

GT-5900-3000 Series

High Power Air-Cooled UHF Terrestrial DTV Transmitter

Product Overview

Gospell's GT-5900-3000 is a high power air-cooled UHF terrestrial DTV transmitter which combines up to eight power amplifier modules with a maximum 3000W of output power. It has superior performance and enhanced efficiency by adopting a series of technologies. It can work in any frequency within the UHF span, and the transmitting bandwidth is up to 80MHz.

This series of products has an optimized design in forced air cooling and architecture, with lower noise, higher efficiency and outstanding anti-interference performance; GT-5900-3000 series can support a wide range of Digital Terrestrial Television (DTT) standards, such as DVB-T, ATSC, DTMB, ISDB-T_b and even the latest DVB-T2 standards.

By incorporating our latest technologies of linear and non-linear digital adaptive pre-correction, RF delay and co-channel interference rejection, this system fulfills the needs of single band or broadband transmission in large-scale terrestrial coverage scenarios.



Main Features and Benefits:

High Performance

- Supports up to 2500W of digital output power for DVB-T/DVB-T2/ISDB-T standard
- Up to 3000W of digital output power for DTMB/ATSC standard
- Optimized structure design, with lower noise, higher efficiency and outstanding anti-interference performance

High Flexibility and Stability

- Modular design across the whole system, easy installation, maintenance and upgrade
- Optional 1+1 redundant exciters and Preamplifiers
- Multiple protection mechanisms are introduced for over-load, over-temperature, over-current and high VSWR
- Large and dynamic Auto Gain Control (AGC) circuit ensures stability of output power
- Improved power efficiency thanks to linear and non-linear Digital Adaptive Pre-correction

High Adaptability and Availability

- Suitable for different countries and/or areas because multiple DTT standards are complied with, including DVB-T, DVB-T2, ATSC, DTMB and ISDB-T_b
- Available in single and three phase power grid environments to meet different requirements of deployment
- Wide range of working frequency from 470MHz to 860MHz

Lower CAPEX/OPEX

Improved ratio of cost to performance, lower CAPEX for operators

Low power consumption with high efficient LDMOS amplifiers to reduce electricity cost for operators

Reduced investment in manpower, benefits from convenient local monitoring and management through built-in touch screen display or remote monitoring via SNMP network management and/or telcom wireless network



User Friendly Monitoring Interface

Built-in color TFT LCD with touch screen in the front panel, supports monitoring & control of working states and any malfunction on any module without additional testing/monitoring equipment required, such as transmitting power, VSWR, working voltage/current, fan speed, IP address and so on.

Block Diagram:

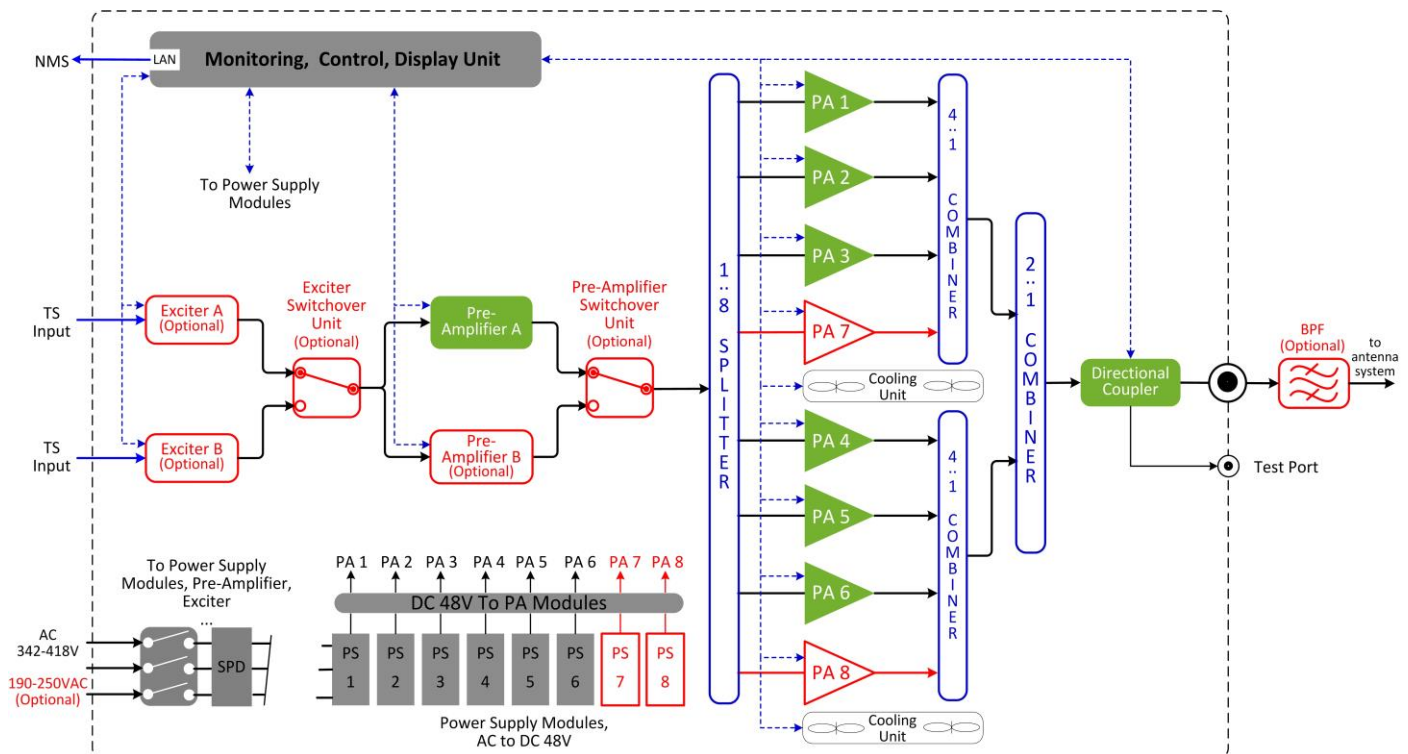


Diagram 1 GT-5900-3000 Block Diagram

Technical Specifications:

| Items | Ordering Codes | GT-5900-2000 | GT-5900-2500 | GT-5900-3000 |
|-------------------|--------------------------|--|--------------|------------------|
| General Parameter | Output Power(RMS)* | 2000W | 2500W | 3000W |
| | Number of PAs | 6 | | 8 |
| | Number of Power Supplies | 6 | | 8 |
| | Weight | 450Kg(992 lbs) | | 500kg (1102 lbs) |
| | Frequency Range(Fin) | 470 to 860MHz | | |
| | Channel Bandwidth | 6MHz, 8MHz | | |
| | Supported Standards | DVB-T2, DVB-T/H, DTMB, ATSC, ISDB-T/Tb | | |
| | Transmitting Mode | Single band or broadband(maximum 80MHz) | | |
| | Supported Network | MFN,SFN | | |
| | Cooling Method | Forced Air Cooling with top-mounted ventilation flue | | |
| | Dimensions (W x H x D) | 1177mm x 1790mm(35U) x 1150mm (46" x 70.5" x 45") | | |

| | | | |
|---|------------------------------------|---------------------|---|
| Notes: * The above output powers are calculated per ATSC/ DTMB standards under single band mode. | | | |
| Main Components | Preamplifier | | 1 x Preamplifier module(3U), optional 1 + 1 redundant configuration |
| | Exciter (optional)** | | 1 x DVB-T2/DTMB Exciter (1U), optional 1 + 1 redundant configuration |
| | Preamplifier Switchover Unit | | 2U, Optional |
| | Exciter Switchover Unit | | 1U, Optional |
| | Power Splitter and Combiner | | Built-in |
| | Monitoring and Control Unit | | 1 x Monitoring control unit(2U), 1 x 7" LCD touch screen |
| | Bandpass Filter | | Optional Single band or broadband Bandpass filter |
| Notes: ** Please contact our sales representative for the other exciter/modulator requirements. | | | |
| Environmental | Operating Temperature | | 0 to 45°C |
| | Operating Humidity | | 0 to 95%, non-condensing |
| Power Supply | AC Input | Three-Phase Option | 4 wires (3-phase + neutral), 342-418V AC, 50Hz±5% |
| | | Single-Phase Option | 2 wires, 190-250V AC, 50Hz±5% |
| | Surge Protection | | Built-in AC Surge Protector |
| I/O Interface | TS Input | | DVB-ASI (BNC female, 75Ω) (Exciter) |
| | MPEG-TS over IP | | 100/1000Base-T, RJ-45 (Exciter option) |
| | RF Output | | EIA 1-5/8" or EIA 3-1/8" flange |
| | 1PPS Clock Input | | BNC, female, 50Ω(Exciter) |
| | 10MHz Clock Input | | BNC, female, 50Ω(Exciter) |
| | RF Monitor Output | | SMA, female, 50Ω |
| Monitoring & Control | Local Monitoring & Control | | TFT LCD touch screen |
| | Network Management Interface | | 10/100 Base-T Ethernet, 1 x RJ-45, Supporting Web-browser or SNMP network management |
| Electric Performance | Frequency Stability | | ≤ ±1 x 10 ⁻⁷ (Internal reference) ≤ ±1 x 10 ⁻¹⁰ (External 10MHz reference clock) |
| | Frequency Accuracy | | MFN: ≤ ±100Hz, SFN: ≤ ±1Hz |
| | MER | | ≥33 dB |
| | Shoulder of Signal @fc±4.2MHz | | ≤ -36dB |
| | In-band non-flatness@fc±3.591MHz | | ≤ ±0.5dB |
| | AGC Power Control Range (Δ GAGC) | | ±8dB |
| | Stability of Output Power (Δ POUT) | | ≤ ±0.5dB |

For More Information

Please visit our website: <http://www.gospell.com> or contact your local sales representative:

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