**File No.AIR/DEL/NBH/CMU/NetworkCablinginNBH**

सत्यमेव जयते

प्रसार भारती/PRASAR BHARATI

भारत का लोक प्रसारक/India's Public Service Broadcaster

आकाशवाणी, दिल्ली/Akashvani, Delhi

नई दिल्ली/New Delhi-110001.

सं0/No.AIR/DEL/NBH/CMU/NetworkCablinginNBH दिनांक:Dated-05.12.2025

Subject : Publication of Draft Technical Specification for SITC of New Network Cabling at Akashvani, Delhi for seeking Vendors/OEMs feedback and budgetary quote.

1. Draft Technical Specification for SITC of New Network Cabling at Akashvani, Delhi is being uploaded to invite feedback from the Vendors/OEMs dealing with supply of such equipments. The interested parties are requested to provide comments/feedback on this technical specification.
2. Vendors/OEMs are also requested to provide percentage of local content in the offered equipment.
3. The budgetary price offered for SITC of New Network Cabling with associated equipment may also be submitted.
4. All these information may be provided by E-mail to ddgenbh@prasarbharati.gov.in and enggstorenbh@gmail.com on or before 15.12.2025.

जितेन्द्र
05.12.2025

(JITENDER PRUTHI)
(Dy. Director General (Engg.)

# Bill Of Materials

| S.No | Item Descriptions | | | | Qty | UOM |
|---|---|---|---|---|---|---|
| 1 | **Supply of LAN Items at NBH(New Broadcasting House)** | | | | 1 | Set |
| | 1 | 24 Port Layer 2 Switch | 6 | Nos | | |
| | 2 | 10G SFP+ MM Transceiver | 8 | Nos | | |
| | 3 | 6 Core MM OM3 OFC Cable | 350 | Mtr. | | |
| | 4 | 6 Port LIU Fully Loaded LC Type | 4 | Nos | | |
| | 5 | 24 Port LIU Fully Loaded LC Type | 1 | Nos | | |
| | 6 | LC-LC Fiber Patch Multi Mode OM3 Cord 3 mtr | 10 | Nos | | |
| | 7 | Cable Cat 6 , 4 pair, UTP - 305m | 10 | Box | | |
| | 8 | Cat 6 24 Port Jack Panel Fully Loaded | 6 | Nos | | |
| | 9 | Cat-6 Information Outlet | 98 | Nos | | |
| | 10 | Single Face plate | 24 | Nos | | |
| | 11 | Dual Face plate | 37 | Nos | | |
| | 12 | SMB box | 61 | Nos | | |
| | 13 | Cat-6 UTP Patch Cord 1 Mtr | 98 | Nos | | |
| | 14 | Cat-6 UTP Patch Cord 2 Mtr | 98 | Nos | | |
| | 15 | 25mm PVC Conduit 25mm | 2600 | Mtr. | | |
| | 16 | Flexible Pipe 25mm | 540 | Mtr. | | |
| | 17 | 25mm PVC Batten | 60 | Mtr. | | |
| | 18 | 9U Rack with accessories | 4 | Nos | | |
| 2 | Configuration and Installation LAN | | | | 1 | Set |
| 3 | Commissioning of LAN | | | | 1 | Set |
| 4 | Warranty for 3 years | | | | 1 | Set |
| 5 | Training for LAN System | | | | 1 | Set |

