## GOVERNMENT OF INDIA (Ministry of Home Affairs) DIRECTORATE GENERAL

## CENTRAL RESERVE POLICE FORCE EAST BLOCK-7, SEC-1, R.K. PURAM, NEW DELHI-110066

(Email:- comncell@crpf.gov.in

Tele/Fax:011-26107493)

No. B.V-7/2021-22-C (HWBR)

Dated, the May 2021

To

- 1. DIG (Comn), ITBP Block No. 2, CGO Complex Lodhi Road, New Delhi-03
- 2. DIG (Comn), SSB East Block-V, R.K Puram New- Delhi-66
- 3. Liaison Office, Assam Rifle Room No-171, North Block, MHA New Delhi -01
- 4. AIG (Comn), CISF Block No. 13, CGO, Complex Lodhi Road, New Delhi-03
- 5. DIG (Prov), BSF Block No. 10, CGO Complex Lodhi Road, New Delhi-03

Subject: Regarding QRs/TDs of "Digital Handheld Wideband Receiver".

Please find enclosed QRs/TDs of "Digital Handheld Wideband Receiver" as Annexure-"A" duly approved by the competent authority is forwarded herewith for further necessary action.

Encl: (QRs & TDs of "Digital Handheld Wideband Receiver")

{P.R.Jha, DC (Comn)}
For DIG (Equipment)
Directorate General, CRPF

## QRs OF DIGITAL HAND HELD WIDE BAND RECEIVER

a) ( b) 1 c) 1 d) 4 e) 5 f) 7 g) 1	Role Operational Mode Frequency range No. of memory channel Memory bank Search bank Tuning steps/ frequency resolution Receive mode  Antenna Impedance Selectivity	Specifications  Hand Held  Memory scan, Programme scan  100 KHz to 1300MHz or better  Minimum 2000 memory channel  40 or more  40 or more  Minimum step size 10 Hz  Intercept both digital and analog modes:  a) Digital mode – DMR(4FSK), DPMR, NXDN, P25 (APCO25), TETRA, D-STAR, ALINCO EJ-47U, YAESU, DIGITAL-CR etc  b) Analog mode –  AM, USB, LSB, CW, NFM etc  50 Ω	
b) 1 c) d d) 1 e) 5 f) 7	Frequency range No. of memory channel Memory bank Search bank Tuning steps/ frequency resolution Receive mode  Antenna Impedance	100 KHz to 1300MHz or better  Minimum 2000 memory channel  40 or more  40 or more  Minimum step size 10 Hz  Intercept both digital and analog modes:  a) Digital mode – DMR(4FSK), DPMR, NXDN, P25 (APCO25), TETRA, D-STAR, ALINCO EJ-47U, YAESU, DIGITAL-CR etc b) Analog mode – AM, USB, LSB, CW, NFM etc	
b) 1 c) d d) 1 e) 5 f) 7	Frequency range No. of memory channel Memory bank Search bank Tuning steps/ frequency resolution Receive mode  Antenna Impedance	100 KHz to 1300MHz or better  Minimum 2000 memory channel  40 or more  40 or more  Minimum step size 10 Hz  Intercept both digital and analog modes:  a) Digital mode – DMR(4FSK), DPMR, NXDN, P25 (APCO25), TETRA, D-STAR, ALINCO EJ-47U, YAESU, DIGITAL-CR etc b) Analog mode – AM, USB, LSB, CW, NFM etc	
c) (d) (d) (e) (f) (f) (f) (f) (f) (f) (f) (f) (f) (f	No. of memory channel Memory bank Search bank Tuning steps/ frequency resolution Receive mode  Antenna Impedance	40 or more  40 or more  Minimum step size 10 Hz  Intercept both digital and analog modes:  a) Digital mode – DMR(4FSK), DPMR, NXDN, P25 (APCO25), TETRA, D-STAR, ALINCO EJ-47U, YAESU, DIGITAL-CR etc b) Analog mode – AM, USB, LSB, CW, NFM etc	
