Viper SC+ Base Station Order Numbers

US & Canada

The Viper SC+ Base Station for use in the US and Canada is available as:

- Standard Base Station
- Redundant Base Station or
- Redundant Base Station with Dual RF Port (Redundant Base - Dual RF)

140-5118-502 VHF 136-174 MHZ 6.25-50 kHz BW Viper SC+ Standard Base Station
140-5318-502 VHF 136-174 MHZ 6.25-50 kHz BW Viper SC+ Redundant Base Station
140-5318-503 VHF 136-174 MHZ 6.25-50 kHz BW Viper SC+ Redundant Base - Dual RF
140-5128-504 VHF 215-240 MHZ 6.25-100 kHz BW Viper SC+ Standard Base Station
140-5328-504 VHF 215-240 MHZ 6.25-100 kHz BW Viper SC+ Redundant Base Station
140-5328-505 VHF 215-240 MHZ 6.25-100 kHz BW Viper SC+ Redundant Base - Dual RF
140-5148-302 UHF 406.1125-470 MHZ 6.25-50 kHz BW Viper SC+ Standard Base Station
140-5348-302 UHF 406.1125-470 MHZ 6.25-50 kHz BW Viper SC+ Redundant Base Station
140-5348-303 UHF 406.1125-470 MHZ 6.25-50 kHz BW Viper SC+ Redundant Base - Dual RF
140-5148-502 UHF 450-512 MHZ 6.25-50 kHz BW Viper SC+ Standard Base Station
140-5348-502 UHF 450-512 MHZ 6.25-50 kHz BW Viper SC+ Redundant Base Station
140-5348-503 UHF 450-512 MHZ 6.25-50 kHz BW Viper SC+ Redundant Base - Dual RF
140-5198-304 UHF 880-902 MHZ 12.5-100 kHz BW Viper SC+ Standard Base Station
140-5398-304 900 880-902 MHZ 12.5-100 kHz BW Viper SC+ Redundant Base Station
140-5398-305 900 880-902 MHZ 12.5-100 kHz BW Viper SC+ Redundant Base - Dual RF
140-5198-504 900 928-960 MHZ 12.5-100 kHz BW Viper SC+ Standard Base Station
140-5398-504 900 928-960 MHZ 12.5-100 kHz BW Viper SC+ Redundant Base Station
140-5398-505 900 928-960 MHZ 12.5-100 kHz BW Viper SC+ Redundant Base - Dual RF

ETSI/AS/NZ Compliant

The Viper SC+ Base Station for use in the European Union (ETSI), Australia (AS), and New Zealand (NZ) is available as:

- Standard Base Station
- Standard Base Station with Dual RF Port (Standard Base - Dual RF)
- Redundant Base Station or
- Redundant Base Station with Dual RF Port (Redundant Base - Dual RF)

(All units ETSI/AS/NZ)
140-5118-600 VHF 142-174 MHZ 12.5-25 kHz BW Viper SC+ Standard Base Station
140-5118-601 VHF 142-174 MHZ 12.5-25 kHz BW Viper SC+ Standard Base - Dual RF
140-5318-600 VHF 142-174 MHZ 12.5-25 kHz BW Viper SC+ Redundant Base Station
140-5318-601 VHF 142-174 MHZ 12.5-25 kHz BW Viper SC+ Redundant Base - Dual RF
140-5148-400 UHF 406.1125-470 MHZ 12.5-25 kHz BW Viper SC+ Standard Base Station
140-5148-401 UHF 406.1125-470 MHZ 12.5-25 kHz BW Viper SC+ Standard Base - Dual RF
140-5348-400 UHF 406.1125-470 MHZ 12.5-25 kHz BW Viper SC+ BW Redundant Base
140-5348-401 UHF 406.1125-470 MHZ 12.5-25 kHz BW Viper SC+ Redundant Base - Dual RF
140-5148-600 UHF 450-512 MHZ 12.5-25 kHz BW Viper SC+ Standard Base Station
140-5148-601 UHF 450-512 MHZ 12.5-25 kHz BW Viper SC+ Standard Base - Dual RF
140-5348-600 UHF 450-512 MHZ 12.5-25 kHz BW Viper SC+ Redundant Base Station
140-5348-601 UHF 450-512 MHZ 12.5-25 kHz BW Viper SC+ Redundant Base - Dual RF

