



JUPITER

Broadcast Digital 3 Band Audio Processor and Stereo Coder

Features

- > All in a 1-Unit 19" Chassis
- > Full Digital Processing
- > Digital 3 Band Audio Processing
- > Digital Stereo Generator
- > Digital RDS and RBDS(Optional)
- > Digital Input AES/EBU-SPDIF (Optional)
- > Very Competitively Priced
- > Instantaneous preset recall
- > 2 Serial RS232 Ports
- > PC Control software
- > Easy Installation



The Jupiter is a 3 band digital processor with 30 pre-programmed equalization curves. It is extremely user-friendly, allowing even inexperienced technicians to make sound changes. The Jupiter is directly controllable through the front panel settings or by PC using the serial ports and control software that is supplied as standard. The Jupiter features two independent serial ports uncoupled by opto-isolators. This assures maximum immunity from other equipment noise. Standard is a digital stereo generator MPX. Digital input and digital RDS encoding are optional.

Jupiter's digital input (optional) can be connected in two ways: through a balanced XLR connector or a standard fiber optic connector. This input supports AES3/EBU, S/PDIF, IEC60958, EIAJCP1201 protocols with 32KHz, 44.1KHz, 48KHz, 96KHz sample rate. The digital input does not require any special setting since the Jupiter can recognize the injected digital signal and configure it automatically.

The MPX (composite) stereo generator inside the Jupiter is completely digital, so the MPX signal is obtained through DSP technology. Nicom offers radio stations a top digital technology solution by integrating a digital stereo generator into the audio processor instead of the widely used analog ones. The stereo generator inside the unit increases its performance by directly processing the digital signal and ensuring perfect modulation control, while an external analog stereo generator, inserted in the chain, would adversely affect the original sound signal. The top performance of the stereo generator inside the Jupiter makes it one of the best on the market at this time.

The Jupiter features a digital RDS and RBDS modulator, as an option, which ensures very high performance--especially compared to analog RDS generators now available on the market. The available services are listed in the technical specifications. Nicom offers the Jupiter, presenting to radio stations an all digital audio chain and the purity of digital sound.

TECHNICAL SPECIFICATIONS

GENERAL FEATURES

Weight	~ 4.5 Kg
Dimensions	1 rack unit, 352 x 483 x 44 mm

~ AC Rate	220 Vac / 110 Vac
Preset curves	30, factory programmed

ANALOG STEREO AUDIO INPUT

Conversion	24 bit
Connector Type	XLR female el. balanced
Max Input Level	+ 20 dBu
Level Range	-12 dBu ÷ 12 dBu (1 dB step)
Impedance	600Ω / 10KΩ EMI -suppressed
AGC speed	0 to 6 dB/s (adjustable)
AGC Range	± 20dB (Sensitivity Relative)

DIGITAL AUDIO INPUT (optional)

Connector Type	XLR el. bal. + optical Tos link
Formats	AES/EBU, SPDIF
Sampling Rates	32 KHz / 44.1 KHz / 48 KHz / 96 KHz
Configuration	automatic selection and jitter correction
Input Sensitivity	200 mVpp
AGC Speed	0 to 6 dB/s (adjustable)
AGC Range	0 to -20dBFs

REMOTE CONTROL

Serial Ports	2 RS232 SubD 9P optically decoupled
Baud Rate	19200 Baud

LOW PASS 15 KHz INPUT FILTER

IIR 8 th -Order-Elliptic , 15KHz / -0.1dB, 17KHz / -60dB

BY-PASS MODE AGC Off, Gain Ofst 0dB, Out Lvl 0dB

Frequency Resp.	30 Hz-15 KHz (± 0.1 dB)
Output Noise	-90 dB (A-weighted)
THD	0.01%
PassBand Ripple	+/- 0.1 dB

SIGNAL PROCESS FILTERS

LP 400Hz	IIR 2 th Order-Butterworth
BP 400Hz-5KHz	IIR 4 th Order-Butterworth
BP 5KHz-15KHz	IIR 4 th Order-Butterworth
High Fr. Denoiser	Threshold Adjustable -51 ÷ -80 dB

MPX

Conversion	24 bit
Pilot Frequency	19 KHz ± 2 Hz
Pilot Injection	-15.5 dB to -25.0 dB (0.1 dB step)
Pilot Phase	Adjustable ± 12 degrees (1 dB step)
S/N	>85 dB
Stereo Separ.	55 dB Typical @ 1 KHz
Crosstalk M / S	60 dB

Crosstalk S / M	60 dB
38 KHz Suppr	Less than measurable level
MPX out level	-9.0 dBm to + 15.0 dBm (0.1 dBm Step)
Output Imped.	600 Ω
Output Connector	BNC floating over chassis, EMI supp.
Pilot ref. output	TTL Level Wave
Preemphasis	50 / 75 usec

AUX INPUTS (1 and 2)

Connector Type	floating BNC, EMI suppressed
Input Level	- 40 to 0 dBm

Impedance	10K Ω
Purpose	SCA, RDS inputs

RDS

Standard EBU coding methods	PI, TP, TA, M/S, RT, PSN, PTY, DI, AF (8 lists)
Custom coding methods	PS Sequence (up to 8 messages), PS Scrolling (up to 32 characters)
RDS subcarrier freq.	57 kHz ± 3 Hz
RDS output level	Adjustable from - 40.0dB to - 20.0 dB (0.1dB/Step)
Synchronization	To internal 19KHz pilot tone

Block diagram

