

# SPECIFICATIONS & NOTE FOR ITEM NO. 1-16

## Item No. 1

### MIC FOR I-COM RADIO HM 152 (IMPORTED)

- PTT Function with + click & more durable switch
- Strengthened cord bush with higher flexibility to reduce fatigue & breaking cord
- Strengthen clip reduces breakage & improves attachment clothing etc.
- Modular Plug
- Cable length minimum 900 mm when curled

#### Compatible with following Radios:

- I-COM IC-F 111, IC-F121, ICF-5023

## Item No. 2

### MIC SET FOR MOTOROLLA HMN3596A (IMPORTED)

- PTT Function with + click & more durable switch
- Strengthened cord bush with higher flexibility to reduce fatigue & breaking cord
- Strengthen clip reduces breakage & improves attachment clothing etc.
- Modular Plug
- Cable length minimum 900 mm when curled

#### Compatible with following Radios:

- Motorola GM 300, GM388.

## Item No. 3

### MIC SET FOR MOTOROLA RADIO SET RMN-5052 (IMPORTED)

| SN | Parameters | Specification |
|----|------------|---------------|
| 1  | Model      | RMN-5052      |

## Item No. 4

### MIC ALNICO DR-138 (IMPORTED)

| Parameter | Specification |
|-----------|---------------|
| Model     | EMS-74        |

## Item No. 5

### MIC VERTEX VX-2200 (IMPORTED)

| Parameters | Specification |
|------------|---------------|
| Model      | MH-67A8J      |

## Item No. 6

### OUTDOOR ANTENNA FOR DESKTOP GSM TELEPHONE SET

| SN                                | Parameters                    | Specification                                                 |
|-----------------------------------|-------------------------------|---------------------------------------------------------------|
| 1                                 | Frequency band                | GSM                                                           |
| 2                                 | Connector type                | SMA Male                                                      |
| 3                                 | Omni directional antenna gain | 8-12 db                                                       |
| 4                                 | Impedance                     | 50 ohm                                                        |
| 5                                 | Mounting                      | Weather proof / UV Resistance                                 |
| 6                                 | Cable                         | pure copper coaxial cable having length 30 feet approximately |
| Copy of item will not be accepted |                               |                                                               |

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**Item No. 7**

**INDOOR ANTENNA FOR DESKTOP GSM TELEPHONE SET**

| SN                                | Parameters                    | Specification |
|-----------------------------------|-------------------------------|---------------|
| 1                                 | Frequency band                | GSM           |
| 2                                 | Connector type                | SMA Male      |
| 3                                 | Omni directional antenna gain | 2-5 db        |
| 4                                 | Impedance                     | 50 ohm        |
| Copy of item will not be accepted |                               |               |

**Item No. 8**

**TECHNICAL SPECIFICATION OF DIGITAL VHF RADIO SET  
(IMPORTED)**

| SN | VHF Parameters                | Specifications                                              |
|----|-------------------------------|-------------------------------------------------------------|
| 1  | Frequency Range               | 136 – 174 MHz                                               |
| 2  | Output Power                  | 45 Watts                                                    |
| 3  | Channel Zones                 | 1000 channels / 50-100 Zones                                |
| 4  | Channel Spacing               | 12.5, 25 KHz                                                |
| 5  | Talk Groups                   | 20 Talk Group                                               |
| 6  | Frequency Stability           | + 0.5 Part per million PPM                                  |
| 7  | Operating Voltage             | 11v DC to 16v DC                                            |
| 8  | Operating Temperature         | -30c to 60c                                                 |
| 9  | Rx Sensitivity Analogue       | 0.25uV @ 12db SINAD                                         |
| 10 | RX Sensitivity DMR            | 5% Bit error rate @ 0.25uV                                  |
| 11 | Regulator Data                | EN 300-086, EN 300-111, EN 200-211,<br>EN 301-489, EN 60950 |
| 12 | Signaling Option Analog       | MDC 1200 Encode and Decode Two tone<br>Decode, CTCSS, DCS   |
| 13 | Digital Protocol              | ETSI, TS 102 361                                            |
| 14 | Packet Data                   | 1/2 Rate, 1/4 Rate, Full Rate, Single Slot                  |
| 15 | Water and Dust protection     | IP 54                                                       |
| 16 | Maintenance & Service Manuals | 1 no with 10 Radio set                                      |
| 17 | Programming cable & software  | 1 no with 10 Radio set                                      |

