

No. B.V-7/2013-14-C (QRs)-(17)  
भारत सरकार/Government of India  
गृह मंत्रालय/Ministry of Home Affairs  
पुलिस आधुनिकीकरण प्रभाग /Police Modernization Division  
संभरण-I डेस्क /Prov.I Desk

26, Man Singh Road, Jaisalmer House  
New Delhi, the 25 November, 2014

To,

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

**Subject: QRs and Trial Directives of Intelligent Battery Charger to Charge Battery of Radio Set used in Mobile Role.**

The QRs and Trial Directives in respect of Intelligent Battery Charger to Charge Battery of Radio Set used in Mobile Role as per Annex-I and Annex-II respectively have been accepted by the Competent Authority in MHA.

2. Concerned CAPF will be accountable for correctness of the QRs.
3. Henceforth, all the CAPFs should procure the above item required by them strictly as per the laid down QRs.


Yours faithfully,

  
(P. K. Srivastava)

Under Secretary to the Govt. of India  
Tel : 23381278

Encl: As above.

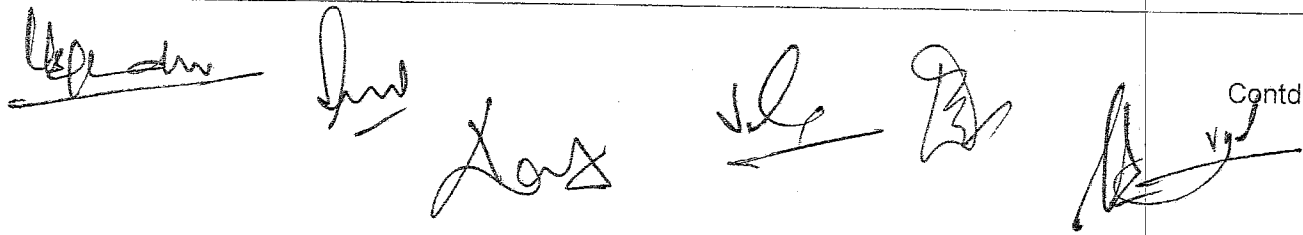
Copy forwarded to SO (IT), MHA, with the request to host the QRs and Trial Directives of Intelligent Battery Charger to Charge Battery of Radio Set used in Mobile Role the website of MHA (under the page Organizational Set up- Police Modernization Division-Qualitative Requirements-communication equipments), soft copy is being sent through email.

  
(R K Soni)  
Section Officer (Prov.I)

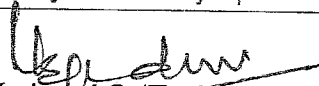
Copy to: DDG(Procurement), MHA.


**QRs/ SPECIFICATION FOR INTELLIGENT BATTERY CHARGER TO CHARGE BATTERY OF RADIO SET USED IN MOBILE ROLE**

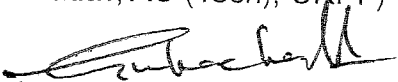
SL NO	DESCRIPTION
1	Input Voltage : i) AC- 230V ± 20% , 50 Hz( Inbuilt power supply or AC Adopter Unit) ii) DC voltage - 12 to 28V
2	Charge Current Range : 0.5 – 5A and 0.5 to 10amp (Optional)
3	Should charge Lithium (ion/poly) battery cell count: 1 – 4 series
4	Should charge Ni-MH battery cell count : 1 – 10 series
5	The charger should store up to 10 or more different charge/discharge profiles for user's convenience, and the stored profiles can be recalled quickly without having to go through the setup process.
6	PC Connect : USB port
7	Weight: Should be less than 1000 grams including all accessories.
8	Accessories : i) One copy of the User's manual ii) One pair of output alligator clip leads iii) One pair of input alligator clips (30A) and input leads with 4mm bullet connectors iv) One temperature sensor lead. v) One exclusive Mini-USB data line cord (1.2 meter)
9	<p>The battery charger should pass the following Environmental Tests mentioned as under as per IS: 9000 or any equivalent standard.</p> <p>1. Equipment shall be suitable for operation in the following environmental conditions.</p> <p>a. Operating Temp. Range: -10° C to + 55° C b. Storage Temp. Range : - 40° C to + 70° C c. Relative Humidity : 95% Max at + 40° C non-condensing</p> <p><b>2. Tests to be conducted &amp; Conditions of tests as per IS: 9000</b></p> <p>a) Dry Heat: Part III/SEC.5/1977 55°C ± 2°C, RH&lt; 50%, duration 16 hours. b) Damp Heat (Cyclic) Test: Part V/SEC.2/variant1/1981 40°C (+/-) 2°C, RH 95%, Two cycles of 24 (12+12) hours each. c) Cold Test: Part III/ SEC.4/1977(-) 10°C +/- 3°C, duration 16 hours. d) Drop Test(in packed : Part VII/SEC.3/1979 Six drops one on each condition face , Height of fall 1000mm in case of hand held items and 500mm in case of other items. e) Vibration Test: Part VIII/1981 12 hours, 4 hours along with each axis, at 15-150Hz and with amplitude of 0.15mm/2g. f) Storage Test: Part III/ SEC. 5/1977 &amp; -40°C for 5 hours. Part III/SEC. 4/1977 then raises the temperature to 70°C for 16 hours. g) Bump test : Part VII/SEC.2/1979 4000 bumps at peak acceleration of 400m/s sq.</p> <p>3. Environmental test Report with equivalent or superior conditions would be acceptable.</p> <p>4. The functional tests and permissible degradation shall be as under. No degradation in output voltage</p>

