

R&S®SX801 multistandard exciter for ATV, DTV, and digital sound broadcasting

Innovative and slim: Although its housing occupies only one height unit, the new R&S®SX801 multistandard exciter performs full signal processing from input signals (video/audio or transport streams) to the RF output signal – and still offers room for a variety of options.

Compact and versatile

The demand for compact TV and sound broadcast transmitters of the low-power and medium-power class is increasing worldwide. This is a market for which the new R&S®SX801 (FIG 1) is tailor-made. It is the first exciter to combine both analog and digital TV with digital radio on one universal platform and can be used for a wide range of requirements.

The exciter takes up only one height unit and – like the well-known R&S®SX800 exciter – is modular in design. It mainly includes the following modules: coder, RF modulator, display with control panel, and power supply (FIG 2). The wide-range power supply (90 V to 260 V AC) operates reliably – even under highly fluctuating input voltages. Users can switch from analog to digital standards at any time using software (local or remote control).

Options for adapting to many tasks

Despite its compact design, the slim housing offers room for various options (see box at top right). The following options are among the most important:

The [GPS receiver](#) synchronizes the exciter in single-frequency networks or serves as an accurate reference frequency. It is also possible to apply a 10 MHz or 5 MHz reference clock to the exciter.

The [RF receivers for DVB-T / DVB-H](#) monitor the transmitted signal or can be used in regenerative retransmitters.

The [DVB-S / -S2](#) receiver receives satellite signals that can then be retransmitted terrestrially.

The [MPEG decoder](#) enables users to digitally feed TV signals that can then be retransmitted as standard-conforming ATV signals. Therefore, operators do not have to install expensive analog signal feeds and can concentrate on future-ready digital transmission.

Integrated transmitter control unit

A powerful microcontroller controls and configures the R&S®SX801. It initializes the hardware from a compact flash memory that contains all the required software and firmware as well as all settings. Even standby systems such as passive dual drives can be implemented without a central control unit. As shown by the new R&S®SCx8000 UHF TV family of transmitters (see front and back of this magazine as well as article on page 66), complete transmitters can be set up without using any external control components. In order to manage complex standby systems, the R&S®SX801 can be connected to the R&S®NetCCU800 transmitter control unit via Ethernet.

FIG 1 The R&S®SX801 exciter combines both analog and digital television with digital sound broadcasting on one universal platform.



Special features

- Automatic ATV/DTV switchover without hardware replacement
- VHF, UHF, and L band
- Common exciter platform for DAB and TV
- Suitable for use in single-frequency and multifrequency networks
- Hierarchical modulation
- Seamless input switching
- All ASI modes and SMPT-310M
- Integrated linear and nonlinear precorrector
- Wide-range power supply

Options

- GPS receiver
- DVB-T / DVB-H receiver
- DVB-S/-S2 receiver (in preparation)
- Parallel I/O (internal and external)
- MPEG decoder (in preparation)
- Air filter
- SNMP

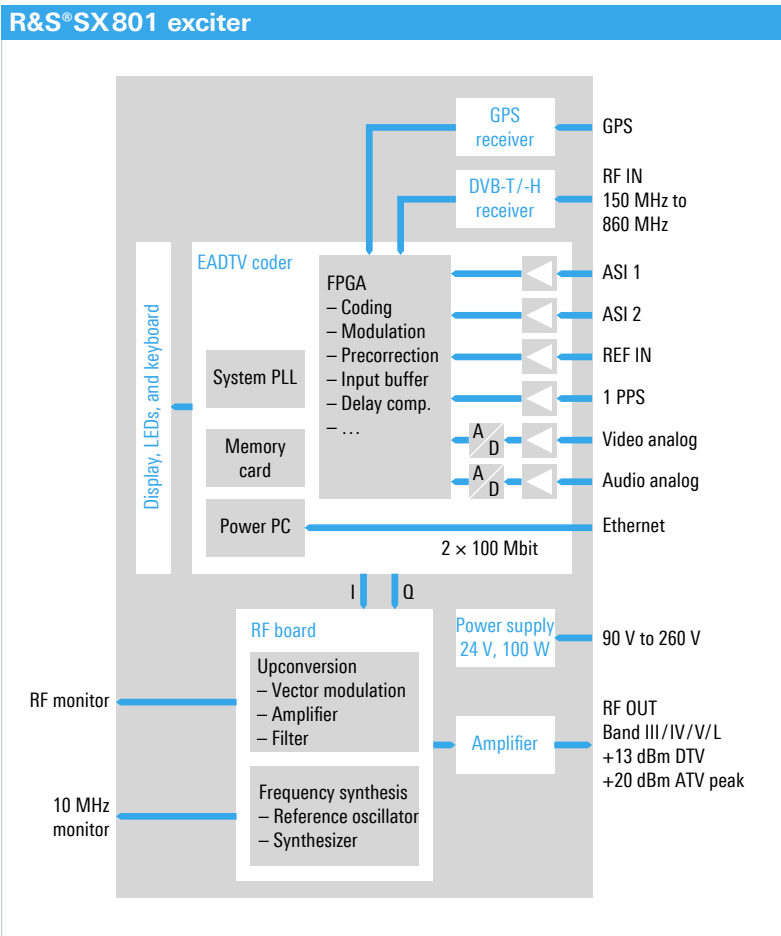


FIG 2 The R&S SX801 exciter offers the full range of signal processing plus room for options.

The new exciter is operated using pushbuttons and the front-panel display or with a commercial web browser and Java™ technology. The user interface has the same design as the family “8000” of transmitters. As an option, the exciter can be remotely monitored and controlled via SNMP or floating contacts.

Summary

Since the R&S SX801 is compatible with the R&S SX800 and includes a large number of new features, it can be integrated into existing transmitter families and provides an excellent basis for expanding the Rohde&Schwarz transmitter family.

Wolfgang Marchl

Condensed data of the R&S SX801

ATV standards	B/G, D/K, M/N, I
Color transmission	PAL, SECAM, NTSC
Sound transmission	IRT dual sound, FM single sound, FM single sound with NICAM 28 (optional), BTSC
Standards	DVB-T / DVB-H, ATSC, MediaFLO™, DTMB, ISDB-T _B , DAB, T-DMB
Frequency range	Bands III, IV, V, L
Output power	ATV: +20 dBm peak envelope power DTV: +13 dBm, RMS