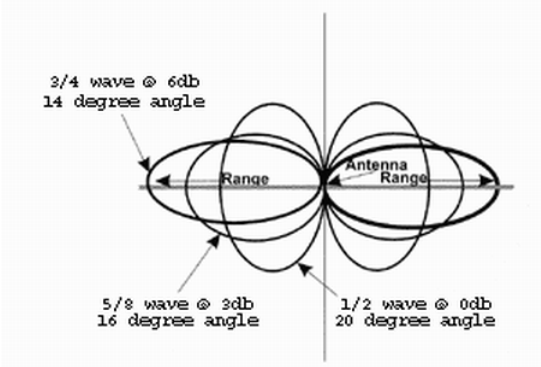
3 / 4 WAVE HIGH GAIN

NEW ALUMINUM MODEL 1Kw and 3kW



- **FM Band 88-110Mhz (Tunable)**
- **DC Ground lightning protection**
- **Gramma match 3/4 wave**
- **50 Ohms Impedance**
- **Max. wind speed > 100MPH**
- **Low angle Omni (approx 14 degrees)**
- **Vertical Polarization**
- **Bandwidth 5Mhz @ <1.5:1**
- **SWR 1:1 tuned frequency**
- **Gain 6dBi**
- **Connector N-Type for 1Kw model**
- **Connector 7/16 DIN for 3Kw model**

HIGH GAIN TRANSMITTER ANTENNA FOR FM STEREO BROADCAST

When it comes to range on the FM band nothing is more important then your choice of antenna. For over 40 years little has been done to advance the technology used in FM broadcast antennas. Almost all are variations of the half wave dipole. The most powerful antennas provide what we call Gain. This is the antennas ability to increase the effective power output of your transmitter several times the actual wattage. Gain is measured in decibels (db) and referenced against the half wave dipole which is considered to have 0 db or unity gain. We asked the question "Why would the FM broadcast antenna market be entirely focused around obsolete designs based on the dipole that can only offer gain when several are stacked together"? Wouldn't it make more sense to advance designs capable of providing higher gain from a single antenna?

Antennas that offer gain while still providing a 360 degree omni directional pattern do so in an interesting way. If we look at radiation patterns of several different wavelength antennas below, the performance of an antenna that provides high gain can be clearly understood. This diagram is only two dimensional and we have to imagine the radiation pattern to more closely resemble a huge doughnut around your antenna. An efficient longer wavelength antenna has the ability to focus the power of your transmitter as though this doughnut were flattened out. Forcing more energy out into the distance and increasing your Effective Radiated Power.

The Dominator antenna uses a highly efficient Teflon insulated gamma match that eliminates any coils or matching transformers and allows us to shunt feed the 3/4 wave main radiator while keeping it DC grounded for added lightning protection. This also gives the antenna it's ability to handle high power levels. The standard model is available with a gold pin Teflon insulated weatherproof N or SO-239 connector recommended for up to 1 KW.

AlfA Multimedia Limited Partnership. www.alfathai.com
126/735 Moo 5, Sukhaprachasant Road, Pakkret Nonthaburi 11120 Thailand.
Tel: 02 583 0351-2 Fax: 02 964 3619 Mobilephone: 081 791 8488 & 087 685 5825

3/4 WAVE HIGH GAIN Specification

Higher power versions are also available such as our 3 kilowatt using a Teflon 7/16" DIN connector and heavy duty gamma match. This antenna will produce an Effective Radiated Power of 10,000 Watts with only 2.5 KW of transmitter power applied to the antenna!

The revolutionary advantages the new 3/4 wave antenna offers over the 4 bay phased array are numerous. It eliminates the need to side mount 4 bays over a 40 foot section of tower, making installation much easier at a price even the smallest LPFM operator can afford. By using the top mount method the 3/4 wave produces a true omni pattern by not having the supporting structure interfering with the RF field. Through the use of our innovative ground plane structure it is now possible to achieve approximately 6 db with a single Dominator antenna. This is because it's low 14 degree angle of radiation keeps your signal down on the horizon to reach the distant listener. Testing shows an average of twice the range when compared to a dipole.

Your antenna can be precisely tuned for your frequency so you get a perfect 1:1 VSWR. Other designs often claim to have a VSWR of less then 1.5:1 where the Dominator 3/4 wave is able to achieve virtually zero reflected power. You simply slide the telescopic main radiator sections out of the base to the black lines, tighten the stainless steel clamps and connect the coax. Complete instructions are included for easy retuning in the field should your transmit frequency make a major change in the future. The tower and mast are not included.

Technical specifications:

- Frequency range: 88-110 MHz. (Tunable)
- Lightning protection: DC grounded radiator
- Wavelength: 3/4 wave
- Wind load: .7 square feet
- Impedance: 50 ohms
- Max. wind speed: > 100 MPH
- Radiation pattern: Low angle omni (14 degrees)
- Length: 9 feet
- VSWR: 1:1 at tuned frequency
- Polarization: Vertical
- Bandwidth: 5 MHz @ <1.5:1
- Gain: 6dB
- Max. power: 1 KW. standard model (3 KW. high power)
- Weight: Approx. 8 pounds
- Connector: N or SO-239 (7/16" DIN for 3 KW.)
- Material: NSF-61 seamless tubing

TEST RESULT WITH ALFATHAI FM STEREO TRANSMITTER

Tx/watt@ 98 Mhz	dBW	ERP	EIRP
30	18.622	72.824	119.43
80	22.88	194.19	318.48
150	25.612	364.122	579.16
350	29.292	849.618	1393.37
500	30.841	1213.741	1990.535
600	31.633	1456.488	2388.641
1050	34.063	2548.855	4180.122
1200	34.643	2912.977	4777.283
1400	35.312	3398.475	5573.499

AlfA Multimedia Limited Partnership. **www.alfathai.com**
126/735 Moo 5, Sukhaprachasant Road, Pakkret Nonthaburi 11120 Thailand.
Tel: 02 583 0351-2 Fax: 02 964 3619 Mobilephone: 081 791 8488 & 087 685 5825