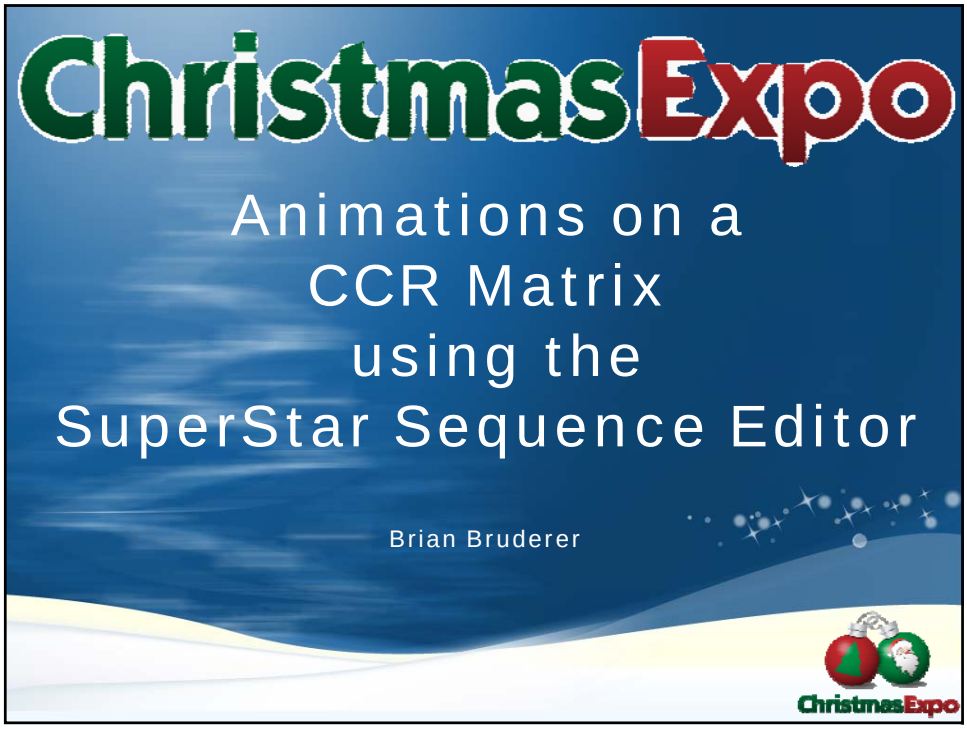


The CCR Matrix

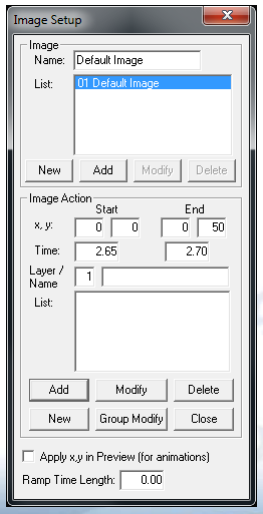
- The CCR Matrix is made by mounting Cosmic Color Ribbons horizontally on a frame. The Matrix used in this presentation will be made from 12 CCRs. Each CCR has 50 pixels, so we end up with a matrix that is 50 pixels wide by 12 pixels tall.
- The smallest useful matrix would be made from 4 CCRs cut in half to make 8 half length ribbons. You would end up with a matrix that is 25 pixels wide by 8 pixels tall.

What we will learn

- We will show how a series of images can be placed at different locations on the CCR matrix to create an animation.
- Image actions can be used to move an image across the CCR matrix.
- Copy – Paste is useful to copy individual images or groups of images.
- Group Modify can be used to move groups of images.

