

SpeakerFON

Carmen Rizzolo

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| COLLABORATORS |
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| | <i>TITLE :</i> SpeakerFON | | |
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Chapter 1

SpeakerFON

1.1 SpeakerFON, an Imagine object by Carmen Rizzolo

```
-- SpeakerFON -----  
  
        SpeakerFON: an object for Imagine 2.0  
  
                by Carmen Rizzolo  
  
[] Introduction  
[] Overview  
[] Button Tutorial  
[] Mapping Tutorial  
[] Cord Tutorial  
[] Other Stuff  
[] Thanks!
```

1.2 Introduction

```
-- INTRODUCTION -----
```

Thank you for downloading the SpeakerFON object for Imagine!
All of my objects I make are rich with detail, yet intelligently modeled to use efficient amounts of memory. In other words, I do not substitute anything for details, but I do not waste memory by overdoing it.

I rarely use IFF colourmaps in my objects, because of the amount of memory that image mapping requires. Instead, I focus on adding detail through straight modelling. Of course, you can add your own IFF texture maps to these objects, with beautiful results.

SEE Mapping Tutorial

In the following sections, the documentation will cover everything you'll need to know to use this telephone object to it's fullest. Although it is important for you to understand the basics

of using objects in Imagine, this documentation is written so even novices can get the best out of the archive. For you wizards out there, please bear with me, as I explain the simplest of procedures in the tutorials.

Be on the lookout for more cool objects in the near future!

Carmen Rizzolo

1.3 Overview

-- OVERVIEW -----

The telephone object is divided into three main components. The BODY, the CORD, and the HANDSET.

Each are a separate GROUP of OBJECTS, and can be loaded into the STAGE EDITOR or the ACTION EDITOR as separate OBJECTS.

There is no ready-to-go CORD in here. Sorry. I had to keep the archive size down. Read the CORD TUTORIAL and it'll tell you how to make a cord.

SEE CORD TUTORIAL

If you want to create an animation of the HANDSET lifting off and away from the BODY, you will have to create a SERIES of CORD OBJECTS, and have Imagine MORPH from one CORD OBJECT to another in various stages of the motion. There is a detailed tutorial on how to do this in another section.

SEE CORD TUTORIAL

NOTICE!! This SpeakerFON is SLIGHTLY reflective. And you can really improve the overall look of your renders with using a GLOBAL IMAGE MAP. Taking a digitized photo of a cloudy sky and turning it into a grey-scale image works wonderfully. Consult the Imagine_Organizer if you don't know what I'm talking about here (I think the information you'll want is in the ACTION EDITOR area. Just find the word "ACTION" somewhere and double-click on it).

- [] Body
- [] Cord
- [] Handset

1.4 The Body

-- THE BODY -----

The BODY has the filename of "SpeakerFON.obj" It is the most

complex part of the phone. It has 21 memory buttons, the standard 12 dialing buttons, and various other feature buttons; just for looks.

SEE BUTTON TUTORIAL

1.5 The Cord

-- THE CORD -----

The CORD is the more difficult to manage object of the group. Some may even want to add a metal rod sticking out of the handset and just call it a CORDLESS SpeakerFON [smile]! If the HANDSET moves, the CORD has to follow along. This is not for the Imagine novice to tackle! Or then again, maybe it is.. I'll leave it up to you. I digress.

SEE CORD TUTORIAL

When you make your own CORDS, you may need to reset the ATTRIBUTES of the CORD. Included in this archive is "CORD.ATT" Just click on the the new cord, hit F7 for ATTRIBUTES, and LOAD the CORD.ATT file. Presto!

1.6 Handset

-- THE HANDSET -----

Low maintenance. It's the easiest one to use. With the exception of animating it with the cord dragging along.

SEE Cord Tutorial

There's no buttons or anything on it. It's just an object. The only thing you can really DO to it is map a brush to it or something.

