

Visual pinball

Powered
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Visual
PinMAME

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**A Reference
for the
Rest of Us!**[®]

CREATE, RECREATE,
RELIVE THE PINBALL EXPERIENCE!

Get up to speed
on the hottest
topic



By: Tweegster / GodSin

Dummies guide to setting up all the required software for Visual Pinball / HyperPin / UltraVP Server and your DMD

By: Tweegster / GodSin

v 1.05

Last Updated: October 5th 2010

You've read all the forums, searched google and youtube for help and you still cant get UltraVP Server to work. Join the club, I was in the same boat as you my friend. For me I learn hands on and by following little guides like this with all the pretty pictures that I can easily follow step by step. This is my attempt to help everyone out, I hope this guide will help you, I really do.

Please note that you follow this guide at your own risk, I can not and will not be held responsible for any damages that may happen to you or your computer from following this guide.

Now that that is out of the way enjoy my little guide and feel free to repost this guide to any website, newsgroup and any other digital distribution places. But Please do not sell this guide. Give it away for FREE. If you paid money for this guide I'm sorry to say but you got screwed over. If I made a mistake in the guide, or you feel I should add more to it please let me know. You can contact me through sending me a PM on www.vpforums.org.

I hope I don't come over as a Jerk / Jackass in the way I word or talk about somethings in this tutorial. If I do come out that way I'm sorry.

The Most updated Version of this file can always be found at www.VPforums.org

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[Pinball Glossary](#)

Website and Forums

Websites and forums I've found very useful while making this guide are as follows. Many Many thanks go out to everyone on these forums for the help they have given me. Without you this guide would not have been possible.

Visual Pinball Forums: <http://www.vpforums.org>

Great Forum to get help with setting up your own dedicated Pinball cabinet, download Original and recreated tables for Visual Pinball and Future Pinball games. Amazing site and well worth paying to be able to download more then a few tables a day.

HyperSpin / HyperPin: <http://www.hyperspin-fe.com>
(Amazing Front End for Future Pinball and Visual Pinball)

Arcade Controls.com: <http://www.arcadecontrols.com>
Another great forum and website to talk about making Pinball and Mame related cabinets.

Flying Dutchmans Backglass Paradise: http://www.theretrocade.com/flying_dutchman/home.asp
This is a great site to download your "Animated" backglass from.

Internet Pinball Database: <http://www.ipdb.org/>
A place to download the roms required for all your tables.

There are a lot of sites that talk about this subject, remember Google is your friend. I know I missed some great sites but there are too many places to thank and way to many people. So a big thanks to everyone on the internet.

As of typing this tutorial my current System build is as follows (Subject to Change without notice)

Intel Core2Quad 2.8ghz (stock speed)

4GB Ram

120gig SSD (overkill but worth it)

MSI GTS 450 1gig PCI-E (Playfield) (Used latest Beta Drivers from nvidia 260.x)

EVGA GeForce 8800 GTS 640meg PCI-E (Backglass) This card is OK but I want to upgrade it

Microsoft Windows 7 Ultimate 64bit (Retail)

24" LCD for the Backglass

37" LCD for the Playfield

It should be noted that you dont need these exact system specs to use this software, it's just what I have for my current pinball machine build. Different people will suggest different specifications, but most people all agree that a nVidia Geforce GTS 250 with 1gig Ram is often more then enough to power the playfeild. But like everything else a faster nVida card or CPU cant hurt :) People have reported issues with using the ATI Radeon series of cards. I haven't tried this software with an ATI card so I can't confirm nor deny there claims. So I will suggest using nVidia as its whats working for me.

Step 1: Downloading the required Software



Go to <http://www.vpforums.org/> and search for [UltraVPServer](#) (you will need to Register an account in order to download from this website. Registration is FREE)

Do another search on www.vpforums.org for [Visual PinMAME Cabinet Build 2.2.1](#) and download it. You will want this for your Pinball Cabinet :)

Visual PinMAME Cabinet Build 2.2.1
Author(s): **destruk**
Last Updated: Jun 7 2010, 05:27 PM
Submitted by: destruk

Do another search on this site for [bally_6803_gts3_nvram](#) and download it.

[bally_6803_gts3_nvram.zip](#) POPULAR

Pre-initialized NVRAM files for Bally MPU A084-91786-AH06 (6803) and Gottlieb System 3 VPM Tables to accept coins. Added MrGame and Spinball

Author(s): **destruk**

While your on http://www.vpforums.org click on Getting Started and download the items in Red.



HyperPin can be downloaded from: <http://www.hyperspin-fe.com/forum/downloads.php>
 (you will need to Register an account in order to download from this website. Registration is FREE)

Category	Description	Files
1. HyperSpin v1.0 Downloads 	The downloads within this area are ONLY for HyperSpin v1.0 these will not work with the previous beta versions.	1521
2. HyperPin Downloads	HyperPin Downloads	1

Downloads: 743713 We have 3485 files in 210 categories.


HyperPin XML Editor



32Bit Windows: <http://files.filefront.com/Hyperpin+Editor32BitCrar/;13897233;/fileinfo.html>

64bit Windows:


<http://files.filefront.com/Hyperpin+Editor64BitCrar/;13897234;/fileinfo.html>


WinRAR (32-bit)

 | Version 3.93 | Added on 03/15/2010
 Take full control over RAR and ZIP archives, along with unpacking a dozen other archive formats. [Read CNET's review](#)

Editors' rating:  User rating:  out of 1606 reviews

WinRAR (64-bit)

 | Version 3.93 | Added on 03/15/2010
 Take full control over RAR and ZIP archives, along with unpacking a dozen other archive formats.

User rating:  out of 56 reviews

Download WinRAR from <http://www.downloads.com>
 (CNet's Shareware/Freeware website)

This is the program I use for extracting compressed files I download off the internet.

NOTE: Download the correct version for your Operating System, If you dont know which one to get download WinRAR (32-Bit)

So if all goes well you have finished downloading everything right? Good, if not then get a faster internet connection already the rest of the class is waiting because of you. :)

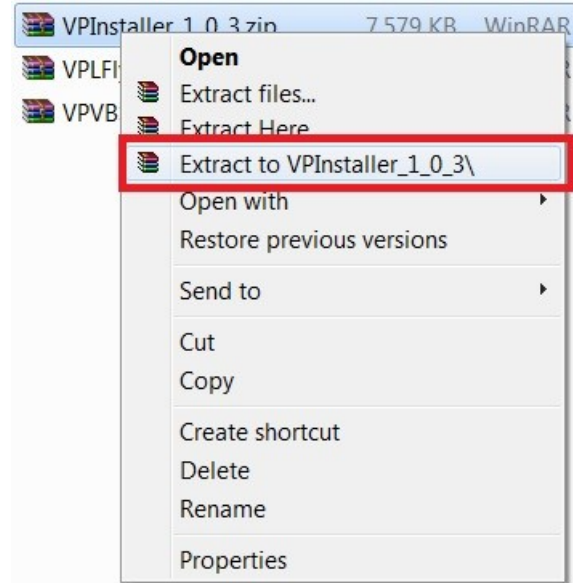
Step 2: Installing Visual Pinball

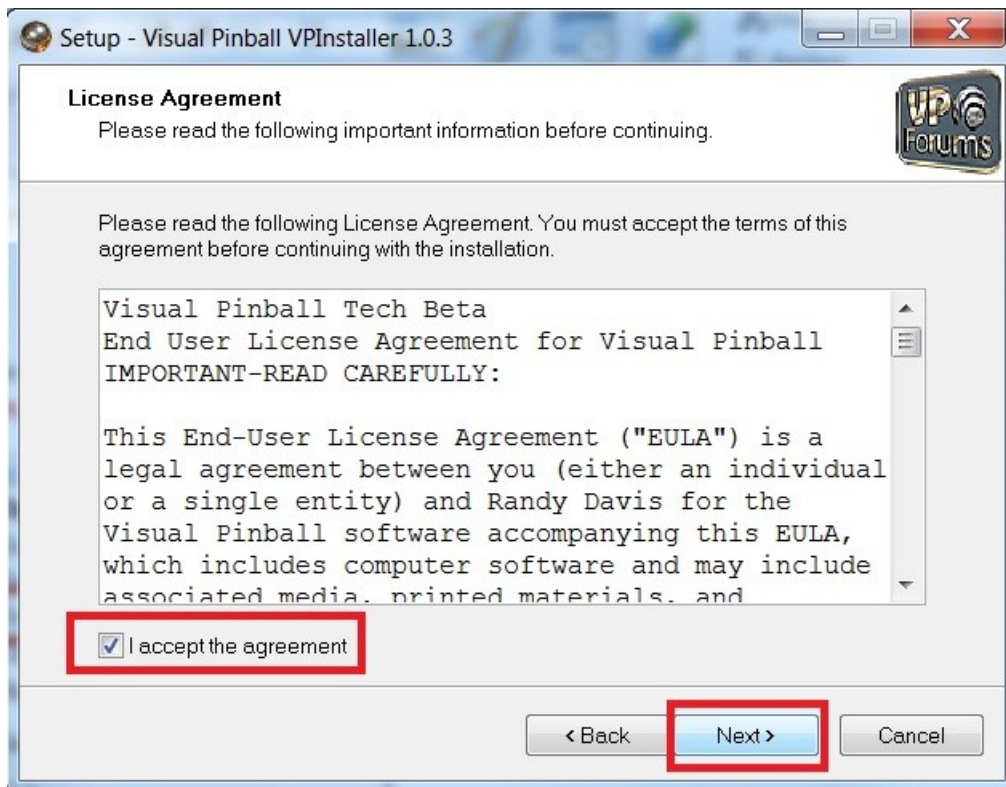
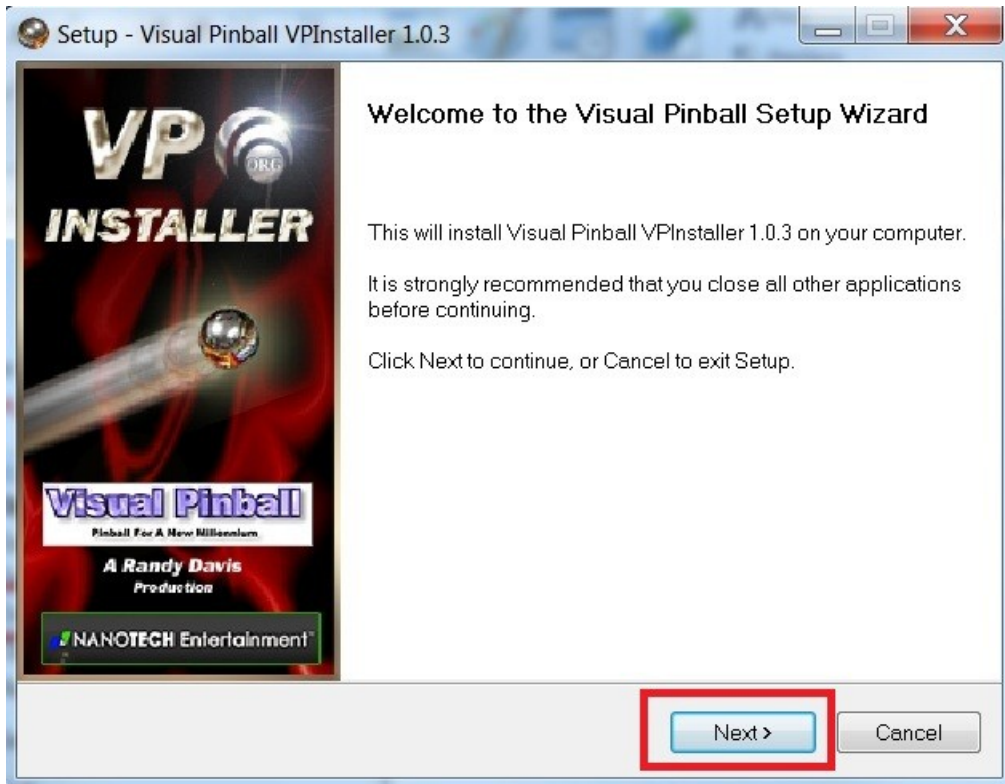
s3250u3.zip	1,567 KB
vpfonts.zip	6,713 KB
VPInstaller_1_0_3.zip	7,579 KB
VPLFlyersInstall.zip	221,609 KB
VPVBS3_32.zip	102 KB

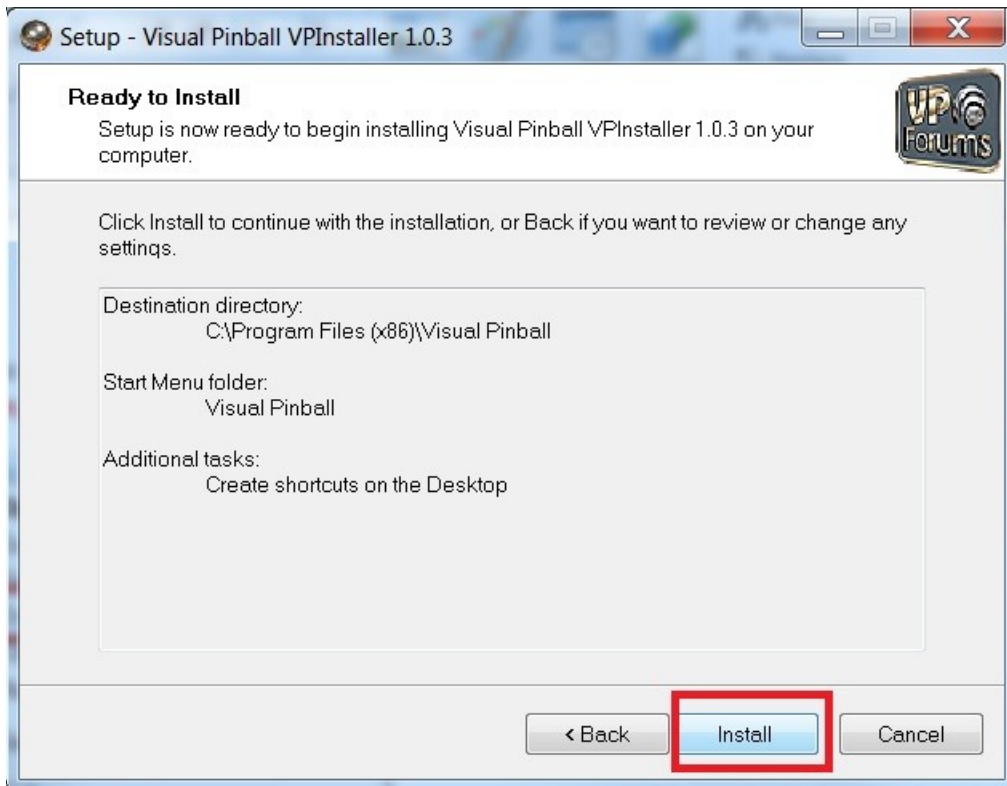
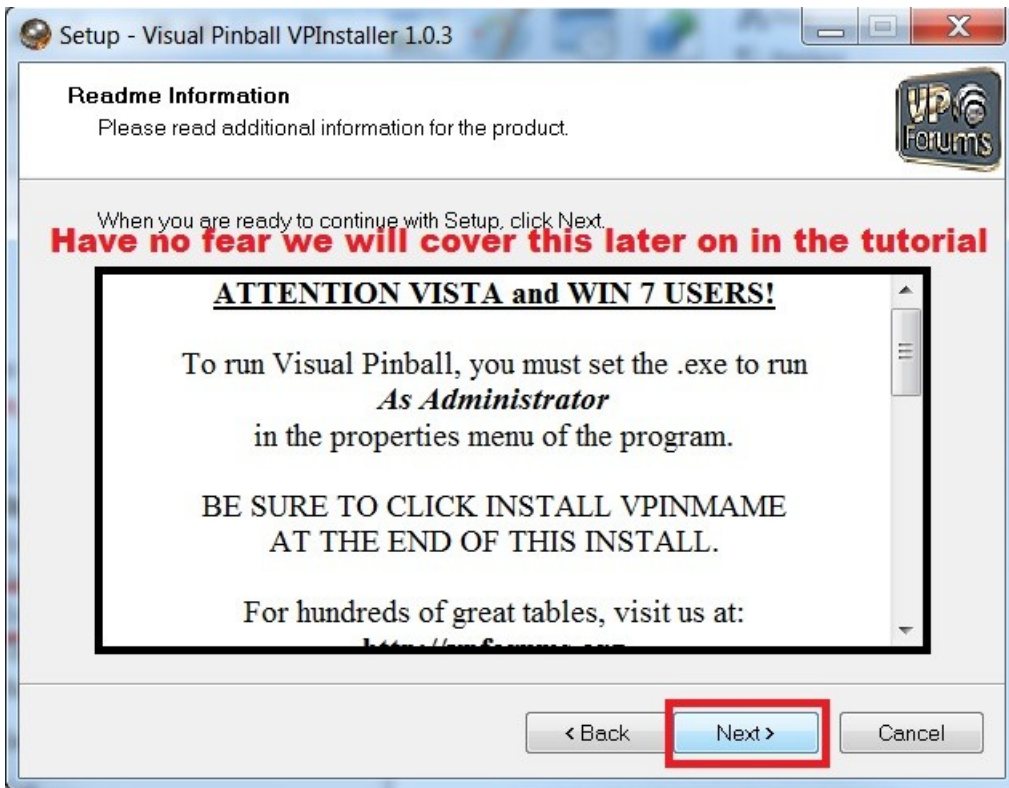
Go to the folder you saved your downloads to and find **VPInstaller_x_x_x.zip**
The version number may have changed since this tutorial was made.

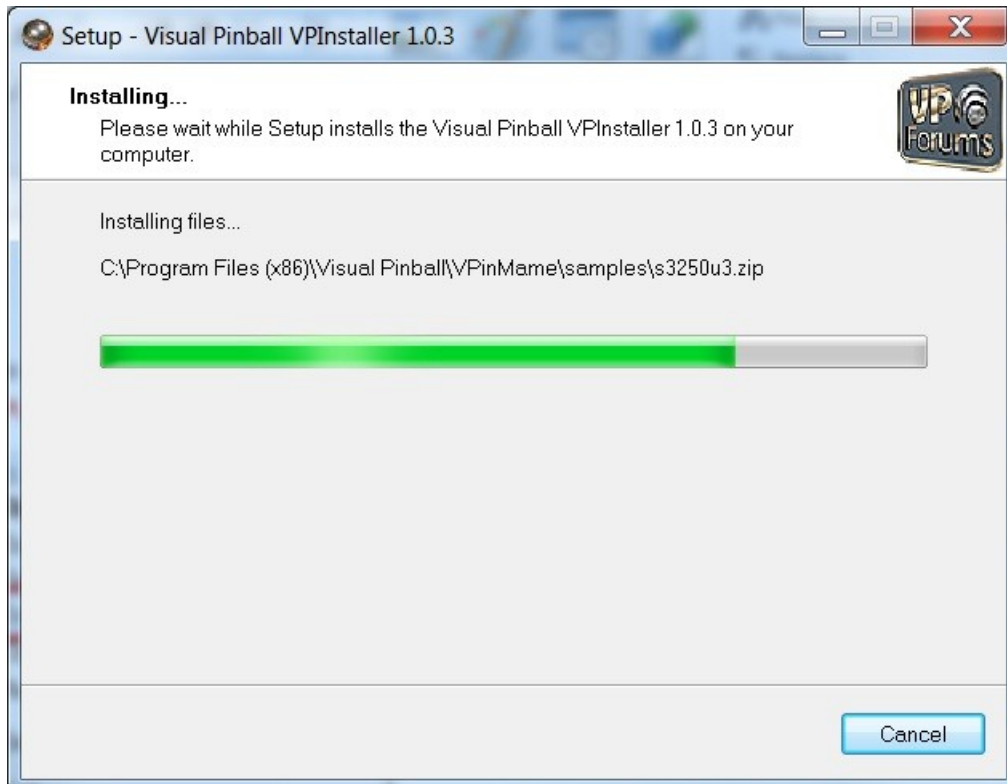
Extract the files to a temp folder, if you have WinRAR installed just right click and select **Extract to VPInstaller_x_x_x**

Then go into the location that you just extracted the files to and open **VPInstaller_x_x_x.exe** and follow the on screen prompts. For the purpose of this tutorial I'm using the default installation folder.

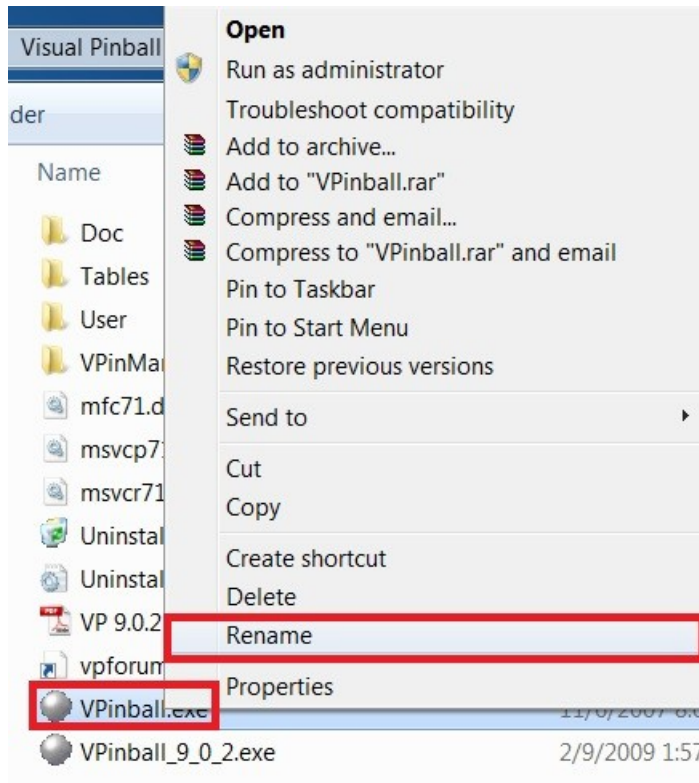








Now if you remember during the install of Visual Pinball one of the screens gave a little warning regarding Windows Vista / Windows 7. This is a very easy fix so lets get that out of the way before I forget to put it in this tutorial ;)



Go in to the Visual pinball folder

64bit Windows:

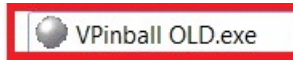
C:\Program Files (x86)\Visual Pinball

32Bit Windows:

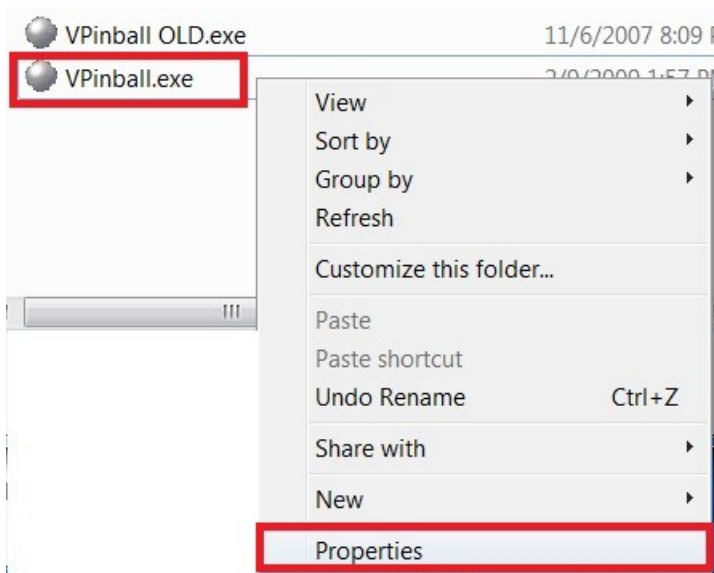
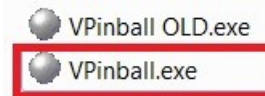
C:\Program Files\Visual Pinball

Find the file called VPinball.exe and delete it, this is the old version (Visual Pinball v8) and we won't be needing it in this tutorial. If you want to keep it then please rename it to something else, like VPinball old.exe. You do this by right-clicking on it and selecting Rename

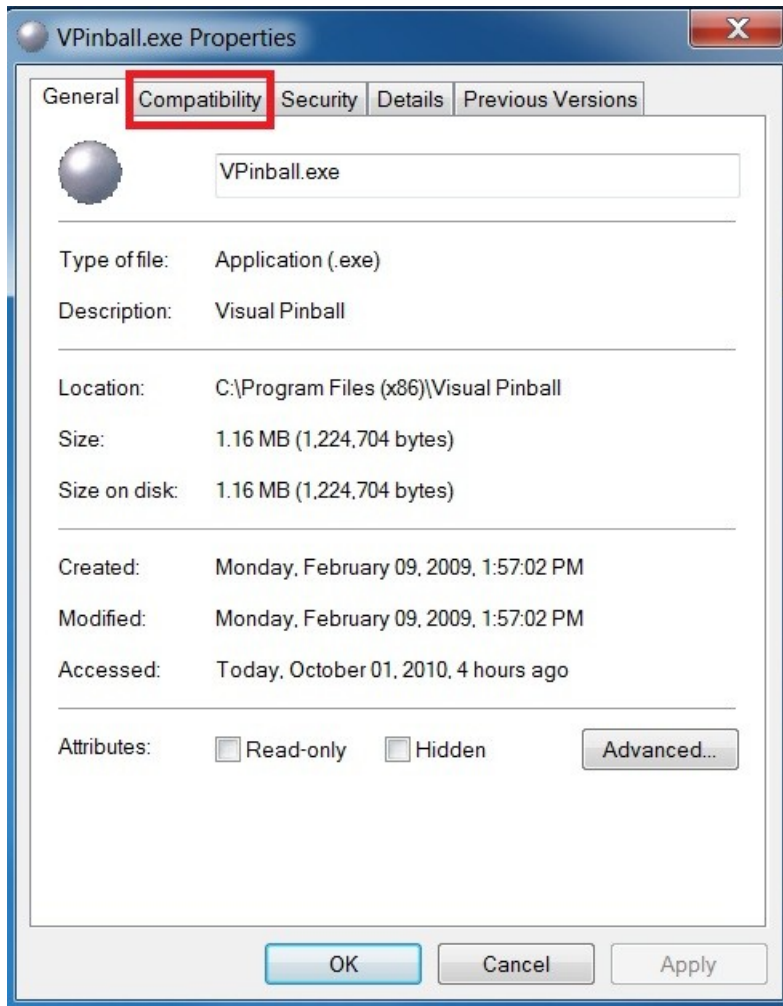
Don't forget to keep the extension .exe, it will look something like this once you rename it.



