Directorate General Defence Purchase Ministry of Defence New Airport Road Teigaon Dhaka-1215

Tel: 5044 (Army) 48118516 (BTCL)

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06.06.0000.215.49.24/Re-Eval

6 May 2024

RE-EVALUATION OF THE SPECIFICATION OF RADIO RELAY TERMINAL STATION AND RADIO RELAY REPEATER STATION

References:

- Army Headquarters, General Staff Branch, Signal Directorate letter number 23.01.901.032.03.099.01, 21.12.23 dated 24 December 2023 (Not to all).
- Army Headquarters, General Staff Branch, Signal Directorate letter number 23.01.901.032.03.099.01.24.04.24 dated 24 December 2023 (Not to all).
- In light of above references, a technical specification of Radio Relay Terminal Station and Radio Relay Repeater Station is attached with this letter. Interested authorized vendors/firms/local agents of the manufacturers are requested to submit your offer for above mentioned RR Terminal Station and RR Repeater Station directly to Army Headquarters, General Staff Branch, Signal Directorate with intimation to this office by 30 May 2024 fulfilling the requirements mentioned bellow:
 - a. Offer as per technical specification.
 - Letter of authorization by Manufacturer/Principal mentioning that the said company will be the local h vendor/agent for offered model.
 - Manuals (Original Printed by Manufacture) and CD.
 - Catalogue (Original Printed by Manufacture) and CD. d.
 - Catalogue of Spare Parts (Original Printed by Manufacture) and CD. e.
 - Brochure (Original Printed by Manufacture) and CD. f.
 - Enlistment Certificate of DGDP and BTRC. g.
 - Valid Certificate from Original Equipment Manufacturer (OEM) as authorized agent. h.
 - j. Certification from manufacturer on permission to export the said system to Bangladesh Army.
- All the documents are to be submitted on Manufacture's/Principal's official pad including official stamp with signed by proper authority.
- 3. Forwarded for your information and necessary action please.

RAIHAN RAHMAN

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For Director General

Enclosure:

1. Technical Specification-09 (Nine) Pages Only.

Distribution:

External:

Information:

Army Headquarters, General Staff Branch (Coordination)

Army Headquarters, General Staff Branch, Signal Directorate

Action:

All Concerned Supplier/Firm

Internal:

IT Section (For uploading to website)

Notice Board

ANNEX B TO

DGDP LETTER NUMBER

06.06.0000.215.49.23/TEST & TRIAL

DATED: 06 MAY 2024

TECHNICAL SPECIFICATION OF RADIO RELAY REPEATER STATION COMPLETE WITH STANDARD TOOLS AND ACCESSORIES

Ser	Items/Description	Technical Specifications	To be filled by the Manufacturer/Principal
(a)	(b) '	(c)-	(d)
ART	-1: GENERAL SPECIFICATION		
1,	Nomenclature	Radio Relay Repeater Station	
		(Category - 1)	
2.	Brand Name	To be mentioned	
3.	Type	To be mentioned	
4.	Make and Model	To be mentioned	
5.	Country of Origin	Group A Countries 1	
6.	Country of Manufacture	Group A Countries	
7.	Country of Assembly	Group A Countries	
8.	Year of Manufacture	Not earlier than the calendar	
		year of contract	
9.	Name of Manufacturer with	To be mentioned	
	complete address (office		
	address, Telephone, Fax, Email) 1	
	and web address)	To be accustioned	
10.	Name of Principal with complete	To be mentioned	
	address (office address,		
	Telephone, Fax, Email and web		
4.4	address) Name of Local Agent with	To be mentioned	
11.	complete address (office	10 be mentioned	
	address, Telephone, Fax, Email		
	and web address)		
12.	Color	Metallic Bronze (MB) Green	
	RT-2: TECHNICAL SPECIFICATION		
	Frequency Range	To be mentioned	
14.		NATO Band III / Band III + /	
1-7.	1 requestoy barre	Band IV or any other suitable	`
		band	
15.	Channel Spacing	125 KHz or better	
16.		To be mentioned	
17.			
•	a. Point to Point	Minimum 25 km	
	b. Point to Multipoint (Optional)	Details to be mentioned	
18.		64 Mbps or more (at minimum	
		range)	
19.	Power output with auto power	To be available	
	control		
20.	Power Source	Should work with both AC and	
		DC power supply along with	1.500
		power management system:	1 State of the sta
		10. 1-1. 12. 12.	13/ A
		a. AC: Input Volt Range:	(S/ -5,×1) =
		170V-250V, 50Hz ±5%	圖學生
		1 1	112/
	The state of the s	I TOOK AND HOUSE DO ANDOLL	
		b. DC: 12V/24V DC ±10%	Wo was
		secondary Battery/ Special	MO FRY OF GE
		secondary Battery/ Special Battery system which must be	THY OF GE
		secondary Battery/ Special	THE STEEL ST

