Quasar-sdg
Tecnología de Largo Alcance

AM Broadcast Transmitter

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Quasar-SDG
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25kw/27kw AM Broadcast Transmitter model dmw25kN

DMW-N Series

The equipment of the DMW-N series has a robust, modular, easy-to-maintain modular design, designed to operate in any environment, from mountain range to sea. It includes components of easy acquisition and great part of its circuits are removable, even without needing to remove the station off-air.

The modulation stage is of the "Advanced Polyphasic PWM Interface" type, maintains the power level and audio constant before the variation of the electrical network.

The carrier frequency has a stability better than 1 hz, this is thanks to the implementation of a digital oscillator of the "DDS" (Direct Digital Synthesizer) digital synthesizer of the latest technology, which is associated with a processor that allows to modify the frequency of the carrier +/- 10khz in order to measure the width of the radiant system band without the need of an external frequency meter.

Our modulated RF amplifier, PA5KN supply 5.000watts Carrier power. It's composed of nine H bridges, which in turn are switched by nine other high power HEXFET type mosfet. The output of the nine modulated RF amplifiers is combined in the same module by a serie-combiner, with which we get a correct distribution of the impedance, currents and output power of each H-bridge, with an efficiency> 96% working at 3.100 watts of Carrier power in the different models, approximately 38% less than its maximum capacity.

The dmw series uses RF final combiner in parallel, (L/C phase shifters) which has incomparable advantages compared the equipments with serial RF final combiner, example:

a) It provides good isolation between modules without the necessity of imbalance resistor. It is therefore more cost effective and more efficient than balanced hybrids with dissipative resistive loads. It also provides initial low-pass filter of the harmonic rich square wave PA output.

c) The power module failure mode can be either low or high impedance and cannot cause any damage to the combiner.

d) It can extended to combiner two or more groups of modules to create higher power level transmitters.

* Automatic start after the electrical reset, memorizes the last power level in which the equipment is located. (Fold-back).
* Surge protector and VRD's in the main source.
* Double exciter stage with automatic change. (Optional).
* Ouput Power level schedule.
* Telemetry and control via text message SMS, LAN / IP.
* Decrease of power before increase of VSWR, does not leave off-air, sending alert by SMS/Email.
* Removable forced ventilation system, facilitates maintenance. (> / 3kw)
* Removable modulated RF amplifiers in operation. Plug type (> / 3kw)
* Four levels of power all independent.
* Folding auxiliary source control unit.
* Pre-amplifier of broadband RF, 300Khz to 2Mhz.
* System of measurements and alarms of microprocessed

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DMW25kN: 100% Solid State, modular-redundant equipment of brilliant and transparent sound. Composed for eight (16) 2.6000 watts RF modulated power amplifier , high capacity modulation 145% to nominal power and 96% efficiency. The DMW-N series include; anti- LIGHTNING output filter design. Power level compensator for main supply fluctuations. Power level reduction with a high ROE level. "SMS and WEB REMOTE CONTROL BUILT-IN, PARALLEL FINAL RF COMBINER AND PLUG RF POWER AMPLIFIER".

Especifications:

Output Power v/s Modulation:
25.000 Watts to 145% de modulation (peak)
27.000 Watts to 100% de modulation (peak).

Frequency Range: 525Khz a 1705Khz.

VSWR: 1,75:1 (máx.)

Audio Frequency Response: +0.7/-0.8 dB entre 20Hz-14KHz.

THD Distortion: Better than 1% de 30hz a 10Khz, tipycal 0,7%

Frequency Stability: +/- 1Hz, 0ºC - 40ºC

Carrier shift: Better than1,5% 0 and 90% modulation.

Harmonic Attenuation: -73dB, meets FCC/CCIR standard.

Efficiency: Better than 87%.

Temp \Humidity Operation: 0-40C / 0%-95% No Cond.

Altitude: 0 to 4.000 m.s.n.m.m.

Impedance & RF Connectors: 50-Ohms un-balance / 1-5/8" tipo flage.

S/N: Better than -63 dB. Medidos a Potencia nominal 400Hz.

Audio Input: 600 Ohms Un-balance. 0db-15dB for modulation.

Main Supply: 380V-50/60Hz +/-10%, 3-Phase. Other upon customer request.

Dimensons (W;H;D): 150 ; 200; 100 cm. Weight 650kg.

Protections:

Individual RF Power Amplifier Protections:

1.- Fuse Failure.
2.- RF-Mosfet damaged / Un-balance RF Impulsion
3.- Over Temperature Alarm.

These protections electronically disconnect the faulty module without disrupting the equipment.

Global Protections:

* Main Supply: Surge Protector; Over Voltage, Over Temp. & Over Power.

* Output Filter: Anti- Lightning output filter design, Spark-gap. Support high VSWR, >1.75:1.

* Power level reduction with a high ROE level, TX doesn't get off-air.

2.600W RF Modulated Power Amplifier
PA2KN

* 09 H Bridge Independient Class-D
* Temperature / RF-Unbalance P.A. Led front signaling.
* Serial RF Combiner into Power Amplifier
* 1.037W reserved to 25Kw +145% Peak Mod.

GSM/GPRS & LAN-ip
Telemetry System Built-in

Allows Control:
Power Level, ON/OFF, Reset Alarm & status, Monitoring measurements...and more.
Day shedule RF output power.

"All Equipment Control from your hand"

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