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**Government of India
Ministry of Railways**

Signal Directorate

**Schedule of Technical Requirement (STR)
for vendor approval for manufacture and
supply of**

**DTMF based Electronic Block Bell and
Block Telephone Equipment**

SIQ 0702 (ver.0)

**Research Designs and standards Organisation
Manak Nagar, Lucknow – 226011**

01.04. 2015

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**STR FOR DTMF BASED ELECTRONIC BLOCK BELL AND BLOCK TELEPHONE
EQUIPMENTAS PER SPECIFICATION NO. RDSO/SPN/191/2005 (ver.0)**

1.0 SCOPE:

The schedule of technical requirements covers the norms for manufacture of DTMF based Electronic Block Bell and Block Telephone as per specification no. RDSO/SPN/191/2005 (ver.0)

2.0 REQUIREMENTS:

Vendors shall comply the requirements given below and also relevant laws & quality norms issued by RDSO from time to time.

**3.0 ESSENTIAL MACHINERY AND PLANT REQUIRED FOR PRODUCTION
(TENTATIVE)**

1.	Drilling Machine
2.	Vices
3.	Grinding Machine
4.	Electric Blower
5.	PCB assembly Jigs
6.	Coil Winding Machine
7.	Heat Chamber for Dry Heat/Hot Air Oven
8.	Vacuum Impregnation Plant
9.	Temperature Controlled Soldering Iron
10.	Regulated Power Supply
11.	Test Jigs

4.0 ESSENTIAL TESTING & MEASURING EQUIPMENTS REQUIRED FOR QUALITY ASSURANCE (TENTATIVE)

S.N.	EQUIPMENT
1.	High Voltage Tester 2KV/AC r.m.s.
2.	Megger or Insulation Resistance Tester, 500VDC
3.	4½ Digital Multimeter with db measurement at different impedance
4.	Oscilloscope, 10MHz or better
5.	Digital Multimeter 3 ½ digit
6.	Harmonic Distortion Meter
7.	Decade Step Attenuator
8.	Telephone Analyzer
9.	Function Generator
10.	Digital LCR- Q Meter
11.	Digital IC Tester
12.	Vernier Caliper, Scale, Micrometer, Thermometer
13.	Terminator Load Resistance of different values such as 100, 200, 300, 470, 600 & 1120 ohms etc. with tolerance of 1%

Note : Every proposal for outsourcing of any activity/process shall be with following conditions :

- (a) Outsourcing can be done only from ISO 9001-2008 certified firm.
- (b) Every such proposal should be got approved by RDSO.

Process flow chart for DTMF based electronic block bell and telephone equipment

