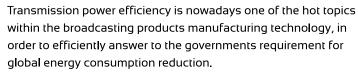


SATURN-HE

DAB+ Transmitters







The **SATURN-HE DAB+** Transmitters are the optimal solution to implement highly efficient broadcasting stations without sacrificing long-term reliability, compactness and linearity performances. The overall top-level performances are obtained through an optimal combination of Doherty power amplifier technology and of a newly conceived digital predistortion algorithm, all accompanied by a careful choice of reliable components and durable materials.

The power amplifier can cover the whole frequency band from 170MHz to 240MHz by tuning the Doherty combiner at the desired center frequency. The typical bandwidth for each center frequency is enough to cover more than two channels.

The amplifier drawers are equipped with high-efficiency AC switching power supplies, designed to guarantee a power factor close to one with every load condition.

The optional integrated EDI Inputs allow a compact and cost-competitive integration of the SATURN transmitters with IP networks used to transport the DAB+ Ensemble from the studio to the broadcasting sites. Furthermore, the high efficiency allows a very low and easy predictable operating cost. Thanks to the new Digital Precorrection system of the SATURN DAB+ Exciter and to the top quality of the FPA Power Amplifiers, the coverage and quality performance of the radiated DAB+ signal are simply excellent. A careful design, approached with strongly oversized components and guaranteeing the presence of at least two items for each critical component, allows an intrinsic "native redundancy" concept (Power Devices, Power Supplies, Cooling



System) saving space and maximizing MTBF values.

The presence of a Central Control Unit collecting all the operating parameters from the amplifiers and from the antenna system provides a single control point able to manage all power devices currents, power supplies voltages, temperatures of the heat sinks, amplifiers output powers together with the RF power readings of the output antenna system. A multifunction display on the Control Unit allows to monitor in real-time all the operating parameters of the DAB+ Transmitter. All the transmitter in this series are remotely controllable by wired telemetry connection, by serial communication, or with Web Server and SNMP interface. Each transmitter comes with automatic seamless switching function between the ETI and EDI inputs in all combinations in SFN mode.

Main characteristics

- Minimum Energy Consumption
- High modularity, high power density, low weight
- 50V Latest Generation Power Devices
- Highly Reliable and Extremely Noiseless Forced-air Cooling System
- Wired GPIO and Serial (RS232 or RS485) Remote Control
- All Operating Parameters monitored through front-panel display
- MER >30dB, typ. 33dB
- Higher Efficiency available with minimum MER degradation
- Seamless switching between any of the ETI and EDI Inputs in SFN

Options

- Embedded GPS Receiver / Integrated EDI Inputs
- Enhanced Digital Adaptive Precorrection tailored for Doherty operation
- Output Cavity Filter / Dual-drive and N+1 Configurations
- Firmware upgradeable to DVB-T/T2/T2-Lite (with IP inputs)

SATURN-HE DAB+ Transmitters

Technical characteristics

TRANSMITTER	SATURN250V-HE	SATURN500V-HE	SATURN750V-HE	SATURNIOOOV-HE
Amplifier Type:	FPA1V-HE	FPA2V-HE	FPA3V-HE	FPA4V-HE
Output Power before mask filter [W]	250	500	750	1000
Amplifier Gain [dB]	21dB ±1	21dB ±1	21dB ±1	21dB ±1
Power Supply Voltage	1P+N 230V ±15%	1P+N 230V ±15%	1P+N 230V ±15%	1P+N 230V ±15%
Power Supply Frequency	50/60Hz	50/60Hz	50/60Hz	50/60Hz
Power Factor	> 0.98	> 0.98	> 0.98	> 0.98
Output Connector	EIA 7/16"	EIA 7/16"	EIA 7/16"	EIA 7/16"
Power Consumption [VA], typical	750	1500	2250	3000
Recommended External Breaker Value	10A 2 Poles	16A 2 Poles	20A 2 Poles	25A 2 Poles
Rack	-	-	20U	20U
Rack Size [W x D x Hmm]	-	-	565 x 600 x 1000mm	565 x 600 x 1000mm
Airflow [m³/h]	800	800	800	800
Weight	100	105	140	145
DAB/DAB+ Exciter Model	-	-	SATURNIOV	SATURNIOV
TRANSMITTER	SATURN1500V-HE	SATURN2000V-HE	SATURN2250V-HE	SATURN3000V-HE
Amplifier Type:	2xFPA3V-HE	2xFPA4V-HE	3xFPA3V-HE	3xFPA4V-HE
Output Power before mask filter [W]	1500	2000	2250	3000
Amplifier Gain [dB]	21dB ±1	21dB ±1	21dB ±1	21dB ±1
Power Supply Voltage	3P+N 400V ±15%	3P+N 400V ±15%	3P+N 400V ±15%	3P+N 400V ±15%
Power Supply Frequency	50/60Hz	50/60Hz	50/60Hz	50/60Hz
Power Factor	> 0.98	> 0.98	> 0.98	> 0.98
Output Connector	EIA 7/8"	EIA 7/8"	EIA 7/8"	EIA 1+1/8"
Power Consumption [VA], typical	4500	6000	6750	9000
Recommended External Breaker Value	20A 4 Poles	25A 4 Poles	25A 4 Poles	32A 4 Poles
Rack	28U	28U	42U	42U
Rack Size [W x D x Hmm]	565 x 1000 x 1330mm	565 x 1000 x 1330mm	565 x 1000 x 2010mm	565 x 1000 x 2010mm
Airflow [m³/h]	1500	1500	3000	3000
Weight	260	280	350	400

SATURN50V

TRA	NSN	ИΙΤΤ	ER
-----	-----	------	----

Amplifier Type:

Output Power before mask filter [W]

Amplifier Gain [dB] Power Supply Voltage Power Supply Frequency

DAB/DAB+ Exciter Model

Power Factor **Output Connector**

Power Consumption [VA], typical Recommended External Breaker Value

Rack Size [W x D x Hmm]

Airflow [m³/h] Weight [kg]

DAB/DAB+ Exciter Model

260 SATURN50V

400 SATURN50V

SATURN2400V-HE

4xFPA3V-HE

2400 23dB ±1 3P+N 400V ±15% 50/60Hz > 0.98 EIA 1+1/8" 9500 32A 4 Poles 42U 565 x 1000 x 2010mm 3000 430 SATURN50V

Specifications and characteristics are subject to change without notice