B-1 of 9 FOR OFFICIAL USE ONLY

Ser	Items/Description	Technical Specifications	To be filled by the
(a)	15-0- (b) 171 00	(c)	Manufacturer/Principal (d)
21.	Power Consumption	To be mentioned	<u> </u>
22.	Spectrum analyzing / Path Profiling / Frequency planning and Network planning & monitoring Software (Optional)	To be mentioned as optional	
23.	Antenna		
~3 .	a. Suitable types of antenna to cover the expected communication range and provision to fix in a 3-ton lorry or any shelter based communication vehicle used in Bangladesh Army.		
	b. Antenna Element: One antenna will be used for TX/RX Op and to cover the complete frequency band	To be mentioned	
	c. Antenna Mast:	To be mentioned	
	(1) The Antenna Mast should be telescopic and it should be possible to deploy the mast section to full height of max 24m with lightning protector (2) Antenna should be		
	connected with appropriate length of cable for outdoor or indoor units/operations		
	d. Antenna arrangement will be provided to rotate the Antenna by±180° (360° preferable) in horizontal plane and ±10° in vertical plane from the ground	To be mentioned	
	e. The Antenna when erected, should be able to withstand a wind velocity of 80 km/h Op and 120km/hr (survival)	To be mentioned	
	f. The vendor will indicate weight and other spec of Antenna (Planar Antenna, Parabolic antenna, Sectorial antenna, Omni directional antenna, Array antenna etc.) being offered	To be mentioned	
<u> </u>	g. The Antenna Mast should preferably have double rotator system (Two Antenna can be fixed in one Mast)	To be mentioned	(S DAD) F
	h. Switching between the frequency bands to be automatic	To be mentioned	The state of the s
	Feeder/Cable (Both for Indoor and Outdoor Operation)	PoE, Cat 5E or better cable is preferable. Details to be mentioned	O Sigs

Ser	Items/Description	Technical Specifications	To be filled by the Manufacturer/Principal
(a)	(b)	(c)	(d)
25.	Details of Radio	•	
	a. Dimension (Radio)	To be mentioned	
	b. Weight (Radio only)	To be mentioned	
	c. Maximum Tx power	To be mentioned	
	d. Receiver Sensitivity	To be mentioned	
	e. Minimum Available Output	To be mentioned	
	Ports:		
	(1) Fast Ethernet (FE) port		
	(2) Fibre Optics (FO) port		
26.	Security Feature/ Encryption Fac		
	a. ECCM	a. Must have Frequency	
		Hopping	*
		b. No of hops to be	
	h Vaine and Data Francisco	mentioned .	
	b. Voice and Data Encryption c. Modulation	Details to be mentioned	
27.	Interface/Integration Facilities	Details to be mentioned	· · · · · · · · · · · · · · · · · · ·
21.	Interface/integration Facilities	Graphical User Interface (GUI) based remote configuration	
		capability with the provision of	
		integrating standard router /	
		switch / E1 Converter / PCM	
		Voice Gateway through open	
		standard interface / port	
28.	NMS. For the purpose of		
	network management the		
	following will be required:		
	a. The NMS should be		
	Incorporated with the equipment		
	or it should be possible to) ·	
	configure and monitor the		
	equipment over LAN/WAN.		
	(Optional)		
	b. <u>Laptop/Computer</u> .	Details to be mentioned	
	Laptop/ Computer from a		
	renowned OEM should be		
	provided with each equipment		
	incorporating following or better		
	features.		(2016 O D)



FOR OFFICIAL USE ONLY To be filled by the Ser Items/Description **Technical Specifications** Manufacturer/Principal (a) (b) (d) (1)Brand International Reputed Brand (2)Make and Model To be mentioned (3) Country of Origin Group A Countries (4) Countryof Group B Countries Manufacture / Assembly (5) Processor Minimum Intel Chipset Core i5 (8th Generation above) or better (6)**Processor Speed** Minimum 3 GHz or better. (7)Memory Minimum 16GB DDR4 1600MHz or higher (8) Other Ports/ (1) Minimum 3xUSB (2.0 and Interfaces/ Connectivity 3.0), HDMI, SIM Card slot (optional), SD Card slot. Headphone/ Microphone Combo Smart Card Reader (Optional), and HD Audio (2) Required Network Interface / connector (Open Standard) for connecting to the Radio Relay system (if required). (9)Operating System Windows 10 Рго version (Licensed copy) or better (10)Security (a) User and System Security: Option for Fingerprint reader, TPM Module (b) Physical Security: Steel reinforced cable lock slots and hard drive locks The equipment will Details to be mentioned incorporate SNMP (Simple Network Management Protocol) management software (SNMP v2/ SNMP v3 or better) facility from a SNMP manager **Environment Issue** a. Shock/ Drop Proof 6 drops on hard surface from 122 cm height b. Vibration 5 Mins continuous vibration in the machine 29. c. Immersion Proof 30 mins immersion in 1 meter depth d. Dust Proof Military Standard 810 E/F/G Operating: -5^u to + 55^u C Storage: -10^o to + 60^o C e. Temperature Special Requirement The system should also Details to be mentioned provide the communication performance graph in all kinds of territorial and weather condition for Bangladesh Vendor should provide Details to be mentioned 30. rack, hard casing for antenna. operator console for equipment with all accessories and provision to fix in a 3-ton lorry or any shelter-based communication vehicle used in Bangladesh Army

