

PRASAR BHARATI
BROADCASTING CORPORATION OF INDIA
DOORDARSHAN KENDRA,
DOORDARSHAN BHAWAN PHASE-II
NEW DELHI

Specification for Digital Audio Levelling Processor

Specs No.: DDK_DLH_SPECS_AUD_LEV_02-11 dated 08.01.2011

1. SCOPE:

The following specifications lay down the performance requirement of a Digital Audio Leveling Processor for utilizing in Audio Chain of TV Studio, OB Van, Earth station baseband and Post-production in Doordarshan Network.

2. GENERAL:

The professional Digital Audio Leveler should be capable of maintaining proper audio level changes from different feeds and programs. The equipment should be of broadcast quality, very reliable and self contained. It should be user friendly and convenient to operate for optimum utilization of all features. The equipment being quoted against this specification should be 19" rack mountable type. The equipment should have provision for accepting HD/SD- SDI.

3. ESSENTIAL FEATURES :

- 3.1 The equipment that shall be quoted against this enquiry should be reliable and proven one. User list of other broadcast organization where the offered equipment has already been provided should be enclosed along with the quote.
- 3.2 The unit should be a top of line to meet a broadcast facility and easy to operate. It should perform automated leveling of audio signal with a limited nos. of settings to achieve optimum results.
- 3.3 The unit should be a 4 channel digital audio level processor with AES / EBU & HD/SD-SDI inputs and outputs.
- 3.4 The signal processing of the processor should be in digital domain with a resolution of 24 bit and at a sampling rate of 48 KHz.
- 3.5 The functioning of the required processor is to be based on the principle of Multi loop, in combination with adaptive controlled processing algorithms. It should have AGC & limiter look ahead processing.
- 3.6 The level detectors of the processor should analyze the incoming audio signal. The dynamic processor should have necessary audio level managing devices like Transient Processor, adaptive AGC and brickwall limiter etc. The equipment should handle peaks or transients quickly in the audio. Variable AGC Gate settings should be available.
- 3.7 During processing of audio, there should be no effects such as pumping, signal distortion and noise modulation.

- 3.8 The equipment should have SDI interface with embedded audio.
- 3.9 The equipment should be equipped with switch at front panel to select between the input sources.
- 3.10 The processor should have front display panel for setting/adjusting parameters and should have provision of metering on front panel.
- 3.11 There should be a facility of locking the unit with the clock frequency of the input signal and with the video synch input. Overall processing latency should not be more than 4 milliseconds.
- 3.12 The unit should have RS-422 interface for serial, GPI interface for parallel remote control & Tally output.

4. SPECIFICATIONS :

| | | |
|-----------------------------|---|---|
| 01 | Input gain adjustment (channel independent) | -15 to + 15 dB in 0.1 dB steps |
| 02 | Output Level | Adjustable from -20 to 0 dBFS in steps |
| 03 | Processing Resolution | Internal processing at 24 bit or higher |
| 04 | sampling rate | 48 KHz |
| 05 | Operating Mode | Stereo or Dual-mono |
| Digital Input/Output | | |
| HD/SD-SDI | | |
| 01 | Connector | BNC 75 ohm coaxial |
| 02 | Number of channels | Four (Independent) |
| 03 | Format | Serial digital component video 4:2:2 with embedded audio (ITU-R BT-601) |
| 04 | Level | 800 mV \pm 10% |
| 05 | Equalization | > 200 M with Belden 1694A Cable |
| 06 | Link modes | 4 Ch. , Stereo 1/2 or 3/4 , Ch1,2,3 & 4 |
| 07 | Features | a) SDI relay bypass b)Independent group selection for de embedder and embedder |
| AES /EBU | | |
| 01 | Input /Output Connector | XLR 110 Ohms Balanced BNC 75 Ohms Coaxial |
| 02 | Number of channels | Two - balanced (Ch.1/2 & 3/4) |
| 03 | Sample rate | 48 KHz |
| 04 | Data format | 4 Ch 20 Bit |
| Sync In: | | |
| AES/EBU | | |
| 01 | Connector | BNC 75 ohm coaxial |
| 02 | Level | 0.5 V to 5Vpp |
| 03 | Input format | AES professional |
| Video: | | |
| 01 | Connector | 75 ohm coaxial |
| 02 | Level | 0.5 to 1 Vpp |

| | | |
|------------------|---------------------------|------------------------------------|
| 03 | Reference input format | Black burst or PAL composite video |
| Remote : | | |
| 01 | Serial remote interface | RS 422 In/out |
| 02 | Parallel remote interface | GPI |
| Power : | | |
| 01 | Power Input | 220 V , 50Hz |
| General : | | |
| 01 | Dimensions | 1/2 RU 19" Rack mountable |
| 02 | Operating Temperature | 10 – 45 degree C |
| 03 | Humidity | 0-90 % RH |