**SET MUST BE CAPABLE & COMPATIBLE:**

- Set & all accessories from same manufacturer and set may work on both analog & digital at same time.
- DMR trunked, DMR conventional, MPT 1327 & Conventional FM.
- Roaming between MPT and DMR Tier-III Trunked Network.
- Roaming between FM VHF Radio and DMR Tier-II Network.
- GPS capable (optional)
- Bluetooth capable. (optional)
- Encryption supported. (optional)
- Bidder will provide a sample for technical evaluation with technical bid.
- Bidder is required to mention / provide brand name, manufacture name, year of manufacturer, country of origin, technical literature, import documents (if applicable) and manufacturer warranty certificate of each item.

**Item No.9. LEAD ACID BATTERY 12V, 100AH**

**Technical Specification**

The battery manufacturing conform to latest international standards as per technical data given below

**1. Material**

- Lead plates 99.97% pure
- Container (Body) Poly propylene
- Separator Paper and glass mat
- Manufacturing date Will be provided by the firm

**2. Number of plates**

17

**3. Terminal**

Positive and Negative terminals shall be made of lead and taper in shape for firm electrical connections.

#### 4. Accessories:

The following accessories shall be supplied with battery set

|                             |                                                                                                                                     |
|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| I. Electrolyte.             | 12 KGs or more (for each battery) duly recommended / certified by the manufacturer for required quantity and specific gravity 1250. |
| II. Lead Terminal Connector | = 2 Nos. (for each battery set)                                                                                                     |
| III. Hydrometer             | = 1 Nos. (for each 4 battery sets)                                                                                                  |
| IV. Rubber Gloves           | = 1 pair (for each two battery set)                                                                                                 |

- Each battery set shall have to be supplied in carton.
- Each battery set shall have to be supplied with Warranty / Guaranty Card.
- Battery charging installation and maintenance instruction book let shall be supplied with each battery set.
- Electrolyte shall have to be supplied separately in non-returnable containers of 20-KGs capacity

Note:-

- The warranty card shall be provided with each battery valid for 12 months from the date of receipt of material or 12 months from the date of placement whichever is earlier
- Constructional detail along with relevant specifications & sample of the battery shall be supplied with the offer of to ascertain its suitability.
- General inspection shall be carried out by CSTE/Operation's representative in inspection Shed MGPR to ascertain the supply as per specifications

#### Item No. 10

##### BATTERY ICOM (F3033)

- Battery: 7.2VDC
- Model No: For ICOM F3033
- Usage: Two Way Radio / Walkie Talkie
- Rated Capacity: 1650mah- 2700 mah or better
- Type: Ni-MH Battery Pack

#### Item No. 11

##### BATTERY FOR GSM DESKTOP TELEPHONE (3.5VDC)

|   |                  |                 |
|---|------------------|-----------------|
| 1 | Battery type     | LI-ION          |
| 2 | Nominal voltage  | 3.7V            |
| 3 | Capacity         | 1000mah or more |
| 4 | Charging voltage | 4.2V            |

#### Item No. 12

##### SPECIFICATIONS OF DROP WIRE

| Description                          | Specifications                                                                                                                           |
|--------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| Drop wire                            | Two conductors forming a pair running in parallel shall be insulated with weather resistant back, high density solid polyethylene (HDPE) |
| Roll size                            | 500 Mtr                                                                                                                                  |
| Emulation                            | HDPE insulation conductor                                                                                                                |
| Conductor                            | Copper covered steel wire size 1.02 mm                                                                                                   |
| Resistance                           | Maximum Resistance at 20°c = 56Ω / km                                                                                                    |
| Tensile strength                     | 1.51 MPa                                                                                                                                 |
| Elongation at break min %            | 1.02mm                                                                                                                                   |
| Minimum thickness                    | 1.40                                                                                                                                     |
| Nominal insulated conductor dia      | 3.06mm                                                                                                                                   |
| Insulation elongation at break min % | 125                                                                                                                                      |
| Dielectric strength test voltage     | 6000V AC                                                                                                                                 |
| Minimum isolation resistance 20°c    | 30MΩ km                                                                                                                                  |
| Nominal weight Kg/km                 | 46                                                                                                                                       |
| Maximum capacitance                  | 400 /500 m unbalance per pair                                                                                                            |

