

# **1. INTRODUCTION**

## **1.1- Purpose and Scope of Work:**

Ministry of Information invites bidders to submit their best offers for, supplying and Installation an equipment's, would be installed on the existing Studio300.

Important note: Studio 300 is used as the Main News Studio in Kuwait TV.

Integrators must take a special care once defining the time schedule for installation.

The Studio would be Online due to installation process.

while interruption of Studio operation must be within Studio offline time.

Total time from awarding a tender to signing the project acceptance (after commissioning) is less than 3 months,

## **1.2- Warranty**

Without dissent to warranty clauses specified elsewhere in Contract Documents, the following warranty shall equally be provided:

The Supplier shall warrant for the period and from the date specified in Conditions of Contract, all apparatus and all components, exclusive of lamps which shall be subject to the usual manufacturer's warranty, to be free from defects in material, workmanship, design, or other features. Any component or apparatus replaced or repaired by the Supplier under the warranty shall be delivered free of charge to the site. The Purchaser will undertake to install small replacement components but in the case of components involving modifications to existing equipment, the Supplier shall undertake to do this at his own expense and with his own personnel. If the same component or part fails more than twice during the warranty period, the failure shall be deemed to be due to design error. In this event, the Supplier shall take immediate action to make any necessary modifications to correct the defect by design changes. Warranty on replacement components shall be the same as for the original components and shall commence from the date of installation of the replacement component.

Warranty period is set to 12 months.

**Site visit is mandatory** as the bidders must perform accurate measurements to plan the

Required tools to install and implement the equipment,

**This is a turnkey project any missing item needed to run the equipment's must be included and priced in the BOQ**

## **2. Parts & Technical Specification :**

### **2.1- Character generators (CG):**

#### **2.1.a- Character generators Server (Qty = 2 )**

- Can used to add complex graphical elements into the picture. Typically, a CG will output two video streams, a video stream and an alpha stream. The switcher can then add this graphical element as a key source to the final video output.
- Supports 1080i, 720p, 1035i, 1080psF, 480p, 525, and 625 formats Full 12-bit linear video keyer with logo fade-in and fade-out processing Independent control of logo position, transparency and offset Reference to input video or color black.
- Gigabit Ethernet interface + 10GB .
- Integration with the current workflow.

#### **2.1.b- Remote Desktop AIO for CG . (Qty = 1 )**

### **2.2- High Performance Ingest system ( Branded WS):**

#### **2.2.a- 4K/3G/HD/SD Media Server & 8TB Storage: (Qty = 1 )**

- Four-channel configurations Multiple Format Support (supports end-to-end SD/HD/3G/4K workflows in DVCPRO, MPEG-2, AVC-Intra, H.264/AVCHD and DNxHD VOB, H.264, H.265, AV1, MP4, QuickTime, PRORES, formats) .
- Play different formats back-to-back: – SD/HD/3G/4K clips – 720p/1080i – 1080p 3G – 2160p – DV/MPEG/AVC-Intra/H.264/AVCHD .
  - Import/export all formats as MXF OP1a, SMPTE ST 360 (GXF) or QuickTime Automatic up/downscaling and aspect ratio adjustment (16/9, 4/3, etc.) 1GB + 10GB LAN .
  - Integration with the current workflow.

**Note: We have an existing XTV Server, A 10 GB network card must be delivered and installed .**

#### **2.2.b- High Performance Ingest Workstation : (Qty = 2 )**

- Belden High-Performance Workgroup Engine Finishing 4K Performance cores for endless possibilities.
- (2.5 GHz base frequency, up to 4.6 GHz with Turbo Boost Technology, 24 cores) NVIDIA Generation with Omniverse Enterprise Workstation Turing™ architecture and the NVIDIA RTX™ platform, GDDR6 with error-correcting code (ECC).

- 64GB DDR5-4800 ECC SDRAM Transfer rates up to 4800 MT/s.
- System Storage 1.0TB SSD NVMe/PCIe 4.0.
- Internal storage for 300 hours of video storage( Total 12TB) .
- Fast Frame™ 10GbE and 10GBASE-T Network Interface Cards with LC SFP+ Highperformance I/O connectivity Ethernet support .
- Support Sony HDV/DV/DVCAM/ player/recorder Desktop I/O UltraHD2, 4K/UltraHD, 2K/HD, SD, Deep Color cards support the broadest range of creative software for editorial, color, mastering, HDR with the appropriate software, for Adobe and Avid Media Composer and much more 4:2:2 and 4:4:4 color spaces for pristine imagery, allow the flexibility to ingest and output SDI and a monitor with a full-size HDMI 2.0 port.
- Supports XDCAM, XAVC, XAVC S, AVC-Intra, AVC-Ultra, MXF, CMF and Grass Valley HQX Avid Custom EDIUS Pro Keyboard Shortcuts .
- Integration with the current workflow .