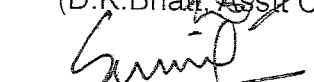


- 10** Intelligent Charger should have following features:
- i) Protection for reversed polarity (input or output), low input voltage, battery temperature, charging capacity and time overrun.
  - ii) Internal temperature sensor and temperature controlled automatic cooling FAN controls the internal temperature and provides intelligent protection.
  - iii) LCD/ LED screen to provide rich information including active mode, current, voltage, total charge (mAh), charging time and temperature etc.
  - iv) For Lithium batteries: balance charging, normal charging, fast charging, storage, discharging, ext-discharging, charge cycling and battery monitoring.
  - v) For NiMH batteries: Rapid & trickle charge / Discharge cycling.
  - vi) Termination Voltage Control: The end charge voltage can be adjusted for each type of battery chemistry up to the maximum safe limit.


  
 (M S Yadav, AC (Tech), CRPF)


  
 (D.K. Bhatt, Asstt Comdt, SSB)


  
 (Gurbachan Singh, SSO (E), BPR&D)

  
 (Sunil Kumar, DC (Comn), ITBP)

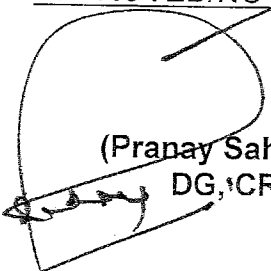
  
 (Major Kapil Dahiya, TC(Eqpt), NSG)

  
 (S.K. Singh, Comdt(C-Eqpt), BSF)

  
 (Virendra Agrawal, DIG(Eqpt), CRPF)

  
 (Shailendra Kumar, IG (Comn), CRPF)

APPROVED/NOT APPROVED

  
 (Pranay Sahay, IPS)  
 DG, CRPF

**TRIAL DIRECTIVE OF INTELLIGENT BATTERY CHARGER TO CHARGE BATTERY OF RADIO SET USED IN MOBILE ROLE**

Trial of Intelligent Battery Charger will be conducted by a Board of Officers in the presence of representative of firm to assess actual performance of the Intelligent Battery Charger.

2) All parameter / Specifications mentioned in the QRs will be checked by board of officers by ascertaining /verifying following checks.

**Physical Checks:** In this category specifications of the equipment will be checked physically as per QRs.

**Functional Check:-** The vendors will show all features/ configuration of the equipment to the board of officers during technical evaluation.

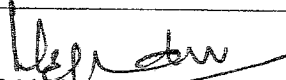
**Submission of certificates:** - Specification which cannot be checked due to lack of testing facilities/ expertise, a certificate of test shown against each will be provided by firm during physical trial of equipment.


