

# **Slow scan checklist**

By

**Randall J. Bradbury ( Randy ) KD7BRN**

**Edited by: Steve Jensen KE7GXC Jim Ebert KF7HOQ**

**Oregon City ARES: Allen Kerr N7YAF Randy Fischer KD7BRL**

## **Revisions:**

**07/10/2013**

**1 Jan 2014 by N7YAF with Pictures added for MMSSTV (only) setup**

**5 Jan 2014**

**10 April 2014 by K7GPN editing and formatting.**

**5 May 2014, Minor grammar changes and level guide for receive**

**We are currently working with MMSSTV Ver 1.13A**

**Recommended download site:**

**<http://hamsoft.ca/pages/mmsstv.php>**

**Notes about setup:** This checklist was designed using 2 meters with a Signalink USB and Windows XP pro. While other operating systems will work XP pro seems to be the best one for most ham radio functions and although it is no longer supported, if an older laptop is dedicated to SSTV/WinXP and kept off the internet, the operating system should still be safe.

**Some settings will be different with other operating systems. Windows 7 will work with special instructions but it seems unstable and difficult to use, (but we are working to resolve these issues.) Two settings that are critical are the volume settings and the use of USB audio codec whenever it is listed. Use of the computer and radio for other functions will sometimes cause the settings to change and need to be reset.**

**This is a starting guide and changes in antennas – power levels – different radios and operating systems will require adjustments. We are still learning about the system so changes are likely. Oregon City ARES regular net is on Sunday evenings**

at approximately 7:35 on 146.560 Simplex. They operate a slow scan net after their Sunday net at approximately 7:45 PM on 145.500 simplex.

They also work on the program during their monthly meeting at 6:30 PM the Monday following the Regular CARES meeting. The meeting is at JIMMY 'O's Pizza behind the Fred Meyer gas pumps.

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#### **Checklist:**

Always plug into the same USB port on your computer for every use. This is VERY important. The Windows Operating System Signalink driver remembers and will not work on another. (Some have found that any USB port will work after the drivers have properly installed)

Set the signalink dials at TX at 9 o'clock, RX at 12 o'clock and DELAY at 9 o'clock and don't forget to turn it on.

Turn on the radio – set the frequency and the transmit power level to low. Volume low but not off.

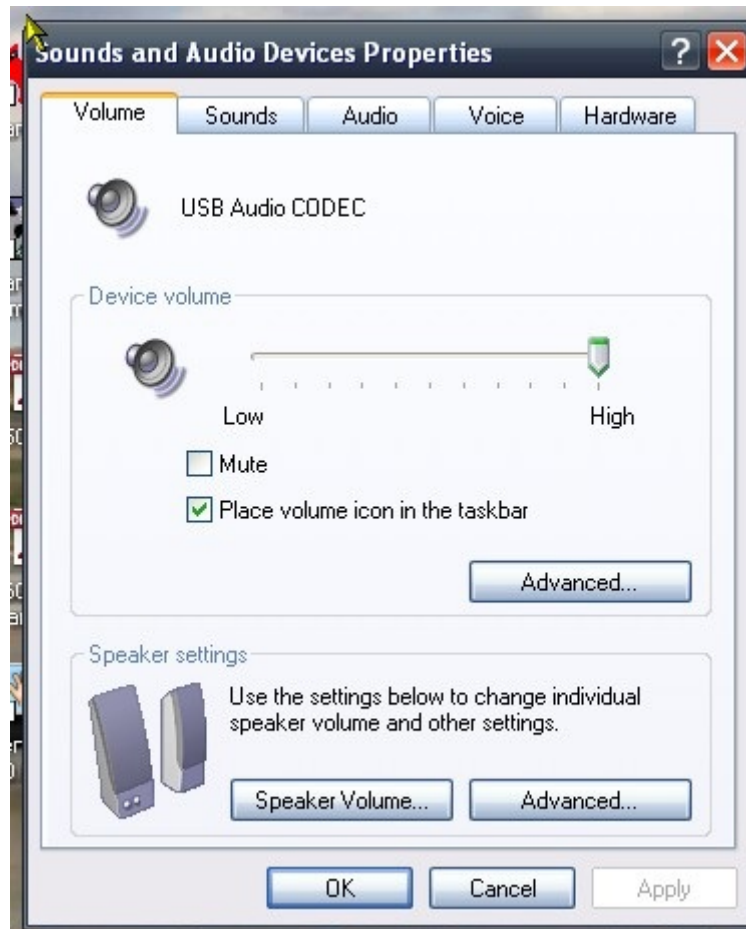
#### **BE SURE TO PLUG IN SIGNALINK BEFORE STARTING PROGRAM**

Computer: Right click the speaker on the bottom tool bar and select "Adjust Audio Properties" or use Audio in Control Panel to set speakers. Note: if no speaker symbol is present in the tool bar then use the control panel "Sounds and Audio Devices"



Click on the “volume” tab, it should read “USB audio codec”

The Volume should be set at “high”.



**Click the “Audio Tab”**

**Both Recording and Playback should read “USB Audio Codec”**



## Audio Tab:

**Sound Play Back:** USB audio codec used for Signalink USB; (Option: Real Tek or Built in Codec (Only for built-in sound card))

**Record :** USB audio codec; Option: (Real Tek or Built in Codec only for built-in soundcard)

**Voice:** (Can usually ignore)

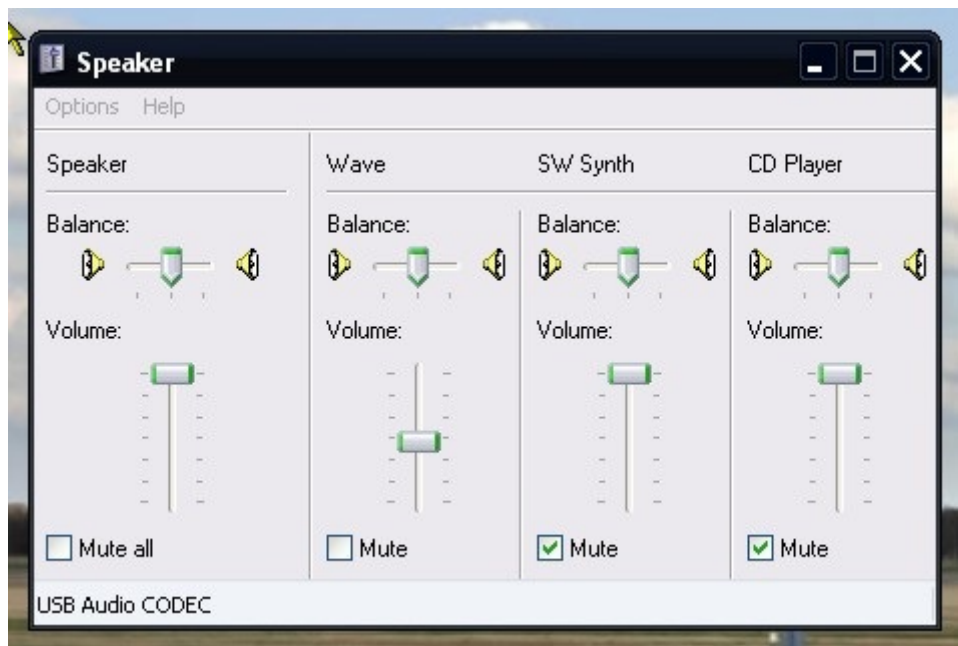
**Voice Play Back:** USB audio codec

**Record:** USB audio codec; Option: Real Tek

**Hardware:** (Can usually ignore)

Sometimes this is blank, if not check all boxes

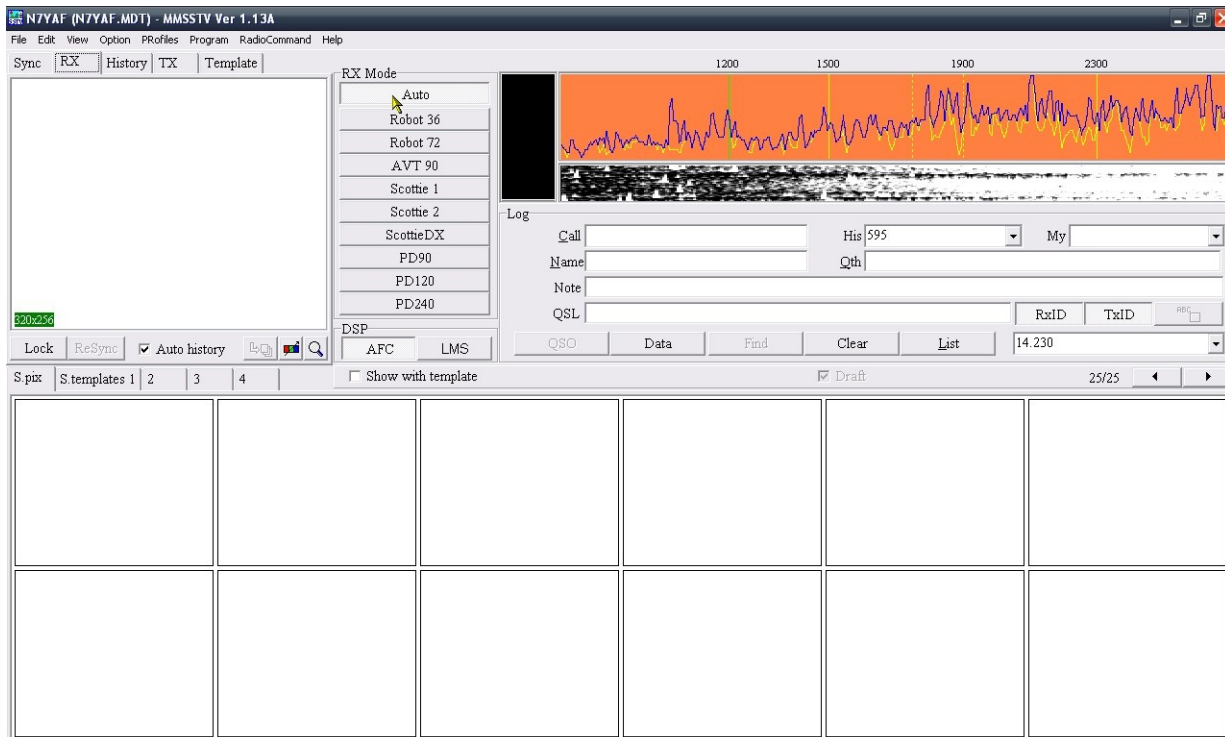
Click on the “volume” button under playback, it will then open the “Speaker”



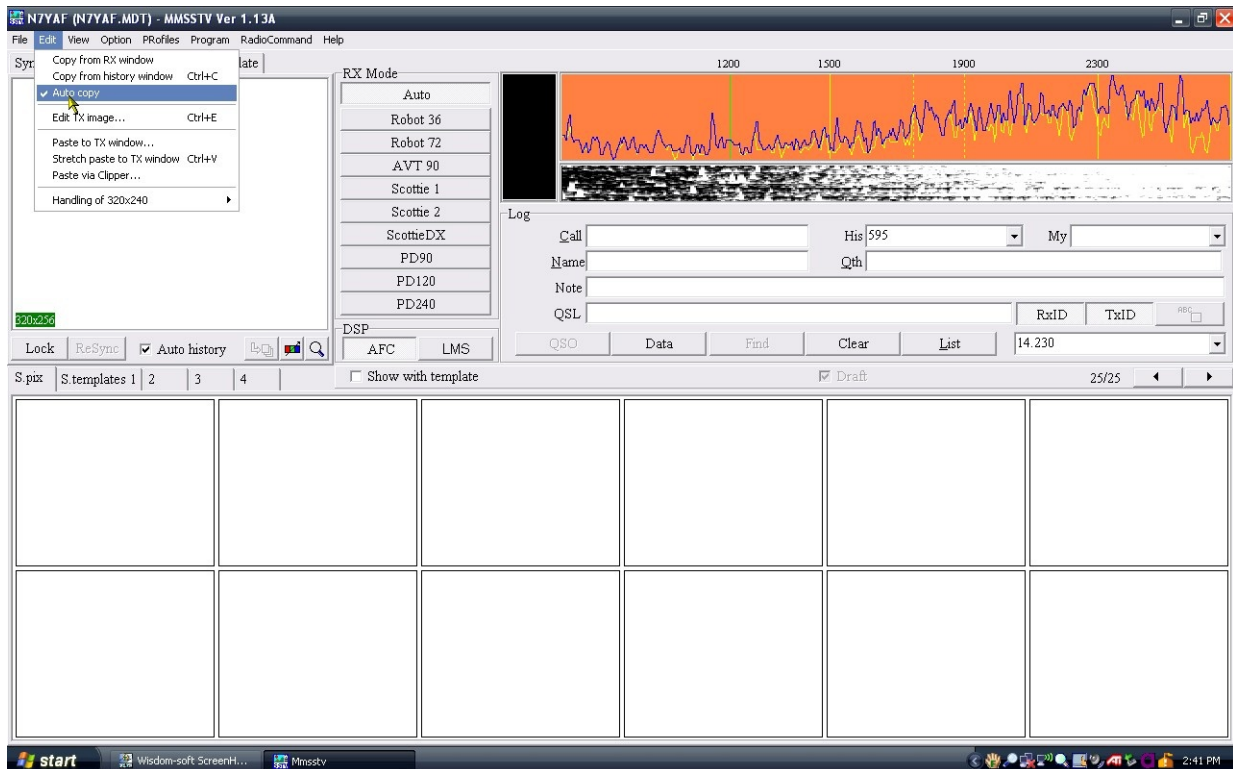
**Speaker, 100 %, Wave 50 %; SW Synth & CD Player (and any others)--- MUTE**