SEE Mapping Tutorial

There is an invisible (when rendered, but you can see it in the editors) polygon at the mouthpiece and earpiece of the handset. You can use these as a guide to match up with similar polygons in the SpeakerFON BODY, when you want to "hang up" your handset in just the right place.

1.7 Mapping Tutorial

-- Brush Mapping -----

The structure of the SpeakerFON BODY object is structured in such

a way to make beautiful texture or image mapping a snap. In this example, let's assume we have an image called "Marble.PIC" to map to our BODY and HANDSET. A marble telephone? Why not? I'll tell you why; I've done it, and it looks really cool! Anywho...

The only tricky part is mapping our image to the BODY. So let's do that one first, shall we? Load the object "SpeakerFON.obj" into the DETAIL EDITOR. After the object draws, notice the LEFT-MOST AXIS. It's actually OUTSIDE of the physical phone, and it's got a few yellow lines sprouting out of it to the right. Click on it and hit F7 for ATTRIBUTES. You'll see it's name is "CASE" (no quotes) if you want to use FIND BY REQUESTOR to locate it in the future. CASE is merely an AXIS. But the MAIN components of the SpeakerFON object are grouped to this AXIS for a very important reason. While you're in the ATTRIBUTES requestor, Click on the top button of the four BRUSH buttons. You'll get a requestor to load your image. Find "Marble.PIC" and click on the APPLY TO CHILD OBJECTS button. Then use EDIT AXIS button to position your brush. If you have the Y prong of the brush's AXIS going DIAGONALLY towards the SpeakerFON object (in every view), you can minimize 'streaking' effects that happens when brush-mapping is done carelessly. Be sure your brush's AXIS engulfs the entire casing of the telephone.

This is the best I can tell you here, without getting REALLY long-winded. If you feel like you're left hanging here, it's because you're new to brush-mapping and you need to [gulp] consult documentation for Imagine 2.0. Either that or get a knowing friend to help you. Either that, or don't attempt to brush-map. This situation is not the best for newbies to get their feet wet with.

On to the Handset (I'm assuming you've saved your altered SpeakerFON)! Load it up, and in the RIGHT VIEW, find the TOP-MOST AXIS. This is the axis for the bulk of the handset. Click on it and add Brushes and/or textures to taste like you did with the SpeakerFON BODY, but you don't need to use the "APPLY TO CHILD OBJECTS" feature.

1.8 Cord Tutorial

-- CREATING AND ANIMATING THE CORD -----

The CORD is created in the DETAIL EDITOR. First you ADD a PATH and EDIT the PATH so that each end goes into the little "plug" areas on the BODY and HANDSET. The Handset's plug is easy to find, it's at the same place it's parent axis is. The plug area on the SpeakerFON BODY, looking down on it, is in the lower-left corner, on the left side. It's a little tiny thing.

Words on EDITING the PATH.. It's not the easiest thing to do, but the cool-factor on this effect is very high. Be sure the LENGTH of the path is long enough to look like a real telephone cord. However, try not to go crazy on the length.. The longer it is, the more faces you'll wind up with in the finished product. Experiment with simulating things like gravity and curling. If the cord reaches over the edge of a desk, you'll want to make it droop over the side.

Telephone cord wires tend to spin, or curl up when handling. Experiment with winding the path up in itself. This is not easy to do, and only experienced PATH users should attempt it. For drooping a cord over a desk, you may want to load your desk in the DETAIL EDITOR as well as your SpeakerFON BODY and HANDSET pieces. Then you'll know where to guide your path. Then you can even RE-SAVE your desk, so when you load it up in a fresh new project, it's position and size is the same place it was in the DETAIL EDITOR! More on animation later...

