

No. P-63013/30 /2019/Mod-I/BSF 872-79  
Government of India Ministry of Home Affairs  
Directorate General Border Security Force  
(Prov Dte: Mod Cell)  
(Fax: 011-24367683)

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Block No.10, CGO Complex,  
Lodhi Road, New Delhi-03

Dated, the 10<sup>th</sup> April 2019

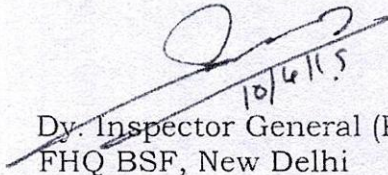
To,

DsG : AR (through LOAR), CISF, CRPF, ITBP, SSB, NSG & BPR&D

Sub: **Forwarding of revised QRs and Trial Directives of Hand Held Thermal Imager (Cooled/Uncooled Version)**

Find enclosed herewith revised QRs and Trial Directives of "Hand Held Thermal Imager (Cooled/Uncooled Version)" as per appendix 'A' and 'B' duly finalized by Sub group of technical experts and approved by DG BSF for your information and necessary action please.

Encl : As above

  
10/4/19  
Dy. Inspector General (Prov)  
FHQ BSF, New Delhi

**Copy to :-**

1. SO (IT),  
North Block MHA,  
New Delhi : You are requested to host the above QRs and TDs on MHA website please.
2. IT Cell  
FHQ BSF,  
New Delhi : You are requested to host the above QRs and TDs on BSF website please.
3. Prov Dte  
Ordinance Section : for info and necessary action pse.







f) Not get damaged if faced towards sun accidentally.	Switch on the system and direct towards the sun for 2 to 3 seconds. After this system should work properly.	It must not get damaged if faced towards sun accidentally.
g) Be immune to glare of searchlights.	Switch on the searchlight and throw its beam towards HHTI in operational mode for 2 to 3 sec. After this system should work properly.	It must be immune to glare of searchlights.
h) Have a suitable tint to reduce eyestrain. This feature should help the observer to quickly regain his normal vision.	To be physically checked by the BOO	It must have suitable tint to reduce eyestrain this feature should help the observer to quickly regain his normal vision.
i) Weight of HHTI without optional modules and battery : 3.5 Kg HHTI with all optional modules and without battery : 4.5 Kg.	To be physically checked by the BOO.	Weight of the system must be 3.5 Kg or less without optional modules and battery and 4.5 Kg with all optional modules and without battery
j) Should be able to be fixed on tripod as well as Pole, Tower or Mast or otherwise as specified by the user Dept. Interface to be provided by firm.	To be physically checked by the BOO. An undertaking in this regard should also be obtained from the firm.	It must be able to be fixed on Tripod, pole, tower and mast. (To be specified by the user at the time of tender).
k) Provision for switch ON/OFF of internal display (Eye piece assembly) through console unit of HHTI as well as C2 (for CIBMS compliant)	To be physically checked by the BOO.	It must have Provision for switch ON/OFF of internal display (Eye piece assembly) through console unit of HHTI as well as C2 (for CIBMS complaint).
l) All keys and controls should be provided on top of the HHTI and also through IP network to C2 console for CIBMS	To be physically checked by the BOO.	All keys and controls must be provided on top of the HHTI and also through IP network to C2 console for CIBMS compliant version.

A series of handwritten signatures and initials in blue ink are located at the bottom of the page, below the table. From left to right, they include: a signature that appears to be 'Surya', a signature 'Anurag', a signature 'Ravi', a signature 'Ramesh', a signature 'Ajay', a signature 'Sudhakar', a signature 'Srinivas', and a signature 'Srinivas'.











3.	<b>Operational :</b>		
a) <b>Range for human target</b> Detection : 3 Km	<b>Detection :</b> Move a group of 03 persons at a distance of 3 Km. HHTI should detect the movement.  Detection means :- ability to detect vehicles ,structures (man made/normal) and any movement of man or animal.	Human target detection, recognition and identification through HHTI must be achieved as per para-3(a)	
Recognition : 1.5 Km	<b>Recognition:</b> Move group of 03 persons at a distance of 1.5 Km. HHTI should recognize the human being.  Recognition :- ability to differentiate between civilian/uniformed personnel with manpack.		
Identification : 500 Mtr.	<b>Identification:</b> Move group of 03 persons with weapons. HHTI should identify the presence of weapon with human being (rifle). Presence of man with weapon (rifle) raised overhead by the hand must be seen.  Identification may be restricted to identify the presence of human being with weapon (INSAS Rifle)		
b) <b>Range for Vehicle</b> Detection : 5 Km (min).	<b>Detection :</b> Place vehicle at a distance of 5 Km. HHTI should detect the movement of (broad side) of vehicle.	Vehicle detection and recognition through HHTI must be achieved as per para-3(b)	
Recognition : 2.5 Km (min).  <b>Note: Vehicle dimension minimum 4010 x 1540 x 1875</b>	<b>Recognition:</b> Place vehicle at a distance of 2.5 Km. HHTI should recognize the type of vehicle.		

