

EDB 1.0

ICEFET SOLID STATE DAB TRANSMITTER



ELENOS®

broadcast @xperience

DATA SHEET

DAB
Digital Audio Broadcasting

EDB 1.0

ICEFET SOLID STATE DAB TRANSMITTER

Looking mainly at the broadcasters needs and to the equipment design with the last generation components, ELENOS is in the position to propose a wide range of compact dimensions FM and DAB equipment, with extremely low running costs and competitive prices.

The new DAB TX line from 250W to 1.5KW BIII is an example.

The amplifiers take place in a 4 unit mainframe, fully solid state with LDMOS RF dispositive of the 6th generation that permits to reduce significantly the running costs in terms of power consumption and improve the MTBF. In fact the efficiency of the full equipment has a typical value of 30%.

The amplifiers uses parallel RF pallets and switching power supplies in order to grant the redundancy.

The power of the amplifier module is referred with a shoulder of $\leq -30\text{dbc}$ without pre-correction and $\leq -35\text{dBc}$ with pre-correction (before the band pass filter) that exceed the ETSI requirement.

Highlights

- Amplifier : 4 rack units and only 43kg, useful with any commercial modulator
- Transmitter : 20 rack units or 32 rack units
- Open-loop gain compensation to avoid variation of performance in case of fault of a device
- Protection against overdriver or excessive VSWR extremely fast (<1uSec)
- Measurement of over 100 parameters: forward power / reflected power (through directional coupler, with RMS detector insensitive to changes in the crest factor), current of each RF module, temperature of each power supply, etc.
- Driver with high power that allows to obtain optimal levels of precorrection
- Switching power supplies in "current sharing" with PFC, which drastically reduce the current harmonics emitted to the mains
- Protection against overvoltage peaks through the MOV devices
- Linearity, differential gain and phase in accordance with the ETSI specification
- Compatible with telemetry and SMS via mobile phone
- Alphanumeric display, incremental encoder and leds
- Stainless steel structure, processing and protection against moisture and corrosion



EDB 1.0 DAB AMPLIFIER

COMPOSITION

8 MOSFET (NXP BLF574)
3 SWITCHING POWER SUPPLY 3KW
6 FAN SPEED CONTROL
LCD DISPLAY
RF OUTPUT CONNECTOR : 7/16 F, 7/8 EIA Flange (optional)

GENERAL DATA

Frequency range	170 ÷ 240MHz
RF Output impedance	50 Ohm
Gain	until 63dB
Output power	up to 1000W rms DAB signal
Shoulder without pre-correlation (typical)	< -30dB
Shoulder with pre-correlation (typical)	< -35dB
MER with pre-correlation (typical)	< -33dB
Power supply	230, 400 mono-three phase 50/60Hz VAC
Power consumption	2.65KVA (@ 800W), 3.4KVA (@1000W)
Efficiency (typical)	30%

EDB 1.0 DAB TRANSMITTER (250W, 500W, 800W)

COMPOSITION

1xEDB1.0 DAB AMPLIFIER
1xDAB MODULATOR
RACK 20U
GSM or SNMP WEB BROWSER (optional)

GENERAL DATA

Frequency range	170 ÷ 240MHz
RF Output impedance	50 Ohm
Gain	until 63dB
Output power	up to 1000W rms DAB signal
Shoulder without pre-correlation (typical)	< -30dB
Shoulder with pre-correlation (typical)	< -35dB
MER with pre-correlation (typical)	< -33dB
Power supply	230, 400 mono-three phase 50/60Hz VAC
Power consumption (typical)	2.65KVA
Efficiency (typical)	30%
Harmonic Spurious Output	in accordance whit ETSI standard
Modulation Input	2xETI(NI) ETI(NA) (750hm)
DAB Modes	I, II, III, IV
Frequency Stability	Internal reference 0.3ppm or in accordance with external reference accuracy
Frequency Response	<1dB
Delay Compensation	up to 2,4s , step 1µs
Environmental Temperature Range	-5C ; +45 °C
Storage Temperature	-20 ; +70 °C
Relative Humidity	95% no cond.
Installation Height	< 3000m
Dimensions	20U (H), 85 cm (D), 56.5 cm (W)
Weight	100 kg

EDB 1.0 DAB TRANSMITTER (1500W)

COMPOSITION

2xEDB1.0 DAB AMPLIFIER
1xDAB MODULATOR
RACK 32U
GSM or SNMP WEB BROWSER (optional)

GENERAL DATA

Frequency range	170 ÷ 240MHz
RF Output impedance	50 Ohm
Gain	until 63dB
Output power	1500W rms DAB signal
Shoulder without pre-correlation (typical)	< -30dB
Shoulder with pre-correlation (typical)	< -35dB
MER with pre-correlation (typical)	< -33dB
Power supply	230, 400 mono-three phase 50/60Hz VAC
Power consumption (typical)	5.2KVA
Efficiency (typical)	28%
Harmonic Spurious Output	in accordance whit ETSI standard
Modulation Input	2xETI(NI) ETI(NA) (750hm)
DAB Modes	I, II, III, IV
Frequency Stability	Internal reference 0.3ppm or in accordance with external reference accuracy
Frequency Response	<1dB
Delay Compensation	up to 2,4s , step 1µs
Environmental Temperature Range	-5C ; +45 °C
Storage Temperature	-20 ; +70 °C
Relative Humidity	95% no cond.
Installation Height	< 3000m
Dimensions	32U (H), 85 cm (D), 56.5 cm (W)
Weight	180 kg

**All pictures are Elenos's property and they are only indicative.
The technical data can be subject to change without notice.**