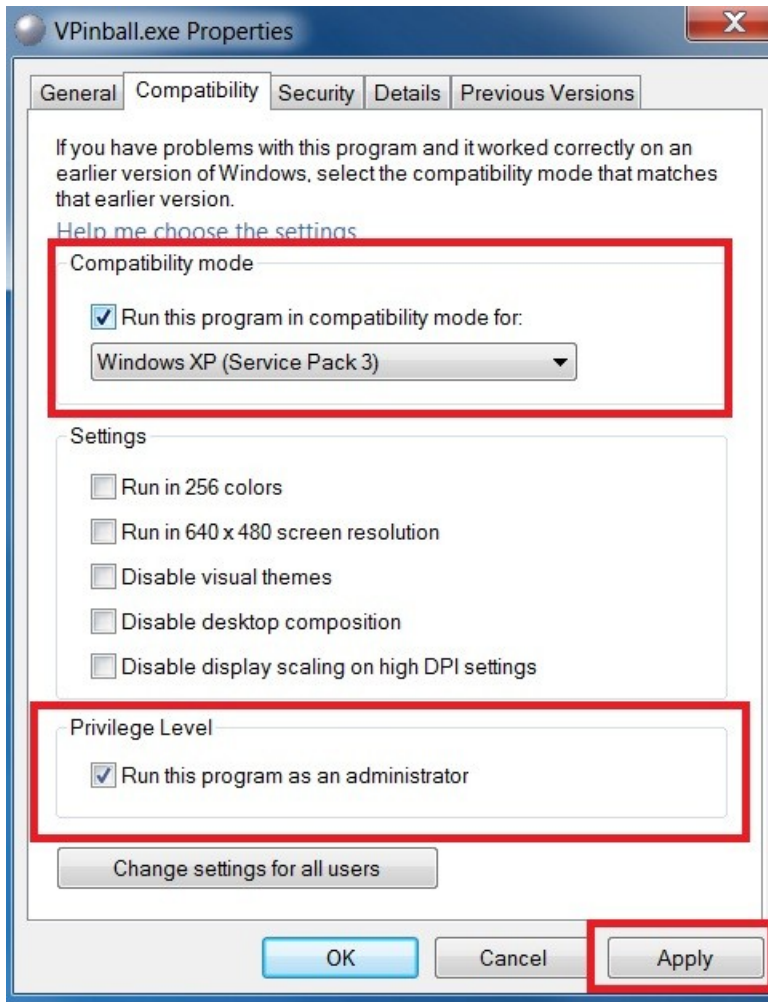
We are now going to **Rename the file VPinball_9_0_2.exe to VPinball.exe** using the same method as we used to rename the last file



Now please **right-click** on the new VPinball.exe and click on **Properties.**



You will then see a new dialog box, **click on Compatibility**



Put a check mark on "Run this program in compatibility mode for" and select **Windows XP (Service pack 3)** from the list.

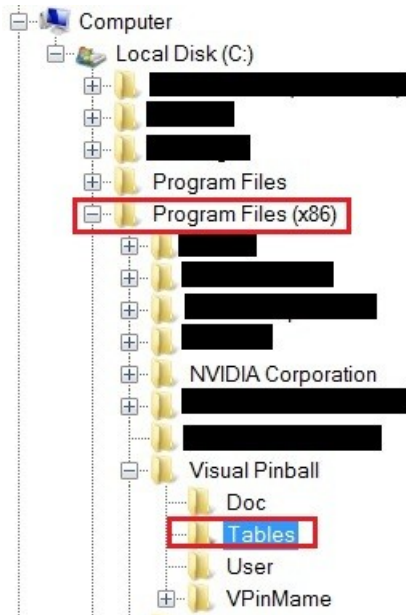
Also make sure to **put a check mark on "Run this program as an administrator"** and click apply and then OK.

Step 3: Install the Visual Pinball addons / Extras.

So I'm going to "Asssume" you downloaded the Samples, Fonts and Scripts from <http://www.vpforums.org> See below picture. If you didnt get them please get them now.



First we are going to Install the **VB Scripts**, go in to the folder you saved it to. By Default its called **VPVBS3_32.zip** However the version number may have changed since this tutorial was made.



Extract the files of VPVBS3_32.zip to:

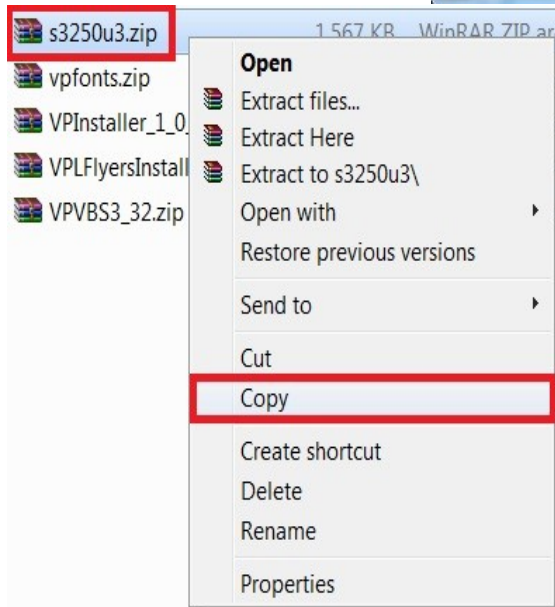
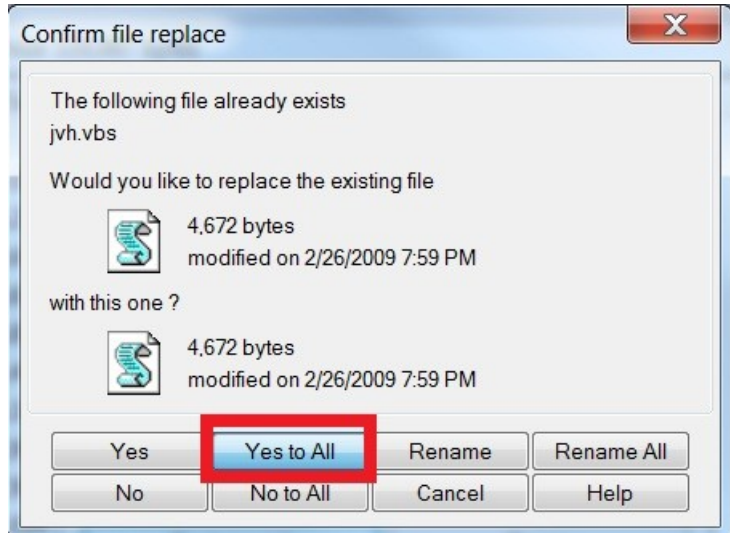
64bit Windows: C:\Program Files (x86)\Visual Pinball\Tables

32bit Windows: C:\Program Files\Visual Pinball\Tables

Here is an example of what you will see if your using a 64bit version of Windows

During the process of Extracting the files from VPVBS3_32.zip to the Tables folder of Visual Pinball you may be prompted with the following message.

Click on **YES TO ALL**, this will replace all the VB Script files with the updated versions.



We are now going to install the Sound Samples, find the file you downloaded called **s3250u3.zip**

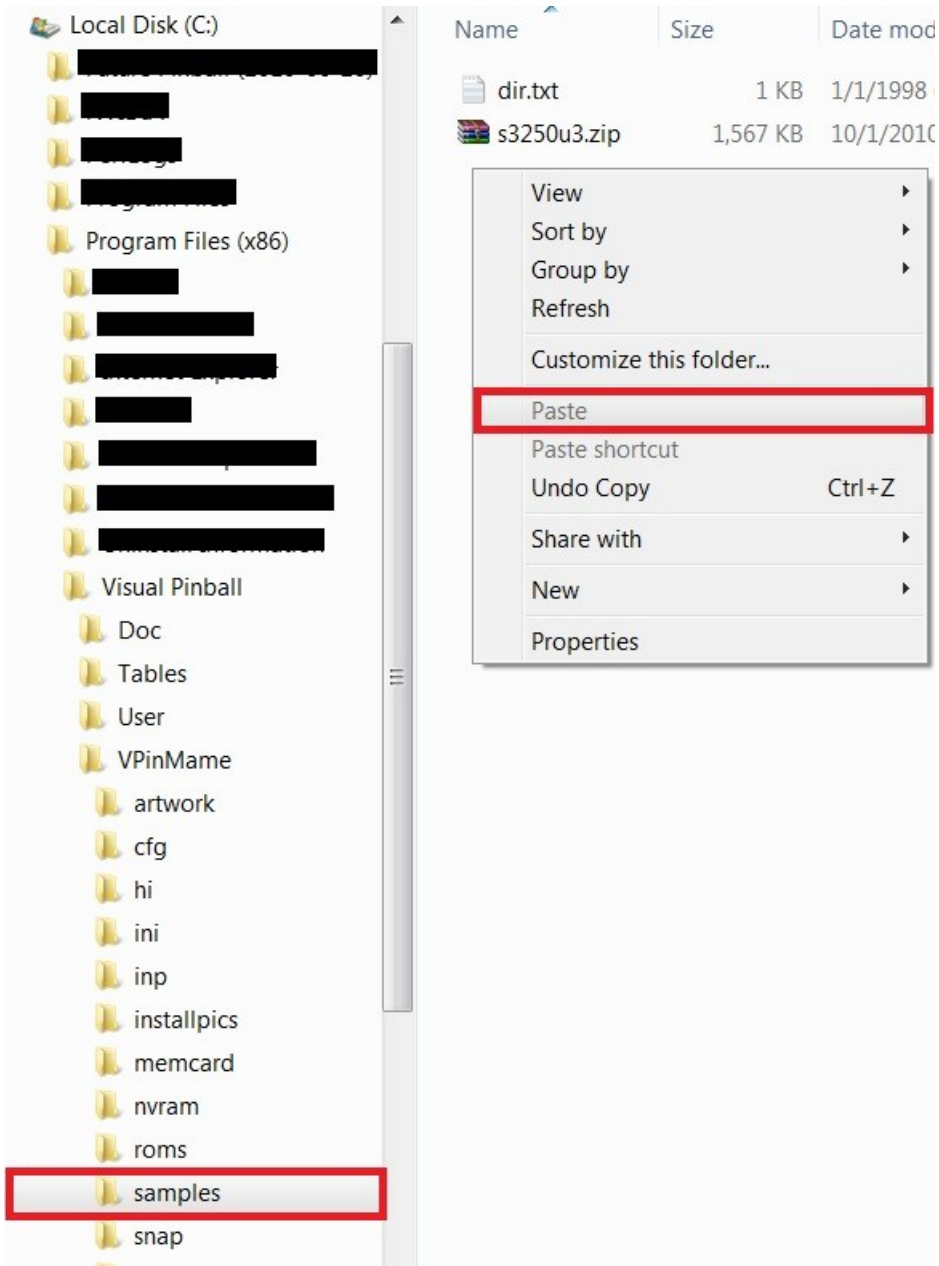
move or copy this file to the VPinMame Samples folder.

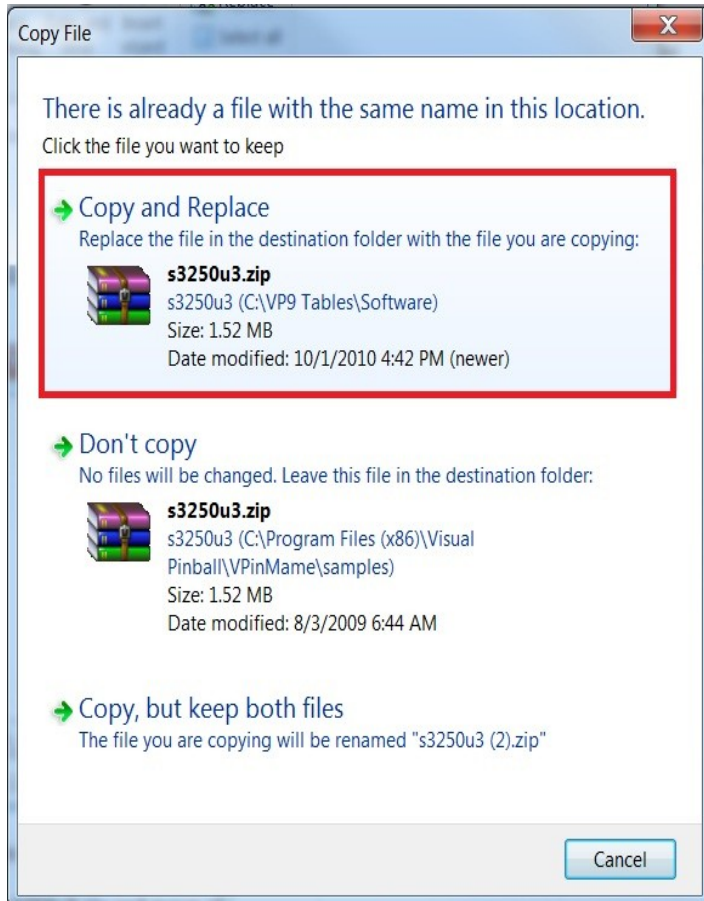
64bit Windows

C:\Program Files (x86)\Visual Pinball\VPinMame\samples

32bit Windows

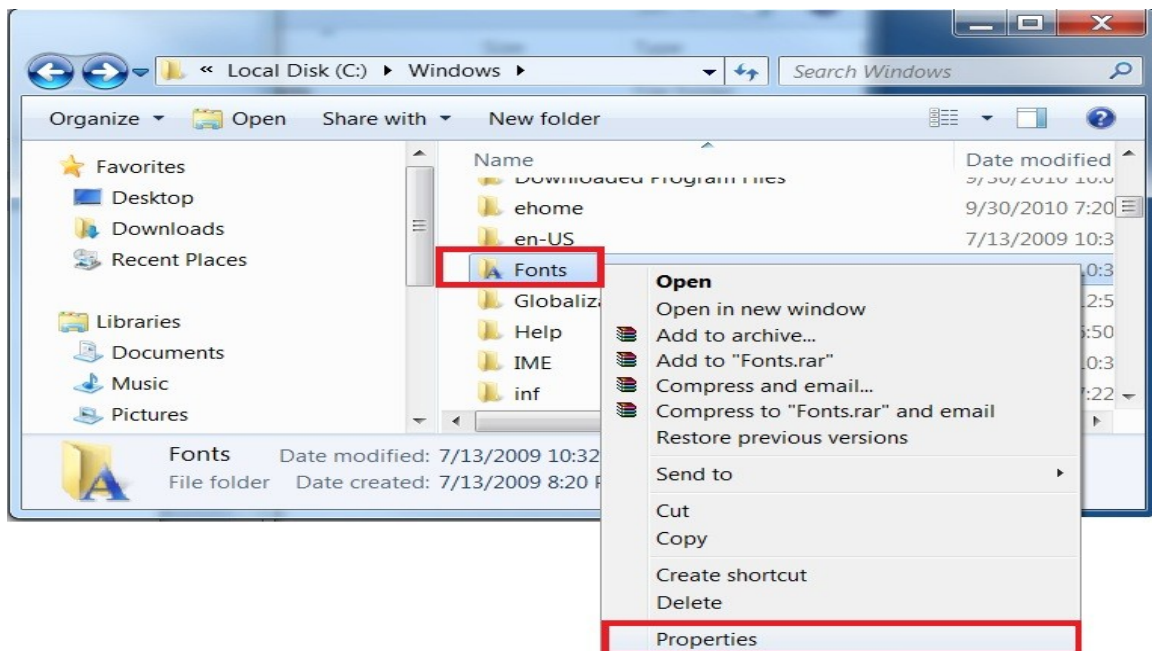
C:\Program Files\Visual Pinball\VPinMame\samples

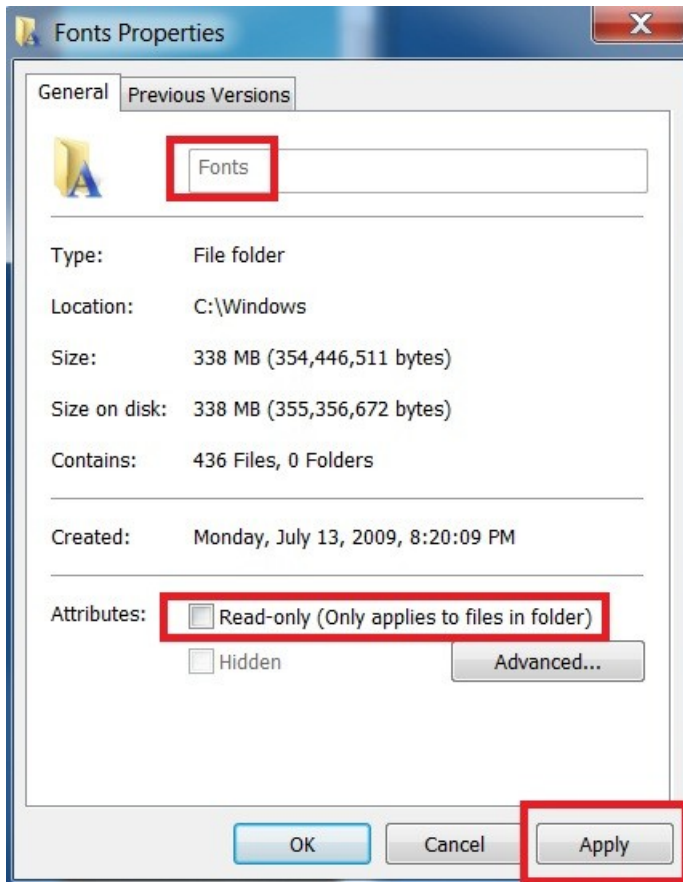




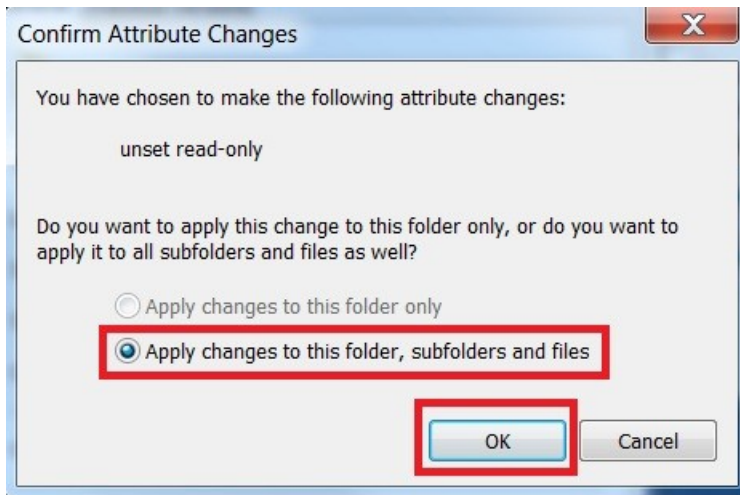
During the process of Moving or Copying the file to the Samples folder of VpinMame\Samples you may be prompted with the following message. Click on Copy and Replace. This will update the file to the latest version. **DO NOT extract the files from this zip file.**

Open up Windows Explorer and go in to your Windows folder.
Locate the folder called Fonts
Right Click on the Fonts Folder and select Properties



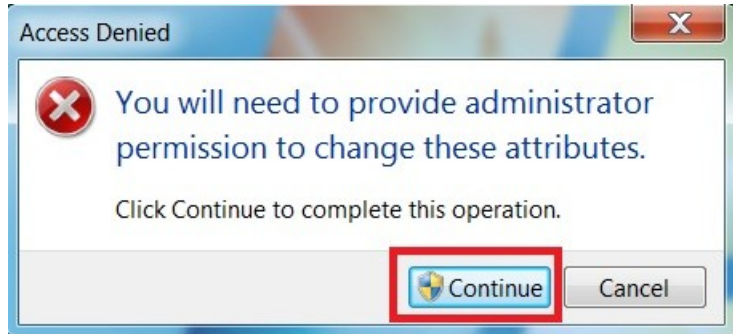


Ensure that this does NOT have a check mark in the read only box, if it does have a check mark then please remove it. If we don't do this we will not be able to move the Fonts to this folder. Once you do this press **Apply**.



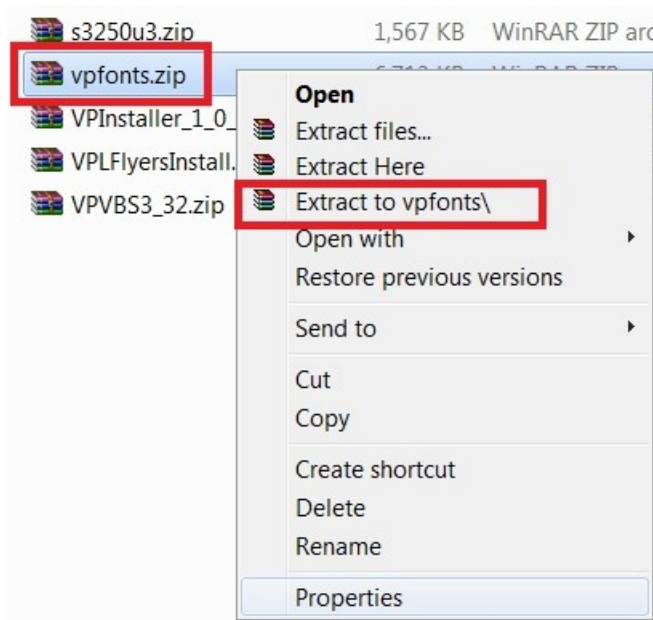
Once you hit Apply you will then be asked to Confirm the Attribute Changes. Select **Apply changes to this folder, subfolder and files** and then press OK.

You will be prompted with yet another dialog box. **Press Continue.**



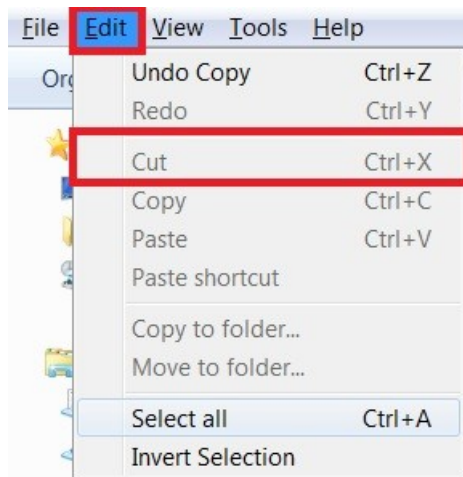
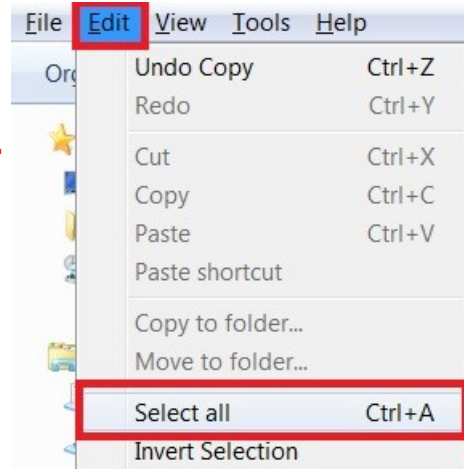
Once you click Continue you may or may not get another dialog box (pictured below). Select **Ignore All**

Don't Worry or freak out, we can now extract the fonts into the "c:\windows\fonts" folder



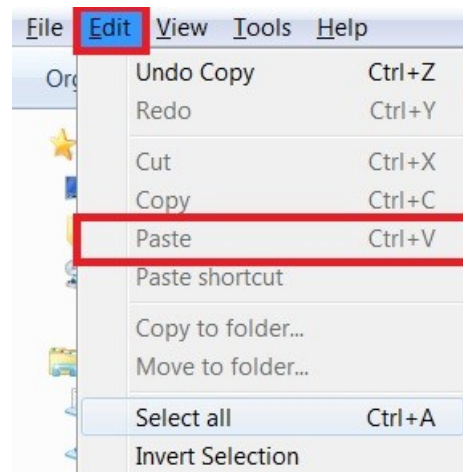
Right click on vpfonts.zip and press Extract to the files to **vpfonts**

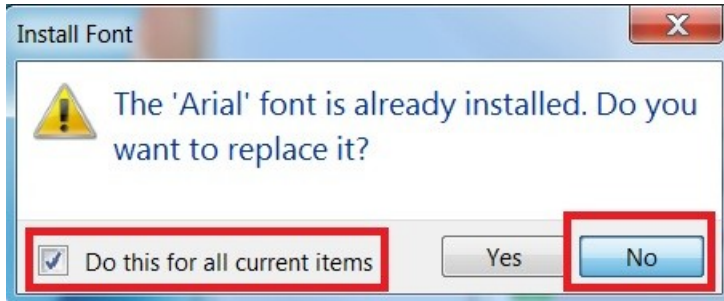
Now go in to this folder that has all those fonts and select all the files. You can do this by pressing **CTRL+A** on your keyboard or by clicking on **EDIT** -> **Select All**.