#### **2.2.c- 27-inch monitors for the creative professional : (Qty = 2 )**

- 16:9 Wide Gamut 4K IPS Monitor
- Screen Size: 27"
- Resolution: 3840 x 2160 Native Resolution
- Connectivity: USB Type-C (60 W power delivery), DisplayPort, HDMI
- Color Reproduction: 99% Adobe RGB

#### **2.2.d- Extreme Pro Portable SSD (Qty = 5 )**

- 2TB Storage Capacity USB 3.2 Gen 2x2 Type-C .
- Up to 2000 MB/s Read & Write Speeds .

#### **2.2.e- Editing software (Qty = 2 )**

- Full License Lifetime.
- Integration with the current workflow.
- Have to be confirmed by moi engineer

#### **2.2.f- 4K HDR high-grade picture monitor 24-inch: (Qty = 2 )**

- 24" 4K HDR monitor which equipped with 2x12G-SDI inputs and outputs. Quad-link supports upto 4096x2160 60p signal. 4K HDR display supports PQ(ST2084) and HLG, a cost effective 4K monitor for a variety of 4K and FHD workflows.
- Support the "Darkness Check " feature to display more shadow information of the input signal by increasing the brightness and contrast ratio in the dark areas.
- Support the "Pixel Measurement" feature to choose any single pixel or block of pixels by using a movable cross-hair to get real-time readouts of the Y&RGB values of the selected position.
- Support the features of Dynamic and Static UMD/IMD Display (TSL3.1 , 4.0 , 5.0)
- Resolution (H x V)3840 x 2160 pixels Aspect 16:9 .

- SDI(12G/6G/3G/HD-SDI) BNC (x2), (3G/HD-SDI) BNC (x2), Input (12G/6G/3G/HD-SDI) BNC (x2) , (3G/HD-SDI) BNC (x2) , Output HDMI Input HDMI (HDCP2.3/1.4) (x1)
- Panel specification typical 1000:1
- Quad view display for multiple looks User
- 3D LUT signal support

**2.2.g- Network Cable 300M Cat6 A . (Qty = 1 )**

**2.2.h- Multi-format Analog and Digital I/O :\_ (Qty = 2 )**

- 2K/HD/SD up to 50/60p .
- 2x 3G-SDI spigots (In, Out) with 8-channel embedded audio .
- 2x HDMI 1.3 ports (In, Out) with 8-channel embedded audio .
- YCbCr 4:2:2 10-bit and HD HFR workflows supported( Audio Input/ Out Digital 8-channel, 16 and 24-bit SMPTE-259 & Audio Input/ Out Analog 2-channel, 16 and 24-bit A/D analog audio .
- Integration with the current workflow .

**2.2.i- Active Studio Monitor (Pair) with Stereo Volume Control (Qty = 2 )**

**2.2.j- 72TB Enterprise NAS Online Storage (Qty = 1 )**

- Highly competitive, huge performance and capacity Fast Frame NS12 Dual-Port 10 GbE, From ingesting and editing video and data to post-production and long-term archive, safe, secure, reliable, and incredibly FAST solutions. Fast NAS It's flexible, simple, and easy to deploy in any environment.
- Supported Operating Systems Mac Os, Windows, Linux
- Network control, and multiple creating users with a secure password

**2.2.k- 16XTS 16-Port 10G RJ45/SFP+ Switch (Qty = 1 )**

- Rack-Mountable Design
- Comprehensive Layer 2 & 3 Features Works with Cisco Business Dashboard.

**2.2.l- 4K HDMI Single Display KVM over IP Extender with PoE . (Qty = 2 )**

- 4K HDMI Single Display KVM over IP Extender with PoE .
- Advance processor provides lossless and low latency video transmissions up to 3840 x 2160 @ 60 Hz (4:2:0), 3840 x 2160 @ 30 Hz (4:4:4); 24-bit color depth .
- Integration with current workflow.

