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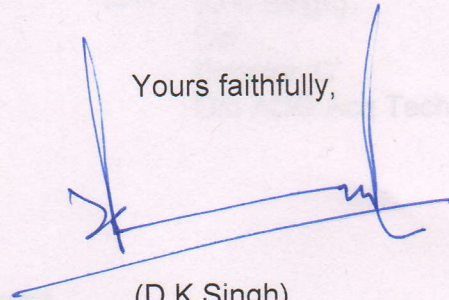
14 Oct 2022

**RESPONSE TO PRE-BID QUERIES ON RFP: PROCUREMENT OF QUANTITY 1,121
NIGHT SIGHT (TI) FOR SNIPER RIFLE**

Dear Sir/Madam,

1. Reference is made to Request for Technical and Commercial Proposal for Quantity 1,121 Night Singh (TI) for Sniper Rifle uploaded on MoD & Indian website on 12 Aug 2022.
2. Response to the pre-bid queries raised by vendors is enclosed as Appendix to this letter (___ pages).
3. Bids to be submitted positively by 1500hr, 04 Nov 2022.

Yours faithfully,



(D K Singh)
Colonel
Director 'C'
Office of ADG Acq Tech (Army)

Enclosures : As above.

RESPONSE TO PRE-BID QUERIES ON RFP : PROCUREMENT OF QTY 1,121 NIGHT SIGHT (TI) FOR SNIPER RIFLE

Ser No	RFP Ref	Question	Response by	Response
<u>M/s Alpha Design Tech. Pvt. Ltd</u>				
1.	Appendix F of Annexure, Para No 4 Reticule Pattern	Electronic reticle can be provided that can be enabled and disabled. Kindly explain the purpose of reticule. How many fine cross hair reticules should be provided in the sight. Please clarify.	Inf Dte	Refer Ser No 2 of Appx A of RFP.
2.	Appendix F of Annexure, Para No. 6 Zeroing	Please clarify that is it a circle of 9cm radius or square of 3cm length ?	DGCD/ CD-4	MPI(B) should be within 3 cm of MPI (A)
3.	Appendix F of Annexure, Para No. 13(a), (xiii) Environmental and Durability Tests	Please clarify that toppling test excludes the optical and controls faces.	DGQA	Toppling test is carried out in 'Unpack' and 'Switched off' condition and for testing procedure Test No. 18 (Page 134) of JSS-5855-11-2019 (Rev 1) may be referred in conjunction with submission 17.16 (Page 273)
<u>M/s Best Group</u>				
4.	-	Is it mandatory to have a Defence Industrial License for bidder who has a consortium/ JV with a foreign OEM of TI Sights?	ADG Acq Tech (Army)	Refer Para 2(d) Annexure IV to Appendix 'A' of Ch-II of DAP 2020.
5.	-	The two years of experience of manufacturing/ integration/fabrication of TI Sights is required for consortium/ JV or for each partner?	ADG Acq Tech (Army)	Refer Para 3(d)(iii) Annexure IV to Appendix 'A' of Ch-II of DAP 2020.
6.	-	Three sets of batteries for each equipment are required to be quoted. How many batteries are there in each set ?	Inf Dte	Endurance of each set of batteries should meet the parameters mentioned in Para 9 of Appx A of RFP, hence not specified.
<u>M/s HFCL Limited</u>				
7.	Para 24, Page 11	Please confirm us if IPBG/ EMD is excepted or any certificate required.	ADG Acq Tech (Army)	As per RFP.

Ser No	RFP Ref	Question	Response by	Response
8.	Para 1, Essential Parameters 'A', Page 21	Please confirm whether the DRI test will be done in standalone mode or in clip-on mode.	DGCD/ CD-4	Clip-on mode as per RFP.
9.	Para 3, Essential Parameters 'A', Page 21	For mounting TI sight in clip on Mode, following details are requested :- (a) Total picatinny rail length available on the weapon.	Inf Dte	<ul style="list-style-type: none"> • 12 'O Clock – 57 cm. • 06 'O Clock – 12.3 cm. • 03 'O Clock – 11 cm. • 09 'O Clock – 11 cm.
		(b) Total picatinny rail length occupied by Day telescopic sight.		<ul style="list-style-type: none"> • Entire Telescopic Sight -29 cm. • Mount of Telescopic Sight – 14.8cm.
		(c) Aperature size/ diameter of OG of telescopic sight.		5.6 cm
		(d) Distance between centre of optical axis of OG (telescopic sight) and Picatinny rail.		4.74 cm
		(e) Other specifications of in-service telescopic sight deployed on Sniper Rifle like FOV, magnification, reticle size etc. are also requested.		Operator Manual is attached as Appendix 'A' .
		(f) We would request access to weapon so that we may take up mechanical measurements for proper mounting of TI sight.		The dimensions provided above are approximate. Arrangement is being made to facilitate access to the weapon to check precise fitment at a military establishment near vendor's location. Weapon handling and live firing can be organised at Infantry School, Mhow.
10.	Para 4, Essential Parameters 'A', Page 21	In clip-on mode the TI sight will act as a supporting aid for Telescopic Sight for night firing. Telescopic sight reticle will be used for firing in clip on mode, please confirm if our understanding is correct on the subject.	Inf Dte	Correct. Telescopic sight reticle will be used for firing in clip on mode.

Ser No	RFP Ref	Question	Response by	Response
11.	Para 5, Essential Parameters 'A', Page 21	Please confirm if the Smallest correction and Total correction are desired in standalone mode. As apprised above also, in clip-on mode the primary sight for aiming at target will be telescopic sight and TI sight will act as an aid for night observation in conjunction with Telescopic sight.	Inf Dte	The Smallest correction and Total correction are required in the TI Sight and should function during both standalone and clip-on mode.
12.	Sub para (d), Para 9, Essential Parameters 'A', Page 22	Please specify the voltage rating of both AC & DC sources.	DGQA	Voltage rating of AC & DC sources/charger depends upon the rating of battery used in the Sight. The charger should have fully charged battery indicator. AC and DC source input range for charging the batteries are 90V to 250V for AC and 12V to 32V for DC.
13.	Sub para (a), Para 11, Essential Parameters 'A', Page 22	Since the sight will be used in clip-on mode we may have to make some customizations to picatinny rail adapter and also mounting and aligning the axis of TI sight with Telescopic sight, thus we would request to provide a tolerance of $\pm 10\%$ on 1100g weight criteria.	Inf Dte	No change to RFP parameters.
<u>M/s ICOMM Tele Limited</u>				
14.	RFP Page 3, S.No. 4 Special Feature of the RFP	Please clarify; Is Mounting system part of the accessories ?	Inf Dte	Ref Para 1 of RFP with respect to accessories of Night Sight(TI) for Sniper Rifle.
15.	RFP Page No. 8, S. No 8 & 12 Year of Production	<ul style="list-style-type: none"> What is the measuring procedure for the year of production for Imported Major Sub systems, i.e. Un Cooled Sensor and OLED. How service life will calculate. 	DGQA	Vendor to provide CoC alongwith the supporting documents such as procurement/purchase order details, year of manufacture. The service life will be accepted based on OEM certification as per design documents.