**Close all those windows and Start MMSSTV**

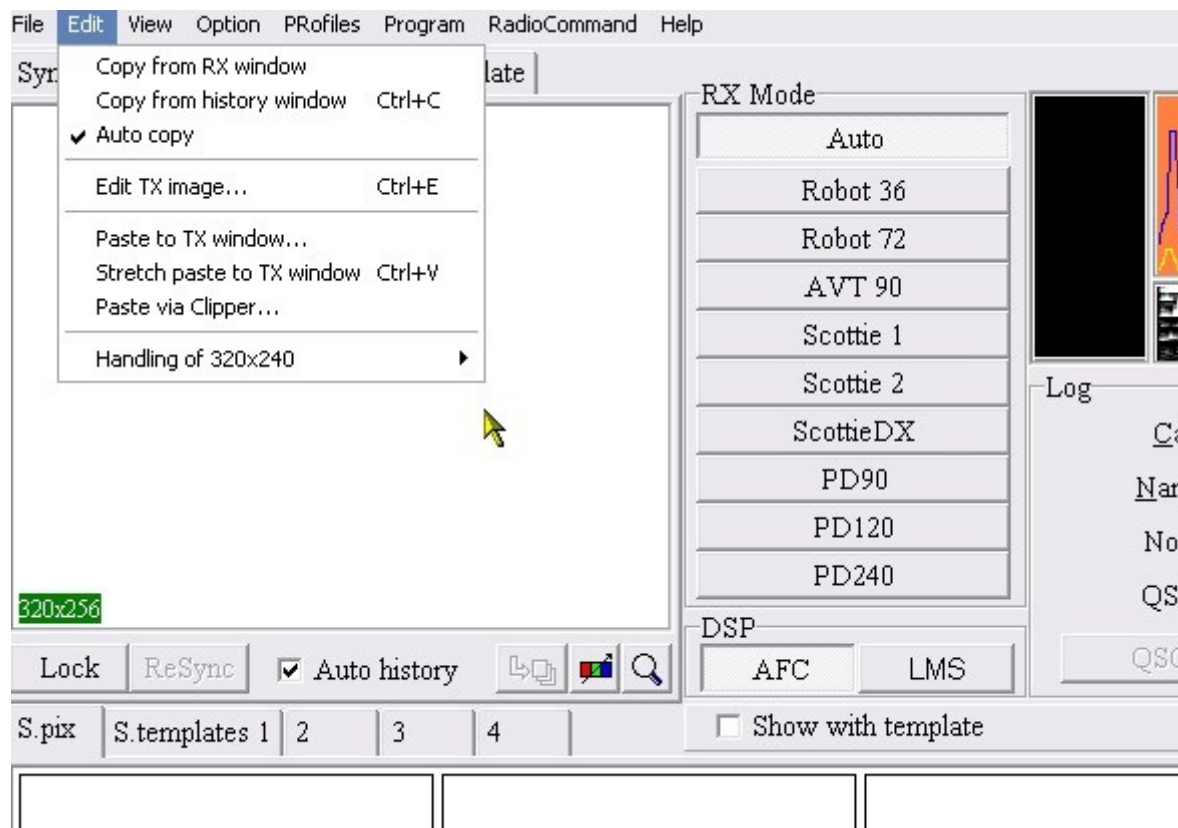
**Click on the “RX” tab, and under RX mode select “Auto”**



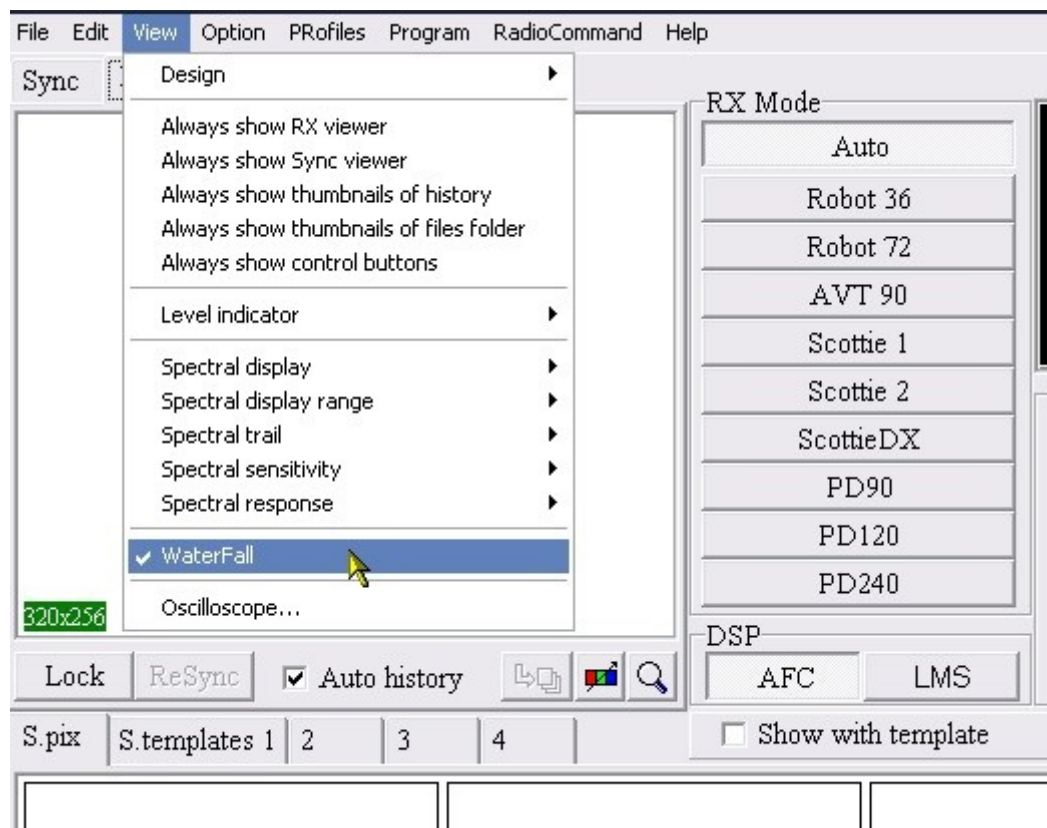
Click on “Edit” make sure “Auto Copy” is checked



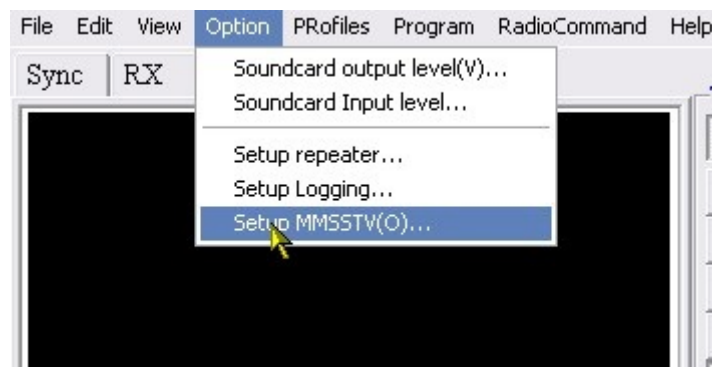




**Click the “View” Tab, ensure the “Waterfall” is checked**



**Click the “Options” Tab and then Click the “Setup MMSSTV(O)”**



Click the “RX” Tab, match the setting shown

The screenshot shows the 'Setup MMSSTV' dialog box with the 'RX' tab selected. The dialog is divided into several sections for configuring receiver settings. The 'Demodulating method' section has 'Hilbert T.F.' selected. The 'PLL' section has 'VCO Gain' set to 1.0. The 'LoopLPF (IIR)' section has 'Order' set to 1 and 'FC' set to 1500 Hz. The 'OutputLPF (IIR)' section has 'Order' set to 3 and 'FC' set to 900 Hz. The 'Level converter' section has 'Polynomial' unchecked, 'Offset' set to 0, '1500Hz' set to 16384, and '2300Hz' set to -16384. The 'Auto start' section has 'VIS or Sync' selected. The 'Squelch level' section has 'Lower' selected. The 'RxBPF' section has 'Broad' selected. The 'Auto stop', 'Auto restart', 'Auto resync', 'Auto slant', and 'Decode FSKID' options are all checked. The 'Rx buffer' section has 'RAM' selected. The 'Differentiator' checkbox is unchecked. The 'OK' and 'Cancel' buttons are at the bottom right.

Setup MMSSTV

RX TX Misc

Demodulating method

- ☐ PLL
- ☒ Hilbert T.F.
- ☐ Zero crossing

PLL

VCO Gain: 1.0

LoopLPF (IIR)

Order: 1 f

FC: 1500 Hz

OutputLPF (IIR)

Order: 3 f

FC: 900 Hz

☐ Differentiator

Level converter

☐ Polynomial

Offset: 0

1500Hz: 16384

2300Hz: -16384

Calibration

Auto start

- ☐ VIS only
- ☒ VIS or Sync

Squelch level

- ☐ Lowest
- ☐ Higher
- ☒ Lower
- ☐ Highest

RxBPF

- ☐ OFF
- ☒ Broad
- ☐ Sharp
- ☐ Very sharp f

Auto stop ☒

Auto restart ☒

Auto resync ☒

Auto slant ☒

Decode FSKID ☒

Rx buffer

- ☐ NONE
- ☐ FILE
- ☒ RAM

OK Cancel

Click the “TX” Tab, Match the settings:

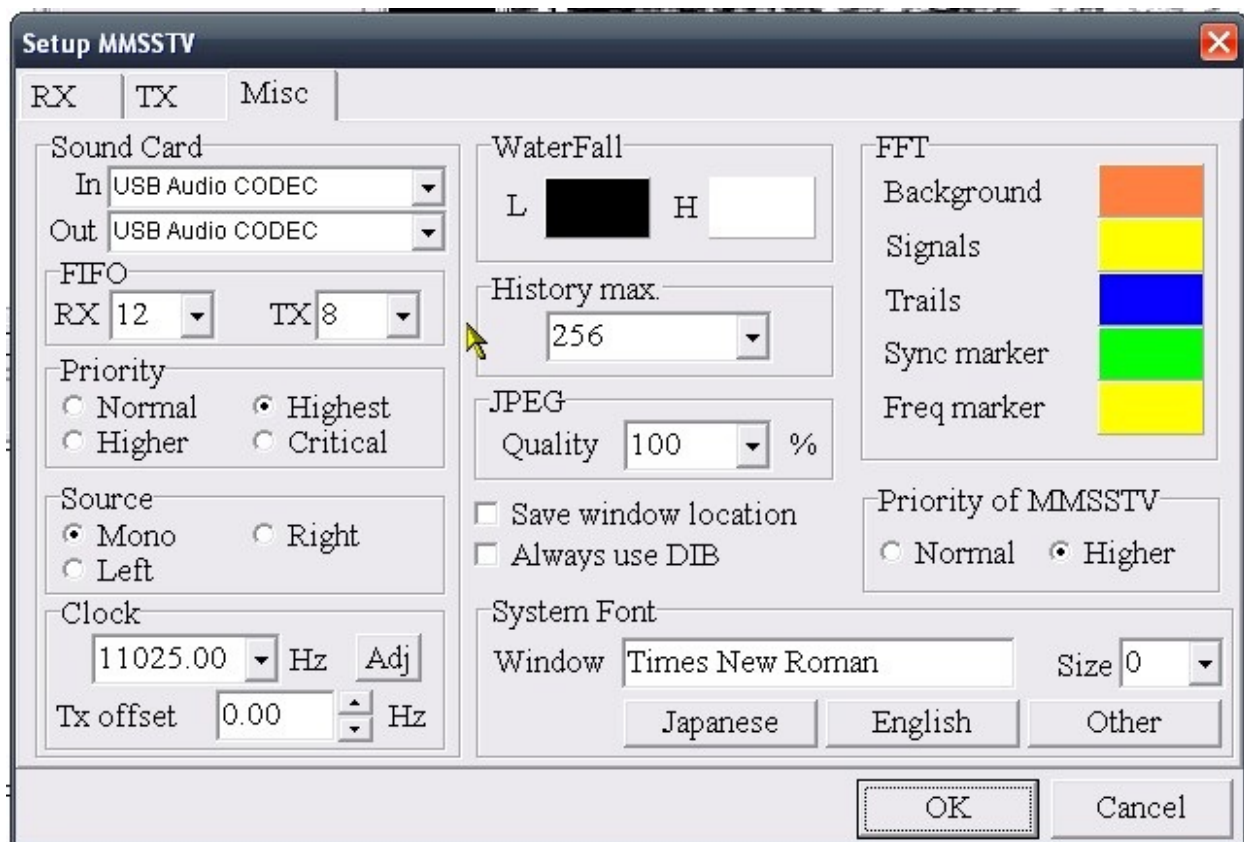
Of course, insert your own call in place of the “Your Call”

The screenshot shows the 'Setup MMSSTV' dialog box with the 'TX' tab selected. The dialog is divided into several sections for configuring transmission settings.

- PTT**: Port is set to 'NONE'. There are checkboxes for 'Exclusive lock' (checked) and 'RTS while Scan' (unchecked). A 'Radio command' button is present.
- Digital output level**: A slider bar is shown. A checkbox for 'Vari SSTV' is unchecked.
- Template**: The 'Callsign' field contains 'YOUR CALL'.
- VOX tone**: Radio buttons for 'Standard' (selected), 'NONE', and 'User defined' are shown.
- TxBPF/TxLPF**: 'Tx BPF' is checked with a 'Tap' of 24 and unit 'f'. 'Tx LPF' is unchecked with a 'Freq' of 2000 and unit 'Hz'.
- Loop back**: Radio buttons for 'OFF' (selected), 'Internal', and 'External (full-duplex)' are shown. A checkbox for 'Fixed mode' is unchecked, and 'Encode FSKID' is checked.
- Tune button**: 'Freq' is 1750 Hz and 'Time length' is -1 s. An 'Auto TX (for SAT/UHF)' checkbox is unchecked.
- CWID**: Radio buttons for 'OFF' (selected), 'CW', and 'MMV' are shown. The frequency is 1000 Hz. There are 'Slow' and 'Fast' sliders, and a 'Macro' button.

