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16 Poush 1430

06.06.0000.215.49.23/Test & Trial

₼\ Dec 2023

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

#### Reference:

- A. Army Headquarters, General Staff Branch, Signals Directorate letter number 23.01.901.032.03.099.01. 21.12.23 dated 24 December 2023 (Not to all).
- 1. In light of above reference, 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 20 January 2024** fulfilling the requirements mentioned bellow:
  - a. Offer as per technical specification.
  - b. Letter of authorization by Manufacturer/Principal mentioning that the said company will be the local vendor/agent for offered model.
  - c. Manuals (Original Printed by Manufacture) and CD.
  - d. Catalogue (Original Printed by Manufacture) and CD.
  - e. Catalogue of Spare Parts (Original Printed by Manufacture) and CD.
  - f. Brochure (Original Printed by Manufacture) and CD.
  - Enlistment Certificate of DGDP and BTRC.
  - h. Valid Certificate from Original Equipment Manufacturer (OEM) as authorized agent.
  - j. Certification from manufacturer on permission to export the said system to Bangladesh Army.
- 2. 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

Major

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 A TO
DGDP LETTER NUMBER
06.06.0000.215.49.23/TEST & TRIAL
DATED: 31 DECEMBER 2023

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

Ser	Items/Description	Technical Specifications	To be filled by the Manufacturer/Principal
(a)	(b)	(c)	(d)
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	
	address (office address, Telephone, Fax,		
	Email and web address)	L <b>i</b> la	
10.	Name of Principal with complete address	To be mentioned	
10.	(office address, Telephone, Fax, Email		
	and web address)	4.1	
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	
	-2: TECHNICAL SPECIFICATION		
13.	Frequency Range	To be mentioned	
14.	Frequency Band	NATO Band III / Band III + / Band IV	
17,	Trequency band	or any other suitable band	
15.	Channel Spacing	125 KHz or better	
16.	Number of Channels	To be mentioned	
17.	Communication Range:		
1.7.	a. Point to Point	Minimum 25 km	
	b. Point to Multipoint (Optional)	Details to be mentioned	
10	Data Transfer Rate	64 Mbps or more (at minimum	-
18.	Data Transfer Rate	range)	
40	Device autout with outs newer control	To be available	
19.	Power output with auto power control	Should work with both AC and DC	
20.	Power Source	power supply along with power	
		management system:	
		a. AC: Input Voltage	
		a. AC: Input Voltage Range:170V-250V, 50Hz ±5%	
		Range. 1700-2500, 50112 1576	
	-	b. DC: 12V/24V DC ±10%	
		Secondary battery / Special Battery	1
		system which must be rechargeable	
	*	at 170V-250V, 50Hz ±5% AC power	
		system	
24	Dawer Consumption	To be mentioned	
21.	Power Consumption	To be mentioned  To be mentioned	
22.	Spectrum Analyzing / Path Profile /	To be mentioned	
	Frequency Planning Software	NERA	DESE
	(Optional)	1 Hastin	I CAO
22	Antenna	13	h /ell fections
23.	a. Suitable types of antenna to cover	To be mentioned	NI TON MAN WORLD IT

A-1 of 7 FOR OFFICIAL USE ONLY

Ser	Items/Description	Technical Specifications	To be filled by the Manufacturer/Principal
(a)	(b)	(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 be used for Tx/Rx Operation and to cover the complete frequency band	To be mentioned	
	c. Antenna Mast:	- Jan - 1 (1) (2)	-
	(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	To be mentioned	
	(2) Antenna should be connected with appropriate length of cable for outdoor and/or indoor unit 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 (Operational) and 120 km/h (Survival)	To be mentioned	
	f. The vendor will indicate weight and other spec of Antenna (Planar antenna, Parabolic antenna, Sectoral antenna, Omni directional antenna, Array antenna etc.) being offered	To be mentioned	
	g. The Antenna Mast should preferably have double rotator system (Two Antenna can be fixed in one Mast)	To be mentioned	
	h. Switching between the frequency bands to be automatic		
24.	Feeder/Cable (Both for Indoor and Outdoor Operation)	PoE, Cat 5e or better Cable is preferable Details to be mentioned	
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 e. Minimum Available Output Ports: (1) Fast Ethernet (FE) port (2) Fiber Optic (FO) port	To be mentioned To be mentioned	
26.	Security Feature/ Encryption Facility		
<b></b>	a. ECCM	<ul><li>(1) Must have Frequency Hopping</li><li>(2) No of hops to be mentioned</li></ul>	
	b. Voice and Data Encryption	Details to be mentioned	GENERAL DECE
	c. Modulation	Details to be mentioned	(2)
27.	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	DO P RCHAR
28.	NMS. For the purpose of network management the following will be	Details to be mentioned	30 5103 06

