

ALABAMA

Navy-Marine Corps MARS

SSTV

For

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It is not difficult to envision the benefits of being able to transmit images during an actual ECOM situation. It is said that 'a picture is worth a thousand words'. As emergency communicators, we strive to provide the best possible service to our 'customers'. Slow Scan TV (SSTV) has already been used in actual emergency situations, for example Region Three found SSTV a valuable capability during hurricane Isabel.

SSTV no longer requires expensive and complicated equipment. If you already do other sound card digital modes such as PSK, AMTOR, MT63, etc., you are just a freeware download away from being fully SSTV capable!

Here are some 'quick-start' steps to get you up and running quickly. We suggest MMSSTV software because it is a very good package and is offered as freeware. There are numerous other applications available and a web search will find a variety of SSTV programs.

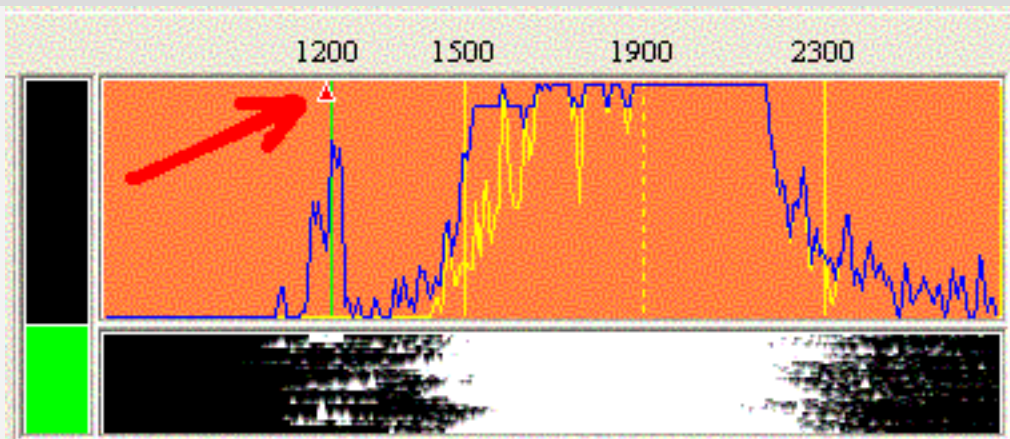
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MMSSTV QUICK START steps:

1. Download [MMSSTV from HERE](#) Or go to the official site at <http://www.qsl.net/mmhamsoft/mmsstv/>
2. Install MMSSTV. (It is a self-extracting (executable) file, so just click and follow the prompts).
3. Open MMSSTV.
4. On the tool bar, click on '**OPTION**' then '**MMSSTV Setup**'. Click on the '**RX**' tab and check '**Auto Stop**', '**Auto Restart**', '**Auto Resync**' and '**Auto Slant**'. (If you have a slower computer, or limited RAM, you may be better off leaving Auto Slant off.)
5. Click on 'OK' to save settings and return to the main screen.
6. Under 'RX Mode' '**Auto**' should be on.
7. Tune to 14230.0 USB, sit back and watch it all happen. If you leave, when you come back click on the 'History' tab and you can review pictures received while you were away.

RECEIVING PICTURES

There is not much more to say about receiving pictures. Generally if you tune to the sender's SSB signal you will be OK to receive his picture transmission. You can verify this by noting the position of the pointer at the top of the spectrum display. It appears when the program has sync'd and shows the frequency of the sync signal which should be 1200Hz.



There is not much else to do except let it happen. But after you have received the picture, here are some things that you can do:

- If you do not have 'Auto History' clicked, you can move the received picture to History by clicking .
- (The "History" is not a permanent file. It stores the last 32 received pictures, by default, then drops off the oldest when new ones are added. The number of History images saved can be changed by clicking **Option** then **SetupMMSSTV**.)
- You can left click on the image and drag it to a "Stock Pix" thumbnail box.
- Right click on the image and a drop down box will appear that will allow you to, among other things, save the picture to be used however needed.
- Click on the **Image Adjust** button to adjust brightness, hue, contrast, saturation, and sharpness. Click on the **Noise filter** buttons, one then the other, to see which clears up noise flaws better.
- If you have Auto Slant Adjustment turned off, you can still manually adjust the slant of a received picture. This is explained in easy illustrated steps in the Help file. To review this click on **Help**, select **MMSSTY Help**, click on the **Contents** tab then select **Slant Adjust**.

Loading the Picture

Graphics generation and manipulation is a subject unto itself, and is not part of our

mission here. (If you wish to pursue this subject further you could [start by clicking here](#).) As ECOM operators, our purpose is much more limited and simple. Let's say you have a digital picture of tornado damage that you just took and saved to disk, and that you now need to send to Montgomery at the request of officials there. Here are the few simple steps needed to prepare the picture to send via MMSSTV:

1. Click on the 'TX' tab above the large picture window to get into the transmit mode.
2. Put your mouse pointer anywhere in the picture window and right click the mouse.

(If you are loading multiple pictures it may be more convenient to load them into the Stock Picture thumbnail boxes. To do this click on the "S.pix" tab and then place the mouse pointer in an empty thumbnail box and right click then continue with the following steps.)

3. Select 'Load From File' on the drop down menu by clicking on that option. This will open the normal Windows file selection box to allow you to first select the folder and then the picture file you wish to format. You may select any *.jpg, *.bmp or *.wmf file.

(Note: If your file is named with a ".jpeg" suffix, rename it by changing it to ".jpg", otherwise it will not appear in the selection box.)