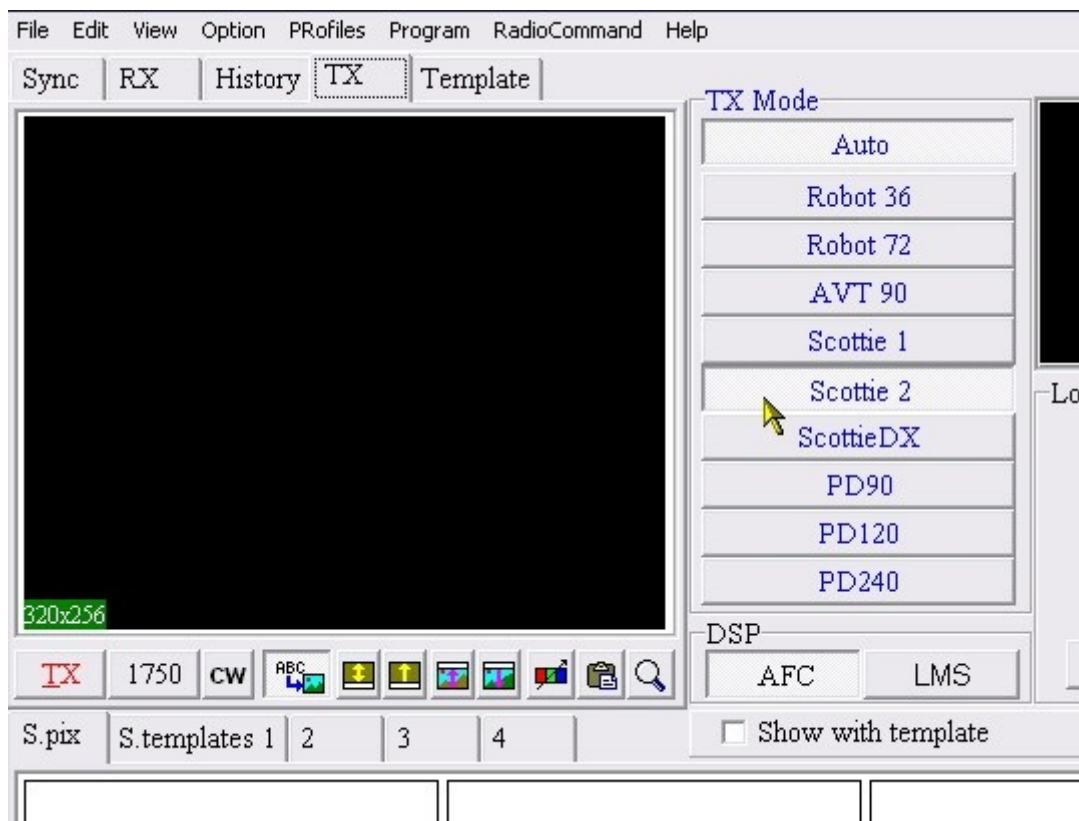
At the bottom right are 'OK' and 'Cancel' buttons.

Click the “Misc” tab and match the settings.

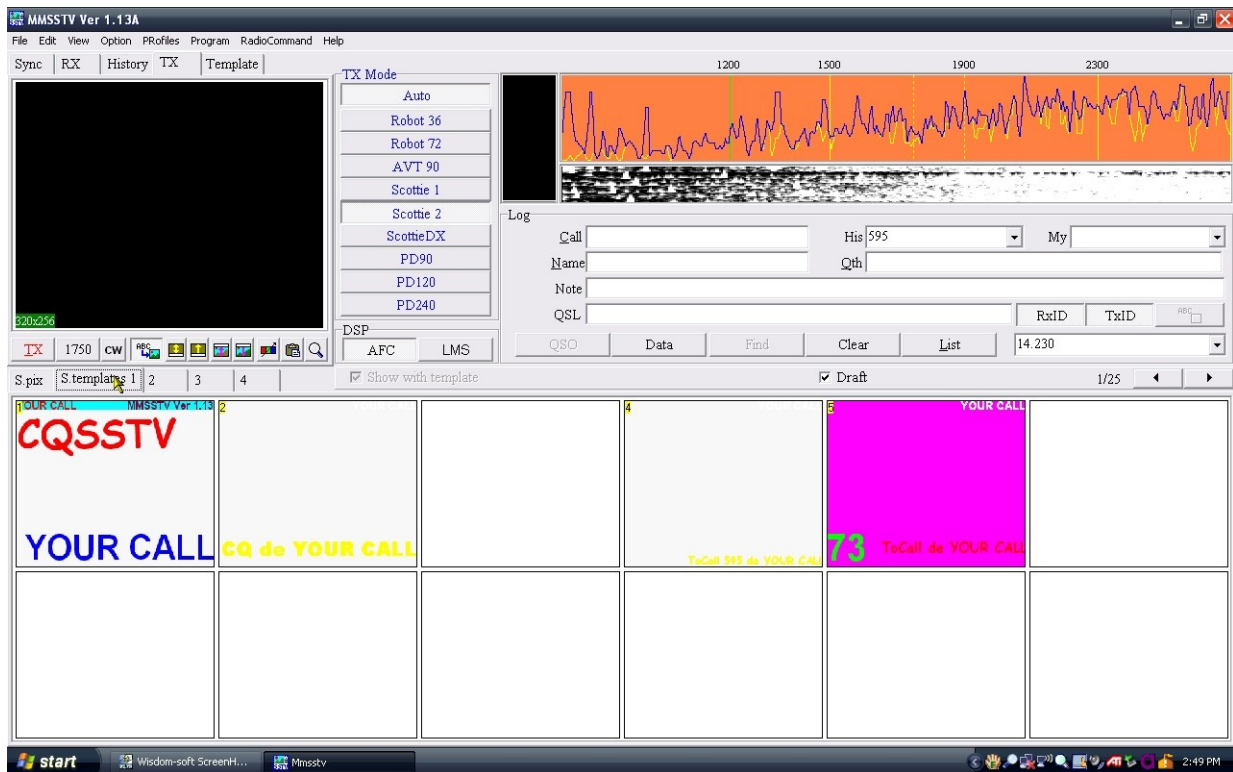


Click “OK” to close the windows.

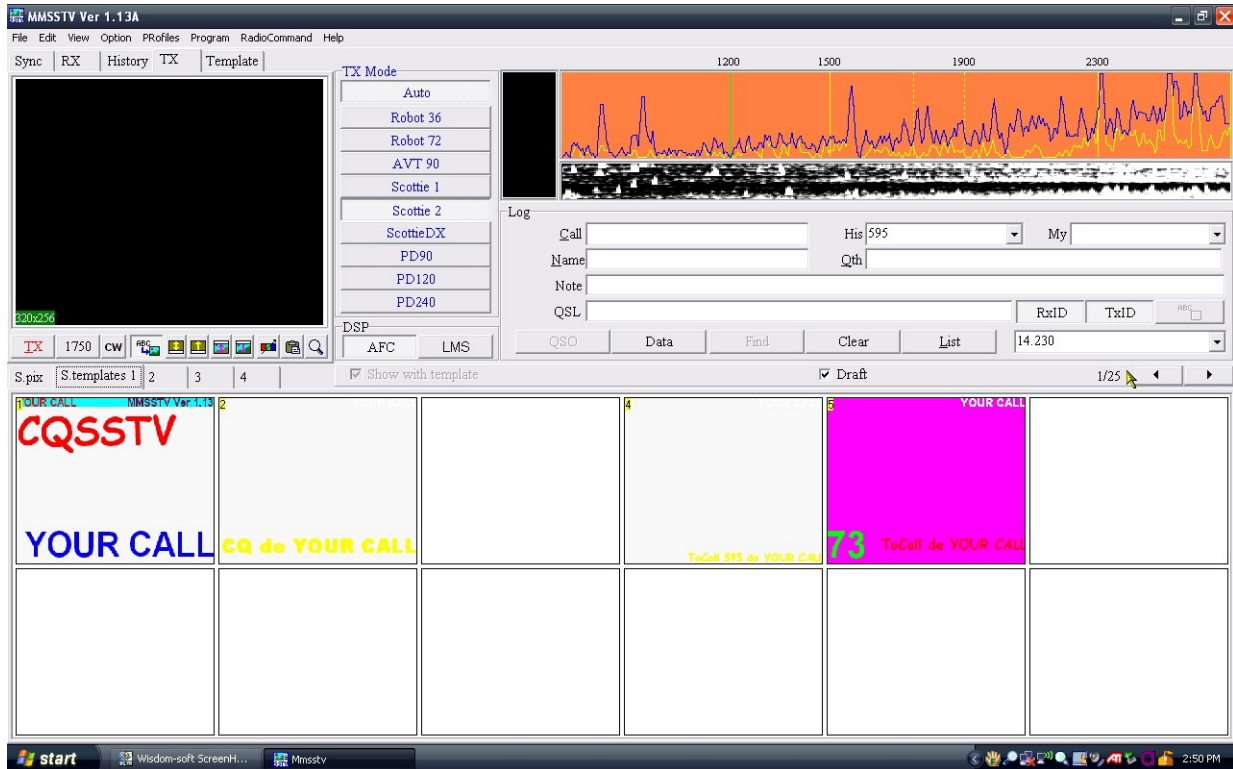
Click the “TX” Tab at the top of the screen. Select “Scottie 2” for the “TX Mode” this is a good mode for quick transmission of pictures, the definition is mediocre, but transmission time is about 1 minute. Quality is reduced for speed. There are 320 x 256 lines (about 1/4 of regular broadcast (pre-digital) TV. There are higher definition modes available, but stick with Scottie 2 until you are comfortable with the program.



Click on the “Template” button below the main screen to see the pre-programmed templates that are available. (You can actually pre-set some 270 + templates for use.)

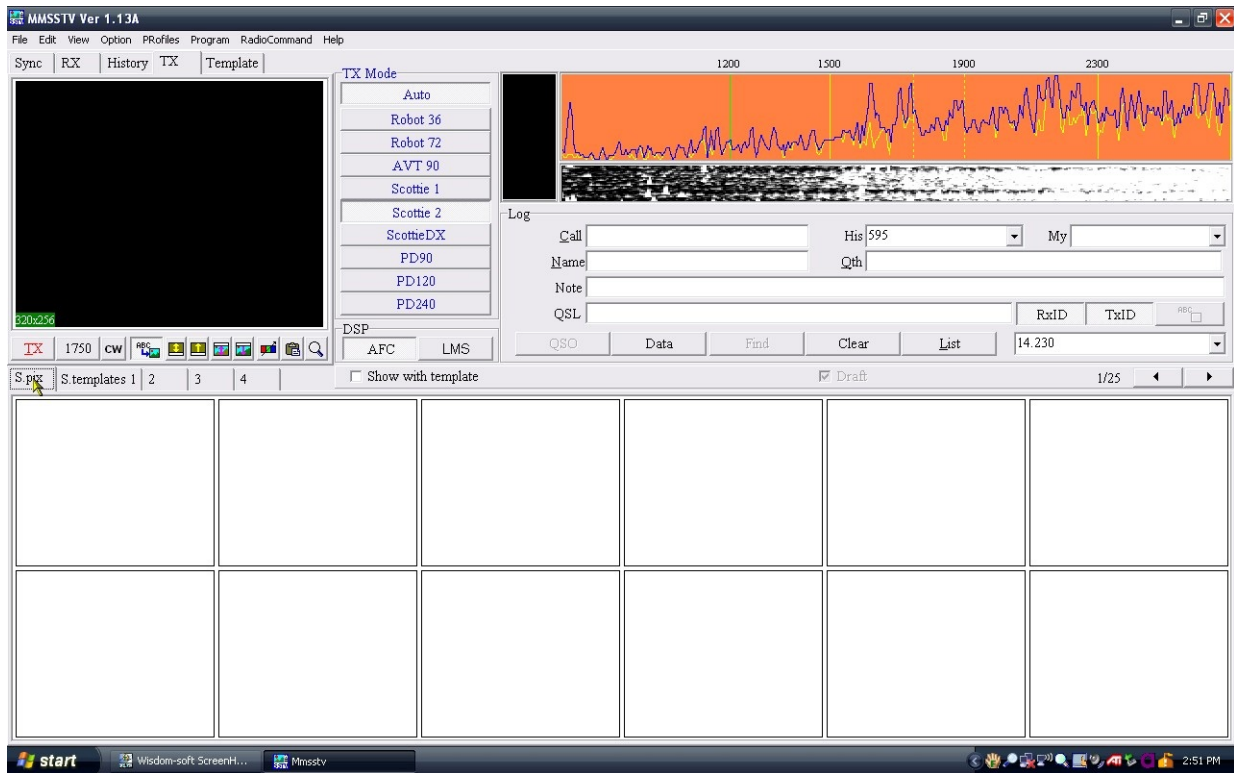


The arrow points to the 1/25 (one of 25) screen segment groups choices available for templates.