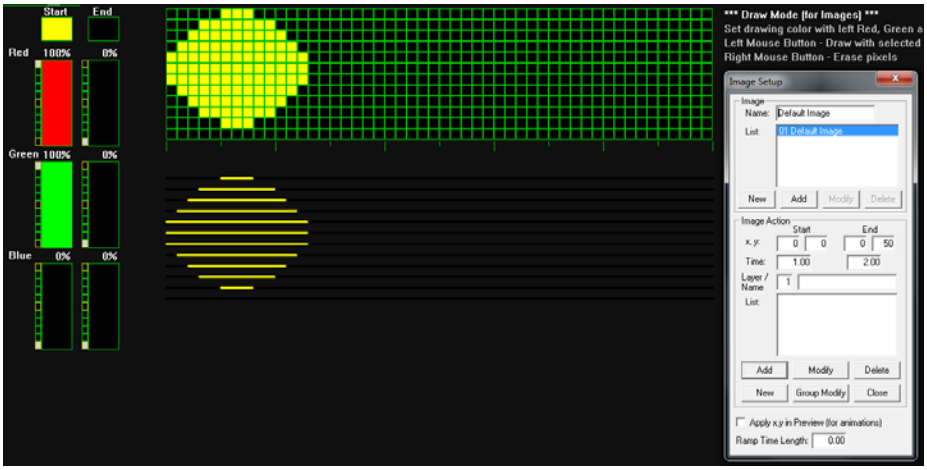
The Image

- Tools / Images… will launch the Image Setup dialog box



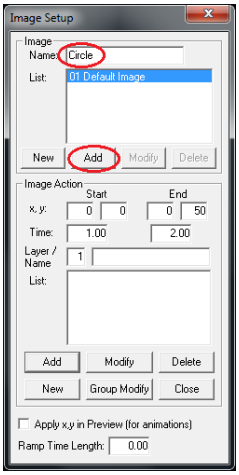
Pacman

- Draw a yellow circle as pictured



Add the Image

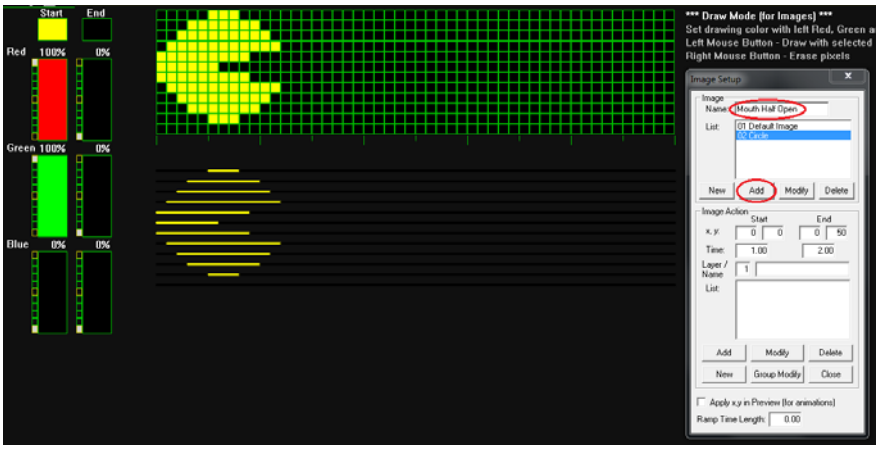
- Type Circle for the Image name and click on Add in the Images section of the Image Setup dialog box.



