• Tune the second receiver ***slowly*** in 10 MHz increments up to 600 MHz, pausing now and then to watch the scans.

What can you say about the arrival times of pulses at higher frequencies? Do they arrive earlier or later than the pulses at lower frequencies? Write your conclusion as a brief statement below.

7. Turn off the receivers with the mode button. Now open up a ***third*** receiver using the **add channel** button and tune it to 800 MHz, and set both the vertical gain and horizontal gain to 4.

8. Turn on the mode button in the first receiver and watch the traces on the three receivers.
Is the behavior you see in accord with what you now understand about the arrival times of the pulses at different wavelengths? Explain.

E. Measuring the Arrival Times Of the Pulses

We're now ready to measure the times of arrival of the pulses. First, we record the data from several screen scans, save it in a file, and finally analyze the file in a separate graphic analysis window.

1. Turn off the receivers with the mode switch and verify that the three receivers are set to get data at 400, 600, and 800 MHz simultaneously with the horizontal seconds set at 4 and the vertical gain at 4 in each receiver.

2. **Click** on the **record button** to enable the data recorder, and then turn the receivers **on** with the **mode switch**.

3. Let the receiver scan for five or six screens worth of data (only the first 4 will be saved). Then switch off the receivers.

- The computer will tell you that 1600 data points have been saved.
- It will then show you the name of the object for verification. **Click OK.**
- A pop up a screen will appear showing you information about the object you just recorded, including the time when the recording began (in Julian days—a running date), the frequencies, and the time between each sample of the signal. See FIGURE 5 below.
- You can not edit this data. This screen is for information *only*.

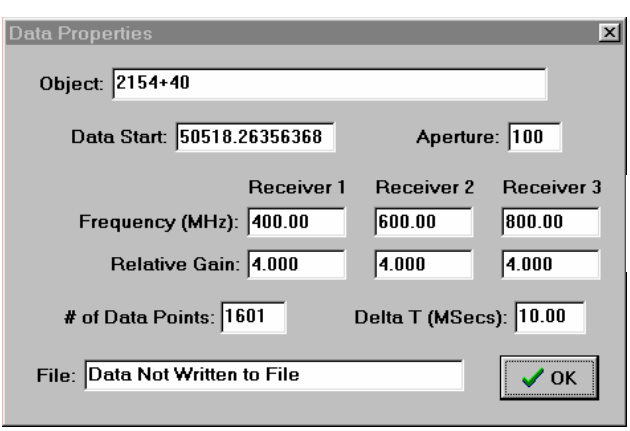

Figure 5
Data Properties Pop-Up Screen

4. **Click on OK**. The computer will then ask you if you want to save the data or analyze it immediately. Click on yes, and the computer prompts us for a file name. It will make one up using the name you logged