## **2.3- Teleprompter system :**

**2.3.a- Teleprompter Full Package for Newsroom . (Qty = 1)**

- HD-SDI output distributes script video to prompt monitors Power over Ethernet output for scroll control avoids the need for 3rd party equipment in single-controller setups
- Desktop scroll control Managed remotely.
- Newsroom License.
- Integration with the current workflow.
- Redundancy failover for full Teleprompter system
- set-up and delays in switching in the event of an issue.
- Have to be confirmed by moi engineer

**2.3.b-** Desktop scroll Control .

**(Qty = 5 )**

## **2.4- Audio system :**

### **2.4.a- Digital Mixing Console**

**(Qty = 1 )**

- Digital Mixing Console
- • 16 + 2 fader configuration in a compact, rack mountable unit.
- • Input channels: 32 mono, 8 stereo.
- • Busses: 16 mix, 8 matrix (Input to Matrix supported).
- • Local I/O: 16 in, 8 out.
- • Built-in automixer provides optimum channel balance while allowing the operator to concentrate fully on optimizing the overall sound.
- • Gain Compensation allows multiple consoles to share and control the same I/O unit.
- • Virtual Effect Rack allows simultaneous use of up to 8 effects from a selection of 46 ambience effects and 8 insertion effects.
- • Virtual GEQ Rack allows graphic EQ or 8-band PEQ to be inserted into the output buses as required for room equalization
- • Dual card slots provide easy I/O expansion as well as extra processing capabilities.
- • Other features: 300 scene memories, input and output delays, EQ and dynamics processing, 16 DCA groups, 8 mute groups, 5-in/5-out GPI interface, multiple user key sets, on-screen help
- Audio console should be fitted with optional AES/EBU IO card to provide 8 input + 8 output balanced AES pairs.

**2.4.b-** IFB system 2-channel stereo transmitter, HDX, Ethernet (WSM), 19"/1HE, 100-240 VAC, includes rod antenna, 558-626 MHz

**(Qty = 4 )**

**2.4.c- Bodypack** receiver, HDX, adaptive diversity, stereo, charging contacts, 2x Mignon, includes earpiece IE 4, 558-626 MHz

**(Qty = 8 )**

2.4.C.1 Antenna combiner, active, 8 in 1 out, 100 mW, 19"/1HE, includes external power supply NT 12 **QTY=1**

2.4.C.2 Passive directional paddle antenna, UHF range, BNC connectors - 470 - 1075 MHz **QTY=1**

2.4.C.3 ULTRA LOW-LOSS 50  $\Omega$  LMR 400 RF CABLE, terminated BNC (10dB LOSS PER 100m @ 500MHz): 30M **QTY=1**

**2.4.d- Wireless Technology: Digital UHF Mic Receiver model****(Qty = 5 )**

- Diversity: True Digital Diversity
- Max Operating Range: 328.1' / 100 m
- Receiver Type: Rackmount
- Number of Audio Channels 4
- Audio I/O 4x XLR 3-Pin Male Balanced Output
- 2x XLR (AES3) 3-Pin Male Balanced Output
- 4x 1/4" TRS Female Balanced Output
- 1x 1/4" TRS Female Unbalanced Headphone Output
- Network I/O: 4x RJ45 (1 Gb/s)
- Power Requirements: AC Input
- Number of RF Channel: Frequencies 6640
- Diversity: True Digital Diversity
- RF Frequency Band: A: 470 to 636 MHz
- RF Bandwidth: 166 MHz
- Frequency Step Size: 25 kHz
- RF Channel Scanning: Auto-Scan
- Max Operating Range: 328.1' / 100 m
- Max Transmitters per Band: 120
- OS Compatibility: macOS 10.14 to 11 or Later
- Windows: 10 or Later
- Latency: 2 to 2.9 ms (Selectable)

**2.4.e- Wireless Technology: Digital UHF Transmitter Type Bodypack Mic****(Qty = 10 )**

- Max Operating Range 328.1' / 100 m (Line of Sight)
- Transmitter Type Bodypack
- Audio I/O 1x TA4/Mini-XLR 4-Pin Male Unbalanced Input (Locking)
- RF Frequency Band 470 to 616 MHz
- RF Bandwidth 146 MHz
- Frequency Step Size 25 kHz
- RF Channel Scanning Auto-Scan
- Max Operating Range 328.1' / 100 m (Line of Sight)
- Built-In Recorder No
- Timecode Support No
- Mobile App Compatible No
- Latency 2 to 2.9 ms (Selectable)
- Encryption AES 256
- Modulation Proprietary
- Transmitter Type Bodypack RF Output Power 2 / 10 / 40 mW Audio I/O 1x TA4/Mini-XLR 4-Pin Male Unbalanced Input (Locking) Included Cable Connector No Pad 12 dB Muting Off/On Switch Audio Input Level 8.5 dBV / 7.5 V p-p (Pad Off) 20.5 dBV / 30 V p-p (Pad On)
- Auto-Level Control Yes