6

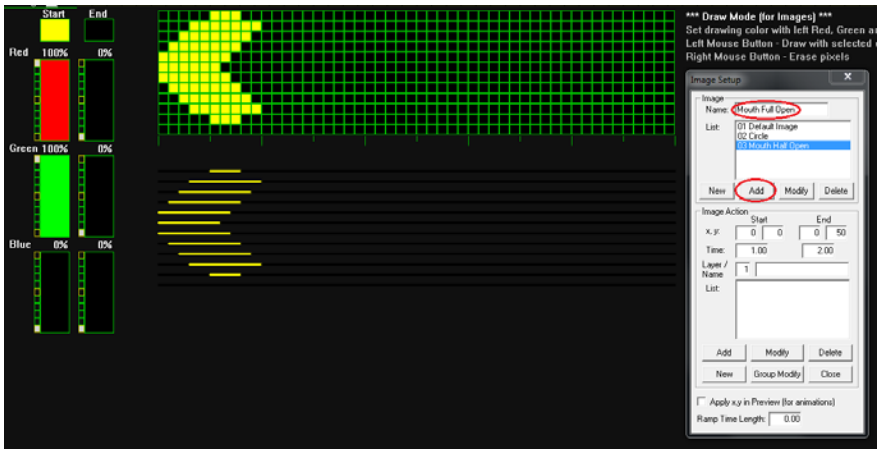
Mouth Half Open

- Use the right mouse button to erase some pixels to make an image like in the picture below. Type Mouth Half Open for the Image Name. Click on Image Add.



Mouth Full Open

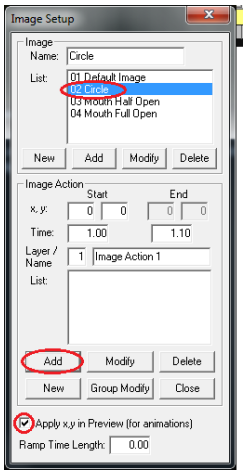
- Use the right mouse button to erase some more pixels to make an image like in the picture below. Type Mouth Full Open for the Image Name. Click on Image Add.



Create Circle Image Object

- Select at 1.00 – 1.10 seconds

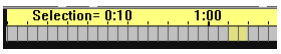
- Check Apply x,y in Preview (for animations)
- Select the Circle image
- Click on Add Image Action



9

Create Mouth Half Open Image Object

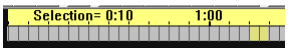
- Select at 1.10 – 1.20 seconds

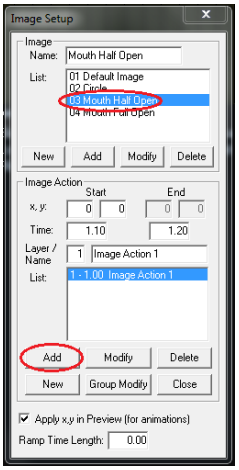


- Select Mouth Half Open image
- Click on Add Image Action

Create Mouth Full Open Image Object

- Select at 1.20 – 1.30 seconds
- Select Mouth Full Open image
- Click on Add Image Action



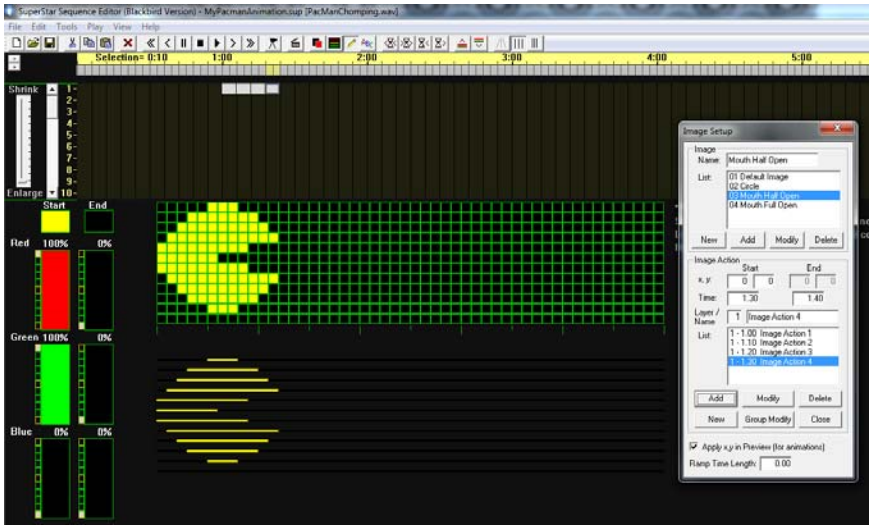


Create Mouth Half Open Image Object Again

- Select at 1.30 – 1.40 seconds
- Select Mouth Half Open image
- Click on Add Image Action