A collection of handwritten signatures and initials in blue ink, including names like 'Anjeer', 'Munish', 'Ravi', 'Pankaj', 'Sudhakar', 'Sudhakar', 'Sudhakar', and 'Sudhakar'.











<b>(A) HHTI (Used as Handheld or on tripod)</b>		
a) Inter Pupillary Distance (IPD) : Adjustable	To be physically checked by the BOO	System must have adjustable Inter Pupillary Distance (IPD)
b) Internal display : Advance high resolution OLED display having resolution 640 x 480 or better.	Firm has to submit National /International accredited Lab certificate. If no such lab available in India then , firm has to submit any Indian Govt Lab/OEM certificate in respect of the same	System must have advance high resolution OLED internal display of resolution 640 x 480 or better.
<b>(B) HHTI TO BE INTEGRATED WITH CIBMS</b>		
a)Eye Piece assembly and internal display are not required.	To be physically checked by the BOO	Not required
6. <b>Operating temp Range :</b> a) -20 degree to +55 degree centigrade or better	Check the National/International Accredited lab certificate/report submitted by the firm in respect of operating Temp. BOO will also physically check in different climatic condition in the field (i.e. cold as well as hot)	The firm should provide National/International Accredited lab certificate/report in respect of temperature range of para 6 (a )& (b) . In case any doubt in the test report the veracity of the same may be checked from the concerned lab. System must be work in different climatic condition in the field (i.e cold as well as hot )
<b>Storage temp Range :</b> b) -30 degree to +60 degree centigrade or better	Check the National/International Accredited lab certificate/report submitted by the firm in respect of operating Temp.	
7. <b>Network Connectivity : (Optional -to be specified by the user department)</b>		
a) Ability to integrate with available IP Network through Ethernet with Video streaming and Video recording.	To be physically checked by BOO for integration with available IP Network through Ethernet with Video streaming & Video recording.	Must be able to integrate with available IP network through Ethernet with Video streaming and Video recording

*Sanjay*  
*Ayker*

*Munish*  
*6773119*

*Ram*

*Mishra*

*BOO*  
*2/2/20*  
*(di)*

*Shankar*  
*Prabha*



	b) Firm should be able to integrate HHTI with third party C2. Firm should also be able to provide SDK /API and interface protocol for integration with third party C2, so that it can work in slew to cue mode with Radar / UGS etc.	To be physically checked by BOO for integration with third party C2.	System must be able to integrate with third party C2. Firm should also be able to provide SDK /API and interface protocol for integration with third party C2.
	c) Major functions of the system including ON & OFF be operable through C2 system.	To be physically checked by BOO a. Focusing. b. field of view. c. Black HOT/WHITE HOT. d. zoom. (Optical / electronics). e. Power ON / OFF.	Major functions of the system must be operable through C2 system.
8.	<b>OPERATOR CONSOLE UNIT : (Optional- to be specified by the user department)</b>		
	a. This must be comprising of a ruggedized LCD color display of size 15 inch (min).	To be physically check by the BOO. Firm has to submit National /International accredited Lab certificate. If no such lab available in India then , firm has to submit any Indian Govt Lab / OEM certificate in respect the same .	System must be comprising of a ruggedized LCD color display of size 15 inch (min).
	b. The console unit should have the facility to show the map in the background correlated with the video of the camera. (In case system is provided with the GPS).	Check the correlation between captured video with background map by uploading the map in Console unit.	The console unit must have the facility to show the map in the background correlated with the video of the camera. (In case system is provided with the GPS).
	c. A suitable provision of the control keys or joystick should be provided to operate the system remotely with comfort.	Install the HHTI with Console and check the system functions through console remotely.	A suitable provision of the control keys or joystick should be provided to operate the system remotely with comfort.
	d. The console should have recovery option in the system itself	Check the console for the provision of system recovery facility and also check the	The console must have recovery option in the system itself whenever software gets