Ser	Items/Description	Technical Specifications	To be filled by the Manufacturer/Principal
(a)	(b)	(c)	(d)
	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)	Details to be mentioned	
	b. <u>Laptop / Computer</u> . Laptop/ Computer from a renowned OEM should be provided with each equipment incorporating following or better features.	Details to be mentioned	
	(1) Brand	International Reputed Brand	
	(2) Make and Model	To be mentioned	
	(3) Country of Origin (4) Country of Manufacture / Assembly	Group A Countries 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	
	(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	
	(O) Operating System	(2) Required Network Interface / connector (Open Standard) for connecting to the Radio Relay system (if required).  Windows 10 Pro version (Licensed)	
	(9) Operating System	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 drive 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	
29.	Environment Protection		
	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	GENERAL DEFENCE
30.	Special Requirement		13/ 12/
	a. The system should also provide the communication performance graph in all kinds of territorial and weather condition for Bangladesh	Details to be mentioned	DEST PERSON OF DEER SAME
	b. Vendor should provide rack, hard casing for antenna, operator console for	Details to be mentioned	Q Sigs Q

Ser	Items/Description	Technical Specifications	To be filled by the Manufacturer/Principal
(a)	(b)	(c)	(d)
	all equipment with all accessories and provision to fix in a 3-ton lorry or any shelter-based communication vehicle used in Bangladesh Army		
31.	Generator 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 Agent with full address	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	
	j. Year of Production	Not before the year of contract	
	k. Overall Length, Width & Height (With Canopy)	To be mentioned	
	Overall Weight with Canopy	To be mentioned	
	m. Output of the Generator		
	(1) Prime	Minimum 5 KVA	
	(2) Stand by	To be mentioned	
	n. Working Condition		
	(1) Operation	Generator set to be able to sustain	
		12 hours continuous 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-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. 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 base with anti-vibration mounting	
	(6) Starting System	Self-starter with auto provision to be provided	
	(7) Safety Feature	The generator must have shutdown facility with sound warning against 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)	SENERAL DEFEN
	p. Engine		(3/ 1/2)
	(1) Name of Manufacturer/ Maker	To be mentioned	
	(2) Model	To be mentioned	B DOLP E
	(3) Country of Origin	Group A Countries	
	(4) Country of Manufacturer and Assembly	Group A Countries	MOTRY OF DEFEND
	(5) Year of Production	Not before the year of contract	M.C.
	1 /0/ 100. 01. 100001011		30

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 / Air cooling		
	(14) Turbo charger (if available)	To be mentioned		
	(15) Specific Fuel consumption Liters/	To be mentioned		
	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		
	(10) I dot I dilli odpadily	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) Battery Charging Fusinties	driven dynamo/ alternator		
	(21) Starting Voltage	12 Volt DC.		
	(22) Engine Alternator	Capacity to be mentioned (Volt.		
	(22) Engine Alternator	Amp, KW) Self battery charging by		
		engine driven		
	(23) Self-Starter	Volt & KW to be mentioned		
	q. Alternator (Generator)	VOIC GO TIVE CO TIVE CONTROL OF THE		
	(1) Name of Manufacturer / maker	To be mentioned		
	(2) Model	To be mentioned		
	(3) Country of Origin	Group A Countries		
		Group A Countries		
	Assembly			
	(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	CENTENAL DEFENO	
	(17) RPM	To be mentioned	3/ 1/2	
	(18) Efficiency	85% (Minimum)	18 - A 3	
	(19) Weight of Alternator	To be mentioned	S S	
	r. Control Panel		( * / / * //	
	(1) Meter & Gauges	Displaying Volt, Ampere, Frequency,	Mern -ce	
	(1) Motor & Sauges	Fuel in Tank, Oil Pressure,	OVAY OF DET	
		Running/Operating Hour, Water		
		Temperature, KVA, KW, RPM, Power	Sigs of	
	·	1	11 the market of	
		factor (PF) etc. Must be easily visible	12/2	

