

BSA Kit

Base Station Antennas

INSTALLATION:

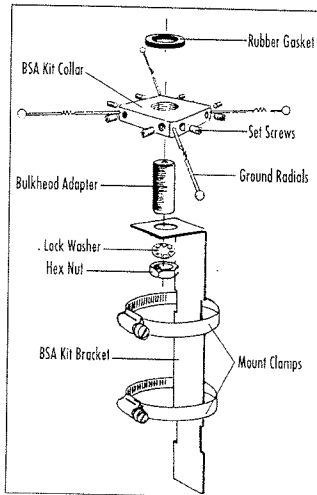
You are installing an effective and efficient Larsen BSA-K Series Antenna. It has been engineered and field tested to deliver top performance and to handle 200 Watts of output power.

If purchased separately (without antenna), the BSA Kit should not be used for frequencies below 144 MHz.

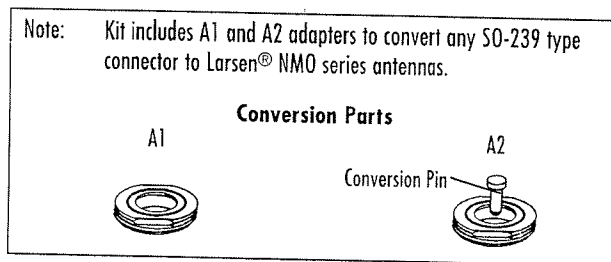
How to use the BSA Series kit:

The Larsen BSA Series antenna kit includes the PO-150 or the PO-UHF antenna as the radiator. It is also available with a PQ series antenna.

When using PO or PQ series antennas, discard the conversion pin (refer to the diagram). This pin is supplied to fit into the female contact on the mount, adapting it for use with Larsen NMO series antenna as the main radiator.



Note: Kit includes A1 and A2 adapters to convert any SO-239 type connector to Larsen® NMO series antennas.



ADJUSTING TO FREQUENCY

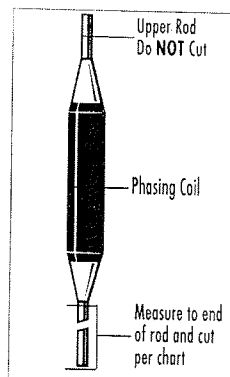
Just cut the rod to the correct length for the operating frequency (see cutting chart).

CUTTING THE ROD

The whip is constructed of the highest grade 17-7PH stainless steel, to provide all-weather protection and maximum radiation efficiency. Because it is hard to cut, the best results are achieved by using the edge of a grinding wheel, or the sharp corner of a file. Use the file to score the rod around its circumference so it may be snapped off with a pair of pliers.

MEASURING THE ROD LENGTH - UHF ANTENNAS

The dimensions shown on the cutting chart are for sections of rod below the phasing coil. The rod above this coil comes preset from the factory. Do not cut this upper rod. The rod length indicated on the chart refers to the length of the rod from the bottom of the phasing coil to the end of the rod. Be sure to be precise for best results.



Pulse warrants to every user of a Larsen product that it will perform to its specified ratings and will be free of defects in materials and workmanship.

Pulse will repair or replace without charge any Larsen product which fails to meet this warranty within one year of the purchase date. Excluded is failure due to misuse such as striking objects, improper installation, and use beyond specifications.

Pulse will not be responsible for any incidental or consequential damages due to failure of a Larsen product under this warranty or any implied warranty.

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BSA Kit

Base Station Antennas



PI00049, REV. D, 04/19, 5190.4018

PO Series for BSA Installation Kits Only

Cut Charts

BSA150B / BSA150C

OPERATING FREQUENCY	INCHES	CENTIMETERS
145 MHz	49	124.5
148 MHz	47 3/4	121.3
150	47 1/8	119.7
152	46 1/4	117.5
154	45 1/2	115.6
156	44 5/8	113.3
158	43 7/8	111.4
160	43 1/8	109.5
162	42 1/2	108.0
165	41 3/4	106.0
166	41 3/8	105.2
168	40 5/8	103.3
170	39 7/8	101.3
172	39 1/8	99.4
174	38 1/2	97.8
175	38 3/16	97.0

BSA406C

406 MHz	11	27.9
410 MHz	10 1/2	26.7
415 MHz	9 7/8	25.1
420 MHz	9 1/4	23.5

BSA420C

420 MHz	10 3/4	27.3
425 MHz	10 1/4	26.0
430 MHz	9 3/4	24.8
435 MHz	9 1/8	23.2
440 MHz	8 3/4	22.2

BSA440C

440 MHz	9 3/4	24.8
445 MHz	9 3/8	23.8
450 MHz	9	22.9
455 MHz	8 5/8	21.9
460 MHz	8 3/16	20.8

BSA450C

450 MHz	9 3/4	24.8
455 MHz	9 3/8	23.8
460 MHz	9	22.9
465 MHz	8 9/16	21.7
470 MHz	8 3/16	20.8

BSA470C

470 MHz	8 13/16	22.4
475 MHz	8 3/8	21.3
480 MHz	8	20.3
485 MHz	7 5/8	19.4
490 MHz	7 5/16	18.6

BSA490C

490 MHz	8 1/4	21.0
495 MHz	7 13/16	19.8
500 MHz	7 7/16	18.9
505 MHz	7 1/8	18.1
512 MHz	6 3/4	16.1

NMO Series for BSA Installation Kits Only

Cut Charts

BSA150B / BSA150C

OPERATING FREQUENCY	INCHES	CENTIMETERS
145	49	124.5
147	48 1/2	123.2
150	47	119.4
152	46 1/8	117.2
154	45 1/4	114.9
156	44 7/16	112.9
158	43 3/4	111.1
160	42 7/8	108.9
162	41 7/8	106.4
165	40 7/8	103.8
167	40 1/2	102.9
170	39 3/4	101.0

