

NM-ECM-0208

Solid State 500W Power Amplifier With Filter Switching Unit

KEY FEATURES AND BENEFITS

- Solid-state broad band linear design
- 30MHz to 512MHz instantaneous bandwidth
- High reliability and ruggedness
- Graceful degradation
- Built-In Test (BIT)
- RS422 and LAN interface
- Monitoring and protection circuits
- Over current protection
- Fully indigenous
- Suitable for CW (Continuous Wave), AM (Amplitude Modulation) and FM (Frequency Modulation) etc
- Spurious and harmonics > than 64dBc minimum

APPLICATIONS

- Electronic warfare
- Jamming
- Communication



Power Amplifier



Filter Switching Unit



Power Supply Unit

DESCRIPTION

The NM-ECM-0208 covers a frequency range of 30MHz to 512 MHz, an output power of 500W and is suitable for communication (AM and FM) and jamming applications. This amplifier utilizes push-pull LDMOS (Laterally Diffused Metal-Oxide Semiconductor) FET (Field Effect Transistor) devices that provide wide frequency response, low distortion and better peak power capability.

The power amplifier employs advanced broadband RF (Radio Frequency) matching networks, quadrature combining techniques, forced air-cooling mechanism, EMI (Electromagnetic Interference)/RFI (Radio Frequency Interference) filters, and all Mil grade components to achieve exceptional performance, long-term reliability and high efficiency.

BLOCK LEVEL EXPLANATION

POWER SUPPLY UNIT

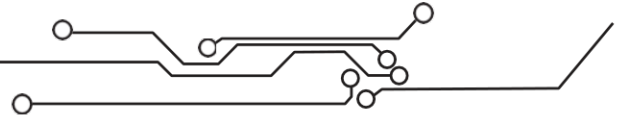
The power supply unit is a 19" rack mountable which generates 28V regulated power output from 3 ϕ , 440V AC supply input. The power supply has the power factor correction, fault indication and protection.

POWER AMPLIFIER UNIT

The power amplifier unit is configured in a 19" rack mount configuration suitable for an outdoor mountainous terrain environment. The power required for this amplifier is 28V DC. It consists of front end module, power amplifiers, high power divider, digital controller module, VSWR (Voltage Standing Wave Ratio), current monitoring module, high power combiner and directional coupler for forward and reverse power monitoring.

FILTER SWITCHING UNIT

The filter switching unit is used for rejection of harmonics from the power amplifier output. It consists of six low pass filter banks. Appropriate filter will be selected for harmonic rejection by using FSU (Filter Switching Unit) controller module and high power coaxial switch (SP6T).



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SPECIFICATIONS

INPUT/OUTPUT

Frequency	: 30MHz to 512MHz
Power output	: 500W (Min.)
RF input	: 0±2dBm
Gain	: 60dB (Typical)
Class of operation	: AB linear
Third order intercept point	: +65dBm
Modulation	: AM, FM, FSK, PSK and CW
Harmonics and spurious	: Min 64 dBc
Input and output impedance	: 50 Ω nominal
Remote control interface	: RS422 and LAN
Self protection	: Protection - VSWR Alarm, thermal
Alarm and indications	: Module status, Forward power and reverse power indications on LCD

POWER REQUIREMENTS : 400V, AC ±10% 50Hz, 3φ
4 wire system

MECHANICAL DIMENSIONS

Powe amplifier	: 19" rack mountable, 6U, 570mm(D)
Filter selection unit	: 19" rack mountable, 3U, 510mm(D)
Power supply unit	: 19" rack mountable, 4U, 576mm(D)

Weight in kg	
Power amplifier	: 52
Filter selection unit	: 25
Power supply unit	: 33

ENVIRONMENTAL SPECIFICATION

Operating temperature	: -20°C to 55°C
Environmental condition	: As per JSS 55555

EMI/EMC : As per MIL-STD-461E

IP PROTECTION : IP 65

ORDERING INFORMATION

NM-ECM-0208-X00

- └─ 0 - Factory options specified based on applications
- └─ 0 - Factory options specified based on applications
- └─ 3 - Commercial
- └─ 6 - Rugged

BLOCK DIAGRAM OF NM-ECM-0208

