No. B.V-7/2013-14-C (QRs)-(15)
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 01 December, 2014

To,

01 DEC 2014

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

Subject: QRs and Trial Directives of IC/Software based temperature controlled soldering/de-soldering with accessories.

The QRs and Trial Directives in respect of IC/Software based temperature controlled soldering/de-soldering with accessories 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,

1/12/15

(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 IC/Software based temperature controlled soldering/de-soldering with accessories 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.

ORS/TECHNICAL SPECIFICATIONS OF IC/SOFTWARE BASED TEMPERATURE CONTROLLED SOLDERING / DE-SOLDERING WITH ACCESSORIES

SL No	GENERAL	SPECIFICATIONS
1	Power Source	230 V AC 50 Hz ± 10%
2	Power Consumption	425 Watts Max
3	**Interface & Wattage**	
	i) Soldering Tool	80 Watts± 10%, 24 Volt
	ii) Hot Air Pencil	200 Watts ± 10%, 24 Volt
	iii) De- Soldering System	80 to 90 Watts, 12 to 24 Volt
4	System Operation	3 independent working tools and temperature for Soldering , De -Soldering and hot air system
5	**Temperature Range**	
	i) Hot Air Pencil	i) 50 °C to 500 °C Adjustable in 1°C step from front panel
	ii) Soldering and De-Soldering System	ii) 50 °C to 450 °C Adjustable in 1°C step from front panel
6	Temperature Accuracy	± 2% for Soldering/ De-Soldering tools ± 30°C for Hot Air pencil
7	Air Flow	1 to 12 Ltrs / Minute , deviation ± 10%,
8	De-Suction (Vacuum)	≥ 0.7 Bar
9	Safety	Unit should be ESD safe
10	Weight	Less than 8Kg (Main Unit)
11	Accessories	**SMD rework nozzle kit for rework of SMD Components.** i) **SMD Pickup nozzles of size :-** 33 x 33, 27 x 27, 24 x 24, 20 x 20, 15.5 x 15.5, 12.5 x 12.5, 10 x 10 all sizes in mm.
		ii) SMD pickup tripod attachment.
		iii) Kit should be ESD safe, Nozzles and nozzles holder should be made of non-corrosive stainless steel.
		iv) Heat resistant silicon rubber vacuum nipples of dia (10&4.5mm) ±5%.
		v) Heat resistant silicon rubber hoses with connection nipples.
		vi) Soldering pencil holder with cleaning Sponge
		vii) Thermal tweezers.
12	Soldering Tool (Pencil) set for all SMD/PTH components	i) Soldering Pencil ≥70 watt 24 volt.
		ii) Chisel soldering tip (2.4 mm) fitted with pencil.
		iii) SMD soldering tip unique and patented. Chisel tips of sizes:-0.8, 1.2, 1.6,2.0, 2.4, 3.2 round slim 0.2 mm & conical tip long 0.4 mm. Soldering pencil holder with cleaning sponge.
13	Hot Air Pencil Set for De-Soldering of all Types and sizes of SMD ICs By Hot Air Technology	i) Hot Air Pencil 200 Watt ± 10%, 24 Volt with nozzle 3 mm dia. Fitted with pencil.
		ii) Spare De-Soldering Nozzle size:- Round ≥1.2 mm
		iii) Hot Air Pencil Holder with cleaning sponge.
		iv) Nozzle changing tool.
14	De-Soldering Pencil Set for De-Soldering all Types PTH Components.	i) De-Soldering Pencil 80 watt ± 10%, 24 Volt with De-Soldering nozzle 1.2 mm (inside dia) with improved thermal transfer fitted with pencil.
		ii) De-soldering nozzles of size:- 1.2, 1.3,1.8, 0.7, 0.8 (in mm)
		iii) De-soldering pencil holder with cleaning sponge.
		iv) Cleaning tool cum nozzle changing tool.
15	Vacuum Pickup Pencil for Pickup and Place for SMD Components (ESD)	i) Vacuum Pick up Pencil ii) Heat resistant silicon rubber vacuum nipples of two different sizes for picking all types and sizes of SMD components. iii) Heat resistant silicon rubber hose.

