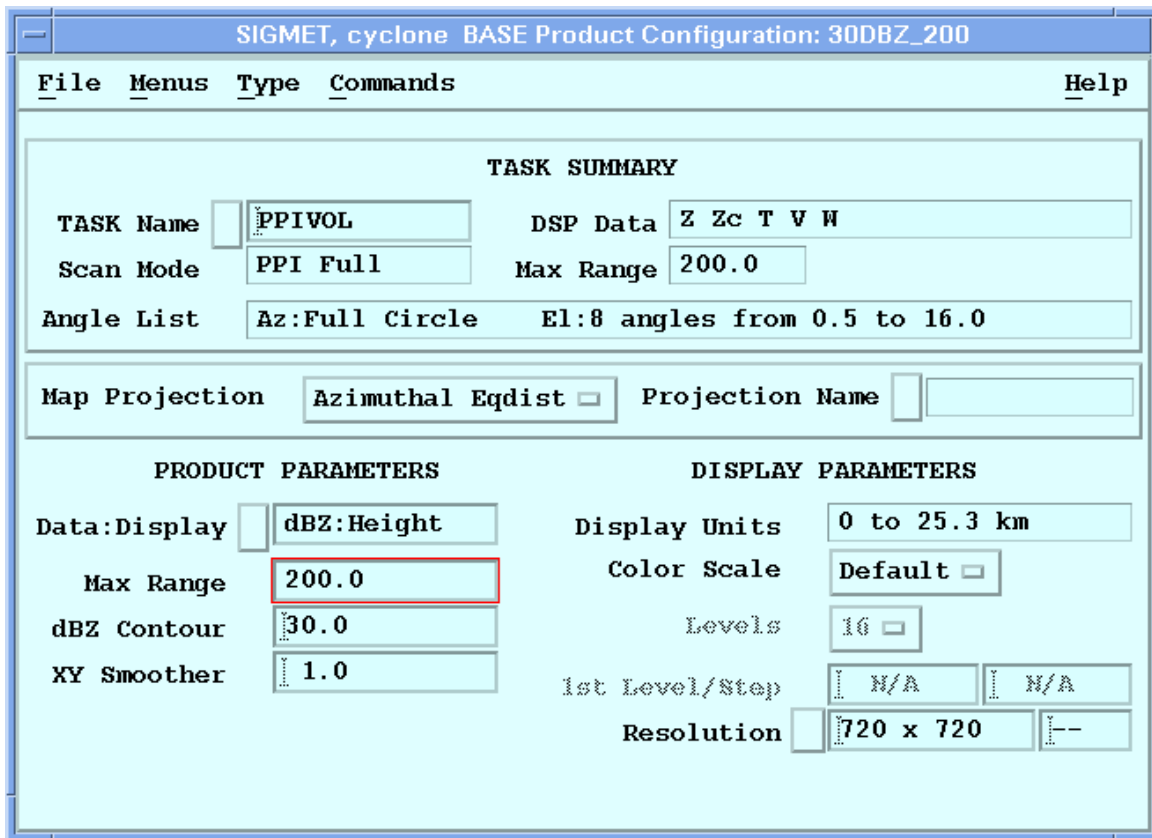


2.2 BASE: Echo Base Product



TASK SUMMARY	
TASK Name	PPIVOL
DSP Data	Z Zc T V W
Scan Mode	PPI Full
Max Range	200.0
Angle List	Az:Full Circle El:8 angles from 0.5 to 16.0

PRODUCT PARAMETERS		DISPLAY PARAMETERS	
Data:Display	dBZ:Height	Display Units	0 to 25.3 km
Max Range	200.0	Color Scale	Default
dBZ Contour	30.0	Levels	16
XY Smoother	1.0	1st Level/Step	N/A
		Resolution	720 x 720

This section describes the fields of the Product Configuration menu that are unique to BASE products. For general information, see these other sections of this chapter:

- Task Summary area, Section 2.1.1.
- Product Parameters, see Section 2.1.3.
- Display Parameters area, Section 2.1.4.

The BASE product is used to detect the base of echoes. It is similar to the TOPS product which is used to detect the top of echoes. Similar to the echo TOPS, the user specifies a “dBZ Contour” for the base. For each output pixel in the product, the algorithm searches downward through successive elevation angles. A base height is determined by linear interpolation when the specified “dBZ Contour” is crossed from greater to lesser value.

The final output of the product is a color-coded map of echo base heights for the selected dBZ contour. Optional Cartesian smoothing can be applied.

Some limitations of the echo base product are described in the notes below:



Note: C, S and X band radars detect precipitation particles such as rain or snow. They are not sensitive to cloud particles which are much smaller (of order a factor of 1000 smaller in diameter). Thus the BASE product cannot be used to detect the cloud base height for radars transmitting in these bands. However, millimeter wavelength radars (K and W bands) can detect cloud particles.



Note: Because of earth curvature, ground clutter and beam blockage, radars are actually very poor at looking for features close to the surface. This means that the BASE product will not be able to detect echo bases to very low levels. When precipitation in excess of the specified dBZ contour is reaching the ground, or near to reaching the ground, the BASE product displays a special color to indicate that there is a BASE, but its height cannot be determined.

A sample BASE Product Configuration menu is shown at the beginning of this section.

To open the BASE Product Configuration menu:

Choose **Type**→**BASE** from the menu bar.

Data : Display

The choices are:

dBZ Height

dBZc Height

dBZc Height

Max Range

This is to select the maximum range for the product. Recall that earth curvature effects are greater at greater ranges. You can display a PPI at your lowest elevation angle and use the cursor tool to see what heights are possible to observe at various ranges. For example, for a 0.5 degree elevation angle at 100 km, the beam is centered at 2.3 km. Therefore it will not be possible to detect echo bases lower than this.

dBZ Contour

This is to select the dBZ threshold for the echo base.

AZ/EL Smoother

The smoother is applied as the final step of the product generation. Enter the values in degrees, first for the azimuth and then for the elevation direction. Typical values would be 1.0, 1.0.