Ser Items/Description Technical Specific		nical Specifications	5	To be filled by the Manufacturer/Principa			
(a)		(b)		(c)			(d)
<u> </u>		b	by the op	erator. All alarm and stem should be availa	d data		
	(2)	a	auto starte	top key/push butto			
32.	t. Too	ols Kits	Generator std/adequate mentioned power caleach Generat the deligower pluend/Out lead comple provided whose prov	ate size (RM tall), 3 phases with tall), 3 phases with tall ble to be provided erator with cable plugivery end & adequatings/lugs at the generator set of tool kits with each Generator ed)	type o be neutral d with gs/lugs te size nerator to be		
	Ser	Item Name / Nomenclature		Part No / Serial No	Qua	ntity	Country of Manufacture
	Radio	0					
	a.	Radio with all accessories		To be provided	01 (	One)	To be mentioned
	Antei	nna & Mast		20			
	a.	Antenna with all accessories		To be provided		One)	To be mentioned
	b.	Antenna Alignment System was accessories	rith all	A = =	01 (	One)	
	C.	c. 24 Meter Antenna Mast			01 (	One)	To be mentioned
	Inter	face Unit					
	a.	Network Interface Unit with all access	ssories	To be provided	01 (	One)	To be mentioned
	Powe	er Supply					,
	a.	Power Distribution and AC/DC	Power	To be provided	01 (	One)	To be mentioned

er Supply			
Power Distribution and AC/DC Power	To be provided	01 (One)	To be mentioned
supply with battery charging	ŕ		
Maintenance free sealed battery		02 (Two)	
op			
Laptop with genuine and updated OS	To be provided	01 (One)	To be mentioned
	Power Distribution and AC/DC Power supply with battery charging Maintenance free sealed battery	Power Distribution and AC/DC Power To be provided supply with battery charging  Maintenance free sealed battery  DD	Power Distribution and AC/DC Power supply with battery charging  Maintenance free sealed battery  Deptor To be provided 01 (One)  02 (Two)

			<del>,</del>	Y*************************************
a.	System setup in Military Vehicle	To be provided	01 (One)	To be mentioned
Gen	erator			
a.	Portable generator minimum 5 KVA with all	To be provided	01 (One)	To be mentioned
	accessories			

Miscellaneous

a. All Other Required Accessories including Lightening Protector

To be provided 01 (One) To be mentioned

33. List of Optional Items and Accessories

System Setup

Ser	Item Name / Nomenclature		Part No/Serial No	Quantity	Country of Manufacture
Radio		i i			
a.	Radio with all accessories		To be provided	01 (One)	ENERAL DE
Anter	nna				1/16/20
a.	Parabolic antenna with all accessories		To be provided	01 (One)	13/ N
b.	Sector Antenna with all accessories			01 (One)	DEDE
C.	Omni Directional Antenna with accessories	all		01 (One)	88
d.	Panel Antenna with all accessories			01 (One)	STRY OF DE
е.	Antenna Alignment System with accessories	all		01 (One)	O Sigs O

