Introduction

This document provides design notes for doing poker chip designs. It is intended to help those who are interested in creating custom poker chips. Many of you will be working with an artist at HomePokerChips.com. This will describe the process and provide some insights into the constraints and limitations.

A word about "Printing"

Throughout this document, we will use the word "printing" to describe the unique and proprietary process that our chip factory uses to put color onto chips.

An Overview of the Design Process

All designs should start with an idea of what is desired on the chips. For inspiration, there are several sources:

- **The Custom Art Gallery:** In the Members-only section of HomePokerChips.com, there are many custom designs shown in the online Art Gallery. Reviewing the gallery will help to identify which designs that you like and don't like, as well as to identify type fonts and colors.
- **The Bonus Book:** Also in the Members-only section is a PDF showing nearly 50 custom designs. You can browse the Bonus Book online, or download a copy to print or review offline.
- **The Stock Designs:** A complete set of stock designs can also be found in the Members-only section. You may find a "look" or component (such as Royal Flush or a font) that you like here.
- **Clip Art Sources:** HomePokerChips.com subscribes to www.clipart.com, which has millions of images online. More details on browsing clipart.com are given below.

After you have an idea about what you want, you are ready to get started. When you place your order, try to communicate as much detail as possible about what your want for your chips. Once your assigned artist has those details, you will be receiving an email with either a preliminary design, or a request for clarification. Designs are presented for review in two formats:

- An on screen version (in either GIF or JPEG file format) that is enlarged 200%. You can view these proofs in your browser.
- A printable PDF version at actual chip size. To view or print the PDF, you will need to have Adobe® Acrobat® Reader installed on your system. See the section below on **PDF Printing** for some tips on optimal printing of these PDF files.

We recommend that you print the PDF proofs to get the best idea about what the chips will look like at actual size. Also, the printed proofs are a much better way to see if the color combinations work.

Once you've reviewed the proofs, you will want to provide feedback to your artist. The more details you can provide, the clearer your feedback will be, which will make the entire design process go much quicker. In response to your feedback, you'll get a new review set to look at. This process will continue until you're happy with the designs, at which point you will sign off on the art work, and it will be put into production. Note that there are limits to the number of review cycles (based on which Artwork option you selected).

Image Rights

We are limited in what images and graphics can be used on the chips. Any copyrighted or trademarked materials cannot be used without explicit permissions from the holder of the image rights. This means that sports team logos, photos of celebrities, cartoon characters, and contemporary works of art are usually not acceptable.

There are basically three different sources for artwork that avoid problems with image rights:

- Public domain images. Government funded agencies such as NASA, the Library of Congress, and the military have many collections of public domain images available.
- Clip art sources. The www.clipart.com site has already been mentioned. There are many other source of clip art and clip images available online and on CD-ROMs.
- Original artwork. If you are supplying a photo or drawing that you created yourself, then there's no problems as long as it isn't a copy of a team logo or the like.

File Formats

There are two types of graphics formats that work for chips: vector art and bitmap art.

Vector art is composed of lines, curves, shapes and text, and can be scaled up or down to any size without loss of quality. Example file types of vector art include .AI, .EPS, .PDF, .WMF, and .SVG. However, some of these file types can also contain bitmap images, so it's not always possible to tell from the file extension if you have vector or bitmap art (or both) contained within the file.

Bitmap art is made up of pixels (dots), and cannot be easily scaled. Example file types of bitmap art include .GIF, .BMP, .JPG, .PNG, and .PSD. Digital cameras, computer scanners, and "Paint" programs produce bitmap images. When supplying bitmap art, the

file needs to have enough pixels to work at actual chip size. The printing process has a resolution of 300 dots per inch, and a chip is about 1.5 inches in diameter, so this means that an image that completely fills the chip face would have to be at least 450 x 450 pixels.

A common problem is not providing enough pixels for the area of interest of a bitmap image. For example, if you want a picture of your Mom's head but send a 300 x 500 pixel image of her standing in a group, there won't be enough pixels available for her head to be seen clearly on the chip.

The opposite problem is providing too many pixels. If you have a 1600 x 1200 pixel image of your car for your chips, that's too many pixels to fit without scaling down the image. This is a lessor problem since bitmap images can be scaled down without loss of quality, although some details may be lost. However, your file attachment is much larger than it needs to be, and this translates into increased upload and download times.