Ser No	RFP Ref	Question	Response by	Response
16.	RFP Page No. 43, S. No. 3 Range	Please clarify, It is understood that The Detection and Recognition range will be tested during Night and under poor visibility conditions.	DGCD/ CD-4	Yes, the test will be carried out in the hours of darkness, in the visibility condition of that particular day of test.
17.	RFP Page No 43, S. No. 6 Zeroing	<ul style="list-style-type: none"> It is understood that firing will be carried out by using a mount. Please confirm that the Mount will be provided by Trial Unit. 	DGCD/ CD-4	Mount of Sniper is to be catered by Vendors.
18.	RFP Page No 43, S. No. 6 Zeroing	How many rounds will be provided for zeroing is not mentioned? We suggest that a minimum of 40 rounds should be provided for the same. Please confirm.	DGCD/ CD-4	Detailed modalities will be discussed during the Pre-Trial meeting with TEC compliant vendors.
19.	RFP Page No 43, S. No. 6	Please confirm, <ul style="list-style-type: none"> Minimum qualifying round to Hit on the Target. And measure the radius of 3 cm MOA from POA. 	DGCD/ CD-4	Refer Ser No 2 and 18 above.
		<ul style="list-style-type: none"> Is it required to Qualify in both Trials, ie, HAA and Plain Area. 		Yes, the EUTs need to qualify at both the HAA & Plain phase of Trials.
20.	RFP Page No 44, S. No. 8 Technical Characteristics	Detector Resolution (FPA) : Minimum 640 x 480; Pitch less than or equal to 12 microns. It is understood that this parameter will be tested in DGQA and MET. Please inform the testing procedure. Our suggestion and request, it should be tested in DGQA and MAG.	DGQA	These are design parameters, vendor to provide CoC from OEM for Detector Resolution & Pitch.

Ser No	RFP Ref	Question	Response by	Response
21.	RFP Page No 44, S. No. 9(c) OLED Display	Please clarify, Is a separate functional key required for OLED or In Built with ON/OFF Switch?	Inf Dte	As per design of vendor within the ambit of SQR.
22.	RFP Page No 44, S. No. 10(c) & (e) Battery Endurance Test	Endurance test should be carried out with Rechargeable battery and Vendor proposed Commercial battery also.	DGQA	No change to RFP parameters.
23.	RFP Page No 44, S. No. 10(d) Arrangement for Recharging of Batteries by AC and DC	Input Range not mentioned. Our Suggestion and Request : A smart and intelligent, universal charger for charging the battery from 110 volts to 270 volts 50hz AC along with a DC charging facility from 12 volts to 48 volt DC (on the entire range) should be provided. It should have "charge ON" and "charge complete" indications during the charging of the battery. The charger should be capable to charge the battery fully in ≤ 5 hours.	DGQA	No change to RFP parameters.
<u>Ordinance Factory Dehradun</u>				
24.	-	Ballistic Data of the Sniper Rifle will be required to design reticle of the sight. Therefore same may please be provided.	DGQA	Ballistic Data of .338 Lapua Magnum is attached as Appendix 'B' .
25.	-	Whether Appendix K (Criteria for Vendor Selection/ Pre-Qualification) is applicable to DPSU as Same is not applicable to DPSU in the RFP of Night Sight (II Tube) for Assault Rifle, Qty 29,762 (RFP No. 75961/NS (II) Aslt Rif/GS/CD/RFP Cell, Dated 05 July 2022).	RFP Cell	Vendor criteria will be applicable to the vendor as per Appendix K to the RFP in the instant case.
<u>M/s DELOPT</u>				
26.	Annexure K – Financial Pre-	The specified Min Avg Annual Turnover is, for last 03 financial years, ending 31 st March of the previous	RFP Cell	The Vendor needs to submit his net worth which will be checked as per RFP

Ser No	RFP Ref	Question	Response by	Response
	Qualification : 2(ii) Average Annual Turn Over 2(iii) Net Worth	<p>financial year, should not be less than 30% of estimated annual outflow of project.</p> <p>The specified Net worth is, Net worth of entities, ending 31st March of the previous financial year, should not be less than 5% of the estimated cost of the project.</p> <p>Please inform the estimated cost of the project, to ascertain our qualification to participate in the RFP.</p>		Parameters by TOOC prior to TEC. Estimated Cost of the project cannot be shared.
27.	Appendix A : Operational Characteristics and Features	<p>For the subject requirement, the Night Sight with Clip-on optics cannot be used as a standalone unit. Please clarify if both the options – Standalone and Clip-on are required. To operate the Night Sight in standalone mode, the eyepiece optics needs to be interchanged.</p> <p>In the clip-on mode, the dioptre adjustment feature available in the Day sight needs to be used. If the dioptre adjustment feature is to be provided in the standalone mode, it can be provided with different eyepiece optics. This will have additional cost implication. Please clarify if this dioptre adjustment feature is to be provided in standalone mode.</p> <p>Please provide the Diameter of the day sight objective lens, used in the subject weapon.</p>	Inf Dte	<ul style="list-style-type: none"> Ref Para 7(e) of Appx A of RFP with respect to Dioptre Adjustment. Ref Ser No 9 above with respect to specifications of day sight.
28.	-	Please provide the specification of the day sight used in the subject weapon.	Inf Dte	Ref Ser No 9 above
29.	-	Please clarify on shroud & the type of shroud to be provided.	Inf Dte	Shroud is an interface between the TI sight and Day sight. It improves light security and image quality. It also prevent exposure of operator due to emission of OLED display's light. The

Ser No	RFP Ref	Question	Response by	Response
				material of shroud has not been specified to keep it broad based.
<u>M/s Reliance Defence Limited</u>				
30.	Para 1, Appendix A 'Operational Characteristics and Features', Page 21 Range	Please clarify whether Range criteria of Detection and Recognition needs to be satisfied with Day Scope or without Day Scope?	Inf Dte	Refer Ser No 8 above.
31.	Para 2, Appendix A 'Operational Characteristics and Features', Page 21 Reticule Pattern	Please clarify whether cross hair type reticule pattern is only to be provided or provision exists to provide optional reticule patterns.	Inf Dte	Refer Ser No 2 of Appx A of RFP.
32.	Para 4 & 5, Appendix A 'Operational Characteristics and Features', Page 21 Zeroing	As per RFP Zeroing parameter is specified as follows :- (a) Smallest Correction (in azimuth and elevation) – 1 MOA in zoomed out mode. (b) Total correction (in azimuth and elevation) – Minimum ± 8 MOA. Please clarify whether (a) smallest correction and (b) Total correction are the required specification for stand-alone mode i.e. when sight is used as stand-alone?	Inf Dte	Refer Ser No 11 above.
33.	Para 7, Sub-Para 7(a) and Sub-Para 7(b), Appendix A 'Operational Characteristics and Features', Page 21 Technical Characteristics : (a) Detector Resolution	As per RFP, following are the specified requirements :- (i) Detector should be 640x480 with 12 micron pixel pitch. (ii) Horizontal FoV should be 6 Deg. To achieve the above requirements, an Objective Glass of maximum 70 mm focal length is used. However, as per Jonson's criteria with a 70 mm Lens	Inf Dte	No Change to RFP Parameters.