We now want to copy all these files to C:\windows\fonts
Now you can press CTRL+C to copy or select Edit -> Copy

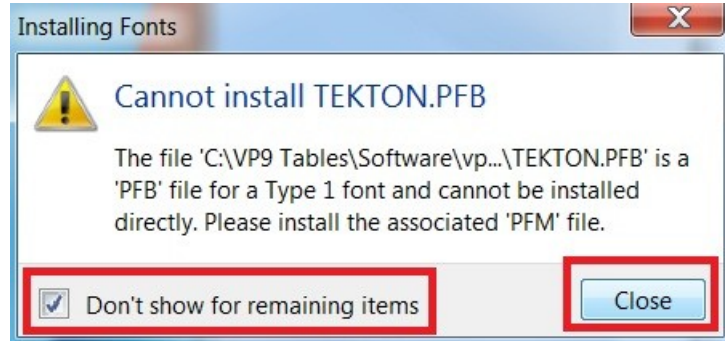
Now go in to the Fonts Folder located at C:\Windows\Fonts
you can now Press CTRL+V or click on Edit -> Paste to move all the copied files to this folder.



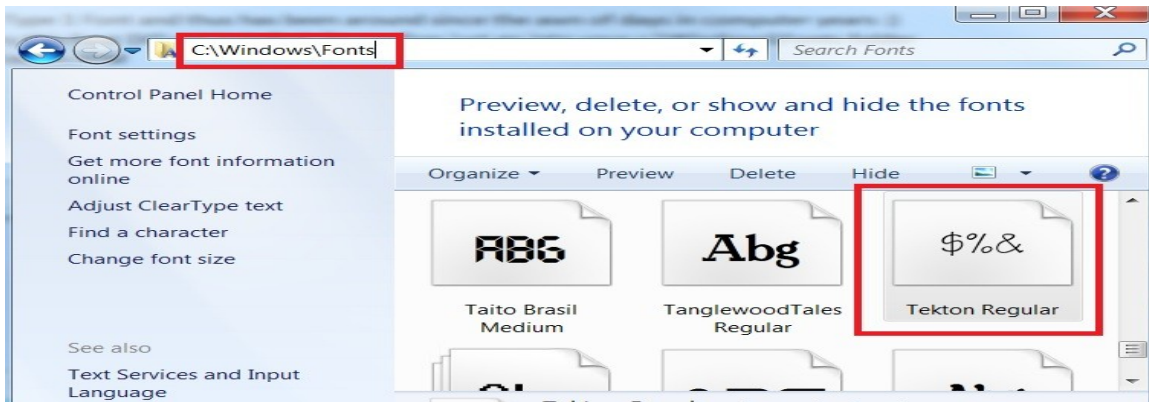


Once you start copying the files to C:\Windows\Fonts you may get the following Dialog Box. **Put a check mark in Do this for all current items** and select **NO**

Yet another Dialog box may appear for you. **Put a checkmark in Don't show for Remaining items and press close**



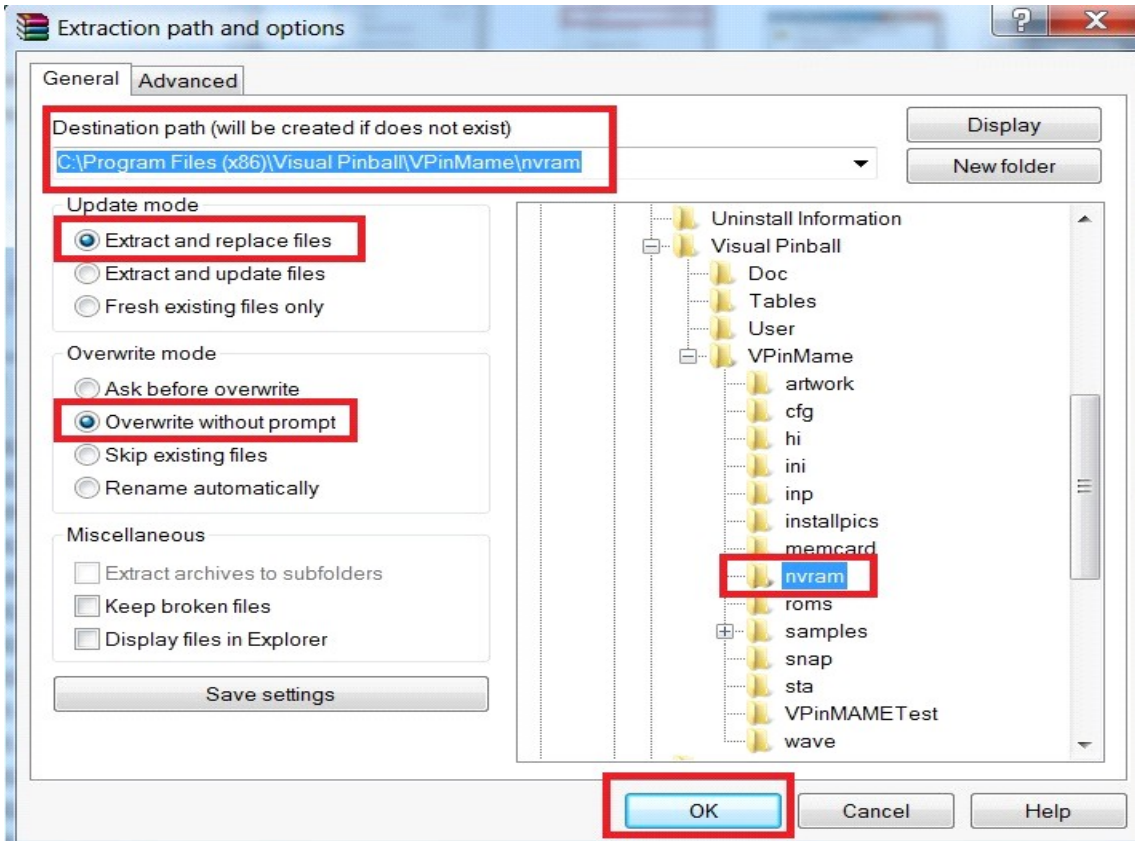
A PFB file is a Type 1 Font and thus has been around since the dawn of days in computer years :) But dont worry this Font DID get installed. To confirm just go into your c:\Windows\Fonts folder and look for Tekton Regular.



Now we are going to open bally_6803_gts3_nvram.zip and extract the files to:

64Bit Windows: C:\Program Files (x86)\Visual Pinball\VPinMame\nvram

32Bit Windows: C:\Program Files\Visual Pinball\VPinMame\nvram



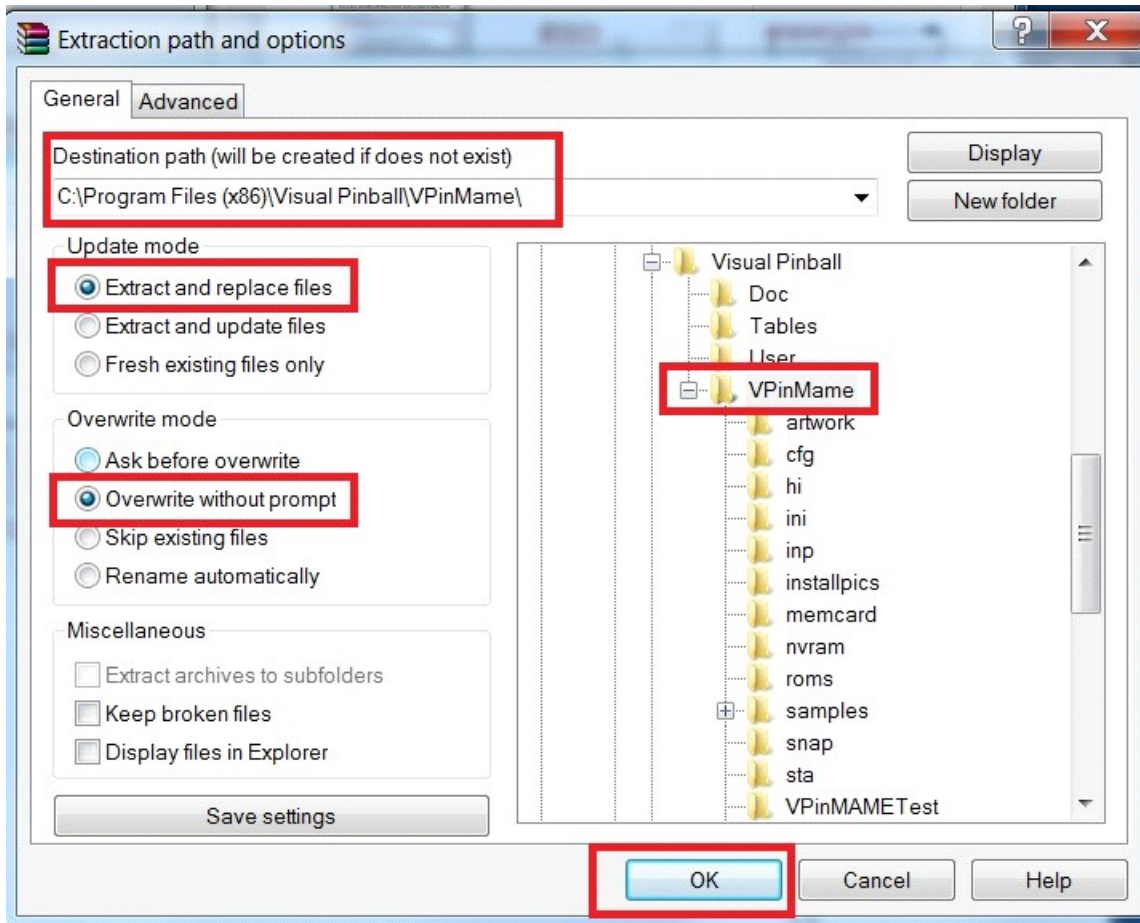
Step 4: Setting up VPinMame

We are still going to set this up, even if you may or may not end up using it down the line.

Go to the location that you downloaded **VPinMAME_Cabinet_Build.zip** to and **extract the file to:**

64Bit Windows: C:\Program Files (x86)\Visual Pinball\VPinMame

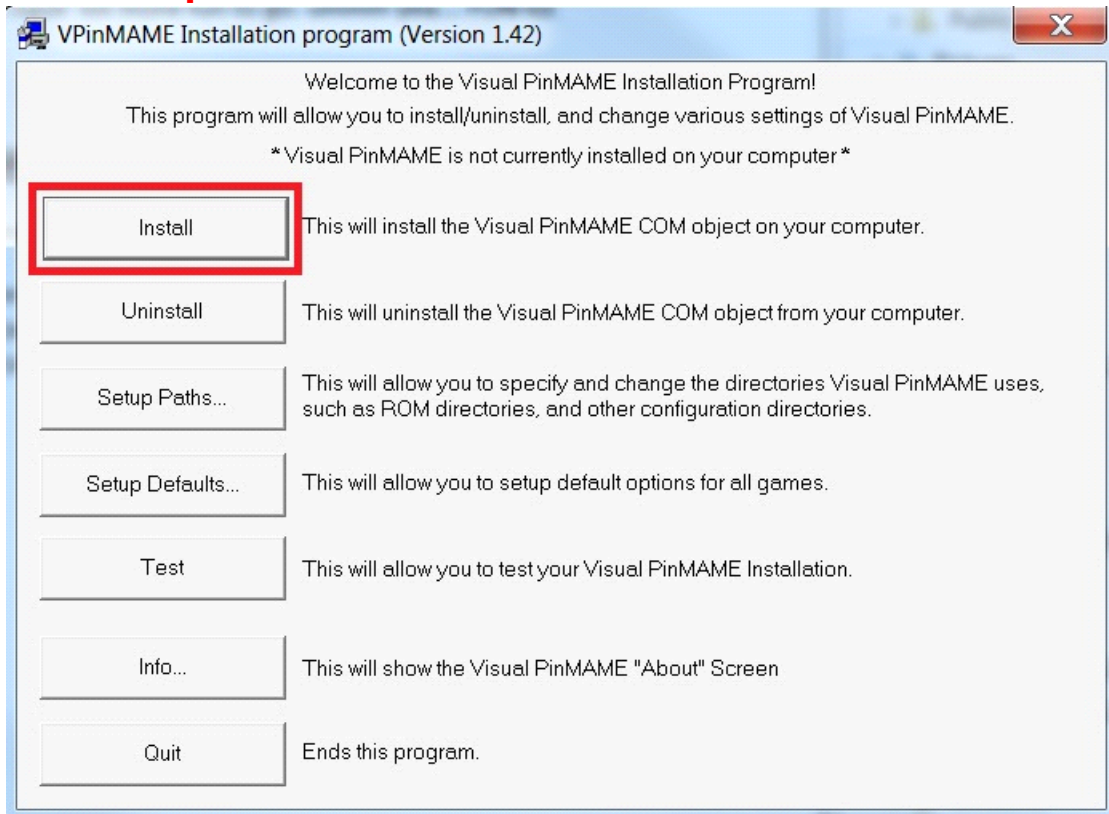
32Bit Windows: C:\Program Files\Visual Pinball\VPinMame



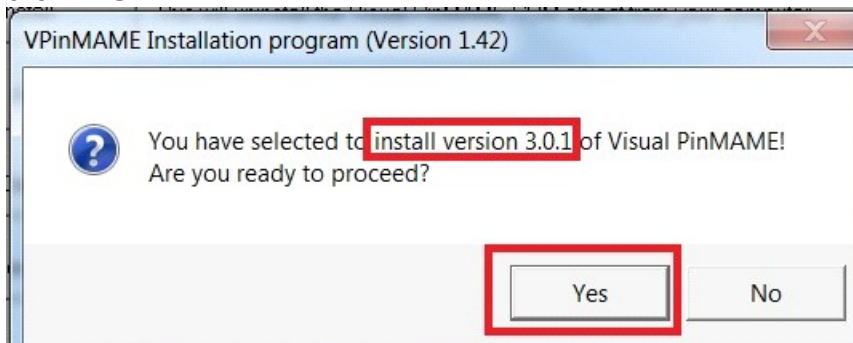
Now go in to the folder you just extracted the file into right click on Setup.exe and Right click on Properties. Once you did that click on Compatibility, we are going to do the same to this as we did with VPinball.exe.

Put a check mark on "Run this program in compatibility mode for" and select **Windows XP (Service pack 3)** from the list. Also make sure to **put a check mark on** "Run this program as an administrator" and click apply and then OK.

Launch **Setup.exe** and **click Install**



You will get a new dialog box, Please make special note of the version number 3.0.1 and click YES

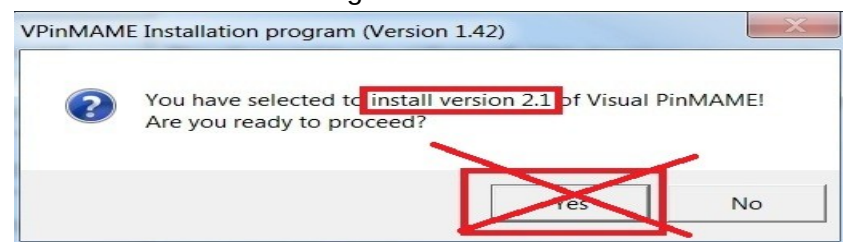


If you see the

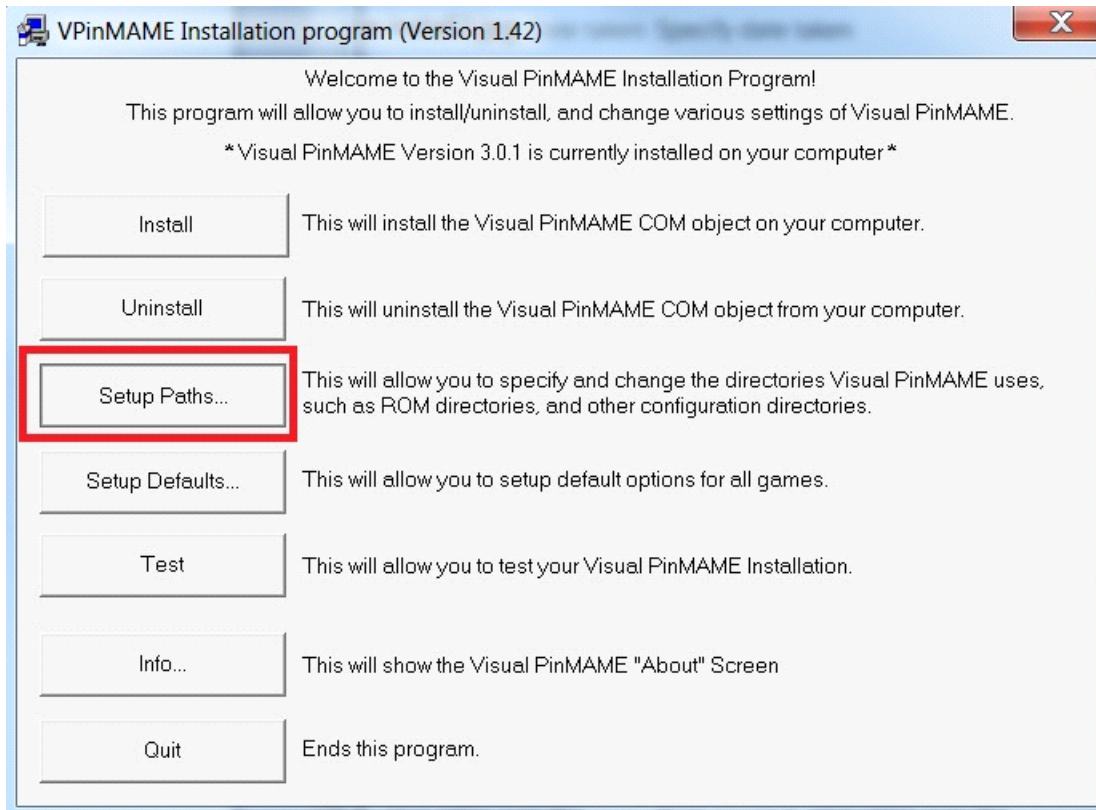
following screen (shown below) instead of the one above, please try to extract VPINMAME_Cabinet_Build.zip to the Vpinmame folder again.

64Bit Windows: C:\Program Files (x86)\Visual Pinball\VPinMame

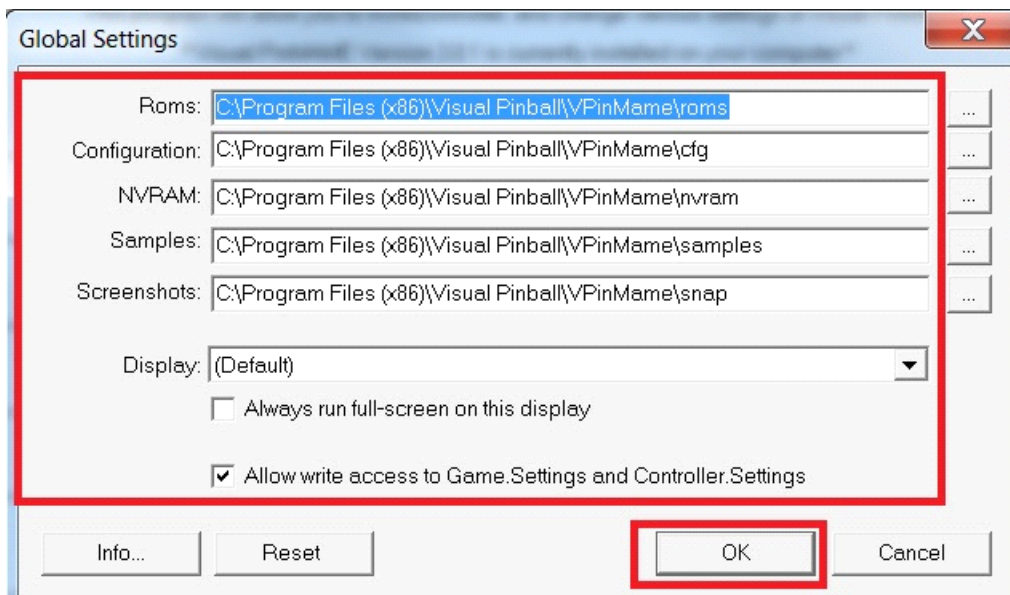
32Bit Windows: C:\Program Files\Visual Pinball\VPinMame



Now that you have the newest build of VPInMame installed **click on Setup Paths**



Make sure that all the paths are correct for your current installation. The Example shown below is for the default installation and is correct if you haven't changed the default installation folder. If everything is correct then Pres OK.



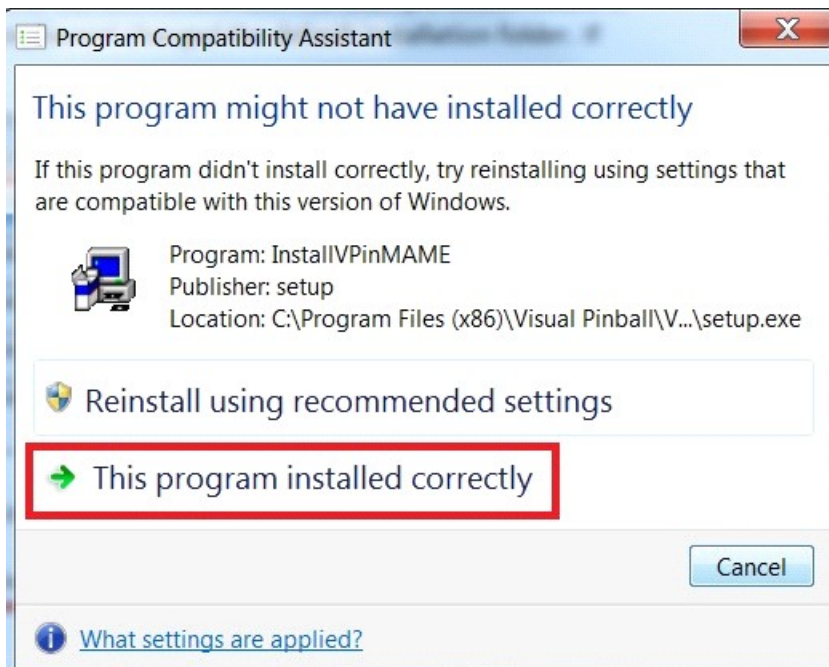
Just remember to place all the VpinMame roms into the correct folder

64Bit Windows: C:\Program Files (x86)\Visual Pinball\VPinMame\Roms

32Bit Windows: C:\Program Files\Visual Pinball\VPinMame\Roms

Each table will need the correct rom in order for the Table / DMD to work correctly. You can download the rom files needed to run each game from <http://www.ipdb.org/>

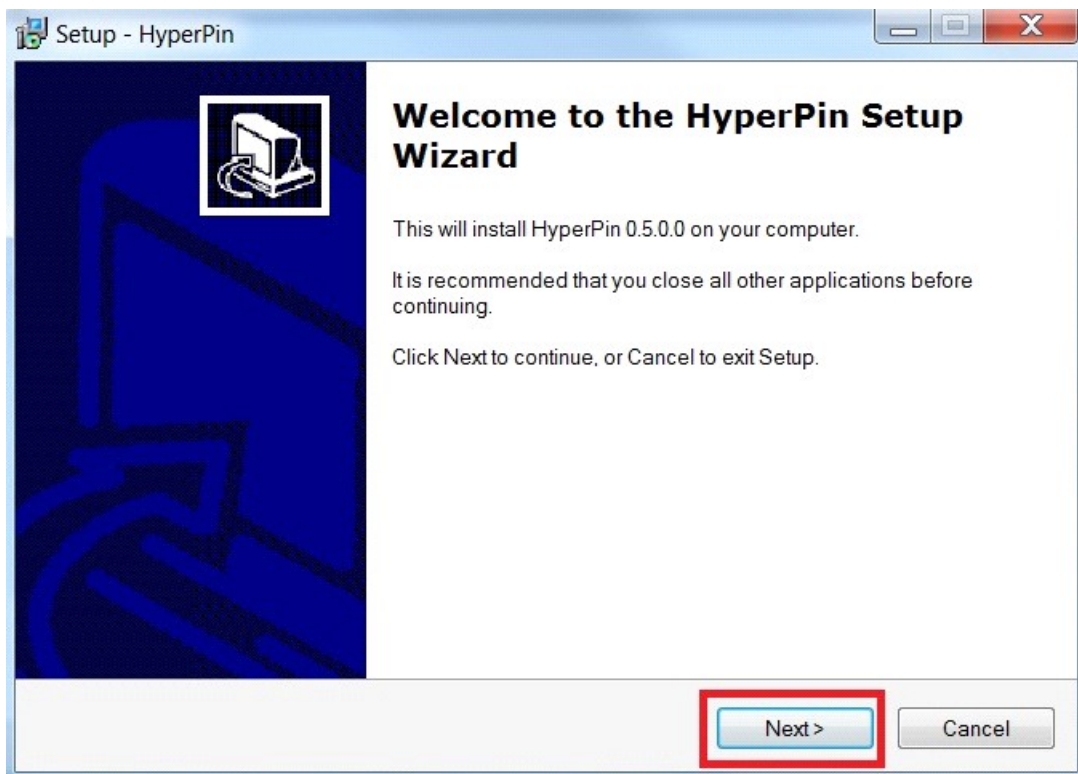
VPinMame is now setup and ready to rock and roll. If you for some reason you see the below image have no fear, nothing is wrong. **Just press This program installed correctly**, you just need to set the compatibility mode to Windows XP (Service Pack 3) (shown at the start of this section) and that should fix this problem.

