



Antena Turnstile (145 / 435 Mhz.) E A 7 A Z H

Central working frequencies: 145 and 435 Mhz. On request any other frequency between 100 and 500 Mhz. (R.O.E. Better than 1: 1.5 in +/- 2 Mhz)

- Gain 3.5 dBi in VHF and 3 dBi in UHF
- Supported power ~ 250W

This antenna works upwards in circular polarization and horizontally towards the horizon, so it can be used for satellites or SSB in terrestrial communications.

For assembly, tap the shorter elements on the top of the antenna. It is highly recommended to add a few drops of quick adhesive if the antenna is going to be placed in a definite place.

Then screw the longer elements (radial) on the bottom of the antenna (next to the SO-239 or N connector).

Attach to the mast using u-bolts or polyamide flanges (not nylon) and protect with self-vulcanizing rubber tape

Recommended length / type of coaxial power cable:

- The ideal is to use multiples of $1/2 \lambda$ by applying the velocity factor of cable:

$$\lambda = 300/145 = 2.07 \lambda / 2 = 2.07 / 2 = 1.03$$

$$\text{Typical cable speed factor } 50 \Omega = 0.66$$

$$\text{Cable length} = 1.03 \times 0.66 = 0.68 \text{ m}$$

Thus, we will use multiples of 0.68m of coaxial cable.

Example, for 10 meters of descent $15 \times 0.68 = 10.2$ meters.

Discount 30cm of the resulting calculation (cable inside the antenna)

- For descents of less than 10 meters. we can use a good cable type RG-58, and better for longer descents. Table of characteristics typical coaxial cables:

		Cuadro Comparativo												
Tipo		RG-58/U	AIRCELL 5	H-155	M&P HyperFlex 5	AIRCELL 7	M&P ULTRA-FLEX 7	RG-213 /U	M&P ULTRAFLEX 10	ECOPLEX 10 Heat-ex	AIRCOM+	M&P Airbome-10	M&P Ultraflex 13	M&P Hyperflex 13
Ocular →		<input type="checkbox"/>												
Impedancia		50	50	50	50	50	50	50	50	50	50	50	50	50
Diámetro exterior		5,0	5,0	5,5	5,4	7,3	7,3	10,3	10,3	10,2	10,3	10,3	12,7	12,7
Bend radius		25	25	35	50 (25)	25	68 (34)	73	80 (40)	40	55	103 (65)	127 (80)	127 (80)
Atenuación a	30 MHz	9,0	5,2	4,9	4,2	3,7	3,0	3,5	2,0	2,3	2,5	1,9	1,5	1,46
	144 MHz	19	11,8	11,2	9,7	7,9	6,9	8,5	4,8	5,0	4,5	4,2	3,6	3,6
	432 MHz	33	20,9	19,8	16,3	14,1	12,3	15,8	8,7	8,9	8,2	7,6	6,4	6,41
	1296 MHz	64,5	37,8	34,9	30,5	26,1	21,5	30,2	16,2	16,2	15,2	13,6	11,7	11,7
	2320 MHz		54,0	48,0	42,5	39,0	32,0		24,2	22,0	21,5	19,2	16,7	16,7
	5000 MHz		81,2		65,3				38,9	35,1		29,2	25,9	25,7
	6000 MHz				72,9				44,5	39,1		32,8	29,4	28,7
Factor de Reducción		0,66	0,82	0,79	0,87	0,83	0,83	0,66	0,83	0,85	0,85	0,87	0,86	0,86
Potencia máx. a	10 MHz		1600	550	717	2960	3080		5345	3860	5550	6000	7590	8321
	145 MHz		430	240	195	700	910		1466	1000	1000	1710	2180	2396
	1000 MHz		150	49	71	190	330		503	350	280	610	828	907
Potencia máx.					2900		4400		13000			14500	18000	20000
Estructura conductor interior		Cordón	Alambre sólido	Cordón 19x0.28	19x0.29mm	Cordón	Cordón	Cordón	Cordón 7x1.0mm	Cordón	Alambre sólido	Alambre sólido	Cordón 19x0.74mm	Cordón 37x0.56mm
Diámetro conductor interior		0,9			1,4	1,85	1,9		3	2,85	2,7	2,78	3,9	3,9

IMPORTANT: It is convenient to place an RF shock to cancel any current that can circulate through the coaxial cable mesh.

It can easily be done by winding 6-8 turns with the same coaxial cable next to the point of feeding the antenna, with a diameter of 6-8 cm. The measures are not critical.