



TECHNICAL MANUAL

and

INSTALLATION INSTRUCTIONS

**V-252 SERIES
29-FOOT LIGHT DUTY
WHIP ANTENNA**

VTM-14-001

Valcom Manufacturing Group, Inc.

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REVISION SHEET

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1.0 V-252 INFORMATION

1.1 Introduction

This section describes the electrical and mechanical properties of the V-252 fibreglass whip antenna. Information necessary to install, operate and maintain the antenna system is covered in the sections to follow.

1.2 Technical Reference Data

Electrical Properties		
	V-252-SF	V-252-FT
Frequency Range	1.6 MHz to 30 MHz	
Resonant Frequency	8 MHz (nominal)	
Power Rating	1 kW (average)	
Dry Withstanding Voltage	25 kV	
Electrical Length	27.8 feet (8.5 m)	29.2 feet (8.9 m)

Mechanical Properties	
Top Section Length	11.7 feet (3.6 meter)
Base Section Length	17.0 feet (5.2 meter)
Typical Assembly Length	28.7 feet (8.8 meter)
Weight	Approximately 29 lbs (13.2 kg)
Conductor Material	Copper straps embedded in fiberglass and thermo-setting epoxy resin composite
Finish	Polyurethane, white
Mounting Position	Vertical
Base Diameter	8.0 inches (20.3 cm)
Mounting Hole Diameter	0.562 inches (1.43 cm)
Joints	Bronze ferrule C/W locking screw(s)
Mounting Holes Dimensions	5 holes equally spaced on 6.0 inch (15.2 cm) dia. bolt circle
Operating Temperature	-60°F to +150°F (-50°C to +65°C)
Wind Loading Test	Up to 150 mph (241 km/h) relative
Abrasion Resistance	Very good

1.3 General Description

The V-252 Light Duty Whip Antenna is a lightweight yet rugged whip antenna designed specifically for yachts, fast patrol boats and fixed shelters. It can be built with either a side-feed connection or a feed-through-the-base connection.

1.4 Electrical Description

The Valcom, V-252 model, is a field proven 29-foot (9 m) epoxy fibreglass antenna. It is capable of operating with an average power of up to 1 kW over the frequency range of 2 MHz to 30 MHz.

1.5 Mechanical Description

Top-Section. The top-section is a hollow, tapered rod made of circumferentially spun fibreglass strips embedded in thermosetting epoxy resin matrix. Embedded in the composite are multiple copper conductors secured at the bottom to a threaded male ferrule into which the base-section is secured. The surface is primed and painted with a polyurethane surface coating.

Base-Section. The base-section is a hollow, tapered cylinder made of circumferentially and longitudinally wound fibreglass filaments using a thermosetting epoxy resin matrix. The diameter expands out to meet the integral fibreglass mounting base. The surface is sanded smooth, then primed and painted with a polyurethane surface coating. Multiple parallel conductors are connected to the threaded female ferrule at the top and to a conducting ring near the bottom. The side feed terminal extends from the bottom ring to the surface of the antenna approximately 11.0 inches (4.33 cm) from the bottom of the base flange. Alternatively, the conductors are internally connected to feed post that protrudes out from an insulator installed in the bottom of the antenna. The base can withstand a flash-over voltage of 25 kV.

2.0 INSTALLATION

2.1 Unpacking

Open the shipping crate and remove the antenna sections and any accessories provided. Remove all packing material, including the male ferrule protector on the antenna sections, if applicable. The V-252 antenna, as shipped, consists of the items listed in Table 3.1. Check that all of the items are present and in good condition.

2.2 New Site Preparation

Check to see that the mounting location at the site is free of dirt, cables and other obstructions.

2.3 Assembly and Installation of Antenna on the Site

The following steps should be followed to assemble the V-252 Light Duty Whip antenna.

- (1) Obtain two saw horses or other supports that will hold the complete antenna horizontally at a convenient working height and place them in the assembly area.
- (2) Support the base section (Item 1, Table 3.1) on two of the saw horses.
- (3) Assemble the second antenna section onto the base section and tighten to align the arrows (if applied) at the joint. Make sure the threads of the male ferrule are clear of foreign material and free of burrs.
- (4) Install the locking screws provided (Item 7, Table 3.1) and seal the screw head with the sealant provided (Item 9, Table 3.1).
- (5) The antenna is now ready to be raised to its final position. Raise antenna into position and secure it to an appropriate mounting plate with appropriate 1/2" hardware (not provided).

3.0 PARTS LIST

3.1 General

A list of parts shipped with Valcom V-252 whip antenna appears in Table 3.1.

Table 3.1 - List of Parts for the V-252 Whip Antenna

Item	Part Number	Description	Qty	Notes
1	V7119-BASE	Base Section	1	
2	VC-80-00044-2	Top Section	1	
3		Set Screws	2	
4		Hex Key	1	
5		Silicon Sealant	1	
6		Technical Manual and Installation Instructions	1	

4.0 MAINTENANCE

4.1 SCHEDULED MAINTENANCE

The antenna is virtually maintenance free. The external finish is a polyurethane two part compound paint. The minimum finish life before showing signs of deterioration should be at least six years under normal climate condition.

When used in salt-water environments, it is recommended to wash the antenna base with fresh water to remove any build-up of dried salt residue. This should be performed on a monthly basis or after prolonged exposure to sea-spray.

4.2 CORRECTIVE MAINTENANCE

Generally, no corrective maintenance is possible or required. If one section is severely damaged, it must be replaced by a new section. Workshops having experience in handling epoxy fibreglass composite structures may attempt the repair of minor surface damage if practicable.

NOTE

DO NOT USE LEAD BASE PAINT TO TOUCH-UP OR REPAINT THE ANTENNA. USE ONLY EPOXY BASE PAINT.

5.0 QUICK REFERENCE DATA

5.1 Manufacturer's Address

Postal address:
Valcom Manufacturing Group, Inc P.O. Box 603 Guelph, Ontario Canada N1H 6L3

Shipping address:
Valcom Manufacturing Group, Inc 175 Southgate Drive Hanlon Industrial Park Guelph, Ontario Canada N1G 3M5

5.2 Outline Drawing