Amol  
Ankur

Shankar  
02/5/19

Qo

Ram

Abhishek

Qo  
Rajendra

Ch

Amal

Aditya



whenever software gets corrupted.	assurance certificate in respect of the same	corrupted.
e. The console should have the provision to control the operation of day & night camera and Pan & Tilt system.	Repeat the procedure suggested at para 8(c) and check the function of cameras and Pan & Tilt sub systems.	The console must have the provision to control the operation of day & night camera and Pan & Tilt system .
f. The console should have scan around facility and automatically scan the operator defined sector whenever required. (In case system has integrated with DMC).	Check the system for automatic scan around facility.	The console must have scan around facility and automatically scan the operator defined sector whenever required. (In case system has integrated with DMC).
g. The console must incorporate built in test equipment (BITE)	Check the system for BITE facility physically.	The console must have built in test equipment (BITE).
h. Should have ports for external PC interface, Ethernet , digital & analogue video out.	Check the system for External PC interface, Ethernet and digital & analogue video output ports.	System must have ports for external PC interface, Ethernet , digital & analogue video out.
i. Console should have suitable power adaptor.	To be physically checked by BOO.	Suitable power adaptor must be provided.
j. Video Recording Capability (Optional- to be specified by the user department)Advanced inbuilt storage memory of 1TB (min) exclusively to store the video should be provided in the console. The system should have facility to retrieve the stored data.	Check the inbuilt storage memory exclusively to store the video in the console.  Check the Console for the facility to retrieve the storage data.	Video Recording Capability advanced inbuilt storage memory of 1TB (min) exclusively to store the video must be provided in the console. The system must have facility to retrieve the stored data.

*Sanjay*

*Ajay*

*Shankar*  
6/2/2019

*Raj*

*Ram*

*Prakash*

*Prakash*  
6/2/2019

*Prakash*  
*Prakash*  
*Prakash*







12.	<p><b>Global Positioning System (GPS) : (Optional- to be specified by the user department)</b></p> <p>Inbuilt GPS to provide own position during initialization. It should give co-ordinates in Lat-Long and Indian Military GR system. Accuracy should be 05 meters (Maximum).</p>	<p>Switch 'ON' the HHTI and co-ordinates of own position through inbuilt GPS. Check the own position co-ordinates of a point by other GPS and compare it with the co-ordinates of the same point shown by the inbuilt GPS.</p>	<p>Inbuilt GPS to provide own position during initialization. It should give co-ordinates in Lat-Long and Indian Military GR system. Accuracy should be 05 meters (Max).</p>
13.	<p><b>In built Laser Range Finder : (Optional- to be specified by the user department)</b></p> <p>In built LRF (class 1 eye safe) should be provided for finding range of any target/object upto 6000 meters or better with accuracy of ± 5 Mtrs or better.</p>	<p>To be physically checked by BOO. To check the LRF the target size will be medium vehicle size (4010 X 1540 X 1875 mm) park side ways. Firm has to submit National /International accredited Lab certificate. If no such lab available in India, then , firm has to submit any Indian Govt Lab / OEM certificate in respect of class 1 eye safe.</p>	<p>In built LRF (class 1 eye safe) must be provided for finding range of any target/object upto 6000 meters or better with accuracy of ± 5 Mtrs or better.</p>
14	<p><b>POWER SOURCE:</b></p> <p>It should Function on 110 volt to 270 volt, 50 Hz AC mains through AC/DC Adopter or UPS with Stabilizer. UPS backup with 30 Minutes only for CIBMS compliant system.</p>	<p>Connect the AC/DC adopter on 50 Hz variable AC mains supply and check the output voltage by varying the in-put voltage from 110 to 270 volts. Bty backup of UPS for 30 Minutes to be checked physically.</p>	<p>It must function on 110 volt to 270 volt, 50 Hz AC mains through AC/DC Adopter or UPS with Stabilizer. UPS backup with 30 Minutes only for CIBMS compliant system.</p>
<p><b>FOR HHTI IN HAND HELD ROLE ONLY :-</b></p>			
	<p><b>(i) Battery :</b></p> <p>Should have rechargeable Lithium-ion/Lithium polymer battery or better to operate the system. Battery charge indication</p>	<p>To be physically checked by the BOO</p> <p>Check the battery provided for operating the system for its type and recharge ability.</p> <p>Check the battery for the battery status</p>	<p>The system must be operated with rechargeable Lithium-ion/Lithium polymer battery. Battery charge indication must be provided on screen.</p>

*Handwritten signatures and initials:*  
 Alex, Shubh, PmL, Mishra, G. P. R. S., D. S., D. S., D. S.