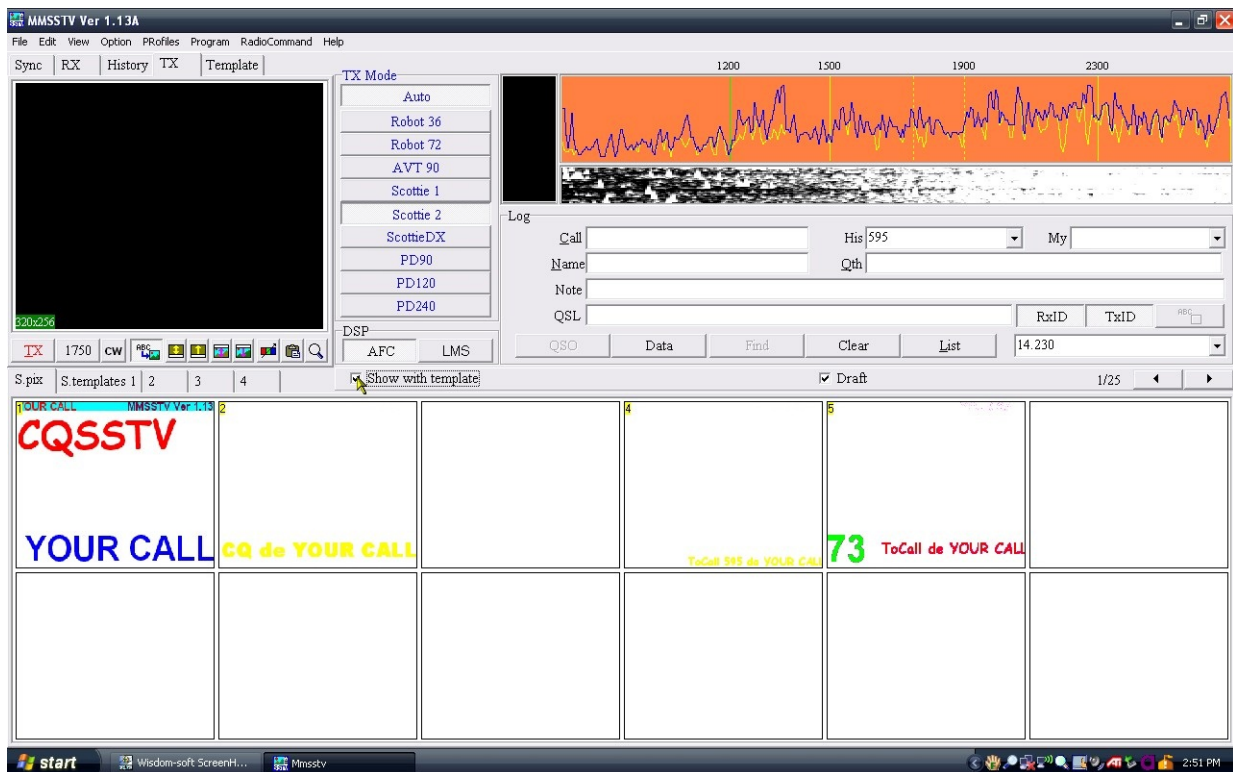




This arrow points to the first of 25 picture segments available for pre-loading.

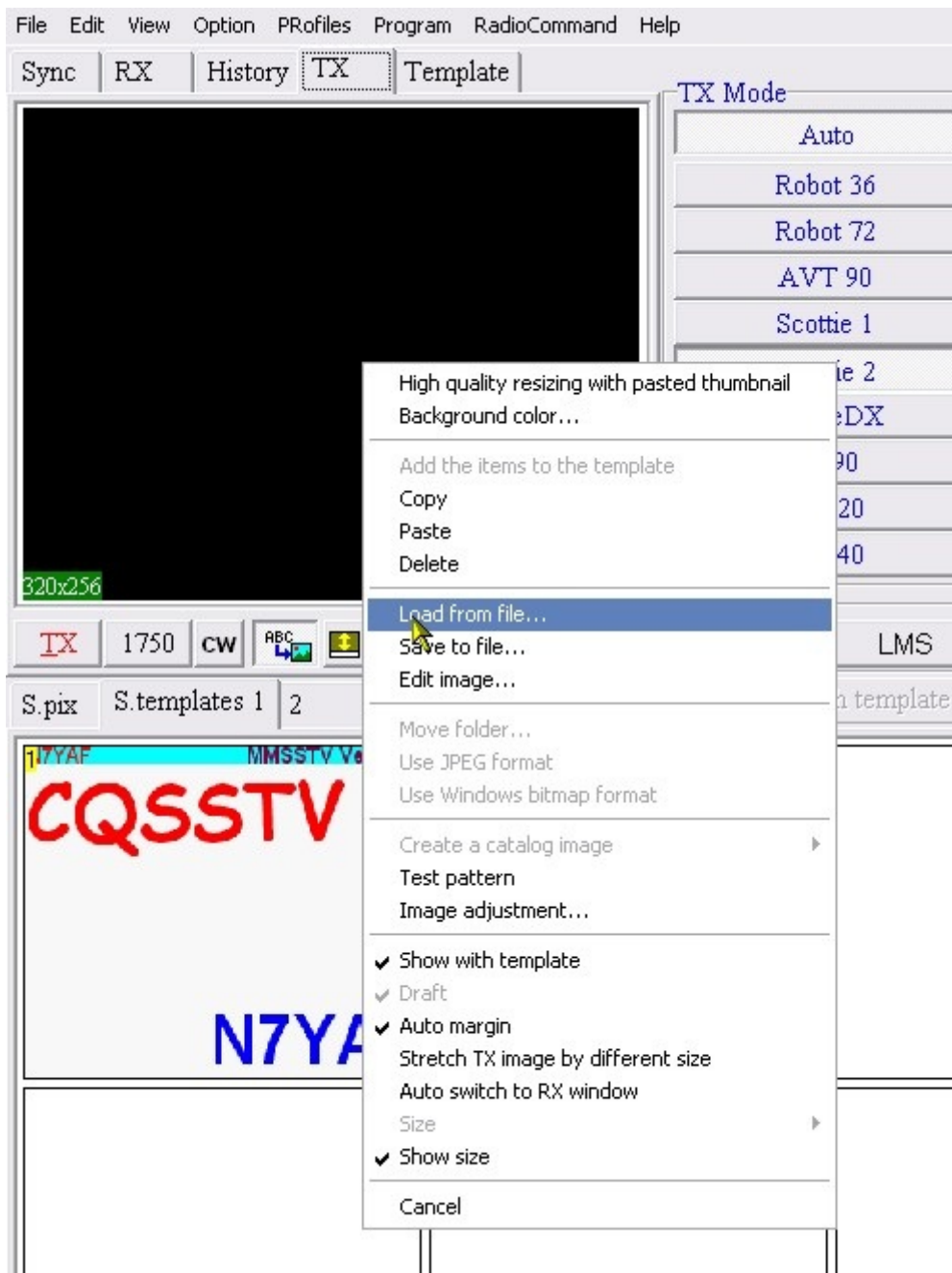


The arrow points to button to switch the templates on over the pre-load picture area so you can see what they look like. (this will be discussed later)

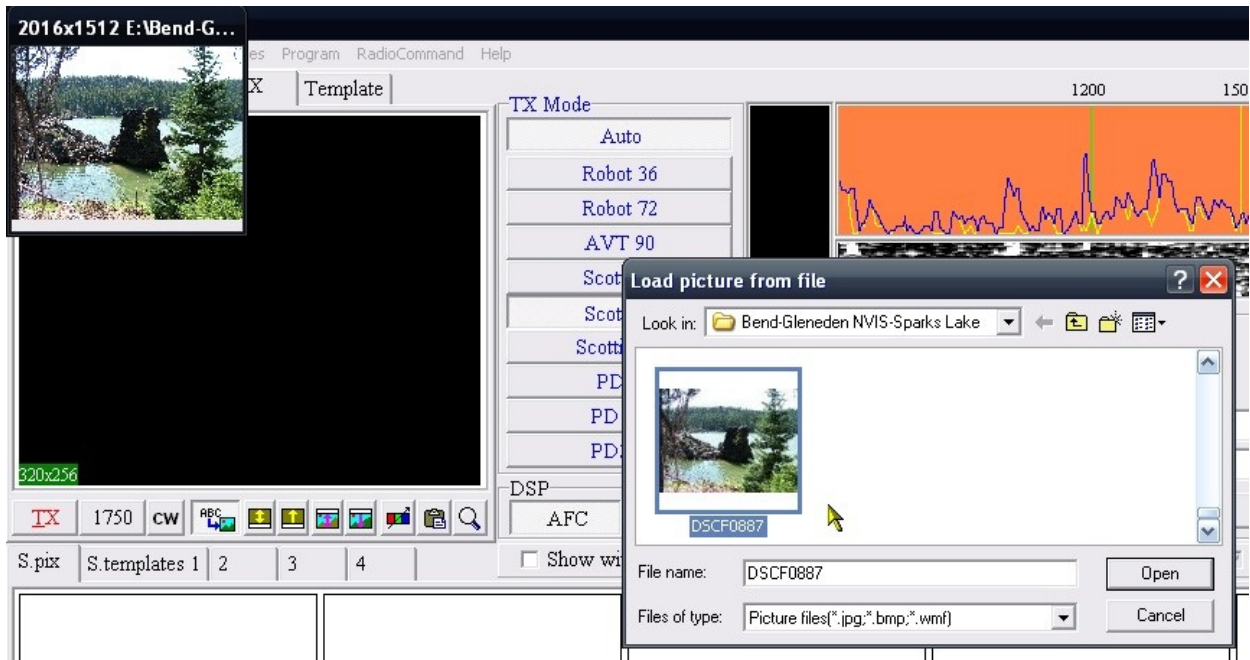


**A quick-load of a picture directly into the transmit window can be done by right-clicking on the window. It brings up the following options:**

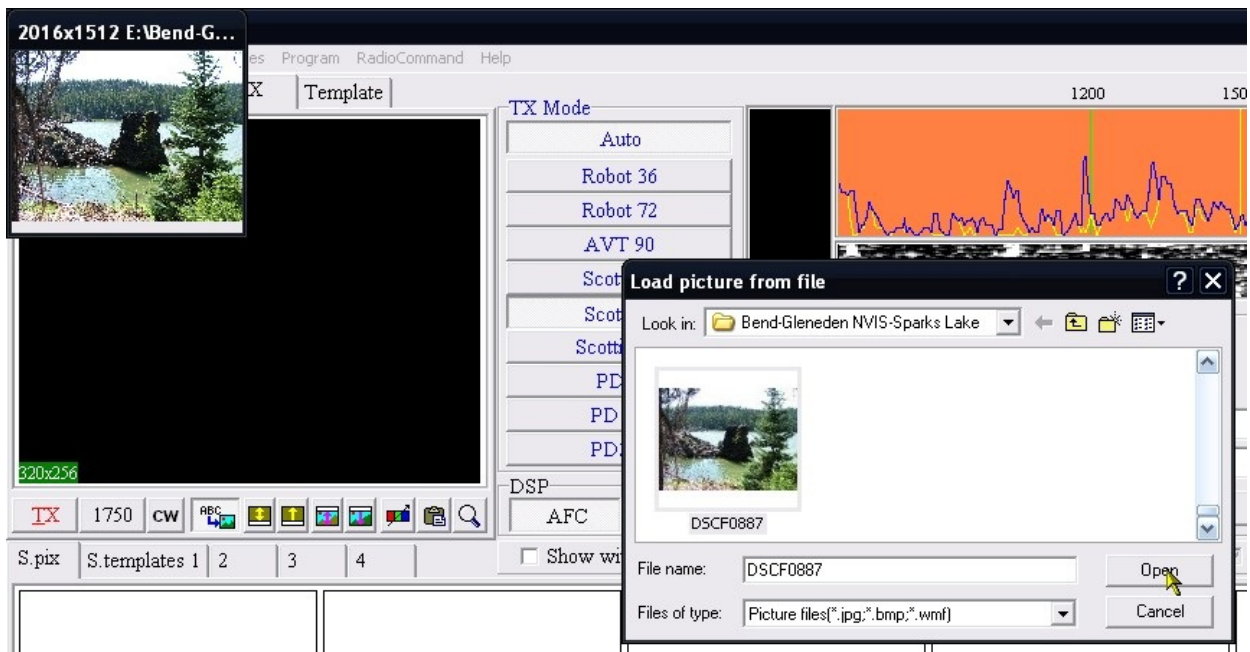
**Click the “Load from File”**



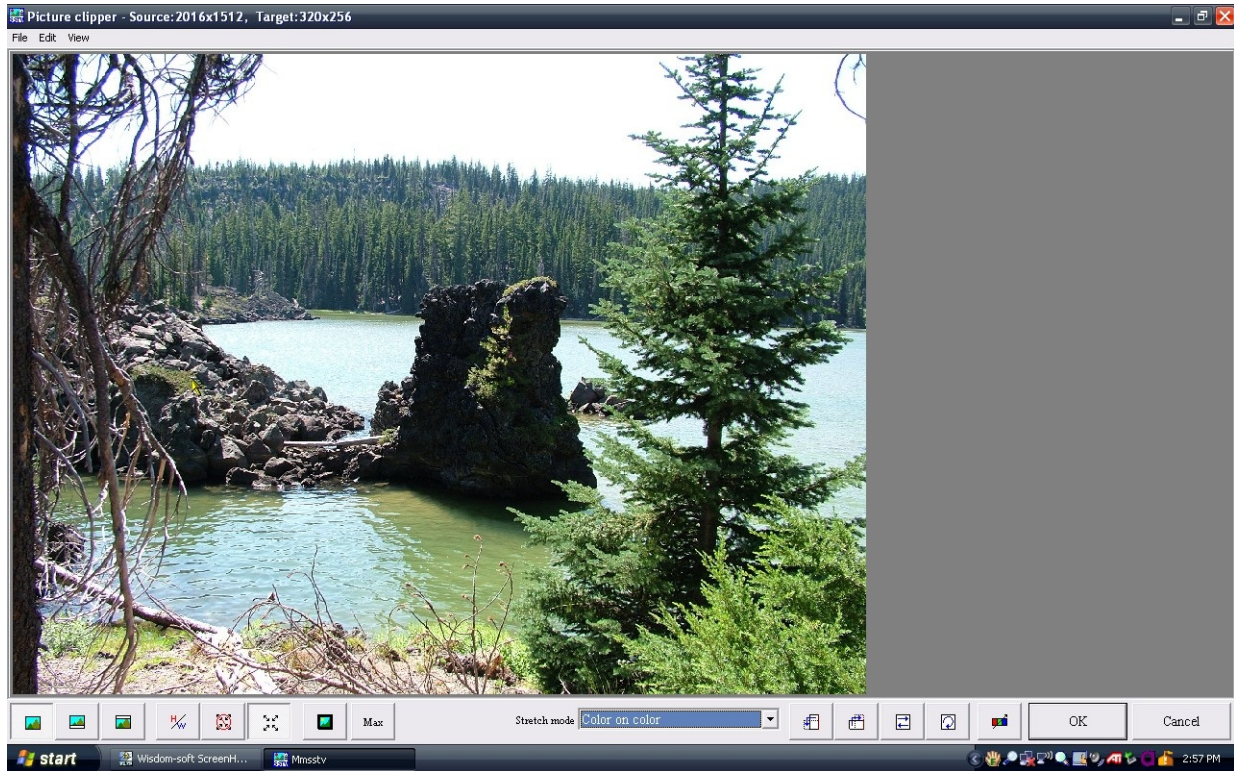
Navigate to your picture file and select the one you want, it will place a small version in the upper left corner.