d) 1 e) 3 f) f) f) fi	channel Memory bank Search bank Tuning steps/ frequency resolution Receive mode  Antenna Impedance	40 or more  40 or more  Minimum step size 10 Hz  Intercept both digital and analog modes:  a) Digital mode – DMR(4FSK), DPMR, NXDN, P25 (APCO25), TETRA, D-STAR, ALINCO EJ-47U, YAESU, DIGITAL-CR etc b) Analog mode – AM, USB, LSB, CW, NFM etc	
e) s f)  g)  i	Search bank Tuning steps/ frequency resolution Receive mode  Antenna Impedance	40 or more  Minimum step size 10 Hz  Intercept both digital and analog modes:  a) Digital mode – DMR(4FSK), DPMR, NXDN, P25 (APCO25), TETRA, D-STAR, ALINCO EJ-47U, YAESU, DIGITAL-CR etc b) Analog mode – AM, USB, LSB, CW, NFM etc	
e) s f)  g)  i	Search bank Tuning steps/ frequency resolution Receive mode  Antenna Impedance	Minimum step size 10 Hz  Intercept both digital and analog modes:  a) Digital mode – DMR(4FSK), DPMR, NXDN, P25 (APCO25), TETRA, D-STAR, ALINCO EJ-47U, YAESU, DIGITAL-CR etc b) Analog mode – AM, USB, LSB, CW, NFM etc	
f) / g) ]	frequency resolution Receive mode  Antenna Impedance	Intercept both digital and analog modes:  a) Digital mode – DMR(4FSK), DPMR, NXDN, P25 (APCO25), TETRA, D-STAR, ALINCO EJ-47U, YAESU, DIGITAL-CR etc b) Analog mode – AM, USB, LSB, CW, NFM etc	
g) 1	frequency resolution Receive mode  Antenna Impedance	Intercept both digital and analog modes:  a) Digital mode – DMR(4FSK), DPMR, NXDN, P25 (APCO25), TETRA, D-STAR, ALINCO EJ-47U, YAESU, DIGITAL-CR etc b) Analog mode – AM, USB, LSB, CW, NFM etc	
g) 1	resolution Receive mode  Antenna Impedance	a) Digital mode – DMR(4FSK), DPMR, NXDN, P25 (APCO25), TETRA, D-STAR, ALINCO EJ-47U, YAESU, DIGITAL-CR etc b) Analog mode – AM, USB, LSB, CW, NFM etc	
h) i	Antenna Impedance	a) Digital mode – DMR(4FSK), DPMR, NXDN, P25 (APCO25), TETRA, D-STAR, ALINCO EJ-47U, YAESU, DIGITAL-CR etc b) Analog mode – AM, USB, LSB, CW, NFM etc	
i)	Impedance	P25 (APCO25), TETRA, D-STAR, ALINCO EJ-47U, YAESU, DIGITAL-CR etc b) Analog mode – AM, USB, LSB, CW, NFM etc	
i)	Impedance	EJ-47U, YAESU, DIGITAL-CR etc b) Analog mode – AM, USB, LSB, CW, NFM etc	
i)	Impedance	b) Analog mode – AM, USB, LSB, CW, NFM etc	
i)	Impedance	b) Analog mode – AM, USB, LSB, CW, NFM etc	
i)	Impedance		
i)	Impedance	50 Ω	
i)			
	Colootivity		
j)	Selectivity	CW 0.2 / 0.5 KHz (-3dB)	
j)		SSB 1.8 / 2.6 KHz (-3dB)	
j)		AM 3.8 / 5.5 / 8 / 15 KHz (-3dB)	
j)		FM 6 / 15 / 30 KHz (-3dB)	
j)		WFM 100 KHz (-3dB)	
j)		Digital Mode 6 / 15 / 30 KHz	
j)		(-3dB)	
J)	Sensitivity	530 KHz – 17.99999 MHz: 0.75 μv (12 dB	
	Ochsicivity	SINAD,	
		18 MHz-1300 MHz: 0.35 μv	
		(12 dB SINAD)	
k)	VFO	Minimum 3 Nos (0.5-1300 MHz)	
	Frequency stability	≤ ± 5 PPM or better	
	AF Power output	400mw or better	
	Weight &	Less than 600 gms and 80 mm (W) x 150 mm	
	dimensions	(H) x 50 mm (D)	
	Power Supply		
	7		
	Charger	Charging of rechargeable batteries	
	Battery working	Not less than 8 hours	
	hours		
	Current	500 mA (Max)	
,	consumption		
	Environmental Parameters		
	<b>Environmental Par</b>	-10° C to + 50° C	
b)	Operating temperature		