	should be on screen.	indication on screen	
	<p><b>(ii) Battery performance :</b></p> <p>The battery(s) should be able to run the system for 3 hours or more in operation mode on single charge.</p>	<p>To be physically checked by the BOO</p> <p>Operate the system with fully charged rechargeable battery(s) and put it in the operation mode. Start the counting of functional hours in stop watch.</p>	<p>Rechargeable battery(s) must run the system for 3 hrs or more in operational mode on single charge.</p>
	<p><b>(iii) Spare batteries :</b></p> <p>For additional cycle of operation, 03 spare batteries be provided.</p>	<p>Undertaking be given by the firm.</p>	<p>System must be provided with 3 spare batteries.</p>
	<p><b>iv) Battery charger :</b></p> <p>A smart and intelligent, universal charger for charging the battery from 110 volt to 270 volts 50 Hz AC mains along with DC charging facility from 12 volt to 48 volt DC ( on entire range ) should be provided. It should have "charge on" and "charge complete" indications during the charging of battery. The charger should be capable to charge the battery fully in <math>\leq 5</math> hours.</p>	<p>To be physically checked by the BOO</p> <p>Switch 'ON' the charger on 50 Hz variable AC mains supply and check the out-put voltage by varying the in-put voltage from 110 to 270 volts.</p> <p>Again switch 'ON' the charger on variable DC power supply and check the out-put voltage by varying the in-put voltage from 12 to 48 volts.</p> <p>Check the charger for 'Charge ON' and charge complete indications.</p> <p>Charge a fully discharged battery with the charger and note down the total time to fully charge the battery.</p>	<p>system must be equipped with battery Charger with all parameters as specified in para 14 (iv).</p>
15.	<b>Miscellaneous :-</b>		
	1. User Manual	Physically checked by the BOO.	User manual must be provided.

*Sanjiv*  
*Arjun*

*Shankar*  
*07/3/19*

*Raj*

*Ram*

*Mishra*

*Officer*  
*Chitra*

*Manoj*  
*Debraj*



<p>2. Operation Manual/technical Manual - Detailed operators instructions, Technical literature, Maintenance manual, inspection standards be provided with the equipment</p>	<p>Physically checked by the BOO.</p>	<p>Operation Manual/technical Manual - Detailed operators instructions, Technical literature, Maintenance manual and inspection standards must be provided with the equipment.</p>
<p>3. All the optional modules i.e. day camera, LRF, GPS, DMC, whichever specified by the user department, should be provide in a single housing</p>	<p>Physically checked by the BOO.</p>	<p>All optional module i.e. day camera, LRF, GPS, DMC, whichever specified by the user department must be provide in a single housing.</p>
<p>4. Engineering support :</p> <p>a) Adequate number of spares including IR Sensor, Modules used (10% of total Nos of EO Sensors) etc.</p> <p>b) Test Station with Test Equipment for repair &amp; maintenance of the system (Base workshop level).</p> <p>c) HHTI (Hand Held ) should be upgradable to be made part of CIBMS, if need be.</p> <p>d) OEM to submit rate list of all spare parts along with their blue print.</p>	<p>An undertaking in this regard will be obtained from the firm.</p>	<p>Engineering support as para 15 (4) (a to d) must be provided .</p>
<p>16. <b>Training :</b></p>		
<p>a) Base Workshop level training to minimum 10 technicians at OEM premises on full fledged running testing, diagnostic and calibration set up.</p>	<p>An undertaking in this regard will be obtained from the firm.</p>	

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b) Operator level training should be imparted to 02 persons @ each system.	An undertaking in this regard will be obtained from the firm	Training as specified must be provided.
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*[Signature]*

(Ashok Kumar Sharma)  
ADG (Log) BSF

*[Signature]*  
7/3/19

(Dhananjay Mishra),  
Comdt, SIW BSF

*[Signature]*

(Brij Kishor)  
Sc 'E', DRDO

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7.3.19

(Rajnish Kumar), PSO (E)  
BPR&D

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(Rampal Yadav), DC  
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(Suresh Kumar), Sqn Cdr  
52 SAG, NSG

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(A P Singh), DC  
SIW, BSF

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(Naresh Kumar), Dy. Director  
DCPW

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(Insp/E Rajeev Dahiya),  
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(ASI/RM Mukesh Kr Yadav)  
BSF

*[Signature]*

(WO/RM R S Dhaka)  
Assam Rifle

*[Signature]*

(Nb/Sub Bahadur Chand)  
Assam Rifle

APPROVED/ NOT APPROVED

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9/4/19

(Rajni Kant Mishra) IPS  
DIRECTOR GENERAL  
BORDER SECURITY FORCE