4. Click on the desired file and it will open in a 'Picture Clipper' window. This window will, among other things, proportion and resize your selected picture to fit the SSTV format (either 320x240 or 320x256).
5. At the bottom of this window is a row of buttons. Starting at the left, the first one sets the picture at 320 x 256. The next two set the size to 320 x 240 with a blank area for a "color bar" at either the top or bottom of the image. The next three buttons have to do with aspect ratio and stretching of the

image. You can play with these later to see what they do, but for now click on the “H/W” button which will maintain the proper height to width proportion of the picture. You will see a box superimposed on your image showing how it will be cropped. If you are happy with this, you are finished and can just click “OK”.

6. Let's say there is too much background in your picture and you wish to crop it. With your mouse, place the pointer where you want the upper left corner of the picture to be, click the left mouse button and drag down and to the right to frame the area you want to retain. This can be repeated if you don't get it right the first time. When you are satisfied, click “OK” and the cropped picture will be placed in the transmit box.
7. Your image is now ready to send. If you want to add an overlay template, click on the ‘Use Template’ and the currently selected overlay will be superimposed on the image. (see [‘Making and using Templates’](#) below).

SAVING THE IMAGE TO YOUR STOCK PICTURE FILE

While we're right here, you may wish to save the image to your ‘Stock Picture’ file so you can readily send it again without repeating all of the preparation steps. To do this;

- Click on the ‘S.Pix’ button (it is at the left in the second row of buttons below the Main Window) to display the stock picture thumbnail boxes.
- Now put your pointer on the picture, click and hold your left your mouse button and drag the it down to a blank thumbnail box.

If you loaded the picture into a stock pix thumbnail box, it is already saved. A double click on the thumbnail will move it into the TX window ready to send.

For the purposes of this discussion, we assume that you have a soundcard interface of some sort and are familiar with transmission of other sound card modes. If you need interface information [CLICK HERE](#).

Before you send the image.....

- SSTV is a 100% duty mode, like AMTOR FEC or RTTY, so follow your transmitter instructions on output power.
- **Turn off the Speech Processor!**

OK, that should do it. Click on to transmit the image.

Creating and Using Templates

MMSSTV automatically generates a few templates (overlays) based on the call-sign that you typed specified when you installed the program. To view these, just click on the 'S. templates' button. Double clicking on a template box will place it in the picture window and make it the "Current Template".

Now whenever you turn on the "Use Template" button that is the template that will be superimposed on the TX picture.

Lets create a template to display your call sign on the picture.

- Double click on a blank template box. This will set the current template to this blank.
- Click on the "Draw Text" button.

- Place your mouse pointer in the picture window, hold the left button and drag the mouse to create a text box of about the size you want.
- Release the mouse button and type in your call-sign in the drop down box.
- For now accept the default font and colors by clicking "OK".
- Use your mouse to drag and resize the text box as needed.
- To save as a stock template, left click the mouse anywhere in the picture window and drag it down to an empty stock template box.

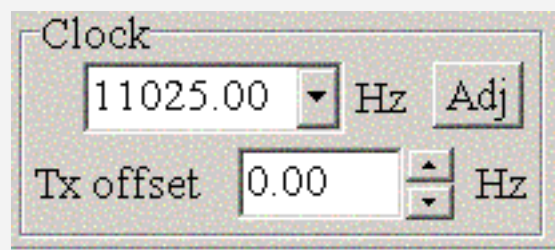
That covers the basics. To become more familiar with other template features, don't hesitate to experiment. You can't break anything.

Sound Card Calibration

SSTV pictures will appear slanted if the clock speed is different between the sending and receiving stations. MMSSTV has automatic slant adjustment for received pictures, but it is a good idea (although not absolutely essential for sending an occasional picture) for all stations to calibrate their soundcards to a known accurate reference. Actually, this does not change your sound card at all, but adjusts MMSSTV to compensate for any minor inaccuracies in your system.

Receiving Calibration:

1. In MMSSTV, go to **Option, Setup MMSSTV, Misc** page, and click **Adj** button in the 'Clock' box.



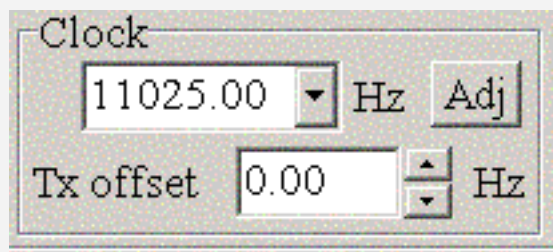
2. Tune your radio to WWV. (5,000, 10,000, 15,000 or 20,000 Khz.)
3. Tune into the ticking sound.

4. Continue listening to the sound for a while. You will have a vertical line.
5. Click the upper point of the line.
6. Click the lower point of the line.
7. Click "OK".
8. You have now calibrated the MMSSTV software. (Please note that this did not change anything on the soundcard, only in the software.)

Transmit Calibration:

If your pictures still appear slanted to another (Reference) station that is confident of his calibration, there is likely a difference in your sound card receive and send clock timing. Here's how to set the transmit offset;

1. Ask the Reference Station to turn Auto Slant off, and send a picture to him/her.
2. After receiving the picture, the Reference Station will click on "**Sync**" button and then on the '**Happy Face**' icon. MMSSTV will display a correction factor.
3. You then go to **Option, Setup MMSSTV, Misc** tab and enter the offset factor from the Reference Station (with the opposite sign) into the **TX offset** box.



4. Click 'OK' and you're done.