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100 Watt ERP FM Transmission System

The equipment in this system will allow you to broadcast to a distance of 25km, depending on the height of the antenna, and the terrain of the surrounding area.

Transmission Equipment

- 1 40 Watt FM Transmitter
- 1 Stacked Dipole Antenna
- 1 RG 213 50 Ohm Antenna Cable (40m)
- 1 SWR/Power Meter
- 5 PL 259 Connectors
- 1 Lightning Arrester

Extras

- 1 Power Strip
- 1 Tools (Toolkit, Multimeter, Soldering Iron, Tape, Cable Ties etc.)

TOTAL (excl. shipping and customs) **£900**

The following items are not supplied but are required and should be sourced locally:

Radio Studios
Antenna Tower / Mast
Voltage Regulator
Copper Grounding Cable and 4' Copper Tube for Lightning Protection

ERP stands for **Effective Radiated Power**. This refers to the actual power of the signal being broadcast from the antenna. ERP is a combination of the power of the transmitter (in this case 40 Watts) plus the gain of the antenna (in this case 3.7dB) minus the power lost through the cable between the transmitter and the antenna. It varies from system to system, but can be estimated with a knowledge of the components involved.

100 Watt Transmission Package Equipment Details

Below are descriptions and images of the 100 Watt transmission package.

40 Watt FM Transmitter

Connecting this 40 Watt Transmitter with a 3.7dB gain Antenna will provide on average of 100 Watts ERP. The transmitter can be supplied as mono or stereo.

SWR/Power Meter

This device is used for monitoring the efficiency (SWR) and power of the transmission system.

RG 213 or RG8 50 Ohm Coaxial Antenna Cable (40m)

It is important to choose the right cable, as a lot of power can be lost with the wrong cable. This cable is used to connect the transmitter, swr meter, lightning arrester and antenna.



PL259 Connectors

These are radio frequency connectors which go at either end of the antenna cable.



Lightning Protection

This consists of a small lightning arrester, fitted between the antenna and SWR Meter. It must be connected to a copper cable attached to a 4' copper rod buried into the earth.

Half-Wave Stacked Dipole Antenna

The stacked dipole antenna gives a boost of 3.7dB to the power of the signal being broadcast. It must be attached to a 3-4 metre long metal pole with a diameter of 25-50cm. This must be placed as high as possible, to cover as large an area as possible.

Basic 100 Watt ERP FM Transmission System

