FutureDMD (Virtual Dmd for Virtual Pinball Cabinets)

Important

You may need to run futuredmd.exe with "Administrator" privileges depending on your system accounts setup. Futuredmd.exe will create a file called futuredmd.ini on the first run to store all of your customized settings. If it is unable to create, read and write to this file the program may not function properly or at all.

The purpose of FutureDMD to replicate a dmd display in your cabinet with a computer monitor instead of a real dmd for Future Pinball. The OpenGl32.DLL file is a custom build of Macro's open source code fp-Intercept. Macro's software will enable you to run a real dmd with your pinball cabinet. This software is not for real dmd displays. This software is for those who use a secondary or third monitor to replicate a virtual dmd display. The Ledwiz.dll is also part of Macro's original work and will enable you to use future pinball with an ledwiz. This software is running on my personal cabinet and should work as intended. I have tested this with the Original Future Pinball, Physics 2.5 as well as BAM and all are working as intended.

Key Features & Support

- Creates a sizable/movable virtual dmd display for Future Pinball.
- Set custom size, location, orientation or reversed (mirrored) via menu or in the ini file
- Supports custom color display for each table
- Enables Ledwiz support for Future Pinball Tables
- Compatible with Future Pinball, Physics 2.5 MOD as well as BAM
- Creates a real-time display of game stats during games selection in Pinballx frontend.
- Usable with Pinballx & Hyperpin Frontends
- *NEW* version 1.8 - Adjust pixel shades

Basic Installation

To install FutureDMD to work with future pinball, you simply need to copy the FutureDMD.exe, FutureDMD_Relay.exe, ledwiz.dll and OpenGl32.DLL into the same folder as the Future Pinball.exe. Your file does not need to be named "Future Pinball.exe" but must be executed from the folder where these files have been copied. The folder entitled "LedWiz - Script" is not required but if you would like to enable Ledwiz support simply overwrite the OpenGl32.DLL you copied to your future pinball directory with the OpenGl32.DLL in this folder.

Positioning

After you run the FutureDMD.exe for the first time you will need to position it in your dmd window. Right click and select the screen number that you are using for your dmd this will auto save so it will always load the program on the same window next time you start. Drag it into position on the correct

screen and right click to select either "Resize with Stretch" or "Resize with Aspect Ratio". The stretch option will enable a stretchable window border so you can size the dmd to fit in almost any existing cabinet. If you are like me and want a perfect squared pixel click use aspect ration sizing and it will force the pixels to maintain proper size and spacing. This will limit some of the sizing flexibility but will result in the nicest setup. After you size with aspect ratio you can stretch the height only and still maintain a fairly uniform dmd display and fill more screen space if it isn't covered by your bezel. Once you get it into position it is ready for use. You do not have to size the dmd for every table, you only need to do it once. The dmd window should remember it's position next time you load your cabinet. If you are having trouble dragging it into the exact position you would like it to be you can also manually set the coordinates in the futuredmd.ini file.

If your main monitor has a black background you may have trouble seeing where it has loaded. It should load as a small black rectangle in the top left corner of your main screen or screen # 1

Screen Resolution

The monitor you are using for your dmd should be able to run at any resolution as low as 256 X 64. You can stretch the dmd window to any size or scale that works for your table or monitor. You should be able to fit it inside any existing bezel.

How to Start FutureDMD in your cabinet.

1. Start & Close with PinballX
2. Start & Close with HyperPin
3. Always On (required for additional PinballX features)

Start & Close with PinballX ini

Open your pinballx.ini file and modify the existing lines to this after [Future Pinball]

        LaunchBeforeEnabled=True
        LaunchBeforeWorkingPath=(your future pinball folder) *example: C:\emulators\Future Pinball*
        LaunchBeforeExecutable=FutureDMD.exe
        LaunchBeforeParameters=table="[TABLEFILE]" close=1

That's it! If you want to use the Pinballx Plugin look at the always on method of loading FutureDMD

