

**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](mailto:comncell@crpf.gov.in) Tele Fax:011-26107493

No. B.V-7/2019-20-C (DFC)

Dated, the 20<sup>th</sup> May'2019

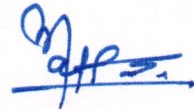
To

- |   |  |
|---|--|
| 1. DIG (Comn), ITBP<br>Block No. 2, CGO Complex<br>Lodhi Road, New Delhi-03 | 2. DIG (Comn), NSG<br>Meharam Nagar<br>Palam, New Delhi-37                       |
| 3. DIG (Comn), SSB<br>East Block-V, R.K Puram<br>New- Delhi-66              | 4. AIG (Comn), CISF<br>Block No. 13, CGO, Complex<br>Lodhi Road, New Delhi-03    |
| 5. DIG (Prov), BSF<br>Block No. 10, CGO Complex<br>Lodhi Road, New Delhi-03 | 6. Liaison Office, Assam Rifle<br>Room No-171, North Block, MHA<br>New Delhi -01 |

**Subject: Regarding QRs/TDs of Digital Frequency Counter.**

Please find enclosed QRs and TDs of Digital Frequency Counter as Annexure-A & Annexure-B respectively duly approved by the competent authority is forwarded herewith for further necessary action.

Encl: (QRs & TDs of Digital Frequency Counter)



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

**QRS/ TECHNICAL SPECIFICATIONS OF DIGITAL FREQUENCY COUNTER**

Sl No	Particulars	QRs/ Technical specification
1.	Frequency Range	2 mili Hz to 3 GHz
2.	No of Channels	2 Nos
3.	Type of Input Signal	a) AM, FM signal b) Burst and Noise Signal etc.
4.	Resolution	10 or better digit
5.	Input Impedance	1 M Ohm $\pm$ 1.5% , 50 Ohm $\pm$ 1.5%
6.	Trigger Slope	Positive or Negative
7.	Input Connector	BNC & N connector
8.	Display Type	Backlit (LCD Graphics Screen for Menu Control, Numerical Read Output & Status Information)
9.	Measurement	Frequency /Period ,Time, Phase, Volt, Duty Cycle, Pulse, Rise Time
10.	Indication	Frequency/ Level / Status Indication (Histogram)
11.	No. of Digits	Switchable or Programmable
12.	Time Base Type	OXCXO
13.	Gate Time / Measurement time	100 Micro sec to 1000 sec or better
14.	Single Shot Time Resolution	100 Pico Sec
15.	Calibration	Electronic
16.	Aging Rate Per Year (AS declared by the OEM) -	better than 2/10000000 PPM
17.	Temperature Stability at 26 <sup>o</sup> C	0.02 PPM
18.	Interface	GPIB & USB
19.	Operating Temperature	0 to 50 <sup>o</sup> C
20.	Operating Humidity (RH)	80% RH, non-condensing
21.	Storage Temperature	- 30 <sup>o</sup> to + 50 <sup>o</sup> C
22.	Short Warm up Time	45 Minutes
23.	Power Rating	90 Watt
24.	Power Supply	100 - 240 Volt $\pm$ 10%, 45 to 60 Hz

*Shake wapon*

*#*

*[Signature]*

*[Signature]*

*[Signature]*

*M*

*[Signature]*

*[Signature]*

Sl No	Particulars	QRs/ Technical specification
25.	Dimensions (H x W x L)	Be specified
26.	Weight	4 Kg Maximum
27.	Standard Accessories Supplied with the Equipment	CD containing Users guide, SCPI/ programmers reference, programming examples, drivers, IO library instructions, Power Line Chord , USB Cable



WO/RM R.S. Dhaka  
Assam Rifles



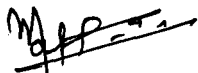
INSP. N. Mohan  
BSF



Ravindra Kr. Meel  
DC(Comn), CISF



Pramod Kumar,  
DC(Comn), SSB



P.R. Jha, DC(UAV)  
CRPF



B.N. Sonawan, 2IC  
ITBP



Harjinder Singh, DIG(Eqpt)  
CRPF



D.S. Rawat, DIG(Comn)  
CRPF

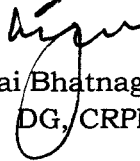


Raju Bhargava, IPS, IGP(Comn &IT)  
CRPF



R.P. Singh, IPS, SDG(Comn)  
CRPF

Approved/Not Approved



Rajeev Rai/Bhatnagar, IPS  
DG, CRPF

**TRIAL DIRECTIVES OF DIGITAL FREQUENCY COUNTER**

Trial/ technical evaluation of equipment will be conducted by a Board of Officers (B.O.O) in the presence of vendor or representative of firm to assess actual performance of the instrument.

2. All specifications/ parameter of equipment mentioned in the QRs will be checked by B.O.O during trial to be ascertained/verified by following ways.

