8. **Change the Horz Sec to 16**. The trace pokes across the screen, and because the receiver is collecting *more* signal at a slower pace, the signals seem stronger. You will have to turn down the gain to avoid having your pulse peaks out of range of the screen.

9. Now let's measure the period of the pulsar. Set the vertical gain to 4 and the horizontal seconds to 4, and make sure the frequency of the receiver is 600 MHz. **Start the receiver**. Let it run for a few seconds to see the pulses, then turn it off again. When the trace stops moving, you can measure the time between pulses on the screen.

- The computer has measuring cursor to aid you in doing this. Holding down the *left* mouse button produces a vertical blue line on the screen which you can move as you hold down the button. Center it in the middle of one of the pulses near the left side of the screen. Note the blue numbers on the screen that tell you the time in seconds at which the pulse arrived.
- You want to measure the time of arrival of the next pulse (time increases to the right)—so you can get another line, a white one, to appear by holding down the *right* mouse button. Position it over the next pulse. You can read this time from numbers on the screen, too. Now record the time of arrival of both pulses on the table below. The difference between these is the period of the pulsar!

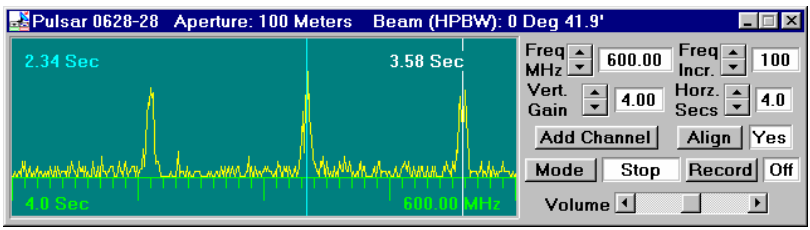

Figure 3: Main Receiver Window

- Time of First Pulse (T_1) _____
- Time of Next Pulse (T_2)_____
- Period of Pulsar (T_2-T_1) _____

10. A more precise way of measuring the period is to measure the time elapsed between several pulses and then divide by the number of periods that have elapsed.

- Set the horizontal seconds control to 16, turn down the gain a notch or two, and turn on the receiver again so that you can see many pulses on one scan. Measure the time it takes for 10 periods, and use this to calculate the period of the pulsar. See if this gives you the same value. Record your measurements below.

- Time of first Pulse (T_0) _____
- Time 10 Periods later (T_{10}) _____

(Note that this is the 11th pulse)

- Period of Pulsar =(T_{10}-T_0)/10 _____

11. Now let's look at the relationship between the pulsar period and the frequency. You can tune the receiver to different frequencies and, using whichever one of these methods is most convenient, measure the period at different frequencies. Since the signal strength changes with frequency, you may have to adjust the vertical gain or the horizontal seconds controls to see the pulses clearly at each frequency.