Package Contents

Your Viper SC+ Base Station package contains:

- (1) Viper SC+ Base Station (Configured as per part number above)
- (1) 60 in. CAT-5 Ethernet Cable
- (1) Power Cable
- (1) Start Up CD-ROM and Product Documentation Card

Kit Components

	Description	Item
Basic Unit	Viper SC+ IP Router	
	60 in. Cat 5 Ethernet Cable	
	Power Cable	
2- and 3-Piece Kit Additional Items	SMA Male to BNC Female Connector	
	SMA Female to BNC Male Connector	
	TNC Male to BNC Female Connector	
	Mini Circuits 5 W 20 dB Attenuator	
	Flex Rubber Duck Antenna (VHF, UHF, or 900 MHz)	
	120 VAC to 13.8 VDC 4 A Power Supply	

NextGen RF DESIGN

ABOUT NEXTGEN RF

NextGen RF is a USA owned and operated engineering services company providing valuable wireless design expertise on a variety of products, ranging from design consultation to fully turnkey product development. Because we know design, NextGen RF has become the chosen partner for companies worldwide who require a high level of design expertise and responsiveness for their product development. We understand the difficulties of implementing RF solutions in designs and have a proven track record of helping clients efficiently meet their design objectives and requirements. We focus on process-oriented engineering from discovery and idea generation, definition of product requirements and specifications to design, verification and ultimately factory introduction. For more information visit www.nextgenrf.com

Any changes or modifications not expressly approved by the party responsible for compliance (in the country where used) could void the user's authority to operate the equipment. NextGen RF reserves the right to update its products, software, or documentation without obligation to notify any individual or entity. Product updates may result in differences between the information provided and the product shipped. For access to the most current product documentation and application notes, visit www.nextgenrf.com.

PN 004-5100-000 Rev. B
All specifications are typical and subject to change without notice.
NG_Version03.21

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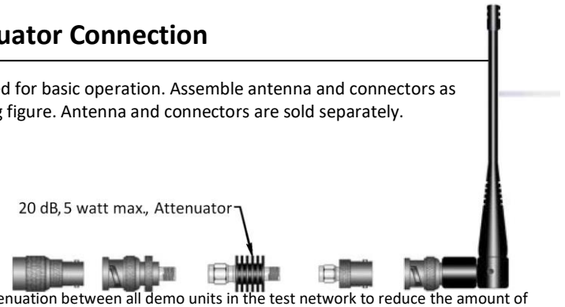
SETUP AND CONFIGURATION

These instructions allow you to set up a Viper SC+ Base Station to verify basic unit operation and experiment with network designs and configurations. To eliminate unnecessary disruption of traffic on the existing network while you become familiar with the Base Station, you should use a network IP subnet address that does not overlap with subnets currently in use in your test area.

Antenna & Attenuator Connection

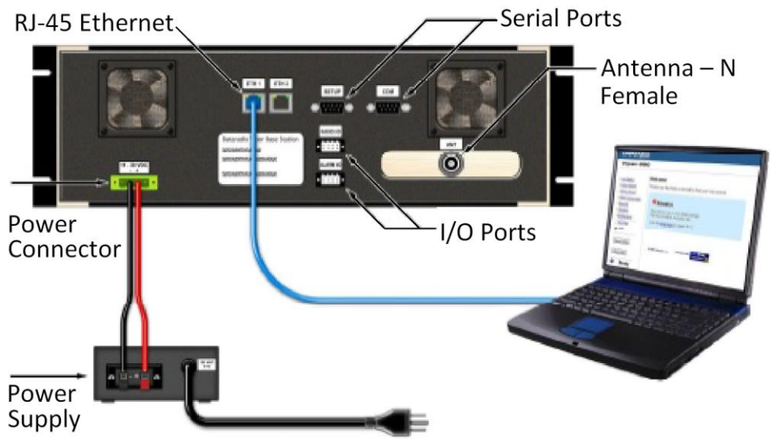
An Rx/Tx antenna is required for basic operation. Assemble antenna and connectors as shown in the accompanying figure. Antenna and connectors are sold separately.



