Getting Started In SSTV

Umesh Ghodke, K6VUG
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



9/12/2014

Getting Started in SSTV, Umesh Ghodke, K6VUG

3

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)

9/12/2014

Getting Started in SSTV, Umesh Ghodke, K6VUG

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

9/12/2014

Getting Started in SSTV, Umesh Ghodke, K6VUG

5

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

9/12/2014

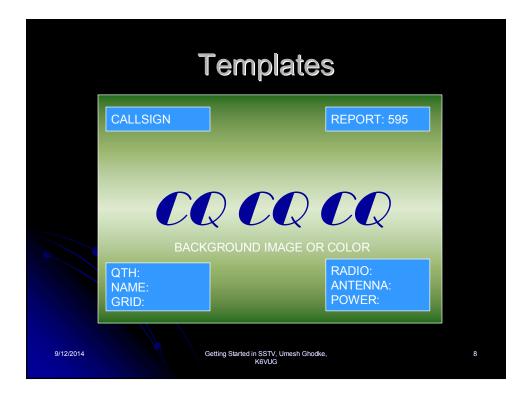
Getting Started in SSTV, Umesh Ghodke, K6VUG

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%

9/12/2014

Getting Started in SSTV, Umesh Ghodke, K6VUG



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.

9/12/2014

Getting Started in SSTV, Umesh Ghodke, K6VUG

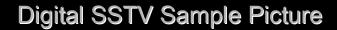
9

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

9/12/2014

Getting Started in SSTV, Umesh Ghodke, K6VUG





9/12/2014

Getting Started in SSTV, Umesh Ghodke K6VUG

11

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 !!

9/12/2014

Getting Started in SSTV, Umesh Ghodke, K6VUG

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-scantv-ham-radio/id387910013?mt=8
- http://www.g0hwc.com/easypal_setup_help.html

9/12/2014

Getting Started in SSTV, Umesh Ghodke, K6VUG

13

Transmission Modes

- Mode Duration (sec) Size MethodRobot 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
- 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

9/12/2014

Getting Started in SSTV, Umesh Ghodke,

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.

9/12/2014

Getting Started in SSTV, Umesh Ghodke, K6VUG

15

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

9/12/2014

Getting Started in SSTV, Umesh Ghodke, K6VUG

