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NATIONAL INSTITUTE OF TECHNICAL TEACHERS' TRAINING AND RESEARCH

Taramani P.O., Chennai 600 113

**[Government of India, Ministry of Human Resource Development
(Dept. of Education)]**

No. NITTTR/CEMT/RE/2017-18/Switcher

Date: 20.12.2017

To

Delivery required by :

**Centre for Educational
Media & Technology,
NITTTR, Chennai - 600 113**

QUOTATION DUE DATE

a. Please send your quotation within the due date on sealed envelope on or before:

Date: 03.01.2018

b. Delivery required at NITTTR, Chennai : **immediately**

Sl. No.	Description of Items	Material Code	Approximate Quantity Required
1	2 M/E Production Studio 4K Switcher with all supplied accessories and as per the technical specifications enclosed.		1 No.

Note : Sales tax and any other charges if any should be mentioned separately in the quotation. Mention **TIN** No. of your company. The Warranty, validity and Make of the quoted item should be mentioned clearly.

Cover should be addressed: (Ref. No. should be written on the sealed cover)

Name : **Professor & Head i/c, Centre for Educational Media & Technology,**
National Institute of Technical Teachers' Training and Research
Taramani P.O., Chennai - 600 113

(For terms and conditions please see overleaf)

DIRECTOR

TERMS & CONDITIONS

- 1 The quotation must specify the period within which the supply could be effected from the date of receipt of firm orders.
- 2 Quotation received after the due date mentioned on the reverse will not be considered.
- 3 Your quotations should be for materials strictly in accordance with the specifications shown. In case you are offering substitutes state clearly the exact specification etc. of the materials offered. Drawing sketches or any other technical data should be submitted separately.
- 4 The prices quoted should clearly specify charges for delivery of the goods to destination indicated overleaf.
- 5 The prices quoted should include all packing costs and it will be assumed that packing materials (cases etc.,) are non-returnable unless otherwise stated.
- 6 Sales tax or any other taxes if applicable should be shown separately giving the full rate of taxes for each items giving ex-incidence of such levies.
- 7 The Director reserves the right to accept the whole or part of any quotation without assigning any reason and the lowest or any quotation, will not necessarily be accepted, and the Director's decision shall be the final.
- 8 Samples must accompany the quotation when so specified or within two days when asked for later.
- 9 If it is discovered that the materials supplied are not exactly according to the specification, the entire stock will be rejected.
- 10 We reserve the right to inspect the goods offered at any stage of manufacture / supply at your premises.
- 11 Any dispute arising out of or relating to this Enquiry shall be deemed to have arisen in Madras and is subject to adjudication of the Madras Courts.
- 12 Rates quoted once will remain firm for that particular dealing.
- 13 The quotation should be kept valid for a period of 60 days from the date of opening for acceptance.
- 14 Payment will be made after confirmation on receipt of the materials in good condition at this institute (normally within 30 days). Advance payment will not be entertained at any circumstances.
- 15 Printed conditions of the firm sent along with quotation form if any, shall not be binding on us.
- 16 In case of Printing the Proof should be got approved before final strike.
- 17 Materials should be supplied at this institute in good condition.
- 18 Price quoted by the suppliers accepted by the Director is final, and no deviation therefore will be accepted without the Director's agreement in writing.
- 19 If the rates are under D.G.S. & D. Please specify the same clearly enclosing necessary documents.

Enclosure

Technical Specifications

ATEM 2 M/E Production Studio 4K switcher

Total Video Inputs: 21 with 20 active

Total Video Outputs: 16 outputs

Total Aux Outputs: 6 Aux outputs

SDI Rates: 270Mb, 1.5G, 3G, 6G.

Analogue Audio Inputs: 2 XLR. 2 RCA.

Total Audio Outputs: 2 XLR Program, 2 XLR Monitor.

Time code Connection: 1 XLR in and 1 XLR out.

Reference Input: BNC Tri-Sync or Black Burst.

Video Input Re-Sync: On all 20 inputs.

SDI Video Inputs: 20 input 10-bit SD/HD/Ultra HD 4K switchable. 2 channel embedded audio.

HDMI Video Inputs: 1 HDMI type A. 10-bit SD/HD/Ultra HD 4K switchable. 2 channel embedded audio.