.	Items/Description	Technical Specifications	To be filled by the Manufacturer/Principal
	(b)	(c)	(d)
	<u>Generator</u>		
	a. Nomenclature	Generator 5 KVA (minimum)	
	b. Name of Manufacturer/ Maker	To be mentioned	
	c. Name of the Principal with full address	To be mentioned	
	d. Name of the Local Ager with full address	t To be mentioned	
	e. Make and Model	To be mentioned	
	f. Country of Origin	Group A countries	**************************************
	g. Country of Manufacturer	Group A countries	
	h. Country of Assembly	Group A countries	
	i. Year of Production	Not before the year of contract	
	k. Overall Length, Width Height (With Canopy) withou	3 To be mentioned	
	trailer I. Overall Weight wit Canopy	h To be mentioned	
	m. Output of the Generator		
	(1) Prime	Minimum 5 KVA	
	(2) Stand by	To be mentioned	
	n. Working Condition	10 be inclidined	
	(1) Operation	Generator set to be able to	
	(1) Operation		
		sustain 12 Hours Continuous	
	(2) Noise	Operation per day at prime load	
	(2) Noise	The generator must have noise	
		suppression system and able to	
		operate in the open and in all-	
	(2)	weather condition	
	(3) Canopy	Should be made of anticorrosive	
		steel sheet and fireproof painting.	
		Should be able to attenuate sound	
		up to (maximum) db 90 at 1 meter	
		having lockable louvers, doors.	
	1	Glass windows for monitoring the	
		meters to be provided. Colour -	
	(A) Tuesday (California)	MB Green	
	(4) Transportation	The generator must be easily portable	
	(5) Mounting	The generator to be mounted on	
		its base with anti-vibration	
	(6) Starting Contact	mounting	
	(6) Starting System	Self-starter with auto provision to	
	(7) C-f-t- F	be provided	
	(7) Safety Feature	The generator must have	1
		shutdown facility with sound	
	a. Landard	warning against over voltage,	131 🔨
		over current, over load, Low/high	
	(8) Overell Efficiency	oil pressure over temperature etc	<u> \$\\\</u>
	(8) Overall Efficiency	To be mentioned (To be	11 1
		compatible between engine and	TRY OF C
	L. C.	alternator)	
	p. Engine	Tobanani	
	(1) Name of	To be mentioned	Sign
	Manufacturer/Maker	<u> </u>	
	(2) Model	To be mentioned	

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Ser	Items/Description	Technical Specifications	To be filled by the Manufacturer/Principal
(a)	(b)	(ĉ)	(d)
	(3) Country of Origin	Group A Countries	
	(4) Country of	Group A Countries	
	Manufacturer and		
	Assembly		
	(5) Year of Production	Not before the year of contract	· · · · · · · · · · · · · · · · · · ·
	(6) Type of Engine	4 Stroke Octane Engine	
;	(7) Numbers of Cylinders	To be mentioned	
	(8) Capability	Prime power available at variable load with a load factor not exceeding 80% of prime power rating, over load of 10% is	
		permitted for 1 hour in every 12 hours operation	
	(9) Bore/Stroke	To be mentioned	
	(10) Piston Displacement	To be mentioned	
	(11) Compression Ratio	To be mentioned	
	(12) Output power (KW) with RPM	To be mentioned	
	(13) Cooling System	Liquid / Air cooling	
	(14) Turbo charger	To be mentioned	
	(if available) (15) Specific Fuel	To be mentioned	*
	consumption Liters/ hour at full load		
	(16) Engine Efficiency	To be mentioned	
	(17) Weight of Engine	To be mentioned	
	(18) Fuel Tank Capacity	To be mentioned (for minimum 12 hours continuous operations at full load)	
	(19) Battery for start the Generator (12 Volt)	AH to be mentioned	·
	(20) Battery Charging Facilities	Self-battery charging by engine driven dynamo i alternator	
	(21) Starting Voltage	12 Volt DC	
	(22) Engine Alternator	Capacity to be mentioned (Volt, Amp, KW) Self battery charging by engine driven	
	(23) Self-Starter	Volt & KW to be mentioned	
	q. Alternator (Generator)		
	(1) Name of Manufacturer / maker	To be mentioned	
	(2) Model	To be mentioned	
	(3) Country of Origin	Group A Countries	
	(4) Country of Manufacture and	Group A Countries	,
	Assembly		
	(5) Year of Production	Not before the year of contract	//5/XA=
	(6) Type	To be mentioned	ISI DGYP
	(7) Rated Prime and	To be mentioned	
	Standby output (KVA)		Marie Contraction of the Contrac
	(8) Rated Output Voltage	220 Volt Single phase and minimum 380 Volt three phase	WAY OF DELY
	(9) Frequency	50z.	
	(10) No of phases & wires	To be mentioned	// O Sigs
	(11) Power Factor(Cos Φ)	Not less than 0.8	

