

# Technical Support Newsletter 10/94

Paraclipse provides technical assistance on-line

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**SATELLITE ANTENNAS**

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# **Paraclipse**<sup>®</sup>

Technical Support Newsletter - Volume 1, Number 2 - 10/94

## **OUR PURPOSE**

To all those working with our products out in the field, whether it be a dealer, distributor, or a do-it-yourself home owner, it is hoped that this will save a valuable commodity, TIME. As my father likes to say, "When all else fails, read the instructions."

This newsletter, coupled with the installation manual that came with your antenna, should save you valuable time in dealing with situations that come up in the field. Please take the time to look over this sheet.

Every so often I get calls from someone who is in the process of moving their Paracclipse Classic satellite antenna. Basically, all they want is some tips on how to take it down and reassemble it. In the course of giving them some suggestions, I usually ask them something that seems to catch them by surprise. I mention that, if they are going to all this trouble, why not upgrade their antenna for Ku at the same time? It seems that, since many have had such satisfactory performance for so many years, it never occurs to them that the product has improved over that period of time.

If anyone has a Classic antenna manufactured before June of 1991 (serial number below 106000), they can benefit from our C-Ku upgrade kit or our Quad

Pole upgrade kit. What are they? The Quad Pole upgrade replaces the old buttonhook feed with four feed support poles, a feed cover, and a special feed plate designed to accommodate the fine tuning of focal adjustments. You don't even have to run down to your local hardware store. We also provide the nuts, bolts, washers, etc. that you would need for this.

What about the C-Ku upgrade kit? This is the Quad Pole upgrade kit plus our new preformed mesh designed for Ku. How much has our mesh changed? First, the mesh comes to you preformed to correspond to the parabolic curve that your antenna needs to track at its best. Second, the mesh holes are now finer, with the percentage of surface area that is metal going from 37% to 55%. For all those

out there that I hear groaning over the thought of reclipping their mesh, I have good news! We don't use those old U-clips anymore that turned your fingers blue trying to twist them into place. What we use now are J-clips that pull the mesh into place on the ring with the use of pliers. If your antenna uses holddown strips to secure the mesh, you probably will also want to order some of these, too.

What does this mean for you? You will have a definite improvement in your Ku reception. Why? The mesh will reflect more of the Ku signal to your feed, the feed poles will accurately locate your feed in its optimum position, and the feed plate will allow you to precisely aim your feed.

How much work is this going to be? If you are already reassembling your dish, there will be very little that you wouldn't have to do in the first place. The only additional operation necessary is to drill holes in four ribs. (For those owners of 9' Classic antennas, we don't have mesh specifically cut for these, but with some trimming, our 10' Classic mesh will work.)

[10' C-Ku Pricing & Ordering...](#)

[12' C-Ku Pricing & Ordering...](#)

[14.5' C-Ku Pricing & Ordering...](#)

[10' Quad Pole Pricing & Ordering...](#)

[12/14.5' Quad Pole Pricing & Ordering...](#)

[16' Quad Pole Pricing & Ordering...](#)

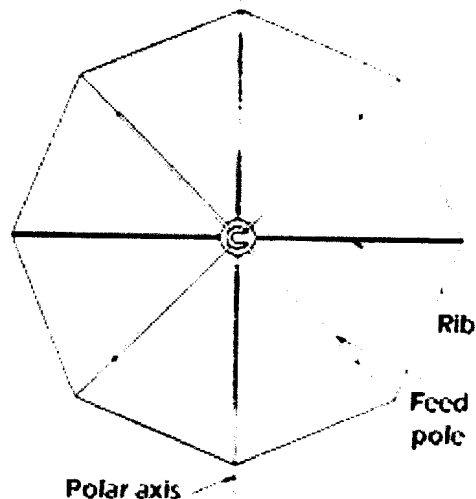
## WHERE IS THAT INSTRUCTION SHEET?

What if you are ready to drill the holes in your ribs, and you just can't seem to remember where you left your instruction sheet? If that is the case, you may find the following instructions and the chart below helpful.

The ribs that you drill will vary from feed to feed depending on the feed offset angle in relation to

the polar axis. The figure below will suffice for most cases. For the 10', 12', 14.5', and 16' Classic antennas, drill the 0.25" diameter hole at the specified distance from the end of the rib (not the holddown strip or the mesh). For the 9' Classic, the measurement is taken along the curve of the rib from the front hub plate.

