13 kW 63.8 MHz amplifier

SLIM4-03-63-8CW

HIGH EFFICIENCY

MULTI-PLATFORM

MULTI INPUT

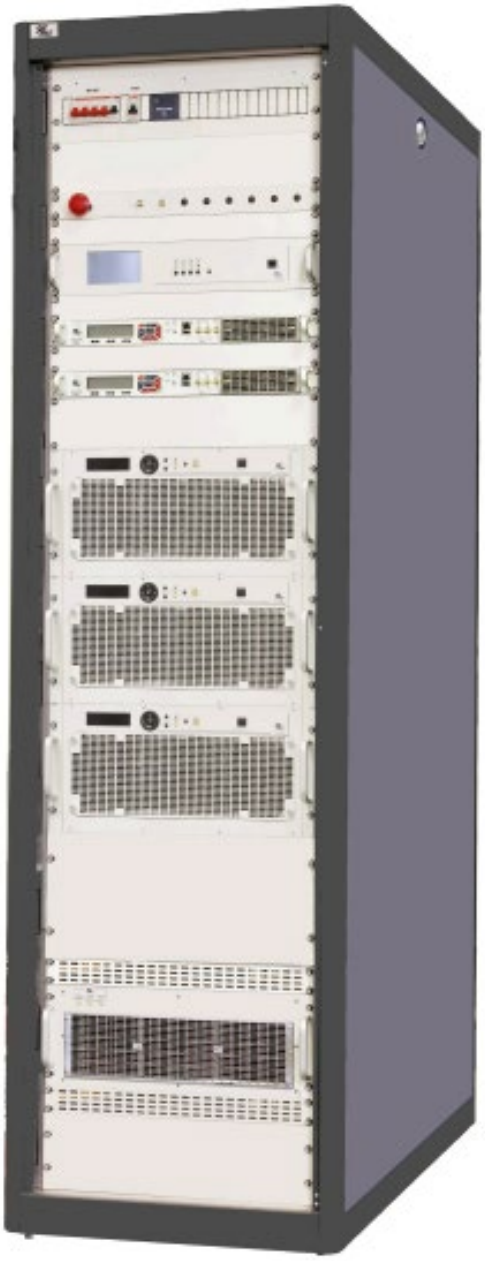
MULTI-STANDARD
DVB-T/T2 ATSC/ATSC 3.0
ISDB-Tb DTMB NTSC (analog)

WIDE BAND

AIR COOLED

GNSS
(GPS, GLONASS, BEIDU, GALILEO)

MONITORING
SNMP, WEB BASED GUI,
DRY CONTACTS



MAIN FEATURES

- ☐ Modularity
- ☐ Redundancy
- ☐ Reliability
- ☐ Power density
- ☐ Monitorability
- ☐ Scalability
- ☐ Ease of maintenance

AMPLIFIER

Although it is probably one of the last bulwark of the use of RF tube technology below 1 GHz frequency for a matter power-cost ratio, in the last ten years also the scientific environment has turned to solid state technology also for power that rounds 1 MW.

The reason for that is that the LDMOS devices have become cheaper thus making the overall cost of ownership of a solid-state amplifier more profitable than tube ones.

In terms of technology advantages are multiple being the absence of high voltage and the high redundancy level the major ones.

Syes is unrivalled when it comes to Solid State Amplifier because since its very foundation since it has been using and working on it for other applications.

Today we then put the knowledge and the customers' feedbacks we matured in 40 years at the service of scientific community.

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AMPLIFIER

REDUNDACY

Redundancy is a key factor of Syes solid state solution.

Our amplifiers are all "single-point-of-failure-free".

The required output power is achieved by the combination of a plurality of amplifier pallets.

A very specific care is taken to keep the EMC loss inside the amplifier module around zero because they often generate auto oscillation which interfere with the correct functioning and in the worst case, they damage the active devices.

Not just the radio frequency section is redundant.

Each amplifier is in fact equipped with multiple power supplies that allows the amplifier to keep working at nominal power also in extremely unlikely events to have one out of three in fault.

POWER SUPPLY

The power supplies bear a wide voltage input range from around 90 V up to 263 V so to guarantee working continuity and voltage fluctuation resiliency.

Additionally, the output voltage is programmable from 15 V to 65 V.

Our amplifier can mount either air and liquid cooled power supplies.

When they are "air", they can be slide in and out without using any tools whatsoever making their maintenance a very easy task.

The PS efficiency rounds 96% and the MTBF is 450.000,00 hours.

Like all the other amplifier subunits, they are completely integrated with Syes monitoring system.

MODULATORY AND SCALABILITY

Two of the milestones around which Syes' amplifiers are designed are the modularity and scalability.

Modularity reflects in improved redundancy and ease of maintenance or, in other words, greater reliability and performance stability from one side and lower operative costs on the other.

The scalability makes possible to increase to output power by just adding amplifier modules or combining multiple amplifier cabinets.

Thanks to this feature and since Syes' amplifiers power density is amongst the highest the market can offer, the footprints required for very high-power amplifiers is minimum.

MONITORING AND CONTROL

A control logic unit with a Oled display and a physical keyboard collect in real time all the data from the amplifier subunit-assemblies and make them available locally as well as in one or more remote locations via different communication protocols. Over these very protocols it is also possible to have complete control of the amplifier parameters and functionalities.

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AMPLIFIER

TECHNICAL SPECIFICATIONS	
Output Power	> 13 kW
Nominal Frequency	63.8 MHz
Cooling	Air Cooled
Bandwith	2MHz
Duty Factor	10% to 50%
Pulse Repetition Rate	10-20 p/s
Pulse width	20 msec to 200 msec
Amplitude stability	< 0.2dB over 24 hour
Phase stability	<3° over a 24 hour period
Maximun Phase shift in given pulse	4° across a 10msec pulse width
Input VSWR	< 2 :1
Output VSWR	< 2 :1
Power gain flatness	± 0.3 dB for ±1 Mhz
Gain linearity	± 1 dB over 40 dB dynamic range
Phase Linearity	± 10° dB over 40 dB dynamic range
Harmonic Contents	-20 dBc; odd order harmonics; - 12 dBc
Efficiency	> 55%
Size (WxDxH)	600 x 1000 x 1800 mm
Weight	200 KG

Features and specifications subject to change without notice

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