

SSTV SIGNAL PROCESSING: FROM IMAGE TO AUDIO TO IMAGE

This infographic illustrates the process of encoding a digital image (digital art) into an SSTV signal, recording the audio to a physical format (vinyl record), and later decoding it back into a visual format using an SSTV decoder. These diagrams provide an overview of modulation, transmission, and the retrieval of images through analog audio storage. Using the Slow Scan Television (SSTV) picture transmission method, I have encoded digital paintings as audio tones and preserved the sound files on a vinyl record and simultaneously minted the audio and digital images to the Arweave decentralized storage network (scalable and permanent data storage). By embedding art into sound waves and securing the data/images/audio to a permanent network and to a physical medium, I am exploring old and new modes of preservation coexisting to create a more resilient future - a forward looking experiment in ensuring the survival of creative expression in a future where technological collapse/natural disaster could render current tools obsolete.

Dandelion SSTV explores the combination of analog techniques of preservation with modern digital technologies to begin the story of Dandelion and to provide new avenues for the endurance of art.

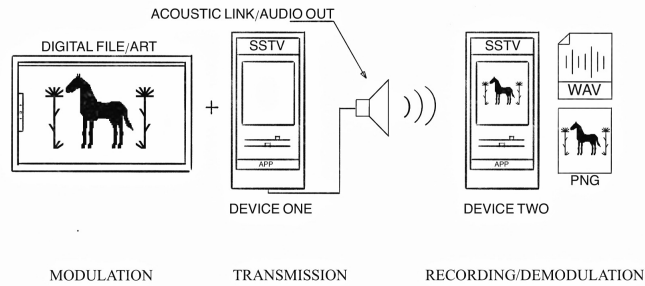


Figure 1. SSTV app converts a digital image into audio tones (WAV file). This process is called Modulation - the process of converting a digital image into audio tones using an SSTV mode. Transmission - The series of tones representing pixels is broadcast over the air like voice communication. The receiving contact with SSTV app/equipment receives/records the sound and decodes the tones back into an image (Demodulation - inserting audio into microphone input, SSTV app/program analyzes the frequency changes and reconstructing the image - pixel by pixel). The WAV file can be recorded and stored on a device or physical media. The digital image can be saved and stored on device.

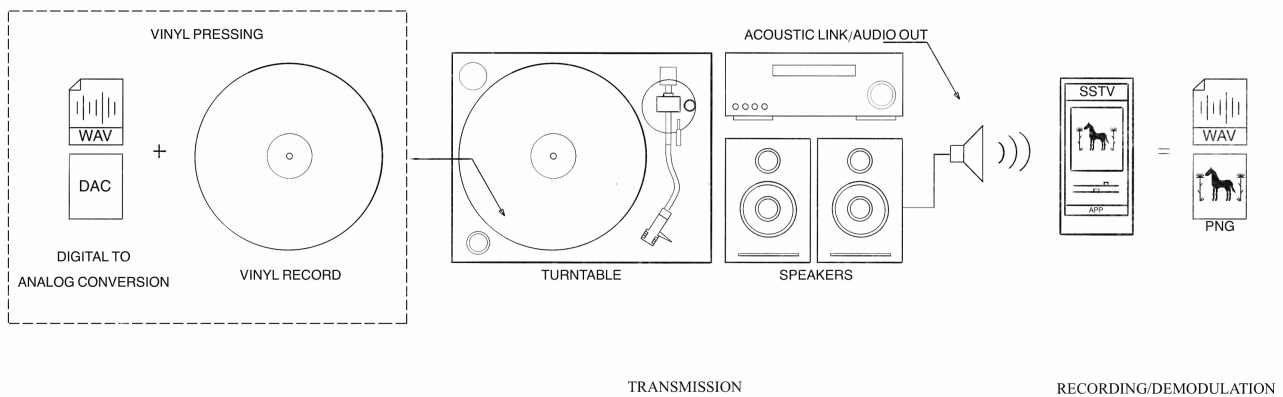


Figure 2. The WAV files from SSTV recording are stored on a device/physical media - in this case, a vinyl record was pressed with the recorded SSTV audio tones from Figure 1. The vinyl record contains encoded sounds that represent digital art. Transmission: playback of the SSTV sound files via vinyl record/turntable and speakers. Audio tones are sent over air and received by device with SSTV app (or ham wave radio equipment/programs). The image is reconstructed pixel by pixel from the received audio tones/frequencies via appropriate SSTV mode (in this use case Scottie DX).