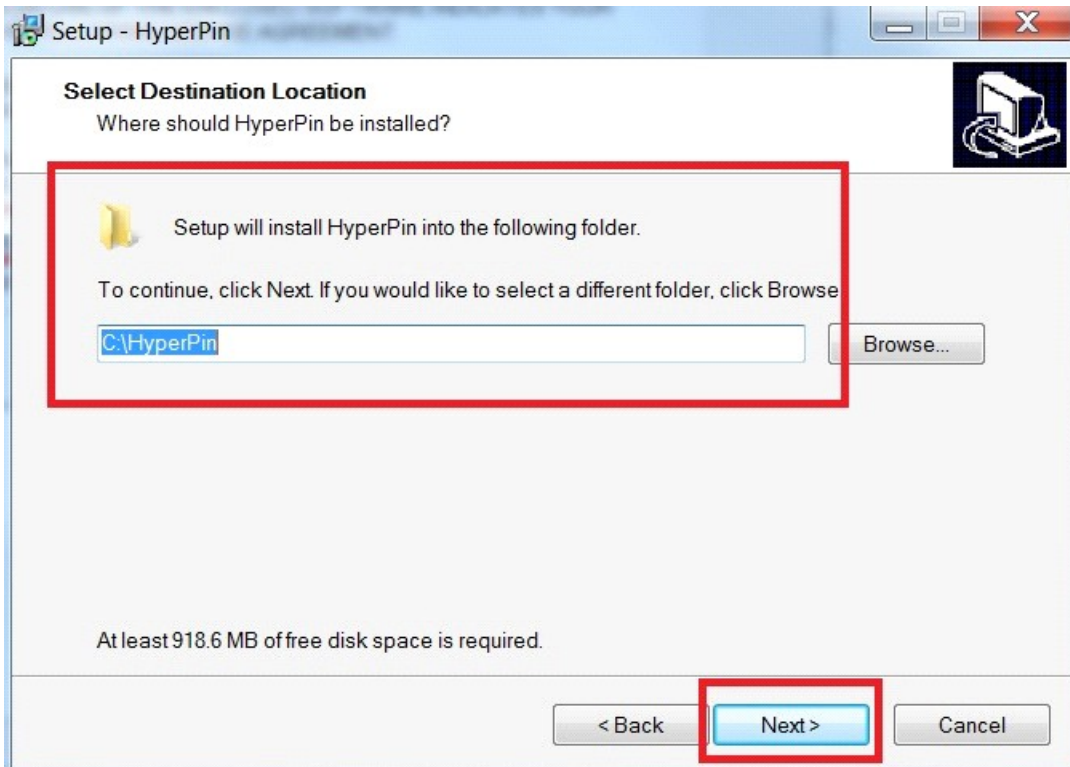
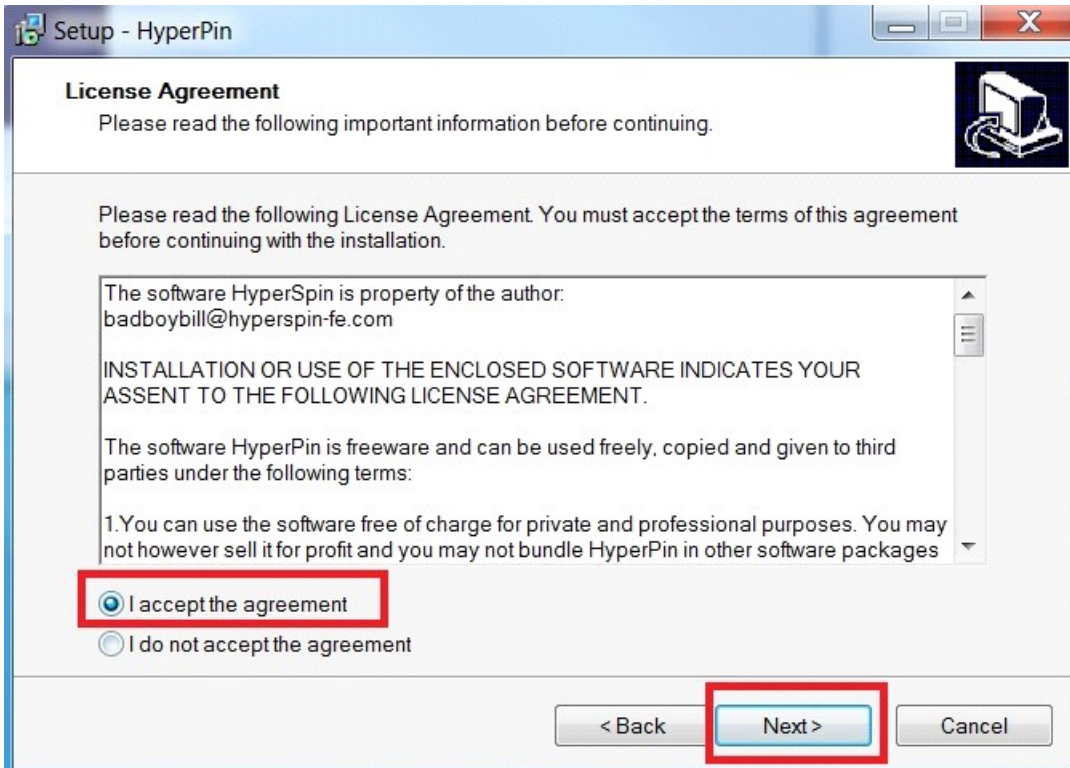


Step 5: Installing HyperPin

Find the location that you saved **setup_hyperpin.exe** to and **open it**

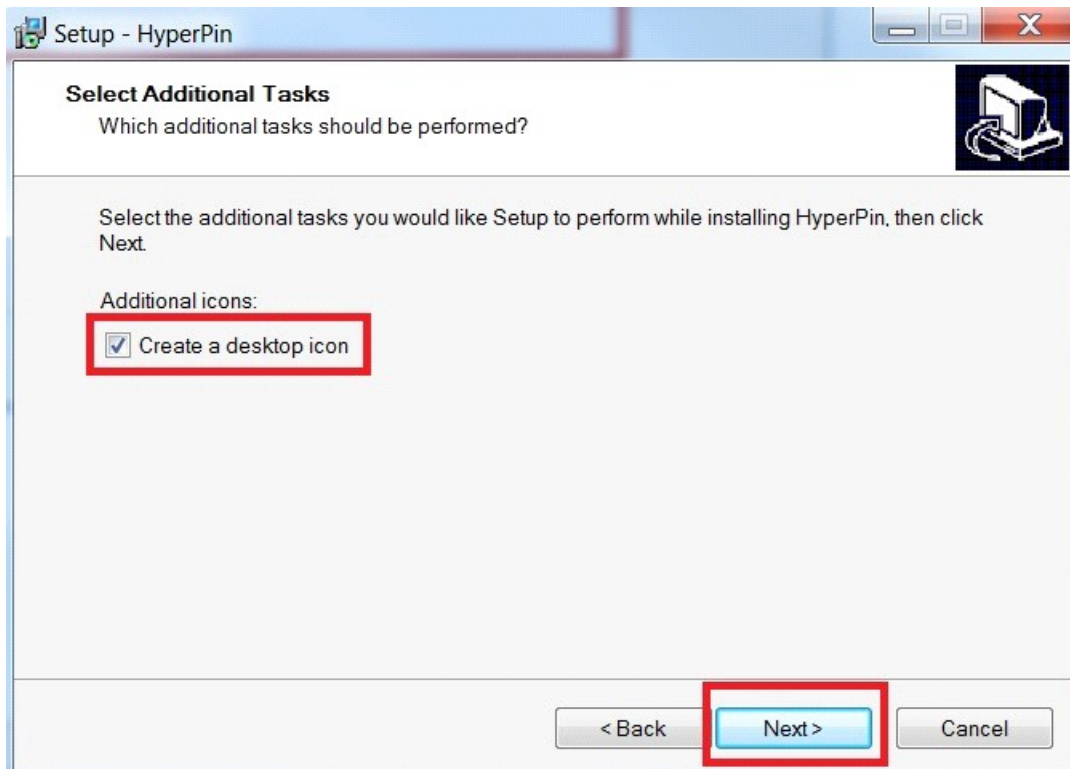
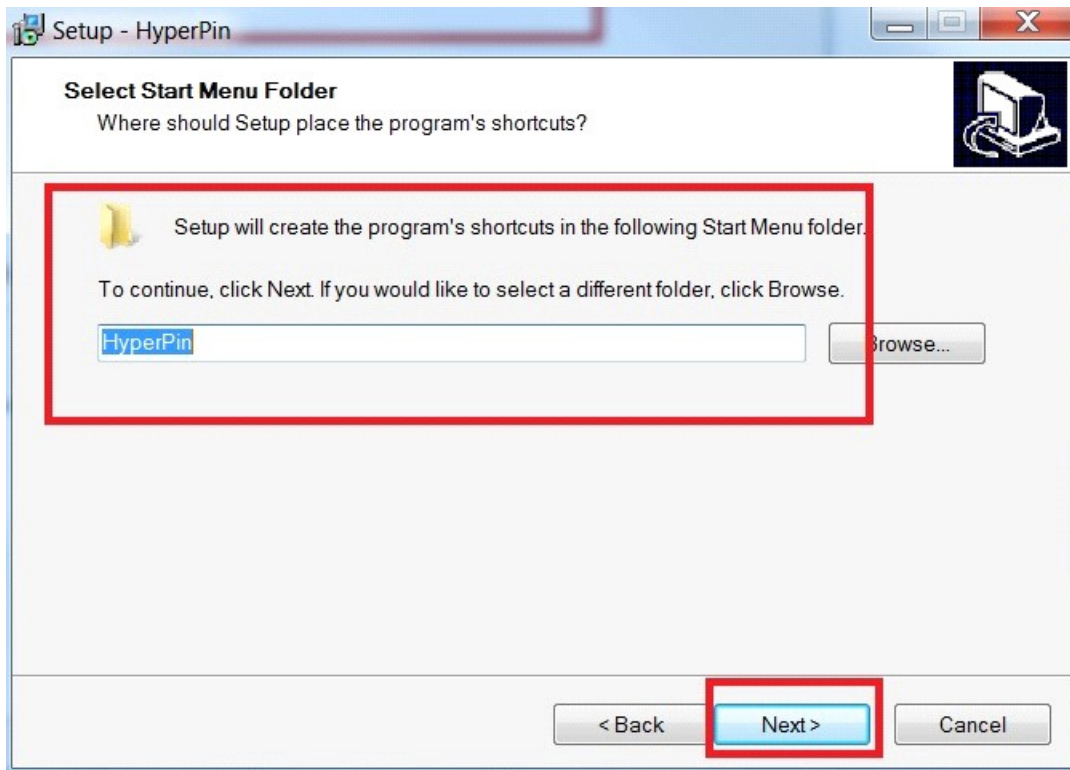
Select your Language and press OK



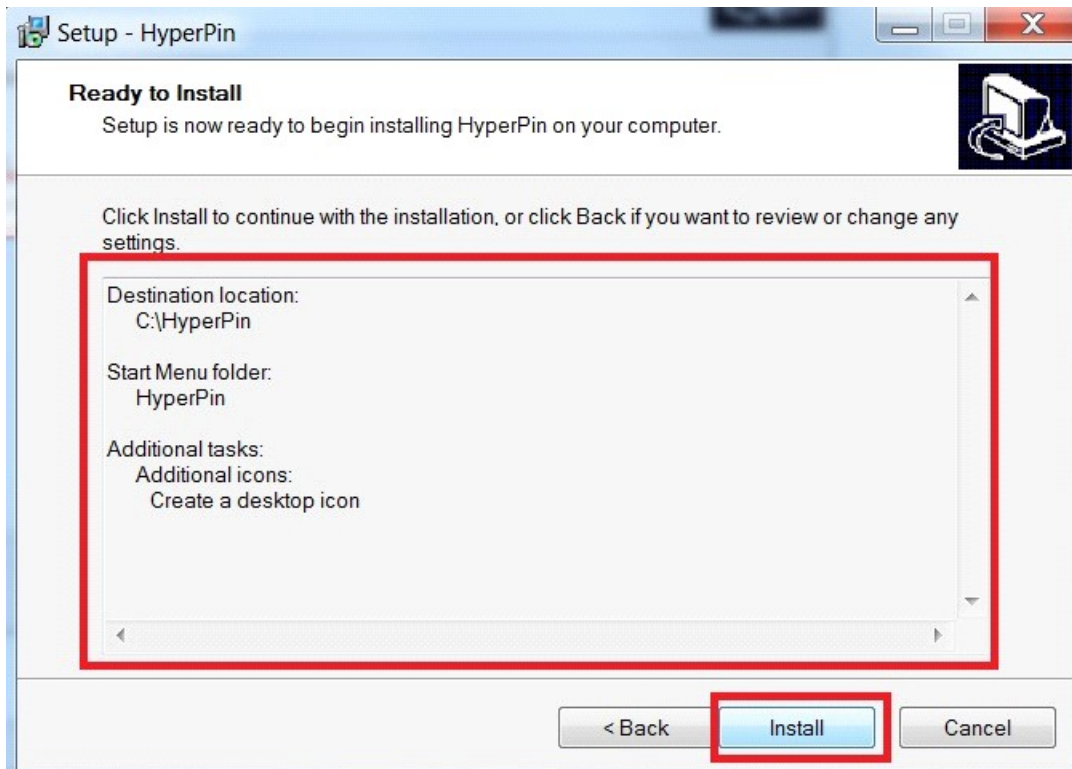


Do NOT change this destination folder, I've found that it doesn't work 100% if you do.

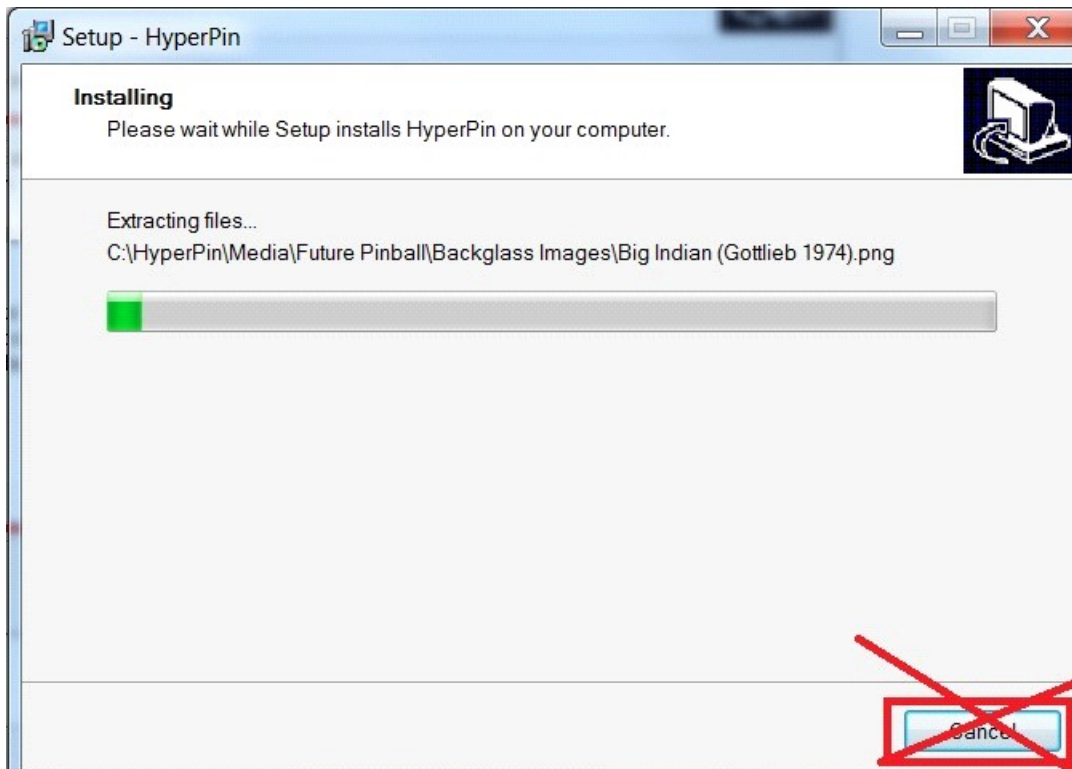
You can change the Shortcut to what ever you would like, for this tutorial we will stick with the default selection. Click **Next**



Make sure everything is correct and click **Install**



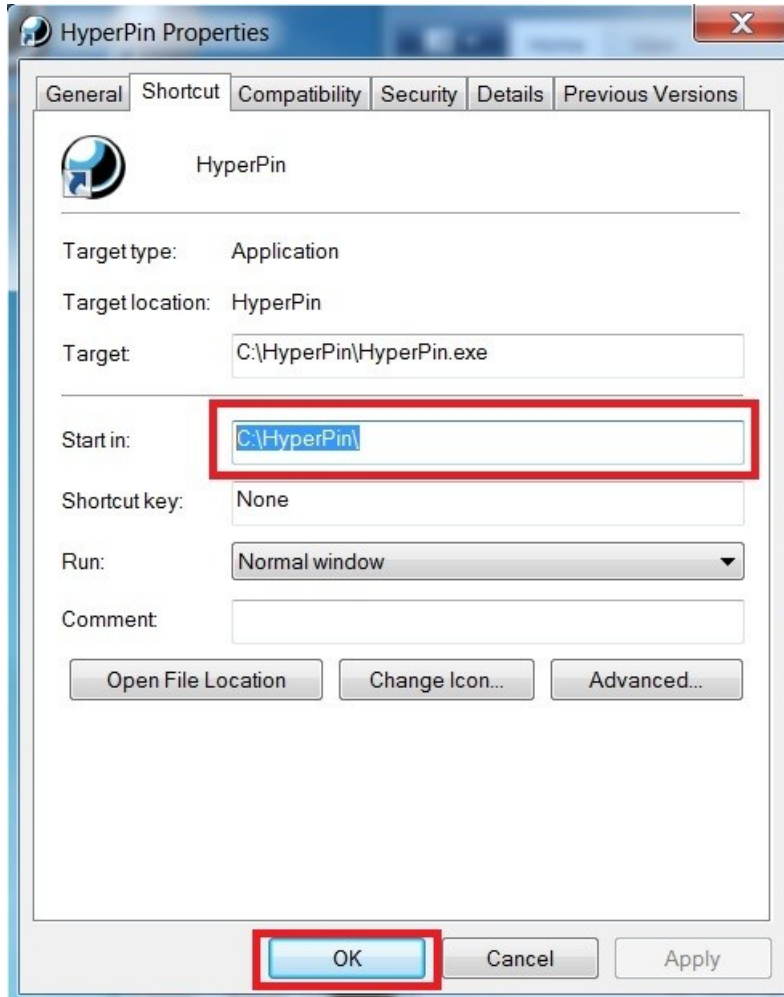
HyperPin will now start installing on your system. This may take a few minutes to complete.



Setup is now Complete. Remove the check mark to launch hyperpin, we don't want to start it yet. and click Finish.



Go onto your desktop and look for the HyperPin shortcut on your Desktop and right click on it and select properties.



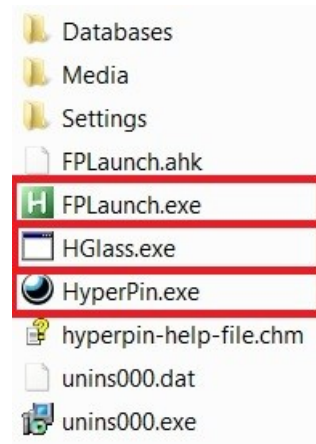
We need to change the Start In folder so that it says **C:\HyperPin**. If we don't do this HyperPin will not load. Once you put that in press **OK**.

Now go into the folder that you just installed Hyperpin in to. You can find it at C:\HyperPin\

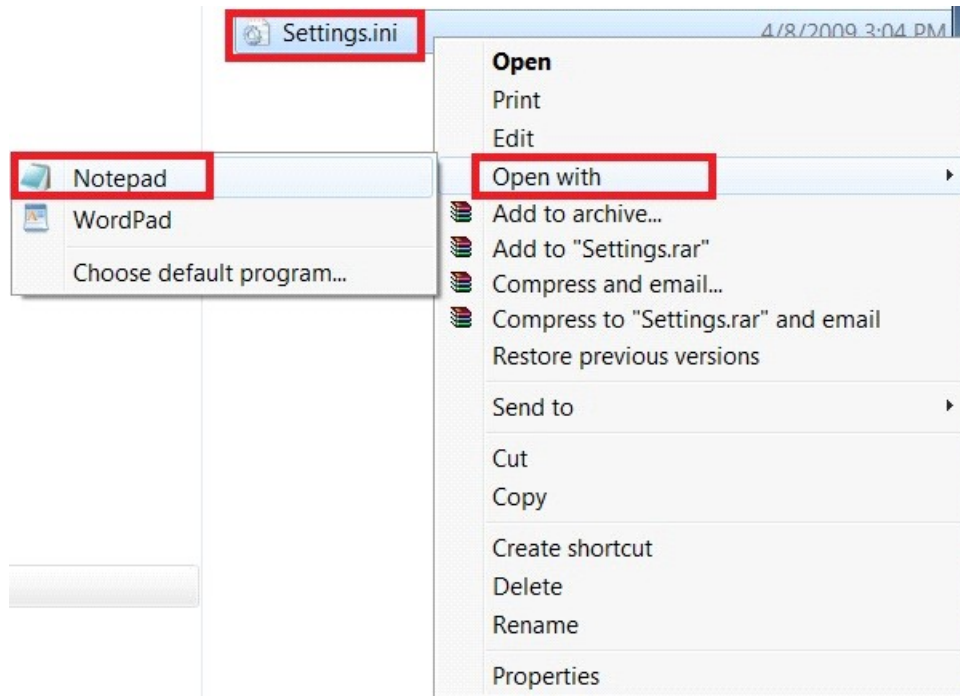
You will see 3 Applications, **FPLaunch.exe**, **HGlass.exe** and **HyperPin.exe**

We are now going to set the compatibility mode for the 3 applications listed above, just like VPinball.exe and VPinMame.exe earlier in this tutorial.

Right Click on one applications at a time and go into properties and then compatibility mode. Make it like the same as we did for the other programs earlier in this tutorial.



Now open the Settings folder in HyperPin, you will see a file called Settings.ini Open this file up with NotePad.



```
[Video]
Playfield_Monitor = Primary
Playfield_Rotation = 270
Backglass_Monitor = Secondary
Quality = BEST
Table_Video_Enabled = true
Table_Video_Offset = 50
Use_Backglass = true
Backglass_Image_x = 0
Backglass_Image_y = 0
Backglass_Image_w = 1280
Backglass_Image_h = 1024
Backglass_Image_r = 0
Backglass_Delay = .1
```

we will now be changing the settings of HyperPin and checking to make sure everything is correct. To the left is an example of what works for my Pinball Machine setup in this tutorial. The only thing I had to change with my settings file was the rotation of the screen and enable Table Video by changing it from False to True.

When you enable Table Videos it will play a short video clip of the table in action when your using the HyperPin front end to select your game. Its a very cool and interesting feature. However Please note that it will eat up more system memory if you enable this feature, I would suggest having at least 4gigs of ram in your system to use this feature without much latency between switching tables to play.

If you still want to use the Table Video feature you can download F4V video files from www.vpforums.org for nearly every single game table. Once you have downloaded your video file, extract the video file to c:\HyperPin\Media\Visual Pinball\Table Videos\

Now we are going to make sure that HyperPin knows where Visual Pinball is. Change the Path name to the correct location for your setup. If your using the defaults with this tutorial it should be changed to:

64Bit Windows: Path = C:\Program Files (x86)\Visual Pinball

64bit Windows: Table_Path = C:\Program Files (x86)\Visual Pinball\Tables

32Bit Windows: Path = C:\Program Files\Visual Pinball

32bit Windows: Table_Path = C:\Program Files\Visual Pinball\Tables

```
[Visual Pinball]
Show Games          = true
Path                = C:\Games\Visual Pinball\           Needs to be changed
Table_Path          = C:\Games\Visual Pinball\Tables\
Table_Video_Path    = C:\HyperPin\Media\Visual Pinball\Table Videos\
Table_Image_Path    = C:\HyperPin\Media\Visual Pinball\Table Images\
Backglass Image Path= C:\HyperPin\Media\Visual Pinball\Backglass Images\
Exe                 = VPinball.exe DO NOT CHANGE THIS LINE
```

OK so thats all you may really want to change, however have a look over the file, its pretty self explanatory. But if you got a questions search the forums and you will hopefully find a answer.

Step 6: Installing UltraVP Server

Find the file UVP_0.6.8.zip that you downloaded and extract its contents to: C:\HyperPin

Now go into the HyperPin folder. We need to move all the files from C:\HyperPin\UVP 0.6.8\ to C:\HyperPin\

Press CTRL+A to select all the files, Now press CTRL+C to copy the files. Go to c:\HyperPin and press CTRL+V to paste the files to the Main HyperPin folder.

We now need to Rename UltraVPServer_0.6.8.exe to UltraVPServer.exe
Once you rename the file, right click on it and select Properties. We are going to change its Compatibility, just like we have done for every other application thus far.

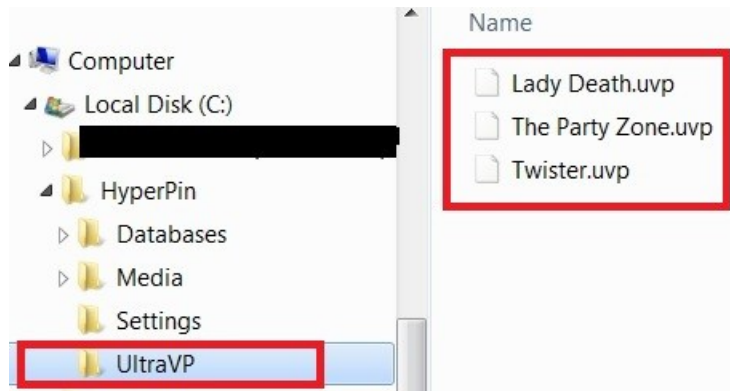
We are now going to Rename the UVP 0.6.8 to UltraVP.
The UltraVP folder is where you will save all your files with the UVP extension.