(7)

16	**Features :-** i) Unit should have three channels simultaneously working facility. ii) Unit should be capable of running all high–speed micro tools and parameters of each channel should be displayed, control and set from control panel. iii) Unit should display set temperature of all three channel simultaneously while working. iv) Unit should have facility to set three preset temperature for individual channel for frequent use. v) Unit should have two built in pumps for air pressure, vacuum and pick up and capable to adjust above system. vi) Unit should have supervisory lock mode feature i.e. once unit is locked, operator can not change any parameters of system without lock code. vii) Unit should have each of the function of the Hot-Air Iron; Soldering / De-Soldering iron should be able to programmed independently using menu functions on the main unit. UNIT SHOULD ALSO HAVE FOLLOWING PROGRAMMING SYSTEM USING BUTTONS ON THE FRONT PANEL:- I) When tool is not in use, temperature reduces to standby temperature after set back time has elapsed. ii) When tool is not in use, the heating of soldering tool is switched off. iii) Facility to lock the entire control panel and where user can see parameters, but can only change the temperature. iv) Restricting the use of Soldering / De-Soldering tool in a particular window. v) Programmable time limit for use of hot air pencil. vi) Unit should have temperature calibration facilities. vii) System is provided to prevent De-Soldering bit from clogging. viii) System for limiting switch on time of Hot Air Pencil.	
17	Spares **(Optional)**	i) Vacuum filter cartridge ii) Air filter cartridge. iii) Filter cartridge for de-soldering gun. iv) Tip activator. v) Flux pen. vi) Cleaning sponge vii) Extra one complete set of nozzles for soldering and de-soldering

Bijendra.

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(SI/ Exe Sohrab Ansari, CISF)

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

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

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(Virendra Agrawal, DIG(Eqpt), CRPF)

(Shailendra Kumar, IG (Comn), CRPF)

Approved/ Not Approved

(Pranay Sahay, IPS)
DG, CRPF

TRIAL DIRECTIVE OF IC/SOFTWARE BASED TEMPERATURE CONTROLLED SOLDERING / DE-SOLDERING WITH ACCESSORIES

Trial of equipment will be conducted by a Board of Officers in the presence of Vendor or representative of Vendor/Firms to assessed the actual performance of the equipment.

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

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

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

iii) **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 vendor/firm during technical and physical trial.

SL No.	PARAMETERS	SPECIFICATIONS	Trial/ Test Procedure
1	Power Source	230 V AC 50 Hz ± 10%	Functional Check (by giving AC supply of prescribed range to the instrument)
2	Power Consumption	425 Watts Max	By placing ampere meter in the series of supply
3	**Interface & Wattage**		
	i) Soldering Tool	80 Watts± 10%, 24 Volt	Physical and Functional check by live demonstration / practically checked the parameters of the equipment
	ii) Hot Air Pencil	200 Watts ± 10%, 24 Volt	
	iii) De- Soldering System	80 to 90 Watts, 12 to 24 Volt	
4	System Operation	3 independent working tools and temperature for Soldering ,De - Soldering and hot air system	
5	**Temperature Range**		Physical and Functional check by live demonstration / practically checked the parameters of the equipment
	i) Hot Air Pencil	i) 50 °C to 500 °C ,Adjustable in 1°C step from front panel	
	ii) Soldering and De-Soldering System	ii) 50 °C to 450 °C, Adjustable in 1°C step from front panel	
6	Temperature Accuracy	± 2% for Soldering/ De-Soldering tools ± 30°C for Hot Air pencil	
7	Air Flow	1 to 12 Ltrs / Minute , deviation ± 10%,	
8	De-Suction (Vacuum)	≥ 0.7 Bar	
9	Safety	Unit should be ESD safe	
10	Weight	Less than 8Kg (Main Unit)	Practically by using weighing machine

