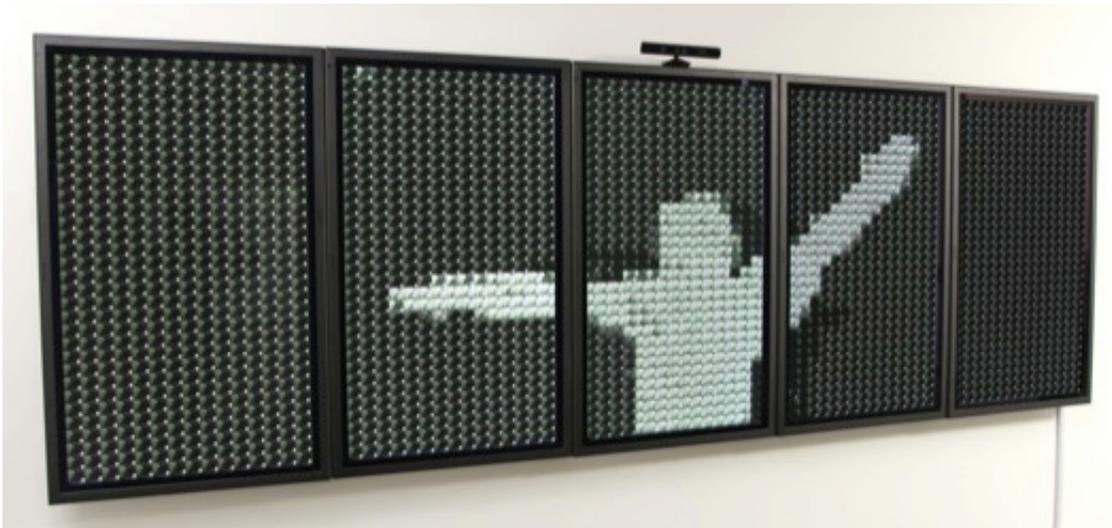


MAKE OUT

Flat screen (2008)

By Rafael Lozano-Hemmer



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General important information

MAKE OUT, Flat screen 8 (2008), multi hd-resolution displays with integrated computerized tracking system.

Edition of 3 +1AP

By Rafael Lozano-Hemmer

Description

“Make Out” is the eight piece in the Shadow Box series of interactive displays with a built-in computerized tracking system. This piece shows thousands of internet videos of couples looking at each other: as soon as someone stands in front of the displays his or her silhouette is shown and all the couples within it begin to kiss. The massive array of make-out sessions continues for as long as someone is in front of the work, --as he or she moves away all the kissing ends. The collector can choose what proportion of the videos are man-woman, woman-woman or man-man. The default state is the statistically faithful proportion of the videos that are online: 50 per cent woman-woman, 30 per cent man-man and 20 per cent man-woman.

Operation

1. Connect the monitors, the computers, the router, the Kinect to electrical power using the supplied power cabling, power supplies and powerbars (and/or UPS).
2. To turn the piece ON, firmly press the button that is rounded and located on the back edge of the Mac mini, as shown in this picture. *Important note: Once the button is pushed it takes up to 2 minutes for the display to start-up. Please do not push the button again as you will shut down the piece.*
3. To turn the piece OFF, press the power button once.



Cleaning

Please do not clean the display surface with Windex or soap. Use a lint-free cloth and LCD screen liquid cleaner, such as Kensington Screen Guardian found in computer stores.

Placement Instructions

The monitors should be hung with the vertical centre at 150 cm (59 inches) from the ground, using the provided monitor mounting system. Ideally the piece should be mounted taking into consideration the following issues:

1. Place so that the piece does not face an object that is too close to the Kinect. Basically, the system will track anything within a range that we set in the software. The closest the first object will be from Kinect, the smaller the tracking area will be.
2. Ideally, place the piece in a room that does not receive too much direct sunlight. The tracking system for the camera (Kinect) uses an infrared technology to determine what is present in front of the piece. The system is able of good performances in that condition, however, sunlight can trigger bad readings on the sensor, which may prevent people to be detected, or the opposite: show things that aren't really in front of the piece.

