

Getting Started In SSTV

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South Bay Amateur Radio Association

Slow-Scan Television (SSTV)

- Transmission of static pictures via radio.
- Monochrome or color
- Takes a couple of minutes per picture
- Bandwidth is limited to 3 kHz
- Well suited for voice frequencies on HF, VHF etc.
- Send pictures around the world or around the block

Later, discovered that SSTV was used in several early Apollo missions, to transmit images from space

SSTV Sample Picture



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Quick Start

- If you are using PSK31, you may already be setup for SSTV !!
- If not, you will just need :
 - HF transceiver (SSB operation).
 - Tuned antenna, preferably.
 - Laptop/PC (with a sound card).
 - PC to Radio Interface (Audio + PTT).
 - And some free software :
 - Windows: Ham Radio Deluxe, MMSSTV, ...
 - Mac OS: MultiScan, ...
 - Linux: QSSTV, ...
 - Smart Phones, Tablets (Smart Watch may be? :o)

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Popular Frequencies

Band	Frequency (MHz)	Sideband
80 meters	3.845, 3.857	LSB
40 meters	7.171	LSB
20 meters	14.230*, 14.233	USB
15 meters	21.340	USB
10 meters	28.680	USB
2 meters	145.500	USB

SSTV Demo !

We will use 2 laptops
One will run the HRD SSTV program
Other will run the MM SSTV program

Try to capture the audio across the room,
Or use an audio patch cable

Working SSTV

- Templates, Templates, Templates
 - CQ Template
 - Reply Template
 - Thank You! Template
 - All About Me! Template
 - Fancy QSL Card Template
 - Go wild with Templates...
- Signal Report given as 595
 - Readability, Signal Strength, Picture Quality
- Remember, the Transmit Duty Cycle is 100%

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Templates

CALLSIGN	REPORT: 595
	
BACKGROUND IMAGE OR COLOR	
QTH: NAME: GRID:	RADIO: ANTENNA: POWER:

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SSTV Fine Tuning

- Adding variable content to templates
 - Adding comments on the fly
 - See HRD SSTV example
- Program uses the soundcard clock, so you will get a slanted image if the soundcard clock is not correctly calibrated.

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Even More Fun !!!

- Go DX with SSTV Contests
 - Details: oz9au.dk/contest/sstv_contest_kalender.htm
- Go Digital with Digital Radio Mondiale
 - Same 3KHz bandwidth
 - Digital modulation + error correction
 - Better noise immunity & sharper images
 - Different software: EASYPAL (free)
 - Details: www.k3as.com/digSSTV.html
- Go extreme with SDR
 - Decode multiple streams
 - Details: www.g0hwc.com/sdr-sstv-easypal.html

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Digital SSTV Sample Picture



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So, How About ...

- Spice up our Weekly 10m net with SSTV !!
- Follow a simple protocol -
 - Pick a good time to play with SSTV,
 - Ask and confirm that someone is ready to receive,
 - Start transmission of SSTV picture,
 - Ask if they received the picture, enjoy !

*Fun happens when you try to do some
thing you never done before !!*

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References

- <http://hamsoft.ca/pages/mmsstv/sstv-primer.php>
- <http://www.arrl.org/sstv-slow-scan-television>
- <http://users.belgacom.net/hamradio/rxsstv.htm>
- <http://www.worldsstv.com/>
- <https://itunes.apple.com/us/app/sstv-slow-scan-tv-ham-radio/id387910013?mt=8>
- http://www.g0hwc.com/easypal_setup_help.html

Transmission Modes

- Mode Duration (sec) Size Method
- Robot B/W 8 8 160x120 Mono tone
- Robot B/W 12 12 160x120 Mono tone
- Robot 24 24 160x120 Color differentiation
- Robot 36 36 320x240 Color differentiation
- Robot 72 72 320x240 Color differentiation
- AVT 90 90 320x240 RGB (no synchronization pulse)
- Scottie 1 110 320x256 RGB
- Scottie 2 71 320x256 RGB
- Scottie DX 269 320x256 RGB
- Martin 1 114 320x256 RGB
- Martin 2 58 320x256 RGB
- SC2-180 182 320x256 RGB
- SC2-120 122 320x256 RGB
- SC2-60 62 320x256 RGB
- PD50 50 320x256 Color differentiation
- PD90 90 320x256 Color differentiation
- PD120 126 640x496 Color differentiation
- PD160 161 512x400 Color differentiation
- PD180 187 640x496 Color differentiation
- PD240 248 640x496 Color differentiation
- PD290 289 800x616 Color differentiation
- P3 203 640x496 RGB
- P5 305 640x496 RGB
- P7 406 640x496 RGB

Connecting PC to Radio

- To Transmit pictures:
 - PC audio out goes in to Radio audio in
 - some simple way to PTT the TX
- To Receive pictures:
 - Radio audio out goes in to PC audio in
- Make home brew Interface, or
- Use commercial ones like Rig Blaster, Signalink, etc.

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SSTV Contests

- March - DARC International HF SSTV Contest
 - 3rd full weekend in March
- April - WSSTVC 15-Meter SSTV Dash Contest
 - First full weekend in April
- August - Japanese Amateur SSTV Contest
 - Some time in August
- October - WSSTVC 15-Meter SSTV Dash Contest
 - First full weekend in October

http://oz9au.dk/contest/sstv_contest_kalender.htm

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Thank You!

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