| S.No | Technical Specifications of the 24 Port Layer 2 Switch |
|---|---|
| **1.** | **Interface:** Standard rack mountable width, Height 1U |
| **2** | **Architecture** |
| 2.1 | The switch should offer Non – Blocking Switching & Routing performance at Layer 2 |
| 2.2 | Rj 45 downlink 1/10 Gbps ports 24 Nos |
| 2.3 | 1/10 Gbps SFP/SFP+ uplink ports 4 Nos |
| 2.4 | The Switch should support stacking up to 12 switches with more than 100 Gbps stacking Band with Per switch. |
| 2.5 | The switch should be able to stack with different models of same switch series of access switches |
| **3** | **Performance** |
| 3.1 | Switching Bandwidth 128 Gbps or more. |
| 3.2 | Forwarding capacity( Throughput) 95 Mpps ( Minimum) |
| 3.3 | Latency 1000 Mb < 3.8 micro Sec , 10 Gbps < 1.6 micro sec. |
| 3.4 | MAC address at least 8 K |
| 3.5 | Should shall have 4Gb DRAM and 8Gb FLASH with 4Mb Packet buffer |
| **4** | **Layer 2 features** |
| 4.1 | Should support latest features such as MAC Address,<br>Table, Flow control, port mirroring, ERPS, L2 Protocol Tunnelling etc. |
| 4.2 | Should support 32K MAC addresses or more. |
| 4.5 | should support minimum 4000 Vlans |
| **5** | **Memory and Processor** |
| 5.1 | Should have at least dual core processor with speed 1016 MHz or more. |
| 5.2 | RAM – At least 2 GB DDR3 SDRAM. |
| 5.3 | Flash Memory of at least 16 MB |
| **6** | **Security** |
| 6.1 | Switch should support username/password for Authentication, |
| 6.2 | Should support secure communications to the management interface and system through SSL, Secure Shell (SSHv2), Secure Copy and SNMPv3 |
| 6.3 | Should support IP Source Guard, DHCP snooping, DHCPv4, DHCPv6 and Dynamic ARP Inspection. |
| 6.4 | Should support IPv4 and IPv6 ACLs |
| 6.5 | Should support Byte and packet based broadcast, multicast, and unknown-unicast limits with suppression port dampening. |
| 6.7 | Should support Flexible Authentication with 802.1x Authentication and MAC Authentication. |
| **7** | **Management features** |
| 7.1 | Should support manageability using Centralized Management platform using Web based Graphical User Interface (GUI) |
| 7.2 | Command Line Interface (CLI), Telnet, TFTP, HTTP access to switch management/monitoring, out of bound management RS 232 or micro USB. |
| **8** | **Other Features** |
| 8.1 | Ventilation : Smart fans ( desirable) |
| 8.2 | Warranty : 3 years |

| Technical Specifications of 10G SFP+ MM Transceiver | | |
|---|---|---|
| 1 | Type of Transceiver | SFP+ 10G |
| 2 | SFP Mode | Multimode |
| 3 | IEEE STD | 802.3ae |
| 4 | Wave length(nm) | 850Nm |
| 5 | Distance | 150m to 300 m |
| 6 | Digital Optical Monitoring and Hot Pluggable/ Swappable | |
| 7 | Safety Standard | EN60825-1 |

| Technical Specifications for Copper and Fiber Components |
|---|
| The OEM must be a legal entity registered in India under the Companies Act, 1956, having registered office and operations in India. The OEM of Passive Network Components should be present in the India for last 15 Years. |
| OEM must have ISO 9001:2008, ISO 9001:14001, ISO 45001 ISO 27001 |
| Components/raw material used must be RoHS verified |
| OEM should have manufacturing Unit, Product design & development center in India. |
| The entire passive components Copper & Fiber should be from single OEM. |

| Technical Specifications of the 6 Core MM OM3 OFC Cable | |
|---|---|
| Multi Mode fiber 6 core: -Armored Uni-Tube, 50/125µm,OM3 Type Optical Fiber Cable | |
| Fiber Type | Multi Mode, 50/125-micron primary coated buffers, OM3 |
| Construction type | Uni-tube construction, |
| Tube: | 1 Nos Polybutylene, Terephthalate (PBT) |
| No of fibers: | 6 core |
| Water Blocking | Thixotropic Gel (Tube) Petroleum Jelly (Interstices) |
| Core Wrapping | Polyethylene Terephthalate |
| Armoring: | Corrugated Steel Tape Armor (ECCS Tape) Thickness > 0.125mm |
| Peripheral Strength Member | Two Steel wires (0.9 mm dia) |
| Ripcord: | Polyester based yarns below armored tape for easy ripping |
| Outer Sheath | UV Stabilised Polyethylene (HDPE) |
| Sheath thickness | 1.8 mm nominal |
| Standards | ISO/IEC 11801 2nd Edition; OM4 AS/ACIF S008; AS/NZS 3080 ; TIA/EIA 568.C.3; IEC-60793-1, 60793-2 EN50173, ANSI/TIA 568-C.3, Telcordia GR-20; suitable for use in indoor / outdoor ducts, direct burial and backbone cabling, RoHS Complaint |
| Dimensions and Mass Overall, Cable (Nominal): | 9.0 ± 1 MM |
| Mass (Nominal) | 80 kg/km +- 1o % |
| Cable length | 2 km ± 10% |
| Max. Bending Radius (During installation) | 20 X Overall diameters |
| Max. Bending Radius (During full load): | 10 X Overall diameters |
| Max. Tensile Strength-Short Term | 1500N |

