

**East Central Railway**

**Office of the  
General Manager(S&T)  
Hajipur  
Dated: 16.10.2024**

**e-File. No. 45305 (No. ECR/S&T/VHF/139)**

**Sr. DSTEs  
DHN, DDU, DNR, SEE & SPJ  
E. C. Railway**

**Sub: Use of Digital VHF sets over Indian Railways.**

**Ref: Rly Bd's letter no. 2024/Tele/11(3)/1 (3451974), date 11.10.2024**

Rly Bd's under reference letter is enclosed herewith for kind information and necessary action please. It is requested for strict compliance of above guideline for use of Digital VHF sets over ECR.

DA: as above

 16.10.24

**(ए.पी.वर्मा)  
(A.P. Verma)**

**Dy.CSTE/Planning/ECR/Hajipur  
for GM/S&T/HJP**



**भारत सरकार Government of India**  
**रेल मंत्रालय Ministry of Railways**  
**रेलवे बोर्ड (Railway Board)**

सं.2024/Tele/11(3)/1(3451974)

रेल भवन, नई दिल्ली -110001

दिनांक: (As signed)

**The General Manager,**  
**All Zonal Railways**

**Director General,**  
**R.D.S.O.,**  
**Lucknow**

**(Telecom Circular No. 08/2024)**

**Sub.: Use of Digital VHF sets over Indian Railways**

**Ref.: i. RDSO's letter No.RDSO-TELE0LK0(SPEC)/9/2019 dated 08.10.2024**  
**ii. Board's letter of even number dated 27.06.2024**

\* \* \* \* \*

Communication between Loco pilot and Guard is very critical from safety point of view. This communication needs to be reliable with clarity in speech. In this respect, Zonal Railway were advised vide Board's letter of even number dated 27.06.2024 to submit feedback on the performance of Analog and Digital 5W VHF sets to RDSO. Further RDSO was asked to submit recommendation on this issue. RDSO vide letter dated 08.10.2024 has submitted the following:

- (1) Presently 3 types of 5W Walkie-Talkie sets are available. Analog Walkie-Talkie set with basic feature, Digital with basic feature & Digital with high end facilities. Purchaser decides which types of set are to be procured. Digital Walkie-Talkie sets which comply with RDSO specifications, can communicate with Digital as well as Analog sets.
  - (2) A performance comparison between 5W Analog and Digital Walkie-Talkies has been submitted vide Annexure-II (copy enclosed), wherein RDSO has brought out that in terms of speech quality, coverage range, channel capacity, battery backup, the performance of Digital sets is superior to Analog sets. Further, the Analog sets can communicate with only Analog whereas Digital sets can communicate with both Analog as well as Digital sets.
2. In order to harness the advantages offered by Digital technology based VHF sets, following has been approved by AM/Tele/Railway Board:
- i. Henceforth only Digital 5W Walkie-Talkie sets will be procured over Indian Railways.
  - ii. Tenders for VHF sets which have been floated for Analog Walkie-Talkie sets, but not finalized (i.e. LOA not issued on date) shall be reprocessed to procure only Digital Walkie-Talkie sets.

....2/-

I/3107106/2024

- iii. Digital 5W Walkie-Talkie sets procured/available in Railways may be utilized for Loco Pilot, ALP, SMs & Train Manager (Guard) on first priority. When in a particular section, all the above officials are provided with Digital Walkie-Talkie sets, action may be taken for switching of Analog based 25W & 5W VHF sets to Digital 25W & 5W VHF Sets operation.
- iv. 5W Sets released/spared from above may be handed over to maintenance departments and Security.
- v. RDSO is advised to work towards broadening the vendor base for digital 5W Walkie-Talkie sets.

Signed by

Dharmendra Singh

Date: 11-10-2024 19:27:33.

(धर्मेन्द्र सिंह)

निदेशक/ दूरसंचार

दूरभाष 011-47843013, 030-43013

ई.मेल dtele@rb.railnet.gov.in

**Copy to:**

1. AM(RS), Railway Board
2. PCSTE, All Zonal Railways

....2/-

Phone : 0522 – 2459886  
Fax : 0522 – 2462635  
E-mail : vijay.garg79@gov.in



भारत सरकार, रेल मंत्रालय  
अनुसंधान अभिकल्प और मानक संगठन  
लखनऊ-226 011  
Government of India - Ministry of Railways  
Research Designs & Standards Organisation  
LUCKNOW – 226011



Date: As signed  
Through e mail

Director Tele  
Railway Board  
New Delhi  
Email:dtele@rb.railnet.gov.in

Sub. : Feedback on Digital/Analog 5W VHF sets over Indian Railways.  
Ref. : 1. Railway Board letter no 2024/Tele/11(3)/1 (3451974) Dated 27-06-2024.  
: 2. This office letter of even no. Dated 27-08-2024.

5W VHF sets are used in Indian Railways for Communication between Driver, Guard and Station Master. With the increasing use of Long Haul trains, it has become important to improve the quality of VHF transmission.