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S. N	Parameters	Specifications	
4.	Antenna	Suitable antenna for all receiving mode	
5.	Connector Jack	Earphone jack for headphone	
	for External		
	speaker/Head		
	phone		
6.	Receiver Feature	Alphanumeric LCD/LED display	
	Display		
a)	Keypad back-lit	Should be available	
b)	Priority scanning	Should be available	
c)	Auto store of		
	frequencies	(2000 channel or more)	
d)	AFC(Automatic	Frequency control function for spot on tuning	
	frequency control)	<i>′</i>	
e)	Squelch	NSQ, LSQ	
f)	Squelch and		
	Volume control		
g)		Should be available	
	mode		
h)	facility		
i)	Data clone Lead	To interface with computer software	
j)	Data backup &	Backup & Restore data (Memory	
	Restore data	channel/search bank/ configuration) facility	
	facility via	should be available	
	SD/SDHC card		
k)		Should be available	
1)	Auto sleep, alarm, record timer	Should be available	
m)	Optional System	Life time online firmware update support for	
	8	newly added features.	
	a	Receiver should have facility to operate by	
		window-based PC.	
		Audio Analyser software	
		GPS	
n)	Dual Band	Should be available	
	operation		
7.	Receiver Accessor		
a)	Carrying Case	Should be available	
b)	Belt Clip	Swivel belt clip or alligator type	

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8.	Literature	
a)	User Handbook	As per requirement
b)	Technical Manual	Should give out full technical descriptions of
	for	equipment and circuit layout etc.
	receiver(optional)	

(Insp/RM Laxmi Pati)

**BSF** 

(G.Rajan), AC(Comn) SSB

(Mayank Kapoor) Dy. Director, DCPW (Sub M.K. Singh) Assam Rifles

(Maj. Shanshah Ali) NSG

(Harjinder Singh), DIG(Eqpt)

(S.P.Bhowmick), AC **ITBP** 

(P. R. Jha), DC(Comn) **CRPF** 

**CRPF** 

(Virendra Agrawal),DIG(Comn)

**CRPF** 

(Ravideep Singh Sahi), IG(Comn &IT)

**CRPF** 

(Zulifiquar Hasan), IPS,ADG(HQ) **CRPF** 

Approved/Not Approved

(Kuldiep Singh, IPS) DG, CRPF

## TDs OF DIGITAL HAND HELD WIDE BAND RECEIVER

S. N	Parameters	Specifications	Trial Directive
1.	Role	Hand Held	Board will check
a	Operational	Memory scan, Programme	practically.  Board will check
	Mode	scan	practically.
b	Frequency range	100 KHz to 1300MHz or better	Board will check practically.
c)		Minimum 2000 memory channel	Board will check practically.
d	Memory bank	40 or more	Board will check practically.
e)	Search bank	40 or more	Board will check practically.
f)	Tuning steps/ frequency resolution	Minimum step size 10 Hz	Board will check practically.
α δ	Receive mode	Intercept both digital and analog modes:  a) Digital mode – DMR(4FSK), DPMR, NXDN, P25 (APCO25), TETRA, D-STAR, ALINCO EJ-47U, YAESU, DIGITAL-CR etc b) Analog mode – AM, USB, LSB, CW, NFM etc	Board will check practically with available radio set and firm will also submit OEM certificate.
h	Antenna Impedance	50 Ω	Firm will submit OEM certificate.
i)		CW 0.2 / 0.5 KHz (-3dB)  SSB 1.8 / 2.6 KHz (-3dB)  AM 3.8 / 5.5 / 8 / 15  KHz (-3dB)  FM 6 / 15 / 30 KHz (-3dB)  WFM 100 KHz (-3dB)  Digital Mode 6 / 15 / 30  KHz (-3dB)	BOO will check practically.
j)	Sensitivity	530 KHz - 17.99999 MHz: 0.75 μv (12 dB SINAD, 18 MHz-1300 MHz: 0.35 μν (12 dB SINAD)	BOO will check practically.