Ser		Items/Description	Tech	nical Specifications		To be fille Manufacture	er/Principal
a)		(b)	A-15-15	(c)		(d	)
	Anter	nna Mast					
	a.	24 Meter Antenna Mast		To be provided	01 (	One)	
	Interf	ace Unit					
	a.	Network Interface Unit with all acce	essories	To be provided	01 (	One)	
	Syste	em Setup					
	a.	System setup in military vehicle	110	To be provided	01 (	One)	
	Powe	er supply					
	a.	Power Distribution and AC/DO	Power	To be provided	01 (	One)	
		supply w/battery charging					
	b.	Maintenance free sealed Battery		U Month	01 (	One)	
	Lapto						
	a.	Laptop with genuine and updated (	os	To be provided	01 (	One)	
	b.	Rugged Laptop with genuine and OS	updated		01 (	One)	
	Soft	tware			L		
	a.		ofiling /	To be provided	01 (	One)	
	۵.	Frequency Planning Software					
	b.	Network Planning & Monitoring So	ftware		01 (	(One)	
		cellaneous			**************		
	a.	Intercom System (for Connecting	g Tactical	To be provided	01 (	(One)	
		Radio)				100	
34.	Vehic	le Management. Radio Relay	Details to	be mentioned			
54.	***************************************	ment must have provision to be					
		on existing 3-ton lorry of BD Army					
35.	Any of		If any iter	n not specifically men	tioned		
			specifies a	operation, The bidder so and quote such item(s) in ase of failure to specified bidder must provide of cost.	n their y and		
PART	- 3: TI	RAINING REQUIREMENT					
36.	_	training	To be pro	vided as per requiren	nent		
37.	Opera	ations, Repair and Maintenance	To be pro	vided as per requiren	nent		
-	trainin						
38.	Equip	ment Management training		vided as per requirer			
39.	a. origina b. (Book c. origina d. Englis e. Spare	s and Publications Operational/User Manual in English al (Book Type) Repair Manual in English original Type) 100% Parts Catalogue in English al (Book Type) 100% Price list of Catalogue in Sh original (Book Type) A list of fast and slow moving se (with unit price of 5% of FOB) in English		ovided as per requirer	nent		
PAR'	T - 4: R	EPAIR AND MAINTENANCE REQU	IREMENT	LESS LIST OF SPAR	RE		SENERAL DEFE
40.		of maintenance	Details to	be mentioned		1/3	600
		ST OF SPARES		,		<b>₩</b> .8	/
41.	List o	of standard spare parts, tools and ssories	To be r	mentioned and list	to be	DIREC	DOP
PΔP.	T - 6. To	OOL LIST FOR DIFFERENT LEVEL					Mary S.
42.		and SSM	Details to	o be mentioned and	to be	1	OF OF DEFE
<b>→∠</b> .	а	. For Repeater Station . For Generator	provided				So Sigs
		, 1 of Generator		A CONTRACTOR OF THE CONTRACTOR			K Dal

ANNEX B TO DGDP LETTER NUMBER 06.06.0000.215.49.23/TEST & TRIAL DATED: 31 DECEMBER 2023

# 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) 1	(c)	(d)
PART	-1: GENERAL SPECIFICATION		
1.	Nomenclature	Radio Relay Repeater 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 address (office address, Telephone, Fax, Email and web address)	To be mentioned	
10.	Name of Principal with complete address (office address, Telephone, Fax, Email and web address)	To be mentioned	
11.	Name of Local Agent with complete address (office address, Telephone, Fax, Email and web address)	To be mentioned	
12.	Color	Metallic Bronze (MB) Green	
PAR	T-2: TECHNICAL SPECIFICATION		
13.	Frequency Range	To be mentioned	
14.	Frequency Band	NATO Band III / Band III + / Band IV or any other suitable band	
15.	Channel Spacing	125 KHz or better	
16.	Number of Channels	To be mentioned	
17.	Communication Range:		
.,.	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:	GENERAL DE
		a. AC: Input Volt 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	MOTRY OF DE

Ser	Items/Description	Technical Specifications	To be filled by the Manufacturer/Principal
(a)	(b)	(c)	(d)
21.	Power Consumption  Spectrum analyzing / Path Profiling / Frequency planning and Network planning & monitoring Software (Optional)	To be mentioned To be mentioned as optional	
23.	Antenna  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		
	c. Antenna Mast:  (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	To be mentioned	
	(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	
	g. The Antenna Mast should preferably have double rotator system (Two Antenna can be fixed in one Mast)	To be mentioned	SENERAL DEFE
24.	h. Switching between the frequency bands to be automatic Feeder/Cable (Both for Indoor	To be mentioned  PoE, Cat 5E or better cable is	WS ARY OF DE
	and Outdoor Operation)	preferable.  Details to be mentioned	Q 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		
1	d. Receiver Sensitivity	To be mentioned		
	e. Minimum Available Output Ports: (1) Fast Ethernet (FE) port	To be mentioned		
	(2) Fibre Optics (FO) port	13.21		
26.	Security Feature/ Encryption Fac	cility		
	a. ECCM	a. Must have Frequency Hopping b. No of hops to be mentioned	,	
	b. Voice and Data Encryption	Details to be mentioned		
	c. Modulation	Details to be mentioned		
27.	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)	Details to be mentioned		
	b. Laptop/Computer. Laptop/ Computer from a renowned OEM should be provided with each equipment incorporating following or better features.	Details to be mentioned	Q Gios	