12

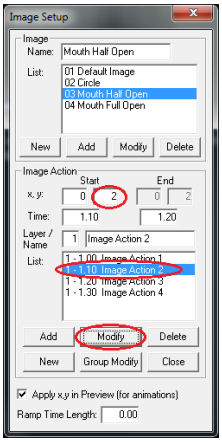
Screen should look like this



13

Reposition Second Image Object

- Play it and the mouth should open and then half close.
- To see it in slow motion, select Play / Speed 1/2x
- We want Pacman to move two pixels each frame. We will leave the first image where it is at.
- Select the second image object
- Type 2 for the Y coordinate
- Click on Modify
- The Preview of the Image should move to the right 2 pixels



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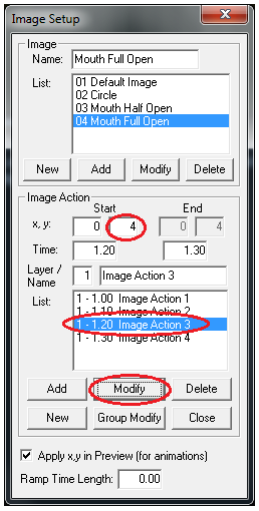
Reposition Third Image Object

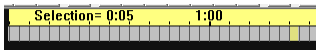
- Select the third image object
- Type 4 for the Y coordinate
- Click on Modify
- The Preview of the Image should move to the right 4 pixels



Reposition Fourth Image Object

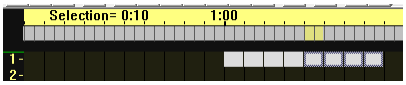
- Select the fourth image object
- Type 6 for the Y coordinate
- Click on Modify
- The Preview of the Image should move to the right 6 pixels

Pacman now Moves

- Play it and you should now see Pacman move as he opens and half closes his mouth.
- We want these 4 frames to play over and over
- Select all four Image objects 
- Click on Copy 
- Select at 1.40 

- Click on Paste 

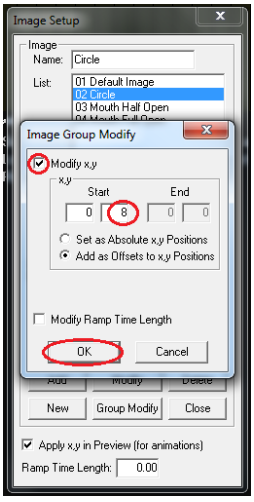
- You should now have 8 image objects



Déjà vu all over again

- Play it and the animation jerks back to its original positon during the last 4 frames.
- To keep Pacman moving…
  - Select the last four Image Objects
  - Click on Group Modify
  - Check Modify x,y
  - Type 8 in the y field
  - Click on OK

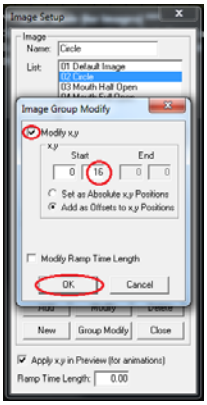
- This will add 8 to the y position for the selected Image Objects



Pacman keeps moving

- Play it and Pacman should keep moving now.
- To make him move further, Copy all 8 Image Objects and Paste onto the end, now there are 16 Image Objects

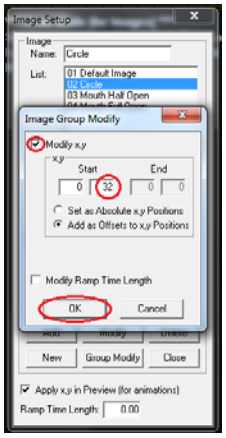
Click on Group Modify
Check Modify x,y
Type 16 in the y field
Click on OK



Pacman moves further

- Play it and Pacman should keep moving now.
- To make him move further, Copy all 8 Image Objects and Paste onto the end, now there are 16 Image Objects

Click on Group Modify
Check Modify x,y
Type 16 in the y field
Click on OK



Exercise

- Add some Image Objects to the beginning so that Pacman appears from the left and disappears on the right