Load up my handy, dandy "Cord.Starter.OBJ" file and use it in conjunction with the MOLD feature in the pulldownmenu. Tell it to extrude ALONG PATH, with whatever pathname you gave it (Default pathnames for new paths is just PATH). As far as the amount of SECTIONS go, the more the merrier, but also more memory required. Higher numbers will look better. You'll want enough sections to adequately define the "curl" of the curly wire. SECTIONS and Y ROTATION are the two numbers you'll have to experiment with. The look they give will also depend on the length of your path. If you didn't give enough Y ROTATION (degrees, like, 360 is one complete rotation), your cord will look badly stretched. If you give too much Y ROTATION or too little SECTIONS, the curls will look "kinky" (Sorry, it's the best way I can think to describe it). In the cord I'm doing now, I've got 600 SECTIONS, and 20000 (twenty-thousand) degrees for Y ROTATION. Maybe there's a ratio you can calculate there for a good standard of this type operation. If you plan on animating your CORD by creating multiple versions of your CORD, be CERTAIN you use the SAME number of SECTIONS and Y ROTATIONS in each CORD!

For animating this monster, it gets even more difficult. Believe it or not, you'll be doing your animation in the DETAIL EDITOR!! The squeamish should not read on!

Before you start your project of your animation, load each component of your project that will effect your cord. What comes to mind is the SpeakerFON BODY, the HANDSET, and a desk of your own design -unless you plan on mounting your SpeakerFON on a wall. Also, load the "cord.starter.obj"

Get a clean sheet of paper. Start off by clicking on the cord.starter.obj you just loaded. Enter TRANSFORMATIONS, click on POSITION, and, at the very TOP of your paper, copy down the X, Y and Z values. Then click on ALIGNMENT and copy down, again, at the top of the paper, the X, Y and Z values. Next to your notes, label them "Cord.starter"

At the next line below the cord.starter info, write "Frame 1." The next line down, add the label "BODY" and then click on the SpeakerFON BODY's object and enter TRANSFORMATIONS. Next to the "BODY" label on your paper, note down the X, Y and Z values for POSITION and ALIGNMENT.

One line below the "BODY" marker, add "HANDSET" and enter TRANSFORMATIONS, etc, etc. Also do the same for the "DESK" or any other elements in your animation that may effect your cord. Sorry this such a pain, but that's what happens when programs don't have AREXX ports!

Now ADD a PATH and EDIT the PATH to taste. You can use the POSITION info of the HANDSET for the end of the PATH that goes into the HANDSET. In fact, I recommend it. When in EDIT PATH mode, just click on one end, enter TRANSFORMATIONS and you'll know what to do from there. Save your path when done.

Experiment with Molding the cord.starter.obj to your path, and write down your final results (SECTIONS and Y ROTATION) on your paper, up at the top. Mold your cord. Save it as CORD.1 (or CORD.1.obj).

OK! Frame 1 is complete. Now think to yourself, what the animation is going to do. Let's say we merely want the HANDSET to lift off its base. Keep it simple for starters, right? Well, it's not too terribly simple, but it's not impossible. Think about the very first motion your cord will do. Let us pretend that from frame 1 (which is already defined) to frame 4, the HANDSET will move up only on the mouthpiece's side. Write "Frame 4" on your paper, below all the "Frame 1" information. Now write down the new POSITION and ALIGNMENT values of the HANDSET after "Frame 4". Only the HANDSET's information needs to be written down, because that's the only thing that moved from frame 1 to frame 4. Although the CORD moves along with it, the AXIS of the CORDS *MUST NEVER* move. If your writing is organized enough, your notes should actually start looking like a script.

Click on the HANDSET and move it to taste. Delete the CORD from FRAME 1 (that you already saved.. RIGHT?). Click on your PATH and enter EDIT PATH mode. Click on the end of the path that USED TO BE plugged into the HANDSET. Enter TRANSFORMATIONS and replace the POSITION information with that of the HANDSET'S. Back in the EDITING of the PATH, remember that when the PATH moved UP into the HANDSET, some of the path should be pulled along with it. If only the END of the PATH is changed each key frame, the CORD will become more and more stretched looking. Use your artistic skills here. If the cord is hanging down from the side of a desk, make the sag pull up ever so slightly (Remember, for our first keyframe, the HANDSET only moved up a tiny bit, keep your path compensation proportional). This is NOT easy to do. Just do your best. I'm sure you'll get better the more you practice this.

