NT-1000 FM TRANSMITTER

CIRCUIT DESCRIPTION

The NT1000 is a solid state FM transmitter using MOSFET power devices as the active radio frequeney elements.

The equipment is composed by 3 RF amplifier modules mod. MD350 which is matched for input/output impedance of 50 ohm.

A drive power of 7W is required at the input to delivery nominal output power by the ESVA mother board.

The signal is fed to a low-pass filter in order to reduce the unwanted harmonics to a insignificant level.

The output of the filter includes directional coupler with the sensor mounted in a printed circuit. This sensor measures the incident and reflected RF power level and it is flat in the whole band within 5 % tolerance.

The equipment features a circuits based upon a microprocessor which monitors the operation of the RF circuits so as to maximize operational lífe and minimize down-time and operator intervention.

A front panel LCD shows in real time the essential operation parameters:

RF OUTPUT POWER

RF REFLECTED POWER

OPERATING FREQUENCY

MODULATION

All data are available to a DB9 connector placed on the rear panel in order to remote control the transmitter.

A particular fold-back circuit ensures the output power is reduced in relation to the reflected power from the load, in order to keep the active elements Mos-Fet type to a safe level.

Also a temperature sensor is present in the RF power module in order to avoid overheating. This sensor is connected to the interlock in order to shut down the RF in case of high temperature.

The RF modules' power supply circuit employs one very high efficiency 115-240 VAC AC/DC. The power supply is protected against accidental short circuits and, importantly, features a rapid power shut-down system which can save the delicate MOSFET devices from damage which they would otherwise incur even after short periods of overload.