If possible, create vector art using vector-based drawing tools such as Adobe Illustrator®, Macromedia® Freehand™, or CorelDRAW®. Preferably submit artwork in Adobe Illustrator version 8 .AI format, with all text converted to outlines.

Adobe Illustrator 8 is the version that our chip factory uses to drive their custom software that supports their unique chip printer. Both Freehand and CorelDRAW can export to this format (or an earlier version).

Adobe Illustrator can import a variety of "foreign" file formats. The formats supported include:

- .EPS   Encapsulated Postscript
- .PDF   Adobe Acrobat
- .FHn   Macromedia Freehand version n, n=4,5,7,8
- .CDR   CorelDRAW versions 5,6,7,8
- .WMF   Windows Metafile
- .SVG   Scalable Vector Graphics (W3C standard)

All of the above formats are easy to work with. With vector art, in addition to scaling, it is easier to change colors or edit out unwanted portions of the graphic.

ClipArt.com

The web site www.clipart.com has a large collection of clipart, photos, and fonts available. Access to the collection is done using a search field. Check boxes are provided to limit the file types of the clip art.

For vector-only art, you should check the EPS and WMF boxes, and uncheck the GIF, JPEG, PSD and PNG boxes. To look for only Color images, uncheck the "B/W" box.

The type in blank for the searches supports multiple keywords, but there is a specific syntax used. If you type in "monkey wrench" you will find all monkey images and all wrench images. To just find monkey wrenches, you would have to type in "+monkey +wrench". Since most images have multiple keywords associated, you sometimes will want to exclude a keyword. To see monkeys but no monkey wrenches, type in "+monkey –wrench".

When you see an image that you like, you should click on the thumbnail to see a larger version, and to get the item number. Use the item number to communicate what images are of interest. You can also go to a specific image by typing "item:NNNN" into the search blank, where NNNN is the item number of interest.

If you want to look at photos, you would need to select "Photos" from the drop down list, and check the file type boxes for JPEG, PSD, and PNG. Most photos will have a JPEG version.

Fonts

You may want to match a specific font on your chip design. If you can point us to an entry in the Gallery, we should be able to identify the font used. In most cases, we can give you an exact match

If you've seen a font used in print or online, but don't know the name of it, you can try to determine that online at www.identifont.com. This web site lets you find fonts by name, or by answering a set of questions about the font that you like. If you have a specific sample of text to match, you should use the "Identify specific letters" link. You will only be asked questions about the letters in your sample.

There are a number of online resources for free fonts. These include:

- www.clipart.com
- www.identifont.com
- www.highfonts.com

If you can send us the TTF files for TrueType fonts, we can use them in your design.

Proofs

GIF or JPEG versions do not show accurate color. All colors are much lighter and more washed out than on the chip. The PDF versions are a better match on color.

PDF proofs (when printable on a suitable printer with the correct print options) can be pretty close to the actual chip colors, but there are several cases where they are off. In particular, all of the shades of gray print lighter than they appear on the actual chips.

For the best reference on what the actual chip colors will be on the finished chips, you should obtain a set of reference color wheel chips. These color wheel chips are available for a nominal fee: Visit www.homepokerchips.com/sample.htm to order your set.

The artwork is prepared using CMYK (Cyan/Magenta/Yellow/blacK) colors, so it's best printed on a 4-color printer. Some ink jets only have 3 colors, mixing them to produce black.

PDF Printing

To print PDF's so that the chips are shown at actual chip size (39 mm), you may need to uncheck a default setting of Adobe Acrobat's print dialog. Look for the option "Shrink oversized pages to fit" and make sure that it is OFF (unchecked). Acrobat sometimes regards PDFs as oversized. Note that this seems to depend on the particular printer: some printers do not need this correction.

Printing in order to get the "best" colors (closest to the color wheel chips), you need to look for a printer option for "color correction". Set this to "NONE" (no correction) or "SWOP".

Kinkos usually have a CMYK color laser printer available for hire, if you don't have easy access to a suitable color printer.

Colors

Ink on paper is a better match for dyes on chips than pixels on screens.

The color wheel chips are strongly recommended and should be used as a double check against the colors.

The artwork should be prepared in CMYK (Cyan/Magenta/Yellow/blacK) colors.