Once you have done that, launch UltraVPServer.exe

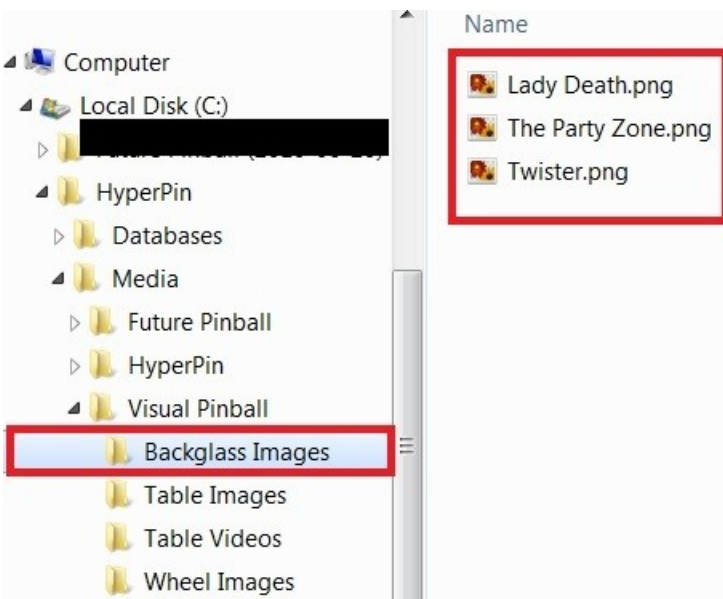
You should only have to launch the program once manually, even after shutting down or restarting your computer. But if you find that the background isn't loading or Animated then try launching and then closing the UltraVP Server program.

Step 7: UVP and associated PNG File Placement

Once you have downloaded your UVP Backglass file you will extract the contents to a Temp folder. You will then Move the files for the correct location.



Place the file with the UVP extension to
C:\HyperPin\UltraVP\



You will need to put the .PNG file to the following Folder:
C:\HyperPin\Media\Visual Pinball\Backglass Images\

OK, so you are putting all the UVP, PNG, table(s) and Rom files all in the correct folders.

UVP Files: C:\HyperPin\UltraVP\

PNG Files: C:\HyperPin\Media\Visual Pinball\Backglass Images\

VpinMAME Roms:

64Bit Windows: C:\Program Files (x86)\Visual Pinball\VPinMame\Roms

32Bit Windows: C:\Program Files\Visual Pinball\VPinMame\Roms

Visual Pinball tables:

64Bit Windows: C:\Program Files (x86)\Visual Pinball\Tables

32Bit Windows: C:\Program Files\Visual Pinball\Tables

Make sure that the .PNG, .UVP and the Table File(s) have the EXACT same name. If not Rename them. You CAN NOT use the "&" character in any names or descriptions. If you do the UltraVP Server will NOT work correctly.

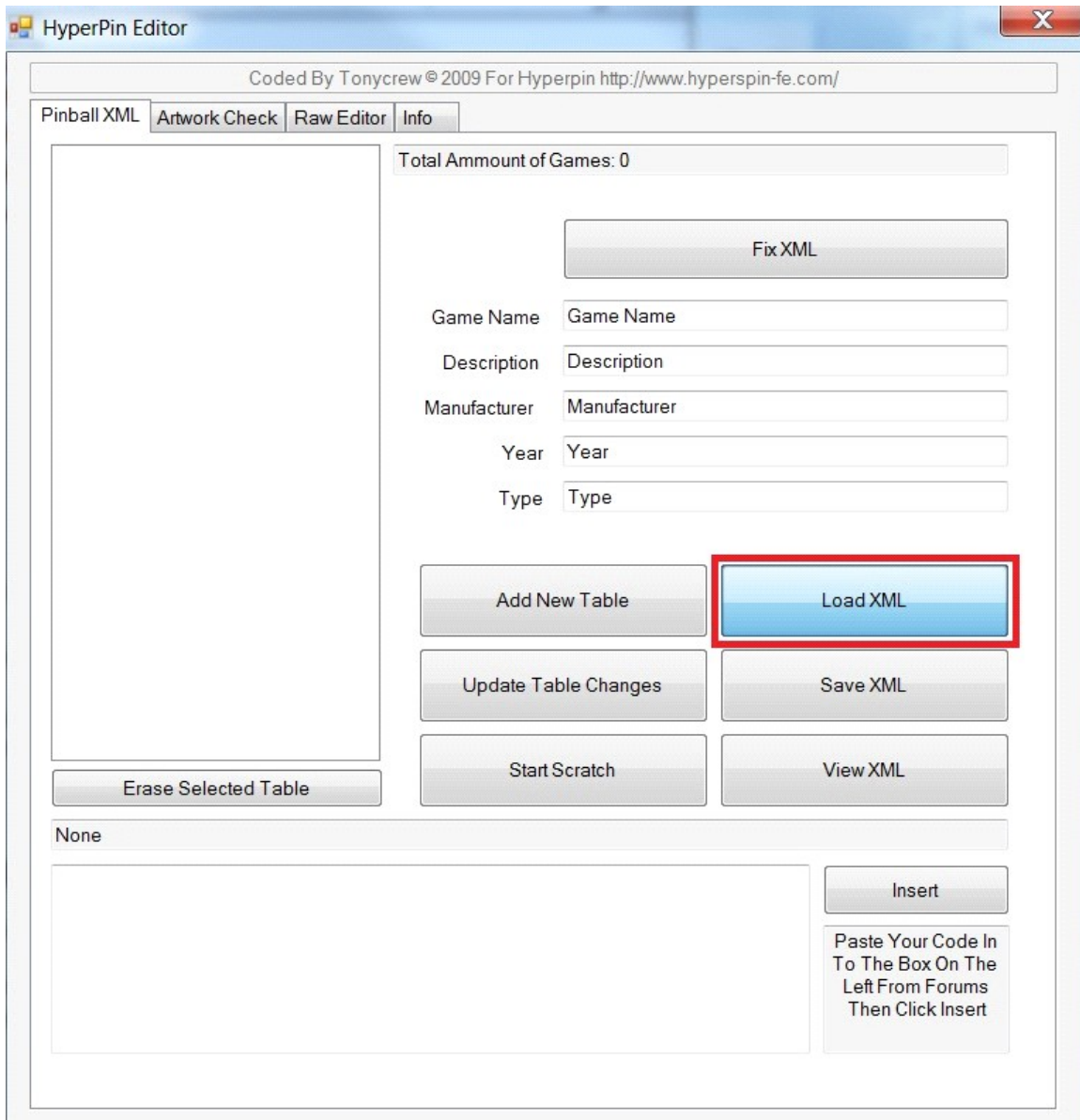
DO NOT RENAME THE ROM FILES

Step 8: HyperPin XML Editor

Locate the Hyperpin_Editor file you downloaded and extract it to <C:\HyperPin>

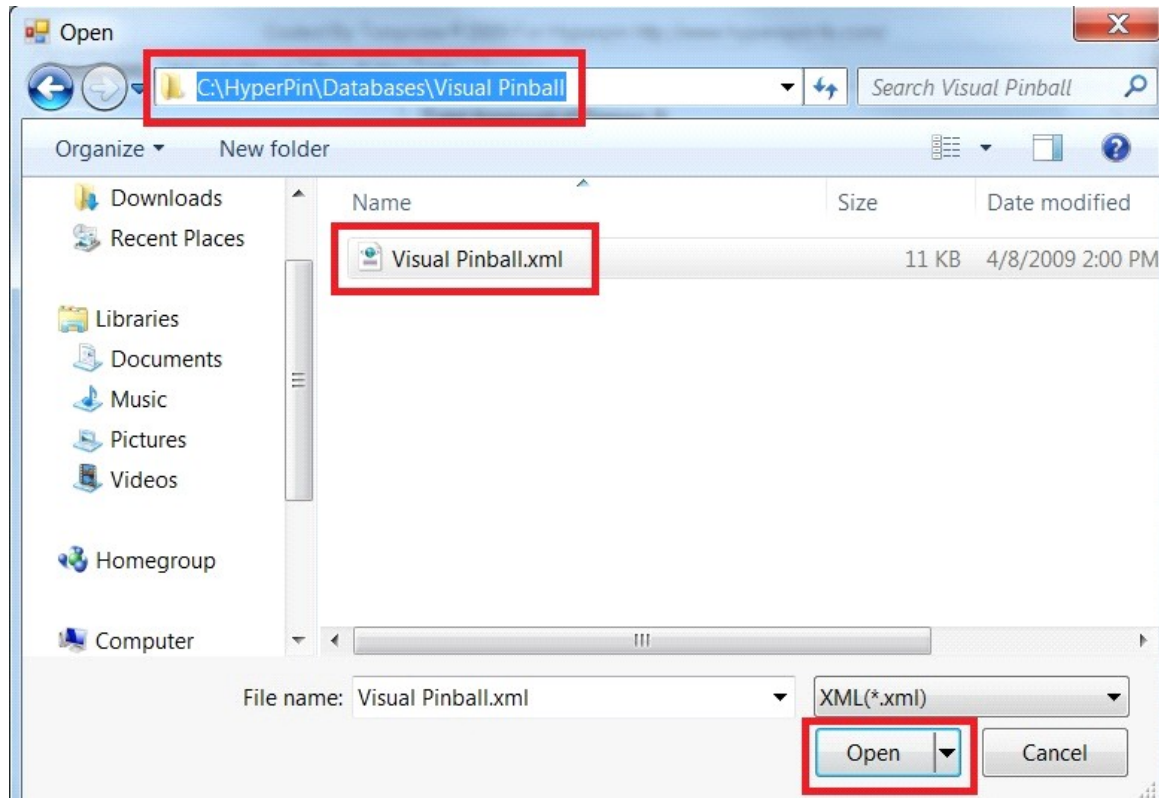
Since you will have downloaded either the 64bit or 32bit version of the program we shouldn't have to run this in compatibility mode. But if you get a strange error message then I would try to change the Compatibility mode or try to download the 32bit version of the program.

Go into the HyperPin folder and launch Hyperpin Editor.exe and click on Load XML



The file you want to load is located in: C:\HyperPin\Databases\Visual Pinball\
There should only be ONE file located in this folder called Visual Pinball.xml Load this file.

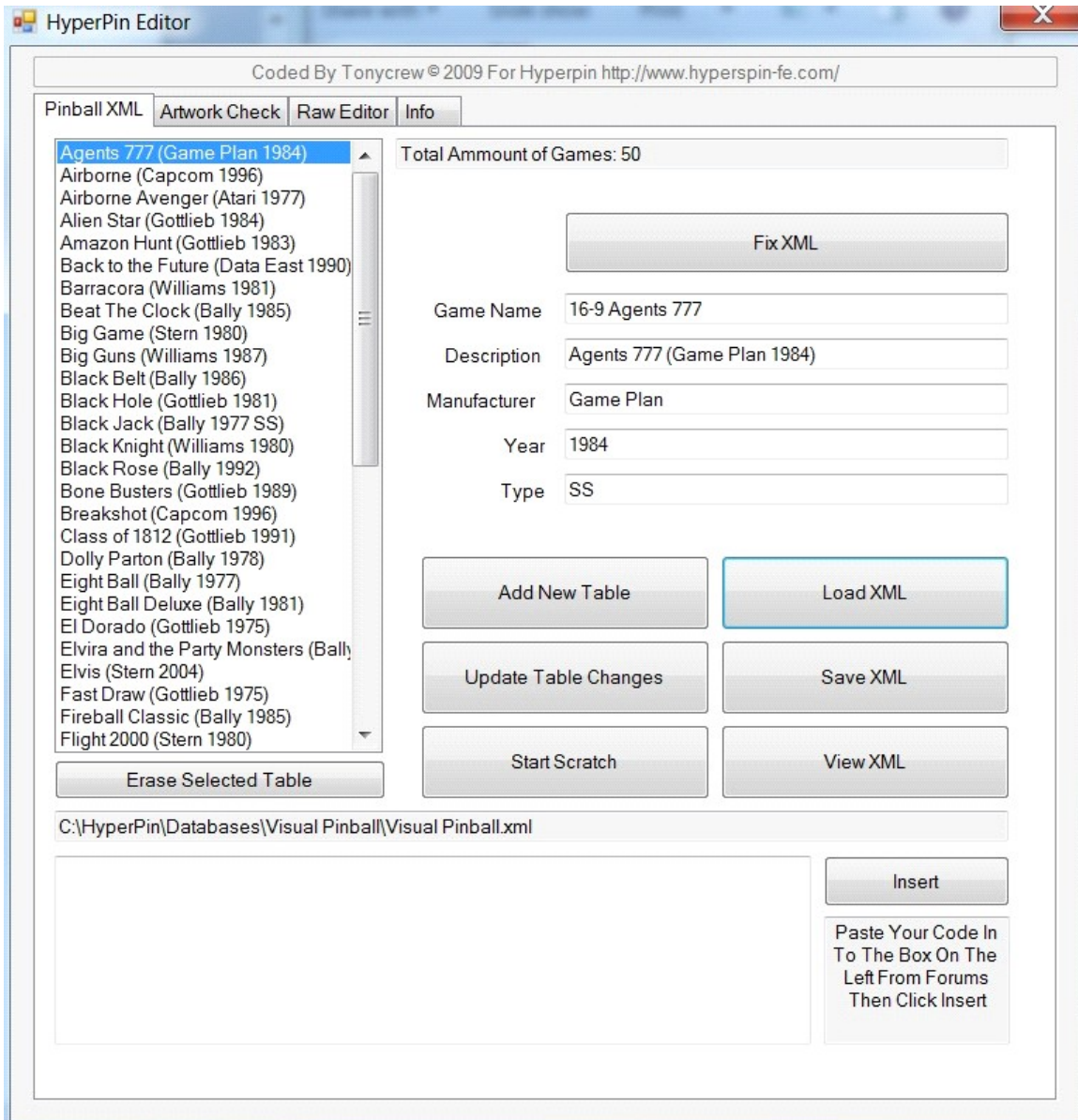
NOTE: There is also a Future Pinball Database located at:
C:\HyperPin\Databases\Future Pinball
This section of the guide can also be applied to editing the Future Pinball Database.



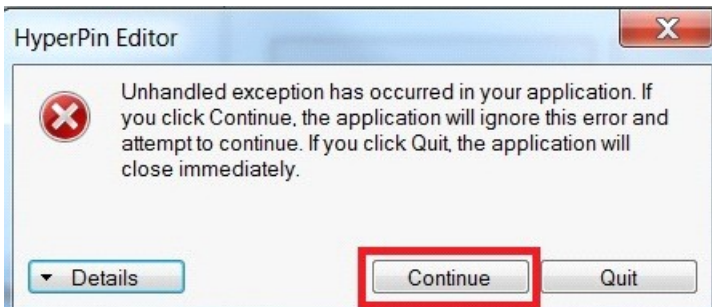
It will then load the list of games. This is a list of games that was around when HyperPin was last updated (from my understanding). Its not a complete list for all the currently released games.

This is the database that HyperPin will use for the list of games to display when you launch HyperPin. It's also the Database that UltraVP Server will use to know what games goes with what UVP / PNG file.

This Database **CAN NOT** contain the **&** character, so take a minute to go through it to make sure. If you find a game with the **&** character **remove it** and **replace with the word and**. **UltraVP will not work correctly if any game in this list has the & character** :(



If for what ever reason you try and remove all the games you will get the following error message pictured below. So to prevent you from gettig this error message try to only delete the games you don't want or don't have. But if you do get it just Press Continue.



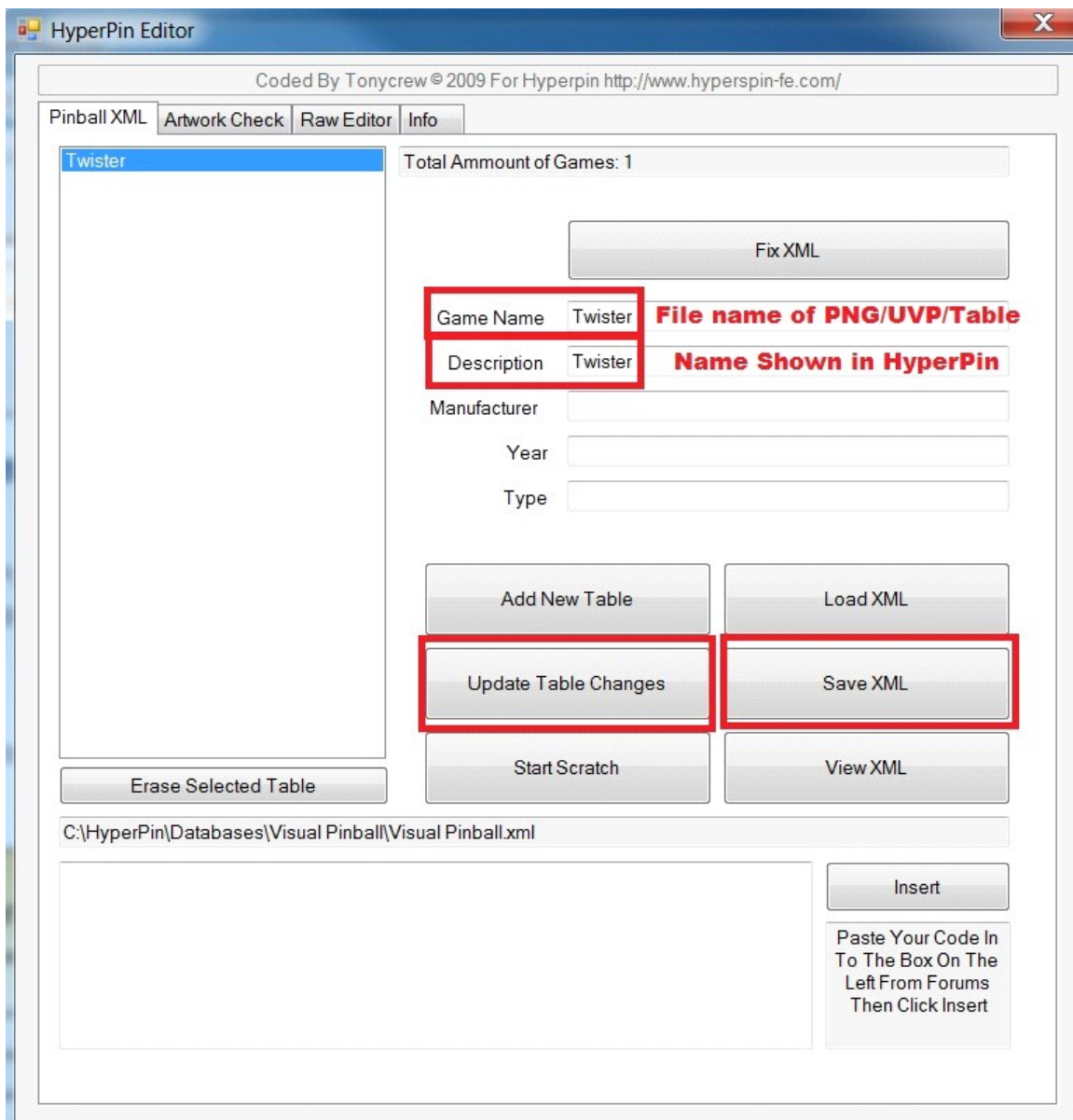
So as you can see by the below image I removed all but one of the games, I did this to make it simple and easy to view. Plus I don't have a lot of games and it just makes it simpler for me to add them as I get them.

The only part of this application you really have to worry about is the Pinball XML section

Game Name: The name of the associated files with the game, Remember the PNG/UVP and Table name must all have the same file name and be in the correct folder.

Description: This is what you will see in HyperPin (If you decide to use it)

once you complete this Press Update Table Changes or Add New Table (what ever the case may be) and then Save XML. Replace your existing file. Once you complete this close the program. This process will have to be repeated for Every single game you wish to use the UVP Backglass as well as games you wish to have Show up in HyperPin.



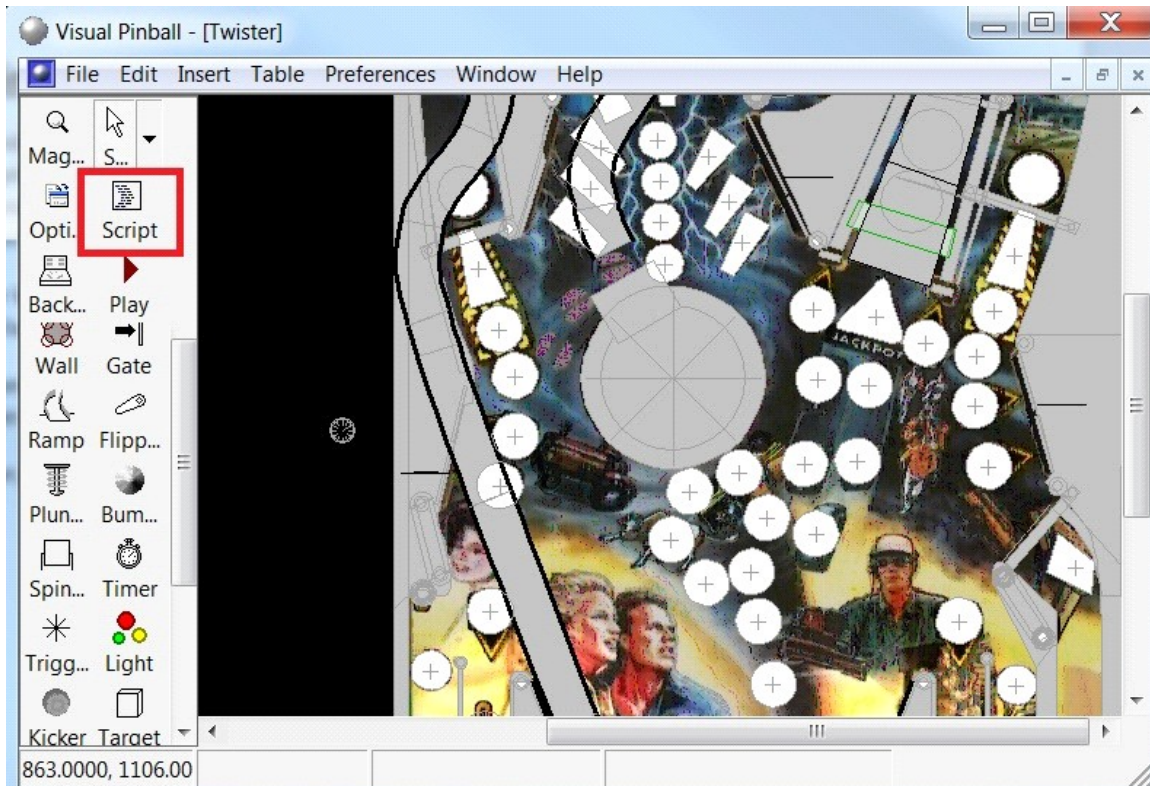
Step 9: Editing the Game Script **for a game with a DMD**

Ok, don't be afraid. It's not as bad as it sounds (and no, you don't have to know anything about programming to get this done). I haven't programmed anything since the days of QBasic in High School some 15 years ago and even then I couldn't program anything better than getting "Hello World" to come on the screen. :)

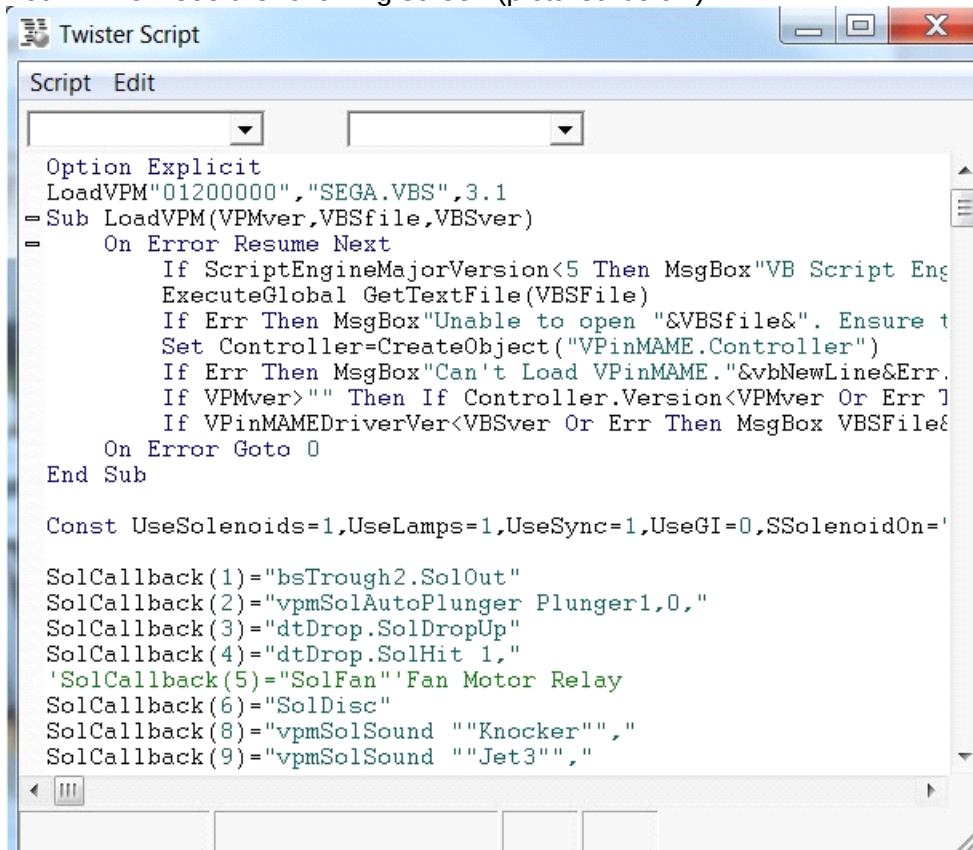
Please Launch the Visual Pinball program, there should be a shortcut on your desktop. If not then go into the Visual Pinball folder and launch Vpinball.exe.

Click on File -> Open locate the table you wish to start playing/editing. In the case of this tutorial we are going to do Twister.

Once you have the game open click on Script



You will now see the following screen (pictured below).