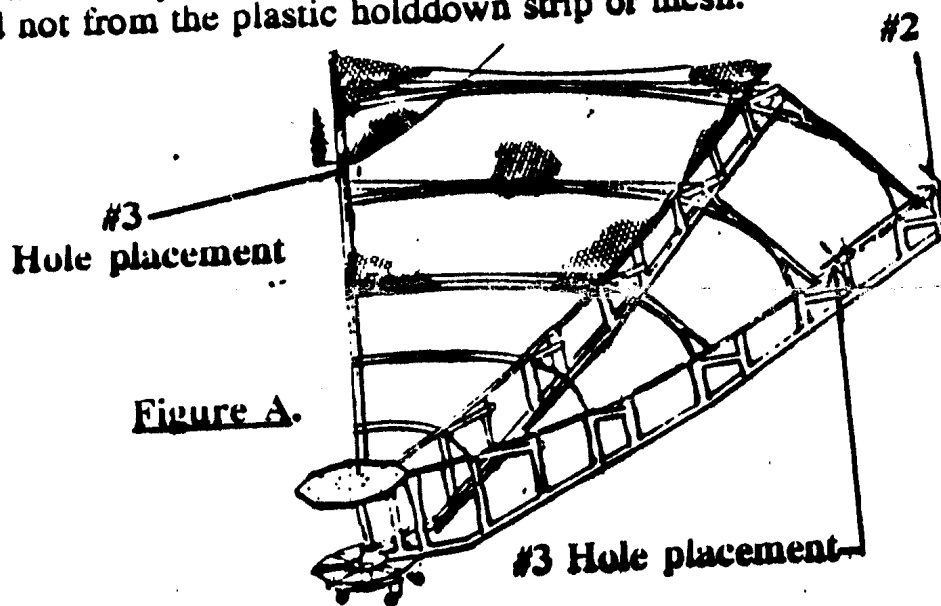
| SIZE  | MEASUREMENT                     | FOCAL LENGTH |
|-------|---------------------------------|--------------|
| 9'    | 46.25" from hub plate along rib | 43"          |
| 10'   | 12.5" from end of rib           | 43"          |
| 12'   | 16.375" from end of rib         | 52.625"      |
| 14.5' | 35.188" from end of rib         | 52.625"      |
| 16'   | 39.625" from end of rib         | 57"          |



## Installing Retro Kit for New Feed Pole and Cover Upgrade

1. Locate proper ribs to be drilled using instruction page for installing feed poles located on page 2 of this instruction manual.
2. Measure ribs from the outside of the rib toward the center of the antenna. With tape measure follow parabolic curve of rib (flat along surface of rib). Mark rib to hole center with proper measurement using Figure A. and Table B.
3. Drill holes at proper distance shown in Table B. (Hole size 1/4 ")

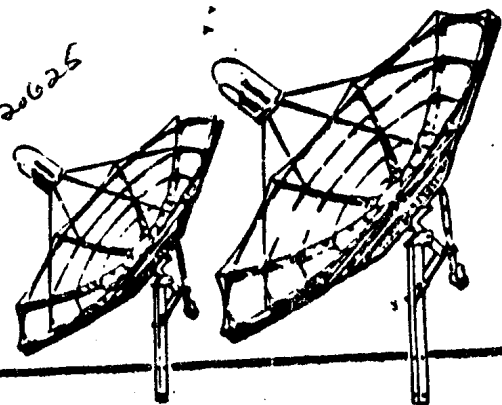
**NOTE:** Make sure your measurement is taken from the end of rib top strap surface and not from the plastic holddown strip or mesh.



*This page refers  
to the location  
of feed pole located*

**Table B.**

| Antenna Size | Hole Placement        | Focal Length |
|--------------|-----------------------|--------------|
| 10 Ft.       | 12 1/2 in. to center  | 43 in.       |
| 12 Ft.       | 16 3/8 in. to center  | 52 5/8 in.   |
| 14.5 Ft.     | 35 3/16 in. to center | 52 5/8 in.   |
| 16 Ft.       | 39 5/8 in. to center  | 57 in.       |



**Paraclipse**

Paraclipse Inc.  
2271 29th Avenue East  
Columbus, Nebraska 68601  
(402) 563-3625  
FAX (402) 564-2109

## HALL EFFECT BOARDS

To all owners of our Classic 12' & 14.5' CD antennas, knowing the difference between a reed switch and a Hall Effect board may mean the difference between satisfactory tracking and pulling out any remaining hair. Why would this mean anything to you?

Because of the way that they read an electronic spike, Houston Tracker and Toshiba receivers need a Hall Effect board instead of the reed switch that is preinstalled in your motor/gearbox. Therefore, if you have one of these receivers, a Hall Effect board may be just the thing for your satellite antenna system.

