2.4.1 THE “TRACK” MODE AND THE “SYNC” MODE.

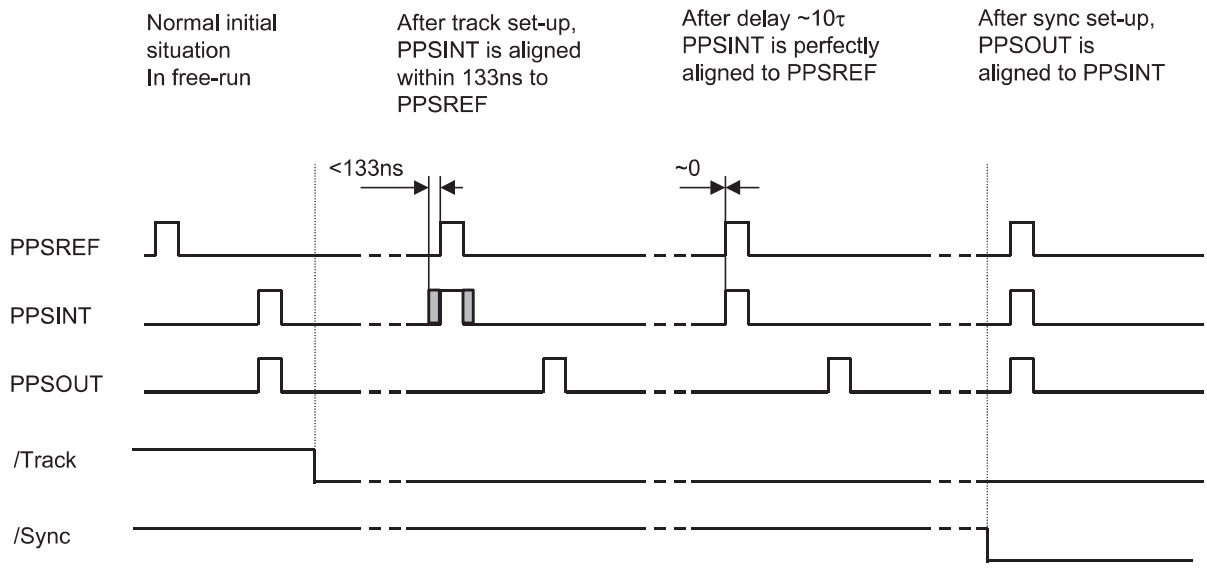

Fig. 2-6 : “Track” mode and “Sync” mode.

When “track” mode is set-up, the PPSINT is aligned to the PPSREF within 133 ns. Then the phase comparator starts the mid-term frequency stability analysis of the PPSREF. The tracking loop time constant is adjusted in consequence and the SRO-100 start to track the PPSREF.
During all of this operation, the position of the PPSOUT is not changed. The PPSREF timer is working on an independent way. So the PPSOUT will not suddenly jump when the SRO-100 starts to track a PPSREF.

When “sync” mode is set-up, the PPSOUT is aligned to PPSINT. “Sync” mode can only be set-up when the SRO-100 is already tracking successfully a PPSREF.
If “sync” mode is set-up just after the SRO-100 start to track a PPSREF, the phase-time difference between PPSOUT and PPSREF can be as big as 133 ns. Of course, the tracking loop will reduce this difference and will bring it nearly to null in case the noise of the PPSREF is low.

2.4.2 THE FREQUENCY LEARNING

When the SRO-100 is tracking the PPSREF of a master oscillator, in reality, it align it's frequency to the one of the master.
The learning process is simply the memorization of this frequency from time to time to use it after a reset or Power-On.
By default, when the SRO-100 is continuously and successfully tracking a PPSREF, the average value of the frequency is saved in EEPROM every 24 hours.
With the command FSx<CR>, it is possible to cancel the learning or to make a immediate save.

2.4.3 THE FREQUENCY IN USE

With the PPSREF facilities, a different frequency can be in use in different situations. Let know first, that the frequency just currently in use is located in a single register, and that this register can always be read by the user. The command to read this register is: FC??????<CR>.
On a SRO-100 connected through the serial interface to a terminal, it is possible to follow the evolution of the tracking by this way.