DIBSYS

100-300W Digital TV Transmitter

Model: DTT5900-300 series

Product Profile

Dibsys DTT5900-300 series is an indoor UHF Digital Terrestrial Television (DTT) transmitter/gap filler with up to 300W of output power, and is designed for small-scale or blind area coverage application in DTT broadcasting.

Dibsys DTT5900-300 series utilizes the state-of-the-art LDMOS devices and compact 4U rack-mount structure that enables DTT operators to have reduced energy cost and with much less occupied space of equipment in their DTT network. This series supports various DTT modulation standards, such as DVB-T/H, DVB-T2, DTMB, ATSC, ISDB-T/Tb, and also can operate in SFN mode enabling less spectrum resource is used.

Dibsys DTT5900-300 series incorporates multiple self-protected mechanisms, including high VSWR, over-temperature, over drive, over current, over voltage and under voltage. It supports Web based management and maintenance for remote status monitoring and controls, this can significantly reduce management time and operating expense (OPEX). By incorporating the latest technologies of RF delay and co-channel interference rejection, this system fulfills the needs for DTT coverage of SD and HD digital television programs. This is especially suitable for small-scale coverage and gap filling with complex terrains.

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Features

- 470MHz to 860MHz
- Available output power from 5W to 300W
- Built-in band pass filter (5-200W)
- Supports single channel or broadband transmission
- Built-in non-linear pre-correction module (optional module for 200W and 300W)
- Optional up to 80MHz of transmitting channel bandwidth within the UHF span
- Low power consumption with high efficient LDMOS amplifiers to reduce electricity costs for operators
- Multi-standard capability, supports multiple DTT standards: DVB-T/H, DVB-T2, ATSC, DTMB and ISDB-T/Tb
- Low power consumption and minimized non-linear distortion
- Extreme low group delay for DTV signal transmission
- Front panel LED indicators, supporting status/alarm indications
- 10/100Base-T network management interface, supporting Web -based management and maintenance
- Built-in LCD touch screen, supporting status monitoring, parameter configurations and malfunction alarms, such as transmitting power, VSWR, working voltage/current, fan speed, IP address and so on
- Multiple protection mechanisms: over driving, over-temperature, over-current and high VSWR
- Large and dynamic Auto Gain Control (AGC) circuit ensures stability of output power
- Shorten MTTR, built-in modular function unit, supporting fast replacement of faulty component

Main Application

- Digital TV head-end system
- IPTV, Over-the-air TV distance learning
- Remote live Rebroadcasts and real-time transmission
- HD or SD video via private IP networks

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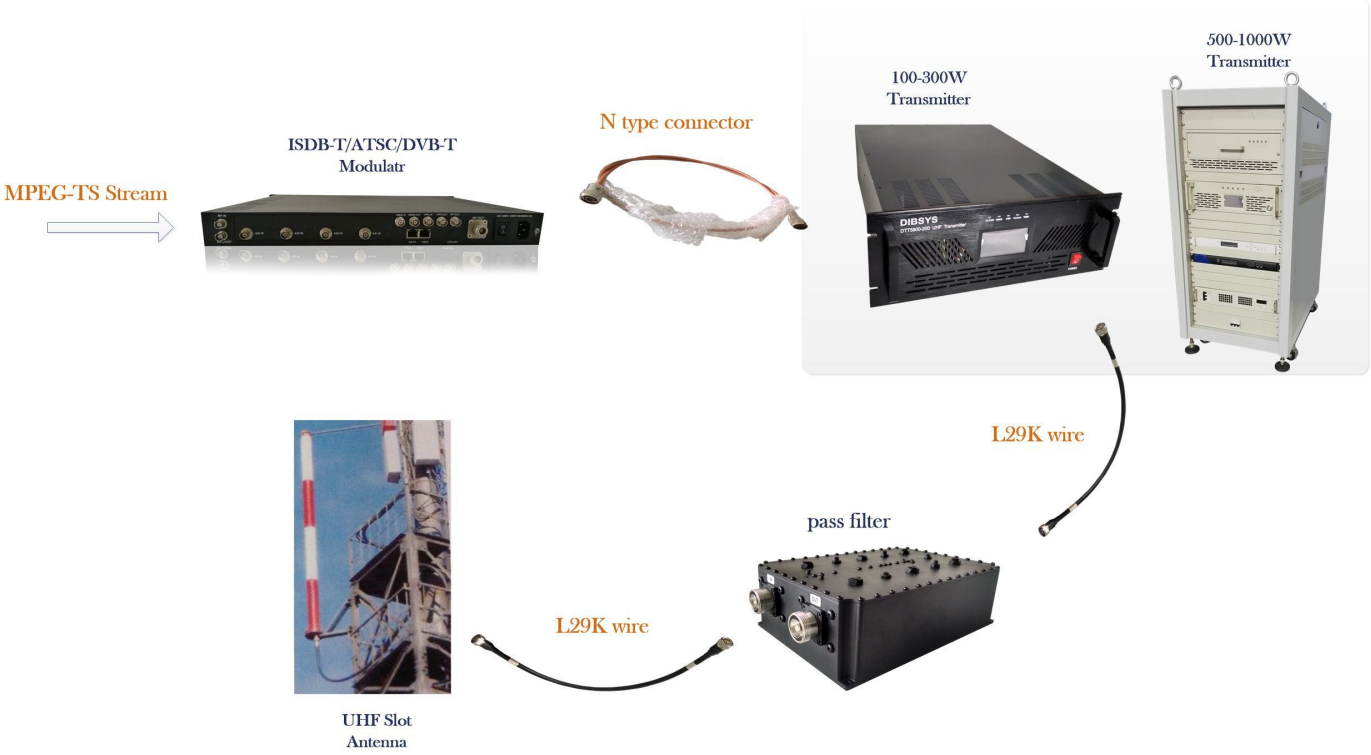