Jingle Bell Rock Animations

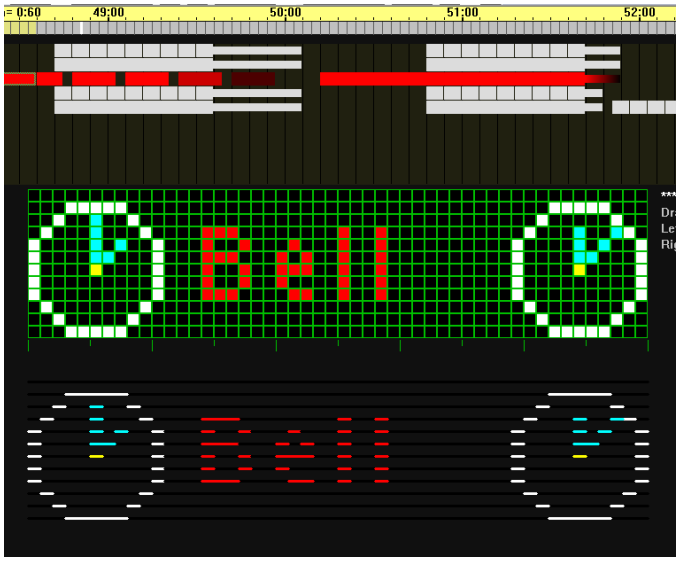
- In the sequence “Jingle Bell Rock” there are four animations we can take a look at.

The Clocks

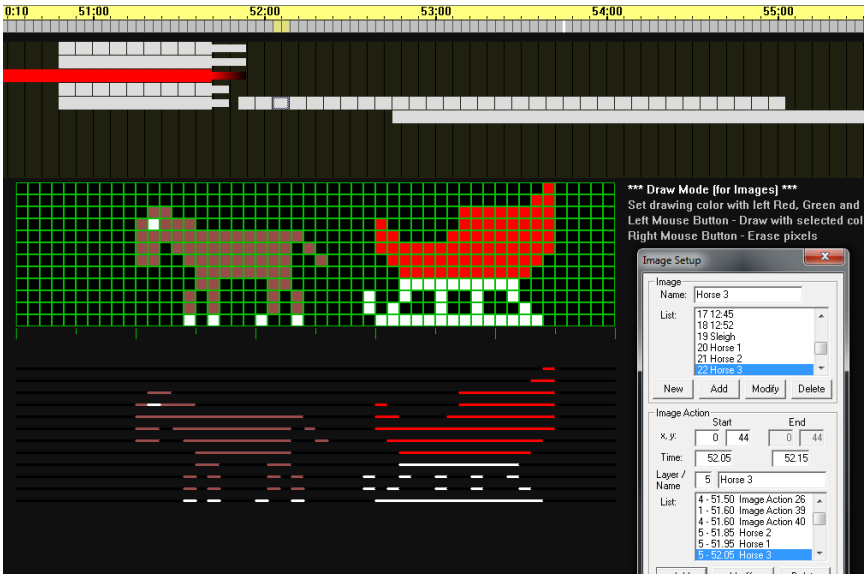
- At 48.7 seconds there are two clocks
- Note that the outside circle of the clock is one image
- There are 8 separate images used to animate the hands
- Each clock is different, I was experimenting to see which would look best and I ended up keeping each one

