MCN AUDIO U1141

TWO CHANNEL DIGITAL PREAMPLIFIER

The U1141 is a 1U rack mounted high quality preamplifier designed for professional use.

It contains two channel preamplifiers optimized to process signals from low impedance dynamic or electrostatic microphones.
A specific fully-balanced design is used from input to output, offering the lowest noise floor level even at the highest gain setting.

Gain can be set from 10 dB to 60 dB for each channel. Low cut filters can be inserted on the signal path and adjusted to three different frequencies, from 20 Hz to 130 Hz.
When required, a 12V or 48V phantom power supply can be applied to the inputs.

The internal reference oscillator allows accurate setting of the nominal recording level.
A headphones monitoring output is available on the front panel, providing versatile control functions including Mono/Stereo/A&B and MS decoding.

The low impedance of the transformerless balance analog outputs allows the use of long cables with no signal degradation.

The high resolution analog to digital section is based on a 24 Bits converter. Thanks to a specific dithering algorithm associated with a high-stability internal clock, the digital output signal can be set to a 16, 20 or 24 bits resolution and a 44.1 kHz, 48 kHz or 96 kHz sample rate.

External clock source of synchronisation can also be selected. In such a case, a dual stage internal phase loop will cleanly lock to a word clock signal or a reference AES/EBU signal.

The exceptional bandwidth, the absence of phase alteration, the high signal to noise ratio as well as the precision of the gain settings make the U1141 a unique candidate for direct-to-tape digital recording and acoustic measurements.

1 - ANALOG SECTION

INPUT	Balanced, transformerless
Impedance	7710 Ohms // 220pF (balanced)
RF Filter	included
Gain	+10 to +60 dB in 10 dB steps
Maximum level	+20.8 dBm, 12 Volts peak.
Supply	Phantom 48 V or 12 V
Connector	XLR female
OUTPUT	Balanced, transformerless
Impedance	600 Ohms minimal
Protection	Against phantom power supply. Against short circuits to ground.
Nominal level	+4 dBm
Maximum level	+25 dBm on 600 Ohms
Connector	XLR male
TRANSFERT	
Crosstalk A/B	>90 dB from 0 to 20 kHz
Gain missmatch A/B	< 0.2 dB from 20 Hz to 20 kHz
Bandwidth	10 Hz to 30 kHz +/- 0.1dB 0.7 Hz to 70 kHz +/- 3dB
Lowcut filter	20 Hz / 80 Hz / 130 Hz (first order)
Phase	< +/- 5° from 20 Hz to 20 kHz (without filter)
Common mode rejection	> 60 dB @ 20 kHz / gain 10 dB > 88 dB @ 20 kHz / gain 30 dB
Input equivalent noise	-112 dB / gain 10 dB / source 150 Ohms -130 dB / gain 30 dB / source 150 Ohms
Distorsion	Typical 0.0007% @ 1 kHz for nominal level
LIMITOR	
Mode	Independant A and B Linked A and B

PHONES MONITORING OUTPUT

Level control	On front panel
Mode	Mono channel A Mono channel B Mono A+B Stereo A & B MS to Stereo matrix
Nominal output level	+ 13.9 dBm, 3.8 Vrms, 300 mW on 50 Ohms. + 18.7 dBm, 6.7 Vrms, 300 mW on 150 Ohms. + 21.7 dBm, 9.4 Vrms, 300 mW on 300 Ohms.
Distorsion @ 1 kHz	0.020 % on 50 Ohms @ 300 mW output. 0.015 % on 150 Ohms @ 300 mW output. 0.015 % on 300 Ohms @ 300 mW output. 0.015 % on 600 Ohms @ 150 mW output.

REFERENCE OSCILLATOR

Frequency	Standard : 1000 Hz +/- 3 Hz Option 01 : 800 Hz +/- 3 Hz
Level	Standard : -12 dBm Option 02 : 0 dBm
Distorsion	Typical 0.5 %

2 - DIGITAL SECTION

Resolution	16/20/24 bits (dithering for resolution of 16 and 20 bits)
Internal Clock	Internal reference
Sampling frequency	44.1 kHz, 48 kHz, 96 kHz on internal clock
Accuracy	< 50 ppm
Jitter	< 25 ps
External Clock	External reference on AES/EBU or WordClock
Sampling frequency	From 40 kHz to 100 kHz
Conversion system	Delta Sigma multibit conversion
Dynamic range	120 dB
Residual noise	-104 dB unweighted / -115 dBA weighted
Crosstalk	>100 dB from 20 Hz to 20 kHz
Distorsion @ 1kHz	@ -1 dBFS -108 dB for 20 bits, unweighted @ -1 dBFS -114 dB for 24 bits, unweighted
Frequency response @-3dB	2 Hz up to 40 kHz @ 96 kHz sampling.
Phase deviation	< 0.01° from linear phase
Passband ripple	+/- 0.005 dB
Calibration	-15 dBFS for +4 dBm on analog outputs

3 - GENERAL

Power supply	130 / 240 VAC set internally FRB orCEI connector. 30 VA maximal consumption. Fusing 400 mA / 800 mA slow blow on rear panel.
Mounting	19” standard Rack 1U
Weight	TBD

Preliminary specification. May be changed without notice.

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