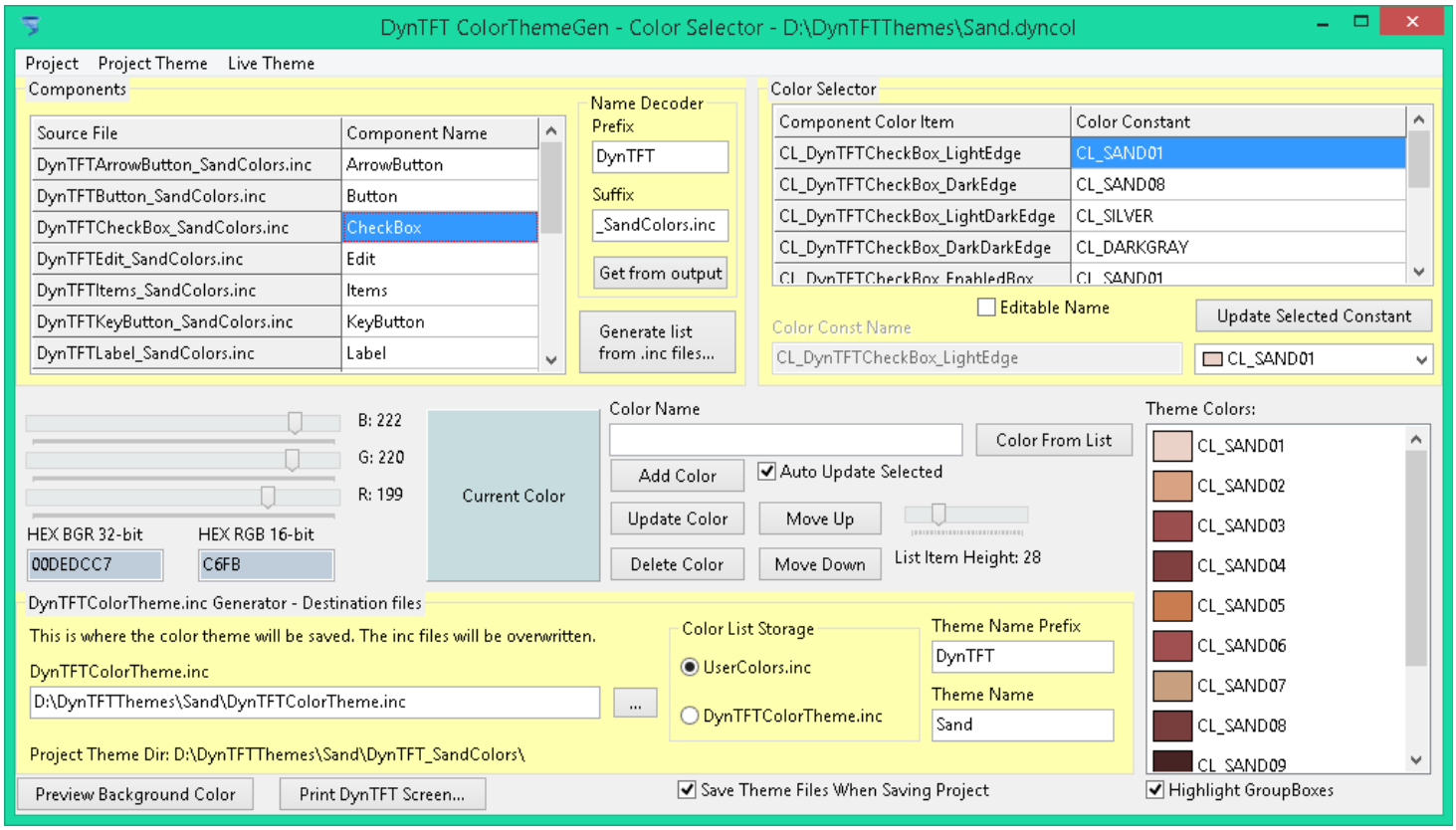
DynTFT Color Theme Generator

Quick start guide

DynTFT Color Theme Generator (further called DynTFTColorThemeGen) is an application used to create color themes for DynTFT components. It is built on top of an example application which ships with DynTFT, to be able to preview color themes, while working on them. In addition to a DynTFT example application, DynTFTColorThemeGen has an additional window, called "Color Selector". See the next screenshot:



From this window, users work with projects and themes.

A DynTFT color theme consists of two main `.inc` files, `DynTFTColorTheme.inc` and `UserColors.inc`, and several component-level `.inc` files (one such `.inc` file for every component type). Usually, the component-level `.inc` files are placed in a separate directory, near the two main `.inc` files, with a name formatted as `DynTFT_<ThemeName>Colors`. Although a working theme can be made by placing the component-level `.inc` files somewhere else, either near the main `.inc` files or in another directory, DynTFTColorThemeGen expects them to be in the mentioned directory.

A DynTFT color theme project is a file, with a `.dyncol` extension, which keeps a list of colors and their names, paths to the theme's `.inc` files and additional information required to successfully load/regenerate the main `.inc` files. However, a theme project does not store the content for component-level `.inc` files.

To allow live changing of component colors and preview them on "DynTFT SimScreen" window (a.k.a. the simulator window), all the color constants, used by DynTFT components, were converted to variables and made available to DynTFTColorThemeGen via a unit (`DynTFTColorThemeGenLiveColors.pas`). Thus, the DynTFT components use variables for colors instead of constants as in a normal DynTFT application. This means that every time a user adds or removes components from the list of components of a theme, DynTFTColorThemeGen has to regenerate the `DynTFTColorThemeGenLiveColors.pas` file and be recompiled to successfully load the theme files (this can be done from the "*Live Theme*" menu).