Technical Specifications

General Parameters								
Ordering Codes	DTT5900 -5	DTT5900 -10	DTT5900 -20	DTT5900 -30	DTT5900 -50	DTT5900 -100	DTT5900 -200	DTT5900 -300
Output Power (RMS)**	5W	10W	20W	30W	50W	100W	200W	300W
Weight	20kg	20kg	20kg	20kg	20kg	25kg	40kg	40kg
Frequency Range	470 to 860MHz							
Standards	DVB-T, DVB-T2, DVB-H, DTMB, ATSC, ISDB-Tb							
Transmitting Mode	Standard: Single band Optional: Broadband (maximum 80MHz)							
Network	MFN, SFN							
Cooling Method	Forced Air Cooling with two cooling fans							

DIBSYS

Pre-correction Module	N/A	Optional Built-in non-linear pre-correction module	
Bandpass Filter	Built-in Single/Broad band BPF	Built-inBroad band BPF, optional external single band BPF	Optional External single/broad band BPF
Dimensions (W×H×D)	482nn(19")×178mm(4U)×605mm(23.8")		
Note: **The above output powers are calculated per ATSC/DTMC standards under single band mode; **Please contact our sales representative for the other exciter/modulator requirements.			
Electric Performance			
Frequency Stability (Exciter)	≤±1×10 $^{-7}$ (Internal reference) ≤±1×10 $^{-10}$ (External 10MHz reference clock)		
Frequency Accuracy (Exciter)	MFN: ±100Hz, SFN: ±1Hz		
MER (Exciter)	≥33dB		
Input Single Level	90dBμv		
Shoulder of Single@fc±2MHz	≤-36dB		
In-band non-flatness@fc±3.591MHz	≤±0.5dB		
AGC Power Control Range	±8dB		
Stability of Output Power	≤±0.5dB		
I/O Interface			
RF Input	1×N Type, 50Ω		
RF Output	1×N Type, 50Ω	1×L27, 50Ω	
RF Test Port	1×SMA		
Serial Port	1×RS-232, DB-9 connector		
TCP/IP	1×RJ-45		
Monitoring & Control			
LCD Touch Screen	1×TFT LCD touch screen		

LED Indicators	5×LED Indicators for status/alarm indications (Output Power, ALC, Current,Temperature, VSWR)
Frequency Stability	≤±1×10^{-7} (Internal reference) ≤±1×10^{-7} (External 10MHz reference clock)
Power Supply and Environmental	
Working Voltage	180V to 240V AC (50Hz±2%)
Operating Temperature	0 to 45℃
Storage Temperature	-20 to 70℃
Operating Humidity	90%, non-condensing

Order Information

Model	DTT5900-400	DTT5900-500
Output Power (RMS)**	400W	500W

Model	DTT5900-800	DTT5900-1000	DTT5900-1200	DTT5900-1600
Output Power (RMS)**	800W	1000W	1200W	1600W