		FOR OFFICIAL USE ONLY		
Ser	Items/Description	Technical Specifications	To be filled by the Manufacturer/Principal	
(a)	(b)	(c)	(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	Minimum Intel Chinest Core if		
	(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/ 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 drive 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		
	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		
	e. Temperature	Operating: -5° to + 55° C Storage: -10° to + 60° C		
	Special Requirement			
	a. The system should also provide the communication performance graph in all kinds of territorial and weather condition for Bangladesh		SOMERAL DEA	
30.	b. Vendor should provide rack, hard casing for antenna, operator console for all equipment with all accessories and provision to fix in a 3-ton lorry or any shelter-based		NO Sig	
	communication vehicle used in			

Ser	Items/Description	Technical Specifications	To be filled by the Manufacturer/Principal	
(a)	(b)	(c)	(d)	
31.	<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 Agent with full address	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) without trailer	To be mentioned		
	I. Overall Weight with Canopy	To be mentioned		
	m. Output of the Generator		***	
	(1) Prime	Minimum 5 KVA		
	(2) Stand by	To be mentioned		
	n. Working Condition			
	(1) Operation	Generator set to be able to sustain 12 Hours Continuous 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-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. 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 base with anti-vibration mounting		
	(6) Starting System	Self-starter with auto provision to be provided		
	(7) Safety Feature	The generator must have shutdown facility with sound warning against over voltage, over current, over load, Low/high oil pressure over temperature etc	DE P	
	(8) Overall Efficiency	To be mentioned (To be compatible between engine and alternator)	MOTRY OF DEFE	
	p. Engine			
	(1) Name of	To be mentioned	/ Cia	
	Manufacturer/Maker		100000	

Ser	Items/Description	Technical Specifications	To be filled by the Manufacturer/Principal
(a)	(b)	(c)	(d)
	(3) Country of Origin	Group A Countries	
	(4) Country of	Group A Countries	
	Manufacturer and	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
	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	
Ī	(9) Bore/Stroke	To be mentioned	
	(10) Piston Displacement	To be mentioned	
I	(11) Compression Ratio	To be mentioned	
	(12) Output power (KW) with RPM	To be mentioned	
-	(13) Cooling System	Liquid / Air cooling	
	(14) Turbo charger (if available)	To be mentioned	
	(15) Specific Fuel consumption Liters/ hour at full load	To be mentioned	
1	(16) Engine Efficiency	To be mentioned	
ŀ	(17) Weight of Engine	To be mentioned	
	(18) Fuel Tank Capacity	To be mentioned (for minimum 12 hours continuous operations at full load)	2
	(19) Battery for start the Generator (12 Volt)	AH to be mentioned	
	(20) Battery Charging Facilities	Self-battery charging by engine 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 to be mentioned	
	q. Alternator (Generator)	2 10 10 20	
	(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	E SENERAL DEFEN
	(5) Year of Production	Not before the year of contract	1186
	(6) Type	To be mentioned	a DGX)P
	(7) Rated Prime and Standby output (KVA)	To be mentioned	The state of the s
	(8) Rated Output Voltage	220 Volt Single phase and minimum 380 Volt three phase	WORK OF DET
	(9) Frequency	50z.	
	(10) No of phases & wires	To be mentioned	O Sig
			111111111111111111111111111111111111111