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1) I I S S M A N N N N N N N N N N N N N N N N N N	Frequency stability AF Power output Weight & dimensions  Power Supply Battery rating  Charger  Battery working hours Current consumption Environmental F Operating temperature	Specifications  Minimum 3 Nos (0.5- 1300 MHz)  ≤ ± 5 PPM or better  400mw or better  Less than 600 gms and 80 mm (W) x 150 mm (H) x 50 mm (D)  Maximum 7.5V, 2000 mAh(min) Charging of rechargeable batteries  Not less than 8 hours  500 mA (Max)  Parameters  -10° C to + 50° C	BOO will check practically.  BOO will check practically.  BOO will check practically.
b) (3. 1) (b) (c) (c) (d) (d) (d) (d) (d) (d) (d) (d) (d) (d	Stability AF Power output Weight & dimensions  Power Supply Battery rating  Charger  Battery working hours Current consumption Environmental F Operating	1300 MHz) ≤ ± 5 PPM or better  400mw or better  Less than 600 gms and 80 mm (W) x 150 mm (H) x 50 mm (D)  Maximum 7.5V, 2000 mAh(min)  Charging of rechargeable batteries  Not less than 8 hours  500 mA (Max)  Parameters	BOO will check practically.  Firm will submit certificate of any Govt
b) (3. 1) (b) (c) (c) (d) (d) (d) (d) (d) (d) (d) (d) (d) (d	Stability AF Power output Weight & dimensions  Power Supply Battery rating  Charger  Battery working hours Current consumption Environmental F Operating	≤ ± 5 PPM or better  400mw or better  Less than 600 gms and 80 mm (W) x 150 mm (H) x 50 mm (D)  Maximum 7.5V, 2000 mAh(min)  Charging of rechargeable batteries  Not less than 8 hours  500 mA (Max)  Parameters	BOO will check practically.  Firm will submit certificate of any Govt
b) (3. 1) (b) (c) (c) (d) (d) (d) (d) (d) (d) (d) (d) (d) (d	Stability AF Power output Weight & dimensions  Power Supply Battery rating  Charger  Battery working hours Current consumption Environmental F Operating	400mw or better Less than 600 gms and 80 mm (W) x 150 mm (H) x 50 mm (D)  Maximum 7.5V, 2000 mAh(min) Charging of rechargeable batteries Not less than 8 hours  500 mA (Max)  Parameters	Firm will submit certificate of any Govt
m A n) V (a) (b) (c) I d) (c) I d) (c) I d) (d) (d) (d) (d) (d) (d) (d) (d) (d)	AF Power output Weight & dimensions  Power Supply Battery rating  Charger  Battery working hours Current consumption Environmental F	Less than 600 gms and 80 mm (W) x 150 mm (H) x 50 mm (D)  Maximum 7.5V, 2000 mAh(min)  Charging of rechargeable batteries  Not less than 8 hours  500 mA (Max)  Parameters	Firm will submit certificate of any Govt
<ul> <li>n) V</li> <li>c) I</li> <li>d) C</li> <li>d) C</li> <li>3. I</li> <li>b) V</li> </ul>	Weight & dimensions  Power Supply Battery rating  Charger  Battery working hours  Current consumption  Environmental F	Less than 600 gms and 80 mm (W) x 150 mm (H) x 50 mm (D)  Maximum 7.5V, 2000 mAh(min)  Charging of rechargeable batteries  Not less than 8 hours  500 mA (Max)  Parameters	Firm will submit certificate of any Govt
2. 1 a) I b) (c) I d) (c) 3. 1	Power Supply Battery rating Charger Battery working hours Current consumption Environmental F	80 mm (W) x 150 mm (H) x 50 mm (D)  Maximum 7.5V, 2000 mAh(min) Charging of rechargeable batteries Not less than 8 hours  500 mA (Max)  Parameters	Firm will submit certificate of any Govt
2. 1 a) 1 b) 0 c) 1 d) 0 3. 1 b) 1	Power Supply Battery rating Charger Battery working hours Current consumption Environmental F	(H) x 50 mm (D)  Maximum 7.5V, 2000 mAh(min) Charging of rechargeable batteries Not less than 8 hours  500 mA (Max)  Parameters	Firm will submit certificate of any Govt
a) I b) ( c) I d) ( 3. I b) ( b) ( b) ( c) ( c	Battery rating Charger Battery working hours Current consumption Environmental F	Maximum 7.5V, 2000 mAh(min) Charging of rechargeable batteries Not less than 8 hours 500 mA (Max)  Parameters	Firm will submit certificate of any Govt
a) I b) ( c) I d) ( 3. I b) ( b) ( b) ( c) ( c	Battery rating Charger Battery working hours Current consumption Environmental F	mAh(min) Charging of rechargeable batteries Not less than 8 hours 500 mA (Max) Parameters	Firm will submit certificate of any Govt
b) (c) I 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Charger  Battery working hours Current consumption Environmental F	mAh(min) Charging of rechargeable batteries Not less than 8 hours 500 mA (Max) Parameters	Firm will submit certificate of any Govt
c) I l l l l l l l l l l l l l l l l l l	Battery working hours Current consumption Environmental F	Charging of rechargeable batteries Not less than 8 hours 500 mA (Max)  Parameters	Firm will submicertificate of any Govt
c) I l l l l l l l l l l l l l l l l l l	Battery working hours Current consumption Environmental F	batteries Not less than 8 hours 500 mA (Max) Parameters	certificate of any Govt
3. 1 a) (	hours Current consumption Environmental F	Not less than 8 hours 500 mA (Max) Parameters	certificate of any Govt
3. 1 a) (	hours Current consumption Environmental F	500 mA (Max) Parameters	certificate of any Govt
d) (3. 1 a) (1 b) 1	Current consumption <b>Environmental F</b> Operating	Parameters	certificate of any Govt
3. I	consumption  Environmental F  Operating	Parameters	certificate of any Govt
3. I	<b>Environmental F</b> Operating	<b>T</b>	certificate of any Govt
a) (	Operating	<b>T</b>	certificate of any Govt
b) 1		-10° C to + 50° C	certificate of any Govt
b) 1			
b) '	orange orange	4	
			Lab or NABL OR ILAC
			accredited laboratory.
	Water	IPX5 or superior	Firm will submit
	protection	If No of Superior	certificate of any Govt
	protection		Lab or NABL OR ILAC
			accredited laboratory.
4.	Antonno	Suitable antenna for all	BOO will check
4.	Antenna		
_	0	receiving mode	practically.
0.005000	Connector Jack	Earphone jack for	The state of the s
	for External	headphone	practically.
	speaker/Head		
	phone		
-	Receiver Feature		Т
	Display	Alphanumeric LCD/LED	BOO will check
		display	practically.
a) .	Keypad back-lit	Should be available	BOO will check
			practically.
b)	Priority	Should be available	BOO will check
	scanning		practically.
c) .	Auto store of	Should be available,	BOO will check
	frequencies	(2000 channel or more)	practically.
	AFC(Automatic	Frequency control	BOO will check
3550	frequency	function for spot on	practically.
	control)	tuning	practically.
	Squelch	NSQ, LSQ	BOO will check
	oqueich	1100, 100	practically.

