

**GOVERNMENT OF INDIA  
(Ministry of Home Affairs)  
COMMUNICATION & IT DIRECTORATE  
CENTRAL RESERVE POLICE FORCE**

**EAST BLOCK-7, SEC-1, R.K. PURAM, NEW DELHI-110066**

(Email:- [comncell@crpf.gov.in](mailto:comncell@crpf.gov.in) Tele/Fax:011-26109038)

No. B.V-7/2024-25-C (QRs)

Dated, the April'2024

To


1. The DsG: AR, BSF, CISF, ITBP, NSG, SSB and BPR&D
2. Director, DCPW

**Subject: Regarding Revision of QRs/TDs of "Static HF Transceiver".**

I am directed to refer on the subject mentioned above and to say that the revised QRs/TDs of "**Static HF Transceiver**" which has been recommended by CAPFs sub-group and experts from DCPW has been approved by the DG CRPF.

2. QRs/TDs of "**Static HF Transceiver**" has forwarded earlier vide letter No.B.V-7/2021-22-C(QRs) dated 07/02/2022 is rescinded.

**Encl:-**As above

  
24/4/24

{Amit Taneja}

**DIG (Equipment)  
Communication & IT Branch  
Directorate General C R P F**

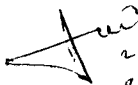
No. B.V-7/2024-25-C (QRs)

Dated, the April'2024  
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**Copy to:-**

1. Mrs. Sugandhi, Technical Director, and North block, MHA with request to upload the revised QRs/TDs of "**Static HF Transceiver**" on MHA website (e-mail ID: [mpsugandhi@nic.in](mailto:mpsugandhi@nic.in)).

**Encl:-**As above

  
24/4/24

{Amit Taneja}

**DIG (Equipment)  
Communication & IT Branch  
Directorate General C R P F**

## QRs/TDs OF STATIC HF TRANSCEIVER

### 1.1 General Specification

S.N	Parameter	Specifications	Trial Directives
1.	Frequency Range	2.0 MHz to 29.9999 MHz channel spacing 10 Hz.	BOO will check frequency range of HF set by programming lowest, highest and any random frequency in 2.0-29.9999 MHz range and will measure with the help of standard testing instruments. The RF output and sensitivity of radio set in entire band should be same.
2.	Modes	SSB( J3E) USB, LSB, AM, CW/MCW	BOO will check Modulation practically after switching "ON" the radio set and setting these modes one by one and firm will produce OEM certificate.
3.	Preset	100 Channels or more	BOO will check it practically by setting the channels in the radio set.
4.	Frequency Stability	±1 PPM or better	BOO will check parameter practically by using the standard test instrument.
5.	Built-in-test	Front panel testing.	BOO will check practically.
6.	Input Power	+12V or 24V ± 10% DC Nominal & 230V ± 10% AC	BOO will check practically by connecting mentioned DC/AC voltages to radio set and will ensure that set works properly.
7.	Power Consumption	≤40W in Receive & ≤ 450W in Transmit	BOO will check practically.
8.	EMI / EMC	MIL-STD- 461/462C or ETSI or CISPR 22 or IEC 61000-4 Series (TEC/EMI/TEL-001/01 FEB-09) or better standard	The firm will produce certificate of Govt. Lab. or NABL/ILAC accredited laboratory.

S.N	Parameter	Specifications	Trial Directives
9.	Weight	Less than 20 KG	BOO will measure weight with help of weighing machine.
10.	Antenna Impedance	50 Ω Unbalanced	BOO will check practically.
11.	Protection	(i) Reverse Polarity protection (without fuse )	BOO will check practically and firm will produce OEM certificate.
		(ii) Protection against high VSWR. Radio set should be protected from 3.5:1 or above VSWR.	
		(iii) Over Voltage and under Voltage Protection.	
12.	Roles	Fixed/Transportable/Mobile	BOO will check practically.
13.	Headphone Impedance	Up to 600Ω	BOO will check practically/Firm will produce OEM certificate.
14.	Cooling	Built in fan/ Heat sink	BOO will check Physically.
15.	VSWR	Better than 1.5	BOO will check practically.
16.	Visual display	Front panel LCD/LED display or latest technology	BOO will check practically.
17.	Interface	RS-232 / USB	BOO will check practically.
18.	Programming	PC programming software and front panel programming.	BOO will check practically by software and front panel programming.
<b>1.2 Transmitter Specification</b>			
1.	RF Power	20W to 100W PEP (Low, Medium , High) As per user requirement with programmable feature.	BOO will check practically.
2.	Spurious Emission Suppression	≥ 46 dB below PEP	BOO will check practically.
3.	Side Band Suppression	≥ 50 dB or better	BOO will check practically.
4.	Carrier Suppression	≥ 40 dB or better	BOO will check practically.
5.	Inter modulation distortion	30 dB minimum below PEP	BOO will check practically.