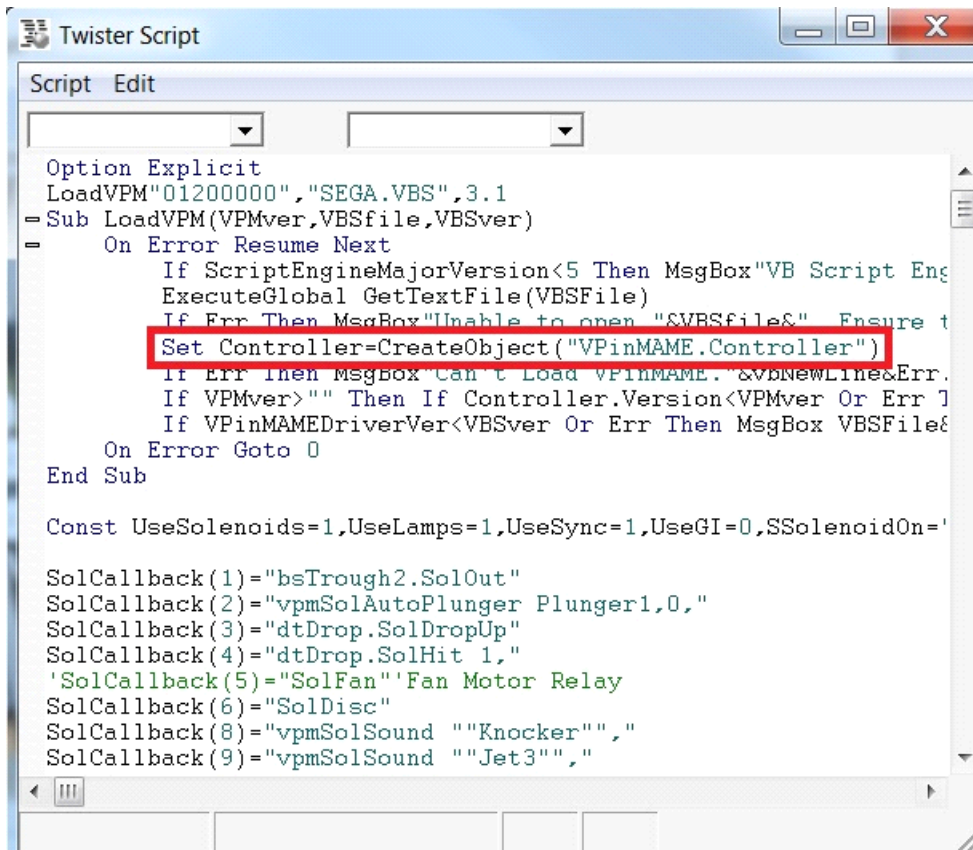
The screenshot shows a window titled "Twister Script" with a "Script Edit" menu. The code in the editor is as follows:

```
Option Explicit
LoadVPM"01200000","SEGA.VBS",3.1
=Sub LoadVPM(VPMver,VBSfile,VBSver)
=   On Error Resume Next
      If ScriptEngineMajorVersion<5 Then MsgBox"VB Script Eng
ExecuteGlobal GetTextFile(VBSFile)
      If Err Then MsgBox"Unable to open "&VBSfile&". Ensure t
Set Controller=CreateObject("VPinMAME.Controller")
      If Err Then MsgBox"Can't Load VPinMAME."&vbNewLine&Err.
      If VPMver>"" Then If Controller.Version<VPMver Or Err 1
      If VPinMAMEDriverVer<VBSver Or Err Then MsgBox VBSFile&
   On Error Goto 0
End Sub

Const UseSolenoids=1,UseLamps=1,UseSync=1,UseGI=0,SSolenoidOn='

SolCallback(1)="bsTrough2.SolOut"
SolCallback(2)="vpmSolAutoPlunger Plunger1,0,"
SolCallback(3)="dtDrop.SolDropUp"
SolCallback(4)="dtDrop.SolHit 1,"
'SolCallback(5)="SolFan"'Fan Motor Relay
SolCallback(6)="SolDisc"
SolCallback(8)="vpmSolSound ""Knocker"","
SolCallback(9)="vpmSolSound ""Jet3"","
```


So what we need to do now is look for where it calls for **VpinMame.Controller**
(See below image)



```
Twister Script
Script Edit
Option Explicit
LoadVPM"01200000","SEGA.VBS",3.1
=Sub LoadVPM(VPMver,VBSfile,VBSver)
=  On Error Resume Next
    If ScriptEngineMajorVersion<5 Then MsgBox"VB Script Engine
ExecuteGlobal GetTextFile(VBSfile)
    If Err Then MsgBox"Unable to open "&VBSfile&" Ensure t
Set Controller=CreateObject("VPinMAME.Controller")
    If Err Then MsgBox"Can't Load VPinMAME."&vbNewLine&Err.
    If VPMver>"" Then If Controller.Version<VPMver Or Err 1
    If VPinMAMEDriverVer<VBSver Or Err Then MsgBox VBSfile&
    On Error Goto 0
End Sub

Const UseSolenoids=1,UseLamps=1,UseSync=1,UseGI=0,SSolenoidOn='

SolCallback(1)="bsTrough2.SolOut"
SolCallback(2)="vpmSolAutoPlunger Plunger1,0,"
SolCallback(3)="dtDrop.SolDropUp"
SolCallback(4)="dtDrop.SolHit 1,"
'SolCallback(5)="SolFan"Fan Motor Relay
SolCallback(6)="SolDisc"
SolCallback(8)="vpmSolSound "Knocker",""
SolCallback(9)="vpmSolSound "Jet3",""
```

What we need to do now is **replace VPinMAME.Controller with UltraVP.BackglassServ** you will also need to remove a few lines of the script. By doing this we will get rid of the Error messages that would pop up and cause you more problems.

Remove the following lines from the script.

If Err Then MsgBox"Can't Load VPinMAME."&vbNewLine&Err.Description

**If VPMver>"" Then If Controller.Version<VPMver Or Err Then
MsgBox"VPinMAME ver "&VPMver&" required.":Err.Clear**

**If VPinMAMEDriverVer<VBSver Or Err Then MsgBox VBSfile&" ver "&VBSver&"
or higher required."**

(See Image Below for the lines to remove)

```
Option Explicit
LoadVPM"01200000", "SEGA.VBS", 3.1
=Sub LoadVPM(VPMver,VBSfile,VBSver)
=  On Error Resume Next
    If ScriptEngineMajorVersion<5 Then MsgBox"VB Script Engine
ExecuteGlobal GetTextFile(VBSFile)
If Err Then MsgBox"Unable to open "&VBSfile&". Ensure
Set Controller=CreateObject("VPinMAME.Controller")
If Err Then MsgBox"Can't Load VPinMAME."&vbNewLine&Error: VPMver > '
Then If Controller.Version < VPMver Or Err
If VPinMAMEDriverVer < VBSver Or Err Then MsgBox VBSFile
    On Error Goto 0
End Sub

Const UseSolenoids=1,UseLamps=1,UseSync=1,UseGI=0,SSolenoidOn="Sc

SolCallback(1)="bsTrough2.SolOut"
SolCallback(2)="vpmSolAutoPlunger Plunger1,0,"
SolCallback(3)="dtDrop.SolDropUp"
SolCallback(4)="dtDrop.SolHit 1,"
'SolCallback(5)="SolFan" Fan Motor Relay
SolCallback(6)="SolDisc"
SolCallback(8)="vpmSolSound "Knock" "
```

your script should now look like this (See Below Image)

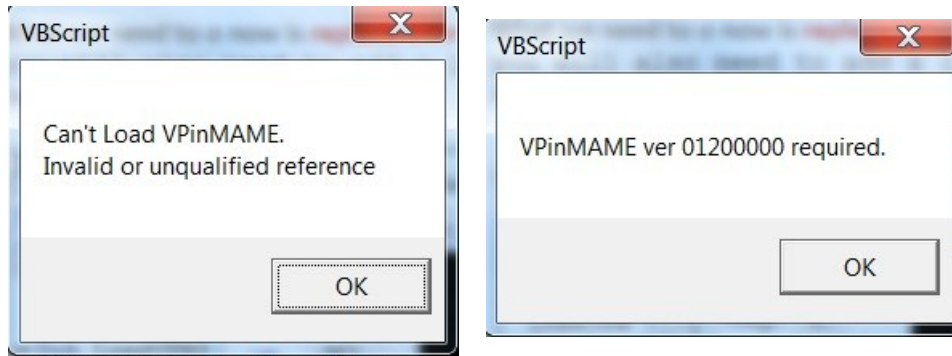
```
Option Explicit
LoadVPM"01200000", "SEGA.VBS", 3.1
=Sub LoadVPM(VPMver,VBSfile,VBSver)
=  On Error Resume Next
    If ScriptEngineMajorVersion < 5 Then MsgBox "VB Script Engine
ExecuteGlobal GetTextFile(VBSFile)
    If Err Then MsgBox "Unable to open "&VBSfile&". Ensure the
Set Controller=CreateObject("UltraVP.BackglassServ")

    On Error Goto 0
End Sub

Const UseSolenoids=1,UseLamps=1,UseSync=1,UseGI=0,SSolenoidOn="Sc

SolCallback(1)="bsTrough2.SolOut"
SolCallback(2)="vpmSolAutoPlunger Plunger1,0,"
SolCallback(3)="dtDrop.SolDropUp"
SolCallback(4)="dtDrop.SolHit 1,"
'SolCallback(5)="SolFan" Fan Motor Relay
SolCallback(6)="SolDisc"
SolCallback(8)="vpmSolSound "Knock" "
```

If you don't remove the lines I mentioned above from the script then you may see the following error messages when you try and play the table. (See Below Images)

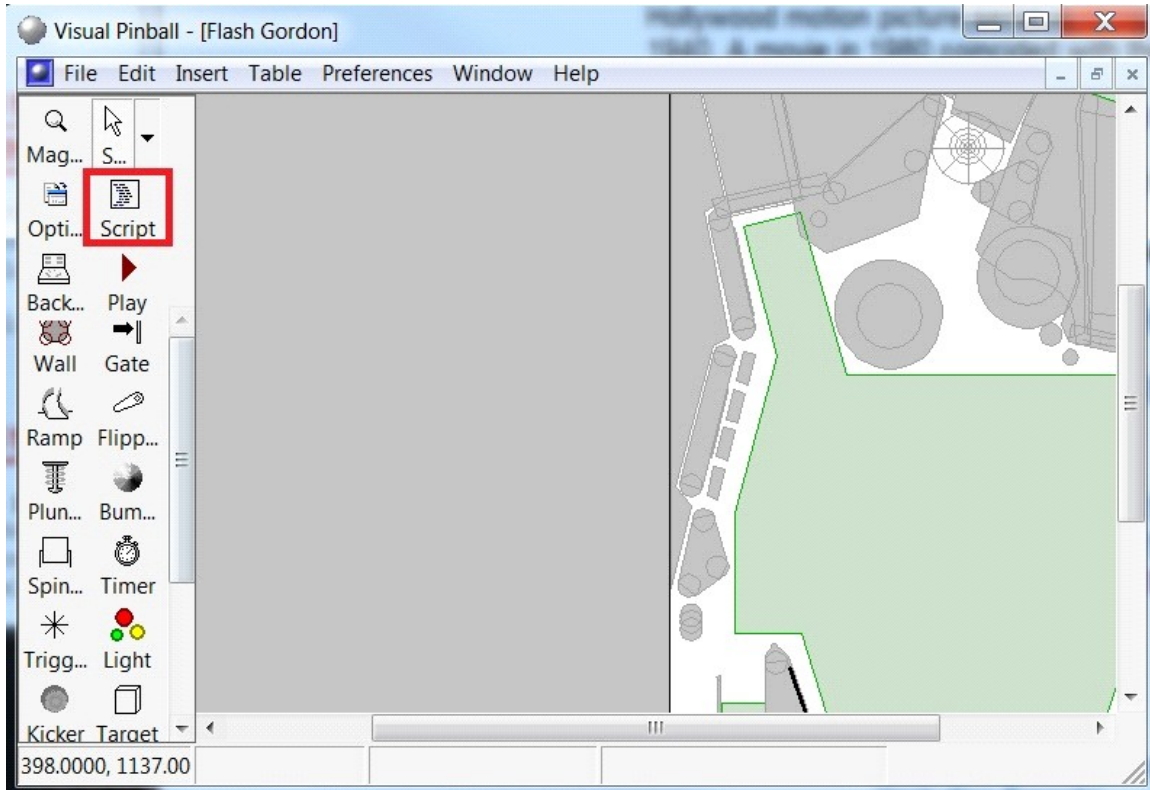


That's it, the game Twister should now work and play with a animated UVP backglass. This example could be applied to most games with a Standard DMD. However Older games that DO NOT have a DMD and instead use simple score area need a little more Work and we will explain that process next.

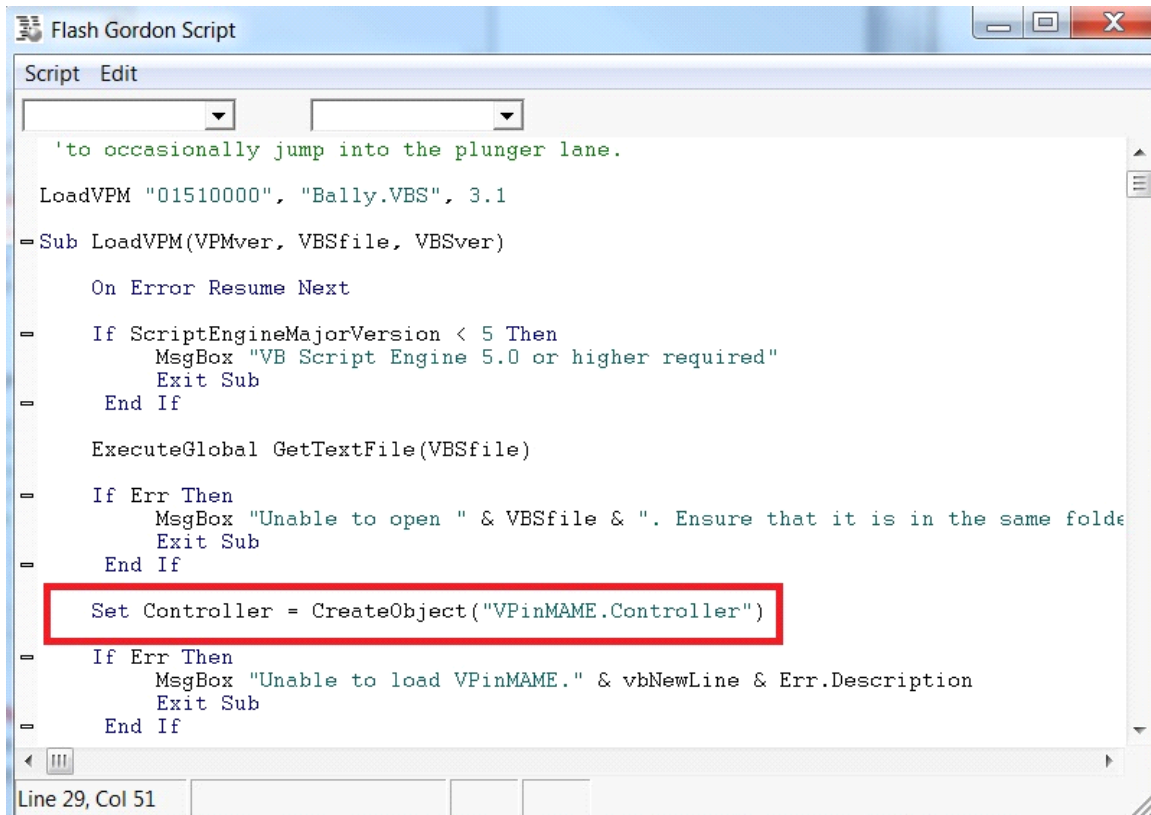
Step 10: Editing the game script for a NON DMD game table

For this example we are going to use the game table Flash Gordon
Load up the game table into Visual Pinball File-> Open and select
Flash Gordon.

Click on the script option on the left hand side, just like we
did with Twister.



What we need to do now is **replace VPinMAME.Controller with UltraVP.BackglassServ**



```
Flash Gordon Script
Script Edit
'to occasionally jump into the plunger lane.
LoadVPM "01510000", "Bally.VBS", 3.1
-Sub LoadVPM(VPMver, VBSfile, VBSver)
    On Error Resume Next
-    If ScriptEngineMajorVersion < 5 Then
        MsgBox "VB Script Engine 5.0 or higher required"
        Exit Sub
-    End If
    ExecuteGlobal GetTextFile(VBSfile)
-    If Err Then
        MsgBox "Unable to open " & VBSfile & ". Ensure that it is in the same folder"
        Exit Sub
-    End If
    Set Controller = CreateObject("VPinMAME.Controller")
-    If Err Then
        MsgBox "Unable to load VPinMAME." & vbNewLine & Err.Description
        Exit Sub
-    End If
Line 29, Col 51
```

You will also need to remove a few lines of the script. By doing this we will get rid of the Error messages that would pop up and cause you more problems.

Remove the following lines from the script.

```
    If Err Then
MsgBox "Unable to load VPinMAME." & vbNewLine & Err.Description
Exit Sub
End If
If VPMver > "" Then
If Controller.Version < VPMver Or Err Then
MsgBox "This table requires VPinMAME ver " & VPMver & " or higher."
Exit Sub
End If
If VPinMAMEDriverVer < VBSver Or Err Then
MsgBox "This table requires " & VBSfile & " ver " & VBSver & " or
higher."
Exit Sub
End If
```

See Image Below for the lines to remove.


```
Flash Gordon* Script
Script Edit
- If Err Then
  MsgBox "Unable to open " & VBSfile & ". Ensure that it is in the
  Exit Sub
- End If

Set Controller = CreateObject("UltraVP.BackglassServ")

+ If Err Then
+   MsgBox "Unable to load VPinMAME." & vbNewLine & Err.Description
+   Exit Sub
+ End If

+ If VPMver > "" Then
+   If Controller.Version < VPMver Or Err Then
+     MsgBox "This table requires VPinMAME ver " & VPMver & " or hi
+     Exit Sub
+   End If
+ End If

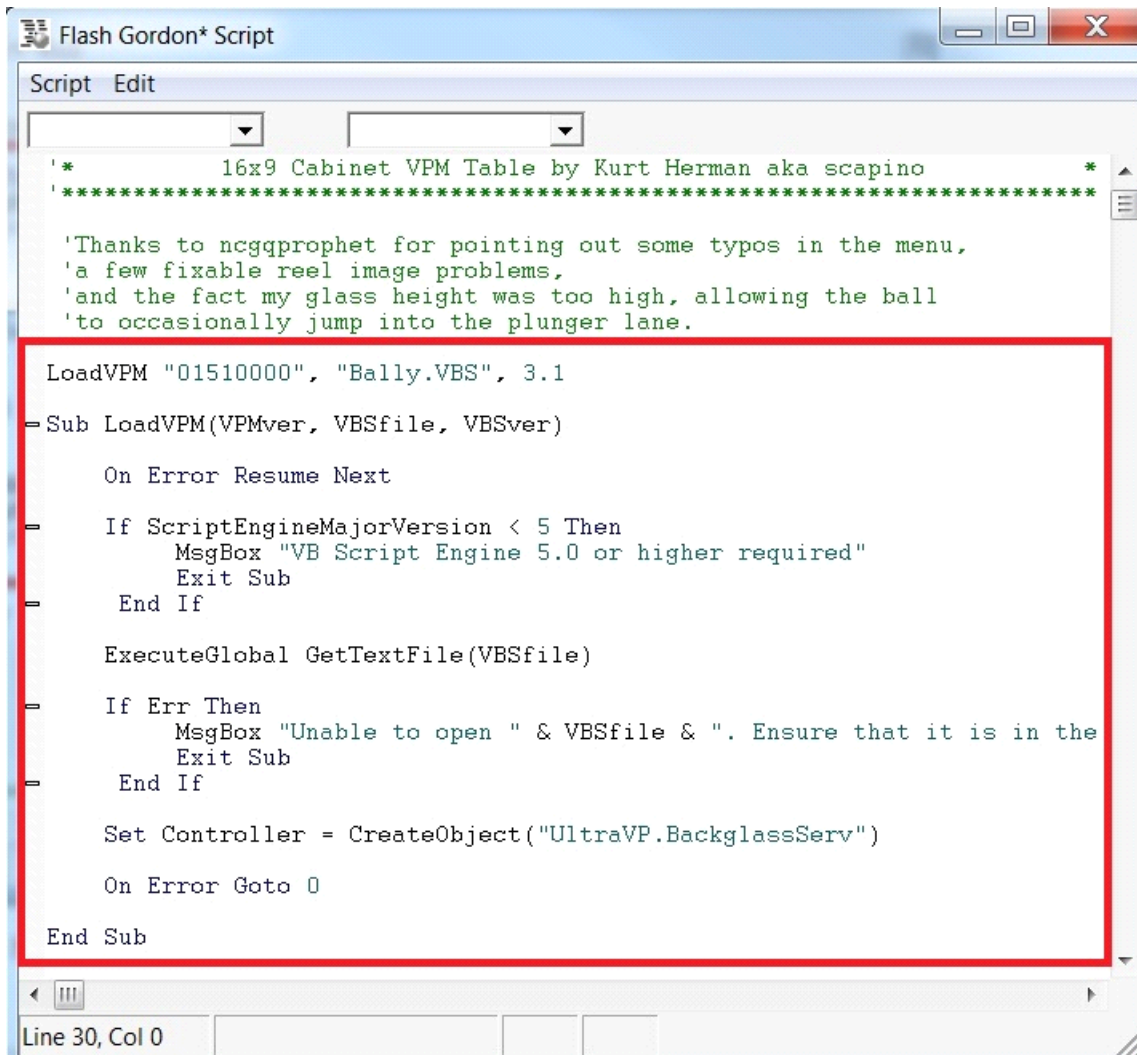
+ If VPinMAMEDriverVer < VBSver Or Err Then
+   MsgBox "This table requires " & VBSfile & " ver " & VBSver & " or
+   Exit Sub
+ End If

On Error Goto 0

End Sub

'*****
Line 29, Col 53
```

Your script file should now look like this. (See below Image)



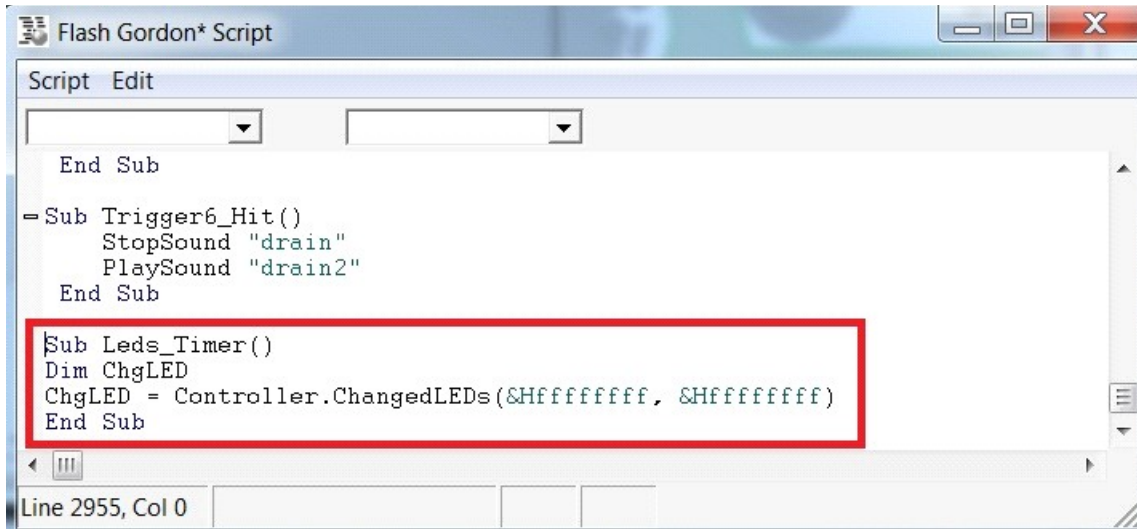
```
Flash Gordon* Script
Script Edit
' *          16x9 Cabinet VPM Table by Kurt Herman aka scapino          *
' *****
' Thanks to ncgqprophet for pointing out some typos in the menu,
' a few fixable reel image problems,
' and the fact my glass height was too high, allowing the ball
' to occasionally jump into the plunger lane.

LoadVPM "01510000", "Bally.VBS", 3.1
=Sub LoadVPM(VPMver, VBSfile, VBSver)
    On Error Resume Next
=    If ScriptEngineMajorVersion < 5 Then
        MsgBox "VB Script Engine 5.0 or higher required"
        Exit Sub
=    End If
    ExecuteGlobal GetTextFile(VBSfile)
=    If Err Then
        MsgBox "Unable to open " & VBSfile & ". Ensure that it is in the
        Exit Sub
=    End If
    Set Controller = CreateObject("UltraVP.BackglassServ")
    On Error Goto 0
End Sub
Line 30, Col 0
```

We now have to scroll all the way to the bottom of the script file and put in the following code, you can just copy and paste it in.

```
Sub Leds_Timer()
Dim ChgLED
ChgLED = Controller.ChangedLEDs(&Hfffffff, &Hfffffff)
End Sub
```

You should see the following once you copy and paste the code into the script.



```
End Sub
=Sub Trigger6_Hit()
  StopSound "drain"
  PlaySound "drain2"
End Sub
Sub Leds_Timer()
  Dim ChgLED
  ChgLED = Controller.ChangedLEDs(&Hffffff, &Hffffff)
End Sub
```

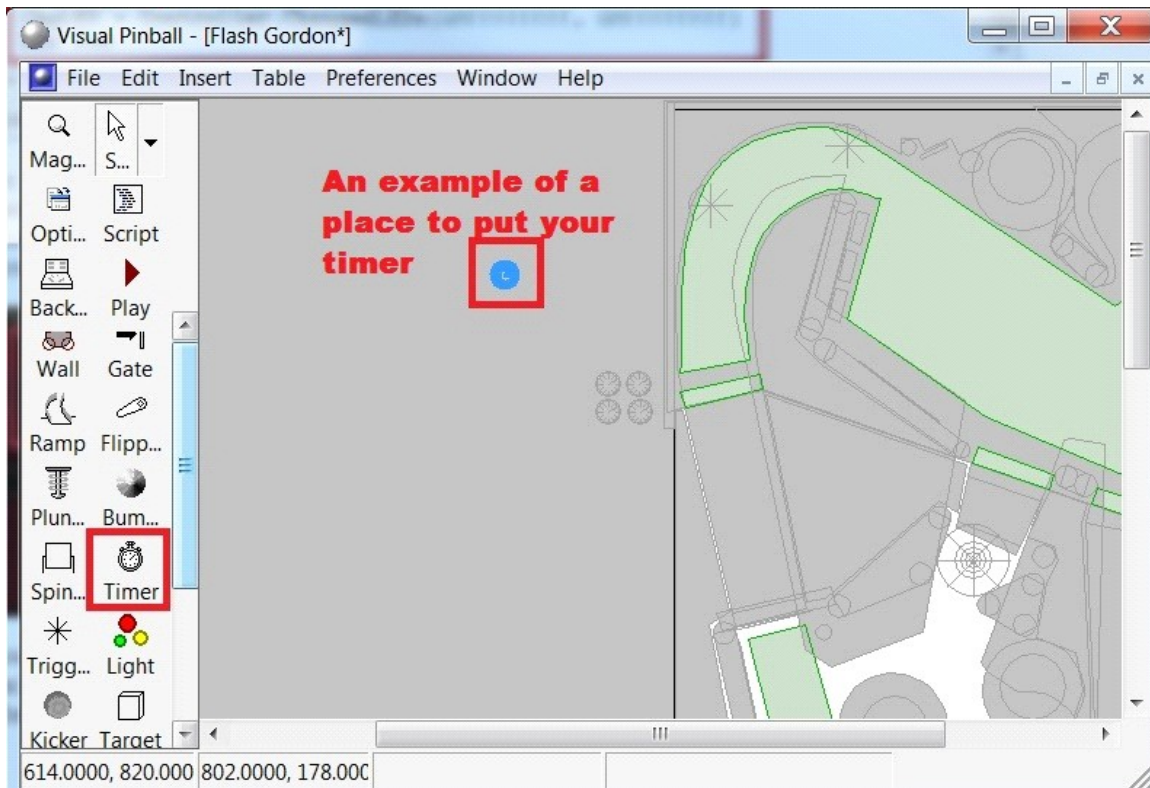
Line 2955, Col 0

So now if we close the script screen and launch the game the animated background will run. However the DMD will not be displaying in the correct location and it will be displaying all 4 Score Spots in the one area. See Below Screen Shot.