I) **Physical Check**:-In this category specification of the equipment will be checked by B.O.O physically as per QRs.

II) **Functional Check**:-In this category Vendor/ supplier will show practically all features/ configuration to the board of officers during trial.

III) **Submission of Certificate**:- Specification which cannot be checked due to lack of testing facilities / expertise, certificate provided by the vendor issued by a Government authorized laboratory of test shown against the parameter will be acceptable by B.O.O during trial.

<b>S. N</b>	<b>PARTICULARS</b>	<b>TECHNICAL SPECIFICATION</b>	<b>TRIAL DIRECTIVES</b>
1.	Frequency Range	2 mili Hz to 3 GHz	Board will check practically
2.	No of Channels	2 Nos	Board will check practically
3.	Type of Input Signal	a) AM, FM signal	Board will check practically
		b) Burst and Noise Signal etc.	Firm will submit certificate of any Govt lab or NABL or ILAC accredited laboratory or OEM certificate.
4.	Resolution	10 or better digit	Board will check practically.
5.	Input Impedance	1 M Ohm $\pm$ 1.5% , 50 Ohm $\pm$ 1.5%	Firm will submit OEM certificate.
6.	Trigger Slope	Positive or Negative	Firm will submit certificate of any Govt lab or NABL or ILAC accredited laboratory or OEM certificate.
7.	Input Connector	BNC & N connector	Board will check practically.
8.	Display Type	Backlit (LCD Graphics Screen for Menu Control, Numerical Read Output & Status Information)	Board will check practically.
9.	Measurement	Frequency /Period ,Time, Phase, Volt, Duty Cycle, Pulse, Rise Time	Board will check practically.
10.	Indication	Frequency/ Level / Status Indication (Histogram)	Board will check practically.

*[Handwritten signatures and initials at the bottom of the page]*

SI No	PARTICULARS	TECHNICAL SPECIFICATION	TRIAL DIRECTIVES
11.	No. of Digits	Switchable or Programmable	Board will check practically.
12.	Time Base Type	OCXO	Firm will submit certificate of any Govt lab or NABL or ILAC accredited laboratory or OEM certificate.
13.	Gate Time / Measurement time	100 Micro sec to 1000 sec or better	Board will check practically.
14.	Single Shot Time Resolution	100 Pico Sec	Firm will submit certificate of any Govt lab or NABL or ILAC accredited laboratory or OEM certificate.
15.	Calibration	Electronic	Board will check practically.
16.	Aging Rate Per Year (AS declared by the OEM) -	better than 2/10000000 PPM	Firm will submit OEM certificate
17.	Temperature Stability at 26° C	0.02 PPM	Firm will submit certificate of any Govt lab or NABL or ILAC accredited laboratory.
18.	Interface	GPIB & USB	Board will check practically.
19.	Operating Temperature	0 to 50° C	Firm will submit certificate of any Govt lab or NABL or ILAC accredited laboratory.
20.	Operating Humidity (RH)	80% RH , non-condensing	Firm will submit certificate of any Govt lab or NABL or ILAC accredited laboratory.
21.	Storage Temperature	-30°to + 50° C	Firm will submit certificate of any Govt lab or NABL or ILAC accredited laboratory.
22.	Short Warm up Time	45 Minutes	Firm will submit OEM certificate.
23.	Power Rating	90 Watt	Firm will submit OEM certificate and board will check practically.
24.	Power Supply	100-240 Volt ± 10%, 45 to 60 Hz	Firm will submit OEM certificate and board will check practically.
25.	Dimensions (H x W x L)	Be specified	Board will check practically.

Sh

*[Handwritten signature]*

*[Handwritten signature]*

*[Handwritten signature]*

*[Handwritten signature]*

SI No	PARTICULARS	TECHNICAL SPECIFICATION	TRIAL DIRECTIVES
26.	Weight	4 Kg Maximum	Board will check practically.
27.	Standard Accessories Supplied with the Equipment	CD containing Users guide, SCPI/programmers reference, programming examples, drivers, IO library instructions, Power Line Chord, USB Cable	Board will check practically.



WO/RM R.S.Dhaka  
Assam Rifles



INSP. N. Mohan  
BSF



Ravindra K. Meel  
DC(comm), CISF



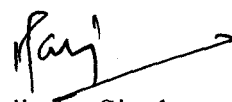
Pramod Kumar  
DC(Comm), SSB



P.R.Jha,DC(UAV)  
CRPF



B.N.Sonawan, 2IC  
ITBP



Harjinder Singh  
DIG(Eqpt),CRPF



D.S.Rawat  
DIG(Comm), CRPF



Raju Bhargava, IPS  
IGP(Comm &IT),CRPF



R.P.Singh, IPS  
SDG (Comm),CRPF

Approved/Not Approved



Rajeev Rai Bhatnagar, IPS  
DG, CRPF