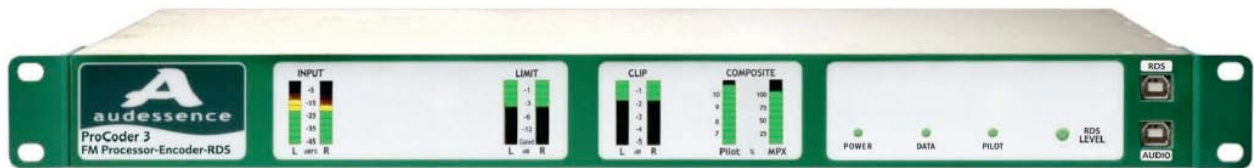




ProCoder-3



**Audio processing, stereo encoder and RDS for FM:
... DIGITAL, HIGH QUALITY, VERY COST-EFFECTIVE!**

BENEFITS:

- No compromise on loudness or clarity, fully-digital throughout
- 'Transparent' mode enables main (multi-band) audio processor location at the studio
- Save an **enormous** amount of money if you are equipping multiple transmission sites!
- Very effective in 'stand-alone' mode also: AGC, compression, & brightness enhancer
- Improve reliability and save money with automatic audio fail detect and switching
- Reliable, maintenance-free; low heat dissipation = **NO FAN NEEDED OR USED!**
- **Fully-featured** integral RDS encoder

Now supports
ITU-412 MPX
power limiter,
UECP, RT+
and TMC

APPLICATIONS:

- **FM networks:** use at transmission site, locate preferred multiband processor at studio
- Satellite 'drop-downs', telco-fed FM sites (analogue or digital) and RBFM repeaters
- **Stand-Alone FM processing**
- All Network, Commercial & Community radio

FEATURES:

- 'Transparent mode' offers brick-wall peak limiting without disturbing sonic signature
- Automatic silence detect and fall-back to secondary audio source (defeatable)
- Composite clipper for '*last ounce*' loudness with perfect pilot and subcarrier protection
- Overshoot-compensated 15.5kHz low-pass filters
- GPI tallies for: PSU OK, DSP watchdog, primary audio OK, All-OK
- Advanced AGC as used in our ALPS levellers offers unsurpassed, rapid control of levels
- Presence enhancer to brighten programme if used without multiband pre-processing
- No-tamper front panel (set-up by PC only: GUI software, USB and RS-232 ports provided)
- Bright, always-visible LED bar-graphs for instant confidence checks
- Very low audio latency (7 milliseconds), very fast boot-up (<1 second)
- TCP-IP connectivity option; Left/Right audio outputs option
- Factory presets deliver exactly the results you need for any application ...fast
- Integral fully-featured RDS encoder



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SPECIFICATIONS

RDS Data Groups supported:

PI	Program Identification	PTYN	Program Type Name	RT / RT+	RadioText including Tagging
PS	Program Service	DI	Decoder Identification	TDC	Transparent Data Channels
PTY	Program Type	EON	Enhanced Other Networks information	IH	In House Applications
TP	Traffic Program	M/S	Music/Speech	ODA	Open Data Applications
AF	Alternative Frequencies	PIN	Program-Item Number	CT	Clock-Time and Date
TA	Traffic Announcement	ECC	Extended Country Code	TMC	Traffic Message Channel

Frequency Response:

ANALOGUE-ANALOGUE (L=R input, output de-emphasised):
20Hz-15kHz ±0.2dB

Noise:

ANALOGUE-ANALOGUE:
(rms 20Hz-20kHz, output d/e):
<-75dB ref: 100% modulation (d/e on)

Distortion:

At 6dB limiting: <-70dB / 0.03% THD

Stereo Separation:

Better than 60dB at 1kHz

Inputs:

ANALOGUE: Active balanced, 10k (bridging), standard operating level - 6dBu to +14dBu (clip +22dBu)
DIGITAL: AES-3 (XLR); 32, 44.1, 48, 88.2, 96 kHz. 16, 20, or 24 bits.

Output:

MPX (Analogue): Unbalanced (on BNC), standard operating level -6dBu to +18dBu

Output RDS signal amplitude:

Adjustable <25mV to >1.4 V pk-pk

RDS signal bandwidth: ±2.4 kHz (-50 dBc)

RDS spurious suppression: >90 dB

RDS harmonics suppression: >80 dB

MPX loop-through voltage gain:

1.00 (guaranteed from 2 Hz to 100 kHz)

Clock reference:

Pilot tone or internal generator

19 kHz pilot PLL lock bandwidth:

software switchable
± 5 Hz or ± 2 Hz

Pilot tone level: min. <50 mV pk-pk

Phase shift adjust:

0-180 degrees in 9.5 degrees steps

Signal connectors:

Unbalanced, BNC, 50-Ohm

Data connector:

RJ45, RS-232 (9 pin f), bidirectional

Noise protection:

Threefold level sampling

Com. speed:

Software switchable 1200-19200 kbps

Com. mode:

8 data bits, no parity, 1 stop bit

UECP protocol support:

Basic implementation for TMC and RT+

Processing blocks:

High-Pass: 3dB frequencies 3Hz [DC block], 25Hz, 45Hz, 70Hz, 110Hz, 12dB/octave

Gated AGC: Capture range 40dB (±20dB); maximum positive gain can be set + Advanced AGC enables faster, programme-dependent operation

Compressor: Nominal 2:1 slope

Presence Enhancer: Boosts selected frequencies for presence and / or brightness

Limiters: look-ahead dual time-constant peak limiters plus NCDSC fully anti-aliased main clippers

Low-Pass Filter: Cut-off frequency 15.5kHz, overshoot compensated, stop-band better than -70dB

HF Limiter: 50µs or 75µs emphasis curve

Stereo Encoder: Zenith / GE Pilot tone
Composite Clipper: -1.0 to +2dB, Anti-aliasing, filters protect 19kHz ± 200Hz and above 54kHz

Tilt Corrector: Corrects low frequency overshoots in transmitters / exciters. Fully adjustable.

AC power input:

100 - 240V AC / 12.5 Watts (Acceptable range 88 to 264V AC)

Dimensions & weight:

1-RU: 44x482x290mm / 1.75 x19x11/25"
Weight: 1.8kg / 4lbs

Warranty:

3 year return-to-base warranty

Options:

Audio outputs and 10/100MHz Ethernet TCP/IP port available at time of ordering only, additional cost applies

Defining Specification:

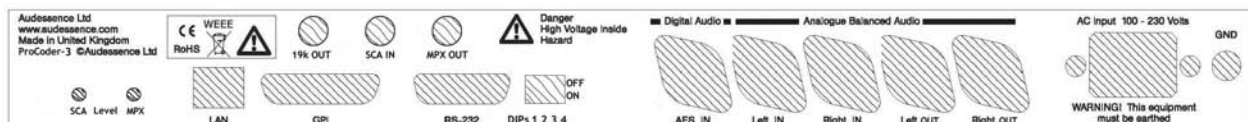
CENELEC EN50067

Approvals:

CE (EMC & LVD), RoHS

Computer Control:

Setup is via PC GUI only (GUI software included, updates are free of charge). Select a factory preset, modify it, set levels etc, save to flash memory. All-text command format. Every processing and RDS parameter, including all thresholds and time constants, can be accessed and modified under PC control. USB on front panel, plus RS-232 on rear panel. 10/100 LAN port is optional.



Issue 1.1 PRODUCT INFORMATION - E&OE - SUBJECT TO CHANGE WITHOUT NOTICE



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