



# High Bands 3 Elements 3-Bands Yagi Antenna 328

21-24-28MHz

- ☆ The form is same to simple full sized Yagi for 24MHz
- ☆ The performance is similar to monoband Yagi antenna
- ☆ VSWR characteristics is similar to monoband type

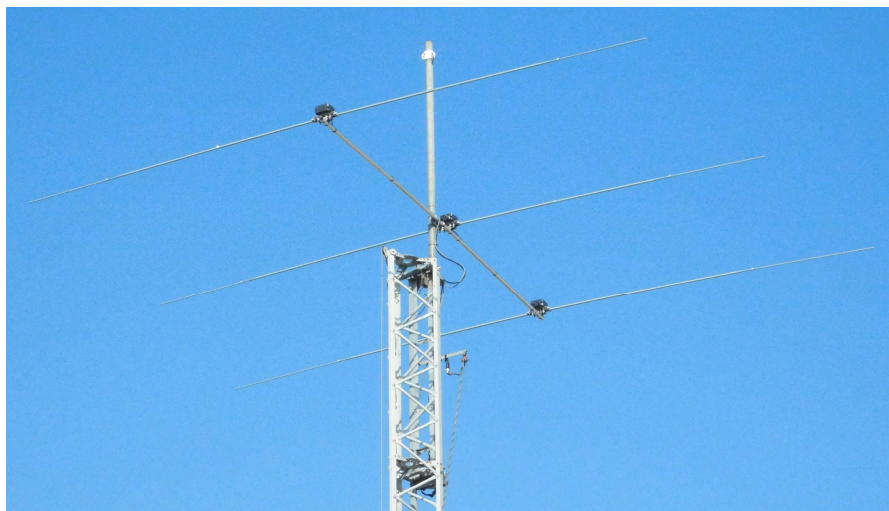


Figure 1. 21-24-28MHz 3-Bands Yagi Antenna, 328

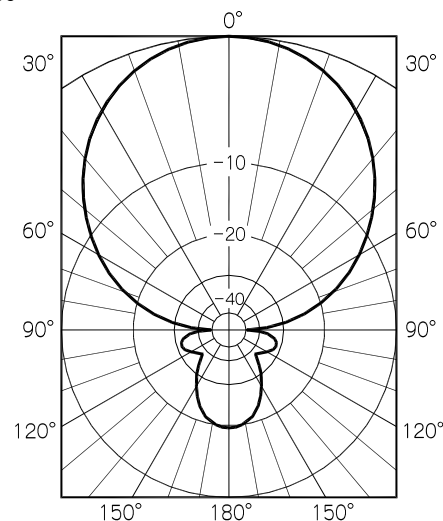


Figure 2.  
Example for Radiation Pattern, 24MHz

This 328 is the triband Yagi antenna that have the performance equivalent to 3-elements Yagi antenna of monoband. Although bringing out both the performance of broadband and low loss by using a general trap type for 3 bands is difficult, this 328 is known for its high performance with each band due to its multi-functionalized technique that differ from the trap type.

The operation for each band is with 24MHz pure 3 elements Yagi type, 21MHz only 15% shortening type, 28MHz 13% extension type which gain is more higher than the full size antenna type.

The equipping tuned circuits at center of each elements and these parts are used by the inductor, the capacitor and also the relay that have high Q. It bring out low loss and high power capability. Approximately 13VDC and 4-wire cable are necessary to prepare to switch tuned circuits, and simple assembly kit is included for controller.

The mechanical characteristics is similar to our CY153, Yagi for 21MHz or 24MHz, which is light weight, high strength and low wind loading force type.

Using this 328 fully satisfy 3 bands, 21MHz to 28 MHz, that is the most suitable DX communication.

## SPECIFICATIONS

Frequency MHz	21	24	28
Gain dBi	9.2	10	10.5
F/B Ratio Avg. dB	24	24	18
Impedance (Connector)	50 $\Omega$ (MJ)		
VSWR (Best)	Less than 1.3 : 1		
Power Capability CW/PEP.	1.5/3 kW		
Element Number	3		
Element Length	6.25 m		
Boom Length	3.96 m		
Rotational Radius	3.8 m		
Mast Diameter	$\phi$ 48~61 mm		
Wind Survival Rating	40 m/s		
Weight	7.2 kg		
Bands Control Power	About 13VDC.		
	Less than 0.2A, 4-wires remote cable		

- ★ The only soldering operation is required for the controller kit that is PCB type.