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Assistant Signal & Telecom En  
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- The finished wire shall be free from defects and coil shall be wound in a uniform continuous length.
- Testing will be carried out by the representative of CSTE/Operations in the factory premises for high voltage, insulation resistance, Loop resistance & etc. as per governing British standard. All testing facilities shall be provided by the supplier. Sample from each drum shall be taken to carry out chemical / Mechanical test as per specifications in the Railways Laboratory. In case of non-availability, these tests shall be arranged from any Govt. recognized laboratory at the cost of supplier.
- Bidder is required to mention / provide brand name, manufacture name, year of manufacturer, country of origin, technical literature, import documents (if applicable) and manufacturer warranty certificate of each item.

### **Item No. 13**

#### **SPECIFICATIONS OF GI WIRE**

| SN | Description             | Features                                      |
|----|-------------------------|-----------------------------------------------|
| 1  | Brands                  | A reputed brand manufacturer                  |
| 2  | Surface                 | Galvanized                                    |
| 3  | Diameter                | 3.2mm $\pm$ 0.08 tolerance                    |
| 4  | Coating                 | ZINC                                          |
| 5  | Features                | Corrosion resistant, low carbon               |
| 6  | Coil weight             | 50 kg                                         |
| 7  | Zinc Galvanized Coating | Minimum 250 g/m <sup>2</sup>                  |
| 8  | Tensile strength        | 300 N/mm <sup>2</sup> – 550 N/mm <sup>2</sup> |
| 9  | Minimum breaking load   | 4-5 KN                                        |
| 10 | Gauge size              | SWG 10                                        |

- Bidder is required to mention / provide brand name, manufacture name, year of manufacture, country of origin, technical literature, import documents (if applicable).
- The finished wire shall be free from defects and coil shall be wound in a uniform continuous length.
- Physical testing shall be carried out by representative of CSTE/Ops as per given specifications and provided sample.
- Lab test will be performed by the CCP Office as per instructions

### **Item No. 14**

#### **BATTERY OF POC RADIO SET PDC550 HYTERA SET**

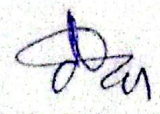
|   | Parameter       | Specifications                         |
|---|-----------------|----------------------------------------|
| 1 | Battery type    | Rechargeable lithium-Polymer (Li-Poly) |
| 2 | Model           | BP2401 / BP3503 / equivalent           |
| 3 | Capacity        | 3500mah or better                      |
| 4 | Nominal Voltage | 7.4v dc                                |

### **Item No. 15**

#### **CHARGER OF POC RADIO SET PDC550**

|   | Parameter      | Specifications               |
|---|----------------|------------------------------|
| 1 | Battery type   | Single slot desk top charger |
| 2 | Model          | S024AZM1200200               |
| 3 | Capacity       | 2400mah                      |
| 4 | Input Voltage  | 100-240v ac                  |
| 5 | Output voltage | 12VDC, 2 amp                 |

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**Item No. 16**

**ANTENNA OF POC RADIO SET PDC550**

|   | Parameter       | Specifications                                                                |
|---|-----------------|-------------------------------------------------------------------------------|
| 1 | Type            | Flexible whip antenna                                                         |
|   | Frequency Range | 136-174 MHz                                                                   |
| 2 | Model           | Flexible wideband whip antenna compatible with Hytera PDC550 Smart PoC Radio. |
| 3 | Color           | black                                                                         |
| 4 | Length          | Approximately 160-200 mm                                                      |

**NOTE FOR ALL ABOVE ITEMS NO. 1-16**

- Authorization certificate of the offered item from the Original Equipment Manufacturer (OEM)/Manufacturer shall be required from the participating firm.
- Bidder will provide a sample for technical evaluation with technical bid mentioning all technical details. Late submission will not be accepted.
- Bidder is required to mention / provide brand name, manufacture name, year of manufacturer, country of origin, technical literature, import documents (if applicable) and manufacturer warranty certificate of each item.
- Tender will be decided on item wise basis

  
XEST/Middle

  
ASTE/Phone