Ser No	RFP Ref	Question	Response by	Response
	(FPA) (b) Field of View	and 12 micron detector, a maximum of 600m Recognition range can be achieved. To achieve the RFP requirement of Recognition at 800m an Objective Glass of 90 mm focal length with Horizontal FoV of 4.5 Deg is required. It is requested appropriate correction in FoV parameter be done.		
34.	Appendix A 'Operational Characteristics and Features', Page 21 'Clip-On' mode with the Sniper Rifle's Day Scope	Please clarify which day scopes will be used with this Thermal Clip-on Sniper Sight. Kindly provide the following details : (i) Model Name (ii) Magnification (iii) Detail Specification of Day Scope (iv) The height from the rifle's picatinny rail to the centre of Day scope's OG.	Inf Dte	Refer Ser No 9 above.
35.	Para 1 and 4, Page 1 and 2 respectively Shroud	Please explain the construction and material of the Shroud to be supplied as part of the accessories.	Inf Dte	Refer Ser No 29 above.
36.	Appendix K, Para 1(iv) and Para 2(I-iv) Page No. 79, Criteria for Vendor Selection/ Pre-Qualification	Please confirm for a consortium participating in this program whether the credentials of partner which is not the prime will be acceptable to meet the requirements.	ADG Acq Tech (Army)	Refer Para 3(d) Annexure IV to Appendix A of Ch-II of DAP 2020.
37.	-	Please clarify whether there is any specified length or maximum length of sight required.	Inf Dte	The length of sight has not been specified to keep it broad based.
38.	-	The Day Telescope used as Clip On Device has to be fully functional and without any loose components. FoV should be free of any fungus and foreign particles so that it doesn't create any	DGQA	Availability of suitable Day Telescope will be ensured.

Ser No	RFP Ref	Question	Response by	Response
		hindrance in observation during zeroing. Please confirm the necessary compliance will be followed.		
<u>M/s Bharat Electronics Limited (BEL)</u>				
39.	S. No: 2 of Appendix A Reticule Pattern	Night Sight (TI) for Sniper Rifle clip-on with Day scope and will be used in conjunction with Day scope during operations. In this regard, it is requested to provide reticule pattern details of In-service Day scope.	Inf Dte	Refer Operator manual in Appendix A.
40.	S. No: 3 of Appendix A Mounting	(i) Request to provide details of the Picatinny Rail of in-service .338" Sniper Rifle. (ii) Request to provide Sniper Rifle's Day Scope details like datasheet, user and operational manuals. (iii) Request to provide Sniper Rifle's Day Scope mount height and 3D model.	Inf Dte	Refer Ser No 9 above.
41.	S. No: 4 of Appendix A Zeroing	Request to provide details of acceptance and evaluation criteria for firing in the specified ranges.	DGCD/ CD-4	Refer Ser No 18 above.
42.	S. No: 12 of Appendix F Weight & Colour	It is understood that physical evaluation method is used for measurement of weight & ascertainment of colour. Please confirm.	DGCD/ CD-4	Yes, physical verification will be done.
43.	S. No: 12 of Appendix F Carriage and Transportation	It is understood that physical check will be carried out. Please confirm.	DGCD/ CD-4	Yes, physical verification will be done.
44.	Annexure V to Appendix G 2(ii) Delivery of SMT/STEs	The vendor is mandated to maintain first batch of sights till T+30 to T+36 months (Warranty is for 4 months). SMT/STEs are required from T+30 months onwards. As per RFP SMT/STEs are to be supplied along with	TG EME/ RFP Cell	(i) Delivery of SMT/STEs is based on past experience. SMT/STEs to be delivered as per timelines stipulated in RFP. (ii) Warranty is for 24 months from JRI

Ser No	RFP Ref	Question	Response by	Response
		<p>first batch of main equipment ie. T+6 months to T+12 months.</p> <p>Warranty of SMT/STEs will be expired.</p> <p>The SMT/STEs will remain unutilised till T+30 to T+36.</p> <p>Hence delivery of SMT/STEs may be realigned w.r.t. warranty of main equipment.</p>		on pro rata basis.
45.	-	Request to arrange for practice firing with the in service .338” calibre sniper rifle in conjunction with its day scope.	Inf Dte	Practice firing can be undertaken by the firm based on the procedure outlined in SOP on Allotment and Utilisation of Proof and Field Firing Ranges by Private Defence Industry. The SOP is available on MoD website.
<u>M/s Shobha ANO Prints Pvt Ltd</u>				
46.	Operational Requirements : Zeroing	<p>For aligning the day scope to our sight we need the following details such as diameter of the Day Optical Sight and height of the day optical sight from the picatinny rail.</p> <p>Can we check the fitment of the sight before the trial firing.</p>	Inf Dte	Refer Ser No 9.
47.	BITE	The sight should have a Built in Test Equipment. “Please specify what equipment’s are required”.	Inf Dte	It must be in-built in the equipment.
48.	Trial Methodology : Night Sight (TI) for Sniper Rifle, Appendix F-Pre Trial Meeting	The pre trial meeting will happened after submission of the samples, we request us to provide “Sequence, severity & duration of tests” at the pre-bid meeting itself so that we can test our samples in the same Sequence, severity & duration to ensure or samples meeting the requirements.	DGCD (CD-4)/ DGQA	Sequence, severity and duration of the applicable tests will be as per table 14.5.3 (Class LI2) of JSS-5855-11-2019 (Rev 1).

Ser No	RFP Ref	Question	Response by	Response
<u>M/s Tonbo Imaging India Pvt Ltd</u>				
49.	Appendix A, Page 21, Para 4 Reticule Pattern	Please note that a long range Clip-on sights with Narrow FOV employ specially designed optics with demagnification and are not ideal for standalone firing modes. We request you to consider removing this parameter.	Inf Dte	No change to RFP parameters.
50.	Appendix A, Page 21, Para 4 Zeroing	Please note that there is no Zeroing adjustment required in a Clip-on TI Image. Any Zeroing adjustment of TI image to align MPI in clip-on mode is against the working principle advantage of using a Clip-on sight. The TI sight just needs to be placed in line with the already zeroed Day scope. We also request you to define the tolerance in MPI. We recommend the MPI should be the same as with zeroed Day scope within a tolerance of <1 MoA.	Inf Dte/ DGCD (CD-4)	No change to RFP parameters.
51.	Appendix A, Page 21, Para 5	Please note that there is no Zeroing adjustment in a Clip-on TI image. Any zeroing adjustment of TI image to align MPI in clip-on mode is against the working principle of a clip-on sight. This is a wrong parameter and should be removed from the QR.	Inf Dte	No change to RFP parameters.
52.	Appendix A, Page 21, Para 7(c) Optical Magnification	A Clip-on TI sight needs to have an accurate 1x magnification for it to work flawlessly without the need for any zeroing. It required precision optics manufacturing to achieve such results. 10% tolerance is extremely high and we recommend it to be removed.	Inf Dte	No change to RFP parameters.
53.	Appendix A, Page 22, Para 11(a) Weight	Weight of the sight is one of the most critical parameters for a Sniper Sight it can affect the reaction time of the sniper. We stongly recommend that the weight should be less than 700 gms (including battery and mount)	Inf Dte	No change to RFP parameters.

