during summer of '94 and on predecided dates and during winter on 4460/8265/6264 Khz.**
- (d) Japanese station SYOWA (69° 00' S, 39° 15'E) occasionally every month on 4460/8265/6264 Khz.**

**(e) British station Holly Bay during summer of 1995 on 4462/8265/6264 Khz**

### **Communication with Ship and Helicopter**

**Regular and uninterrupted communication with the ship and helicopters was maintained on following frequencies:-**

- |                              |                           |
|------------------------------|---------------------------|
| <b>(a) MV STEPAN K</b>       | <b>4460/8265/6264 KHZ</b> |
| <b>(b) Chetak helicopter</b> | <b>125 MHZ/4460 KHZ</b>   |
| <b>(c) MV POLAR BIRD</b>     | <b>4460/8265/6264 KHZ</b> |

**Communication was excellent throughout the summer.**

### **Satellite Communication Terminals**

**Three satcom terminals are existing in Maitri station, out of three terminals 1640522/23 is fully operational in all three modes (Telephony,TELEX and FAX). This terminal performed excellently except once, when FAX machine became defective, which was restored within 72 Hrs.**

### **Additions/Improvisations**

- (a) Public announcement system with 6 loud speakers was installed at different positions in the station. Three speakers were installed in summer camp and one outside the station. These proved helpful during summer camp and in emergencies.**
- (b) Provision for recording satcom conversation was provided to members in radio room.**
- (c) New intercom set was installed in Station Commander's office, Radio room, A Block, Generator room, Boiler room, MI room, Summer camp, IMD lab, Lounge, Army team leader's cabin, Communication officer's cabin, Doctor's cabin, and in IIG lab.**
- (d) Following Tx/Rx aerials were also fabricated and erected to achieve effective communication.**
  - (i) Three inverted V and double inverted V, facing outward to communicate with ship and convoys.**
  - (ii) Dipole facing India bay.**
  - (iii) Receiver aerial to have better reception with neighbouring stations.**

### **Acknowledgements**

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