Now load the cord.starter, click on it and enter TRANSFORMATIONS. Restore its POSITION and ALIGNMENT values that you gave it earlier. PERFORM, then MOLD to PATH using the SAME SECTIONS and Y ROTATIONS you used before. Save the path as CORD.4 (4 is representing Frame #4 in the animation). Now add another frame number.. Maybe FRAME 10. It's really up to you. Move your HANDSET up a bit, jot down its POSITION and ALIGNMENT values. Delete the old CORD (that you already saved!) and fix the PATH to compensate for the new motion. Load the cord.starter.obj and restore its POSITION and ALIGNMENT, and MOLD. Save the CORD.. Etc... Etc... When your entire animation (or at least the part where your cord moves) is complete, start your fresh new project. Enter the ACTION EDITOR, add your # OF FRAMES, enter the STAGE EDITOR and LOAD the items you have listed on FRAME 1 of your paper (including the CORD.1). Be sure to use TRANSFORMATIONS and give the precise POSITIONS and ALIGNMENTS. SAVE, and enter the ACTION EDITOR.

Go down your notes, for each frame noted, adding the appropriate

ACTORS, POSITIONS or ALIGNMENTS.

For instance, in Frame 4: Add a POSITION BAR to the HANDSET going from FRAME 2 to FRAME 4 (There should be a bar going from frame 1 to the end, change it to exist from Frame 1 to Frame 1). Give it a Transition count of 2 frames for constant motion (When going from Frame 2 to Frame 4, 2 transition frames is maximum allowed). Then do the same for the HANDSET's ALIGNMENT BAR.

Now for the CORD, we're going to be changing the ACTOR from key-frame to keyframe. In INFO mode, click on the ACTOR BAR of the CORD. Change to to exist from Frame 1 to Frame 1. Then enter ADD mode, and click once on frame 2, then frame 4. You'll get a requestor asking for the new object. Call up "CORD.4" (Or CORD.4.OBJ, whatever). Then Change the TRANSITION FRAME COUNT to 2 for the same reasons of the last paragraph.

See? That wasn't too easy, was it? As a pain as this is to do, it looks really, REALLY cool. After reading this, most will settle for animations of flying a jet along the buttons or something. But it's nice to know this tutorial is here if you need it, right? Wasn't that nice of me [grin]?

1.9 Button Tutorial

-- ANIMATING THE BUTTONS -----

To animate the buttons on the SpeakerFON's BODY object, you'll need to make several versions of the BODY. Let's say, for this tutorial, we want to depress the "5" button.

In the DETAIL EDITOR, load "SpeakerFON.obj"

Look at the face of the BODY in the TOP VIEW of the DETIAL EDITOR. If you're familiar with the numbering system of a telephone, you'll pick out the 5 BUTTON right away. If not, use a real telephone as a referance! Geez!

Use PICK GROUPS mode. Odds are, you're already in this mode tho. Notice the 5's BUTTON is actually a sub-group, with a child object attatched to it. The PARENT of the 5 BUTTON's AXIS is pretty much in the center of the button, and the CHILD's axis is to the lower right. The PARENT object is the BUTTON itself, and the CHILD is the "5" decal in the form of a second object attatched to the PARENT.

Click on the DECAL object of the 5 BUTTON. Enter TRANSFORMATIONS. Click on the POSITION button and write down the Z information. Exit the requestor by hitting CANCEL. Now click on the PARENT object of the 5 BUTTON and enter TRANSFORMATIONS. Click on the POSITION button yet again and write down it's Z information. Then hit CANCEL. Now, with the PARENT (and subsequently it's CHILD) blue or purple, hit "m" then "l" then "S" (SHIFT-S) keys roughly in that order. In the front view, grab the 5 BUTTON (now yellow) with your left mouse-button and DRAG it down to taste. Be careful of not sinking it below the housing of the telephone. Only a minor amount of motion is really required here. When you're happy with the move, hit the spacebar.