Start & Close with HyperPin AHK-

You will need to download autohotkey to edit/compile your FPLaunch.ahk. Locate this section in your fplaunch.ahk :

```
;****************************** FUTURE PINBALL ******************************
        if (systemName = "Future Pinball" && (executable = "Future Pinball.exe"))
        {
```

The line above starting with "if" may vary depending on the version of Fplaunch you are using but most likely will contain "systemName = "Future Pinball""

Add the following on its own line directly after the "{" to start future dmd:

> ;********* start future dmd **********
> Run, "%emuPath%\FutureDMD.exe" close=1 table="%tableName%",,hide UseErrorLevel

That it! Compile the file and FutureDMD will now load when you start a game from Hyperpin and immediately close once you exit.

FutureDMD Always On

If you prefer, you can create a shortcut to the FutureDMD .exe and add it to the Windows startup folder. The software uses minimal resources when not being fed any frame data and will leave a pixel display in an "off" state. This adds to the illusion of a real dmd. If you also use Visual Pinball on your cabinet it should load it's virtual dmd over top of the Future DMD in a smooth transition. (if you sized them the same).

If you want to use custom colors with the "always on" method simply pass the table name through FutureDMD_Relay.exe with your front end. In this set up the Future dmd is always loaded so similar to the examples above you would pass the table name like this:

In PinballX use these lines instead of the ones listed above -

> LaunchBeforeEnabled=True
> LaunchBeforeWorkingPath=(your future pinball folder) *example: C:\emulators\Future Pinball*
> LaunchBeforeExecutable=FutureDMD_Relay.exe
> LaunchBeforeParameters=table="[TABLEFILE]"

In the "Future Pinball section of Hyperpin.ahk use this line instead of the above example:

> ;********* start future dmd **********
> Run, "%emuPath%\FutureDMD_Relay.exe" table="%tableName%",,hide UseErrorLevel

Custom Game Colors

You can specify what color you want each of your tables dmd displays to be using the FutureDMD.ini. located in you Future Pinball directory. The ini file will be created for you when you first run FutureDMD. The format is very simple:

[default]
red=   255
green=   85
blue=   20

[The name of your table here]
red=   10
green=   185
blue=   255

[The name of your next table here]
red=   100
green=   100
blue=   100

All entries must be in this format. If you choose to only use the default color you do not need to make any additions to this file. The table name must match the name of your future pinball table "fpt" file that you are loading. If your table name contains [or] you will need to remove them or substitute them with regular brackets. If you rename them don't forget to update your front end with the new name as well. The Red, Green, Blue settings may not appear exactly as they appear in your graphics program because of the way FutureDMD calculates different shades of the color. You may need to make minor adjustments to get the color exactly as you like.

NEW in version 1.8

You can now adjust the shades. There are 16 possible shades available for the display and each of them are adjustable. You will find a new entry in the ini file:

Shades=0000000000000000

each of the zeroes represents each shade and is adjustable by 0-F or 0-15. They are arranged from the darkest shade (off) to the brightest shade (full power on). Zero is the brightest setting for that shade by default. If you want to turn down the brightness of a shade change the 0 tby how many degrees you want it dimmed. For example:

Shades=F000000000000000 (turns the darkest pixel all the way down)
Shades=8000000000000000 (turns the darkest pixel to half brightness)
Shades=0000000000000002 (Turns the brightest pixel down by 2 degrees)
Shades=FFFFFFFFFFFFFFFF (turns all of the pixels down to the minimum brightness)

You can use this in each table if you want to make minor adjustments to a specific game independently or only adjust the default. Valid entries are (0123456789ABCDEF). Most people may not want to adjust this at all but can be handy for some monitor configurations.

Prepare your Future Pinball Tables to use FutureDMD

The program will replicate one 128 x 32 DMD (either a HUD device or a translite one) out to the FutureDMD. It sends the first DMD of the correct size (128 x 32) that is drawn by Future Pinball. If you have multiple DMD's on the table, but only update one of them, it is quite possible that it will pick up the wrong one! – In this case you will need to remove the erroneous DMD displays from the table,

resize the second dmd so that it is not 128X32, or change which one is updated by the program.