SI No	DESCRIPTION	TRIAL PROCEDURE
1	<b>Input Voltage :</b> i) AC- 230V ± 20% , 50 Hz (Inbuilt power supply or AC Adopter Unit) ii) DC voltage - 12 to 28V	Board will check practically/physically that charger works properly on AC/DC within specified voltage range.
2	<b>Charge Current Range :</b> 0.5 – 5A and 0.5 to 10amp (Optional)	Board will check it practically that charger works properly within specified current range.
3	Should charge Lithium (ion/poly) battery cell count: 1 – 4 series	Board will check it practically by charging Lithium batteries.
4	Should charge Ni-MH battery cell count : 1 – 10 series	Board will check it practically by charging Ni-MH batteries.
5	The charger should store up to 10 or more different charge/discharge profiles for user's convenience, and the stored profiles can be recalled quickly without having to go through the setup process.	Board will check it practically to the B.O.O. and board of officers ensure that charger will stores the data as define.
6	PC Connect : USB port	Board will check it practically by connecting charger to PC through USB port.
7	Weight: Should be less than 1000grams including all accessories.	B.O.O will measure the weight by weighing machine.
8	Accessories : i) One copy of the User's manual. ii) One pair of output alligator clip leads iii) One pair of input alligator clips (30A) and input leads with 4mm bullet connectors iv) One temperature sensor lead. v) One exclusive Mini-USB data line cord (1.2 meter)	Board will check it practically.
9	The battery charger should pass the following Environmental Tests mentioned as under as per IS: 9000 or any equivalent standard. 1. Equipment shall be suitable for operation in the following environmental conditions. a. Operating Temp. Range: - 10° C to + 55° C b. Storage Temp. Range : - 40°C to + 70°C c. Relative Humidity : 95% Max at + 40°C non-condensing.	The B.O.Os will check the Environmental test certificate submitted by the firm are conducted in Govt. of India approved laboratory and will ensure that all the test have been carried out as per specification.

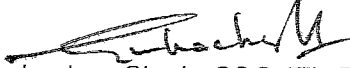

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	<p><b>2. Tests to be conducted &amp; Conditions of tests as per IS: 9000</b></p> <p>a) Dry Heat: Part III/SEC.5/1977 55°C ± 2°C, RH&lt; 50%,duration 16 hours.</p> <p>b) Damp Heat (Cyclic) Test: PartV/SEC.2/variant1/1981 40°C (+/-) 2°C, RH 95%, Two cycles of 24 (12+12) hours each.</p> <p>c) Cold Test: Part II/ SEC.4/1977(-) 10°C +/- 3°C, duration 16 hours.</p> <p>d) Drop Test(in packed : Part VII/SEC.3/1979 Six drops one on each condition face , Height of fall 1000mm in case of hand held items and 500mm in case of other items.</p> <p>e) Vibration Test: Part VIII/1981 12 hours, 4 hours along with each axis, at 15-150Hz and with amplitude of 0.15mm/2g</p> <p>f) Storage Test: Part III/ SEC. 5/1977 &amp; -40°C for 5 hours. Part II/SEC. 4/1977 then raises the temperature to 70°C for 16 hours.</p> <p>g) Bump test : Part VII/SEC.2/1979 4000 bumps at peak acceleration of 400m/s sq.</p> <p>3. Environmental test Report with equivalent or superior conditions would be acceptable.</p> <p>4. The functional tests and permissible degradation shall be as under No degradation in output voltage</p>	
<p><b>10</b></p>	<p><b>Intelligent Charger should have following features:</b></p> <p>i) Protection for reversed polarity (input or output), low input voltage, battery temperature, charging capacity and time overrun.</p> <p>ii) Internal temperature sensor and temperature controlled automatic cooling FAN controls the internal temperature and provides intelligent protection.</p> <p>iii) LCD/ LED screen to provide rich information including active mode, current, voltage, total charge (mAh), charging time and temperature etc.</p> <p>iv) For Lithium batteries: balance charging, normal charging, fast charging, storage, discharging, ext-discharging, charge cycling and battery monitoring.</p> <p>v) For NiMH batteries: Rapid&amp; trickle charge / Discharge cycling.</p> <p>vi) Termination Voltage Control:- The end charge voltage can be adjusted for each type of battery chemistry up to the maximum safe limit</p>	<p>Board will check all features practically.</p>

  
(M S Yadav, AG (Tech), CRPF)


  
(D.K. Bhatt, Asst Comdt, SSB)

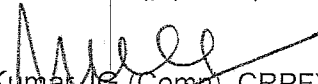
  
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