Ser	Items/Description	Ted	chnical Specification	s		lled by the urer/Principal	
(a)	(b)		(c)			(d)	
	(12) Enclosure	To be m					
	(13) Voltage Regulation	Maximur					
	(14) AVR		ailable (Preferably bui	lt-in)			
	(15) Ventilation		tilated air cooled				
	(16) Insulation Class	To be m					
	-(17) RPM		entioned:			······································	
	(18) Efficiency	85% (Mi					
	(19) Weight of Alternator	10 be m	entioned				
	r. Control Panel	<u> </u>	1.5 B. A				
	(1) Meter & Gauges		ng Volt, Ampere, Fred				
		Fuel i		essure,		,	
			Operating Hour,	Water			1
			ature, KVA, KW, RPM,				
			F) etc. Must be easily operator. All alarm an				
			system should be availa				
	(2) Switches		Stop key/push butto				-
	(Z) GWRCHES		rter provision	A AAITTI			
	s. Cables & Terminals		n = 100 m single co	re ner			-
	S. Cables & Terrificals	Generat		type			1
		1		to be			
			ed), 3 phases with				
			cable to be provide				
		each	Generator with	cable			- 1
	•		gs at the delivery				
			e size power plugs/l				
			erator end/Out let				1
	t. Tools Kits		olete set of tool kits	to be			
		provided	d with each Generator	(List to		~	
		be provi					
32.							
	Ser Item Name/Nomenc	ature	Part No/Serial No	<u> </u> Quant	ity		
	Radio						
	a. Radio with all accessories		To be provided	02 (Tw	vo)		
	Antenna & Mast						
	a. Parabolic antenna v	ith all	To be provided	02 (Tv	vo)		
	accessories						
	b. Antenna Alignment System	n with all		02 (Tv	vo)		
	accessories						
	c. 24 Meter Antenna Mast		<u> </u>	02 (Tv	vo)		
	Interface Unit					20 marian 1990 m	7
	a. Network Interface Unit (NI	J) with all	To be provided	01 (Or	ne)	1/1000	200
	accessories						لــــــــــــــــــــــــــــــــــــــ
	Power Supply						
		AC/DC	To be provided	01 (Or	ne)		12.3
	Power supply with battery] .			112	
	b. Maintenance free sealed b	attery		02 (Tv	vo)	Morr	
	<u>Laptop</u>					More	سِتِنِ"
	a. Laptop with genuine and	updated	To be provided	01 (0)	ne)		
	OS						<u> </u>
	System Setup					్యేస్ట్ Sigs	
	a. System setup in military ve	hicle	To be provided	01 (0	ne)	1186	15.1
	-					11/2/11/2	1
						北京苏	عد أ
						H . M	

er		Items/Description	•	Technical Specificat	ions	To be filled by the Manufacturer/Principal
(a)		(b)		(c)		(d)
	Gene					
	a.	Portable generator with minimum 5 KVA with accessories		To be provided	01 (On	e)
	Misco	ellaneous				
			corioc	To be provided	01/0-	
	u.	including Lightening Protector		to be browned	01 (On	(e)
5.	listo	of Optional Items and Access	orice			
	Ser	Item Name/Nomenclature		Part No/Serial No	Quanti	16.4
	Radio		-	1 ar noroellal no	Quanti	ity į
		Radio with all accessories		To be provided	01 (On	0)
	Anter			To be provided	1 01 (011	e) [
	a.	Parabolic antenna with accessories	all	To be provided	01 (On	e)
	b.	Sector Parabolic antenna w accessories	rith all		01 (On	e)
	C.	Omni Directional Antenna w accessories	ith all		01 (On	e)
		Panel Antenna with all access	sories	To be provided	01 (On	(4
	e.	Antenna Alignment System waccessories		, ro so provided	01 (On	
Ì		na Mast		<u> </u>		
	a.	24 Meter antenna Mast	To	be provided	01 (One	
	Interf	ace Unit			0.10110	7_1
	a.	Network Interface Unit (NIL with all accessories	J) To	be provided	01 (One)
Ì	Syste	m Setup	!			
	a.		ry To	be provided	01 (One	*)
l	Powe	r Supply	······	<u> </u>		
	a.	Power Distribution and AC/D Power supply w/batter charging		be provided	01 (One)
	b.		d To	be provided	01 (One)
	Lapto					
	a.		nd To	be provided	01 (One)
	b.	Rugged Laptop with genuin	ie To	be provided	01 (One)
I	Softw	are				
	a.	Spectrum Analyzing / Pat Profiling / Frequency Plannin Software		be provided	01 (One	e)
	b.	Network Planning Monitoring Software	& To	be provided	01 (One	r)
	Misc	ellaneous				
[a.	Intercom System (for Connectine tactical Radio)		l be provided ing tender stage	01 (One) And Sigs