Ser No	RFP Ref	Question	Response by	Response
54.	Page 15, Para 40 (c) Maintainability Evaluation Trial (MET)	Please note that in case of a Clip-on TI Sight, there is a mandatory requirement of a Clipon TI Collimator as STE. We see no mention of it in the RFP. We would request you to share the scaling and qty that is required by you. Please note the since it is an expensive STE it will effect the commercial offers.	HQ TG EME / Acq Tech (Army)	The Bidder may include the same in the commercial bids. As per the recommendations of the MET, if considered necessary, the same can later be negotiated during CNC, else the same can be deleted from bids.
<u>M/s Data Patterns (India) Ltd</u>				
55.	-	Will there be a requirement of Laser Range Finder (LRF) as part of Thermal Imager.	Inf Dte	As per design of vendor within the ambit of SQR.
56.	-	The scope of 'I' Level must be specified in detail as there will be a requirement of 'I' tester for testing the Thermal Imager and its sub systems as well as repair of sub assemblies and PCBs.	HQ TG EME	Refer Para 1(b) of Appx E of RFP.
57.	-	Will there be requirement of integration of temperature and pressure sensors?	Inf Dte	As per design of vendor within the ambit of SQR.
58.	-	Will there be a requirement video encoding and steaming?	Inf Dte	As per design of vendor within the ambit of SQR.
59.	-	Will there equipment be used for day/ night surveillance in isolation by the troops?	Inf Dte	The purpose of the TI sight is to use with the in-service .338" calibre Sniper Rifles in conjunction with its day scope in 'Clip On' mode to facilitate acquisition and accurate engagement of targets during hours of darkness and poor visibility conditions.
<u>M/s Tata Adv Sys Ltd</u>				
60.	Para 1.4.4 to Appendix G Page 47	Kindly confirm the timelines for completion of JRI post-delivery as significant portion of payment is linked to the same.	DGCD (CD-4)/ DGQA	Timelines for JRI depends upon the Lot size received and the QA checks to be carried out as per mutually agreed ATP.

Ser No	RFP Ref	Question	Response by	Response
61.	Para 1.4.7 to Appendix G Page 47	<ul style="list-style-type: none"> As per the para, it is indicated that "Reimbursement of taxes and duties will be as per rates and amounts indicated in the commercial bid / contract or as per actuals, whichever is lower". MoD may kindly note that rules related to taxation are not in our control. Hence the reimbursement of taxes and duties may kindly be made on actuals only. 	ADG Acq Tech (Army)	As per RFP.
62.	Appendix Q Page 47	Whether the NDA is to be submitted on regular paper or stamp paper ? Kindly confirm.	ADG Acq Tech (Army)	Printed on Letter Head, signed by parties in Original.
63.	Appendix A, Para 1, Page 21 Range	It is understood that range tests will be carried out in conjunction with in-service Day Scopes in Clip-On mode only & these ranges are not applicable for Stand-alone mode. Please confirm.	Inf Dte	Refer Ser No 8 above.
64.		Please provide the make, model & technical specifications with dimensional details of in-service day scope. Also the height of the Optical Axis from the Picatinny rail reference. The data is essential to finalize our Clip-on thermal weapon sight's mounting.	Inf Dte	Refer Ser No 9 above.
65.		Please confirm that clear human eye visibility up-to detection range of sight i.e. 1200m will be ensured.	CD-4	Trials will be carried out during ni and in the prevalent weather condition of that particular day. During ni, the tgt will not be visible with naked eye, however, range till 1200m will be obstacle free.
66.		Please specify size of human target.	CD-4	Physical mov of men of height 175 cm to 180 cm will be carried out.
67.	Appendix A, Para 2, Page 21 Reticule Pattern	Since the reticle to enable use of sight in a standalone mode is asked for, hence request to provide ballistic data and trajectory profile of ammunition used to incorporate BDC (Bullet Drop Compensator) and to build reticle pattern.	Inf Dte	Refer Ser no 24 above.
68.	Appendix A, Para 3, Page 21	<ul style="list-style-type: none"> Please provide make, model of this in-service .338" Sniper Rifle. 	Inf Dte	Refer Ser No 9 above.

Ser No	RFP Ref	Question	Response by	Response
	Mounting	<ul style="list-style-type: none"> Please provide mounting dimensions of existing Day Scope on the Sniper Rifle. We request access to the in-service Sniper Rifle with Day Scope mounted for confirmation of the dimensions and checking our sight's compatibility. 		
69.	Appendix A, Para 4, Page 21 Zeroing	<ul style="list-style-type: none"> Please mention the range at which Zeroing & firing weapon will be carried out for checking the accuracy. Request to provide the details of type of target. How many rounds of firing will be allowed for zeroing? 	DGCD (CD-4)	Refer Ser no 18 above.
		<ul style="list-style-type: none"> Request opportunity be given before submission of sample for checking fitment, reticle/ zeroing & firing on actual Weapon. 	Inf Dte	Refer Ser No 9 above.
		<ul style="list-style-type: none"> Firing trial will be conducted at what ranges (single or multiple) after zeroing at HAA and Plains. 	DGCD (CD-4)	Refer Ser no 18 above.
70.	Appendix A, Para 7(c), Page 21 Optical Magnification	Since requirement is for a clip-on sight, the magnification must be 1x only. Tolerance if added, should be on both side of this 1x such as +/- 5% or +/- 10%. However it is seen that only positive side tolerance is given. Please reconfirm the tolerance.	Inf Dte	No change to RFP parameters.
71.	Appendix A, Para 7(e), Page 22 Dioptre Adjustment	<ul style="list-style-type: none"> The diopter will not be used in clip-on mode, so we assume that diopter adjustment is asked for Standalone mode usage. Kindly confirm. By virtue of its design, a clip-on Sight's eye-relief will be long (>50 mm) and therefore user can operate the sight even with spectacles, thus eliminating the need of any diopter on sight. It is suggested that dioptre adjustment can be eliminated & instead >50 mm eye relief is added. 	Inf Dte	<ul style="list-style-type: none"> Confirm, Diopter adjustment is required while using the sight in Standalone mode. No change to RFP Parameters.
72.	Appendix A, Para 9 (a),	Please elaborate on the definition of "Commercially Available" battery? If the battery used in the TI Sight	Inf Dte	Commercial available means those equipment which can be procured