Now enter PICK OBJECTS mode. Click on the DECAL part of the 5 BUTTON and enter TRANSFORMATIONS. Click on the POSITION button and restore it's Z information as you wrote down earlier. Depress the TRANSFORM AXES ONLY button and exit the requestor by hitting the PERFORM button. Now do the same with the PARENT part of the 5 BUTTON. Be sure to use the TRANSFORM AXES ONLY. We're only moving the AXIS of each object back to where it was. The rest of the object will stay where you moved it.

Go back to PICK GROUPS mode. You've now created a clone of the original SpeakerFON, but with the 5 BUTTON depressed. You'll then morph from the original object, to the 5 version, then back. With each morph taking 3 or 4 frames in time, the animation should look quite convincing. Now all you need to do is model a finger! Don't forget to save your new object. I suggest saving it under the name of "SpeakerFON.5.obj" With the .5 reminding you that this object has it's 5 BUTTON pressed in.

If you feel I've just left you hanging, and don't know HOW to morph using the ACTION EDITOR, consult "THE IMAGINE ORGANIZER v1.3", find the word ACTION somewhere in the document and double-click on it.

1.10 Thanks!

-- Thanks! -----

Thanks for the very warm responses that my previous releases have gotten. I was going to release this as a commercial object at a cost of \$20, but I decided against it at the last minute. If you wish to really say thanks for all the time I soaked into this object and documentation, a money order or check for \$20 would be most appreciated. That's right. This is shareware.

Carmen Rizzolo
ATT: SpeakerFON
4820 Clairemont Mesa Blvd #5
San Diego, CA 92117

(619) 573-0285

I am not, however, releasing this as public domain. It's freely-distributable, but I still own it. You may not use this object in an image or animation to be broadcasted, videotaped or printed without express written permission from Carmen Rizzolo. If this object is distributed, it MUST be distributed in it's original archive, with all original files preserved in their original form.

Any products mentioned are trademarks of their respective companies.

I expect to see some really cool pictures uploaded using this object. Now you can make your ultimate desk animation! Please

mention me in your archive for modelling whenever you release work using this object. Thanks.

The SpeakerFON object, and it's handset are ©1993 Carmen Rizzolo

1.11 Others

Other Stuff by Carmen Rizzolo for 3-D people:
(Flat, 2-D people disregard)

- [] DCTV Demos
- [] OpalVision Animations
- [] Normal Demos
- [] Imagine Tutorials
- [] Imagine Objects
- [] Arexx Scripts

1.12 DCTV Demos

-- DCTV DEMOS -----

NOTE: The following demos require a DCTV to play.

| | |
|--------------|--|
| Pointles.LZH | Pointless! My premiere DCTV animation. And what a premiere it is! This is still my favorite of all of them, but I vow to out-do it! Done in FULL TRACE mode. |
| Yummies.LZH | You'll LOVE Yummies! Yummies is a flirtation with Imagine's SLICE feature that deals with something other than 3-D text. Done in Scanline mode. |
| Magnify.LZH | Magnify is a simple but slick animation using magnifying glass-type refraction. Done in FULL TRACE mode. |
| Point2.LZH | Pointless 2 shows Pointless at a slightly different point (no pun intended) of view. Done in FULL TRACE mode. |
| Dizzy3D.LZH | Don't stand on this checkered floor! Nothing too original, but done in good taste. Done in FULL TRACE mode. |
| HISPEED.LZH | Interesting animation that emulates motion blurring effects. Fly down a trench at 30 frames a second (if you dare). Done in Scanline mode |
| POOL2DCT.LHA | Vivid example of the new Waves texture in Imagine v2.0. Comes with an in-depth tutorial on how to master this effect. Done in Ray Trace mode. DCTV required |
| POINT3.LHA | Coming up in a month or so! |
| NEON.LHA | Stylish animation of a rotating street sign with a blinking neon logo on it. Comes with 3 extensive tutorials!! |
| ODDBALL.LHA | This animation is *HUGE*!! At least 5 MEGS recommended. Smooth and realistic motion for your visual enjoyment. |