a)	(b)				
			(c)		(d)
L-		To be me			
		Maximur			
L			vailable (Preferably buil	lt-in)	
L			tilated air cooled		
L	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	To be me			
L		To be m			
L		85% (Mi			
L	()	To be m	entioned		
L	r. Control Panel				
	` '	Displayin Fuel in		uency, essure,	
		Running		Water	
			ature, KVA, KW, RPM,		
			F) etc. Must be easily		
			operator. All alarm and		
-			system should be availa		
		auto star	Stop key/push button rter provision		
	The state of the s		n = 100  m single co		
		Generate		type	
		std/aded		o be	
			ed), 3 phases with r		
1		•	cable to be provided	000 000	
		each	Generator with	cable	
			gs at the delivery		
			e size power plugs/lu	ugs at	
}			erator end/Out let	to ho	
			with each Generator		
		be provi		(LIST TO	
2.	List of Standard Items and Acces				
	Ser Item Name/Nomenclate		Part No/Serial No	Quant	ity
H	Radio	idio	1 dit No/Conditio	Quant	
ŀ	a. Radio with all accessories		To be provided	02 (Tw	(0)
ŀ	Antenna & Mast		10 be provided	02 (11	
ŀ	a. Parabolic antenna wit	h all	To be provided	02 (Tw	(ov
	accessories	2.1		(	
f	b. Antenna Alignment System	with all		02 (Tw	vo)
	accessories				
	c. 24 Meter Antenna Mast			02 (Tw	vo)
	Interface Unit				FIRSH AS
	Network Interface Unit (NIU)     accessories	with all	To be provided	01 (Or	ne)
	Power Supply			***************************************	ISE X
1	a. Power Distribution and AC/DC		To be provided	01 (Or	ne)
	Power supply with battery ch			, , , ,	
	b. Maintenance free sealed bat			02 (Tv	vo)
-	Laptop			/	TAY OF DE
	a. Laptop with genuine and u	updated	To be provided	01 (Or	ne)
	OS garage			, , ,	0.00
1	System Setup			***************************************	Sign Sign
			T	04.70	201 1/2/202
	a. System setup in military veh	icle	To be provided	01 (Or	11 11 11

r	Items/Description		Technical Specifications		To be filled by the Manufacturer/Principal			
1)	(b)		(c)		(d)			
	<u>Generator</u>							
	a. Portable generator with minimum 5 KVA with accessories	trailer th all	To be provided	01 (One)				
1	Miscellaneous							
		ssories	To be provided	01 (One)				
	including Lightening Protecto		10 00 providou	0. (0)				
	List of Optional Items and Acces							
•	Ser Item Name/Nomenclatu		Part No/Serial No	Quantity				
1	Radio		1 41(710/00/141710					
	a. Radio with all accessories		To be provided	01 (One)				
	Antenna		10 be provided	1 01 (01.0)				
	a. Parabolic antenna wit	h all	To be provided	01 (One)				
	b. Sector Parabolic antenna accessories	with all		01 (One)				
	c. Omni Directional Antenna accessories	with all		01 (One)				
	d. Panel Antenna with all acce	ssories	To be provided	01 (One)				
	e. Antenna Alignment System accessories			01 (One)				
	Antenna Mast							
	a. 24 Meter antenna Mast	То	be provided	01 (One)				
	Interface Unit							
	Network Interface Unit (N with all accessories	IIU) To	be provided	01 (One)				
	System Setup							
		tary To	be provided	01 (One)				
	Power Supply							
	a. Power Distribution and AC/ Power supply w/bat charging		be provided	01 (One)				
		aled To	be provided	01 (One)				
	Laptop							
	a. Laptop with genuine updated OS		be provided	01 (One)				
	b. Rugged Laptop with genuand updated OS	uine To	be provided	01 (One)				
	<u>Software</u>							
	a. Spectrum Analyzing / F Profiling / Frequency Plant Software		be provided	01 (One)				
	b. Network Planning Monitoring Software	& To	be provided	01 (One)				
	Miscellaneous							
	a. Intercom System (for Connect tactical Radio)		ll be provided ring tender stage	01 (One)	Sig Sigs			

Ser	Items/Description	Technical Specifications	To be filled by the Manufacturer/Principal
(a)	(b)	(c)	(d)
34.	<u>Vehicle Management</u> . Radio Relay equipment must have provision to be fitted on existing 3-ton lorry of BD Army		
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.	
PART	- 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 value) in English		
		EQUIREMENT LESS LIST OF SPARE	-
40.	Level of maintenance  7 - 5: LIST OF SPARES	Details to be mentioned	
	List of standard spare parts, tools	To be mentioned and list to be	
41.	and accessories	provided and list to be	
PART	- 6: TOOL LIST FOR DIFFERENT LE		
42.	SST and SSM  a. For Repeater Station b. For Generator & Trailer	Details To be mentioned and to be provided	10 Sigs 0