- Gain Range -12 to +21 dB (1 dB Steps)
- Sync Method IR
- Antenna 1x 1/4 Wave Flexible Whip, Detachable (Belt pack)
- Power Requirements Battery, Battery Type 1x Rechargeable (Included, Replaceable) + extra battery QTY 5  
3x AAA (Not Included, Replaceable) Approx. Battery Life Med.: 10 Hours (Lithium Rechargeable)
- Display & Indicators 1x Backlit LCD (Battery Status, Channel, Group, Signal Strength)

**2.4.f- Transducer: Electret Bias Polar Pattern: Cardioid (Qty = 50 )**

- Frequency Response: 50 Hz to 17 kHz
- Dynamic Range (Typical): 102 dB
- Signal-to-Noise Ratio: 18 dB SPL (A-weighted)
- Maximum Input Sound: Level 130 dB
- Output Impedance: 28 ohms
- Including clips & windshield

**2.4.g- Two bay networked dual docking charger (Qty = 5 )**

**2.4.h- Mounts for front-mounted antenna (Qty = 2)**

- RF Power Overload Indicators Displays RF overload with 2 red LEDs for antenna A and B.
- Frequency Band Selector.
- Power Switch
- AC Power Input Connector.
- AC Power Output Connector .Each amplifier has a power output connector for daisy-chaining up to five Shure Diversity Single or Dual Receivers to a single power source
- Antenna In Ports, Channel A and B. BNC connectors for antennas.
- RF Cascade Connectors Channel A and B. BNC connectors for adding a fifth receiver, or an additional, permitting more wireless receivers to be connected.
- RF Output Connectors, Channel A and B. BNC connectors for up to four wireless receivers.
- 15 V DC Connectors Four connectors for DC power.

**2.4.i- Four individual diversity antenna pairs (Qty = 1 )**

- Frequency range: 470-960 MHz
- System gain: 3dB (+/-3dB)
- Input/output impedance: 50 Ohm
- nputs: 8 x BNC In
- Outputs: 2 x BNC Out
- Dimensions (W x H x D): 480 x 45 x 260 mm
- Format: 19" / 1U

**2.4.j- Coaxial Cable (Qty = 4)**

- BNC-BNC, RG213/U Type, 50 Ohm, 100 ft. length (30 m).

#### **2.4.k- ACTIVE DIRECTIONAL ANTENNA 470-900MHz**

**(Qty = 4 )**

- RF Frequency Range: 470 to 900 MHz
- Connector Type BNC: Female
- Impedance: 50 Ohms
- Reception Pattern: 70°, 3 dB Beam Width
- Third-order Overload Intercept Point: OIP3: >30 dBm
- Antenna Gain: 7.5 dBi, On Axis
- Signal Gain Switchable
- Active: +12 dB, +6 dB ( $\pm 1$  dB)
- Passive: 0 dB, -6 dB ( $\pm 1$  dB)
- RF Overload LED Threshold: -5 dBm, RF Overload LED Does Not Operate for Passive Gain Settings

#### **2.4.l- Advanced, comprehensive RF coordination for network**

**(Qty = 1 )**

- Advanced, comprehensive RF coordination for your network
- Fast, real-time scanning to find available frequencies and monitor RF activity
- Large, 6.6-inch color display for viewing and analyzing the RF spectrum
- Guided RF coordination to save time and effort in challenging RF environments
- Tools for viewing, analyzing, and listening to RF activity
- Tuning Range: 174 MHz to 2 GHz for support of multiple frequency bands
- (6) antenna connections to support coverage for multiple antennas and zones
- Data capture and storage to archive RF information for analysis
- Network enabled for large-scale system deployments
- USB connections for external data storage of scans, event logs, and other data
- Dante enabled for advanced audio monitoring of your network
- Compatible with Wireless Workbench to extend control and monitoring options
- AC and DC powered options

#### **2.4.m- Access point**

**(Qty = 2 )**

- Wireless network connectivity between all linked transmitters and access points
- Enables real-time wireless remote control of up to 24 transmitters per access point
- offers ability to adjust gain, change frequencies, mute signals, and more
- True Diversity antenna scheme maintains a robust link in the 2.4GHz frequency range
- Automatic channel selection scans the 2.4GHz range for the best channel. Scans can be saved for future analysis in Wireless Workbench
- Automatic frequency agility moves the network to the best available channel if single degrades
- High power option for extended range, accessible via Wireless Workbench (region-dependent)
- Wireless network connectivity between all linked transmitters and access points

