

No. IV-21011/8/2010-Prov-I  
Government of India  
Ministry of Home Affairs

26, Man Singh Road, Jaisalmer House,  
New Delhi, 15.7.2010

To

The DGs: Assam Rifles/BSF/CISF/CRPF/ITBP/NSG/SSB/BPR&D

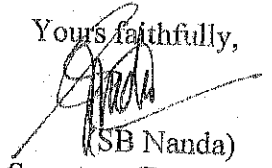
Subject:- QRs/Technical Specifications of the Tactical Line Exchange.

Sir,

The QRs/ Technical Specifications of Tactical Line Exchange as per Annexure, has been accepted by the Competent Authority in MHA.

2. Henceforth, all the CPMFs should procure the above items required by them strictly as per the laid down Technical Specifications/QRs.

Yours faithfully,



(SB Nanda)

Under Secretary (Prov-I)

Copy to:-

DD(Procurement),MHA

Copy for information to:-

PS to JS(PM),MHA

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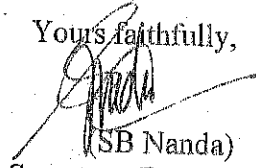
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QRs / Technical Specifications of Tactical Line Exchange

SINo	PARAMETERS	QUALITATIVE REQUIREMENTS
1.	Switch Board Capacity	15 Lines extendable to 100 Lines.
2.	Ringing range	Ring to and from Magneto subscriber through line loop resistance of 10 Kilo Ohm
3.	Speech Range	Operator to subscriber and vice versa through max loss of 40 dB. AF response 300 Hz to 3 KHz.
4.	Indicator sensitivity	Indicator LED (Light Emitting Diode) should light up when operated through a max. of 10 Kilo Ohms series resistance when connected to a standard magneto hand generator & while Battery operated.
5.	Working of exchange	Signaling range: Freq 16 to 50 Hz. Open circuit ringing voltage: 75 – 90 V $\pm$ 5%
6.	Magneto exchange working	A loop resistance of 3500 Ohm having minimum 10 Kilo Ohm insulation resistance.
7.	Auto exchange working	DC loop resistance of 1000 Ohm having insulation resistance of minimum 50 Kilo Ohm.
8.	Cross talk (300Hz-3400Hz)	Better than 60 dB down measuring at 1000 Hz.
9.	Insulation resistance between line & Earth	Insulation resistance should not be less than 100 Mega Ohms under normal atmospheric conditions.
10.	Power Supply	Exchange should operate on AC Mains as well as 48 V DC with automatic change over. System should have internal FCBC (Float cum Boost Charger)
11.	Environment Specifications	Equipment should comply JSS 55555 Standards. i) Temp. Range-Operating: -10°C to +55°C Storage:- -20°C to +70°C ii) Humidity:- upto 95% at +40°C
12.	Interface	System should provide working E carrier (E1) line in Europe, PRI (Primary rate interface – A standard with Integrated Service Digital Network (ISDN) for providing Telecommunication Services), IP (Internet protocol) Interface & Radio (HF/VHF/UHF) Interface Combat Net Radio(CNR).
13.	Redundancy	Central Processing Unit (CPU) & Power Supply Unit (PSU) of the system should be in hot standby mode.
14.	Weight	Less than 25 Kg approx. without accessories.

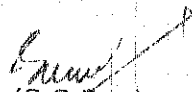
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15. **General Specifications :-**

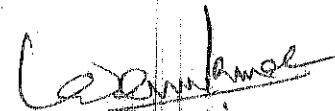
- i) Exchange should be ruggedized and will meet Electromagnetic Interference (EMI)/Electromagnetic Compatibility (EMC) requirement as per MIL-STD-461D/E (Supported by certificate of Govt. Approved Lab)
- ii) Configuration:- All ports of the ruggedized exchange should be field programmable without laptop/PC to work as Analog Phones or Magneto phones through operator console. The console should have a large backlit/fluorescent display with 4x40 alpha numeric characters.
- iii) One port Global System for Mobile Communication (GSM) and one port Code Division Multiple Access (CDMA) connectivity should be built into the system.
- iv) Upgradation :- The exchange should have facility for upgradation of number of subscriber port and Combat Net Radio (CNR) -4 Port facility
- v) Ruggedisation :-
  - a) Storage device must be suitable ruggedized.
  - b) Firm should provide leak proof Electric Connectors i.e. Battery leads, cords with nylon cover etc. of ISI Std.
  - c) Equipment must sustain cross country mobility.
  - d) Efficient thermal management.
  - e) The modules & cards of the exchange should be secured to the slots so that there is no dislocation of the cards during move/transportation.
- vi) Built in Test Equipment (BITE) :- Card level system Diagnostics on the operator console display ( power on self test , Online & offline Diagnostics)
- vii) Universal Slots:- All insertion slots should be universal type.
- viii) Earthing :- The exchange should be able to work on field type of earthing.
- ix) Safety features:- The equipment must have protection against the following:-
  - a) DC Reverse voltage
  - b) Over voltage
  - c) Current and voltage Surges due to lightening etc
  - d) Short/open Circuit
  - e) Fuses & other safety features to prevent any danger to the operating & repairing personnel
  - f) Audio-Visual alarm to indicate critical failures


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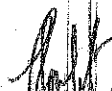
- x) The equipment should compatible with the existing EPABX.
- xi) Non Blocking:- The switch should be a totally non blocking ,even when the switch is loaded to its maximum capacity.
- xii) Auto dialling to establish call , Auto extension for connecting this exchange with junction line should be built in.
- xiii) The firm will have to supply spare parts for maintenance of switch boards for a period of 10 years when needed by the users.
- xiv) Training for 5 working days shall be provided by the firm at all consignee places for installation/handling/ maintenance of exchange.

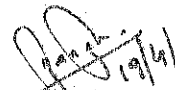
  
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