Click "Open"

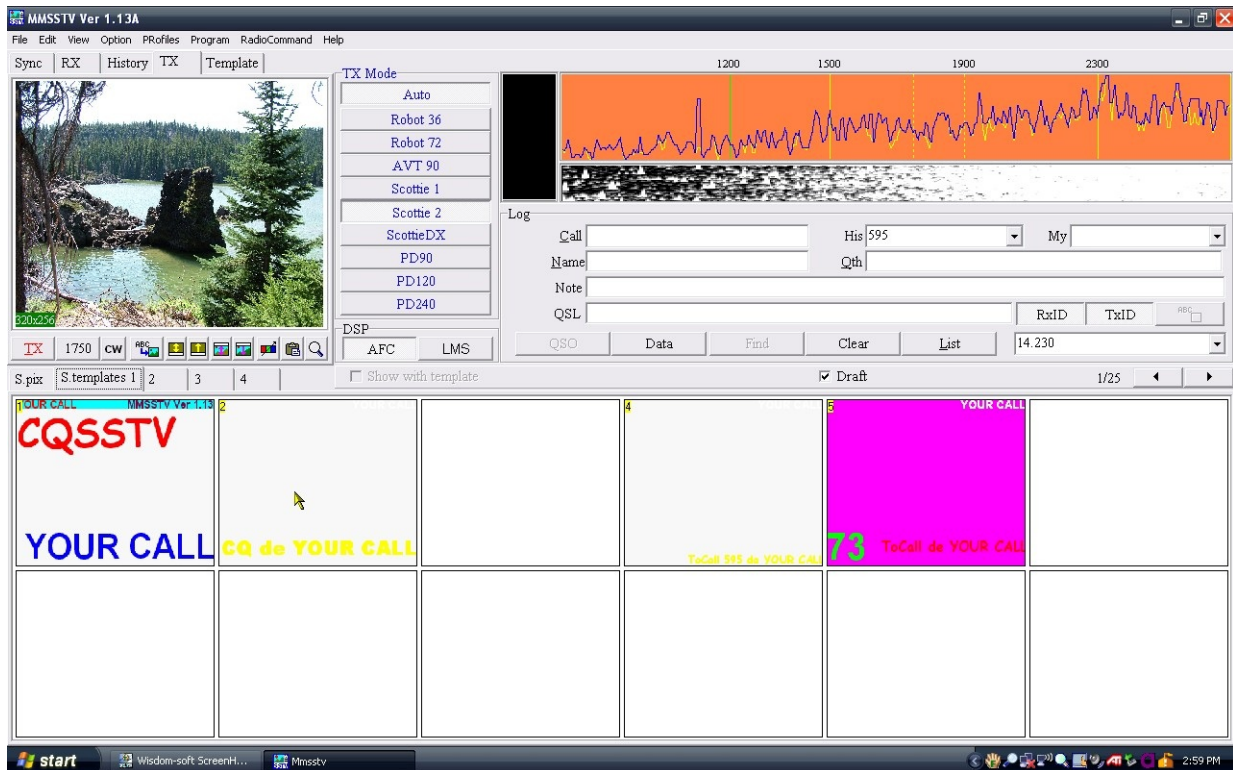


This brings up a window where you can modify, rotate, adjust color, etc. Verify the bottom center is “Color on Color” then click “OK”





The picture is now placed into the “transmit” screen.

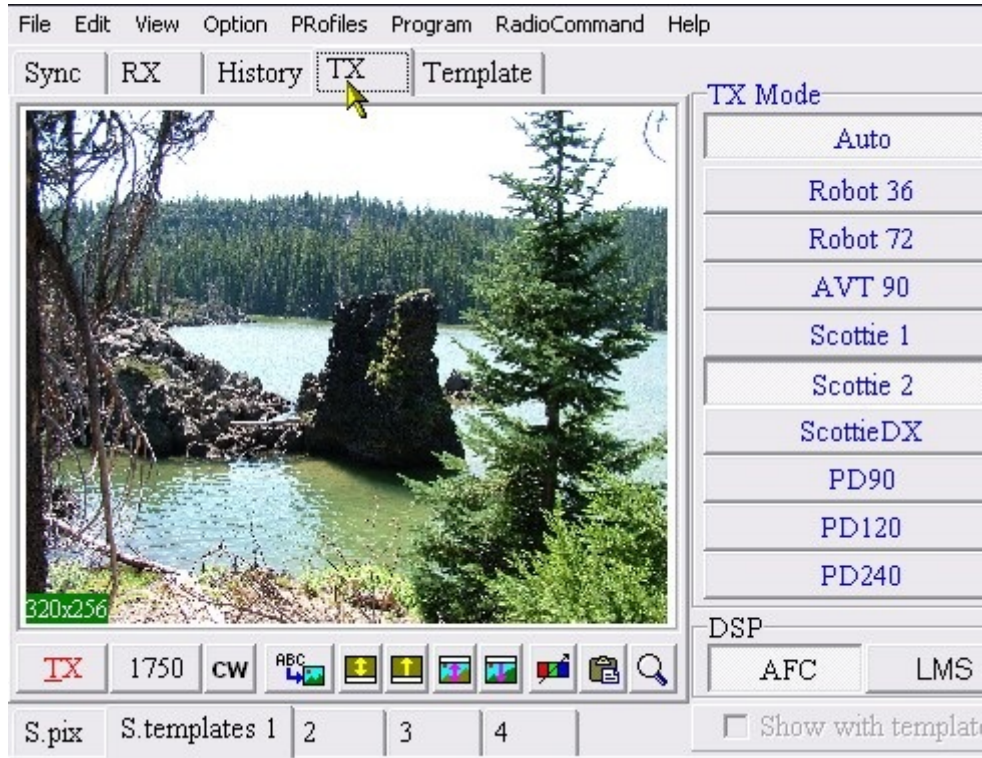


You can click on one of the template overlays and it will then appear over the picture (it will show in the “Template” Tab appearing over the transmit window).





Click the “TX” tab, the template may or may not appear. Select the 4<sup>th</sup> button from the left beneath the window (it has ABC with an arrow to a picture). This switches the template on or off for transmission with the picture).



The above is with the Template switched off; below it appears with it switched on.

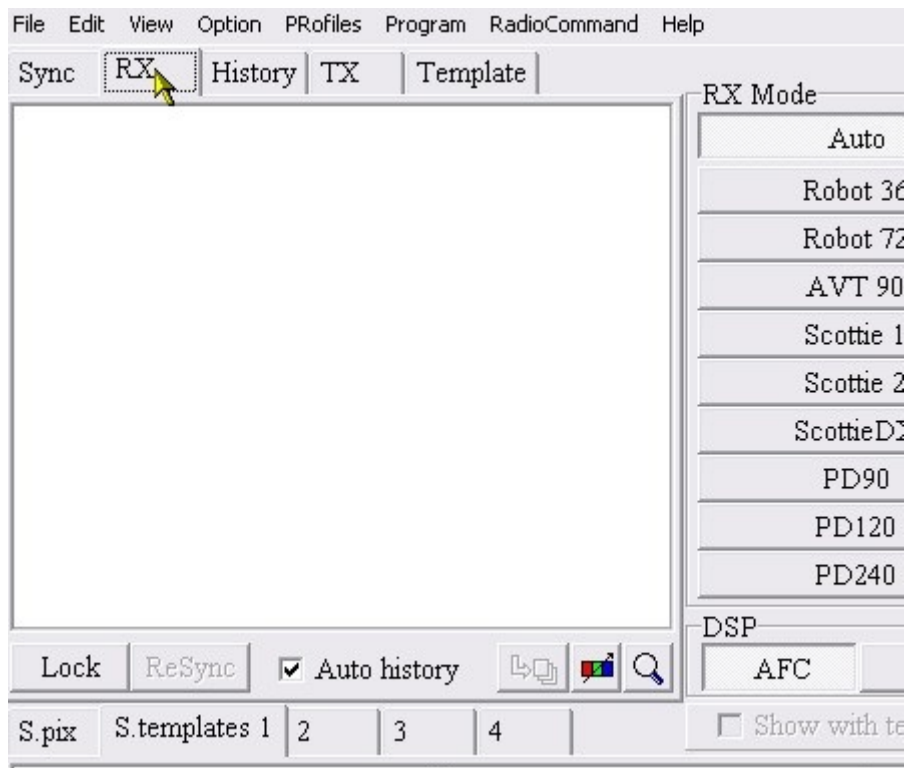
If there are important details in the picture, they may be obscured by the fancy templates, and you may want to switch the template off, or select a different one.



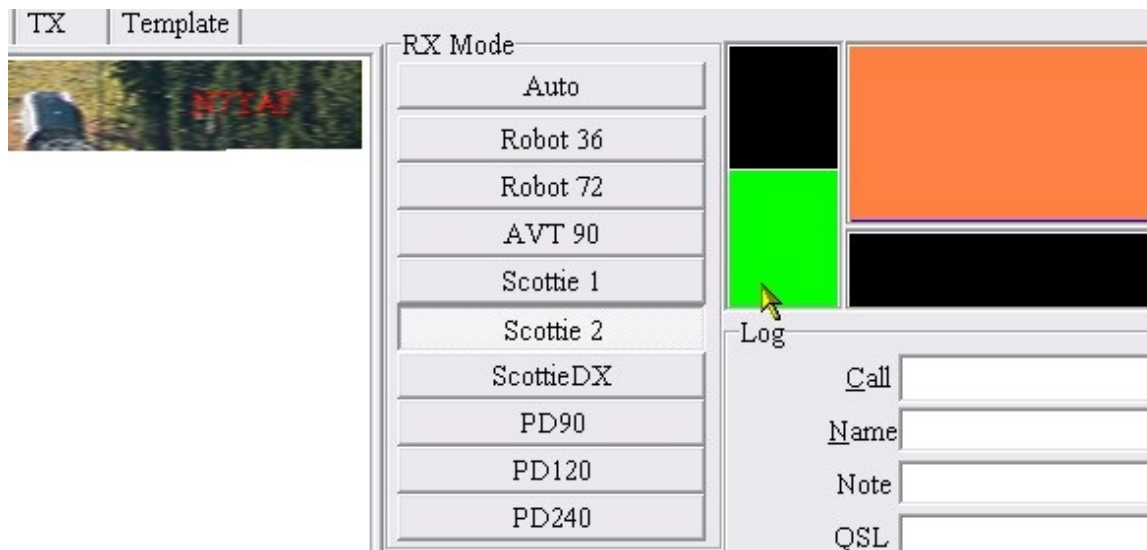
Now, click the red “TX” button, and watch the scan move down the picture as it is transmitted.



To receive a picture, click on the “RX” tab and watch the picture appear as scan moves down the screen.