Ser	ltems/Description	Technical Specifications	To be filled by the Manufacturer/Principal
(a)	(b)	(c)	(d)
34.	Vehicle Management. Radio Relay equipment must have provision to be fitted on existing 3-ton lorry of BD Army	Details to be mentioned	
35.	Any other	If any item not specifically mentioned above but required technically for full range of operation, The bidder should specifies and quote such item(s) in their offer. In case of failure to specify and quote, the bidder must provide such items free of cost.	
	- 3: TRAINING REQUIREMENT		
	User training	To be provided as per requirement	
37.	Operations, repair and maintenance training	To be provided as per requirement	
38.	Equipment management training	To be provided as per requirement	
39.	Books and Publications a. Operational/User Manual in English original (Book Type) b. Repair Manual in English original (Book Type) c. 100% Parts Catalogue in English original (Book Type) d. 100% Price list of Catalogue in English original (Book Type) e. A list of fast and slow moving Spares (with unit price of 5% of FOB	To be provided as per requirement	
DAM	value) in English		
		EQUIREMENT LESS LIST OF SPARE	
		Details to be mentioned	
	- 5: LIST OF SPARES List of standard spare parts, tools	To be mentioned and list to be	
+1,	· · · · · · · · · · · · · · · · · · ·	To be mentioned and list to be provided	
PART	- 6: TOOL LIST FOR DIFFERENT LE		
42.	SST and SSM	Details To be mentioned and to be provided	10 Sigs 0



ANNEX A TO DGDP LETTER NUMBER 06.06.0000.215.49.23/TEST & TRIAL DATED: 06 MAY 2024

TECHNICAL SPECIFICATION OF RADIO RELAY TERMINAL STATION COMPLETE WITH STANDARD TOOLS AND ACCESSORIES

Ser	ltems/Description	Technical Specifications	To be filled by the Manufacturer/Principal
(a)	(b)	(c)	, (q)
PART	-1: GENERAL SPECIFICATION		······································
1.	Nomenclature	Radio Relay Terminal Station (Category - 1)	
2.	Brand Name	To be mentioned	
3.	Туре	To be mentioned	
4.	Make and Model	To be mentioned	
5.	Country of Origin	Group A Countries	
6.	Country of Manufacture	Group A Countries	
7.	Country of Assembly	Group A Countries	
8.	Year of Manufacture	Not earlier than the calendar year of contract	
9.	Name of Manufacturer with complete	To be mentioned	
J.	address (office address, Telephone, Fax, Email and web address)	4	
10.	Name of Principal with complete address	To be mentioned	
10.	(office address, Telephone, Fax, Email and web address)	TO DO AMOTHORIST	
11.	Name of Local Agent with complete	To be mentioned	
,	address (office address, Telephone, Fax, Email and web address)		@
12.	Color	Metallic Bronze (MB) Green	
	7-2: TECHNICAL SPECIFICATION		
	Frequency Range	To be mentioned	
14.	Frequency Band	NATO Band III / Band III + / Band IV	
• ••	1.1042.00, 2.20,2	or any other suitable band	
15.	Channel Spacing	125 KHz or better	
16.	Number of Channels	To be mentioned	
17.	Communication Range:	<u> </u>	
(-	a. Point to Point	Minimum 25 km	
	b. Point to Multipoint (Optional)	Details to be mentioned	
18.	Data Transfer Rate	64 Mbps or more (at minimum range)	
19.	Power output with auto power control	To be available	
20.	Power Source	Should work with both AC and DC power supply along with power management system:	
		a. AC: Input Voltage Range:170V-250V, 50Hz ±5%	
	,	b. DC: 12V/24V DC ±10% Secondary battery / Special Battery system which must be rechargeable at 170V-250V, 50Hz ±5% AC power system	
21.	Power Consumption	To be mentioned	
	Spectrum Analyzing / Path Profile /	<u></u>	
22.	in the second of		
22.	Frequency Planning Software (Optional)	REAL RA	DEFEN
22.	(Optional)	The Country of the Co	DEFE

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Ser	Items/Description	Technical Specifications	To be filled by the Manufacturer/Principal
(a)	(b) \ 20	(c)	(d)
	the expected communication range and		
	provision to fix in a 3-ton lorry or any		
	shelter based communication vehicle		
	used in Bangladesh Army		
	b. Antenna Element: One antenna will	To be mentioned	
	be used for Tx/Rx Operation and to cover		•
	the complete frequency band		
	c. <u>Antenna Mast</u> :		
	(1) The Antenna Mast should be	,	
	telescopic and it should be possible to)	
	deploy the mast section to full height	To be mentioned	
	of max 24m with lightning protector	10 Do mondonos	
	or men a min ng ming protoction		
	(2) Antenna should be connected		
	with appropriate length of cable for		
	outdoor and/or indoor unit operations		
	d. Antenna arrangement will be provided	To be mentioned	
	to rotate the Antenna by±180° (360°		
	preferable) in horizontal plane and ±10°		
	in vertical plane from the ground		
	e. The Antenna when erected, should be	To be mentioned	
	able to withstand a wind velocity of 80		
	km/h (Operational) and 120 km/h (Survival)		
	f. The vendor will indicate weight and	To be mentioned	
	other spec of Antenna (Planar antenna,	To be mendoned	
	Parabolic antenna, Sectoral antenna,		
	Omni directional antenna, Array antenna		
	etc.) being offered		
	g. The Antenna Mast should preferably	To be mentioned	
	have double rotator system (Two		
	Antenna can be fixed in one Mast)		
	h. Switching between the frequency	To be mentioned	
	bands to be automatic		
24.		PoE, Cat 5e or better Cable is	
	Outdoor Operation)	preferable Details to be mentioned	
25,	Details of Radio	Details to be mentioned	
۷٠,	a. Dimension (Radio)	To be mentioned	
	b. Weight (Radio only)	To be mentioned	
	c. Maximum Tx power	To be mentioned	
	d. Receiver Sensitivity	To be mentioned	
	e. Minimum Available Output Ports:	To be mentioned	
	(1) Fast Ethernet (FE) port		
	(2) Fiber Optic (FO) port		
26.	Security Feature/ Encryption Facility		
	a. ECCM	(1) Must have Frequency Hopping	
		(2) No of hops to be mentioned	
	b. Voice and Data Encryption	Details to be mentioned	ENERAL DEA
	c. Modulation	Details to be mentioned	
27.	Interface / Integration Facilities	Graphical User Interface (GUI) based	SWEET OF SWE
		remote configuration capability with	
		the provision of integrating standard router / switch / E1 Converter / PCM	1 181 6 731
		1	
		Voice Gateway through open standard interface <i>l</i> port	An of Office
28.	NMS. For the purpose of network	·/	O Side All
20.	management the following will be	1	(30 3003 0%)
·		4	'