Now in order to fix this we have to do the following tweak. Exit the game table, what we need to do is create a timer on the side of the game field (any location, just not on the table itself)

Click on the Timer button and place the timer near the table.

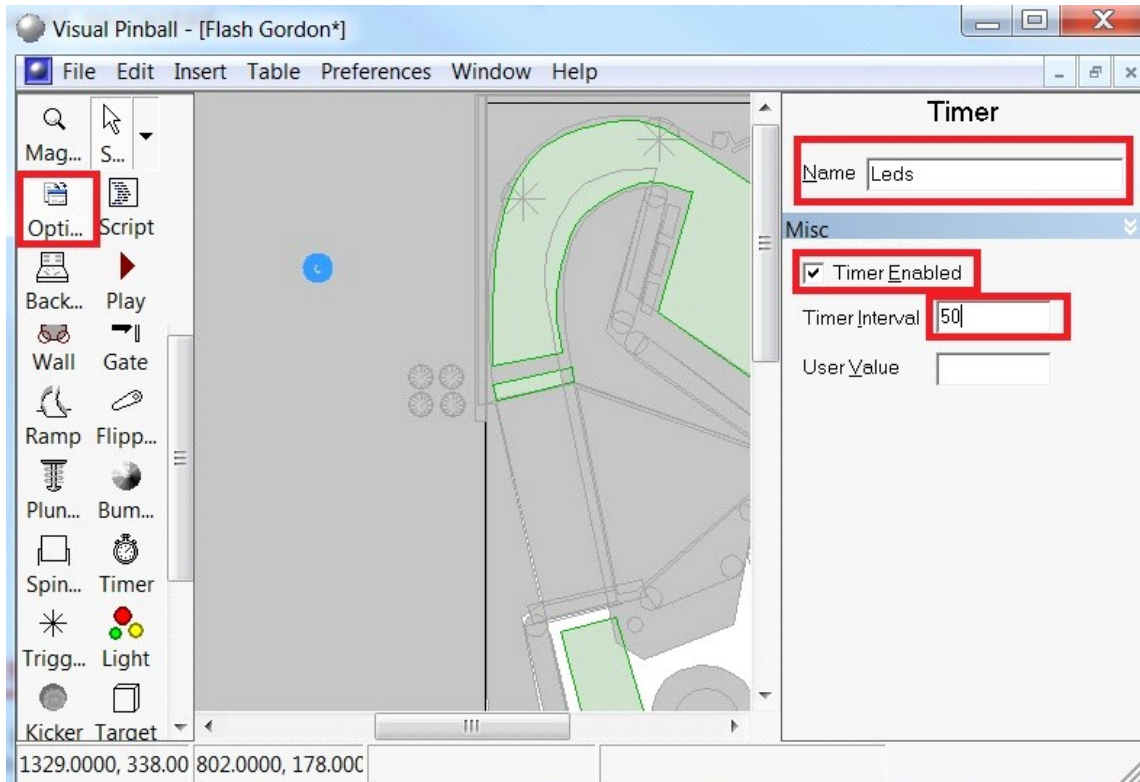


Now click on the Options button while you still have the timer you just placed selected. Now we need to change the following option.

Name: Leds

Enable the Timer

Timer Interval: 50



Now Save your Table File -> Save

Now when you run your table the Score Boxes will light up and display correctly. See below picture for an example.



This method can be applied to most of the older games that do NOT have a DMD like the newer games.

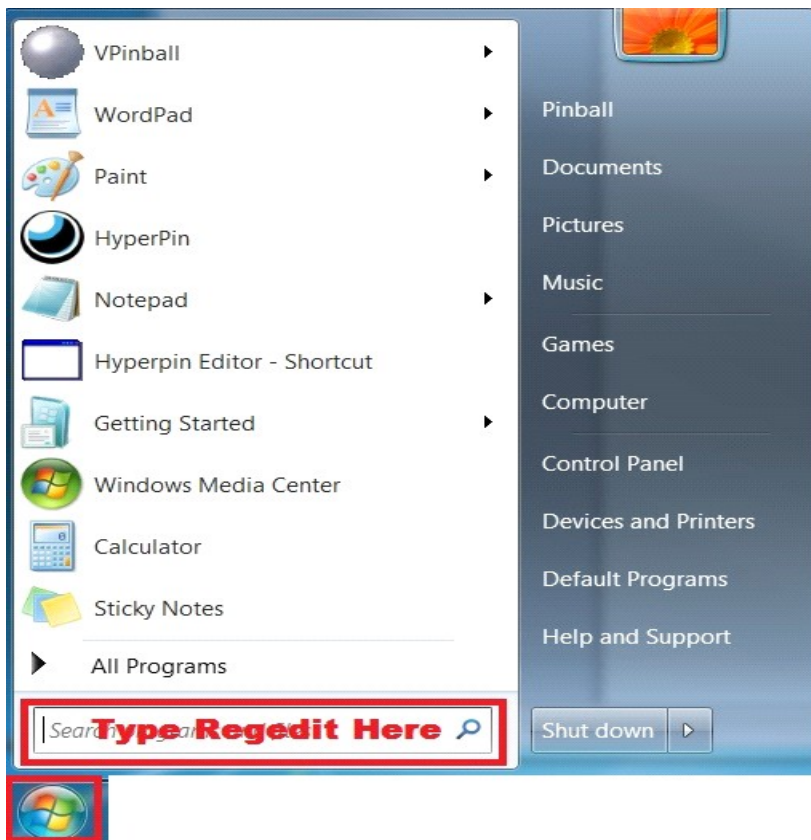
Step 11: Positiong and Resizing the DMD

A possible error that may come up (it did for me) was that the DMD showed up at a different angle and was not being displayed in the correct location. See below image for an example. As you can see the below image is not how the DMD Should be displayed for this game.



Below is how I fixed this after searching through google for some time I found what I think is the best solution and it will allow me to adjust it for each game on its own.

Go into your System Registry, you do this by clicking on the start button and typing in Regedit in the location you see Search Programs and Files.



You have to be careful to only change the things I ask, otherwise you may damage your Operating System. Playing in the System Registry can be a very bad place to mess around in if you do not know what your doing. But since your only going to do what I ask and nothing else, you should be ok. I dont say this to scare you, I say this so you know to be careful and to follow this guide and screen shots very carefully.

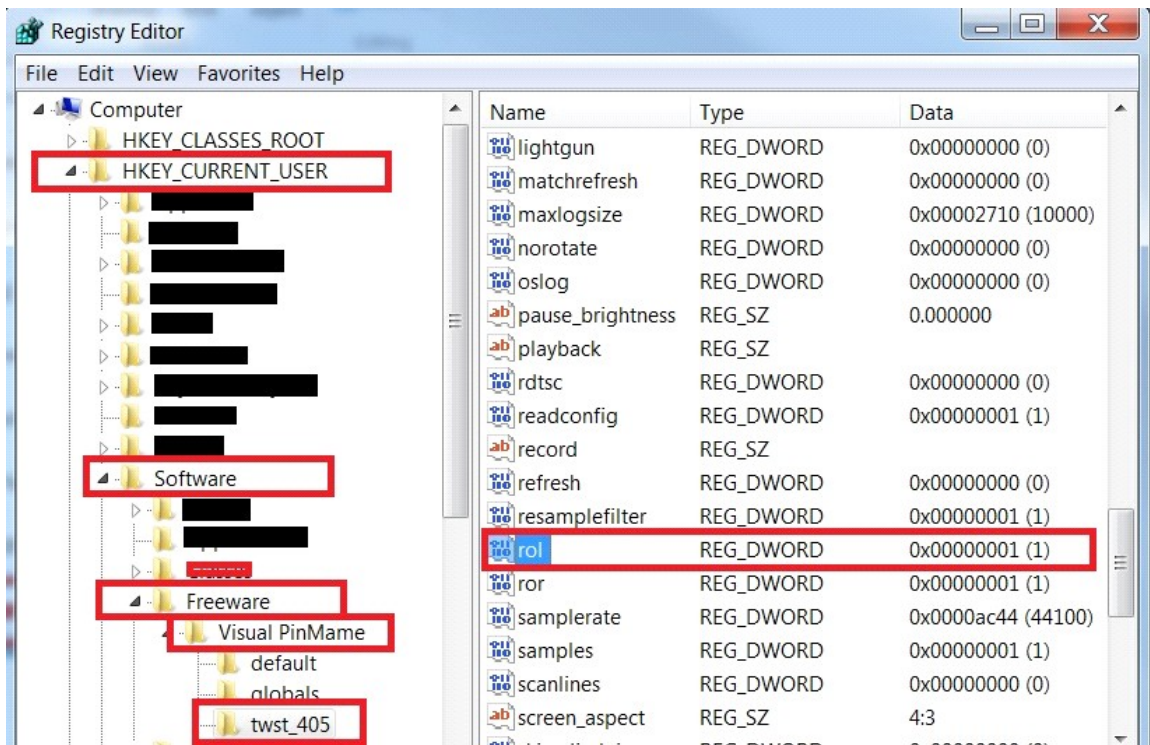
We need to go to:

HKEY_CURRENT_USER -> SOFTWARE -> FREEWARE -> VISUAL PINBALL

Find the Game Rom you need to fix the DMD for.
In this case it is **twst_405** for the game Twister

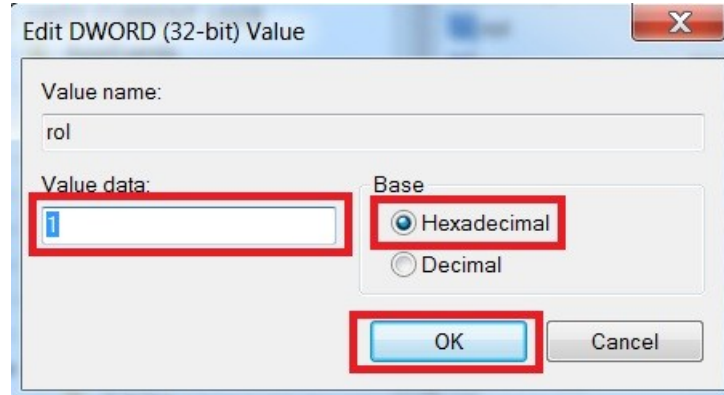
Now on the Right side scroll down until you see **rol**

Just like you see in the below image.



We are now going to edit the values for this entry. Only do this if the DMD is displayed on an angle, do not change this if its the wrong size or in the wrong position on screen (we can change that later).

Open up the ROL entry. We need to change the 0 into a 1, make sure that Hexadecimal is selected under Base and then press ok. It should look something like what you see on the right. once you have changed this value press OK and exit the system Registry.

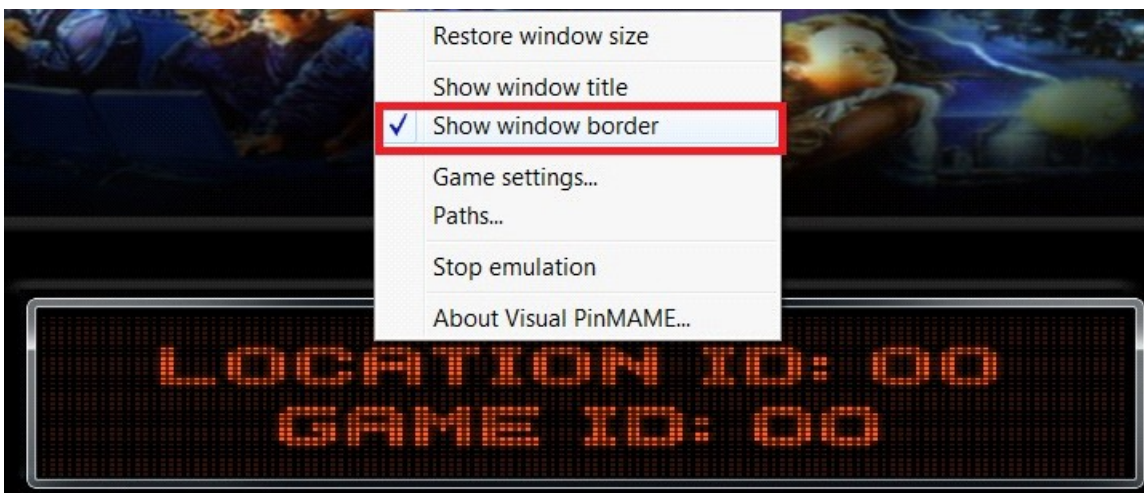


If you open up the game Twister now, the DMD should be at the correct angle (See below Image)



If your DMD is in the wrong position and or the wrong size have no fear this is a super easy fix and can be applied to the DMD for any game table. You may have to do this for each game table, but it should remember it for every single table so you only have to do it once thankfully.

To change the position/size of the DMD what I did was I ran the game table in Visual Pinball. I took my mouse and I right clicked on the DMD and selected Show Window border.



We will now move the DMD to the location we want it, you can move it to a third screen or to the location on the backglass that you want the DMD to be located for this game table.

We can now move the mouse over the sides/corner of the DMD to resize the DMD to be the correct size and in the right position on screen we want.

When you are done positioning and resizing the DMD, right click on the DMD and uncheck Show window border and your done. This process is trial and error and it may take a few minutes to get it the way you want. but in the end its worth it.

On a few games I've tried to resize the DMD would constantly go back to its default size once I unchecked Show Window Border. To get around this I did the following:

I would launch the game in Visual Pinball and I would take some Green Painters Tape. (you could also try electrical tape just don't use that clear tape or scotch tape)

I marked the sides and the bottom of the place the DMD should be (seen below).



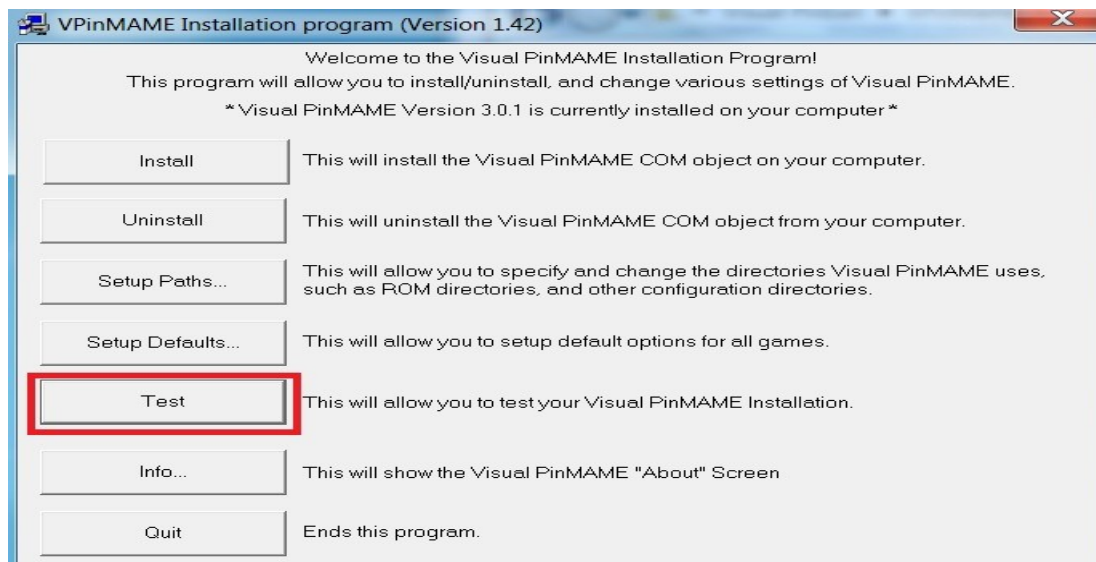
I then quite the table and launched VpinMAM Setup.exe file

Go into the VpinMame folder Located inside the Visual Pinball Folder

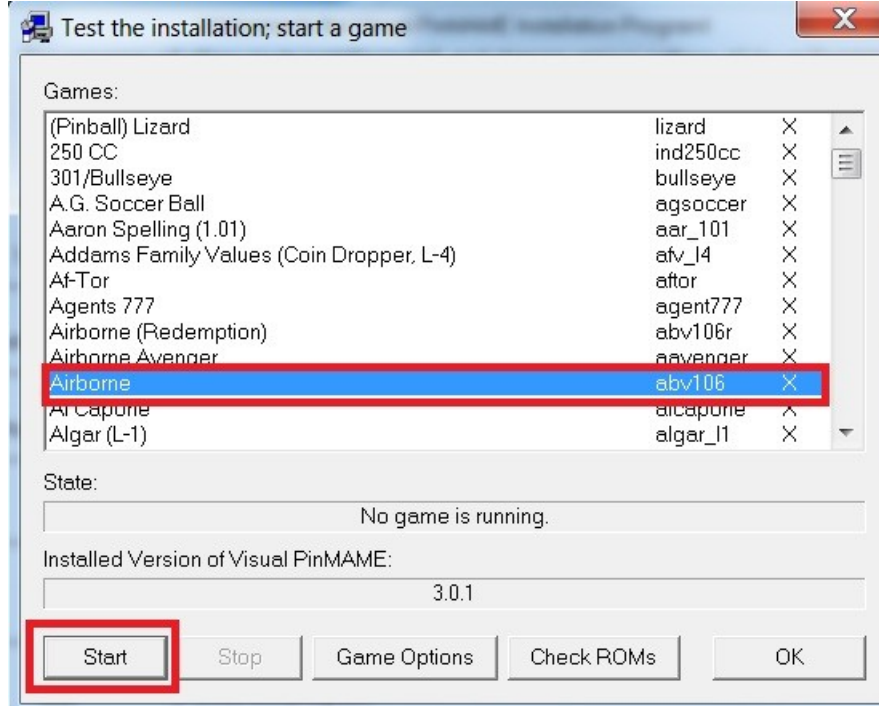
64Bit Windows: C:\Program Files (x86)\Visual Pinball\VPinMame\

32Bit Windows: C:\Program Files\Visual Pinball\VPinMame\

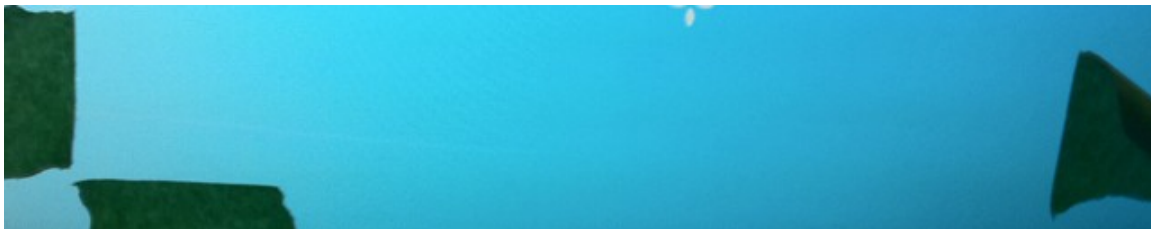
click on Test.



A new window will pop up, here it will give us a list of all possible Roms. In the case of this example we are going to select Airbourne and then press start.

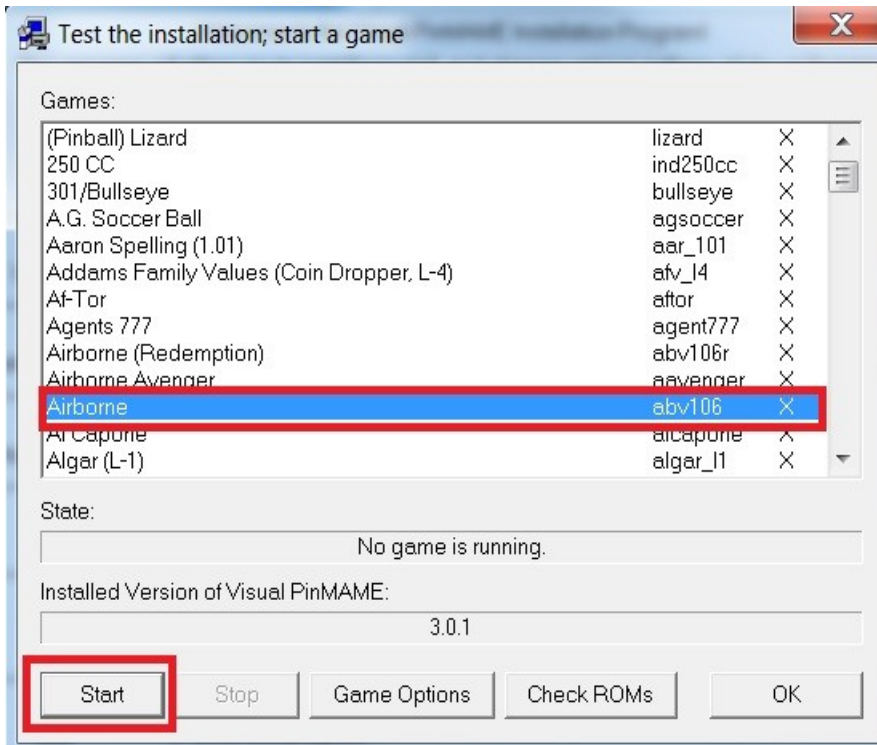


We will then move the DMD and resize it within the area we marked on the screen with tape using the same method above.



Once we are done moving and resizing the DMD we will Press **STOP emulation**. Please Note that when we are done moving and Resizing the DMD **DO NOT PRESS SHOW WINDOW BORDER to remove the border**. I know its not on in this image but I forgot to take the screen shot with it on.





We will then start the test again to make sure that it got saved. If all looks to be good then press OK.

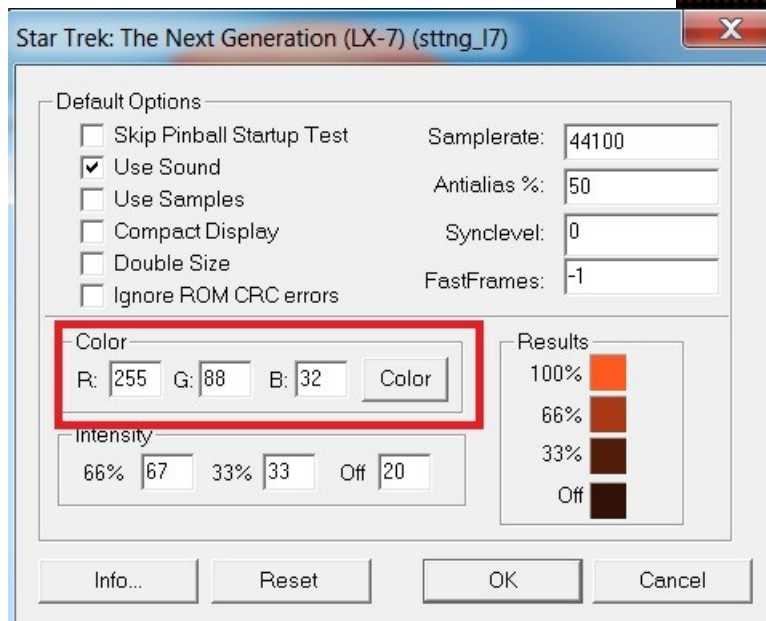
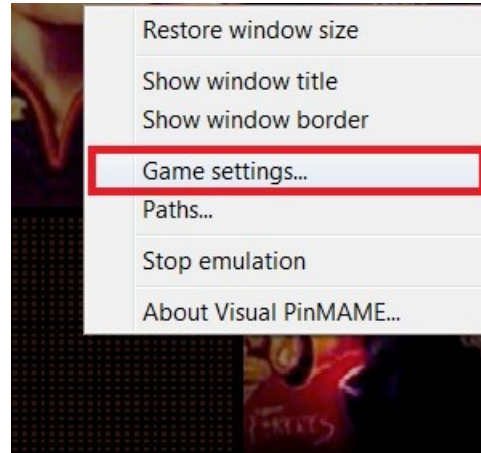
Exit the Setup program for VpinMAME and launch Visual Pinball.