Ser No	RFP Ref	Question	Response by	Response
	Page 22 Power Supply	is available from local sources in India or on GeM for purchase, would it be considered "Commercially Available"?		locally or through GeM.
73.	Appendix A, Para 11 (a), Page 22 Weight	Does this weight include Eye-guard / shroud and OG Cap as well?	Inf Dte	Weight of the sight will be measured without eye-guard/ shroud and OG cap.
74.	Appendix A, Para 12, Page 22 Environmental Standards	<ul style="list-style-type: none"> Is the environmental test applicable for the Sight only & not applicable to battery charger? Please confirm. Please specify tests applicable to hard & soft case. We request to provide applicable test and para in JSS-5855-11-2009 (to be read in conjunction with JSS-55555-2012) with severity and duration as tests are applicable based on operational / storage condition encountered. 	DGQA	<ul style="list-style-type: none"> Environmental tests are normally not carried out on Battery Charger. However, CoC regarding function of Charger in Low/High temperature and humid conditions may be obtained from vendors. To be decided in Trial Directive. Ref RFP regarding test for hard & soft case. Climatic and durability test will be carried out as per Class LI2 of JSS-5855-11-2019 (Rev 1). Refer Guidelines for framing of draft ATP attached at RFP.
<u>M/s MKU Ltd</u>				
75.	Appendix A, Point-3 Mounting	Access of weapon and day sight is required for proper fitment.	Inf Dte	Refer Ser No 9 above.
76.	Appendix A, Point-4 Zeroing	What you meant by adjust thermal image to align MPI in clip-on mode ?	Inf Dte	When the TI Sight is being used in conjunction with a zeroed telescopic sight, the reticle of telescopic sight will be used. However, arrangement is required to adjust the thermal image in the OLED display to align the MPI in clip-on mode.
77.	Appendix A, Point-12(b) Environmental Standards	Can you please provide list as per JSS-5855-11-2019 (Rev-1)?	DGQA	Refer Ser No 74 above.

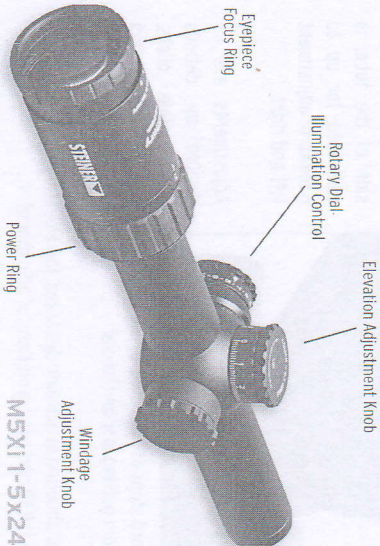
Ser No	RFP Ref	Question	Response by	Response
78.	Appendix A, Point-14 BITE	What do you mean by Built-in test equipment. Since it is a single sensor based system, Built-in test equipment is not required in this. Can you please clarify the exact requirement?	Inf Dte	BITE is required for diagnostic and functional check of the sight.
79.	Para 12 of Appx F	Please provide testing procedure of Smallest Correction & Total Corrections?	DGQA	As per RFP.

CONTENTS

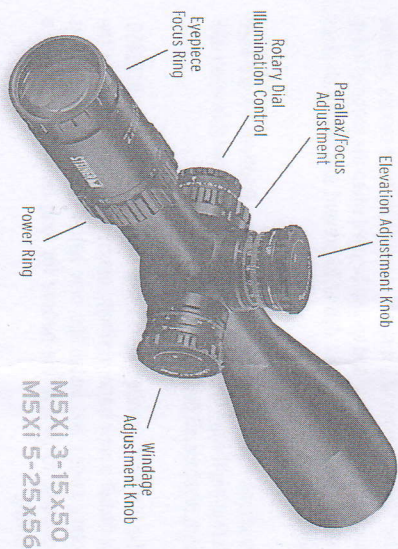
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INTRODUCTION

STENER is one of the largest manufacturers of high-quality optics in the world. STENER products represent the highest level of precision and technology. STENER MSXi Riflescopes were especially developed in close cooperation with international weaponry experts for the tough requirements of military missions around the world. They are field-tested and combat proven by special forces and successfully withstand the harshest conditions. STENER MSXi Riflescopes represent a new class in terms of performance, quality and reliability. They are ideally suited for tactical, military and law enforcement operations. This manual outlines the basic operation and maintenance of the scope.



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EYEPiece FOCUSING

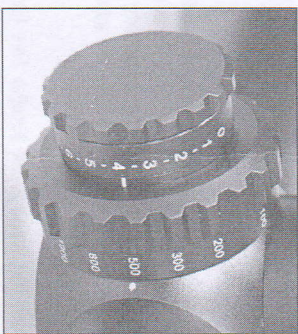
The eyepiece can be focused so that the reticle appears sharp and black to your eyes. Adjusting the focus is quick and easy to do. Just follow this procedure:

- 1 Point the scope at the sky or a plain wall and take a quick glance through the scope. If the reticle appears sharp and black, no further adjustment is necessary.
- 2 If not, use quick glances through the scope while rotating the eyepiece focus ring until the reticle pattern is sharp and clear.

NOTE: Do not look through the eyepiece as you turn the focus ring. Your eyes will adjust to the out-of-focus condition.

ILLUMINATED RETICLE ADJUSTMENT

The STENER MSXi Rifle scope features an illuminated reticle that makes it easier to see the reticle in low light conditions. The intensity of the illumination is controlled by the rotary illumination switch located on the left side of the adjustment turret. The switch has 11 intensity levels and a "battery saver" position in between each level that turns off the illumination.



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The "Off" positions at the minimum and maximum ranges turn the circuit off completely and should be used when the scope is not in use. Each level also has a detent to prevent unintended changes during use.

Positions 8-11 are for daylight operations. Positions 1-7 are used during night-time operations. Positions 1-4 are suitable when utilizing night vision devices.

The reticle is powered by a 3-volt lithium cell battery #CR2450. To install a new battery, simply unscrew the battery cap on the rotary switch and install the new battery flat side (+) up. It is advisable to remove the battery for long term storage (over a month).

PARALLAX / FOCUS ADJUSTMENT

FOR M5Xi 1-5x24 mm:

The M5Xi 1-5x24 mm scope is adjusted parallax free at 100 m (fix).

FOR M5Xi 3-15x50 mm AND 5-25x56 mm:



Parallax is the apparent movement of the reticle in relation to the target when the eye is not directly in line behind the center of the scope. Images from different distances focus in front of or behind the scope's reticle. Parallax is more noticeable with higher magnification scopes and scopes with a larger objective lens.