Ser	Items/Description	Technical Specifications	To be filled by the Manufacturer/Principal
(a)	(b)	(c)	(d)
	required: a. The NMS should be Incorporated	Details to be mentioned	
	with the equipment or it should be possible to configure and monitor the equipment over LAN / WAN. (Optional)	:	
	b. <u>Laptop / Computer</u> . Laptop/ Computer from a renowned OEM should be provided with each equipment	Details to be mentioned	
	incorporating following or better features. (1) Brand	International Reputed Brand	
ĺ	(2) Make and Model	To be mentioned	
	(3) Country of Origin	Group A Countries	
	(4) Country of Manufacture / Assembly	Group B. Countries	
	(5) Processor	Minimum Intel Chipset Core i5 (8th Generation above) or better	
	(6) Processor Speed	Minimum 3 GHz or better	,
	(7) Memory	Minimum 16GB DDR4 1600MHz or higher	
9	(8) Other Ports / Interfaces / Connectivity	(1) Minimum 3xUSB (2.0 and 3.0), HDMI, SIM Card slot (optional), SD Card slot, Headphone/ Microphone Combo Jack, Smart Card Reader (Optional), and HD Audio	· · · · · · · · · · · · · · · · · · ·
		(2) Required Network Interface / connector (Open Standard) for connecting to the Radio Relay system (if required).	
	(9) Operating System	Windows 10 Pro version (Licensed copy) or better	
	(10) Security	(a) <u>User and System Security:</u> Option for Fingerprint reader, TPM Module (b) <u>Physical Security:</u> Steel reinforced cable lock slots and hard	
		drīve locks	
	c. The equipment will incorporate SNMP (Simple Network Management Protocol) management software (SNMP v2/ SNMP v3 or better) facility from a SNMP manager	Details to be mentioned	
	To discount Destaction	j j	
29.	a. Shock/ Drop Proof	6 drops on hard surface from 122 cm height	
	b. Vibration	5 Mins continuous vibration in the machine	
	c. Immersion Proof	30 mins immersion in 1 meter depth	
	d. Dust Proof	Military Standard 810 E/F/G	
	e. Temperature	Operating: -5° to + 55° C Storage: -10° to + 60° C	28 C 34 C 34 C
30.	Special Requirement		121 12
55.	 a. The system should also provide the communication performance graph in all kinds of territorial and weather 		DOD P
	condition for Bangladeshb. Vendor should provide rack, hard casing for antenna, operator console for		O Sigs o

