

GT-5900-1600 Series

Medium Power Air-Cooled UHF Terrestrial DTV Transmitter

Product Overview:

Gospell's GT-5900-1600 is a medium power air-cooled UHF terrestrial DTV transmitter which combines up to four power amplifier modules with a maximum 1600W 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 can be 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-5900-1600 series can support a wide range of Digital Terrestrial Television (DTT) standards, such as DVB-T/H, ATSC, DTMB, ISDB-T/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 medium to large-scale terrestrial coverage scenarios.



Main Features and Benefits:

High Performance

Supports up to 1600W of digital output power

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

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/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:

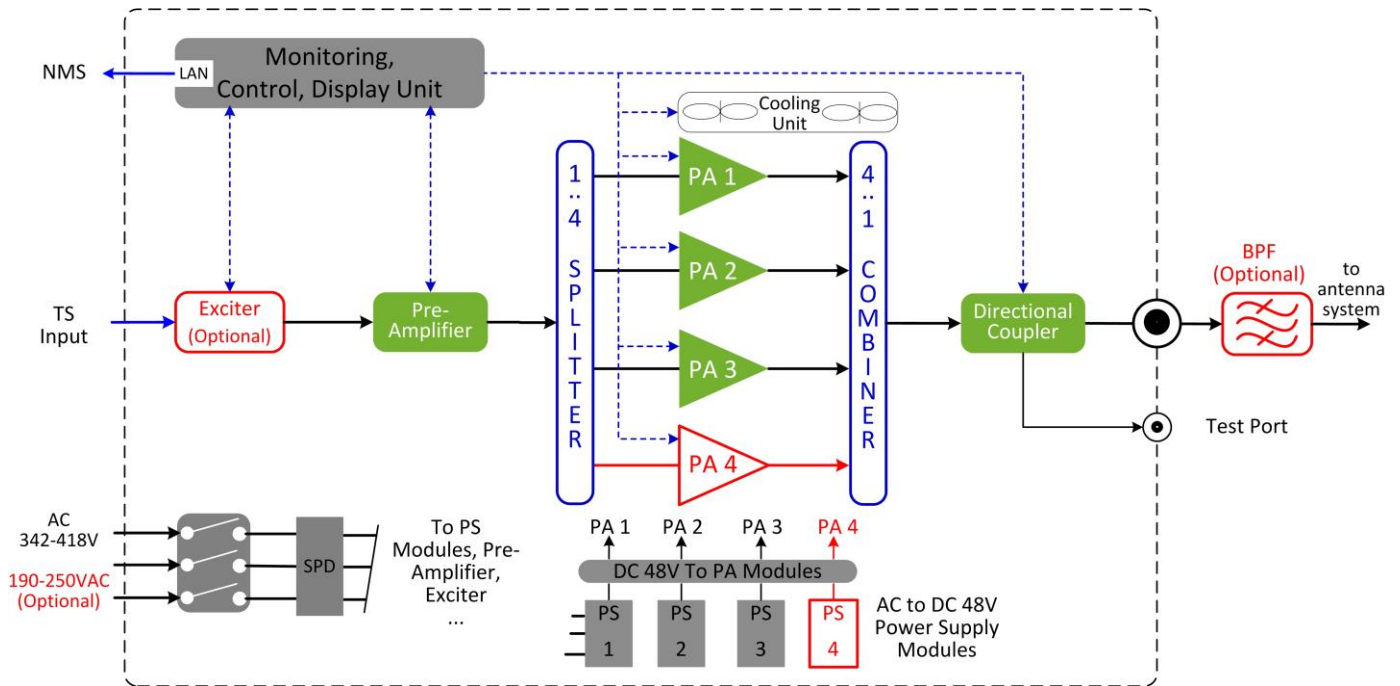


Diagram 1 GT-5900-1600 Block Diagram

Technical Specifications:

Items	Ordering Codes	GT-5900-800	GT-5900-1000	GT-5900-1200	GT-5900-1600	
General Parameter	Output Power(RMS)*	800W	1000W	1200W	1600W	
	Number of PAs		3		4	
	Number of Power Supplies		3		4	
	Weight		230Kg(507 lbs)		250Kg (551 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		Standard: Single band Optional: Broadband (maximum 80MHz)			
	Supported Network		SFN or MFN			
	Cooling Method		Forced Air Cooling with top-mounted ventilation flue			
	Dimensions (W x H x D)		650mm x 1700mm(35U) x 1000mm (25.6" x 66.9" x 39.4")			
Notes: * The above output powers are calculated per ATSC/DTMB standards under single band mode.						
Main Components	Preamplifier	1 x Preamplifier module(3U)				
	Exciter (Optional)**	1 x DVB-T2/DTMB Exciter(modulator) (1U)**				
	Power Splitter and Combiner	Built-in				

	Monitoring and Control Unit	1 x Monitoring control unit(2U) with 7" LCD touch screen	
	Bandpass Filter(Optional)	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) (DTMB/DVB-T2 Exciter)	
	MPEG-TS over IP	100/1000Base-T, RJ-45 (DVB-T2 Exciter)	
	RF Output	EIA 1-5/8" flange	
	1PPS Clock Input	BNC, female, 50Ω(DTMB/DVB-T2 Exciter)	
	10MHz Clock Input	BNC, female, 50Ω(DTMB/DVB-T2 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	$\leq \pm 1 \times 10^{-7}$ (Internal reference) $\leq \pm 1 \times 10^{-10}$ (External 10MHz reference clock)	
	Frequency Accuracy	MFN: $\leq \pm 100$ Hz, SFN: $\leq \pm 1$ Hz	
	MER	≥ 33 dB	
	Shoulder of Signal @fc±4.2MHz	≤ -36 dB	
	In-band non-flatness@fc±3.591MHz	$\leq \pm 0.5$ dB	
	AGC Power Control Range (ΔG_{AGC})	± 8 dB	
	Stability of Output Power (ΔP_{OUT})	$\leq \pm 0.5$ dB	

For More Information

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

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