Software

The piece includes custom-made software that automatically starts up and self-calibrates. However, there are some software tools that may be useful if you would like to optimize the performance of the system. To change settings in the software, use the included mouse and keyboard on a USB port of the Master computer.

Once the mouse is connected you may right click to reveal a pop-up menu (it may take a couple of seconds for the pop-up to appear), then click on Exit. From there, you will get a windows with 4 tabs, a selection box, a checkbox and a Start button as following:

1. Kinect – In this section, you'll see 2 buttons: Window and Tracking.

a) In Window, you will be able to adjust the tilt value (and real position) of the Kinect by pressing the UP or DOWN arrows. Within the same section you can adjust the field of view of the Kinect by left clicking in the camera view once to select the top left corner and left clicking a second time to select the bottom right corner of the field of view you want to apply to the monitors.

b) In Tracking, you will have control of the distance range (in millimeters) you want to limit the field of interaction, usually the Min value will be at 1 and the Max will be between 2000mm and 3000mm. The maximal value you could enter while still seeing a difference should be at around 4000mm as the Kinect can officially detect depth up to that distance.

2. Slave PCs — In there, you have a System configuration button and by clicking on it, you access to:

*** These settings shouldn't be changed unless there is a major malfunctionality with the cells layout. A discussion with Rafael Lozano-Hemmer or one of his assistants should have been done before modifying anything. ***

a) Displays, consisting of 1 to 5 columns of monitors, arranged in 1 column.

b) This computer, (master) controls columns 1 to X (where X is the number of monitors hooked to the master computer, multiplied by 15). Then controls rows from 1 to 32.

c) Slave computers. In there, you set the number of slave computers, their specific IP address (should be like 192.168.0.xxx) and the columns / rows they control, within the same logic as for the master computer: the first column value will be equals to X + 1.

d) Reset to default settings. This button will call up the factory settings for all parameters.

3. Videos – This section sets the videos that will be displayed in the piece. The most important things are:

a) Load button: by clicking on it, you will load the videos into memory to display the piece.

b) Auto checkbox: if this checkbox is checked, you will avoid needing to press the Load button explained in a). It should always be checked.

4. Other – In there, press on Other: you will reach a section where it is possible to customize the video distribution by changing the percent of man-woman, man-man, woman-woman that can appear in the piece. By clicking on the Internet Defaults button the piece resets to the distribution

we noticed on the internet. Automatically change video between determines how often a new video will be displayed. All videos will be shown simultaneously Y% of the time determines how often the situation occurs in which all videos will be displayed simultaneously. In Non-triggered cells, you can adjust the intensity value to make the background (cells non-playing videos, showing a still frame) brighter or dimmer, allowing you to adjust the impact of the silhouette.

5. System type – This allow you set which computer is the master:

a) Master: computer with the Kinect and the first(s) monitor(s) connected to it, will control the left section of the piece. This computer will be the one with all the settings described previously. The Master computer should always have the following IP address: 192.168.0.101.

b) Slave: this computer will react to the master. The IP address should be like the following: 192.168.0.xxx. On this computer, if you Exit the runtime mode, you will find a Master PC tab, in which you will enter the Master PC IP address, which is 192.168.0.101. The other settings are generic and shouldn't be changed.

6. Start button – If the videos are loaded, it bring you into the runtime mode, which is the piece itself.

7. Auto start – You want this checked to allow the software to automatically go into runtime mode when you launch the software, 30 seconds after it has loaded the videos. This way, you will avoid needing to press the Start button by yourself.

8. X button – At the top right of the Window, you will find the usual Windows X button, like in any other Windows software. This is the way to quit and kill the software.

iPod remote

The piece may come with an iPod that will act like a remote for the piece. To use it, ensure that the iPod is on the WiFi network produced by the provided router.

