

## DAB+ SFN Gapfillers



### Top class features:

- DAB+ Gap fillers with Doppler Enhanced Echo Canceller.
- Gain margin > 30 dB.
- Outstanding output MER performance.
- Flexible Cancellation Window System.
- Digital Adaptive precorrection.
- Cancelling echoes with variable amplitude or frequency: Doppler, Rice...
- Wide Band technology.

### Smart operation and maintenance:

- Easy to use web GUI, Front panel and LCD display.
- Advanced Embedded Monitoring Tool.



TRedess brings to the market the latest and more advanced solutions for allowing **DAB+ network coverage extensions** in a **compact** and **cost-effective** way, by introducing its **new family of DAB+ Gap Fillers with DEEC (Doppler Enhanced Echo Canceller)**.

The DEEC high-performance echo canceller (able to suppress high feedback echo levels and provide an outstanding MER performance) makes TRedess Fourth Series DAB+ Gap-Fillers an optimum solution to operate in SFN and retransmit the VHF signal under the most challenging echo conditions.

And consequently, being able to install TRedess DAB+ Gap Fillers in complex echo scenarios with limited isolation between antennas, re-transmit the signal with a higher output power than any other Gap Filler solution in the same site, and finally leading to a much more stable operation at the site

#### Fourth Series DAB+ Gapfillers | Technical specifications

Output power (Before filter) COFDM modulations	50 W	140 W	400W
Final amplifier type	Wide-Band Amplifiers (same HW for entire frequency range)		
Architecture	Monoblock 1RU x 19" x 465 mm	Monoblock 2RU x 19" x 465 mm	Monoblock 3RU x 19" x 465 mm
System configurations	Single Drive, 1+1, N+1		
Frequency range	174-240 MHz		
Standards	T-DAB/DAB+/DMB according to ETSI EN 300 401		
RF signal input level	-70 to -20m dBm		
Gain Margin	Gain Margin (signal-echo): > - 30 dB		
MER performance vs Gain Margin	With Gain Margin (signal - echo) -10dB → Output MER almost same as input MER (degradation < 1dB) With Gain Margin (signal -echo) -20dB → Output MER > 30 dB		
Precorrection	Digital adaptative non-linear and amplitude equalization		
RF output connector	N Female		
Clock and synchronization	10 MHz & 1 PPS input/output		
GPS/GNSS (Option)	SMA female 50 Ω Connector Stability <±1x10exp-9 (0°C to 60°C) Holdover: <0.8µs after 4 hours; <12 µs after 24 hours		
Local and Remote Control	Front LCD display with keyboard and LED indications · Micro-SD card slot · Log file, I/O contacts Ethernet control ports: Web GUI and SNMP		
Monitoring	Measures of Shoulders, Output spectrum view, FW and RFL power, Advanced Embedded Monitoring Tool (for Troubleshooting and Proactive Health Checks (software option)		
Operating temperature range	-5°C to 45°C		
Relative humidity (max.)	95%, non condensing		
Altitude of operation	≤ 2500 m above sea level (>2500 m upon request)		
Cooling	Forced air		
Supply Voltage	110/230 VAC (single phase) - 47 to 63 Hz		
Safety	EN 60950-1:2006+A1:2010+A11:2009 +A12:2011 · EN 60215:1989+A1:92+A2:94		
EMC	ETSI EN 301 489-1 V1.9.2 (2011-09) · ETSI EN 301 489-14 V1.2.1 (2003-05) · EN 61000-4-5, heavy Industry level		



Over **28.000 transmitters & gap-fillers** worldwide, in more than **60 countries**

Spain / France / Sweden / Norway / Italy / Croatia / Greece / Hungary  
Poland / Estonia / Georgia / Faeroe / Peru / Chile / Brazil / Vietnam  
Hong-Kong / Singapore / Thailand / Morocco / Mali / South Africa...

**TRedess**  
www.tredess.com