UHF Slot antenna

Specification	
Frequency	470-860MHZ
Impedance	50Ω
Connector Type	N-K

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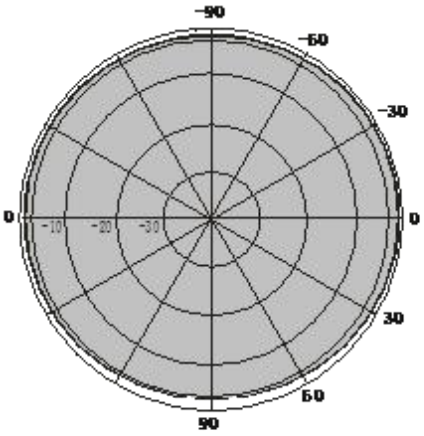
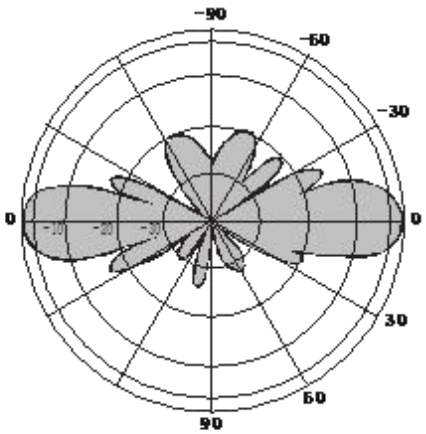
Input connector	L29/L27-50K, IF45K, IF70K, IF110K
VSWR	＜1.1
Power	50W-10KW
Polarization	Horizontal; Vertical
HPBW	13°E-plane
Gain	4 slot (10db); 8 slot (13db); 16 slot (15db)
Beam tilt	0.5°-1°
Radiation pattern	Omni direction
Max wind velocity	200km/h
L*W*H:	250x250x3000MM
Weight	30-60KG
Lighting Protection	Direct Ground
Ambient temperature	-40℃—+60℃
External diameter	Φ180（1kw)·Φ200(5-10kw)·Φ250（30kw)



Horizontal Plane



Vertical Plane

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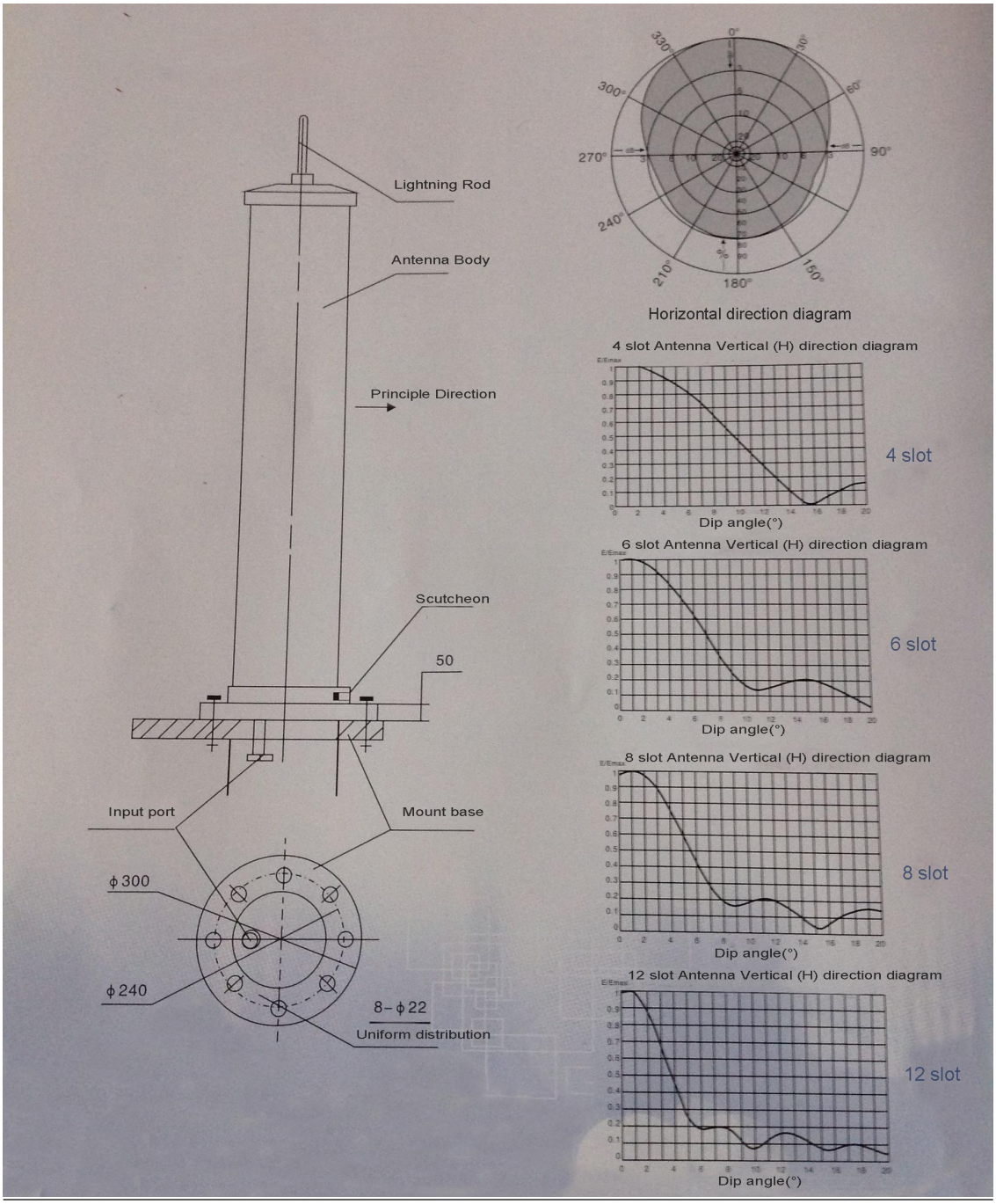

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