ON AIR RADIO STUDIO
A. Turnkey Implementation and Commissioning:

- Complete project consists of Supply, Installation, Testing and Commissioning.
- Entire supportive infrastructure like Monitoring, Routing, Communication.
- Additional equipment/accessories which necessary to complete the configuration should also be quoted as optional item.
- The installed equipment should have quick access to front and back panels for ease of maintenance.
- XLR and all audio connectors should be of high quality and similar to Neutrik.
- The system integrator should display in vantage positions in the studio, the Technical Block and Line diagrams of the Audio and Power chain.
- The patch panels should be straight through with 75 ohm termination.
- The number of inputs, outputs and performance parameters mentioned in the specifications for various equipment required for the studio are suggestive and minimum only. The bidder can offer better Parameters and more Inputs/Outputs.
- Ensure after-sale service and guarantee/warranty for the equipment from various manufacturers.
Audio Source Equipment and Microphones

1. Audio mixer

Digital audio mixers for Broadcast applications, specifically designed for ON AIR applications, enables free assignment of any audio input of the system to any control channel. Ethernet ports enable the local or remote interconnectivity, facilitating setup and maintenance, monitoring and control.

- 12 faders
- 100mm faders.
- Internal sampling rate 48 kHz to 24 bits.
- Modular design
- Front removable modules for easy maintenance.
- Electronically balanced microphone inputs with phantom power.
- Electronically balanced analogue line inputs and outputs.
- Adjustable gain ±
- Balance/panoramic control selectable for all channels.
- Transformer balanced digital inputs and outputs with adjustable gain
- Sample rate converter (SRC) for all digital inputs.
- Supports AES/EBU digital signal formats.
- Integrated talk-back.
- ON-AIR signalling for studio and control
- Fader-start, remote PFL.
- Automatic monitors muting.
- CUE output and integrated CUE speaker.
- Headphone outputs integrated into the chassis.
- PFL Monitor integrated in chassis.
- Test tone (1 KHz) generator.
- GPI's and GPO's.
- 4 direct routing buttons on each channel.
- All signals assignable to any control channel.
- MPX internal busses.
- 2 precision stereo VU meters.
- Externally synchronized clock, timer and stopwatch.
- Control of external equipment
• Communication control via Ethernet 10/100 connection through TCP / IP protocol.
• Memory banks for mixer snapshots or settings of all the available signals
• Processing of audio signals including system defaults to the basic configuration.
• All audio processes are predefined but always allow manual adjustment in realtime and associated non-volatile memory storage system.
• Parametric equalizer
• High and low pass filters
• Compressor
• Limiter and noise gate.
• Redundant power supply.

2. Production audio monitoring

2.1 Studio floor monitoring

• Ultra-linear and DSP-controlled 100-Watt studio monitors
• Monitor models and preferred artist listening environments
• Bluetooth mode features wireless streaming of stereo audio
• True bi-amping mode with 4 amplifiers for ultimate sound reproduction
• Ultra-high resolution, 1" silk dome tweeter for ultimate sound reproduction
• Long-throw 5" woofer with deformation-resistant glass fiber cone
• Ultimate dispersion characteristics and extremely large "sweet zone"
• Adjustable to a wide range of acoustic conditions and subwoofer operation
• Separately controlled limiter for low and high-frequency overload protection
• Servo-balanced inputs with XLR connectors
• Speakers wall mount

2.2 Control room monitoring

High-Resolution, Active 2-Way Reference Studio Monitor
• Ultra-linear frequency response from 50 Hz to 21 kHz
• Built-in 265-Watt Bi-amp module with enormous power reserve
• Ultra-high resolution Ferro fluid-cooled tweeter
• Long-throw 8 ¾" woofer
• Controlled dispersion characteristics and extremely large "sweet spot"
• Adjustable to a wide range of acoustic conditions and subwoofer operation
• Separately controlled limiter for low and high frequency overload protection
• Automatic standby mode
• Magnetic shielding allows placement near computer monitors
• Servo-balanced inputs with XLR connectors
• Speakers wall mount
3.1 angle poisemic arm with desk clamp

3. Twin digital telephone hybrid

- Front panel input and output gain controls.
- Front panel LED metering of receive and send signals.
- Integrated ring detector - automatic call answering after a pre-determined number of rings.
- Local and remote line hold switching - calls can be remotely switched through a mixing console.
- Line hold/release button to control line hold circuit, illuminates to indicate
- Balanced MIC/line input - balanced input clean feed line, or microphone level with adjustable gain.
- Balanced output - 0dBu low impedance balanced output, with output gain settings.
- Built in universal power supply between

4. Audio Effects Processor

- Stereo and 3D effects
- Wave-adaptive virtual Room reverb algorithms for natural reverb and delay
- Awesome modulation, dynamic, psychoacoustic and EQ algorithms
- Authentic amp simulation, distortion and special effects
- Effect combinations with selectable serial / parallel configuration
- Adjustable parameters plus 2-band EQ per effect
- 24-bit A/D and D/A converters with 64/128-times oversampling
- True stereo processing for realistic channel separation in stereo image
- 100 factory presets plus 100 user memory locations
- Accurate LED level meters for perfect level setting and optimum performance
- Servo-balanced XLR inputs and outputs
- High-quality components and exceptionally rugged construction
5. Cd/mp3 player

