

That Pesky Slant

Adjusting the RX & TX slant controls in MMSSTV is a very important step, however, in practice it is not that easy to accomplish. I see many good signals on 20 meter SSTV, a few great signals as far as perfect slant is concerned, and a few that miss the mark; some by a lot!

If you don't do a good job with your TX slant adjustment, you will not make as many contacts as you would otherwise hope for. Many stations can't copy you. It doesn't take too much mis-adjustment to make your call sign difficult or impossible to read.

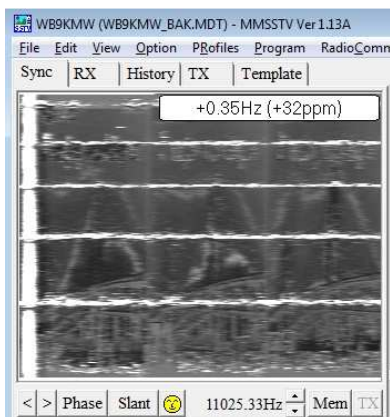
Now some stations will configure their MMSSTV software in the RX section with 'Auto Slant' checked. But the more advanced SSTV stations prefer to purely copy signals with the 'Auto Slant' unchecked. These are the stations which you will have a hard time contacting.

A good example

My friend Avery W4QYV has a good signal. There is a little slant, although it doesn't present any problem. When I measured his slant, it was +0.35 Hz. Here is the image that he transmitted to me. Now if you look closely, you will see a tiny amount of tilt from left to right. That's the +0.35 Hz.

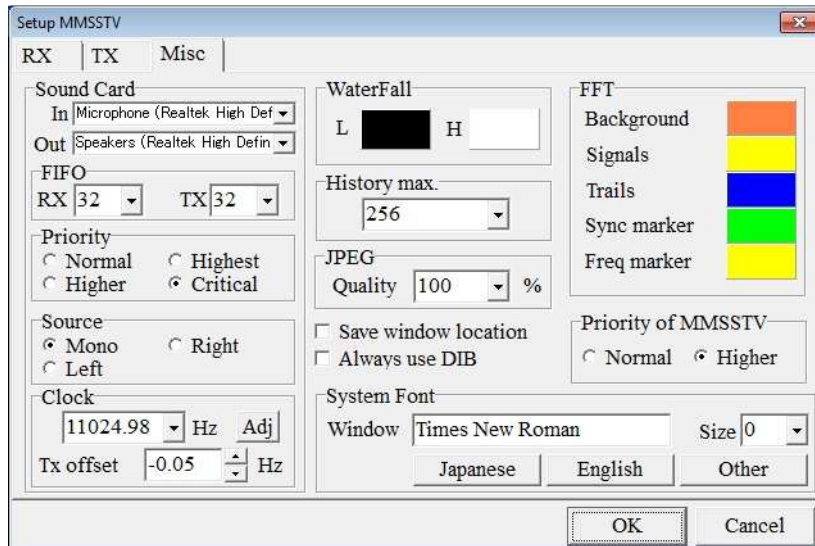


Here is how you can tell what the slant is for your copied signal. In MMSSTV, click on the Sync tab (upper left hand corner). Then click on the smiley face, and in a couple of seconds MMSSTV will determine the slant. Also, for just that picture, you will now be able to see a straight picture in your RX screen.



Where is the slant configuration?

You will find this by going to Option>Setup MMSSTV>Misc. In the lower left corner you will see my adjustment. This is specific to one sound card, ie, in my Acer netbook. My receive clock is set to 11,024.98 Hz. If I were to use a different soundcard, eg, Signalink, I would then need a different setting for the clock and Tx offset. You will see that I need a slight -0.05 Hz offset in order to obtain a straight picture when I transmit SSTV.



How do I adjust my clock?

Several web sites will tell you how to set the clock for your soundcard using a lengthy process with WWV. I first did that. One finds that this is but an approximate method, because you adjust your clock by eye-balling the received WWV signal. Not bad though!

Here is how I recommend first adjusting your clock

- Receive an SSTV picture from a station with a known excellent adjustment!
- Now there are a few stations which I can recommend. I learned from one of the best!! Stu W2PTH from New Jersey is on the air a lot. His station was my 'gold standard.' You might also copy Dave WBOYDI. That is how Stu got his perfect alignment. I am on the air a lot, too, from Wisconsin, so you might copy WB9KMW.
- Note that you should do this when you can get a pretty good, eg, 595, signal. Sometimes atmospheric will skew an otherwise excellent transmission.
- After the signal is received, go to Sync, and click on the smiley face. Once you have done that, click the Mem tab (lower right hand corner) and this will automatically save to your RX memory.
- Hint: You might want to write down your current clock setting for comparison purposes.

With that done, you are set to perfectly receive SSTV pictures. You will never need to do this again, as long as you keep using that same soundcard.

How do I adjust my TX offset?

That's the tricky part. There are two approaches you can follow.

Eye-ball approach

- Transmit your SSTV signal, and then go to the SSTV tab at www.WB9KMW.com and locate a station which has received your picture with good signal strength.
- Now you cannot just use any station on my web page, because some of them do not have perfect receive alignment. And some stations have auto-slant ON.
- I would recommend that you look at your signal as received by WB9KMW. KE5RS is another great choice. I know this will present a true representation of your transmission. Note that some SSTV cams are not truly aligned, so you can still get a distortion.
- Then you will need to eye-ball your result, and tweak the Tx offset (hopefully tweak anyway!!) + or – to begin to true your image.
- You will need to re-transmit and re-adjust until you feel you have a pretty straight image.

Assistance from another station—The BEST way

- If you can contact a station which copies perfectly, then you can use their feedback to make precise adjustments.
- If you haven't already perfected your RX adjustment, the FIRST you must set your clock (see instructions in previous section for adjusting clock setting). This provides your 'standard' for the entire set up.
- After that is done, set your Tx offset (in the Misc tab) to 0.00 Hz.
- You will transmit an image and have the other station copy & observe your Hz reading in their Sync panel.
- Then go back to your MMSSTV configuration and in the Misc tab enter the **negative** of his reading (plus your current setting, which is initially set to 0.00) and click OK. That should get you pretty close. For example, if your Tx offset is currently 0.00 Hz and the other station shows a Sync value of 0.20 Hz, then 0.00 plus -0.20 gives you a new setting of -0.20 Hz for a new Tx offset.
- Re-transmit and re-do this process until the Sync from the receiving station is under +/- 0.05 Hz for your received signal.
- Congratulations!!!!!!!!!!!!

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www.WB9KMW.com