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S. N	Parameters	Specifications	Trial Directive	
f)	Squelch and	Should be available	BOO will check	
	Volume control		practically.	
g)	Pass frequency	Should be available	BOO will check	
	mode		practically.	
h)	Audio recording	Not less than 50 Hrs	BOO will check	
	facility		practically.	
i)	Data clone Lead	To interface with	BOO will check	
		computer software	practically.	
j)	Data backup &	Backup & Restore data	BOO will check	
	Restore data	(Memory channel/search	practically.	
	facility via	bank/ configuration)		
	SD/SDHC card	facility should be		
		available		
k)	Real time clock	Should be available	BOO will check	
			practically.	
1)	Auto sleep,	Should be available	BOO will check	
	alarm, record		practically.	
	timer			
m	Optional System	Life time online	Firm will submit OEM	
	2	firmware update	certificate.	
		support for newly added		
	2	features.		
	<i>p</i>	Receiver should have	BOO will check	
		facility to operate by	practically.	
		window-based PC.		
		Audio Analyser software		
		GPS		
n)	Dual Band	Should be available	BOO will check	
	operation		practically.	
7.	Receiver Access	ories		
a	Carrying Case	Should be available	BOO will check	
b	Belt Clip	Swivel belt clip or	physically.	
	) Beit enp	Survey Sere only of	P5	

Proposition (DCPW) Mrs.

8.	Literature			
a)	User Handbook	As per requirement	BOO will	check
			physically.	
b)	Technical	Should give out full	BOO will	check
	Manual for	technical descriptions	physically.	
	receiver(optional)	of equipment and		
		circuit layout etc.		<b>©</b>

(Insp/RM Laxmi Pati)

**BSF** 

(Sub M.K. Singh) Assam Rifles

(S.P.Bhowmick), AC

**ITBP** 

(G.Rajan), Ac(Comn)

SSB

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NSG

(P. R. Jha), DC(Comn)

CRPF

(Mayank Kapoor)

Dy. Director ,DCPW

(Harjinder Singh), DIG(Eqpt)

**CRPF** 

(Virendra Agrawal),DIG(Comn)

**CRPF** 

(Ravideep Singh Sahi), IG(Comn &IT)

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Approved/Not Approved

(Kuldiep Singh, IPS) DG, CRPF