| | |
|---|---|
| Max. Crush Resistance- Short Term: | 2000N/10 cm |
| Operating Temperature range | -20°C ±70°C |
| Attenuation | Max. Attenuation: |
| | At 850 nm : 3.0 dB/km |
| | At 1300 nm : 1.5 dB/km |
| | |
| **Technical Specifications of the 6 Port LIU Fully Loaded LC Type** | |
| 6 Port Fiber Optic Rack Mount LIU with Adaptors Plates ,Splice | |
| Connector Type | LC-Style |
| Operating temperature | -20 Degree C to +70 Degree C or better |
| MM connectors | 500 cycles, Beige |
| Ferrules | Pre-radiused Ceramic Ferrules |
| Attenuation | Not more than 0.75 dB per mated pair |
| Fiber Optic Patch panels | 6/24 Ports Loaded |
| | 1U 19” / ETSI versions available |
| FMS- Front Patching / | |
| Splicing Shelf | |
| | The FMS fiber management shelf series is ideal for high density front patching applications. |
| High Density | 1U: 6/24 Fiber terminations Upgradable Upto 96 LC port in 1 U |
| | Should be supplied loaded with secondary coated LC pigtails, Splice Tray & Splice Protector Mounting brackets can be placed in different positions |
| Sliding Drawer concept allows for | Easy access to splicing tray |
| | Easy access to back side of connector |
| | Labeling strip for adhesive labels and better cable management |
| | Fiber guides, radius controls & secure tie downs provided |
| | |
| **Technical Specifications of the 24 Port LIU Fully Loaded LC Type** | |
| 24 Port Fiber Optic Rack Mount LIU with Adaptors Plates ,Splice | |
| Connector Type | LC-Style |
| Operating temperature | -20 Degree C to +70 Degree C or better |
| MM connectors | 500 cycles, Beige |
| Ferrules | Pre-radiused Ceramic Ferrules |
| Attenuation | Not more than 0.75 dB per mated pair |
| Fiber Optic Patch panels | 6/24 Ports Loaded |
| | 1U 19” / ETSI versions available |
| FMS- Front Patching / | |
| Splicing Shelf | |
| | The FMS fiber management shelf series is ideal for high density front patching applications. |
| High Density | 1U: 6/24 Fiber terminations Upgradable Upto 96 LC port in 1 U |