How to use DynTFTColorThemeGen:
The application was not designed to start from scratch. It relies on an existing theme, like DynTFT_SysColors. This means that users have to manually create the `.inc` files or use an existing theme, then load these files into DynTFTColorThemeGen, to edit the colors. Once loaded, a project can be saved, allowing to be easily reloaded later.

To create a new theme, starting from DynTFT_SysColors, users would have to do the following steps:

1. Open the application (DynTFTColorThemeGen.exe).

2. Leave the "*Prefix*" and "*Suffix*" editboxes to their default values, then click the "*Generate list from .inc files...*" button, to load the list of components and their color constants. A "*Browse for Folder*" dialog-box will appear. Browse to the "*DynTFT_SysColors*" folder, located in the "*DynTFTColorThemeGen*" folder (near the applications's executable file), then click "*OK*" or "*Select Folder*". At this point, the component-level `.inc` files are loaded by the application. By setting the "*Prefix*" and "*Suffix*" editboxes to other values, the application can load color themes with other names. The value list editor from "*Components*" groupbox should display all the loaded `.inc` files and their decoded names. The component names are decoded based on the "*Prefix*" and "*Suffix*" editboxes. Clicking a component name in the value list editor from "*Components*" groupbox, automatically displays the list of color constants under the "*Color Selector*" groupbox.

3. Change the name prefix of the new theme, from the "*Theme Name Prefix*" editbox (the editbox is located on the right-bottom side of the window). For DynTFT themes, this prefix is "DynTFT". Use your own prefix, to avoid name collisions with other themes.

4. Change the name of the theme, from the "*Theme Name*" editbox, naming it as desired (the editbox is located on the right-bottom of the main window). Make this name short, because it is going to be used through theme files, resulting in pretty long filenames. For example, the default theme of DynTFT, the system theme, would have this suffix set to "Sys".

5. Since new component-level `.inc` files are going to be used in the new theme, and not the `.inc` files loaded in step 2, the "*Prefix*" and "*Suffix*" editboxes should be properly set to allow loading these new files. Click the "*Get from output*" button to automatically update the Name Decoder editboxes (the button is located under the two editboxes).
Tip: hover the mouse over various components on the "Color Selector" window, to display hints.

6. Click the "..." button, near the "*DynTFTColorTheme.inc*" editbox, to select the location where the `DynTFTColorTheme.inc` file is going to be saved. The `UserColors.inc` file will be saved near it. If the "*Save Theme Files When Saving Project*" checkbox is checked, the component-level `.inc` files will be saved when saving the project (`.dyncol`). If not, the component-level `.inc` files can be saved by chosing "*Project Theme*" from the main menu, under "*Project Theme*" and then click "*Save*". It is recommended to keep this checkbox checked, to make sure every modification gets saved.

7. To save the project, choose "*Project*" from the main menu and then click "*Save Project and component inc files, As...*". Then, browse to the folder where you want to save the project. Select a name for the .dyncol file, then click "*Save*". A messagebox will appear, informing that the project theme was saved succesfully and that the DynTFT project needs to be recompiled to use the new colors. Click "*OK*".

8. To open an existing project, choose "*Project*" from the main menu, and then click "*Open Project and component inc files...*", then browse to the folder where the `.dyncol` file is saved, then open the file.

9. Since you are about to start editing, start the simulator from the "*Simulate*" button on the main window. Keep in mind that not all color constants can be live updated, so they need the simulator to be restarted.

To edit a theme, follow the next steps:

10. In addition to the standard colors, users can add their own custom colors. To add new colors, double-click the "*Current Color*" panel, select the desired color, then click "*OK*". In the "*Color Name*" editbox, write the name of the color, then click the "*Add Color*" button. The name cannot contain special characters, because it will be converted to a constant, so this should be compilable as an identifier.
The color can also be set from the R/G/B track bars, located on the left of the "*Current Color*" panel. Under the three track bars, the HEX code can also be seen for the selected color, both in 32-bit (8-8-8 BGR) and 16-bit (5-6-5 RGB) formats.
To get a color from the "*Color Constant*" column of the value list editor ("*Color Selector*" groupbox) to the "*Color Name*" editbox, click the color in the "*Color Constant*" column and then click the "*Color From List*" button. The "*Current Color*" panel will show the color chosen from the "*Color Constant*" column.
After clicking the "*Add Color*" button, the new color appears in the "*Theme Colors*" list, on the right side of the window.

11. To update a color, select it from the "*Theme Colors*" list, double-click the "*Current Color*" panel, select the desired color, click "*OK*", then click the "*Update Color*" button. The color name can also be updated from the "*Color Name*" editbox.

12. To delete a color, select it from "*Theme Colors*" list, then click the "*Delete Color*" button. To sort the colors in the "*Theme Colors*" list, click the "*Move Up*" / "*Move Down*" buttons.

13. To change the components' colors, select the desired component from the "*Component Name*" column in the value list editor from the "*Components*" groupbox, then select the color you want to change, from the "*Color Constant*" list. Then, choose a color from the combo box, located under the "*Update Selected Constant*" button, then click the "*Update Selected Constant*" button. The colors that were added in "*Theme Colors*" list, will also be shown in this combo box. To edit the name of the component color item, check the "*Editable Name*" checkbox, then update the name in the "*Color Const Name*"editbox. Usually, the constant names do not have to be renamed, so keep this checkbox unchecked.

14. To print the screen of the Simulator, click the "*Print DynTFT Screen...*" button, located on the bottom-left of the main window. To preview the background color (from the "*Current Color*" panel), click the "*Preview Background Color*" button, on the bottom of the window.