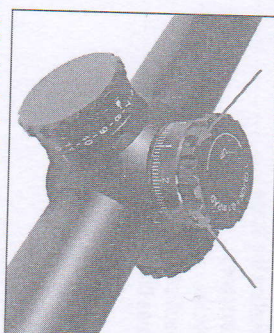
To use the parallax/focus adjustment, rotate the knob on the left side of the adjustment turret until the numeral corresponding to the known target distance lines up with the reference mark. If the distance is unknown, rotate the adjustment knob until the target image is sharply focused.

When the scope is set parallax free for the distance you are viewing, you should be able to move your eye side-to-side or up and down without seeing the reticle move appreciably in relation to the target.

WINDAGE / ELEVATION ADJUSTMENT

FOR M5Xi 1-5x24 mm:

The windage and elevation knobs are designed for precise adjustment. The dials are calibrated so that 1 click = 0.1 mRAD. The elevation knob at the top of the tube provides 90 mRAD of adjustment in one full turn and features a "0" stop. The windage knob, located on the right side of the tube, provides up to ± 16 mRAD of adjustment in both directions. The windage knob is protected by cap.

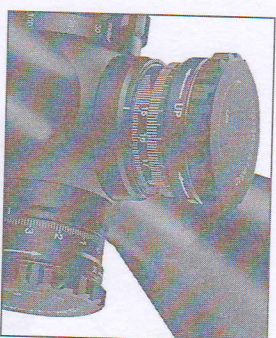


Both knobs can be reset to "0" once the scope is sighted-in. To reset the knobs to "0", use the hex wrench supplied with the scope to loosen the set screws located at the top of the adjustment knobs.

The dial should spin freely. Rotate the knob until the "0" lines up with the hash mark indicator, and then retighten the set screws. The knob is not intended to come up or off, but if the set screws are loosened too far, the knob can be removed. The scope is still fully sealed if this does accidentally occur.

FOR M5Xi 3-15x50 mm AND 5-25x56 mm:

The windage and elevation knobs are designed for precise adjustment. The dials are calibrated so that 1 click = 0.1 mRAD.

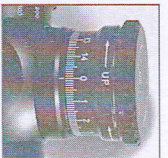


The windage knob, located on the right side of the tube, is calibrated for up to 6 mRAD of adjustment left and right.

Adjustments are indicated by detents and audible clicks.

Hard stops at both ends of the adjustment range prevent shooters from getting lost on the dial.

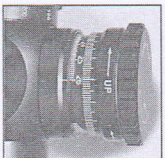
For shooting at extreme distances, the elevation knob offers up to 26 mRAD and two revolutions of adjustment.



The indication occurs through a patented double scale. The first revolution of 149 clicks are indicated on a rotating scale. When turning past 149 clicks the scale disappears to the top and a second scale ranging from 150 to 260 clicks appears from below



This riflescope is shipped from the factory with the optical center (knob at '0' position) set below center. Without tapered bases the initial sight-in or bore-sighting will likely produce an initial point of impact considerably high. Because of the Zero Stop feature, as shipped from the factory the scope has no immediate capability for downward point of impact adjustment.



STEINER offers this riflescope with a choice of windage/elevation knobs that offer Clockwise or Counterclockwise adjustment.

Setting the Zero Stop:

- 1 Zero your scope at the desired distance.
- 2 Using the hex wrench supplied with your scope loosen the two set screws located just below the top of the knob.
⚠ Attention: a half turn only! Otherwise you can disassemble the turret!
- 3 Turn the knob to zero.
- 4 Tighten the two set screws on the knob.
- 5 Repeat step 2 - 4 for the windage knob.

If the Desired Zero is Below the Zero Stop Location:

- 1 Use the hex wrench supplied with the scope to loosen the set screw (half turn only) on the elevation adjustment knob located just below the top of the knob.
- 2 Turn the knob in the direction of up as



indicated on your elevation knob slightly more than the number of mils needed to achieve zero. The knob should free spin without any click engagement.

- 3 Retighten the set screws. Adjust the elevation down the required amount.
- 4 Once you have zeroed and the elevation adjustment is complete, once again loosen the two set screws and reset the knob to "0" and then retighten the set screws.

NOTE: When retightening set screws on elevation knob, maintain slight pressure on the top of cap to ensure proper seating of adjustment dial.

CARE & MAINTENANCE

This STEINER M5Xi Riflescope is fully water pressure proof and fogproof. To protect the objective and ocular lenses, it comes equipped with flip-up scope caps. In the event that the lenses are subjected to dust, dirt or mud, follow these steps to clean and protect the lens surface. Failure to remove grit before cleaning will damage the lens surface.

Coarse dirt/debris must be removed from the lens surface. Position the scope so particles will fall away from the lens, and then use a soft brush to gently whisk away the debris, while blowing on the lens to dislodge the particles. For heavy dirt, like dried mud, use a spray of clean water or lens cleaning fluid to remove the dirt.

Your STEINER riflescope will provide reliable performance given reasonable care and treatment. All moving assemblies are permanently lubricated. Only occasional cleaning of the outside of the scope and the exterior lenses is required.

Never disassemble your scope. Disassembly by anyone other than the manufacturer will void the warranty. If you have any other problems with the STEINER riflescope, return it to the factory for repair.

For further information, please visit our web site at www.steiner-military.com.



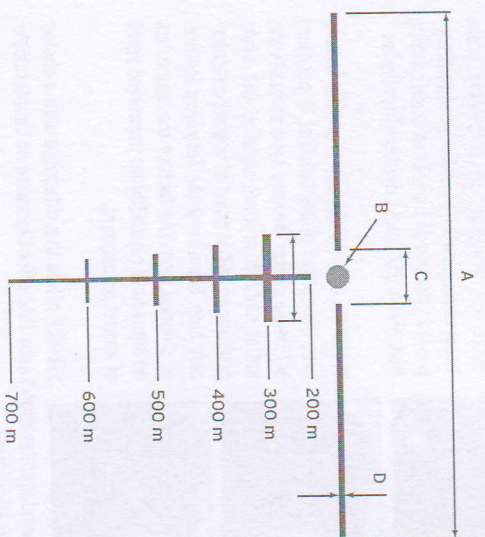
MOUNTING THE SCOPE

The riflescope requires 34-mm-rings (3-15x and 5-25x) or 30-mm-rings (1-5x). STEINER recommends the use of a 45 MOA (13.1 mRAD) mount if shooting at extremely long range where the maximum elevation of 26 mRAD is required. Read the manufacturer's directions regarding the installation of mounts and rings.

ACCESSORIES

STEINER offers a range of accessories for scopes. The 50-mm- and 56-mm-lenses are designed to accommodate standard anti-reflective devices, sunshades, filters and other accessories.

