

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.2004/Tele/WL/2/Misc.

New Delhi, dated 22.05.2007.

General Managers,
All Indian Railways.

Sub: Guidelines for utilization of Walkie-Talkie/VHF sets on Indian Railways.

VHF sets of 25W and walkie-talkie sets of 5W are being used for different operation and maintenance functions including Driver & Guard communication and station to station communication. Since all these sets can be tuned in entire VHF band and operated in multiple channel mode, there is a need to streamline and standardize the system of working. Therefore, the following guidelines are issued:-

1. **Frequency allocation for Departments:** Henceforth, frequency programming of 25W VHF sets and walkie-talkie sets for department-wise applications should be done as per Frequency Allocation given in Annexure-1
2. **Frequency Allocation of VHF sets with the SM:**

Normally one 25W simplex VHF set will be provided to SMs at the Railways stations. This set will be provided with DTMF signaling for selective calling facility and CTCSS/DCS signaling to ensure one to one secured and secret communication for block communication channel. There should be display of called and calling party ID on each VHF set. This can be done either by programming and displaying a code or the name of the station of calling party on called party set and vice a versa. This set will have priority channel scan (Guard Driver communication channel with station master at frequency 161.15 MHz) to ensure automatic switch over of VHF sets to Driver Guard communication channel in case of calling station master failed to switch over the channel manually within 5 secs. after the talk is over.

3. Frequency allocation for block communication by using VHF sets during failure of Block Instrument and Electrical Communication Instrument:

For exchanging paper line clear, VHF sets should be used as per the directive issued by Board's letter No.2005/Safety(A&R)/19/7 dated 01.07.2005. From the consideration of safety, three (3) frequencies are allotted for straight route for taking 'Line Clear' and programmed as channel-5, 6 and 7. These channels should be programmed with CTCSS/MF coding using alternate frequencies for adjacent sections as detailed below:-

- Channel-5 for 1st section (150.100 Mhz)
- Channel-6 for 2nd adjoining section (150.150 Mhz)
- Channel-7 for adjoining 3rd section (159.600 Mhz).
- Channel-5 for next 4th section.
- Channel-6 for next 5th section and so on

For the junction stations the more number of frequencies will be required to maintain alternate frequency plan for adjacent sections. Six additional frequencies are kept reserved for this purpose as shown in Annex.-I. Railways may prepare their own frequency plan for Junction Stations using these frequencies.

4. VHF sets provided to Operating and Maintenance Staff:

- i) 25W Simplex VHF sets provided to SMs at Railway Station will be on Driver Guard frequency with priority scan and will have single knob control for setting to frequencies for:
 - a) Taking line clear at the time of block failure;
 - b) Coordination with maintenance staff;
 - c) Coordination with other station staff for shunting & yard movements.
- ii) The walkie-talkie sets provided to various departments shall be tuned to two (2) frequencies/channels only i.e. one common channel-10 (160.400 Mhz) and second to that allocated to the respective departments.
- iii) The departmental staff should keep their walkie-talkie sets tuned to the frequency/channels allotted to them as per Annexure-I.

- iv) A common frequency (160.400 Mhz) for inter-departmental use is provided so that users of different department with mutual consent can communicate among themselves when they switch over to this channel. This channel can also be used for direct dialing the exchange subscribers where this facility is provided.
- v) Staff of Operating department such as SMs and shunting staff should use VHF sets in channel-14 (162.100 MHz) for shunting and yard communication.
- vi) All activities as detailed above should be carried out through secured communication on MTRC phones on the sections where Mobile Train Radio Communication is commissioned.

5. VHF sets provided in ARTs:

ART frequency (147.975 MHz) should be used for communication at disaster sites. This should normally be restricted to 30 sets in the ART which should be distributed only among the officers/supervisors directly connected with relief and restoration arrangements at site, as decided by the senior most officer-in-charge. Other users having separate walkie-talkie sets should not come on this frequency.

6. Communication with Level Crossing Gate:

When needed, a separate 25W simplex VHF set shall be provided at level crossing gate and nearest station. Only channel-9 (159.700 MHz) should be programmed in this 25W VHF set with CTCSS/MF coding.

These guidelines are issued in consultation with the Safety and Traffic Directorates of Ministry of Railways.

DA : Annexure-I


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Copy to:-

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ED/Tele/RDSO/Lko.

Standardisation of VHF- Frequencies on Indian Railway

Chl.#	Frequency in Mhz	SM at all stns	Station to LC gate	Driver & Guard	Shunting/ Operating	Engineering dept.	Electrical dept.	S&T dept.	Commercial dept.	RPF	Mechanical dept.	To be used for
1	146.400									X		Security Department
2	147.975				ART Frequency							Accident Site Communication
3	148.100										X	Machanical Department
4	149.750					X						Engg. Department
5	150.100	XC										F1- for PLC; 1st section of Straight Section
6	150.150	XC										F2- for PLC; 2nd sec of Straight Section
7	159.600	XC										F3- for PLC; 3rd sec of Straight Section
8	159.650							X				S&T Department
9	159.700		XC									Communication with LC gate.
10	160.400	X			X		X	X	X	X	X	Common frequency
11	160.550								XE	XE		Train Escorting Purpose
12	161.150	X		X								Driver & Guard communication
13	161.425						X					Electrical Department.
14	162.100	X			X							Shunting & Yard Communication
15	146.200	XC										F4- for PLC; 1st section
16	148.050	XC										F5- for PLC; 2nd sec
17	149.900	XC										F6- for PLC; 3rd sec
18	149.850	XC										F7- for PLC; 1st section
19	151.400	XC										F8- for PLC; 2nd sec
20	151.450	XC										F9- for PLC; 3rd sec

Note:

X - Channel programmed

XC - Channel programmed with CTCSS/MF coding.

XE - For Train escorting duties only.

- Frequencies allocated against channel can be interchanged if railways are using some other frequencies except Driver Guard.