Presently as per RDSO specification RDSO/SPN/TC/107-2018 Ver 2.1, three type of VHF Walkie-Talkie sets are available for procurement i.e. Analog, Digital and Digital with high end facilities. Purchaser has to decide which type of sets is to be procured. Both type of 'Digital Walkie-Talkie' sets as per RDSO specification can communicate with Digital set as well as Analog set. Many of the VHF manufacturers have stopped the production of Analog Radios.

In reference and continuation to RB Letter at Ref (1) Zonal Railways were requested to give feedback for performance of Analog/Digital Walkie-Talkie set. Inputs were received from 11 ZR i.e. ECoR, ER, WCR, SCR, WR, NR, NER, CR, NCR, SWR, SR and same are summarized and attached as Annexure -1. From the feedback received from different Zonal Railway and taking inputs from other sources a comparison between Analog and Digital Walkie talkie sets has been prepared and attached as annexure II.

In view of the better speech clarity, more battery backup and more coverage area in the Digital Walkie Talkie sets, Zonal railways may be advised to procure Digital Walkie Talkie sets only. No analog set may be procured in future.

This has the approval of PED/S&T.

Digitally Signed by Vijay  
Garg  
Date: 08-10-2024 13:24:02  
Reason: Approved  
(Vijay Garg)

Director /Telecom-1  
for Director General/ Telecom

## Annexure-I

## Summary of feedback for Analog/ Digital VHF Walkie Talkie sets as received from 11 ZR

(Out of 11, 5 ZR has not used any Digital set)

S. No.	ZR		Performance at ground	Performance in the running train (Goods)	Performance in the running train (Mail/Express)	Performance in Long Haul running train	Battery Backup	Any other observation
1	WCR	Analog set	1.5/1.8/2.5KM	Very Good/Good/Average/Poor	Very Good/Good/Average/Poor	Not working	8-10 Hrs.	Robust, durable, reliable, failure rate very less, some model have poor performance
		Digital set	Not Available					
2	SCR	Analog set	1.0-1.5/0.9 Km	Good but some models are not satisfactory	Satisfactory/Poor	Satisfactory/Poor	6/7/8/10 Hrs.	Data of different models received has been separated by '/'
		Digital set	Not Available					
3	WR	Analog set	0.9-1.1/0.5-0.7 Km	Good /Average	No Data	No Data	8-10 Hrs.	90-100%/60-80%
		Digital set	Not Available					
4	NR	Analog set	~1 Km	Unsatisfactory	No Data	No Data	Not Given	Nil
		Digital set	1-2 Km	Satisfactory	Not Given	Not Given	No Data	Nil
5	NER	Analog set	1/1.2/1.4 Km	Satisfactory/Unsatisfactory	No Data	No Data	8/10/12 Hrs.	Data of different models received has been separated by '/'
		Digital set	Not Given					

6	CR	Analog set	1.0Km to 1.5Km	Good/ Very Good but some models are not satisfactory	Good/ Very Good but some models are not satisfactory	Satisfactory/ Average / Not satisfactory	10-12 Hrs.	Data of different models received has been separated by '/'
		Digital set	1.0Km to 1.5Km	Good/ Very Good	Good/ Very Good	Satisfactory/ Average	14-16 Hrs./ 10 Hrs	
7	NCR	Analog set	1.2,1.5/0.7 Km	Good/ Very Good	No Data	No Data	No Data	Nil
		Digital set	1.3Km	Excellent	No Data	No Data	No Data	Nil
8	SWR	Analog set	Excellent/Satisfactory/Not satisfactory	Excellent/Satisfactory/Not satisfactory	Excellent/Satisfactory/Not satisfactory	Excellent/Satisfactory/Not satisfactory	10-48 Hrs.	Data of different div received has been separated by '/'
		Digital set	Satisfactory/ Very Good	Satisfactory/ Very Good	Satisfactory/ Very Good	Satisfactory/ Very Good	10/24/48 Hrs.	
9	SR	Analog set	1.0 to 1.5/0.6 Km	Satisfactory/Average	No Data	No Data	8-10 Hrs./5-6 Hrs.	Data of different models received has been separated by '/'
		Digital set	1Km/1.5 Km	Satisfactory/ Poor	No Data	No Data	8-10/14 Hrs.	
10	ECoR	Analog set	1.0/ 1.5 Km	Very Good /Good /Average/Not Satisfactory	Very Good /Good /Average/Not Satisfactory	Satisfactory /Average	12/10/8 Hrs.	Data of different models received has been separated by '/'
		Digital set	Not Given					
11	ER	Analog set	Not Given					
		Digital set	Satisfactory than Analog					

## Annexure-II

S No.	Parameter of comparison	Analog Walkie-Talkie sets	Digital Walkie-Talkie sets
1.	Speech quality	Good	Excellent
2.	Coverage range	1-1.2 Km	1-1.5 Km
3.	Battery Backup	8-10 Hrs.	10-16 Hrs.
4.	Uses over IR	Mostly	Only few
5.	Vendors	Many models are available	Only few are available
6.	Technology	Vanishing technology	Growing technology
7.	Ability of data communication	Only voice communication	Voice communication in base model however high end digital sets can give voice and data communication both.
8.	Communication with other type	Can communicate with Analog sets only	Can communicate with Analog and Digital sets both.
9.	Channel Capacity	16 Ch	16 Ch /256 Ch