## REPAINTING 6' & 7.5' HYDRO REFLECTORS

Occasionally, I get calls from owners of our Hydro antenna wanting suggestions on repainting their hydroformed dish. Perhaps the wife thinks that the color of the antenna clashes with her house?

After thoroughly cleaning the dish and removing any loose paint, give it a vinegar wash, (50% water, 50% vinegar). Then, use either zinc chromate or cold galvanizing as

the base (primer) coat. These are available in spray cans at automotive paint shops. After this is finished, paint your reflector with a low-gloss paint. This is a helpful step. Why? Because if too much heat is focused by a reflective surface, you could have a melted feed.

[Smoke Blue Spray Paint Pricing & Ordering...](#)

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## **"MY FEED COVER WON'T FIT!"**

Living in an age of fast moving technology has many advantages. Unfortunately, this doesn't include simplicity. When some component is upgraded in the name of progress, it has a ripple effect that touches many things that most don't expect. On your satellite antenna, one of these may be your feed cover.

Feed covers were originally designed to make the feed electronics more pleasing to the eye and protect them from the elements. This was simple enough in the past, but now with the bewildering number of choices of feeds, LNBS, LNBs, etc., fitting a feed cover may turn into a frustrating chore.

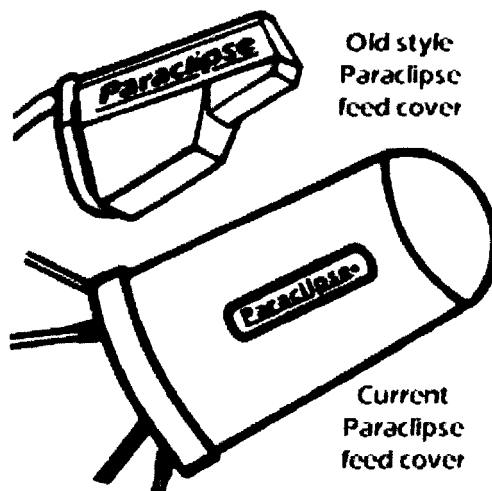
Originally, Paracclipse had a small feed cover (shown at right) that snugly fit over the standard electronics used at that time.

Because of the variety of setups that developed, we now use a roomier version (shown at right). Unfortunately, some will still call hoping for another solution. Sorry! We only carry that one kind. There may be some solutions, though

Sometimes, the situation can be easily cleared up by asking which way the "L" shape of the LNB is attached. A few times I've been told that the LNB sticks out too far. Upon finding out that the long end was attached to the feed, a simple flip can solve the problem.

In other cases, just making some notches in the feed cover donut (the part that attaches to the bottom of the feed cover) will allow a smooth fit. If that is the case, you may want to seal around the notch for weather protection, etc.

Don't forget, though, that some feed setups were not designed for feed covers. For example, dual-band feed systems (used for tracking more than one satellite at a time) give off a fair amount of heat. Enclosing this system may damage it. Thankfully, only a small percentage of our customers fall into this category. Whatever your situation, as technology advances, I'm certain we are going to find more situations that will test our ingenuity, patience, and sense of humor.



## WHERE DO THE SHIMS GO?

Several of our antennas use shims to set the declination angle (Hydro NP mount, Eclipse VP mount, and Classic PT mount). The problem is that sometimes the installers (probably not the ones reading this newsletter) will just look at the illustrations in the installation manuals and go from there. Since only one of many possible shim configurations is shown, they may assume that the shims only go in the direction that they saw, and when the antenna doesn't track properly, they blame the antenna.

These antennas are preset to  $4^\circ$  or  $5^\circ$  (these declination angles are used at  $29.4^\circ$  or  $35.2^\circ$

## WHAT IS F/D?

Have you ever noticed in the back of your installation manual a specification that is labeled F/D? Perhaps you have also noticed this in your feed assembly instructions as a setting on your adjustable feed. While some may feel that is is a cryptic term for some obscure engineering calculation, it really isn't that complicated. In fact, you could figure this ratio out yourself.

latitude), which are about the median for most customers. To increase the angle, the shims need to be added between the hub plate and declination plate on the top (or if your antenna is point straight up, away from the equator). To decrease, add shims to the bottom (or towards the equator).

Of course, there is a simpler way of dealing with this. Just take the time to read the instructions in the installation manual that comes with your antenna (unless someone enjoys a life full of complications).

First, you need the focal distance of your antenna. I could give you a long, involved formula, but I'm just going to tell you to look in the back of your manual. Take this number and divide it by the diameter of your reflector (not the lip, just the actual reflective surface). Therefore, focal distance (F) divided by reflector diameter (D) gives you F/D. While this little tidbit probably won't improve the quality of your life, some of you just might agree that it is interesting to know.