| | |
|---|---|
| | Should be supplied loaded with secondary coated LC pigtails, Splice Tray & Splice Protector Mounting brackets can be placed in different positions |
| Sliding Drawer concept allows for | Easy access to splicing tray |
| | Easy access to back side of connector |
| | Labeling strip for adhesive labels and better cable management |
| | Fiber guides, radius controls & secure tie downs provided |
| | |
| **Technical Specifications of the LC-LC Fiber Patch Multi Mode OM3 Cord 3 mtr** | |
| LC-LC Type 50/125µm Multimode OM3 Optical Fiber Patch Cords:- 3 Mtr | |
| Fiber Type | 50/125 µm, OM3 , Duplex Zipcord. |
| Connectors | The optical fiber patch leads shall comprise of Multi-mode 50/125µm OM3 fiber with 2XLC type fiber connectors terminated at one end and 2X LC type fiber connectors at other end of the patch cord. |
| Cordage O.D | (Duplex): 2.0mm ± 0.1mm x 4.1± 0.2mm |
| Buffer Diameter | 900µ tight buffer |
| Strength Member | Aramid Yarn |
| Jacket Material | LS0H IEC 61034-1 &2,IEC-60332-1, IEC-60754-1 & 2 |
| Connector Loss | 0.30dB(max) |
| Operating Temperature | -40°C to +85°C |
| Standards | ISO/IEC 1108:2008, ANSI/TIA/ EIA 568.C.3, ANSI/TIA/EIA-492, TELECORDIA GR-409, ICEA-596 |
| | |
| **Technical Specifications of the Cable Cat 6 , 4 pair, UTP - 305m** | |
| CAT6 4 Pair UTP CABLE INDOOR (LSZH) | |
| Type | Unshielded twisted pair cabling system, TIA 568.2-D Category 6 |
| Network support | Supports ultrahigh speed data networks such as Gigabit Ethernet (1000 Base-T and 1000 Base-TX) or more. |
| TIA 568.2-D | ETL Verified & UL Listed (Certificates are mandatory) |
| IEEE 802.3ab | Zero-bit Error |
| POE | Suitable for PoE applications : IEEE 802.3bt from Type 1 to Type 4, |
| Fire Rating | IEC 60332-1 ,Acid gas IEC 60754-2 Smoke density IEC 61034-2 |
| Conductors | 23 AWG solid bare copper |
| Insulation | Polyethylene |
| Sheath Type | LSZH Complies to IEC 60332-1 |
| Pulling Force | 100N or 11 KG Minimum |
| NVP | 69% |
| Packing | Box of 305 meters |
| Instant Volt rated | 300V |
| Impedance | 100 Ohms + / - 15 ohms |
| Delay Skew: | 45ns Max |
| Mutual Capacitance: | 5.6nF/100m Nominal |
| Approved | RoHS Compliant |
| | |
| **Technical Specifications of the Cat 6 24 Port Jack Panel Fully Loaded** | |
| CAT6 24 PORT JACK PANEL LOADED:- | |
| Should be supplied with individually replaceable 24 numbers Category-6 I/O Jacks complying as per the ISO/IEC 11801-1:2017, ANSI/TIA-568.2 D or latest | |
| Should be 19” rack mountable and of 1U height & complete with all mounting accessories | |
| Material should be CRS (cold rolled steel) | |

| | |
|---|---|
| Jack (I/O) should have protection from dust and contaminants. | |
| Jack (I/O) operating Life should be minimum 750 insertion cycles and contact material should be copper alloy. | |
| Jack (I/O) contact plating should be 50µ Gold/ 50µ Nickel minimum | |
| Should have self-adhesive, clear label holders (transparent plastic window type) and white designation labels with the panel, with optional color labels / icons. | |
| Operating Life should be Minimum 20 re-terminations and contact material should be copper alloy. | |
| Should be supplied with metallic integrated rear cable management shelf as for cable strain relief & for better cable dressing at the rear | |
| Port numbering is provided on the front and rear of the panel | |
| Should be RoHS Compliant | |
| | |
| **Technical Specifications of the Cat-6 Information Outlet** | |
| CAT6 INFORMATION OUTLET (JACK) | |
| Type | Should be confirm to Category-6 as per ISO/IEC 11801: 2002 Class EA and ANSI/TIA-568.2-D |
| Bandwidth support | Should be support network line speeds up to 1 Gbps |
| POE | Suitable for PoE applications : IEEE 802.3bt from Type 1 to Type 4, |
| Pattern support | Dual color-coding allows for 568 A/B wiring |
| Compatibility | RJ-11 compatible |
| Dust Proof | Jack (I/O) should have a protection from dust and contaminants. |
| RJ45 I/O Compatibility | Individual Compatible RJ45 Jack & Pointed IDC Tower on RJ45 Jack for easy termination |
| Plastic Housing: | Thermoplastic UL94V-0 rated or equivalent |
| Operating Life: | Minimum 750 insertion cycles |
| Contact Material: | Copper Alloy |
| Contact Plating: | 50µ" Gold/100µ" Nickel |
| Plug Retention Force: | 11 lbf minimum |
| Operating Life: | Minimum 20 re-terminations |
| Wire Accommodation: | 22-24 AWG solid |
| Interface Resistance: | At least 20 milliohms |
| Insulation Resistance: | At least 100 Megaohms |
| Approval | ROHS Complied |
| Certification | Should be covered by UL/ETL certification. |
| | |
| **Technical Specifications of the Cat-6 UTP Patch Cord 1 Mtr** | |
| | |
| CAT6 PATCH CORDS (1 Mtr) (Blue, Yellow, Red & Green) | |
| Type | Cat 6 U/UTP support data networks for 10/100BASE-T and 1000BASE-T applications. |
| Conductor size: | 24 AWG stranded copper wire |
| Nom. O.D.: | 6 mm ± 0.5 mm |
| Sheath: | LS0H |
| POE | Suitable for PoE applications : IEEE 802.3bt from Type 1 to Type 4, |
| Boots | Transparent Plug with anti-snag slip on boots |

