

PART 1 THEREMIN OVERVIEW & HANDS-ON GRAPHIC SCORE PLAY

Intro performance of Frank Bridge's "Berceuse" (lullaby)

Who is Marla Goodman? Video clips. More at: www.youtube.com/@goodwerks

Theremin Overview and Demo: What is a Theremin and Quick Theremin History

How do Thereminists read music

Some examples of traditional notation and graphic scores

Examples of some more technical and more creative scoring and interpretation styles

Drawing Sound Part 1:

1. Demo of a graphic score
2. Create your own graphic score from sounds I demonstrate
3. Take turns creating and interpreting simple graphical scores using the Theremin

Short Break _____

PART 2: ANS SYNTHESIZER AND VIRTUAL ANS SYNTHESIZER APP

Brief Live Performance featuring Virtual ANS and Theremin

Short background on Evgeny Murzin's "ANS" *photoelectronic synthesizer* which allows users to **draw music**

Drawing Sound Part 2:

1. Basic ANS tools and controls overview, live ANS drawing tools vs drawing for ANS
2. Create and save ANS soundscapes using provided drawing/collage materials with help from helpers
3. (Concurrent) Take turns experimenting with the practice Theremin, using headphones, as time allows.
4. Perform, if you wish, on the Theremin with your soundscape as a background.

Or, if you are feeling confident with ANS drawing tools, perform a live ANS projection, with or without a Theremin accompaniment.

(Or just watch if you prefer not to perform.)

PART 3: ELECTRONIC SOUNDSCAPE JAM

Take turns or collaborate to make interesting sounds and visuals

References, additional resources:

Article on graphic scores <https://davidhall.io/visualising-music-graphic-scores/>

Great article on Theremin, graphic scores and the Free Music project by Lydia Kavina: <http://lydiakavina.com/thereminvox>

Cool video of a real ANS synthesier being played: <https://www.youtube.com/watch?v=ptRmDeoQQlw>

Article about how the ANS synthesizer works: <https://120years.net/the-ans-synthesiser-eugeniy-murzin-soviet-union-1958-2/>

VIRTUAL ANS CHEAT SHEET

Virtual ANS is an app developed by Alexander Zolotov. <https://www.warmplace.ru/soft/ans/>

It is a software simulator of the unique Russian **photoelectronic synthesizer** created by Evgeny Murzin between 1938 and 1958. Murzin named his invention in honor of the composer Alexander Nikolayevich Scriabin. The ANS Synthesizer made it possible to draw music in the form of a spectrogram. It was used by several Soviet composers in experimental works and in scores for films including Edward Artemiev's scores for Solaris, The Mirror, Stalker (c. 1970s). With the Virtual ANS simulator app, we can load and play pictures, draw microtonal/spectral music live, and create some unusual atmospheric sounds.

TO SET UP, SAVE OR IMPORT images, click this icon 

Start a project: Click **NEW**, then click **OK**

Clicking **RESET** under "Create New Project" loads default settings, which is OK to do.

If you want frequencies to match piano keys, set lowest pitch (C1) to ~32.7

TO IMPORT AN IMAGE TO VIRTUAL ANS:

1. Take a photo and adjust contrast to your preference (on IOS go to Photos app, Edit)

REMEMBER, ANS sees BLACK AS SILENCE, so it will be NOISY if your image has a too many whites/light colors

For LESS "noise" in your sound, INCREASE BLACKS and CONTRAST in the Photos app adjustments 

2. Crop photo to match the aspect ratio of your device (for ipad, 4:5 is good)

(In Photos app, click "Edit," Pick crop tool icon , Pick aspect ratio tool , Swipe to 5:4, Pick "Done."

3. Save as a jpg image to Files app.

ON IOS: 1. Go to image in the photos app; 2. Click the  or share icon; 3. Select Copy; 4. Open the files app;

5. Navigate to folder of choice; Hold your finger down in the file list area. (Paste will appear) 6. Select Paste.

4. Now you can open Virtual ANS and click this icon  **to import your image.**

Select Export/Import, Pick System Import, Navigate to ANS Images folder and pick image.

INTERFACE TIPS:

TOOL - (touch to toggle ON/OFF)

Let's start with the freestyle line tool. 

BRUSH - (touch to toggle ON/OFF) **Let's start with the first brush, at 1.0 scale**

To change brush scale  Drag in BLACK part of the slider bar



MODE - (touch to toggle ON/OFF) **Use NORMAL to draw. To ERASE, Go to MODE, Select ERASE**

After erasing, go back to MODE and select NORMAL to make your tool DRAW again.

GRADIENT - (touch to toggle ON/OFF) **Leave gradient alone for now!**

LIVE PLAYBACK CONTROLS



UNDO/REDO



Play L>R

Play R<L

Stop

TO SAVE A PROJECT SO WE CAN JAM WITH IT LATER:

Click this icon  and select **SAVE**; name your file (e.g. Marla01); confirm OK.

(We will airdrop saved files to the projector ipad and play them through house sound!)

PLEASE NOTE!
FOR THIS
WORKSHOP, to
save time, we
will take turns
using devices
PRELOADED with
VIRTUAL ANS.

(But, feel free to download the app and explore it on your own device.)



COMPLETE
VIRTUAL ANS
USER MANUAL