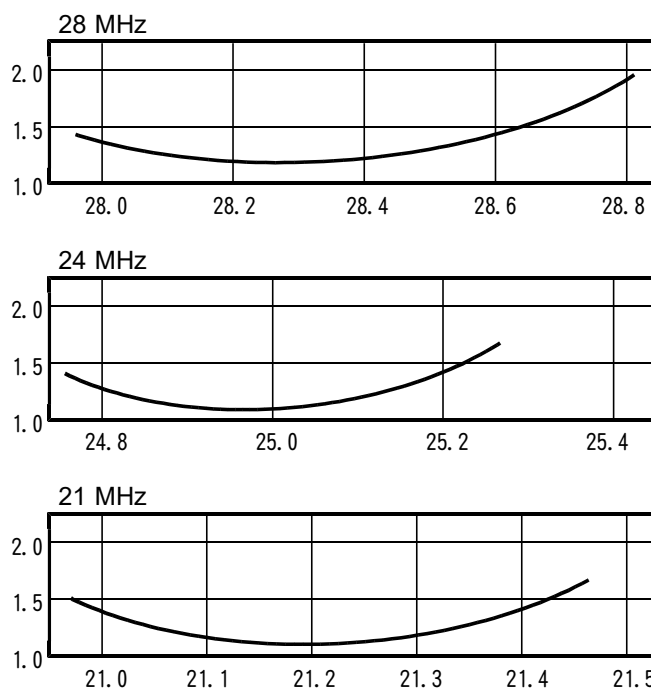


Figure 3. VSWR Characteristics

# HF Tri-Banders

High Gain, Compact and Light Weight  
Trap Beam for 7-21-28MHz



CD 218 series is a compact sized trap beam antennas designed for the operation for 7, 21 and 28MHz offering performance characteristics comparable to a full size antenna. The length of element for 28MHz is full size, 15% reduced for the element for 21MHz and 45% reduced for the element for 7MHz.

Larger diameter of Hy-Q trap and loading capacitor are used that assure to perform incomparable performance closed to full sized element of antenna. As the characteristics of multi-band antenna, VSWR is tend to be unstable due to affection of trap's unconstant or manufacturing accuracy of conformity.

CD assures these factor to be carefully adjusted through rigorous experiments resulted that the tolerance is maintain high accuracy within 0.5%. Mechanically specially shaped high quality aluminum tubing and brackets are used that allow to rugged construction and stable stability.

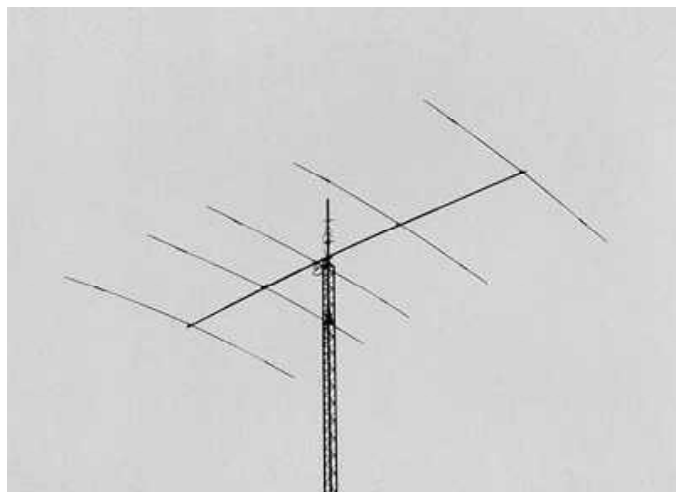
Model	218B			218BJr			218J			218C			218H			218F		
Frequency (MHz)	7	21	28	7	21	28	7	21	28	7	21	28	7	21	28	7	21	28
No. of Element	1	3	3	1	3	3	1	4	4	2	3	3	2	4	4	2	5	5
Forward Gain (dBi)		9.5	9.7		9.5	9.7		10.5	10.7	6.5	8.5	8.7	6.5	11.0	11.2	6.5	13.0	13.2
F / B Ratio (dB)		20	20		20	20		23	22	10	12	12	10	22	20	10	22	20
Power Capability (PEP/kW)	0.8	1.5	1.5	0.8	1.5	1.5	0.8	1.5	1.5	0.8	1.5	1.5	0.8	1.5	1.5	0.8	1.5	1.5
Boom Length (m)	4.0			3.3			5.6			4.0			6.0			9.1		
Element Length (m)	11.3			8.8			8.5			11.3			11.3			11.3		
Rotational Radius (m)	5.7			4.5			4.4			6.0			6.0			6.0		
Mast Diameter (mm)	48 ~ 61			48 ~ 61			48 ~ 61			48 ~ 61			48 ~ 61			48 ~ 61		
Wind Surface Area (m <sup>2</sup> )	0.4			0.38			0.68			0.5			0.7			0.8		
Weight (kg)	11.0			10.0			13.5			13.0			16.0			25.5		
Recommended Rotator	RC5-x			RC5-x			RC5-x			RC5-x			RC5-x			RC5A-x		