Ser	Items/Description	Technical Specifications	To be filled by the Manufacturer/Principal
(0)	(b)	(c)	(d)
(a)	all equipment with all accessories and	100	
	provision to fix in a 3-ton lorry or any		
	shelter-based communication vehicle		
	used in Bangladesh Army		
31.	<u>Generator</u>		
	a. Nomenclature	Generator 5 KVA (minimum)	
	b. Name of Manufacturer /	To be mentioned	
	Maker Sinair alwith full	To be continued	
	c. Name of the Principal with full address	To be mentioned	
	d. Name of the Local Agent with full	To be mentioned	
	address	10 DO ILOMONOG	
	e. Make and Model	To be mentioned	
	f. Country of Origin	Group A countries	
	g. Country of Manufacturer	Group A countries	
	h. Country of Assembly	Group A countries	
	j. Year of Production	Not before the year of contract	
1	k. Overall Length, Width & Height	To be mentioned	
	(With Canopy)	T- t	
	I. Overall Weight with Canopy	To be mentioned	
	m. Output of the Generator	Minimum 5 KVA	·
	(1) Prime (2) Stand by	To be mentioned	
		To be intentioned	
	n. Working Condition (1) Operation	Generator set to be able to sustain	
	(1) Operation	12 hours continuous operation per	
1		day at prime load	
	(2) Noise	The generator must have noise	
		suppression system and able to	
		operate in the open and in all-weather	~
	F	condition	
	(3) Canopy	Should be made of anticorrosive steel	
		sheet and fireproof painting. Should be	
		able to attenuate sound up to (maximum) db 90 at 1 meter having	
		lockable louvers, doors. Glass	
		windows for monitoring the meters to	
		be provided.	
		Colour - MB Green	
	(4) Transportation	The generator must be easily portable	
	(5) Mounting	The generator to be mounted on its	
	(0)	base with anti-vibration mounting	
	(6) Starting System	Self-starter with auto provision to be	
	(7) Safety Feature	provided The generator must have shutdown	
	(1) Salety Feature	făcility with sound warning against	
1		over voltage, over current, over load,	
		Low/high oil pressure over	
		temperature etc	
	(8) Overall Efficiency	To be mentioned (To be compatible	
		between engine and alternator)	
	p. Engine	To be mostlessed	1 16.551
	(1) Name of Manufacturer/ Maker	To be mentioned To be mentioned	
	(2) Model (3) Country of Origin	Group A Countries	
	(4) Country of Manufacturer and	Group A Countries Group A Countries	**
	Assembly	Croup A Counties	STRY OF DEED
	(5) Year of Production	Not before the year of contract	1
*			139 310 5 ON

Ser	Items/Description	Technical Specifications	To be filled by the Manufacturer/Principal
(a)	(b)	(c)	(d)
	(6) Type of Engine	4 Stroke Octane Engine	
	(7) Numbers of Cylinders	To be mentioned	
	(8) Capability	Prime power available at variable	
		load with a load factor not exceeding	
		80% of prime power rating, over load	*
		of 10% is permitted for 1 hour in	
		every 12 hours operation	
	(9) Bore/Stroke	To be mentioned	
	(10) Piston Displacement	To be mentioned	
	(11) Compression Ratio	To be mentioned	
	(12) Output power (KW) with RPM	To be mentioned	
	(13) Cooling System	Liquid I Air cooling	
	(14) Turbo charger (if available)	To be mentioned	
	(15) Specific Fuel consumption Liters/ hour at full load	To be mentioned	
	(16) Engine Efficiency	To be mentioned	
	(17) Weight of Engine	To be mentioned	
	(18) Fuel Tank Capacity	To be mentioned (for minimum 12	
		hours continuous operations at full	
		load):	
	(19) Battery for start the Generator (12 Volt)	AH to be mentioned	
	(20) Battery Charging Facilities	Self-battery charging by engine	
	(20) 50000	driven dynamo/ alternator	
	(21) Starting Voltage	12 Volt DC.	
	(22) Engine Alternator	Capacity to be mentioned (Volt.	
		Amp, KW) Self battery charging by	
		engine driven	
	(23) Self-Starter	Volt & KW fo be mentioned	
	q. Alternator (Generator)		
	(1) Name of Manufacturer / maker	To be mentioned	
	(2) Model	To be mentioned	
	(3) Country of Origin	Group A Countries	
	(4) Country of Manufacture and Assembly	Group A Countries	
	(5) Year of Production	Not before the year of contract	
	(6) Type	To be mentioned	
	(7) Rated Prime and Standby output (KVA)	To be mentioned	
	(8) Rated Output Voltage	220 Volt Single phase and minimum 380 Volt three phase	
	(9) Frequency	50 Hz.	
	(10) No of phases & wires	To be mentioned	
	(11) Power Factor (Cos Φ)	Not less than 0.8	
	(12) Enclosure	To be mentioned	
	(13) Voltage Regulation	Maximum ±1.5%	
	(14) AVR or Similar Facility	To be available (Preferably built-in)	
	(15) Ventilation	Self-ventilated air cooled	
	(16) Insulation Class	To be mentioned	The second second
	(17) RPM	To be mentioned	1 /37
	(18) Efficiency	85% (Minimum)	112年三大年,為
	(19) Weight of Alternator	To be mentioned	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
]	r. Control Panel		1/2/ / /6*//
	(1) Meter & Gauges	Displaying Volt, Ampere, Frequency,	
		Fuel in Tank, Oil Pressure,	
		Running/Operating Hour, Water	
		Temperature, KVA, KW, RPM, Power	Sigs of
		factor (PF) etc. Must be easily visible	
		}	(\$ O 16