Launch the game that you had the program with and if all goes well it should be the correct size and in the correct place.



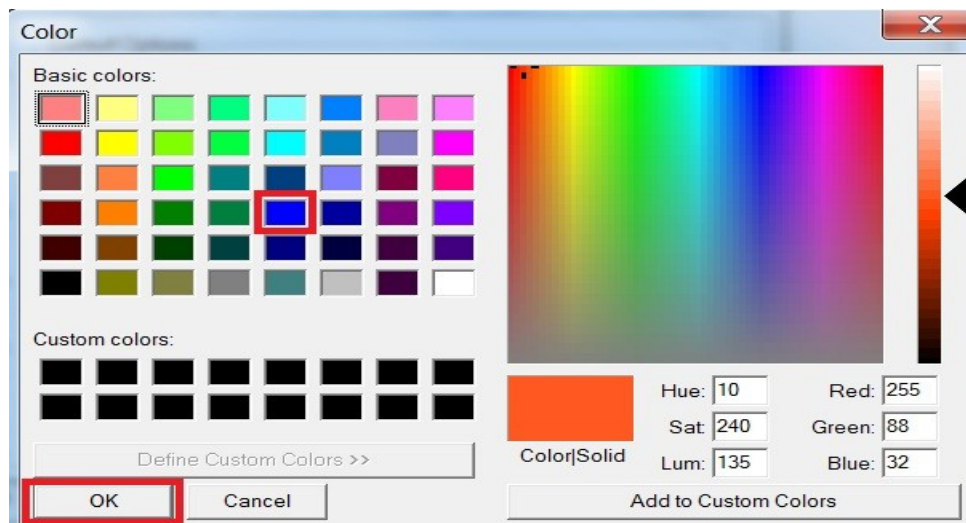
Changing the colour of the DMD

Now if you wanted to change the color of your DMD to be even more like the Real Pinball machine or just to match the colour of your Eye's lol we can also easily do that. Right click on the DMD and select Game Options.

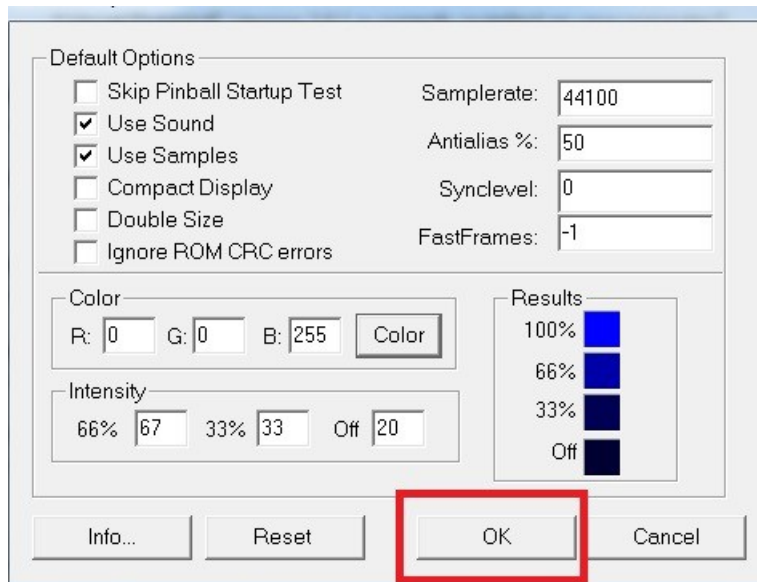


One way to do it is to enter the numerical value of the color you want.

However I find it so much easier to just cheat and press on the Color Button. By pressing on the color button a new screen will come up and simply let me choose a color with the press on the mouse button :) as you will see below.



For this example I am going to change the color of the Star Trek DMD from the standard orange color to the colour blue. Simply select the color you want and then press OK.



Press OK. For the Changes to take effect you will have to Exit the table and load it back up.

Now everytime I run this game the DMD will be Blue. This example can be applied to any game with a DMD.



Step 12: Adjusting the Sound in Game

During setting up my Pinball cabinet I found a few games that had the audio a little too low for my liking. The games in question were Star Trek The Next Generaion and Elvis (for now). But thanks to [ta2686](#) on the VPForums I was able to find a way to Increase and Decrease the volume in games I may have this problem with.

This section will work on any DMD based game that didn't use an "Analog" volume dial. These games sad to say you will have to just turn the volume up/down on your speakers yourself. An example of games that use a "Analog" volume dial to adjust the volume are Baywatch and Batman Forever just to name a few. But you will see more games listed in each section of the below guide that won't work with as they will have a **strike** though their name.

However for other DMD based games that use "software" to adjust the volume you should be able to use the following guide to help lower or increase the volume. You will need to know who made your game (Bally, Capcom, Stern, etc.) in order to find the right section of this area to help you.

Data East/Sega Version 3 and 3B

Here is the procedure to adjust the volume for Data East/Sega version 3 and version 3B tables (up to, but not including, Baywatch). Tables from Baywatch onwards used the service menu portal system, which will be discussed in another post. These include the last tables Data East produced before being taken over by Sega:

1. Press 7 to enter the audits and adjustments menu
2. Continue to press 7 until you see Expand Adjustments (or Expand Adjusts) in the DMD
3. Press 1 to change option to Yes
4. Continue to press 7 until you see Volume Adjustment or Background Music Volume in the DMD
5. Press 1 to adjust the volume percentage. You can either set it to OFF, or to 25%, 50%, 75%, 100%
6. Either continually press 7 to go through all the menu options to reset the table and save changes, or press F3.

This procedure should work for the following tables:

Data East/Sega Version 3 tables:

Checkpoint, Teenage Mutant Ninja Turtles, Batman, Star Trek 25th Anniversary, Hook, Lethal Weapon 3, Star Wars, Rocky and Bullwinkle, Jurassic Park, Last Action Hero, Tales From the Crypt, Tommy – Pinball Wizard, WWF Royal Rumble, Guns 'N Roses

Data East/Sega Version 3B tables:

Maverick, Frankenstein

Data East/Sega Version 3B and Sega/Stern Whitestar

Here is the procedure to adjust the volume on Sega tables with the Data East/Sega Version 3B or Sega/Stern Whitestar system. These were the last tables produced by Sega before Stern bought the pinball division from Sega.

1. Using the 8 and 9 keys, adjust the volume. The 9 key lowers the volume, the 8 key raises the volume (You may have to press the 9 key first to be able to adjust the volume)
2. Wait 30 seconds for the table to reset

This procedure should work on the following tables:

Data East/Sega Version 3B tables:

Baywatch, Batman Forever

Sega/Stern Whitestar tables:

Apollo 13, Goldeneye, Twister, Independence Day, Space Jam, Star Wars Trilogy, Jurassic Park 2 – Lost World, X-Files, Starship Troopers, Viper Night Driving, Lost In Space, Golden Cue, Godzilla, South Park, Harley Davidson

Sega/Stern Whitestar

1. Using the 8 and 9 keys, adjust the volume. The 9 key lowers the volume, the 8 key raises the volume (You may have to press the 9 key first to be able to adjust the volume)
2. Wait 30 seconds for the table to reset

This procedure should work for the following tables:

Stern Sega/Stern Whitestar tables:

Striker Xtreme, Sharkey's Shootout, High Roller Casino, Austin Powers, Monopoly, NFL, Playboy, Roller Coaster Tycoon

This procedure should also work on Sega redemption games Titanic and Wack-a-Doodle-Do and Stern's Monopoly Redemption game

Stern Whitestar Modified

Here is the procedure to adjust the volume on Stern tables with the Stern Whitestar Modified system.

1. Using the 8 and 9 keys, adjust the volume. The 9 key lowers the volume, the 8 key raises the volume (You may have to press the 9 key first to be able to adjust the volume)
2. Wait 30 seconds for the table to reset

This procedure should work for the following tables:

Stern Whitestar Modified tables:

Simpsons Pinball Party, Terminator 3 – Rise of the Machines, Lord of the Rings*, Ripley's Believe It or Not*, Elvis*, Sopranos*, NASCAR*, Grand Prix*, Dale Jr.*

*- for these tables, this procedure will work if you use the ROM based sound. If you use the emulated sound that is included with these tables, you will NOT be able to adjust the volume

Spinball

1. Press 9 to enter test menu
2. Continue to press 9 until you see VOLUMEN in the DMD. There should be an arrow going across the bottom of the DMD
3. Using the A and single quote (""") keys, adjust the volume. The A key will lower the volume, the single quote key will raise the volume
4. Wait about 30 seconds for the table to reset

This procedure should work for the following tables:

Spinball tables:

Jolly Park, Mach Two*

*- Not working at this time

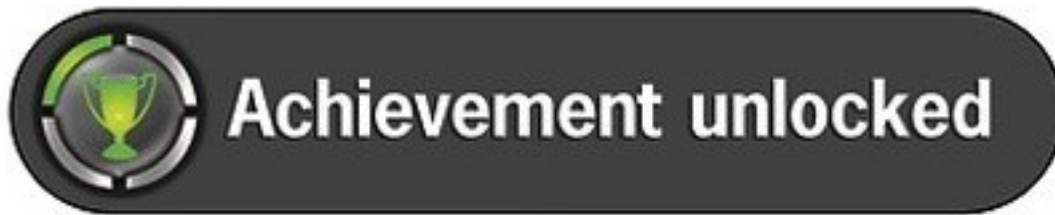
Alvin G

1. Using the 9 and 0 (zero) keys, adjust the volume. The 0 key lowers the volume, the 9 key raises the volume
2. Wait until you see GAME OVER in DMD to play with the new settings

This procedure should work for the following tables:

Alvin G tables:

Al's Garage Band Goes on World Tour, Mystery Castle, Punchy the Clown, Pistol Poker



If all goes well everything should be working now insert the coins and play some games.



I hope you have found this tutorial easy to use and very helpful.

A Very special thanks go out to everyone on all the forums and to the people that create the software that allows us to relive all these great games in our own homes on our custom Pinball rigs.

Without your help I would have still be at a loss on how to get everything working correctly, I can't thank you all enough. Hopefully this tutorial will clear up a lot of questions and help even more people.

I thought the image on the left was funny. This guy on ebay sells them for cheap so I just had to get the set so I can slap them on the front of my pinball cab once I complete it. (I'm not the guy the sells them, nor do I make anything if he sells more) They just crack me up :)

Pinball Gloassary

The following was made by [Noah Fentz](#) found on [VPForums.org](#) 



Add-A-Ball

A machine is a true AAB if you can earn more than one extra ball per ball in play. Usually the backglass says Balls to Play instead of Ball in Play. Most machines are a replay-type where specials score a credit and if you can earn an extra ball, you can only earn one extra ball per ball in play.

Alphanumeric Display

LED segment display that can display only letters and numbers. This type of display has been replaced by the more modern dot-matrix displays which can also display graphics.

Alvin G. & Co.

Pinball manufacturer whose first machine, A.G. Soccer-Ball was released in 1992. Other games include USA Football and Al's Garage Band Goes on World Tour.

Animation

On dot-matrix displays, any animated graphics sequence. Animations are commonly used as introductions to modes, Multiball and at the start of the game.

Some machines, particularly before the LED era used other means of animation, such as moving parts behind the backglass or lights that illuminate different colored masks to produce the illusion of movement.

Autoplunger

Many newer games feature an automatic plunger that launches the ball at the touch of a button. Autoplungers started to appear on Data East games in 1990, with Checkpoint. The other manufacturers followed suite in 1992.



Backbox

The upright part of a pinball machine that holds the backglass and display. The backbox is also known as the head.

Backglass

The glass on the backbox. The backglass often features spectacular artwork since it is one of the most visible parts of the game, and as such, has to attract players.

Ball saver

A game that will return a ball that is drained within the first few seconds of play is said to be equipped with a ball saver. Many games also activate this feature at the start of multiball. Ball savers are a recent feature, introduced around 1990.

Ball search

When a machine thinks a ball may be stuck, it will activate each solenoid in the machine in turn, to help a ball become unstuck. This procedure is called a ball search.

Bally/Williams

One of the most successful manufacturers of pinball machines, Bally/Williams is the result of a Williams buying Bally.

Bang back

A Bang Back is a method of saving a ball that has fallen down an outlane. By holding up the flipper on the side the ball is coming down, and hitting the front of the cabinet when the ball reaches the base of the flipper, the ball can be made to bounce on to the opposite flipper. With the trend toward heavy widebodies, this skill may become less valuable.

Beta test

Before a game is produced for the open market, a number of prototypes are produced, and these are sent to selected sites for testing, so the manufacturer can find out how well the game performs in real arcades. The beta test usually leads to minor changes in the playfield and changes to the software.

Body

See cabinet

Bumper

Bumpers are round, mushroom-shaped targets set into the playfield of most pinball machines. They fall into two categories, active and passive.

Active bumpers, the most common, are round mushroom-shaped targets set in the playfield that forcefully kick the ball away when struck. Passive bumpers look similar to active bumpers, but do not kick the ball. Bally once made a unique type of passive bumper, called a Mushroom Bumper which is a post with a disk on top. When the ball approaches the bumper, it lifts the disk as it strikes the post. The disk is attached to a shaft down the middle of the post, which rises when the disk is lifted, closing the switch that registers a hit.

Active bumpers are called Pop Bumpers by Williams, Thumper Bumpers by Bally and Pop Bumpers by Gottlieb.



Cabinet

The large box that holds the playfield, coin box, flipper buttons. Not to be confused with the backbox. The cabinet is also known as the body.

Captive Ball

A captive ball is a special kind of target that consists of a pinball held captive at the end of a lane or ramp with a switch at the far end. A captive ball is also known as a messenger ball.

Cellar Hole

A ramp below the playfield, entered through a hole in the playfield.

Center Post

A post set between and in line with the bottom pair of flippers. Gottlieb/Premier use a center post on most of their games, while the other manufacturers usually do without, although there are exceptions, such as Terminator 2 from Bally/Williams.

Combo

A defined sequence of shots that need to be made in rapid successions without missing are called combos.



Data East

One of the major pinball manufacturers today. Data East only makes games that are based on a licensed theme, such as a TV show or movie, but have used unlicensed themes in the past. Data East is now Sega Pinball, Inc.

Death Save

A method of saving a ball that has fallen down an outlane. By moving the cabinet forward and to the right as the ball hits a plate near the drain, the ball can be made to bounce back into play.

Designer

The person who designs the playfield and game rules.

Diverter

A playfield object that can swing to divert the ball into one of several paths. Diverters are commonly used on ramps and on lanes to divert the ball to a special target during certain phases of the game. For instance, Demolition Man uses a diverter on the ramp that can lead to the cryo-claw to divert the ball onto a habitrail when the cryo-claw is not activated.

Dot-matrix Display (DMD)

A type of display consisting of a large number of light-emitting diodes arranged in a rectangle. This type of display has succeeded the alphanumeric displays in pinball

games. Some displays may use gas plasma elements rather than LEDs.

Drain

Where lost balls go and the act of losing a ball. Also known as the outhole.

Drain-o-matic

A pinball game where balls drain too easily. Derogatory.

Drop Target

A type of standup target that is pulled down below the playfield when hit.

**Eject**

A hole where the ball can be kicked out. Also called kickout.

Electro-Mechanical Game (EM)

Early games, mostly pre-1978, that rely on electromechanical components, such as relays, stepping units, motors and scoring wheels rather than solid-state electronics. Also called EMs.

EM

See Electro-mechanical games.

End-of-ball Bonus

Points added to the score when the ball drains. On some games, bonus is such a large portion of the score that tilting the game results in a major loss of points.

End-of-stroke Switch

On Bally/Williams flippers, a switch that is hit when the flipper reaches the end of its stroke. The switch is used to switch to a lower current through the flipper coil to prevent it from burning out. Abbreviated EOSS.

In EMs, EOSS are used in several places. For instance, a slingshot score is not activated by the standup switches, but the standup switches activate the kicking coil, which when fully pulled, hits the EOSS which pulses the score relay. This is also used on pop bumpers and some stepping units.

EOSS

See End-of-stroke Switch

Extra Ball Buy-in

Many newer games allow the player to purchase an extra ball after the last ball of a game has drained. This is called an extra ball buy-in.



Flip Card

A domino-sized and shaped device that is hinged on one side and flips back and forth to show status, much the same as a drop target or a light shows status. Only three machines use this feature, all of them manufactured by Bally.

Flipper

Those thingies that move when you hit the flipper buttons. Some people use these to propel the pinball. The Addams Family pinball uses these to make a point.

Frenzy

A special mode where everything on the playfield scores a lot of points.



Gate

A device the pinball can go through in one direction but not the other. You can often find gates at the end of the plunger lane.

Gimmick

A feature of the game that is put in there to attract attention and make the game unique in some way. A gimmick can also be a decoration on the cabinet or backbox.

Gobble Hole

A hole in the playfield through which the ball in play may fall, ending that ball. Falling into this hole usually scores a large value or a special. This was a common feature in the woodrail era, and rarely seen after that.

Also a hole in the playfield that gobbles the ball, causing it to drain. See also Sinkhole.

Gottlieb/Premier

One of the major pinball manufacturers. Gottlieb, before it was bought by premier, is one of the oldest pinball manufacturers around, with three generations of the Gottlieb family in the business.



Habitrail

The paths made from pieces of steel wire set above the playfield. Also called wireforms.

Head

See backbox.



Inlane

The path feeding a falling ball from the playfield, usually behind a slingshot to the flippers.



Jet Bumper

The name used by Williams Electronics to describe active bumpers. See Bumper for a description.



Kickback

Usually located at the left outlane, the kickback, when activated, kicks the ball back into play instead of allowing the ball to pass to the drain.

Knocker

The solenoid that bangs the side of the cabinet or backbox to produce the loud cracking noise that signals a free game.



Lane Change

Games featuring lane change allow the player to shift the lit lights in a set of lights on the playfield, such as a set of lights on the outlanes and inlanes.

Leaf Switch

A type of switch that consists of two tongues of metal that come into contact when pressed together. Leaf switches are used to detect a ball coming through a gate or going

up a ramp. In older games leaf switches are used throughout most of the game.



M-ball

Data East's name for multiball before they licensed the word multiball from Williams.

Magnasave

A player-activated magnet above an inlane that will catch a ball headed for the outlane. Magnasave has appeared on some Williams games and is a trademark of Williams Electronics.

Manufacturers

There have been several pinball manufacturers through the years, Bally/Williams, Gottlieb/Premier, Sega Pinball, Inc., Alvin G. & Co., Astro Games, Atari, Chicago Coin, Fascination Games, Game Plan, Grand Product, Midway, Micro Industries, Pinball Vision, Pinstar, Wico, and Zaccaria to name a few. Currently there is only one major manufacturer still producing Pinball machines, Stern Pinball, Inc.

Match

A free game given away by the machine to one of the players for no apparent reason at the end of the game. There appears to be a 10% chance of receiving a match, but newer solid-state machines allow this to be set as low as 1%, with the factory setting at 7%.

Messenger Ball

See Captive Ball.

Microswitch

A type of switch used under rollovers and in some other parts of a game. Microswitches are small switches that have a button that, when pressed, closes the switch. Many microswitches can be fitted with a lever that will press the button.

Mode

Most modern games contain modes, periods where the rules change, and sometimes special shots are made available. Common types of modes are where one target scores a value that counts down from its highest value to nothing or when repeated ramp shots score an increasing number of millions.

Multiball

When several balls are in play at one time. During multiball, there is often some sort of objective, most commonly a jackpot target that scores an obscene amount of points. Multiball is trademarked by Williams Electronics.

Multi-Level Machine

A multi-level machine has at least two distinct playfields at different elevations, each of

which contains at least one player controlled device.

Mushroom Bumper

Mushroom bumpers are a type of passive bumpers made by Bally. See Bumper for a description.



Nudge

A method of controlling the ball by moving the machine itself.



Operator

A person who owns or runs a pinball game.

Opto

A type of switch that detects the ball using light.

Outhole

See Drain.

Outlane

The lanes that usually are placed to the far sides at the bottom of the platfield and lead to a drain.



Pass

Moving the pinball from one flipper to another.

Playfield

The part of the pinball machine where you actually move the ball around.

Playfield Insert

Translucent plastic pieces sunk into the playfield with a light beneath. Usually these are lit for showing a bonus count, target hit or even a mode.

Playfield Magnets

Magnets set under the playfield. Very few machines have magnets, and when they do the magnets are either under player control (magna-save, magna-flip) or an integral part of game.

Plunger

The object that is used to launch a new ball onto the playfield.

Plunger Lane

The lane that leads from the plunger and onto the playfield.

Pop Bumper

The name use by Gottlieb to describe active bumpers. See Bumper for a description.

Prototype

Before a game or its software is released, it goes through a number of prototype stages. Each prototype is tested and it is determined which changes are necessary for the next prototype or release version.

Proximity Sensor

A sensor that can be mounted under the playfield, but can detect a metal ball rolling above it.



Rape

Taking advantage of design flaws in a game to score obscene amounts of points.

ROM

Read Only Memory. Pinball software is stored in ROMs.

Ramp

An inclined surface, set at an angle steeper than the playfield that usually leads either to a habitrail or to a raised playfield.

Reflexing Feature

A feature that in some way changes depending on how the game is being played over time. For instance, the number of ramp shots needed for an extra ball may increase if the game is being played extremely well several times in succession. The most common reflexing feature is the replay score, which increases each time a replay is won, and decreases is no replays have been awarded in a long time.

Replay

A free game won by scoring more than the current replay score.

Replay Score

The number of points required to win a replay.

Rollover

A target scored by rolling over it. The most common places for rollovers are in the inlanes, outlanes, and in special banks of two or more lanes.

Roulette Wheel

A spinning wheel with several slots set around the perimeter, into which the ball can fall.

Rubber

Rubber fitted along the edge of playfield parts.

**Saucer**

A target that consists of a shallow depression in the playfield and a solenoid that can kick the ball out of the saucer.

Save

The act of preventing a ball from draining.

Scoop

A curved piece of metal, usually mounted above a hole that catches and directs the ball into a specific target.

SDTM

Acronym for "Straight Down The Middle", a description of the path the ball occasionally takes before draining.

Sega Pinball Inc.

See Data East.

Service Credit

A credit gained by pressing a button inside the cabinet.

Sinkhole

A hole in the playfield used as a target. See also Gobble hole and Cellar Hole.

Skill Shot

At the beginning of a ball, a designated shot that can be made for a special award. Usually involves launching the ball directly at a lit target.

Slam Tilt

Tilting the game so violently it immediately aborts all games in progress and reboots (EMs only go into game-over mode).

Easily achieved by kicking the coin box or lifting the machine past horizontal. This type of behavior will also achieve getting you thrown out of an arcade and is considered very bad manners.

Slap Save

A save accomplished by slapping the side of the machine and the flipper button so a ball headed SDTM hits the tip of the flipper.

Slingshot

The (roughly) triangular objects above the flippers that kick the ball in the general direction of each other and the outlanes.

Solenoid

A coil, with another coil or magnet inside, used in flippers and kickers. When the coils are energized, the opposing magnetic fields cause the inner piece to move.

Solid-state Flipper

Flipper mechanism used by Data East and as a backup mechanism in newer Bally/Williams games.

Solid State Game (SS)

A pinball machine that uses solid-state electronics (transistors, integrated circuits, printed circuit boards, microcontrollers etc) rather than the earlier electro-mechanical components. Modern solid-state games are quite sophisticated with generic CPU and audio boards controlled entirely by computer software.

Special

A special is usually a free game, but can be set to some other award, such as an extra ball or a number of points.

Spinner

A metal plate, usually about 1"x1.5" which spins about its center along a horizontal axis. The ball passes underneath striking the lower half of the speller, causing it to spin several revolutions.

SS

Acronym for Solid State.

Standup Target

A target that is in a vertical position, such as a round plastic "spot letter" target.

Stern Pinball Inc.

Currently the last manufacturer in America producing Pinball machines.

Swinging Target

A moving target that moves constantly due to a motor, or intermittently due to a solenoid.



Thumper Bumpers

The name used by Bally to describe active bumpers. See Bumpers for a description.

Thwacker

See Knocker.

Tilt

A pinball machine will tilt, aborting the current ball and discarding End-of-ball bonus if the player moves the cabinet too violently.

Tilt Warning

Most games will issue one or more tilt warnings before actually tilting, so a player has a chance at one or two powerful shoves before losing the ball.

Token

Some arcades use tokens in place of coins.

Trap

Catching the ball so it comes to rest in the angle formed by a raised flipper.

Tri-ball

One name Data East used for multiball before licensing the use of the word multiball from Williams.



VUK

Acronym for Vertical Upright Kicker. A VUK is a device that kicks the ball straight up, usually onto a habitrail.

Video Mode

A mini video game used as a mode on a pinball machine, displayed on a dot-matrix display.



Whirlpool

A funnel-shaped device where the ball enters at the top and spins to the bottom.

Widebody

A pinball machine wider than the standard 22" width.

Wireforms

Another name for habitrails.

Wizard

An extremely skilled pinball player.

Wizard Bonus

A reward that is so difficult to achieve, only pinball wizards ever find it.



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"Get in, get out" information
Icons and other navigational aids
Top ten lists
A dash of humor and fun*

THE YUMMIES WAY

Get smart!

Not resaleable