★ All the models include balun standard, connector type -M-

★ Wind survival rating of all the modes is above 35m/s

# HF Duo-Banders

Excellent Forward Gain, Clean Beam Patter, Compact & Rugged Design  
Performance Comparable to Full Size Beam, Designed for Maximum Forward Gain & F/B Ratio



If you are an operator just interested in 20 and 15 or 19 and 15 meters, then there is a CD antenna designed especially for you. For those interested in 20 and 15 meters there is the Model 214 Series. The 214A offers a combination on 3 elements on 14MHz and 4 elements on 21MHz. The 214C is based upon the proven 214A design but offers 4 elements on both bands. However, for those who prefer 10 and 15 meters, the 218 series is the one to chose. The 218 comes with 3 elements on 15 and 3 on 10 meters. The 218A comes with 4 elements on both 10 and 15. Whatever your choice is CD's 214 and 218 series dual band antennas includes a high performance balun at no extra cost, a maximum VSWR of 1.6:1 across each band and all elements are medium spaced. The boom, all elements, and other components are of high strength aluminum to minimize weight without sacrificing mechanical strength. All models in the 214 and 218 series, of course, include special matching stub and balun for maximum efficiency.

Model	214A		214C		214F		248S		248A		248C		248F	
Frequency (MHz)	14	21	14	21	14	21	18	24	18	24	18	24	18	24
No. of Element	3	4	4	4	5	5	1	1	3	4	4	4	5	5
Forward Gain (dBi)	9.5	11.2	11.0	11.2	12.5	13.2	—	—	9.5	11.2	11.0	11.2	12.5	13.2
F / B Ratio (dB)	20	20	18	20	23	22	—	—	20	20	18	20	23	22
Power Capability (PEP/kW)	2	3	2	3	2	3	2	3	2	3	2	3	2	3
Boom Length (m)	6.1		8.3		12.2				4.6		6.3		9.3	
Element Length (m)	9.5		9.5		9.5		6.9		7.5		7.5		7.5	
Rotational Radius (m)	5.8		6.0		7.8		3.4		4.7		4.9		5.8	
Mast Diameter (mm)	48 ~ 61		48 ~ 61		48 ~ 61		48 ~ 61		48 ~ 61		48 ~ 61		48 ~ 61	
Wind Surface Area (m <sup>2</sup> )	0.8		0.95		1.5		0.1		0.5		0.6		*call	
Weight (kg)	16.9		20.0		35.0		2.8		14.0		16.5		25.0	
Recommended Rotator	RC5-x		RC5-x		RC5A-x		RC5-x		RC5-x		RC5-x		RC5A-x	

- Custom Order Item -

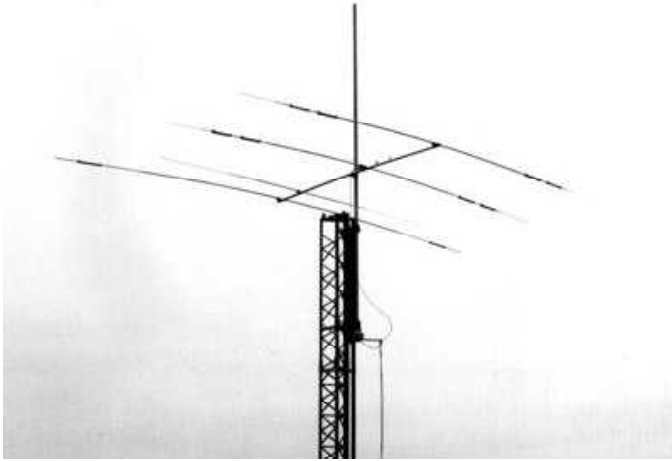
Model	218		218A		218U		218U-7	
Frequency (MHz)	21	28	21	28	21	28	21	28
No. of Element	3	3	4	4	5	5	7	7
Forward Gain (dBi)	9.5	9.7	10.5	10.7	13.2	13.2	13.8	14.0
F / B Ratio (dB)	23	22	23	22	25	23	25	23
Power Capability (PEP/kW)	1.6		1.6		1.6		1.6	
Boom Length (m)	4.0		5.6		9.3		13.1	
Element Length (m)	6.5		6.7		6.5		6.79	
Rotational Radius (m)	3.9		4.3		5.2		7.6	
Mast Diameter (mm)	48 ~ 61		48 ~ 61		48 ~ 61		42 ~ 61	
Wind Surface Area (m <sup>2</sup> )	0.4		0.55		0.65		*call	
Weight (kg)	8.3		11.0		21.0		34.0	
Recommended Rotator	RC5-x		RC5-x		RC5A-x		RC5B-x	

