

Alcatel-Lucent 9600 DTR

DIGITAL TELEVISION EXCITER AND TRANSMITTERS

The Alcatel-Lucent 9600 DTR product line is based on our versatile standalone Alcatel-Lucent 9600 Exciter, which easily interfaces with most power amplifier line-ups. The Alcatel-Lucent 9600 DTR Exciter includes all the necessary functions, from backhaul interfacing to network management processing, including signal generation, modulation with any popular waveform (DVB-T/H/SH, CMMB, DMB-T and T-DMB) and conditioning in all frequency bands targeted for terrestrial digital television. The Alcatel-Lucent 9600 Exciter can generate up to three contiguous independent RF carriers at any frequency band, from UHF to upper S bands, thanks to its integrated low-noise broadband up-converter. Our transmitter solution is completed with a full range of power-amplification options. We can manage single-or double-drive configurations with a simple high reliability electromechanical switch, and do not need any additional change-over unit.



Alcatel-Lucent 9600 DTR Universal Exciter



340 Wrms 2 GHz SSPA unit

Key features

- UHF, L and S bands up to 2.7 GHz covered by one type of exciter common to the full range of transmitters
- Triple-carrier RF multiplex capability with independent relative levels and bandwidths with most popular waveforms (DVB-x, CMMB, T-DMB, DMB-T)
- Complete range of output-power levels in air or liquid cooling
- Outdoor configuration up to 500 W (RF filter output)
- Full download capability of configuration parameters, management software and firmware
- 10/100base-T Ethernet ports for local or remote SNMP management and embedded web-server browsing
- Single or double drive with full SNMP agent redundancy, 1+1 and N+1 configurations

Key benefits

- Optimal solution for new deployment of fixed or mobile TV network: streamlined solution from umbrella coverage to deep indoor gap filling
- Ultimate spectrum usage thanks to the multicarrier capability
- Ideal in mixed networks that may involve different frequency bands
- Perfect for possible future evolutions of networks (frequency or waveform)
- Operates with any power amplifier, and can manage them through a standard RS485 serial bus
- Scalable for multiple drive configurations for flawless service availability
- Full range of ancillary subsystems and services from backhaul solutions to cooling systems and radiating antennas

Applications

- Medium- or high-power transmitters for umbrella coverage
- Low- and medium-power transmitters for cellular overlay urban coverage (and possible antenna sharing)
- Low power transmitters for MFN/SFN gap-filling and deep indoor coverage
- Hybrid satellite-terrestrial mobile TV SFN networks

Network optimization

- SFN: manual or automatic modulator settings (SHIP/MIP or through network management)
- Real-time processing of satellite ephemeris for SFN operation with inclined orbit satellites
- Optimal use of spectrum thanks to the capacity of up to three independent RF carriers with separately adjustable relative levels and combination of different bandwidths

Technical specifications

Monitoring interfaces

- 2 x Ethernet 10/100Base-T for local and remote management. Connector type: RJ45
- External housekeeping alarms: 8 inputs/8 outputs
- Local RS485 multipoint bus for the control of all transmitters units

Modulation and channel coding

- Compatible with any popular waveform and coding: DVB-T/H/SH, CMMB, DMB-T, T-DMB
- Double-bank firmware download

Pre-correction

- Linear pre-correction
- Non-linear pre-correction

Control mode

- Local control: direct control with laptop and web browser (embedded web server)
- Remote control, management, configuration and software/firmware download: SNMP, FTP and HTTP

RF output

- Single carrier or multiplex of 2 or 3 contiguous carriers
- UHF [470 - 862] MHz in 1 Hz steps
- L-band ([1450 - 1495] and [1670 - 1675] MHz) in 1 Hz steps
- S band ([2000 - 2020], [2170 - 2200], [2300 - 2400] and [2480 - 2690] MHz) in 1 Hz steps
- Examples of typical transmitter power levels (single or double drive, other power levels on demand including liquid cooled and IOT):
 - UHF from 50 to 12,000 W
 - L band from 50 to 1000 W
 - S band from 50 to 500 W

Mechanical

- Operating temperature:
 - Outdoor cabinet -33°C (-27,4°F) to +50°C (122°F) (outside air temperature)
 - Indoor cabinet -10°C (14°F) to +45°C (113°F)

- Storage conditions: ETSI EN 300 019-1-1 class 1.2 (-25°C to +55°C)
(All connections and indications are front accessible in most configurations, such as low- and medium-power air cooled version, to allow for space-constrained implementations (back-to-back or back-to-wall cabinets))
- Weight of individual units: <25 kg

Compliances

- ETSI EN 302 583
- ETSI EN 300 744
- ETSI EN 302 296
- ETSI EN 300 019
- ETSI EN 301 489-14 v1.2.1
- ETSI EN 302 307 v1.1.2
- ETSI EN 301 192 v1.4
- ETSI EN 302 574
- CENELEC EN 50083-9
- IEEE 802.3-2005
- CE marking
- RoHS compliant
- UL compliant



Outdoor cabinet for up to 3 kW dissipation and direct air cooling