11	Accessories	**SMD rework nozzle kit for rework of SMD Components.** i) **SMD Pickup nozzles of size :-** 33 x 33, 27 x 27, 24 x 24, 20 x 20, 15.5 x 15.5, 12.5 x 12.5, 10 x 10 all sizes in mm.	Physical check the all shown items and verify size
		ii) SMD pickup tripod attachment.	Physical check
		iii) Kit should be ESD safe, Nozzles and nozzles holder should be made of non-corrosive stainless steel.	Physical check
		iv) Heat resistant silicon rubber vacuum nipples of dia (10 & 4.5mm) ±5%.	Physical check
		v) Heat resistant silicon rubber hoses with connection nipples.	Physical check
		vi) Soldering pencil holder with cleaning Sponge	Physical check
		vii) Thermal tweezers.	Physical check
12	Soldering Tool (Pencil) set for all SMD/PTH components	i) Soldering Pencil ≥70 watt 24 volt.	Physical check the all shown items and verify size
		ii) Chisel soldering tip (2.4 mm) fitted with pencil.	
13	Hot Air Pencil Set for De-Soldering of all Types and sizes of SMD ICs By Hot Air Technology	i) Hot Air Pencil 200 Watt ± 10%, 24 Volt with nozzle 3 mm dia. Fitted with pencil.	Functional check by live demonstration and Physical check items size as per parameters shown
		ii) Spare De-Soldering Nozzle size:- Round ≥1.2 mm	
		iii) Hot Air Pencil Holder with cleaning sponge.	
		iv) Nozzle changing tool.	
14	De-Soldering Pencil Set for De-Soldering all Types PTH Components.	i) De-Soldering Pencil 80 watt ± 10%, 24 Volt with De-Soldering nozzle 1.2 mm (inside dia) with improved thermal transfer fitted with pencil.	Functional check by live demonstration and Physical check items size as per parameters shown
		ii) De-soldering nozzles of size:- 1.2, 1.3,1.8, 0.7, 0.8 (in mm)	
		iii) De-soldering pencil holder with cleaning sponge.	
15	Vacuum Pickup Pencil for Pickup and Place for SMD Components (ESD)	i) Vacuum Pick up Pencil ii) Heat resistant silicon rubber vacuum nipples of two different sizes for picking all types and sizes of SMD components. iii) Heat resistant silicon rubber hose.	Physical check
16	**Features :-** i) Unit should have three channels simultaneously working facility. ii) Unit should be capable of running all high–speed micro tools and parameters of each channel should be displayed, control and set from control panel. iii) Unit should display set temperature of all three channel simultaneously while working. iv) Unit should have facility to set three preset temperature for individual channel for frequent use. v) Unit should have two built in pumps for air pressure, vacuum and pick up and capable to adjust above system. vi) Unit should have supervisory lock mode feature i.e. once unit is locked, operator cannot change any parameters of system without lock code. vii) Unit should have each of the function of the Hot-Air Iron; Soldering / De-Soldering iron should be able to programmed independently using menu functions on the main unit.		All features should be verified by the firm rep. one by one practically to B.O.O

	UNIT SHOULD ALSO HAVE FOLLOWING PROGRAMMING SYSTEM USING BUTTONS ON THE FRONT PANEL:- i) When tool is not in use, temperature reduces to standby temperature after set back time has elapsed. ii) When tool is not in use, the heating of soldering tool is switched off. iii) Facility to lock the entire control panel and where user can see parameters, but can only change the temperature. iv) Restricting the use of Soldering / De-Soldering tool in a particular window. v) Programmable time limit for use of hot air pencil. vi) Unit should have temperature calibration facilities. vii) System is provided to prevent De-Soldering bit from clogging. viii) System for limiting switch on time of Hot Air Pencil.		
17	Spares **(Optional)**	i) Vacuum filter cartridge ii) Air filter cartridge. iii) Filter cartridge for de-soldering gun. iv) Tip activator. v) Flux pen. vi) Cleaning sponge vii) Extra one complete set of nozzles for soldering and de-soldering.	Physical check

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Approved/ Not Approved

(Pranay Sahay, IPS)
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