SDI Program Outputs: 3 SD/HD/Ultra HD 4K switchable.

HDMI Program Outputs: 1 HDMI type A, 10-bit SD/HD/Ultra HD 4K switchable.

Down Converted SDI Program Outputs: 1 (Ultra HD 4K to HD).

SDI Preview Outputs: 1 SD/HD/Ultra HD 4K switchable.

Multi Views Output: 2 SDI and 2 HDMI, able to be used concurrently.

Control Panel Connection: Ethernet supports 10/100/1000 BaseT. Allows direct connection between panel and chassis, or via network.

Tally Output: Optional Ethernet tally converter

Computer Interface: 1 *USB 2.0* port.

SD Video Standards: 525i59.94 NTSC, 625i50 PAL

HD Video Standards: 720p50, 720p59.94, 1080p23.98, 1080p24, 1080p25, 1080p29.97, 1080p50, 1080p59.94, 1080i50, 1080i59.94

Ultra HD Video Standards: 2160p23.98, 2160p24, 2160p25, 2160p29.97

SDI Compliance: SMPTE 259M, SMPTE 292M, SMPTE 424M.

Video Sampling: 4:2:2

Color Precision: 10-bit

Color Space: *REC 601, REC 709, REC 2020.*

HDMI Input Resolutions for Computers: 720 x 480i 59.94Hz, 720 x 576i 50Hz, 1280 x 720 59.94Hz, 1280 x 720 50Hz, 1920 x 1080 50Hz, 1920 x 1080 59.94Hz, 3840 x 2160 23.98Hz, 3840 x 2160 24Hz, 3840 x 2160 25Hz, 3840 x 2160 29.97Hz.

Note: Also supported are; 24, 30 and 60 Hz inputs when switcher is in 23.98, 29.97 and 59.94 Hz formats respectively.

Product Specifics

Upstream Keyers: 4 with Chroma/Linear/Luma key.

Downstream Keyers: 2

Chroma Keyers: 4

Linear/Luma Keyers: 7

Transition Keyer (Stinger/DVE): 1 Stinger, 1 DVE.

Total Number of Layers: 13

Pattern Generators: 8

Color Generators: 2

DVE with 3D Borders & Drop Shadow: 1

Control Panel: Software or optional hardware panel

Media Players: 2

Channels: Fill and key for each Media Player.

Media Pool Still Image Capacity: 32 with fill and key

Media Pool Clip Capacity: 2 with fill and key.

Media Player Clip Length in NTSC/PAL: 3600 frames, 720p: 1600 frames, 1080: 720 frames, Ultra HD 4K: 180 frames

Media Pool Still Image Format: PNG, TGA, BMP, GIF, JPEG and TIFF.

Media Pool Video File Format: TGA Sequence.

Media Pool Audio File Format: WAV, MP3 and AIFF.

Windows Source Labels: Yes

Display

Built in LCD monitor, resolution 1366 x 768.

Front Panel video and 42 LED buttons for Aux switching.

Hardware based real time Processing Delay: < 2 Lines

4K to HD Down Conversion: Yes, program x 1

Audio Mixer: 22 input x 2 channel mixer Selectable On/Off/Audio-Follow-Video.Level and Peak metering and Master gain control.

Dedicated analog outputs for monitoring.

Power Supply: 2 Internal 110 - 240V AC. Power Usage 150 W

Redundant power supply : Yes

Accessories: with standard supplied accessories

1ME CONTROL PANEL SPECIFICATION

Connectivity: 2 x 10/100/1000 BaseT with loop output for additional control panels or computers.

Direct Cross Points Buttons: 10

Shifted Cross Points: 20

Cross point Button Type: Tri-Colour LED.

Cross point Label: 4 Character LED.

Next Transition Selectors: BKG, Key 1 - Key 4.

On-Air indicator: 4

Power Status Indicators: 4

DSK Transition Selectors: Auto, Cut, Tie/Preview.

Preview Transition: 1

Transition Rate Displays: 2

LED Menu Display: 2

Menu Control: 12 LCD Bitmap Buttons.

Destination Bus: 1

Source Select Bus: 1

Fader Bar: 1

3 Axis Joystick: 1

Numeric Keypad: 1

Input Voltage: 2 x Internal 110 - 240V AC. 40W

Redundant Power: Yes

Accessories: with Standard supplied accessories