- Audio CD (CD-DA), WAV, MP3
- Sampling frequency 32/44.1/48kHz
- XLR balanced analog o/p
- Nominal output level +4dBu
- Power Supply 100-240V 50/60Hz
- 19 inch rack mounting

6. FM Transmitter

- Compact Amplifier and PSU Modules replaceable On Air
- Fully compliant with ETS 300 384 specification for FM transmitters
- Easily configured
- Comprehensive remote control and monitoring facilities
- LCD front panel LCD metering shows forward and reflected power together with internal voltages, display ensures easy local monitoring
- Internal control and self-protection in case of reverse power, excess current or over temperature
- Power Output 4kW (Adjustable to -6dB)
- Operating Frequency 87.5 to 108 MHz
- Mains Power Supply Single or Three phase
- Redundant cooling fans mounted on the rear of the transmitter
- Frequency range 87.5 to 108 MHz in 50kHz steps
- Frequency stability < ± 200Hz
- Power output >160W (adjustable)

7. 150W FM Exciter

- Alarm status outputs and indications that show loss of audio or over modulation.
- A front panel monitors point for RF output, as is a fully buffered baseband monitor for accurate monitoring of the modulator input.
- Front panel LCD metering shows forward and reflected power together with internal voltages, temperature and the modulation level.
- Quick view LED's show advanced status information including CPU ok, system normal, modulation status and external mute.
- Frequency range 87.5 to 108 MHz in 50kHz steps
- Frequency stability < ± 200Hz
- Harmonic & spurious output -70dBc (30MHz to 1GHz)
- Spurious outputs < -100dBc (87.5MHz to 137MHz @ fc ± 0.5MHz)
- AM noise 0.5% @ ± 40kHz deviation
- Input sensitivity + 8dBu (adjustable) for ± 75 kHz deviation
• MPX response $\leq 0.5\text{dB} (5\text{Hz} - 100\text{kHz})$
• AF THD (multiplex version) $< 0.15\% \pm 75\text{kHz}$ deviation
• Power supply (AC) 90 - 264v, 47 - 63Hz
• Temperature (operating) -20C to 55C
• 30m Complete FM broadband antenna system
• 50m Feeder Cable, complete with connectors and accessories.
• UPS RT 10000VA 230V

8. HQSound Audio Processor

• Compact equipment, saving space at the transmitter site
• Audio Backup
• RDS Encoder
• Stereo Encoder
• I/O Remote control and Script easy V2
• Software
• Compact flash memory
• Setup from front panel
• Digital audio Input/output
• Achieve a clean and powerful sonic signature and FM signal
• Always stay on air with audio backup function
• Insert local audio drops automatically or on command
• Draws less power
• Easy control of overall deviation
• Perfect synchronization of subcarriers
• Integrated user interface reduces training time and reduces errors
• All in one unit to reduce waste and power consumption
• Enhance the stereo effect of your signal with perfect control
• Multi-band Processor
• Easy mode for simplified audio configuration
• Each preset can be protected by password

9. FM RDS TUNER

Zarqa Educational & Investment Co.
- Frequency Response Max: 15kHz  Frequency Response Min: 20Hz
- Supply Voltage V AC: 230V
- AM/FM tuner offers presets
- Auto/manual tuning
- Reliable solution for background music and radio monitoring applications.
- AM/FM band tuner Auto & manual tuning RDS & radio text
- Last Function Memory (returns to last tuned station if power is disrupted)
- IR remote control
- 19” Rack mount kit
- Power supply: 230VAC 50Hz

10. Silence detection unit

- Quick-view status monitoring using dual
- Color LEDs is provided for on-site monitoring of Left, Right, Alt, And MPX audio inputs.
- The delay before switching to backup: easily set by the front panel
- Input impedance 6000 / 10k, Rear panel switch selected
- Detection delay 5 - 90 Seconds, user selectable (5, 10, 20, 30, 90)
- Static tone level -25dB to 0dB, user selectable (factory set to -15dB)
- Dynamic sensitivity User selectable
- External input gain 0 or +10dB
- External switch relay rating 30VDC / 50 VAC @ 1A
- Power supply 100/115/230Vac ± 10%, 50/60Hz
- Power consumption < 30VA
- Temperature (operating) -20C to 45C

SCHEDULE OF EQUIPEMENT
<table>
<thead>
<tr>
<th>Description</th>
<th>QTY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Audio mixer</td>
<td>1</td>
</tr>
<tr>
<td>Studio monitor</td>
<td>pair</td>
</tr>
<tr>
<td>Audio mixer monitoring</td>
<td>pair</td>
</tr>
<tr>
<td>angle poise mic arm</td>
<td>4</td>
</tr>
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<td>On-Air Light</td>
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