★ All the models include balun standard, connector type -M-

★ Wind survival rating of all the modes is above 35m/s

# HF Multi-Banders

Unique in Radiation Pattern, Incorporates High-Performance  
Traps, Light Weight and Compact



CD introduces the 318 series of DX Tri-band beam antennas that offer outstanding efficiency with High-Q traps especially designed for 14, 21 and 28MHz. Design emphasis is placed on full-sized mono-banders. Each model functions as a full-sized beam on 28MHz, physically reduced by 15% on 21MHz and 25% on 14MHz. Large High-Q wave traps are employed, resulting in performance comparable to that of full-sized elements. In the past, multi-band trap antennas were difficult to tune, and performance parameters varies considerably-especially VSWR curves. These irregularities and performance distortions were due largely to design in wave trap constants and tolerances in manufacturing. CD assures stable, uniform VSWR characteristics with an accuracy of 0.5% (max.) by using only the best combination of long life, maximum reliability, and light weight. At key stress points, such as the center section, tubing is dual-structured and overlapped, and hardware clamps are die-cast.

Model	714TW (714TW-3)			714XW (714XW-3)			714XXW (714XXW-3)			714S		
Frequency (MHz)	7-7.2	14	21	7-7.2	14	21	7-7.2	14	21	7	14	21
No. of Element	2	4	4	3	4	4	3	5	5	1	1	1
Forward Gain (dBi)	7.5	11.0	11.2	9.0	11.0	11.2	9.0	12.0	13.0	0	0	0
F / B Ratio (dB)	14	21	22	20	21	22	20	21	22	—	—	—
Power Capability (PEP/kW)	1.5 (3)	2.5 (3)	2.5 (3)	1.5 (3)	2.5 (3)	2.5 (3)	1.5 (3)	2.5 (3)	2.5 (3)	2	2	2
Boom Length (m)	8.6			9.9			13.7					
Element Length (m)	13.6 (14.0)			14.6			14.6			13.1		
Rotational Radius (m)	7.8			8.8			9.4			6.6		
Mast Diameter (mm)	48 ~ 61			48 ~ 61			48 ~ 61			48 ~ 61		
Wind Surface Area (m <sup>2</sup> )	1.1			1.4			1.7			*call		
Weight (kg)	30.0 (31.0)			37.0 (38.0)			58.0 (59.0)			6.0		
Recommended Rotator	RC5A-x			RC5A-x			RC5B-x			RC5-x		

Model	318Jr			318			318B			318C			318S		
Frequency (MHz)	14	21	28	14	21	28	14	21	28	14	21	28	14	21	28
No. of Element	3	3	3	3	3	3	3	4	4	4	5	5	1	1	1
Forward Gain (dBi)	8.7	9.2	9.4	9.0	9.5	9.7	9.0	10.5	10.7	11.0	13.0	13.2	—	—	—
F / B Ratio (dB)	18	18	18	20	18	22	20	18	20	20	18	22	—	—	—
Power Capability (PEP/kW)	1.2	2	2	2			2			2			2		
Boom Length (m)	4.0			5.0			6.4			9.1					
Element Length (m)	8.7			8.6			8.6			8.7			8.2		
Rotational Radius (m)	4.7			5.0			5.3			6.4			4.1		
Mast Diameter (mm)	48 ~ 61			48 ~ 61			48 ~ 61			48 ~ 61			48 ~ 61		
Wind Surface Area (m <sup>2</sup> )	0.55			0.7			0.9			1.2			*call		
Weight (kg)	13.0			18.0			20.0			26.0			5.0		
Recommended Rotator	RC5-x			RC5-x			RC5A-x			RC5A-x			RC5-x		

Model 318x-40 is the model that 7MHz is operable.

