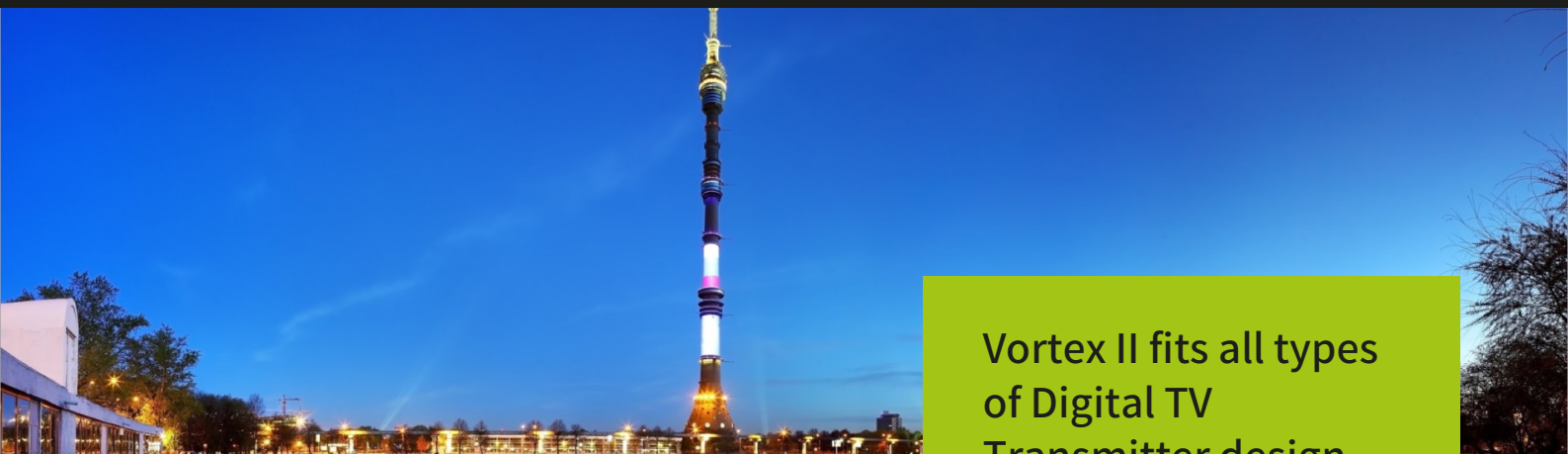


Vortex II

ATSC 3.0 / ATSC 1.0 High-End Exciter



Vortex II fits all types of Digital TV Transmitter design and allows to reach unprecedented performances thanks to a set of optimization functions

Vortex II is a highly optimized and unique platform supporting ATSC 1.0 and ATSC 3.0 Terrestrial TV standards. It meets manufacturers' demands for integrating a "ready-to-use" and straight-forward high-end exciter within their new Transmitter designs as well as broadcasters' requirements to upgrade their existing transmitter for the Spectrum Repack.

ATSC 1.0 / ATSC 3.0 Standards

Vortex II exciter is already in use across the USA for powering ATSC 3.0 commercial deployment and many projects linked to the US Spectrum Repack, where its dual cast capability is a key feature for the switching from ATSC 1.0 to ATSC 3.0.

Up to 8 PLPs & 2 Subframes

As the most powerful ATSC 3.0 modulator/exciter on the market, Vortex II supports up to 8 PLPs / 2 Subframes as well as MFN and SFN broadcast to match any requirements.

Adaptive Precorrection process

Vortex II features the latest state-of-the-art Digital Adaptive Pre-correction (DAP) circuits achieving unequalled performances thanks to the Green Adaptive Processing (GAP©). As a result, very high level of MER and shoulders can be reached with less power consumption.

Automatic Gain Control

Based on its real-time power measurement probes (Forward & Reflected powers), Vortex II can control/adjust your Transmitter output power thanks to its smart Automatic Gain Control (AGC).

Applications

- ATSC 3.0/1.0 Transmitter Design
- Update/recycle existing Transmitters
- US Spectrum Repack process
- Test Bench for TV and Set Top Boxes

Other benefits

- Advanced ATSC 3.0 features (LDM, MISO, HTI, etc.)
- Input Seamless switching based on STL FEC
- Onboard GPS
- Up to +14 dBm output

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Technical specifications

INPUTS

Data

2 ASI/SMPTE input - BNC - 75 Ω
- MPEG-TS (ATSC 1.0)
2 Ethernet ports 1 GigE - RJ45
- RTP, UDP, IP, IGMP (V2 & V3)
- STL (ATSC 3.0) / MPEG-TS (ATSC 1.0)

RF inputs

2 RF inputs for adaptive linear and non-linear precorrections - SMA 50 Ω
2 RF inputs for Powers measurement (AGC control) - SMA 50 Ω

Control

3 Ethernets ports 1 GigE - RJ45
2 GPI inputs
4 GPO outputs (External switch - PA control)
1 RS232/RS485 Connector

Synchronization

1 GPS Input Antenna - SMA 50 Ω
1 PPS input/output - BNC 50 k Ω
1 10 MHz input - BNC 50 Ω

OUTPUT

Main RF output

UHF / VHF Band I & III - N 50 Ω ,
0 dBm max. or +14 dBm max.