| | |
|---|---|
| RJ45 Plug Standard | ISO/IEC 60606-7-4 and FCC 47 Part 68 |
| Sheath Standards | Fire Propagation compliant with CSA FTI, IEC 60332-1 & IEC 61034 |
| Operating temperature: | -20°C to 60°C |
| MIN operating life | : 750 insertion cycles |
| | |
| **Technical Specifications of the Cat-6 UTP Patch Cord 2 Mtr** | |
| | |
| CAT6 PATCH CORDS (2 Mtr) (Blue, Yellow, Red & Green) | |
| Type | Cat 6 U/UTP support data networks for 10/100BASE-T and 1000BASE-T applications. |
| Conductor size: | 24 AWG stranded copper wire |
| Nom. O.D.: | 6 mm ± 0.5 mm |
| Sheath: | LS0H |
| POE | Suitable for PoE applications : IEEE 802.3bt from Type 1 to Type 4, |
| Boots | Transparent Plug with anti-snag slip on boots |
| RJ45 Plug Standard | ISO/IEC 60606-7-4 and FCC 47 Part 68 |
| Sheath Standards | Fire Propagation compliant with CSA FTI, IEC 60332-1 & IEC 61034 |
| Operating temperature: | -20°C to 60°C |
| MIN operating life | : 750 insertion cycles |

**Second Floor**

| Sl NO | Location | Rrequired connections |
|---|---|---|
| 1 | Duty Room 1 | 1 |
| 2 | Duty Room 2 | 1 |
| 3 | Duty Room 3 | 1 |
| 4 | Dubbing 3 | 2 |
| 5 | Dubbing 4 | 2 |
| 6 | CB 2 | 1 |
| 7 | CB 3 | 1 |
| 8 | Studio7 | 5 |
| 9 | Studio8 | 6 |
| 10 | Studio9 | 5 |
| 11 | Studio10 | 5 |
| 12 | Studio11 | 5 |
| 13 | Studio12 | 5 |
| 14 | Studio13 | 5 |
| 15 | Studio14 | 5 |
| Total | | 50 |