Note: It is important to use attenuation between all demo units in the test network to reduce the amount of signal strength in the test environment.

Device Connections

Refer to the diagram below for proper device connections.



Connect an Ethernet cable to the first **LAN** port of the Viper SC+ and connect the other end into the Ethernet port of your PC.

Primary power for the Viper SC+ must be within 10-30 V DC and must be capable of providing:

- 10 W supply for Tx at 1 W
- 40 W supply for Tx at 5 W or
- 60 W supply for Tx at 10 W

Viper SC+ Demo kits include a power supply with spring terminals. Observe proper polarity when connecting the cables to the power supply. The white wire must be connected to the red wire or B+ supply, as shown in the above figure.

Accessing the Viper SC+ Web Server

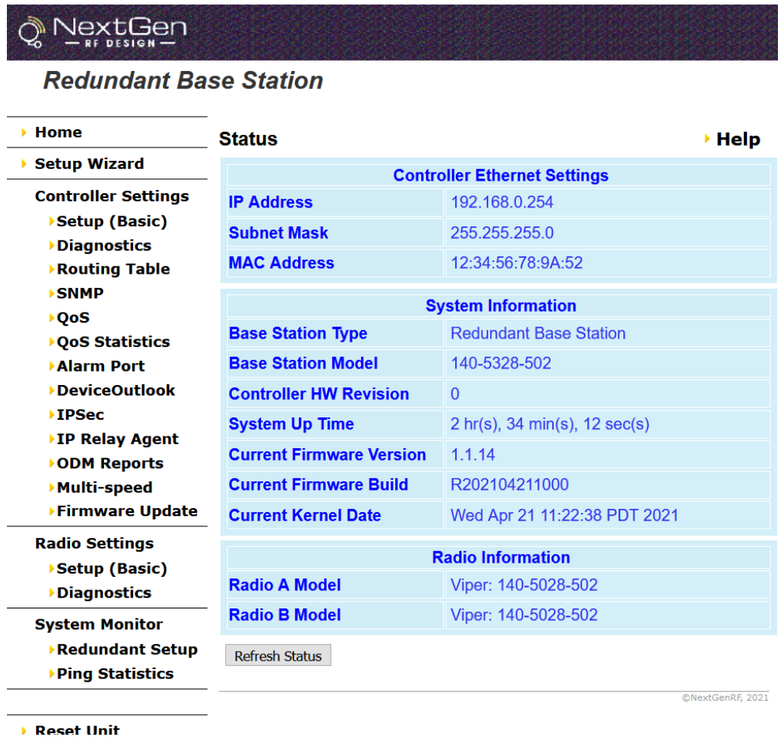
The Viper SC+ Base Station is configured via a Web-browser interface and contains a DHCP server which will automatically assign an IP address to your PC, however in some cases it may be necessary to change the network settings on the PC to accept the IP address assigned by the Viper DHCP server.

Step 1 Enable a network connection with the following LAN settings. In the Internet Protocol (TCP/IP) Properties window, select **Obtain an IP address automatically** and **Obtain DNS server address automatically**. Click **OK** and close.

Step 2 Open a Web browser and enter **192.168.205.254** in the Address bar. When the connection Login window appears, enter the Username: **admin** and the Password: **ADMINISTRATOR** (both admin and ADMINISTRATOR are case-sensitive) and click **OK**.

Antenna & Attenuator Connection

Once you have logged in you will see the Home page of the Viper Web Interface as shown in the following figure. Arranged vertically on the left side is the main navigation menu.



For quick setup, select **Setup Wizard** (beneath Home) from the main menu (along the left of the page). The first page of the Viper SC+ Setup Wizard is displayed.