RGB colors tend to be more vibrant in many cases. This is the difference between projected light (RGB) v.s. reflected light (CMYK).

Color & Design

Provide vector art over bitmap art if possible since it reproduces best on the actual chips. In addition to being scalable without loss of quality, vector art is easier to manipulate for changes like color corrections.

All magenta rich inks (red, orange, purple, and some shades of blue) will bleed into nearby areas of lighter color. Black strokes/outlines help prevent bleeding issues, but there are cases where this approach won't work. For example, on fine details or small text, the added outline tends to obscure the text or graphic.

Include outlines on the edge spots to prevent color "bleed" problems

In many cases, you will a want a strong contrast between two colors. Try to pick distinct colors that are easily seen to be different in not only color but in relative shade. For example, the 9829 Pale Blue and 9839 Lime Green are too close in relative shade to be distinguished from one another. The same is true for 9823 Violet and 9857 Grey. This guideline applies to text against a background, adjacent edges spots, and the set of colors chosen for the chip set.

To help with the bleed problem you can use light and dark colors in the same base color e.g. Light Red, or Coral, or Pink don't need to protected from bleed on a Red or Brick Red background. The same is true for shades of purple. So with the "right" color selections, one can avoid using strokes for bleed problems.

Try to limit the number of different colors, and avoid using similar shades.

One choice for a "gold" color: a gradient of 9804 Gold going to 9852 Rust will get a simulated metallic gold look. This Gold/Rust gradient works best if it's used on a large enough area. For fine details, it is less effective.

Other "gold" choices: 9804 Gold by itself (more like a light orange or an orangy yellow), 9845 Mustard Gold and 9846 Gold Ochre.

For silver you can use 9856 Light Grey, or maybe a gradient of 9856 Light Grey going to 9858 Dark Grey for a darker metallic look.

There isn't much difference between 9807 Red and 9808 Warm Red. The Warm Red has a tiny bit more yellow added, but they are **very** close in shade.

Photos & scans can be significantly different than actual chip colors so matching colors from photos and scans to computer monitors and color printers is very difficult. Part of the final process of preparing the chips for the factory involves remapping the colors of a photograph or scanned image to be close matches for the set of 78 colors (plus black and white) that our chip maker supports.

Trust the color wheels as the most accurate color reference

Not all gradients work well. In particular, gradients to light colors or white will have banding problems.

A lot of detail can be lost at actual chip size. Print your designs at actual chip size to see what works and what doesn't work.

The Outer White Ring

The thin white outer ring is a feature of the chips. It is a slightly raised unprintable region that serves to prolong the life of the chips by minimizing wear on the chip faces due to friction.

The factory template uses a 37.05 mm printable circle (out of a full 39 mm diameter chip).

The Mint Mark

Since June of 2004, the factory has required all chips (for casinos, cardrooms, and custom home sets) to include one of these "CI" marks. You can change the color, rotation, and location of the mark, but not the size or font.

The mint mark is about 1 mm high (roughly 4 point type).

Text

Fancy serifed fonts and script fonts don't work well at small font sizes because the fine details get lost. A sans serif font (like Arial or Helvetica) works better.

We are used to reading 10 or 12 point type in printed materials, so when we start resorting to 5 and 6 point type on chips, they can be difficult to read at a glance. Any text smaller than 5 point type is very hard to read, and should be avoided.

Here's an experiment to see if your text details are too small: Print out the PDF at actual size, set the print on the table next to your computer monitor, and see how well you can read the text while sitting in your chair. (This is to simulate reading the chip at the poker table).

Tips to improve text readability:

- Make it bigger. In some cases, this means fitting it to a circle at the outer rim of the chip. There's more space there (the circumference is has a greater length than the diameter).
- Use all CAPITAL LETTERS. Mixed case is harder to read at small sizes
- Use a sans serif font. Fancy serifs get lost at small sizes.
- Fancy serifs only work if the text is big enough to allow the details to come through.
- Use less words (or characters) to say the same thing.

- Use strong color contrasts: White text on dark chip colors, Black text on light chip colors.
- Avoid (when possible) adding strokes or outlines to text. This tends to fill in the letters, making them harder to read. The best stroke is often no stroke at all.
- Avoid printing text on the edges. There are several technical problems with getting good results.