BSA406C

408	12	30.5
410	11 3/4	29.8
415	11 1/4	28.6
420	10 5/8	27.0

BSA420C

420	11 7/8	30.2
425	11 3/8	28.9
430	10 3/4	27.3
435	10 1/8	25.7
440	9 5/8	24.4

BSA440C

440	11	27.9
445	10 3/8	26.4
450	10	25.4
455	9 1/2	24.1
460	9 1/16	23.0

BSA450C

450	10 7/8	27.6
455	10 3/8	26.4
460	9 3/4	24.8
465	9 1/4	23.5
470	8 7/8	22.5

BSA470C

470	9 3/4	24.8
475	3 3/8	8.6
480	8 15/16	22.7
485	8 1/2	21.6
490	8 1/8	20.6

BSA490C

490	9	22.9
495	8 5/8	21.9
500	8 5/16	21.1
505	7 7/8	20.0
512	7 5/8	19.4

FIXED BASE STATION ANTENNA

**WARNING: INSTALLATION OF THIS
PRODUCT NEAR POWERLINES IS
DANGEROUS. FOR YOUR SAFETY,
FOLLOW THE INSTALLATION DIRECTIONS
PROVIDED WITH PRODUCT.**

* * * *****

In addition, see below information for your safety.

**National Electrical Safety Month: CPSC Alerts Consumers To Electrocuting Hazards
From Overhead Power Lines**

May 01, 2002
Release Number: 02151

Even as technology improves, the electrocution hazards of the past can resurface and pose a danger to consumers. With satellite dishes, cable TV, cellular phones, and the Internet replacing traditional TV, radio, and CB systems, consumers may be taking out their ladders and taking down their old antennas. If proper precautions are not used, the result can be deadly. In recognition of National Electrical Safety Month, the U.S. Consumer Product Safety Commission (CPSC) is reminding consumers of the serious electrocution hazard when ladders or antennas touch high-voltage, overhead power lines.

CPSC data show that between 1990 and 1998, more than 300 people in the U.S. were electrocuted when an antenna or pole they were holding touched a high-voltage power line. During this same timeframe, CPSC is aware of nearly 150 electrocution deaths due to ladders coming into contact with an electrical line. Overall, CPSC estimates there are about 200 consumer product-related electrocution deaths each year, which is down from about 600 deaths per year in the 1970s.

"CPSC believes that there are still many electrocution deaths that could be prevented. Consumers should never place a ladder, antenna, or anything else near a power line," stated CPSC Acting Chairman Thomas Moore. "Consumers who come in contact with an overhead power line may not live to share their experience."

In 1978, the Commission set a standard calling for the industry to properly label antennas with safety warnings about the risk from power lines. This was followed by a standard in 1982 requiring antennas for citizen's band communications to be insulated, thus reducing the risk of shock from contact with power lines. These standards helped to dramatically reduce the 186 deaths per year that occurred in the mid- 1970s from antenna electrocutions to 20 per year in the 1990s. Now, consumers are taking down older, uninsulated antennas, which could lead to more electrocutions.

When participating in outdoor, overhead activities, consumers should take the following precautions:

- Keep all objects - including masts, poles, ladders, tools and toys - far away from power lines at all times.

- If you are taking down or moving an antenna, be aware of new power lines that have been put up since the antenna was first installed.
- Never assume that an overhead power line is electrically insulated; always assume that contact with any line can be lethal.
- Never place a ladder anywhere near an electrical power line.
- Position non-metal ladders (such as fiberglass) at a height and location that prevents the possibility of you or it contacting a power line.
- Keep the distance from an antenna or pole to the power line at least 1 1/2 times the height of the antenna or pole.
- Properly ground all masts in accordance with electrical codes.
- Be aware that you can be electrocuted by touching a power line directly or by touching a conductive material (such as a metal ladder, antenna, pipe, kite) and, at the same time, the earth or any grounded item (such as metal siding or a downspout).
- Keep away from all downed power lines. A power line that touches the ground can shock or kill you even if you do not touch it. The electrical current can travel through the ground and into your body.

The U.S. Consumer Product Safety Commission is charged with protecting the public from unreasonable risks of injury or death associated with the use of thousands of types of consumer products under the agency's jurisdiction. Deaths, injuries, and property damage from consumer product incidents cost the nation more than \$1 trillion annually. CPSC is committed to protecting consumers and families from products that pose a fire, electrical, chemical or mechanical hazard. CPSC's work to help ensure the safety of consumer products - such as toys, cribs, power tools, cigarette lighters and household chemicals -- contributed to a decline in the rate of deaths and injuries associated with consumer products over the past 40 years.

Federal law bars any person from selling products subject to a publicly-announced voluntary recall by a manufacturer or a mandatory recall ordered by the Commission.

To report a dangerous product or a product-related injury go online to www.SaferProducts.gov or call CPSC's Hotline at (800) 638-2772 or teletypewriter at (301) 595-7054 for the hearing impaired. Consumers can obtain news release and recall information at www.cpsc.gov, on Twitter @USCPSC or by subscribing to CPSC's [free e-mail newsletters](#).