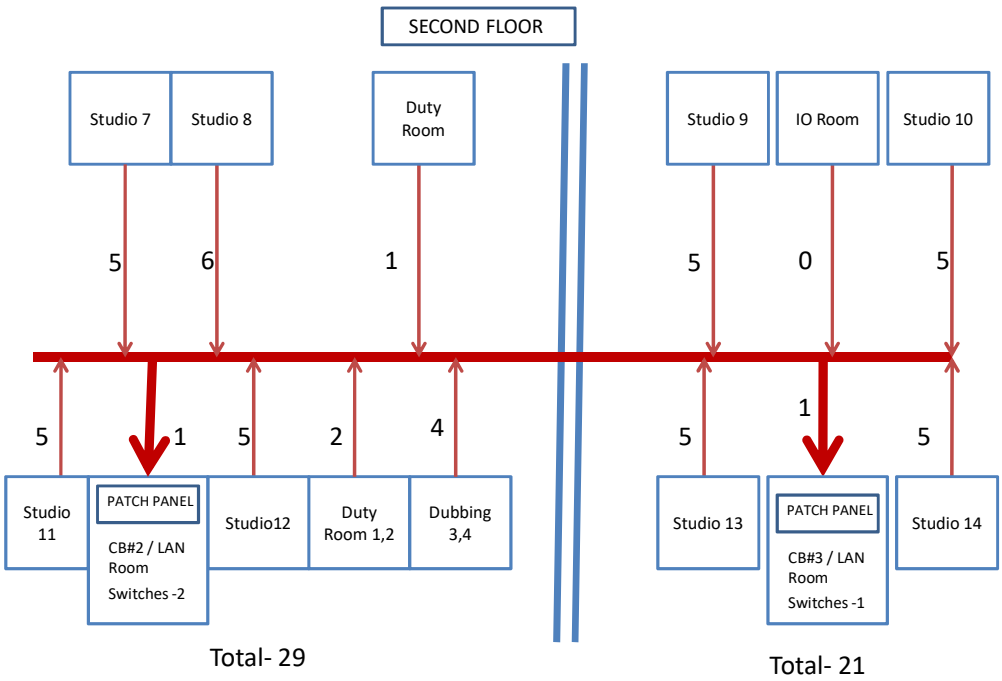
**Fourth floor**

| Sl NO | Location | Required connections |
|---|---|---|
| 1 | Studio21 | 5 |
| 2 | Studio22 | 5 |
| 3 | Studio23 | 5 |
| 4 | Studio24 | 5 |
| 5 | Studio25 | 5 |
| 6 | Studio26 | 5 |
| 7 | CB 5 | 1 |
| 8 | Web streaming | 2 |
| 9 | Duty room Gold | 1 |
| 10 | Duty room Rainbow | 1 |
| 11 | Gold Production | 2 |
| 12 | Rainbow production | 3 |
| 13 | Media Library | 2 |
| 14 | CBS Library | 0 |
| 15 | GMU` | 2 |
| 16 | Earth Station | 2 |
| Total | | 46 |

Studio :

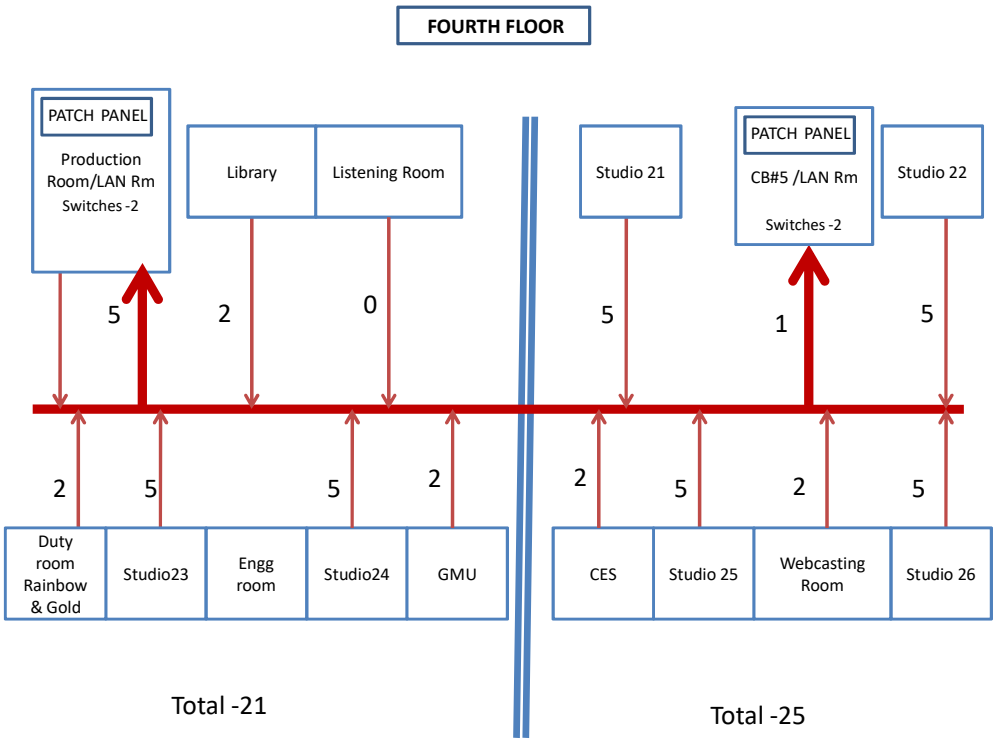
1. Booth( system + Clock) 1
2. Studio Systems 2
3. Studio Clock 1
4. Phone in 1

5




Total- 29

Total- 21




Total -21

Total -25