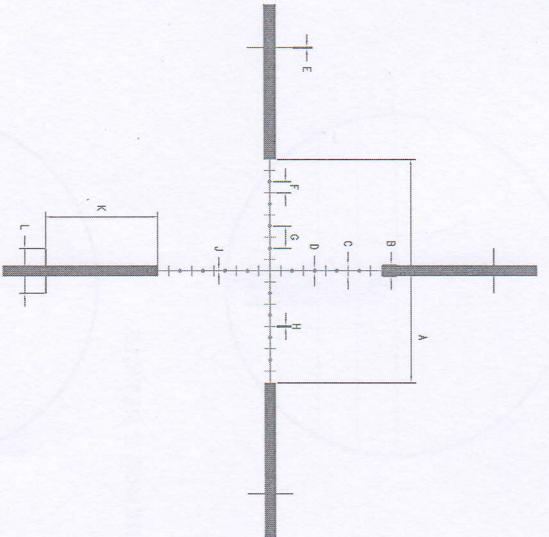
RAPID DOT ILLUMINATED RETICLE FOR CAL 5.56 OR CAL 7.62



RAPID DOT RETICLE SUBTENSIONS

UNITS	mrad	in/100 yd.	cm/100 m
A	10.0	36.0	100.0
B (ix / 5x)	1.6 / 0.32	5.76 / 1.17	16.0 / 3.2
C	1.0	3.6	10.0
D	0.13	0.47	1.3

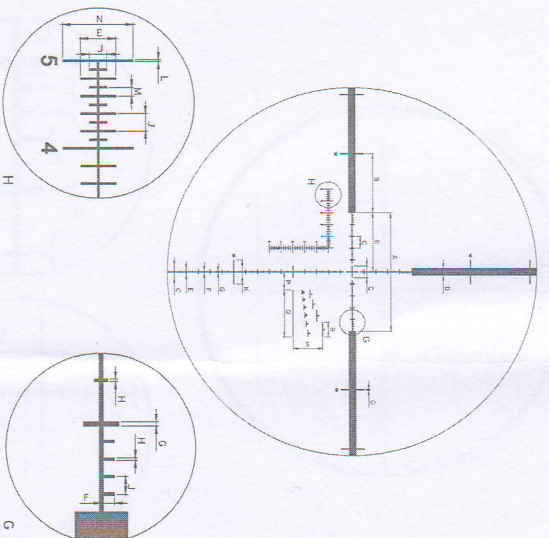
G2B MIL DOT ILLUMINATED RETICLE



G2B MIL DOT RETICLE SUBTENSIONS

UNITS	mrad	in/100 yd.	cm/100 m
A	10.0	36.0	100.0
B	0.5	1.8	5.0
C	0.5	1.8	5.0
D	0.2	0.72	2.0
E	0.06	0.22	0.6
F	0.5	1.8	5.0
G	1.0	3.6	10.0
H	0.06	0.22	0.6
J	0.06	0.22	0.6
K	5.0	18.0	50.0
L	2.0	7.2	20.0

MSR RETICLE

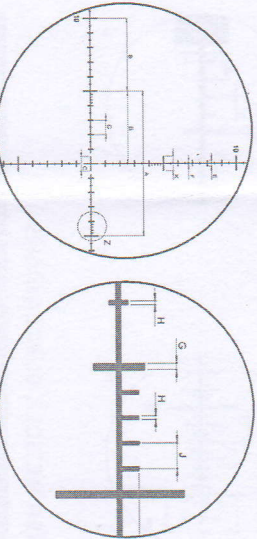
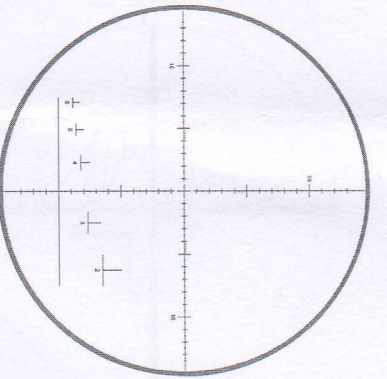


MSR RETICLE SUBTENSIONS

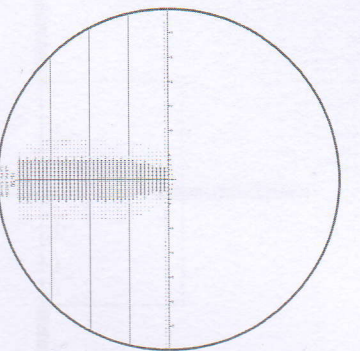
UNITS	mrad	in/100 yd.	cm/100 m
A	10.0	36.0	100.0
B	5.0	18.0	50.0
C	1.0	3.6	10.0
D	0.6	2.17	6.0
E	0.4	1.45	4.0
F	0.15	0.55	1.5
G	0.05	0.18	0.5
H	0.03	0.11	0.3
J	0.2	0.72	2.0
K	2.0	7.2	20.0
L	0.02	0.07	0.2
M	0.1	0.35	1.0
N	0.8	2.87	8.0
P	1.5	5.4	15.0
Q	4.0	14.4	40.0
R	1.25	4.5	12.5
S	2.5	9.0	25.0



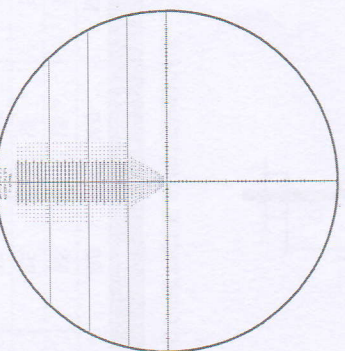
B41, RFP RETICLE



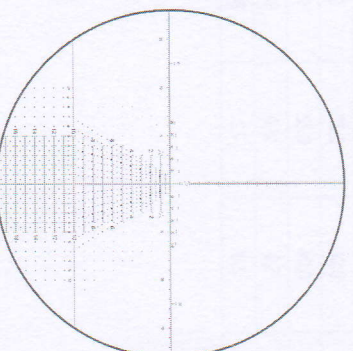
H 59 RETICLE



TREMOR 2 RETICLE



TREMOR 3 RETICLE



B41, RFP RETICLE SUBTENSIONS

UNITS	milrad	in/100 yd.	cm/100 m
A	10.0	36.0	100.0
B	5.0	18.0	50.0
C	1.0	3.60	10.0
E	0.4	1.44	4.0
F	0.15	0.54	1.5
G	0.05	0.18	0.5
H	0.03	0.11	0.3
J	0.20	0.72	2.0
K	1.0	3.60	10.0