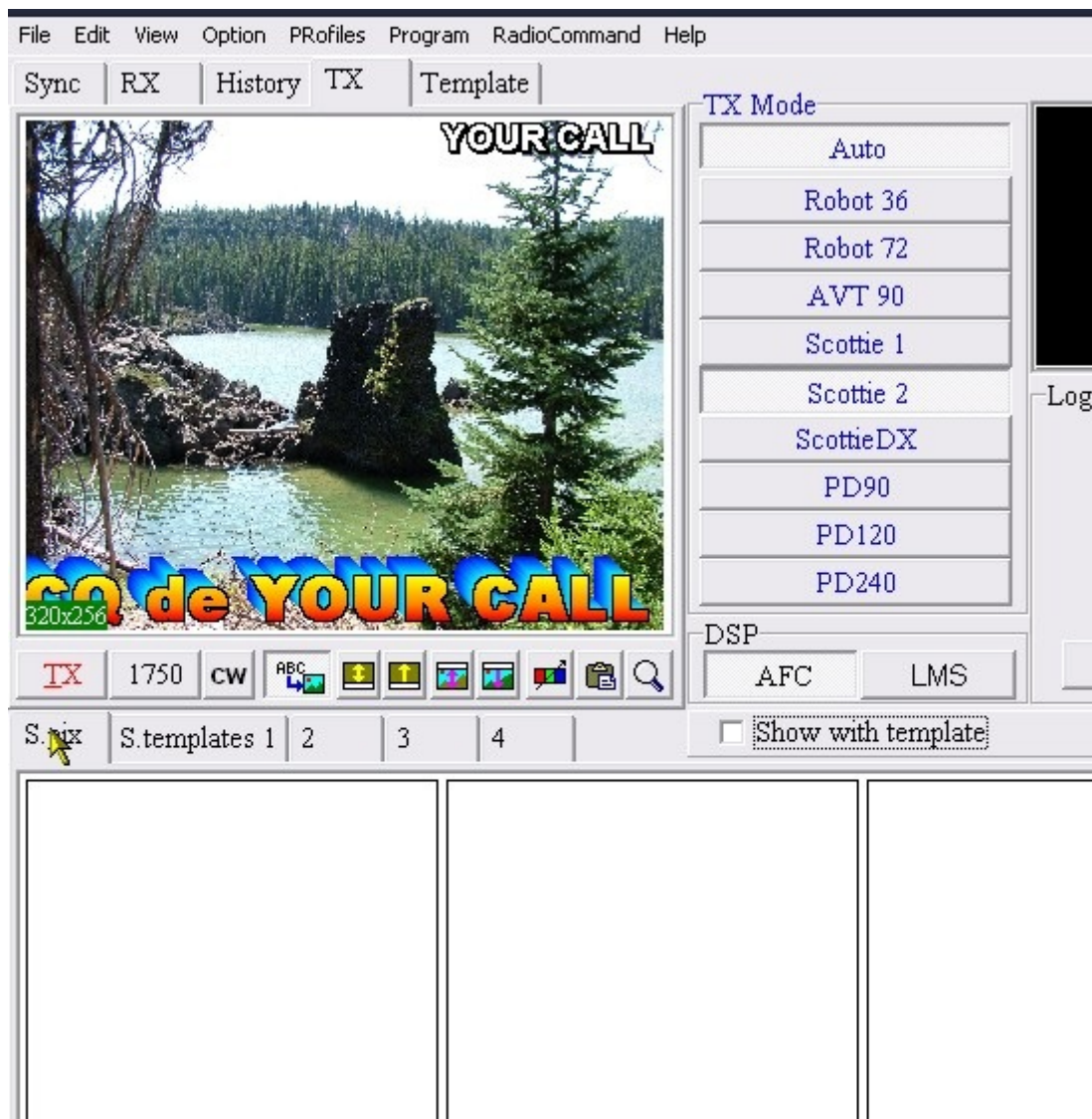
**Adjust the Signalink RX level control to give a Green bar in the Receive signal window. If it is set too high, the bar will be red. The actual level of the bar does not seem too critical, as long as it shows green.**





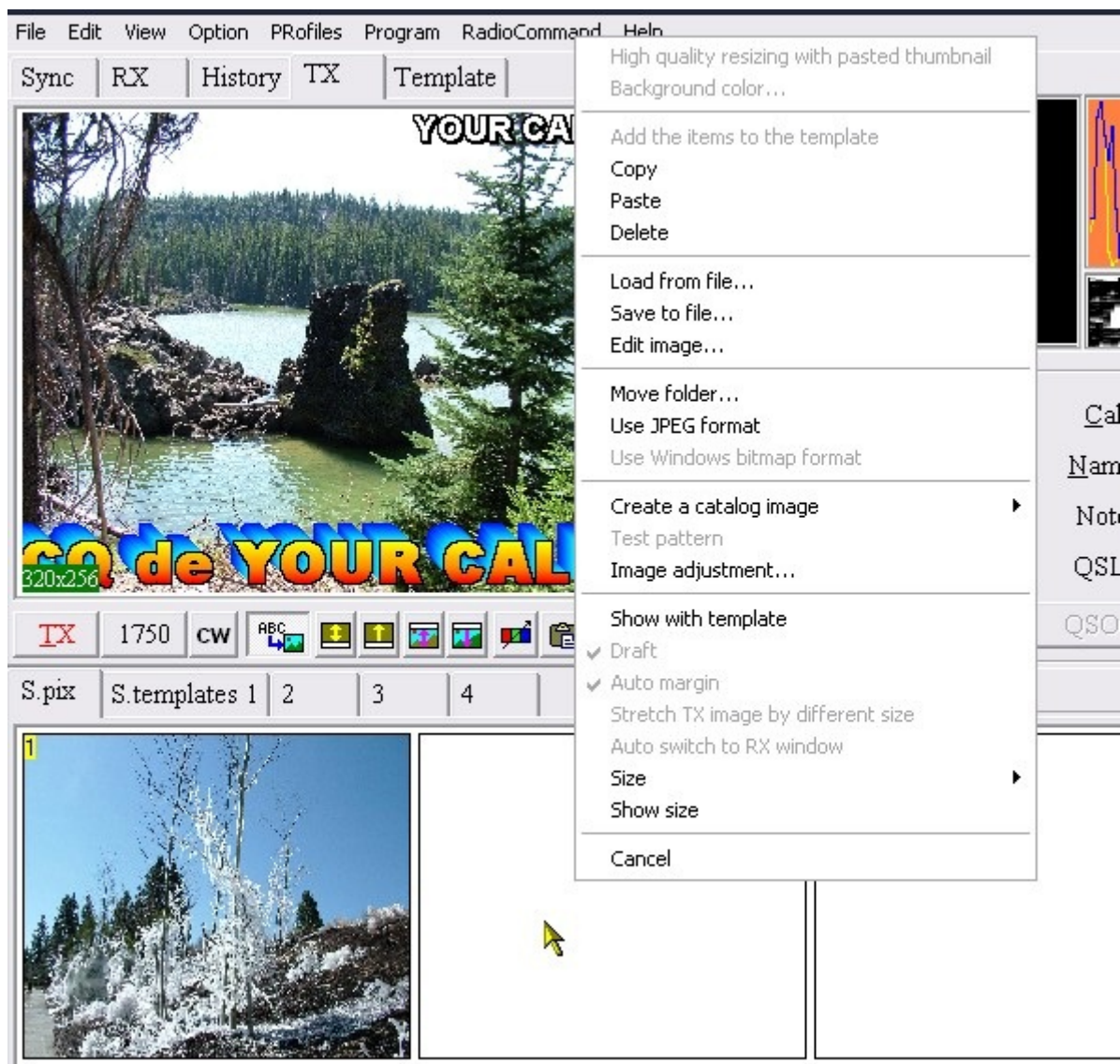
**Pre-loading pictures:**

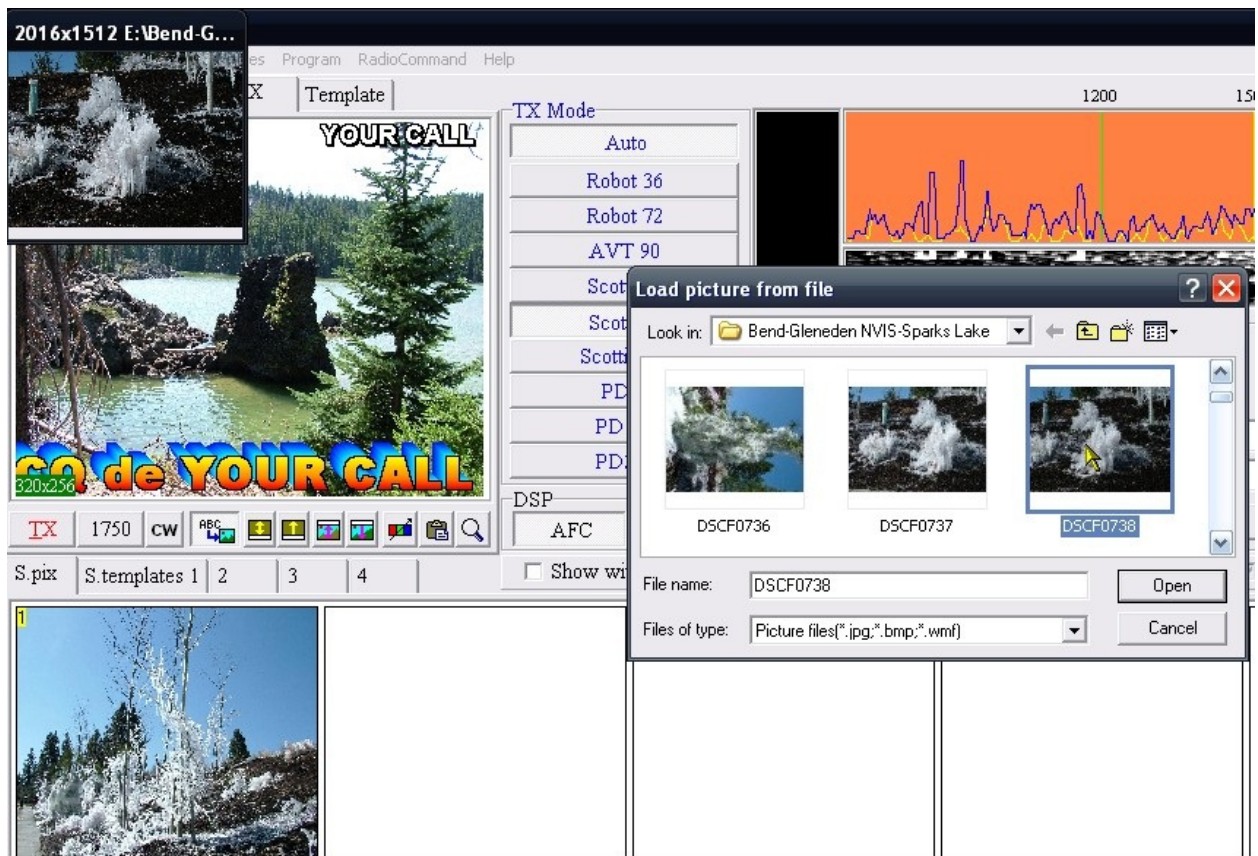
**Click on the “S.PIX” button to open the picture gallery.**



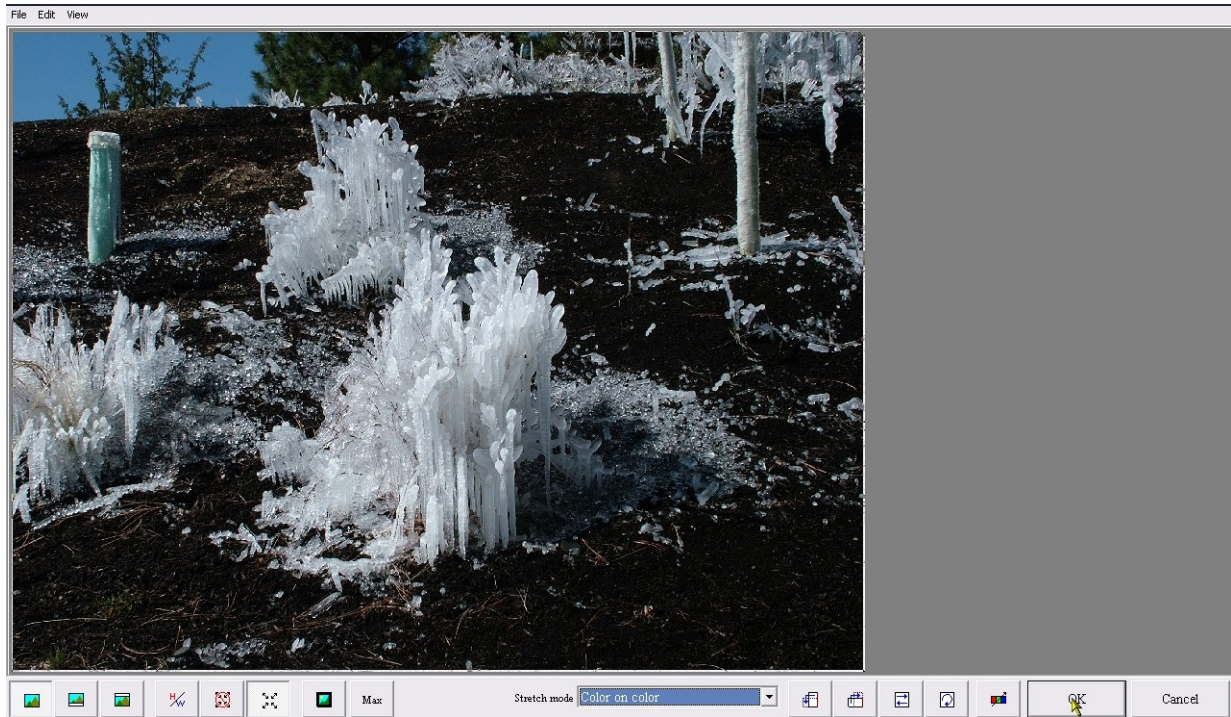
Right click on one of the empty slots, and the familiar choice menu will appear.

