

## Section 2

### BROADCAST ANTENNAS

Updated 16 February 2011

### Yagi VHF TV Broadcast Antennas Channels 1 and 2

Frequency  
56 – 70 MHz

Bandwidth  
7 MHz



These 4 element Y104 series Yagi's are designed to cover either Channel 1 or Channel 2 in VHF TV Band 1. Suitable for low power transmissions, other typical applications are off-air receive and re-broadcasting.

Bandwidth is achieved by phasing a pair of folded dipoles together in a small log cell. Return loss is optimised to broadcast standard, better than -20 dB and less than 1.2:1 VSWR across the TV channel.

- ⇒ **Y104-57 for Channel 1** is manufactured from stainless steel with a 7/8" EIA connector rated for up to 1,000 watts power.
- ⇒ **Y104-67 for Channel 2** is aluminium with stainless steel fasteners. The N-Female connector is suitable for up to 500 watts.



These Yagi's are a very large size and will need to be properly supported with a strut kit and heavy duty right-angle mounting clamp.

The **YS1-100** single strut kit and **Y2300** heavy duty galvanised steel right-angle clamp is considered the minimum necessary. For additional stability against side-to-side wind flutter, the **YS2-100** two way strut kit is the other alternative available.

SPECIFICATIONS	Y104-57	Y104-67
Construction	Stainless Steel	Aluminium with stainless steel fasteners
Frequency	56 to 63 MHz	63 to 70 MHz
VHF TV Coverage	Channel 1	Channel 2
Return Loss, VSWR	Better than -20 dB, less than 1.2:1	
Tuning	Factory	Factory
Number of Elements	4	4
Gain	7 dBd	7 dBd
Polarisation	Mount either Horizontal or Vertical as required	
Maximum Input Power	1,000 Watts	500 Watts
Impedance	50 Ohms	50 Ohms
E-Plane	54°	54°
H-Plane	62°	62°
Front-to-Back Ratio	< 17 dB	< 17 dB
DC Grounding	Yes	Yes
Cable Tail	1.5 metres ½" flexible foam dielectric	1.5 metres RG213
Connector	7/8" EIA fitted	N-Female fitted
Boom Length	5.2 metres	4.0 metres
Boom Diameter	50 mm	48 mm
Longest Element	3.1 metres	2.7 metres
Weight	28 kg	12 kg
Projected Area	0.510 m <sup>2</sup>	0.457 m <sup>2</sup>
Wind Load at 160 kph	61 kg	55 kg
Support Strut Kit recommended	YS1-100 single strut kit as a minimum, or YS2-100 two way strut kit for additional stability	
Clamp recommended	Y2300SS	Y2300
Warranty	2 Years	2 Years



The **Y2300** right-angle clamp has galvanised steel components.

The **Y2300SS** clamp is manufactured entirely from stainless steel.

These heavy duty clamps will secure a Yagi to a round mast between 30 mm and 50 mm in diameter.

For larger diameter masts up to 70 mm, the galvanised steel **Y2300L** clamp is available.

Other installation accessories available from ZCG Scalar include :

- ⇒ Coaxial Cable
- ⇒ Cable Hangers, Angle Adapters and Cleats
- ⇒ Connectors
- ⇒ Adaptors
- ⇒ Trimming Tools and Crimp Tools
- ⇒ Power Surge Protectors
- ⇒ Ground Earthing Kits