

## STEREO GENERATOR AND AUDIO PROCESSOR COM LIM 20

The **COM LIM 20** audio processor is the combination of a professional digital stereo generator (with more than 60dB channel separation) and a high-dynamic limiter, with stop band rejection higher than 90dB above 75KHz. A 4-band equalizer is integrated, too. All these advanced characteristics give the COM LIM 20 an outstanding range of professional features, really useful in radio studios. It also includes RDS/RBDS digital encoder, and programming, visualization and control through LCD display.



### GENERAL CHARACTERISTICS

<b>WEIGHT</b>	4.5Kg approximately
<b>DIMENSIONS</b>	1 standard rack unit of 19", 352x483x44mm
<b>AC RATE</b>	220VAC/110VAC
<b>PRESET CURVES</b>	30, factory programmed

### ANALOG STEREO AUDIO INPUT

<b>CONVERSION</b>	24bit
<b>CONNECTOR TYPE</b>	XLR (F) el. Balanced
<b>MAX. INPUT LEVEL</b>	+20dBu
<b>LEVEL RANGE</b>	-12dBu to 12dBu (1dB steps)
<b>IMPEDANCE</b>	600 Ohm/10K $\omega$ EMI – suppressed
<b>AGC RANGE</b>	$\pm$ 20dB (relative sensibility)

### DIGITAL AUDIO INPUT (OPTIONAL)

<b>CONNECTOR TYPE</b>	XLR el. Bal. + optical Tos link
<b>FORMATS</b>	AES/EBU, SPDIF
<b>SAMPLING RATES</b>	32KHz/44.1KHz/48KHz/96KHz
<b>CONFIGURATION</b>	Automatic selection and jitter correction
<b>INPUT SENSIBILITY</b>	200mVpp
<b>AGC RANGE</b>	0 to -20dBfs

## AGC OPERATION

AGC SPEED	0 to 6dB/sec. (adjustable - 0.2dB steps)
AGC HOLD TIME	Selectable, from 0 to 3 seconds
AGC MAX. GAIN	Selectable 8, 10, 12, 15 or 20dB

## PROCESSING

Nº OF BANDS	4
Nº OF PRESETS	30
BASS COMPRESSOR	THR: related to the chosen preset ATCK. Time: 80ms, REL Time: 250ms, Compression Ratio: 1: INF
MID COMPRESSOR	THR: related to the chosen preset ATCK. Time: 30ms, REL Time: 90ms, Compression Ratio: 1: INF
HIGH COMPRESSOR	THR: related to the chosen preset ATCK. Time: 10ms, REL Time: 50ms, Compression Ratio: 1: INF
BROAD BAND LIMITER	ATCK Time: 5ms, REL Time: 50ms. Applied to high frequencies band
DYNAMIC EXPANDER (NOISE GATE)	Gate threshold adjustable between -51dB and -80dB. Expansion ratio 2:1 (fixed)

## STEREO AUDIO OUTPUT (ST VERSION ONLY)

CONNECTOR TYPE	XLR (M) el. balanced
CONVERSION	24bit
IMPEDANCE	600 Ohm/10kOhm EMI – suppressed
LEVEL	-10dBm to +14dBm (0.5dBm steps)

## REMOTE CONTROL

SERIAL PORTS	2 RS232 Sub D 9P optically decoupled
BAUD RATE	19200 Baud

## LOW PASS 15KHz INPUT FILTER

<b>IIR 8<sup>th</sup> ORDER ELIPTIC, 15KHz/-0.1dB, 17KHz/-60dB</b>	
<b>BY-PASS MODE (AGC Off, Gain Ofst 0dB, Out Lvl 0dB)</b>	
FREQUENCY RESPONSE	30Hz-15KHz ( $\pm 0.1$ dB)
OUTPUT NOISE	-90dB (A-weighted)
THD	0.01%
PASS BAND RIPPLE	$\pm 0.1$ dB

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**SIGNAL PROCESS FILTERS**

<b>LP 400Hz</b>	IIR 2º Order-Butterworth
<b>BP 400Hz-5KHz</b>	IIR 4º Order-Butterworth
<b>BP 5KHz-15KHz</b>	IIR 4º Order-Butterworth
<b>HIGH FREQUENCY DENOISER</b>	Threshold adjustable -51 to -80dB

**MPX OUTPUT (FM VERSION ONLY)**

<b>CONVERSION</b>	24bit
<b>PILOT FREQUENCY</b>	19KHz ± 1Hz
<b>PILOT INJECTION</b>	-15.5 to -25.0dB (0.1dB steps, from 5.6% to 16.8%)
<b>PILOT PHASE</b>	Adjustable ±12 degrees (1dB steps)
<b>S/N</b>	>85dB
<b>STEREO SEPARATION</b>	55dB typical on the whole band
<b>CROSSTALK M/S</b>	60dB
<b>CROSSTALK S/M</b>	60dB
<b>38KHz SUPPRESSOR</b>	Less than measurable level
<b>MPX OUTPUT LEVEL</b>	-9dBm to +15dBm (0.1dBm steps)
<b>OUTPUT IMPEDANCE</b>	600 Ohm
<b>OUTPUT CONNECTOR</b>	BNC floating over chassis, EMI supp.
<b>PILOT REF. OUTPUT</b>	TTL level wave
<b>PRE-ENPHASIS</b>	50/75 usec.

**AUX INPUT (1 Y 2) (MPX VERSION ONLY)**

<b>CONNECTOR TYPE</b>	Floating BNC, EMI suppressed
<b>INPUT LEVEL</b>	-40 to 0dB
<b>IMPEDANCE</b>	10 KOhm
<b>PURPOSE</b>	SCA, RDS inputs

**CODER RDS/RBDS (FM VERSION ONLY)**

<b>SUPPORTED STANDARDS</b>	RDS (RADIO DATA SYSTEM) according to standard CENELEC EN50067; RBDS (RADIO BROADCAST DATA SYSTEM) according to standard NRSC
<b>STANDARD CODING METHODS</b>	PI, TP, TA, M/S, RT, PSN, PTY, DI, AF (8 lists)
<b>CUSTOM CODING METHODS</b>	PS Sequence (up to 8 messages), PS Scrolling (up to 32 characters)
<b>RDS SUBCARRIER FREQUENCY</b>	57KHz ±3Hz
<b>RDS OUTPUT LEVEL</b>	Adjustable from -44dB to -20dB (0.1dB steps)
<b>SYNCHRONIZATION</b>	To internal 19KHz pilot tone

*\* The images and/or technical specifications are subject to change without previous notice.*

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