(7MHz works as a dipole.) \*Power Capability (PEP): 1 kW  
\*Element Length: 11.5 m  
\*Weight Consequently Added: 2 kg

- ★ All the models include balun standard, connector type -M-
- ★ Wind survival rating of all the modes is above 35m/s





## 3-Band, Yagi Beam for 7MHz Expanded-Band

☆ 7MHz(3-CH), 14MHz(4-CH), 21MHz(4-CH) Switching

## 714TW, 714XW, 714XXW



Model 714XW, 3-Band Yagi Beam Antenna



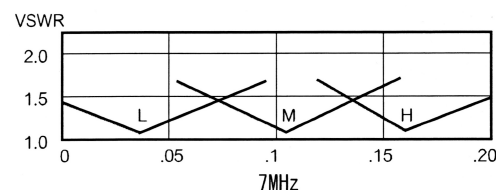
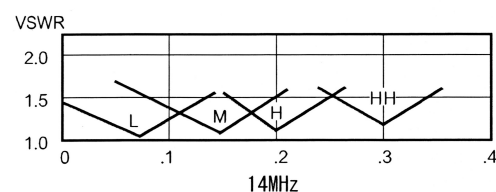
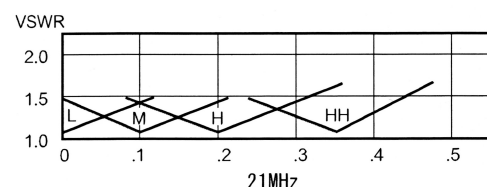
Matching Tuner, BS42



Remote Controller

For being familiar to many avid DXers and contest enthusiasts for many years as a 3-Band Yagi (7, 14, 21MHz) 714-series, it is evolved and newly developed with as 714xW-series, makes it possible to operate the expanded band on 7MHz. It enables to operate newly assigned the extended band above 7.1~7.2MHz by equipping it with matching tuner (BS42). The band switching can be remotely made from a radio shack by switching its controller which could operate not only on 7MHz but also 14MHz and 21MHz with maintaining in the lowering VSWR on each band, it provides you with an comfortable wide-band operation ever.

Model		714TW (714TW-3)	714XW (714XW-3)	714XXW (714XXW-3)
No. of Element	7MHz	2	3	3
	14MHz	4	4	5
	21MHz	4	4	5
Forward Gain (dBi)	7MHz	7.5	9.0	9.0
	14MHz	11.0	11.0	12.0
	21MHz	11.2	11.2	13.0
Power Capability	7MHz	1.5 (3)	1.5 (3)	1.5 (3)
	PEP (kW)	14MHz	2.5 (3)	2.5 (3)
	21MHz	2.5 (3)	2.5 (3)	2.5 (3)
Boom Length (m)		8.6	9.9	13.7
Element Length (m)		13.6	14.6	14.6
Rotational Radius (m)		7.8	8.8	9.4
Wind Surface Area (m <sup>2</sup> )		1.1	1.4	1.7
Weight (kg)		30 (31)	37 (38)	58 (59)
Mast Diameter (mm)		φ 48 ~ 61	φ 48 ~ 61	φ 48 ~ 61
Control Cable (13VDC)		5-Core	5-Core	5-Core



714XW VSWR (Typical)

The figures indicated in ( ) is for -3 model.

## 714-Series Expanded-Band Matching Tuner **BS42** on 7MHz Band

- ★ Upgradable Existing 714-Series By Adding BS42 (Balun Included) For Expanded-Band Operation
- ★ 7.0~7.2MHz Full Coverage by Relay Controlled System
- ★ Remotely Controllable from a Radio Shack (3-CH on 7MHz, 4-CH on 14/21MHz) Maintaining Low VSWR (Control Cable {13VDC} : 5-Core)

## 714-Series Expanded-Band Matching Tuner **BS42** on 7MHz Band

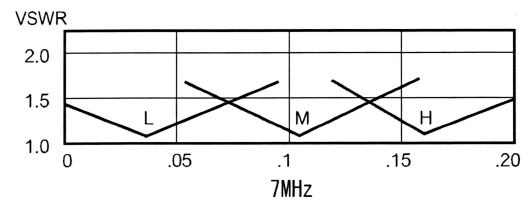
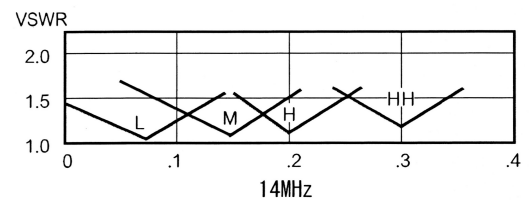
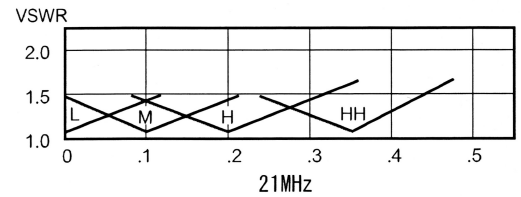
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Matching Tuner, BS42



Remote Controller



714XW VSWR (Typical)