S.N	Parameter	Specifications	Trial Directives
6.	Audio Response	Within 6 dB from 350Hz to 2700Hz.	BOO will check practically.
7.	Side Tone Level	Better than 0.1 mW into 150Ω load for 5mV of audio input at 1 KHz.	BOO will check practically.
8.	Modulation Sensitivity	1 to 10 mV at 1 KHz for full power under SSB mode.	BOO will check practically.
<b>1.3 Receiver Specification</b>			
1.	Receiver Sensitivity	-107 dBm for 10dB SINAD or better	BOO will check practically.
2.	Image Rejection	≥70 dB or better	BOO will check practically.
3.	IF Rejection	≥70 dB or better	BOO will check practically.
4.	In band Inter Modulation Distortion	35 dB minimum below PEP	Firm will produce OEM certificate.
5.	Audio Response	Within ±6 dB from 350Hz to 2700Hz	BOO will check practically.
6.	Audio Output	1W or more across loudspeaker	BOO will check practically.
7.	Audio Frequency Harmonics Distortion.	≥ 25 dB or better	BOO will check practically.
<b>1.4 Environmental Parameters</b>			
1.	Operating Temperature	-30°C to +55° C	The firm will produce certificate of Govt. Lab. or NABL/ILAC accredited laboratory.
2.	Storage Temperature	-30°C to +60°C	
3.	Humidity	95% non-condensing @ 40°C.	
4.	Dust	MIL-STD-810F or better	
5.	Vibration	or	
6.	Shock	JSS-55555 (As laid down in Class L3 of JSS-55555, revision No.2)	
7.	Water Intrusion		
8.	Altitude		

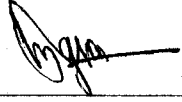
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S.N	Parameter	Specifications	Trial Directives
<b>1.5 Features</b>			
1.	Selective calling	Digital FSK coding	Firm will produce OEM Certificate.
2.	Scanning	5 channels per second or better	
3.	Flash messages	Minimum 60 characters	BOO will check practically.
4.	Vocoder	MELP/CELP (1200/2400bps) or better	Firm will produce OEM certificate.
5.	In built Data Modem	MIL-STD -188 -110A/B/C single tone up to 4800 bps or more.	Firm will produce OEM certificate.
6.	Data Communication	Provision for data communication	BOO will check practically.
7.	Tele Call	The Radio set should have capability to dial and operate data.	Firm will produce OEM certificate.
8.	RS-232 control	The Radio set should have capability to operate at 4800 baud rate or better.	BOO will check practically.
9.	Tuneable receiver	Continuous tuneable.	BOO will check practically.
10.	Radio kill/un-kill	Should be able to manually erase the programming/data.	BOO will check practically.
11.	Remote Operation	Capable to operate from remote location through cable.	BOO will check practically.
12.	Audio input sockets	Mic and external socket.	BOO will check practically.
13.	Squelch	Voice/Digital squelch	BOO will check practically.
14.	Push to talk.	Suitable Microphone to be provided.	BOO will check practically.
<b>1.6 Optional Features (As per user requirement)</b>			
1.	Communication Security	AES 128 bit or AES 256 bit or SAG approved (As per user requirement)	Firm will submit OEM Certificate.
2.	ALE 2G/ALE 3G	ALE 2G as per Appendix "A" and ALE 3G as per Appendix "C" of MIL-STD-188-141B	Firm will produce OEM Certificate.
3.	Frequency Hopping	Hop Rate: >6 hops per second	Firm will produce OEM certificate.

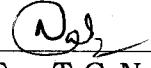
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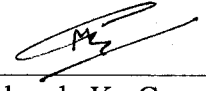
S.N	Parameter	Specifications	Trial Directives
4.	GPS Interface	Inbuilt GPS with polling facility	BOO will check practically.
5.	Data terminal equipment as per user requirement. Should be compatible with offered HF Radio.		BOO will check physically and firm will produce OEM certificate.
a)	Processor	Intel Core i5 or better	
b)	RAM	Minimum 8GB DDR4 (Expendable up to 64 GB or better)	
c)	Storage	256 GB or more SSD	
d)	Interface	USB, HDMI /DP Port	
e)	Operating System	Operating System should compatible with HF Radio data communication software	



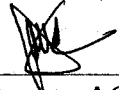
(Nb Sub Maheshwar Prasad Gupta)  
Assam Rifles



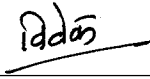
(SI/Exe.T.G.Naidu)  
CISF



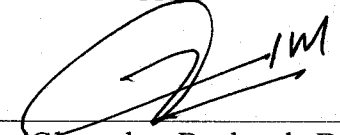
(Mahesh Kr Gaur, AC)  
ITBP



(Daud Topno, AC)  
SSB



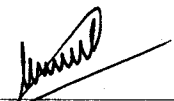
(Vivek Kr Gupta, AD)  
DCPW




(Chandra Prakash, DC)  
BSF



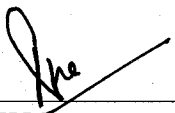
(Sunil Kr Singh, DC(Comn))  
CRPF



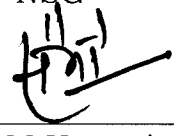
Major Abhishek  
NSG



(Amit Taneja)  
DIG(Eqpt), CRPF



P.C.JHA  
DIG(Comn), CRPF

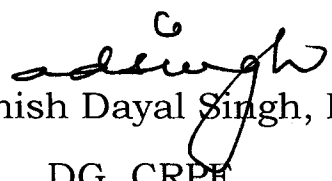


(S.M.Hasnain)  
IG (Comn &IT), CRPF



(Vitul Kumar, IPS)  
ADG(OPS), CRPF

~~Approved / Not Approved~~

  
(Sh. Anish Dayal Singh, IPS)  
DG, CRPF