Then, on the iPod, you will find the Make Out software. Inside it, you'll have a page with several links. By clicking on "Male-male", "Male-female", "Female-female", "All of them", "Raunchy", "Why not?", "Vintage" the software will switch videos to one or several to the category you clicked. Two other options are available:

- Blackout: this displays a black screen into all the monitors, which can be useful to create a surprise effect, combine with the following option. Note that this feature doesn't turn off the software, monitors and computers, it only stops displaying the piece: it is exactly like placing a curtain in front of it.

- Run: this turns on the display of piece onto the monitors, when pressed, all the cells and videos will be shown on monitors.

Detailed technical information

Components of the piece

Displays

The displays in use may vary depending on location. Generally, they will be full HD displays, mounted vertically on the wall.

Computer

Few Apple Mac Mini computers are connected to the screens. The computers have at least 2 video outputs and are running Windows 7 - 64bits and the software is coded for this environment. Please note that the computer does not need to be an Apple laptop. At the time of writing, Apple was the only manufacturer that made a thin laptop (or mini PC) that could run Windows and had onboard dual full HD graphics port capable. If in the future a PC manufacturer can make a laptop (or mini PC) with these capabilities it could be used as a replacement.

Kinect

The piece uses an Microsoft Windows Kinect. These units are available from Microsoft Store.

Other gear

The other gear, like the router, UPS units, iPod remote, keyboards, etc. and subject to change depending on installation type and won't be covered within this manual.

Software

The project software is entirely programmed in Delphi and the source code is open to the collector for future compilation to accommodate forthcoming operating systems or hardware. Engineer Conroy Badger programmed the software and he can be contacted through Lozano-Hemmer studio:

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Troubleshooting

The computers should come with WiFi adapters that can be used to network them. Many of the manipulations described below imply that a mouse or wireless keyboard with trackpad) has been plugged in the USB port of the Shadowbox. We suggest that you use the mouse and/or keyboard provided with the piece, but any USB mouse will work.

The piece is not turning on

If you press the power button of the computers while it is plugged to the mains and no changes are apparent, the first step is to wait up to 4 minutes between each firm button press, as it may take some time for the computer to boot up. If after a couple of tries there is still nothing on the screen, try the following steps.

Check the power outlet that the piece is connected to.

Verify that the power outlet the computer is plugged into is working properly. Unplug the computer from it and plug in an electrical device that will allow you to confirm that the outlet is working. When this is done, remove the device and plug the computer back in firmly. Finally, ensure that this same power cable is nestled properly on the back of the computer.

It may be that another cable (like video cable) has come loose during shipping.

Verify that the connections to the monitor are in place. The LCD monitor should be connected to the computer thru the HDMI or miniDisplay port. See the wiring diagram and photographs at the end of this manual to guide you. The problem you are seeing likely has to do with one of these connections being loose. Once the problem has been located, try out the computer power button again and close it up. If the computer is still not turning on, it may be a problem with the computer itself. Refer to the support section to find out how to contact us, and we will assist you in further troubleshooting options and, ultimately, instructions on how to replace the computer.

Crash

In the unlikely event that the computer freezes or crashes or gives an error message, pressing the power button for 5 seconds can restart the whole system. This will force the computer to shutdown. After this, press the button again briefly to start up normally. Please contact Lozano-Hemmer's studio in the event of a crash so that this can be solved immediately.

No reaction on the displays

Sometimes, the Kinect isn't properly set by the computer before the piece starts. If you go in the Kinect tab (explained previously in this manual), you may notice a gray rectangle instead of an image of yourself standing in front of the monitors. In these occasions, a simple restart of the software will fix the situation. If ever the situation continues to happen, please contact Lozano-Hemmer's studio so that this can be solved as soon as possible.

Support

If you would like support for the piece please feel free to call Lozano-Hemmer's studio in Canada:

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Appendix 1 – Wiring diagram

Note this is only an example, your set-up may be different.