If you use a HUD DMD display, then this does not actually need to be displayed for the program to pick it up. (add a HudDMD1.Fadeout to the script to hide it)

If the table uses an imagelist for display backgrounds or effects, then these must be left uncompressed and there needs to be less than 1200 textures in total. I've not found a table that exceeds this yet, but there are sure to be some out there. In this case, the table should still run, but you will find some effects missing from the DMD screen.

Imagelist graphics are also remapped to fit the number of colours, but since these are actually stored in full colour by FP this is calculated using a brightness averaging algorithm, so they will appear simplified to create a more authentic DMD display.

You should only play a single table in Future Pinball, then exit the program and reload before using the next table. (FP usually crashes on me if I don't do that anyway!)

You can only launch one Future DMD window at a time. If the process remains running while you open another you will receive an error "all pipes are busy".

Using the PinballX Plugin

The PinballX plugin is designed to run with FutureDMD in "Always On" mode. Instead of creating images or movies for your third screen this plugin will feed FutureDMD game information while navigating your gamelists. Future dmd will display things like:

- Highlighted game's name
- Last time played
- Who holds the High Score
- How many times the game has been played
- 2nd and 3rd place scores
- Average time the game lasts
- more to come in future editions....

Version 1 also includes the ability to add custom messages to be displayed via the FutureDMD.ini file. Custom messages can be added under the game tags as well so the content can be unique for every table. To install simply copy the plugin into your PinballX/Plugins folder and then run the PluginManager.exe in the PinballX folder. Put a checkmark on "FutureDMD PinballX Stats", exit and run PinballX!

Customize FutureDMD PinballX Stats

When you run FutureDMD for the first time your default section of your ini will be created or updated if you are upgrading from a previous version. In version 1 there are 4 random High Score messages that can be edited and 4 Average Game Length messages that you can edit. Run through the program a couple times before editing to get an idea of how these messages will appear. You will notice the use of

the pipe or "|" character. This is used by FutureDMD to drop down to the next line. Version 1 can only do up to 2 lines of text. If you put more than one pipe in a message it will treat the pipes as pipes and not add any lines. This will be expanded in future versions.

```
[default]
red=245
green=100
blue=50
highscore_1_1=" is #1|"
highscore_1_2=" Rules|"
highscore_1_3="HIGH SCORE|"
highscore_1_3_2=" "
highscore_1_4="Can you beat|"
highscore_1_4_2=" ?"

avg_time_1_1="Average Game Length.."
avg_time_1_2="Average|Survival Time.."
avg_time_1_3="Most Balls Drained in.."
avg_time_1_4="Can you last longer than?.."
```

If you want certain messages to appear for specific tables just add the line or lines that you want to change like this.

```
[Pirates of the Caribbean]
red=245
green=100
blue=50
highscore_1_3="Top Pirate|"
avg_time_1_4="You will meet Davey Jones in.."
```

Any tables not mentioned by name will use all of the defaults.

Have fun and don't worry if you aren't seeing the stats after you start. They are all there but won't be displayed until you have run the game at least one time after the install.

Acknowledgements

The development of FutureDMD would not have been possible if not for Macro. Macro wrote FP-Intercept which adds support for a real DMD with Future Pinball. As well he built in support for Ledwiz for Future Pinball as well. If he had not released the source for this application I wouldn't have known where to start. Thank you Macro for all the help and support you have offered me.

Special Thanks to Tom Spiers from PinballX for all the help you have offered and for adding some extra features to the PinballX plugin system making the included Plugin possible.

Rafal Janicki also deserves thanks. I have not spoken with Rafal personally, but he added support for FP-Intercept which possibly unknowingly added support for FutureDMD as well.

For those of you I haven't spoken with. You can find me throughout the forums as gauntletlover, gauntlet_lover or you can call me Chris.

Please share any feedback about this program. I normally watch this thread:
http://www.vpforums.org/index.php?showtopic=24693

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