The Setup Wizard consists of four (4) steps. Each step is presented as a single page with a few simple options to fill in or select from. Each of the four pages for each step of the Setup Wizard contain the basic configuration settings that are most required to select or change to set up the Viper SC+ Base Station for specific functionality. Read the instructions for each page carefully.

Instructions for each of these steps are provided on the web page for the step.

The Setup Wizard steps are as follows

Step ① **Ethernet IP Address/Subnet and Login Security:** Ethernet IP Address, Username and Password. (× 2 for Redundant Radio models.)

Step ② **LAN Configuration:** Ethernet IP Address / Subnet Mask of the Base Station controller board. (Must be on same subnet as internal radio or radios.)

Step ③ **Ping Settings:** Primary and Secondary Ping IP Address, Ping Timer, and Ping Failure Threshold.

Step ④ **Static Routes:** Allows you to build a Routing Table by adding known static routes.

Setup complete: Click **Finish** to save and apply the Setup Wizard settings.

Setup Wizard Quick Setup

Enter the following in the Setup Wizard for quick setup. Click **Next** as you complete each page in sequence. (You can click **Previous** to review settings in a previous page if needed.)

Step ① **Radio A Configuration** (and **Radio B Configuration**, if Redundant Base Station)
Note: A Redundant Base Station contains two internal Viper radios. The purpose of the redundancy is so that if an error is detected in the primary radio, the Base Station Controller automatically switches to the backup radio. For this reason, both internal Viper radios must be configured with the same settings. **Select Radio A** and **Select Radio B** buttons allow you to manually select which radio is currently the primary (active) radio.
- **Ethernet IP Address:** Enter an IP Address for the internal Viper radio(s). This will be different, but on the same subnet as the controller board (default Radio A / Radio B Ethernet IP Address = 192.168.205.1).
- **Username:** and **Password:** These fields are for the username and password used to log on to the Internal Viper radio(s) (default Username = Admin; Password = ADMINISTRATOR) **Important:** These are both case-sensitive.

Step ② **LAN Configuration:** Enter the Ethernet IP Address/Subnet Mask for the Base Station controller board. The IP address for the controller board must be on the same subnet as the radio in the base station (both radios if redundant).
- **Ethernet IP Address:** Enter the Ethernet IP Address of the controller board (default = 192.168.205.254).
- **Ethernet Subnet Mask:** Enter the Subnet Mask (default = 255.255.255.0).

Step ③ **Ping Settings:** (Optional) to ping remote IP addresses to verify RF link is active.
- **Primary Ping IP Address:** Enter the IP Address of the primary remote that pings will be sent to, to determine if the RF link is working (default = blank).
- **Secondary Ping IP Address:** Enter the IP Address of the secondary remote to which pings will be sent if pings to the primary fail (default = blank).
- **Ping Timer:** Enter the amount of time (in multiples of 5 seconds) between each ping that is sent (default = 0, disabled).
- **Ping Failure Threshold:** Enter the number of ping failures allowed

Step ④ **Static Routes & Routing Table:** (Optional) Enter static routes into a table.
- **Route Name:** Enter a name for the route by which you will recognize the route entry in the Routing Table displayed in the lower part of the page.
- **Destination Address:** Enter the IP Address of the destination network. (This is a network name and not an actual IP address.)
- **Gateway IP Address:** Enter the IP Address of the local gateway.
- **Metric:** Enter a number ranging from 1 to 65,535. Generally, the lower the metric value, the higher the priority. Typically set to 1.
- Click **Add** to add the route you have defined to the Routing table below.

Click **Finish** to finish the Setup Wizard. Your unit will now function with the new configuration.

Check for Normal Operation

To simulate data traffic over the radio network, use the PC connected to the Viper SC+ Ethernet port to Ping each unit in the network multiple times. For more information about configuring the Viper SC+, refer to the Viper SC+ Base Station User Manual (PN 001-5100-000).

Technical Support

For assistance with this product, contact NextGen RF technical support.
Email support@nextgenrf.com
Phone 507.514.6246
Or visit our website at www.nextgenrf.com.