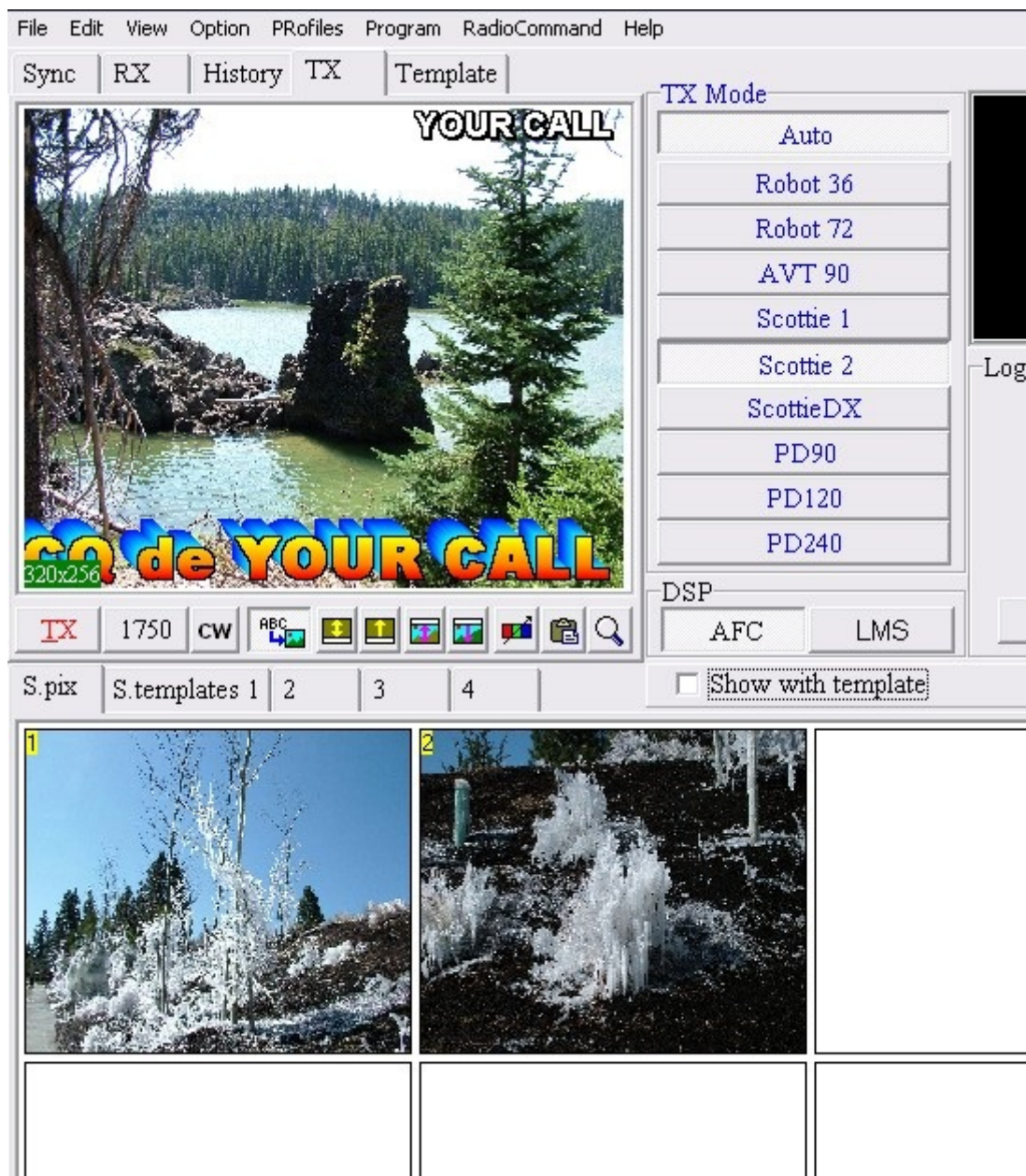
Click on the “Load from File” and select a picture as before when you were loading directly into the “transmit’ window.







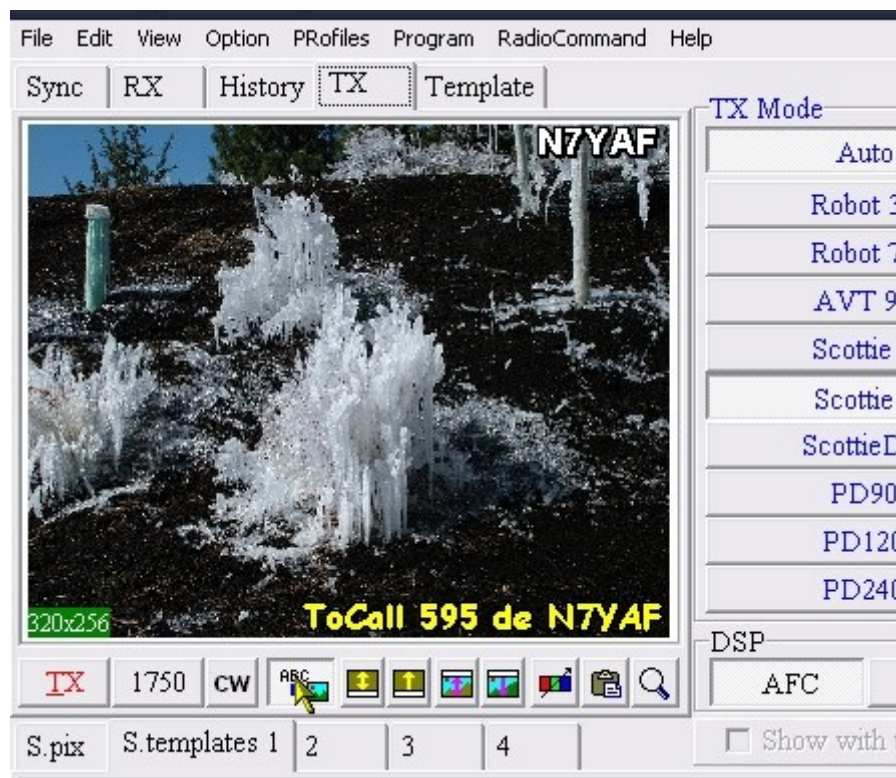




By clicking the “Show with Templates” button, you can see again how a template would look with the picture.

To change Templates, double click on the desired one.

To change pictures, double click on the desired picture.





## Making your own Templates:

Click the “TX” tab above the main window

Right click, then Click “Delete” to remove picture

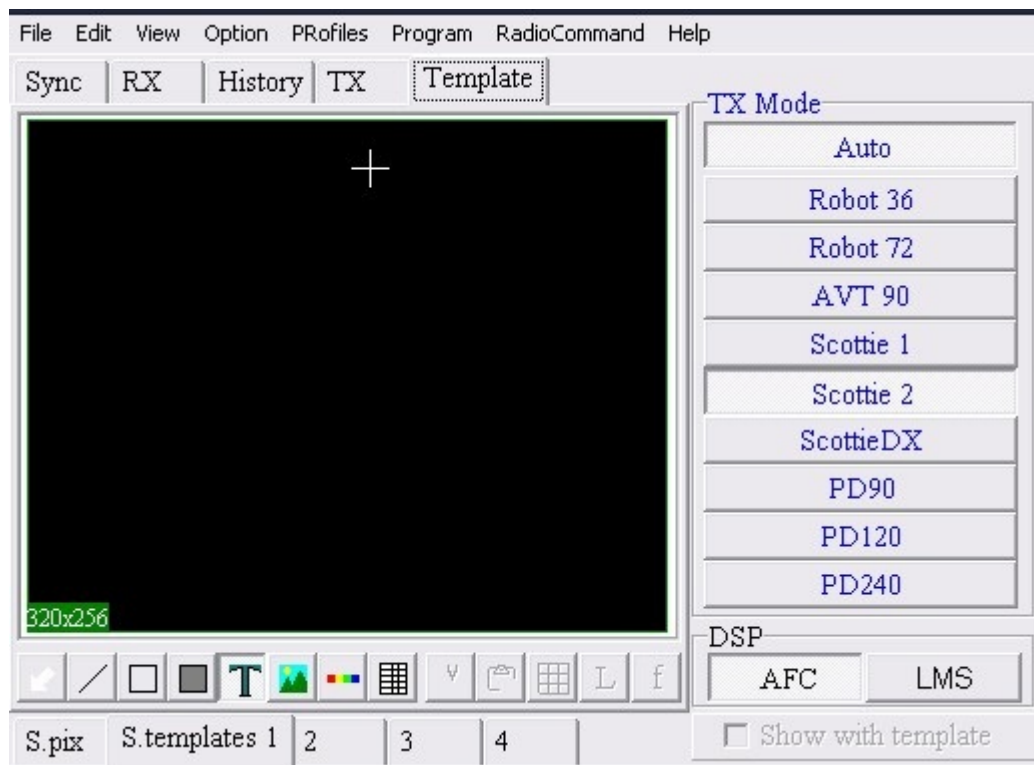
Click on the “Templates” tab above the main window:

Right click, then Click “All Delete” to remove any Template information.

Left click on the “T” below the main window.

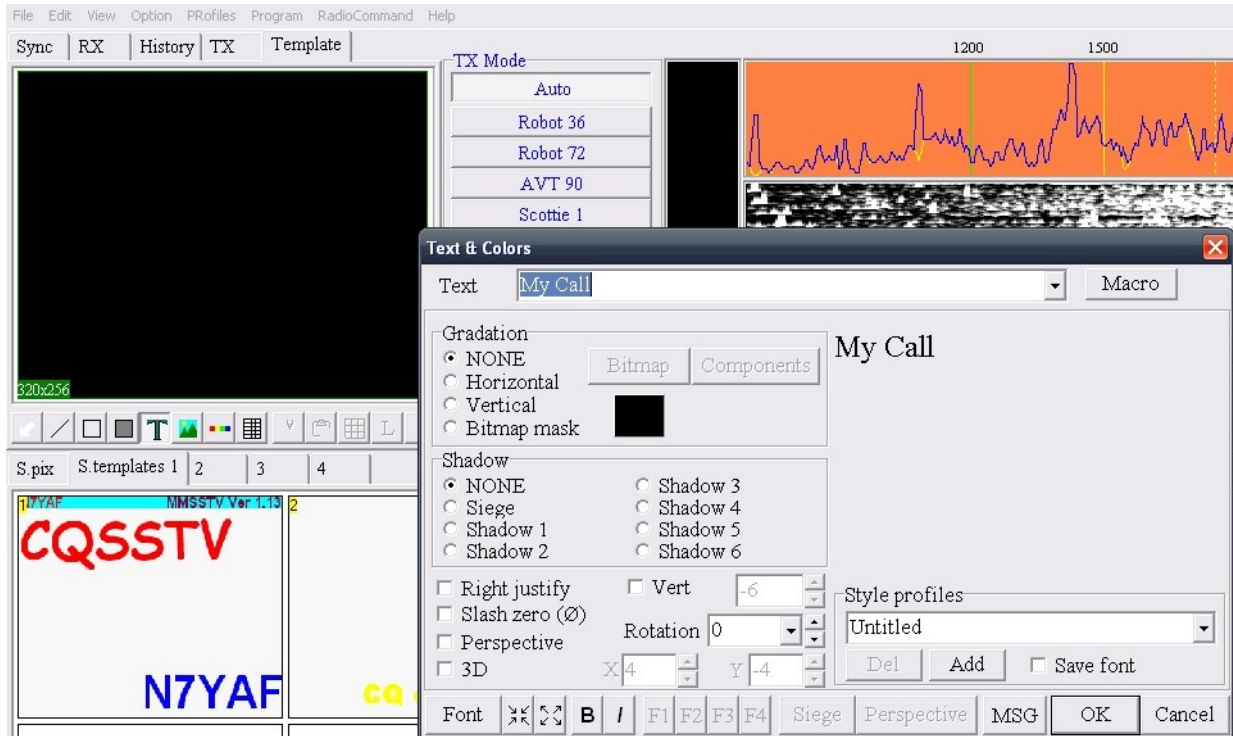


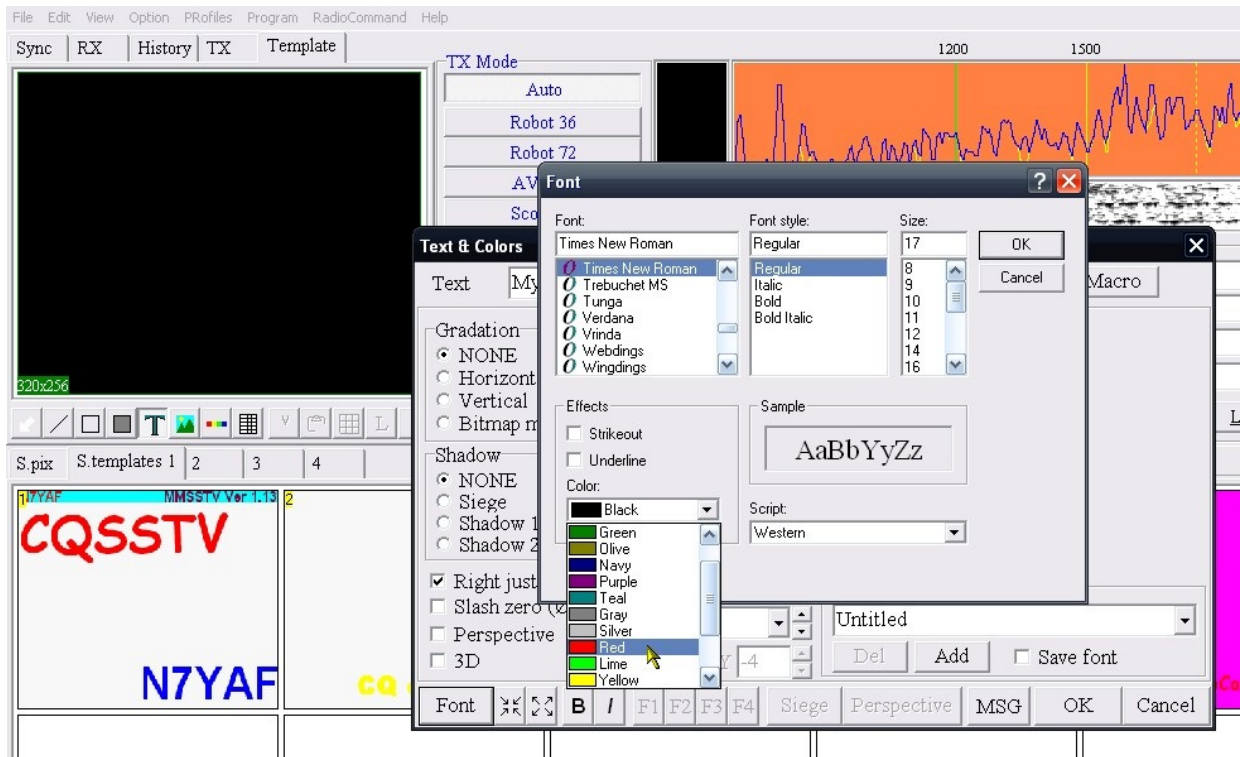
Move the cursor up into the window and you will see a “cross-hair” move it to where you want the text to appear. Then left click.