#### **2.4.n- RJ45 Connectors**

**(Qty = 2 )**



- QLX-D, ULX-D, Digital

#### **2.4.o- GigaCore 16i-12x1G-4x10G(SFP+)**

- Ethernet connectivity: 12 x RJ45 connectors (1Gbps))
- Fiber connectivity: 4 x SFP+ cages (10Gbps/1Gbps) (independent from other ports)
- Ethernet port speed: 1Gbps
- Serial: 1 x USB C"

#### **2.4.P- MacBook Pro 16-inch (Qty = 1 )**

- Apple M3 Max chip with 16-core CPU, 40-core GPU, 16-core Neural Engine
- 64GB unified memory
- 1TB SSD storage
- 16-inch Liquid Retina XDR display<sup>2</sup>
- 140W USB-C Power Adapter
- Three Thunderbolt 4 ports, HDMI port, SDXC card slot, headphone jack, MagSafe 3 port
- Backlit Magic Keyboard with Touch ID – Arabic/English
- Accessory Kit

#### **Note :**

- **All above points with Full implementation, XLR Cable & Socket.**
- **All the installation, configuration & the training must be as the manufacturer's company recommendation.**
- **Basic Training is Free & it's must for new Equipment's for Engineering stuff**

NO#	Item	PART	QTY	UNIT Price	Total Price
1	2.1.a	Character generators server	2		
2	2.1.b	Remote Desktop AIO for CG	1		
3	2.2.a	4K/3G/HD/SD Media Server & 8TB Storage	1		
4	2.2.b	High Performance Ingest Workstation	2		
5	2.2.c	27-inch monitors for the creative professional	2		
6	2.2.d	Extreme Pro Portable SSD	5		
7	2.2.e	EDIUS X Workgroup	2		
8	2.2.f	4K HDR high-grade picture monitor 24-inch	2		
9	2.2.g	Network Cable 300M Cat6 A	1		
10	2.2.h	Multi-format Analog and Digital I/O	2		
11	2.2.i	Active Studio Monitor (Pair) with Stereo Volume Control	2		
12	2.2.j	72TB Enterprise NAS Online Storage	1		
13	2.2.k	16XTS 16-Port 10G RJ45/SFP+ Switch	1		
14	2.2.L	4K HDMI Single Display KVM over IP Extender with PoE .	2		
15	2.3.a	Teleprompter Full Package for Newsroom	1		
16	2.3.b	Desktop scroll Control	5		
17	2.4.a	Digital Mixing Console	1		
18	2.4.b	IFB system (receiver dual channel )	4		
19	2.4.c	Earset Kit for transmitter ( body back + Earset )	8		
20	2.4.c.1	Antenna combiner, active, 8 in 1 out, 100 mW, 19"/1HE, includes external power supply NT 12	1		
21	2.4.c.2	Passive directional paddle antenna, UHF range, BNC connectors - 470 - 1075 MHz	1		
22	2.4.c.3	ULTRA LOW-LOSS 50 $\Omega$ LMR 400 RF CABLE, terminated BNC (10dB LOSS PER 100m @ 500MHz): 30M	1		
23	2.4.d	Wireless Technology: Digital UHF Mic Receiver	5		
24	2.4.e	Wireless Technology: Digital UHF Transmitter Type Bodypack Mic extra 5 batteries	10		
			5		
25	2.4.f	Transducer: Electret Bias Polar Pattern: Cardioid model	50		
26	2.4.g	Two bay networked dual docking charger	5		

27	2.4.h	Mounts for front-mounted antenna	2		
28	2.4.i	Four individual diversity antenna pairs	1		
29	2.4.j	Coaxial Cable	4		
30	2.4.k	ACTIVE DIRECTIONAL ANTENNA 470-900MHz	4		
31	2.4.l	Advanced, comprehensive RF coordination for network	1		
32	2.4.m	Access point	2		
33	2.4.n	RJ45 Connectors	2		
34	2.4.o	GigaCore 16i-12x1G-4x10G(SFP+)	1		
35	2.4.p	MacBook Pro 16-inch	1		
36	1.2	<b>Warranty period is set to 12 months for all Equipment's</b>			
37	2.4.q	<b>Training 6 person for a week</b>			