A-5 of 7 FOR OFFICIAL USE ONLY

		FUR	OFFICIAL	USE ONLY					
Ser		Items/Description				To be filled by the anufacturer/Principal			
a)		(b) .		(c)		(d)			
		-		erator. All alarm and					
	(2) Switches		stem should be availa Stop key/push butto					
			auto starte	er provision					
	s. Ca	ables & Terminals	Generator, std/adequa mentioned power ca each Gene at the deli	ate size (RM tall), 3 phases with tall), 3 phases with talle to be provided erator with cable plugivery end & adequallys/lugs at the ger	type o be neutral d with gs/lugs te size				
	t. Tools Kits		A complete set of tool kits to be provided with each Generator (List to be provided)						
32.	List of	Standard Items and Accessories							
	Ser	Item Name / Nomenclatur	e	Part No / Serial No	Quantity	Country of Manufacture			
	Radio)		NU	•	i Maniniacture			
	a.	Radio with all accessories	į	To be provided	01 (One)	To be mentioned			
		nna & Mast			5 / (One)	1 10 00 Hieridoried			
	a.	Antenna with all accessories		To be provided	01 (One)	To be mentioned			
	b.		nna Alignment System with all		01 (One)				
	С.	24 Meter Antenna Mast			01 (One)	To be mentioned			
		erface Unit			<u> </u>	1 10 DG INGINIONEG			
	a. Network Interface Unit with all accessories		To be provided	01 (One)	To be mentioned				
	Powe	r Supply							
	a.	Power Distribution and AC/DC	Power	To be provided	01 (One)	To be mentioned			
	b.	supply with battery charging b. Maintenance free sealed battery		02 (, 			
	Lapto	·	. 1		02 (Two)				
]	Laptop with genuine and updated	os T	To be provided	01 (One)	I To be mentioned			
	1	em Setup		, and provided	(01.0)	,			
	a. Gene	System setup in Military Vehicle		To be provided	01 (One)	To be mentioned			
	a.	Portable generator minimum 5 KV accessories	A with all	To be provided	01 (One)	To be mentioned			
	Misc	ellaneous							
	a.	All Other Required Accessories Lightening Protector	including	To be provided	01 (One)	To be mentioned			
33.	List of	Optional Items and Accessories				-			
	*								
	Ser	Item Name / Nomenclatu	re	Part No/Serial No	Quantity	Country of Manufacture			
	Radio	-		To be recorded	1 04/0- 5				
	Antei	Radio with all accessories		To be provided	01 (One)				
	a.	Parabolic antenna with all accesso	orine	To be provided	01/055	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			
	b.	Sector Antenna with all accessorie		To be provided	01 (One)				
	C.	Omni Directional Antenna	with all	•	01 (One) 01 (One)				
		accessories							
	d.	Panel Antenna with all accessories			01 (One)	OF OF DEE			
	e.	Antenna Alignment System	with all		01 (One)				
	11	accessories				No zies A			

Ser	Items/Description	Technical Specifications To be filled by the					
(a)	(b)	(c)	Manufacturer/Principal				
(a)	Antenna Mast	(6)	(d)				
	a. 24 Meter Antenna Mast	To be provided 01	(One)				
	a. 24 Meter Antenna Mast To be provided 01 (One)						
	a. Network Interface Unit with all accessories 2 To be provided 01 (One)						
	System Setup	34					
	a. System setup in military vehicle	To be provided 01	(One)				
	Power supply						
: }	a. Power Distribution and AC/D0	C Power To be provided 01	(One)				
	supply w/battery charging	Ĭ					
i	b. Maintenance free sealed Battery	. 01	(One)				
	Laptop						
	a. Laptop with genuine and updated	- 	(One)				
	b. Rugged Laptop with genuine and	d updated 01	(One)				
	OS						
	Software Analysiss/Bath Bath	-file of the second of the second					
	a. Spectrum Analyzing/Path Pr Frequency Planning Software	ofiling / To be provided 01	(One)				
	b. Network Planning & Monitoring So	ftware : 01	(One)				
-	Miscellaneous	101					
	a. Intercom System (for Connecting	Tactical To be provided 01	(One)				
	Radio)		`				
34.	Vehicle Management. Radio Relay	Details to be mentioned					
	equipment must have provision to be						
	fitted on existing 3-ton lorry of BD Army	3					
35.	Any other	If any item not specifically mentioned					
		above but required technically for full					
		range of operation, The bidder should					
		specifies and quote such item(s) in their offer. In case of failure to specify and					
		quote, the bidder must provide such					
		items free of cost.					
	- 3: TRAINING REQUIREMENT						
36.	User training	To be provided as per requirement					
37.	Operations, Repair and Maintenance training	To be provided as per requirement					
38.	Equipment Management training	To be provided as per requirement					
39.	Books and Publications	To be provided as per requirement					
	a. Operational/User Manual in English	, and promote the					
	original (Book Type)						
	b. Repair Manual in English original						
	(Book Type)						
	c, 100% Parts Catalogue in English	-					
	original (Book Type) d. 100% Price list of Catalogue in						
	English original (Book Type)	4					
	e. A list of fast and slow moving	¥					
	Spares (with unit price of 5% of FOB						
	value) in English						
	Γ - 4: REPAIR AND MAINTENANCE REQU		ASS. AREAS				
40.	Level of maintenance	Details to be mentioned					
	I - 5: LIST OF SPARES	To be mentioned and that to be	1 1/8/ 5000				
41.	List of standard spare parts, tools and	To be mentioned and list to be provided					
DAD	accessories T - 6: TOOL LIST FOR DIFFERENT LEVEL						
42.	SST and SSM	Details to be mentioned and to be	IRY OF DET				
72.	a. For Repeater Station	المراجعة					
	b. For Generator		Sigs of				
L			16/1V /2/				
			#				