Data

1 ASI output - BNC 75 Ω

RF Monitoring output

Copy of Main RF output
30 dB below the main

Synchronization

10 MHz output - BNC 50 Ω

FEATURING

Standards

ATSC 3.0: A/322:2017, A/324:2018 (STL)
ATSC 1.0: A/53, A/54, A/64

Automatic Gain Control (AGC)

Based on VDC (external sensor) or RF input - user selectable
User-configurable AGC high limit
Reflected Power protection mechanism

Monitoring

MER, Shoulders, Crest factor
Forward and Reflected power

Digital Adaptive Precorrections

Linear adaptive precorrections with specific Sharp Filter profiles
Non-linear adaptive precorrections with GAP® option
Crest Factor Reduction (PAPR) and Protection clipping

Stream Process and Modulation

Input Stream redundancy management
Transmission modes: MFN, SFN
Test modes: PRBS, Sinus, Null Symbol

Control & Monitoring

HTML5 Web GUI, SNMP and Log file
LCD Front Panel Display

PHYSICAL

Height x Width x Depth

44 mm x 483 mm x 250 mm

Power supply

110-240 VAC 50-60 Hz

Operating temperature range

0°C to 50°C

Format - Weight

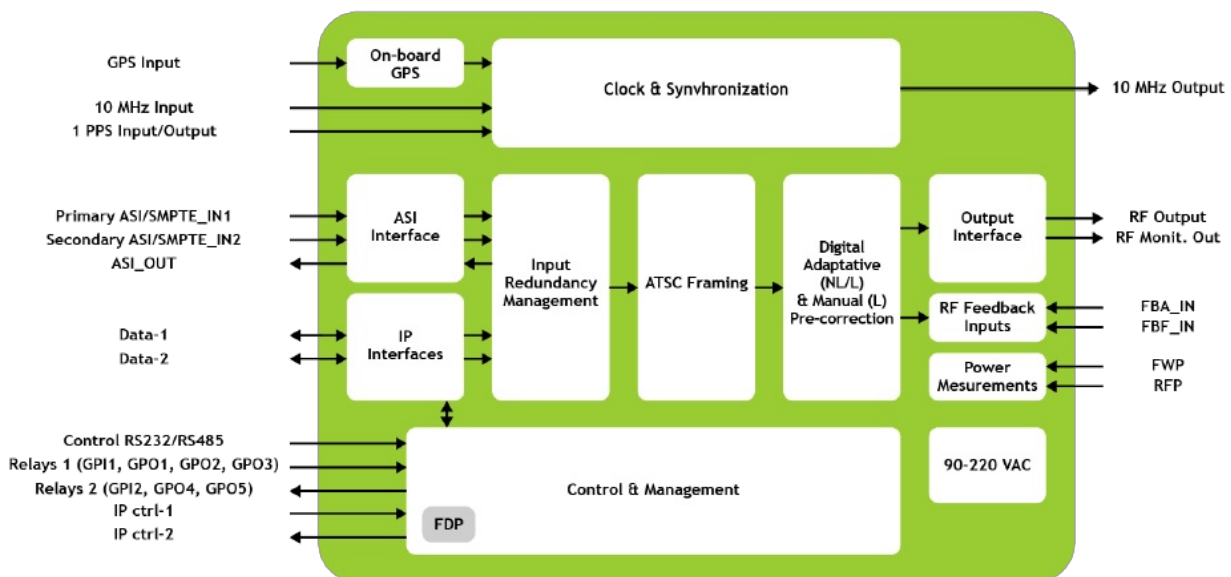
1 RU, width 19 in. - 4.5 kg

Power Consumption

70 Watts

ATSC 3.0 / ATSC 1.0 High-End Exciter

Front



Ordering codes

XTTR-VX20-3102

ATSC 1.0/3.0 rack modulator (0 dBm) with VHF I & III and UHF output, DAP and onboard GPS

XTTR-VX20-4102

ATSC 1.0/3.0 rack exciter (+14 dBm) with VHF I & III and UHF output, DAP and onboard GPS

Ordering options

XTTO-VX20-ATS3

ATSC 3.0 software license

XTTO-VX20-TSIP

TSolP support in ATSC 1.0

XTTO-VX20-EGAP

GAP (Enhanced DAP) software license

XTTO-VX20-AGC0

AGC (Automatic Gain Control) software license

XTTO-VX20-SNMP

SNMP client software license