SPECIFICATIONS

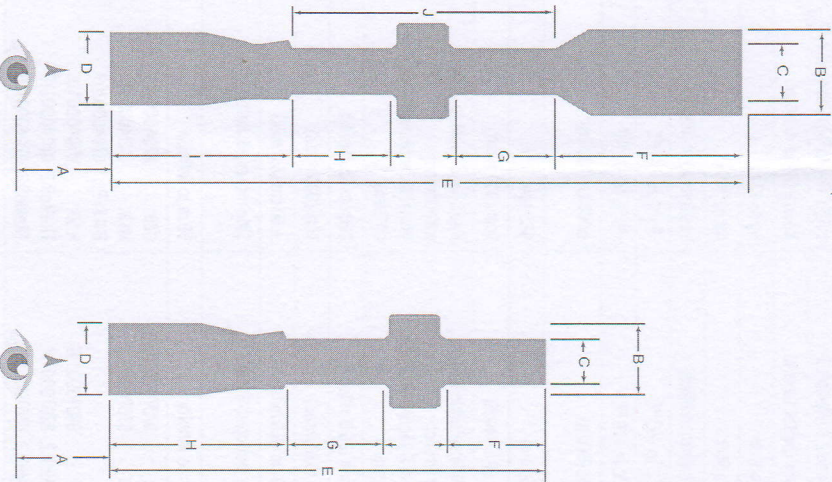
	MSXI 1-5 x 24 mm
Magnification	1-5 x
Objective Size	24 mm
Magnification Change	5 x
Exit pupil	11.5 - 4.8 mm
Eye relief	90 mm
FOV @ 100 m	≥ 36.0° - 7.2 m
Twilight Factor	4.9 - 10.9
Battery	CR 2450
Diopiter Setting	+2 to -3 diopters
Tube Diameter	30 mm
Focal Plane Location	Second focal plane
Reticle	Rapid DOT
Illumination	Rotary Digital Control
Water Pressure Proof	up to 10 m
Shock Proof	up to 900 G
100 % Fog Proof Inside	yes (nitrogen filled)
Operating Temperature	-25 °C to +63 °C
Storage Temperature	-35 °C to +70 °C
Weight with caps (without caps)	585 g (555 g)
Length (at 0 diopter)	≤ 295 mm
Elevation Adjustment Increment	1 cm (0.10 mrad)
Elevation Adjustment	Knob Resetttable to Zero with Wrench Visual & Tactile Indication of Turns
Elevation Range @ 100 m	320 cm (32.0 mils)
Windage Adjustment Increment	1 cm (0.10 mrad)
Windage Range @ 100 m	± 16.0 cm (16 mils)
Parallax (Focus) Adjustment Knob	-
Parallax (Focus) Adjustment	fix at 100 m
Item No.	Rapid DOT, Cal 7.62: 8706001203 Rapid DOT, Cal 5.56: 8706004208

MSXI 3-15 x 50 mm	MSXI 5-25 x 56 mm
3-15 x	5-25 x
50 mm	56 mm
5 x	5 x
9.8 - 2.4 mm	9.80 - 2.24 mm
90 mm	90 mm
≥ 12.1 - 2.4 m	≥ 7.2 - 1.4 m
12.2 - 27.4	15.7 - 37.4
CR 2450	CR 2450
+2 to -3 diopters	+2 to -3 diopters
34 mm	34 mm
First focal plane	First focal plane
G2B Mil-Dot / MSR / H59 / Tremor2 / Tremor3	G2B Mil-Dot / MSR / B41RFP / H59 / Tremor2 / Tremor3
Rotary Digital Control	Rotary Digital Control
up to 10 m	up to 10 m
up to 900 G	up to 900 G
yes (nitrogen filled)	yes (nitrogen filled)
-25 °C to +63 °C	-25 °C to +63 °C
-35 °C to +70 °C	-35 °C to +70 °C
920 g (860 g)	≤ 1030 g (1000 g)
≤ 360 mm	422 mm
1 cm (0.10 mrad)	1 cm (0.10 mrad)
Knob Resetttable to Zero with Wrench Visual & Tactile Indication of Turns	Knob Resetttable to Zero with Wrench Visual & Tactile Indication of Turns
260 cm (26.0 mils)	260 cm (26.0 mils)
1 cm (0.10 mrad)	1 cm (0.10 mrad)
± 60 cm (6.0 mils)	± 60 cm (6.0 mils)
Side mounted, Rotary	Side mounted, Rotary
50 m to Infinity	50 m to Infinity
G2B: 8707000101 MSR: 8707000102	G2B: 8704000101 MSR: 8704000102 B41RFP: 8704000209
H59: 8707000116 Tremor2: 8707000117 Tremor3: 8707000118	H59: 8704000116 Tremor2: 8704000117 Tremor3: 8704000118

SCOPE DIMENSIONS

	M5XI 1-5 x 24 mm
A Optimum Eye Relief High - Low	mm 90 inches 3,54
B Objective End Diameter	30 1,18
C Clear Objective Diameter	24 0,94
D Ocular End Diameter	45 1,77
E Scope Dimension	295 11,61
F Scope Dimension	90 3,54
G Scope Dimension	50 1,97
H Scope Dimension	62 2,44
I Scope Dimension	-
J Scope Dimension	-

M5XI 3-15 x 50 mm	M5XI 5-25 x 56 mm
mm 90 inches 3,54	mm 90 inches 3,54
57 2,24	62 2,44
50 1,97	56 2,20
45 1,77	45 1,77
365 14,37	422 16,61
111 4,37	159 6,26
50 1,97	58 2,28
62 2,44	62 2,44
99 3,90	99 3,90
164 6,06	164 6,46



Lapua Ballistics

.338 Lapua Magnum B408 16.2g / 250gr Lock Base

Sheet 1

Range (m)	Elevation LOS (cm)	Elevation mrad	Elevation Clicks (mrad)	Windage LOS (cm)	Windage mrad	Windage Clicks (mrad)	Velocity (m/s)	Energy (J)	Time of Flight (TOF) (sec)
100	0	0	0	0	0	0	851	5669	0.1143
200	-6.07	0.3	3	0.2	-0.01	0	803	5223	0.2352
300	-27.38	0.91	9	0.63	-0.02	0	756	4526	0.3636
400	-55.92	1.55	16	1.33	-0.03	0	709	4077	0.5002
500	-123.95	2.48	25	2.33	-0.05	0	664	3577	0.6458
600	-204.27	3.4	34	3.68	-0.06	-1	621	3122	0.8015
700	-310.12	4.43	44	5.45	-0.08	-1	578	2710	0.9684
800	-445.38	5.57	56	7.69	-0.1	-1	537	2338	1.1478
900	-614.73	6.83	68	10.5	-0.12	-1	498	2006	1.3412
1000	-823.87	8.24	82	13.97	-0.14	-1	459	1709	1.5504
1100	-1079.68	9.82	98	18.31	-0.17	-2	423	1447	1.7774
1200	-1390.86	11.59	116	23.37	-0.19	-2	388	1219	2.0246

Calculation Properties

Range (m) 100
Wind Speed (m/s) 0
Temperature (°C) 25
Humidity (Pa / %) 60

Manage Cartridge Data

Name: 338 Lapua Mag. B408
Twist Rate 16.2 g / 250 gr FMJBT Lock Base
Elevation Click Value 10
0.1 Mile

Sight-In 100
Range 1000
Air Pressure 60
Humidity 0
Elevation POI 0
Latitude 0
Spin drift multiplier 1