EntPhoDC.LHA KICK-ASS animation of Star Trek:NG Enterprise firing a photon torpedo, as the camera flies by to give you several great vantages.

1.13 OpalVision Animations

-- OPALVISION ANIMATIONS -----

NOTE: The following animations require the OpalVision motherboard to play. But BOY, do they look good [grin] !

EntPhoOV.LHA Very, VERY large anim. 11 MEGS reccomended to play. Kick-ass animation of the Enterprise shooting a photon-torpedo.

NNeonOV.LHA Remake of my old Neon animation. Now cleaner in this OpalAnimMATE version.

1.14 Normal Demos

-- NORMAL DEMOS -----

POOL2HAM.LHA Vivid example of the new Waves texture in Imagine v2.0. Comes with an in-depth tutorial on how to master this effect. Done in Ray Trace mode. No special hardware req'd. HAM version (Ew!)

Veins-32.LHA Simplistic animation in 32 colours. Demonstrates how to morph Altitude maps. Comes with matching tutorial.

EntWarp.LHA Small animation (40K archive) of the Star Trek:NG Enterprise leaving mars orbit and jumping into warp. (32-colours)

EntPho32.LHA KICK-ASS animation of Star Trek:NG Enterprise firing a photon torpedo, as the camera flies by to give you several great vantages. (32-colours)

Swerve32.LHA 32 colour animation of a race car swerving down a track. Features smooth (read: spline) motion and rotation.

1.15 Imagine Tutorials

-- Imagine Tutorials -----

3D-FONT.LZH An in-depth tutorial with illustrations on creating professional quality 3-D logos in Imagine v1.1. This tutorial is out-of-date for Imagine 2.0 users.

IM_ORG12.LHA The Imagine Organizer! The complete kuellection of

Imagine tutorials and tricks by yours truly. Always updated...

3D-FONT2.LHA Coming one of these days!!!

1.16 ImagineObjects

-- Imagine Objects -----

OUTLET.LZH Imagine (1.1) object of a wall outlet and matching plug.

A3000-IM.LZH An object of an Amiga 3000 CPU.

A3002-IM.LHA Update to A3000 CPU *AND* a matching keyboard! Yow!

CRUISER.LHA Nearly 500k in size space cruiser object. Complete with windows and other details. Warning: This thing may require 5 megs or more to render! It was not built to conserve memory, it was built to look good! Imagine 2 only. Comes with tutorial on a new spline based rotations technique.

NCC-80E.LHA Star Trek-like Shuttle craft. For Imagine 2.0 only. Comes with nifty tutorial that can help you speed up your animation creation.

Satrn5ob.LHA The Saturn 5 rocket. Complete with decals. (Does not use brushes tho)

1701D-IM.LHA The USS Enterprise 1701D Starship. It's a 1.6 meg object, and REALLY fine! This one may require a minimum of 12-14 megs of memory to render!! Uses no brushes to conserve RAM and make things simple.

SpeakrFON.LHA Amazingly realistic looking modern speakerphone object. Comes with a tutorial on how to animate the cord.

1.17 Arexx Scripts

-- AREXX SCRIPTS -----

IFFJPGRX.LHA Easy to use AREXX scripts to convert your Imagine 24-bit IFFs to JPEG and back. Designed to help newcomers use AREXX as well as help all automate your file conversions. PD JPEG release required to use (AUGJPEG.LZH).