- The next slide is a screen shot of the clocks

Clocks



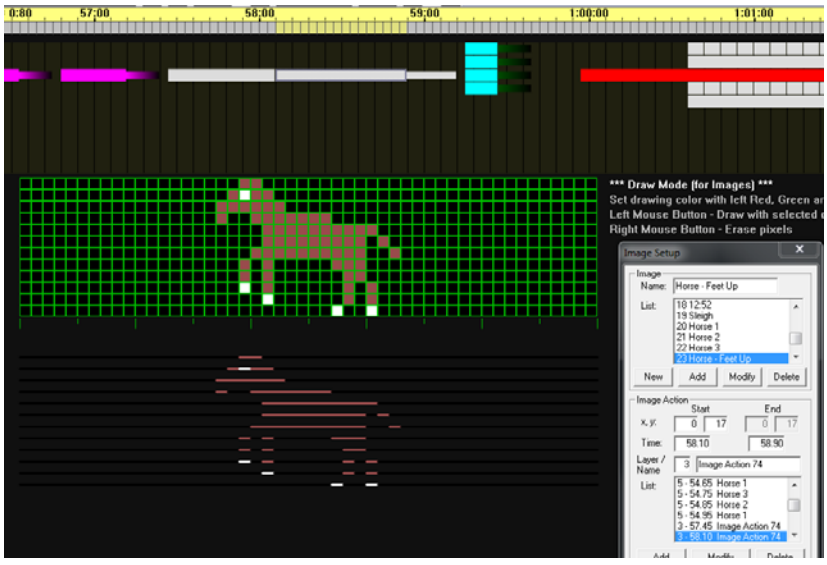
Horse and Sleigh



Horse and Sleigh Discussion

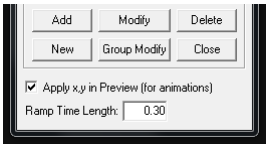
- The horse is animated using 3 frames that are repeated over and over, similar to how we did Pacman.
- The Sleigh is one Image Action. The Sleigh Image object is given a start coordinate and an end coordinate and the software moves the sleigh from one end to the other.

Jingle Horse Pick up your Feet

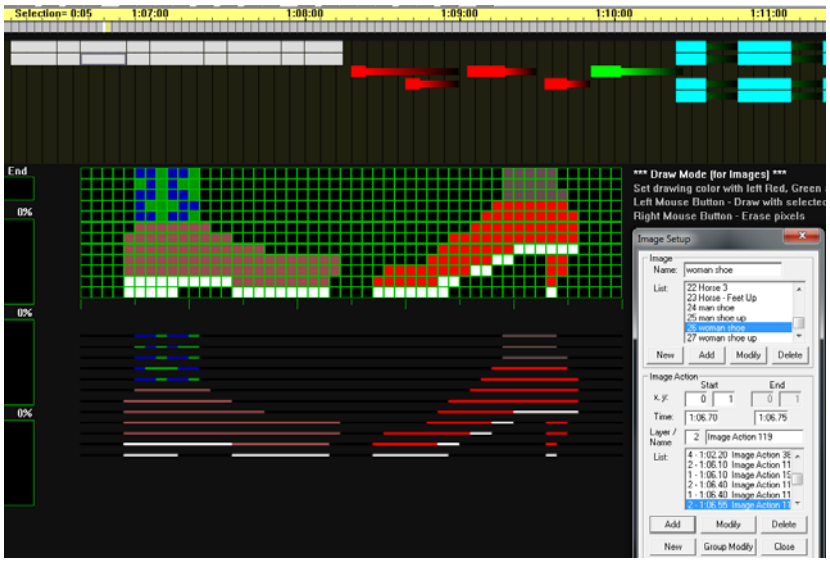


Pick up your Feet Discussion

- Two Image Objects are used to make the horse pick up his feet. Even though it is only two frames, I get more comments on this animation than I do the horse and sleigh!
- As the second horse image disappears, it goes to white and then fades. The software does this for any Image that has a Ramp Time Length greater than zero.



Jingling Feet



Jingling Feet Discussion

- Interestingly, this animation is also done with only two different Images of feet, yet I get even more comments on this one than the horse picking up it's feet.
- The women's ankle is a dark color on the computer screen, but realize that all the colors get brighter on the actual CCRs.

Animation Limitations

- With a matrix of 12 CCRs you have 50 x 12 pixels to work with.
- 50 x 12 is a lot of pixels, but compared to a computer screen it is not much.
- Realize that you cannot draw detailed pictures
- I get requests for an "Import Image" feature. I would like to do this eventually, but realize that an imported picture of a horse isn't going to look as good as the one I drew. There is a skill to drawing pictures at low resolution that still look good. It is a skill that humans can do better than computers.