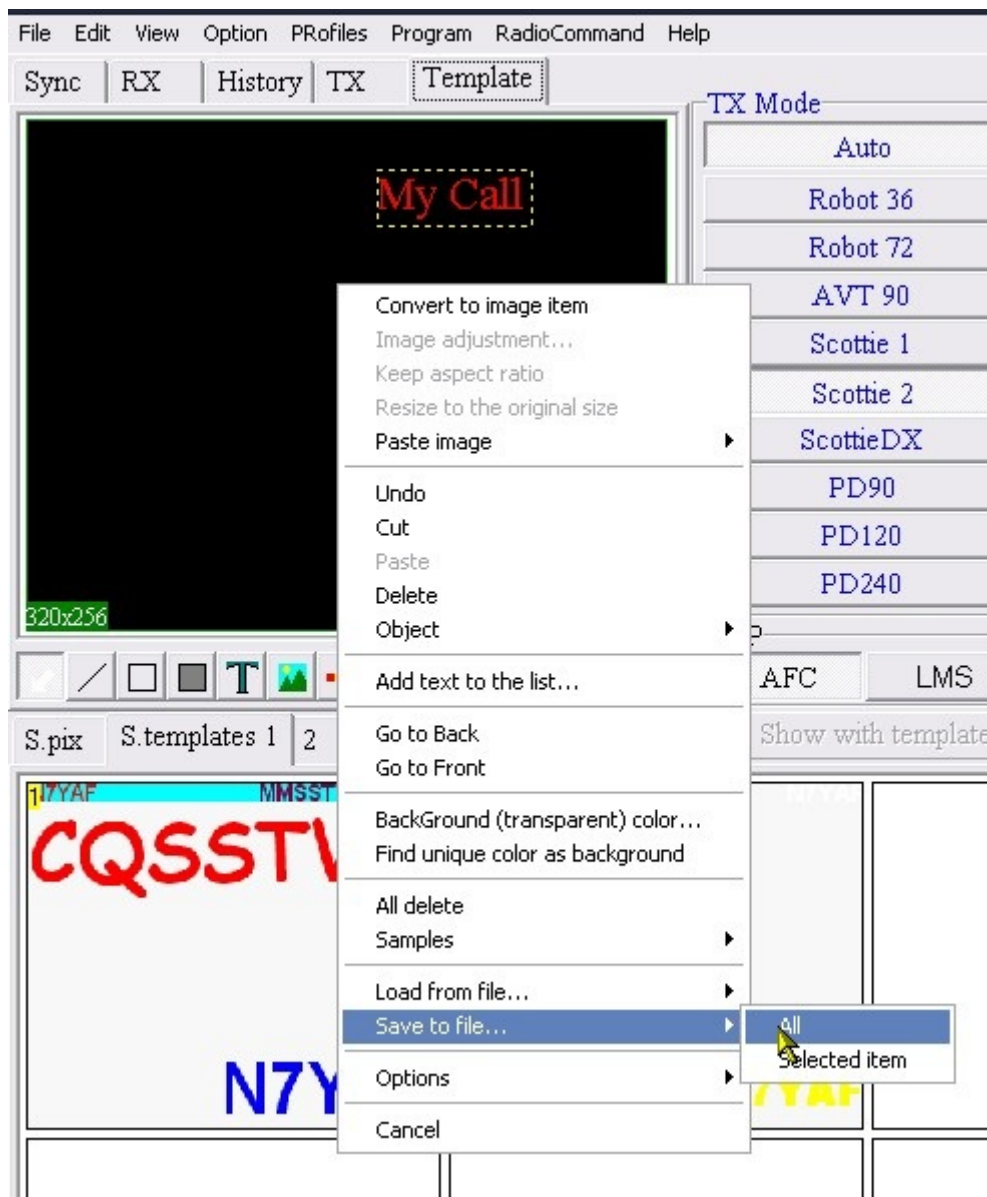
A menu will appear giving you lots of choices of font size, color, fancy text shadowing, etc.

Play with it to see what can be done.

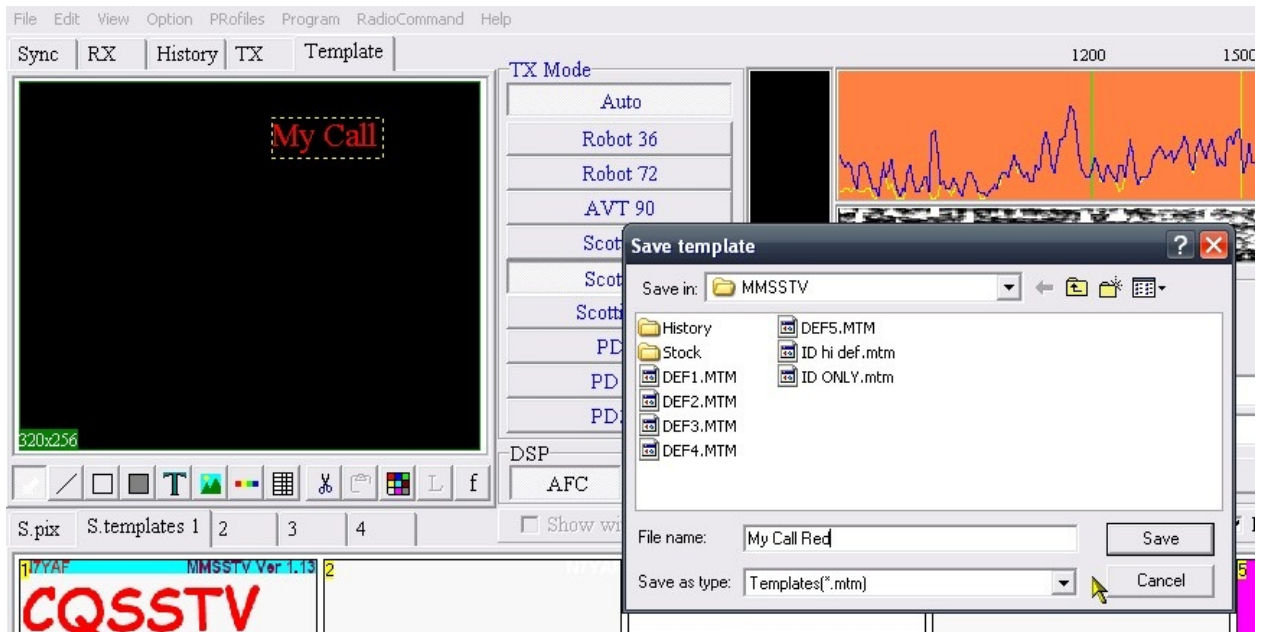




When you have it the way you want, save it for later use and to load into one of the pre-programmed Template slots.

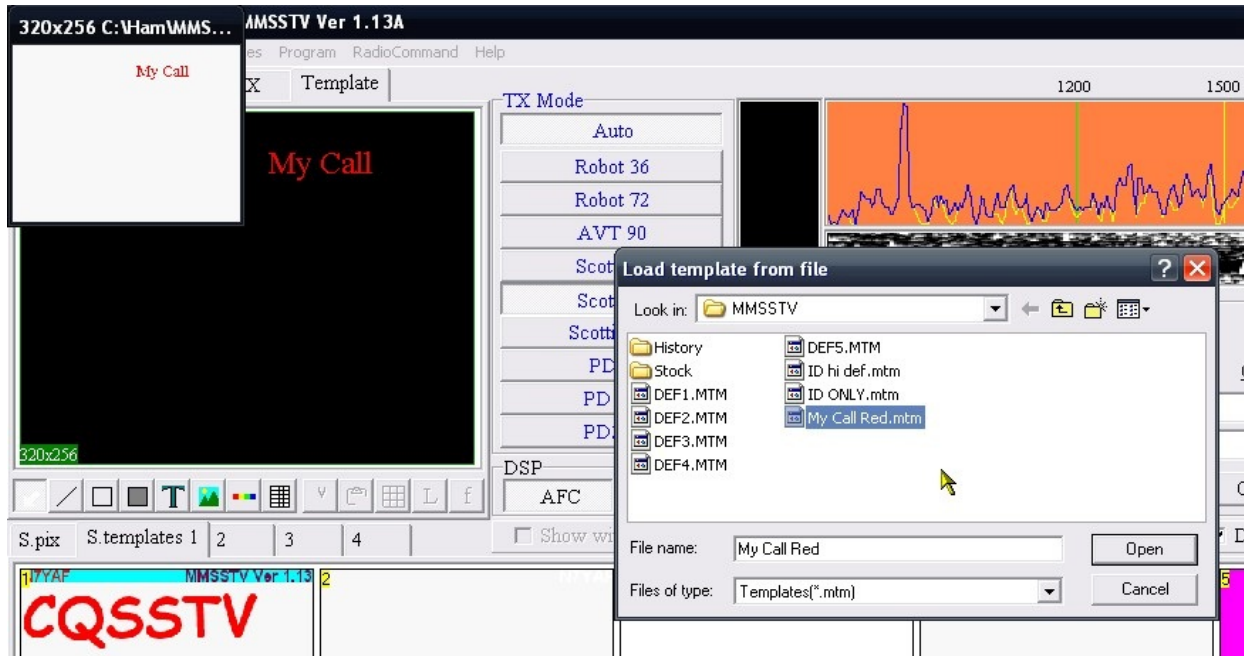




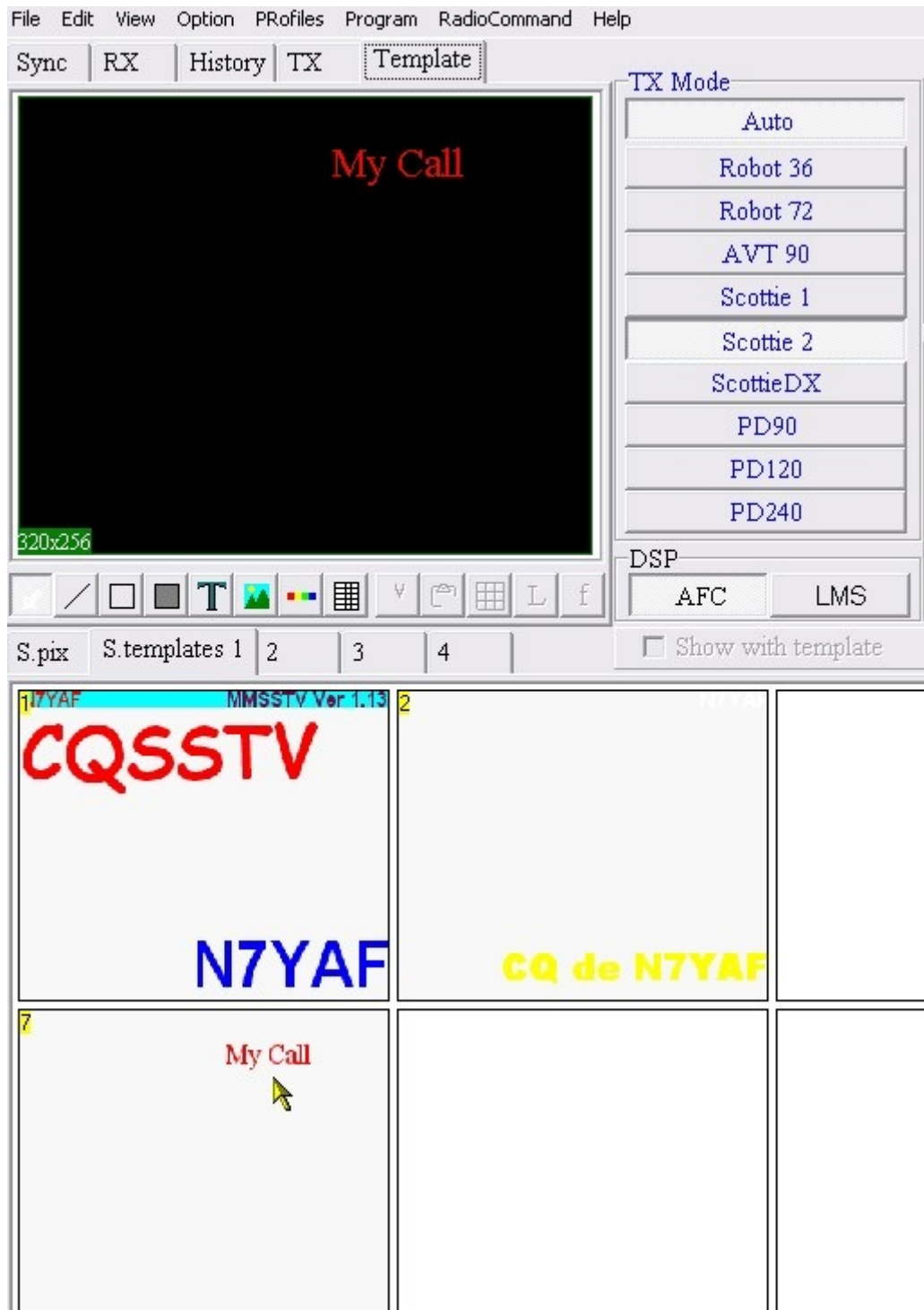


To place the template into the quick-select, pick an open section on the “S.templates 1, (2,3,4, etc.) and right-click. It will bring up the list of saved templates.

Select the one you want, and Open it.



The template is now placed in the selected quick-select block.



**Work with the program, join the ones who are working with the program, and learn more. Additional information and guides will be posted later.**