

4kW FM Transmitter

Special Features

- Compact Amplifier and PSU Modules are replaceable On Air
- Fully compliant with ETS 300 384 specification for FM transmitters
- Easily configured into a wide range of system architectures
- Uses highly efficient SMPS power supplies with PF correction
- Comprehensive remote control and monitoring facilities
- LCD display ensures easy local monitoring

Introduction

The S7604 FM transmitter is an evolution of the highly modular architecture for which Eddystone Broadcast transmitters are known. The use of 300W hot-pluggable Power Amplifier modules means that removal of amplifiers can be carried out with minimal reduction in output power. The design also features highly efficient hot-pluggable switched mode power supplies which also provide ease of servicing.

Both PA and SMPSU modules are common to the entire 7600 range from 500W to 20kW, resulting in greatly reduced spares holding costs for networks and groups.

System Overview

The drive input is fed to an internal 16 way splitter which provides the PA module input drive. Each E2021 Power amplifier uses dual packaged MOSFET's mounted on a substantial heatsink assembly with minimum airflow over RF components. DC power is fed to the RF modules from the 8 switched mode power supplies. Internal control and self protection in case of reverse power, excess current or over temperature is handled within each individual E2021 power amplifier module with all monitoring being microprocessor derived. Each module transmits its internal parameters to the central transmitter controller/monitor (E2023) and parameters are displayed on an easy to read backlit LCD screen.

Outputs from the 16 Power modules are combined via a highly efficient 16 way common rail Wilkinson combiner. The combined RF output is then fed to the output coupler and harmonic filter.

Cooling Systems

Eddystone Broadcast low power transmitters have self contained redundant cooling fans mounted on the rear of the transmitter. This cooling system can be ducted if required and bespoke systems can be provided to meet special requirements.

Specifications

Power Output	4kW (Adjustable to -6dB)
Operating Frequency	87.5 to 108 MHz
RF Output Load Impedance	50 ohm unbalanced
RF Output Connector	7-16 (female) DIN (7/8" available on request)
Maximum VSWR	Able to maintain full power at 1.5:1 before protection cuts in
Mains Power Supply	Single phase 176-264V
RF Harmonic Output	Better than or equal to -79dBc
Power Factor	Typically 99%
Ambient Temperature Range	0°C to +55°C at an altitude up to 3000M
Overall Efficiency	Typically 60%

