Version history

Date	Scope
2020-08-26	Initial version of the document
2020-08-27	Corrected some minor errors and typos

1. Cropping of individual counters from a counter sheet. Automated way.

Consider following use case:

We implement a Vassal module for recently published game. Publisher / game author was kind enough to share high-res graphics to use in the module; high-res graphics usually come in PDF format.

The task we face can be outlined as below:

1. cut the counter sheets into individual pieces and name them properly;
2. make them look good;
3. import them to Vassal.

What follows is a rough-quick-and-dirty introduction as to how to deal with step #1 above.

1.1. Prerequisites

We assume use of ImageMagick. We also assume some familiarity with Windows / Linux script programming (`.bat` , `.sh`). From now on we assume use of Windows.
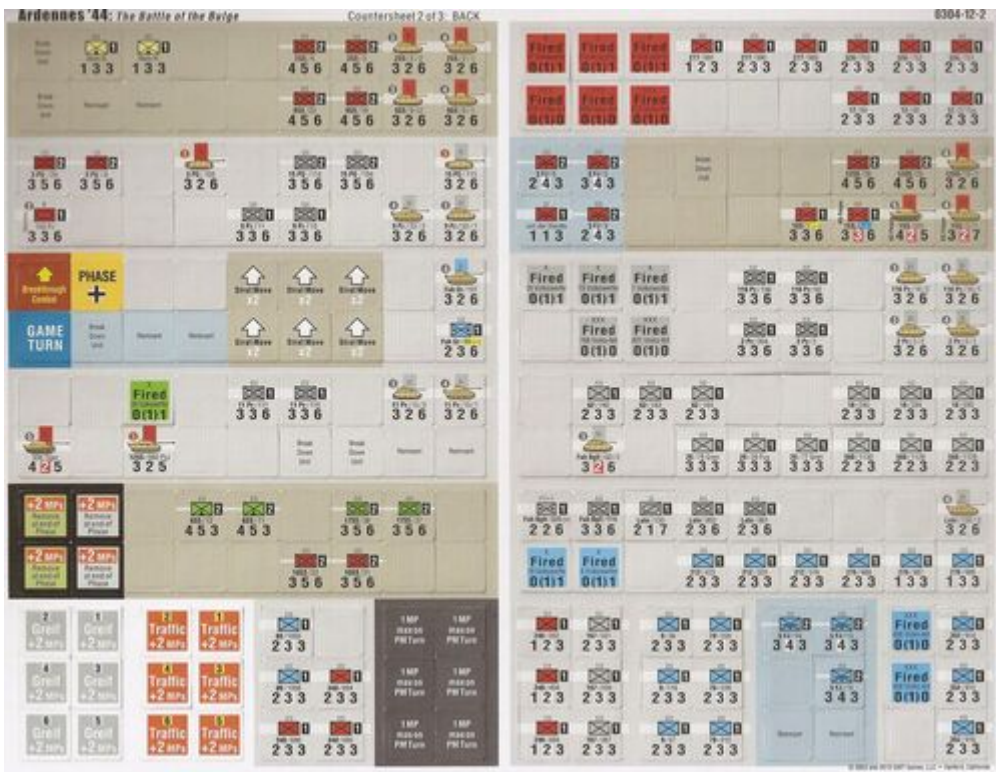
1.2. Cropping

Say you have a counter sheet from Ardennes'44 (following images are used only as samples; you would use original images, not scans, for module implementation; for educational purposes these are more than enough, though):

Front:
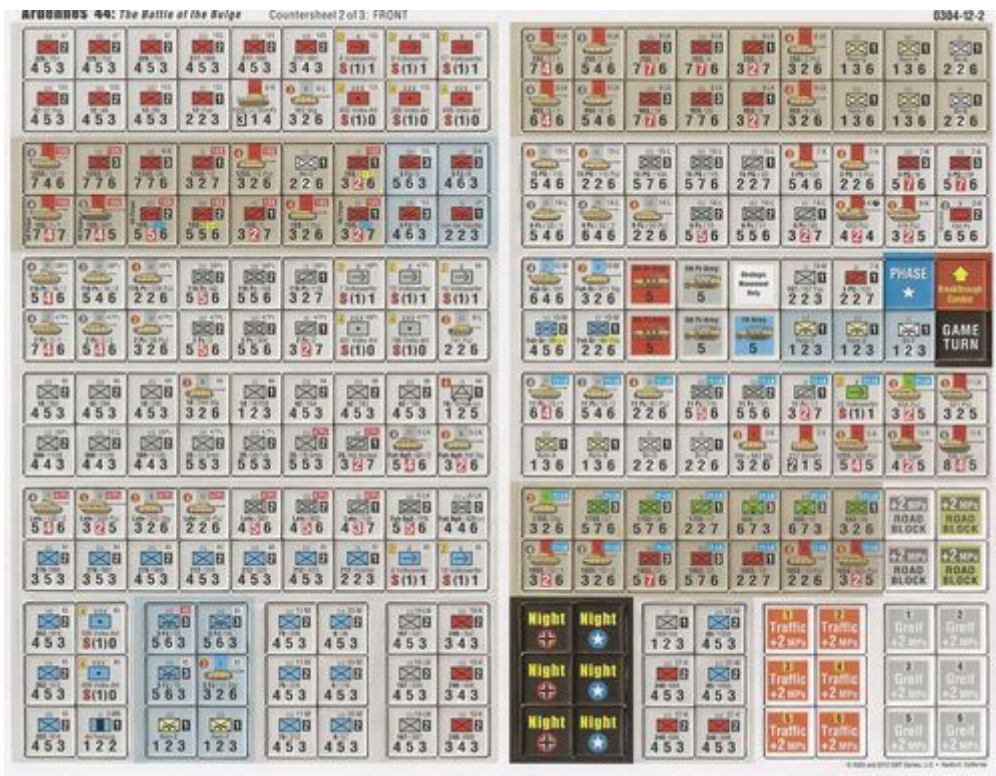
Back:

Using your favourite graphic editor you cut top-left stripe from the front sheet and corresponding stripe from the back sheet:

Front (`front-stripe.jpg`)

Back: (`back-stripe.jpg`)

As there are 9 counters in the row, the width of stripe is divisible by 9 (549px in my case) to ensure all the counters have same width. Counters of different width is nothing ImageMagick can't handle, of course, but for purpose of this tutorial let's assume we want them to be uniform.

With your favourite editor create a Windows batch file containing following commands:

```
magick front-tripe.png -crop 9x2@ output\front-^%%02d.png
magick back-stripe.png -flop -crop 9x2@ -flop output\back-^%%02d.png
```

Run it to cut striped into individual counters:

Note: `^%%` is a Windows idiom that resolves to `%`. `%` has a special meaning in Windows batch programming. In Linux environments these commands would be a bit different.

Notice that both front and back of the same counter share common suffix:

Now, note that with back looking as above, as ImageMagick crops image from left to right, we would have suffixes mixed up if we didn't account for that. That is why we need `-flop` command that "mirrors" the stripe vertically:
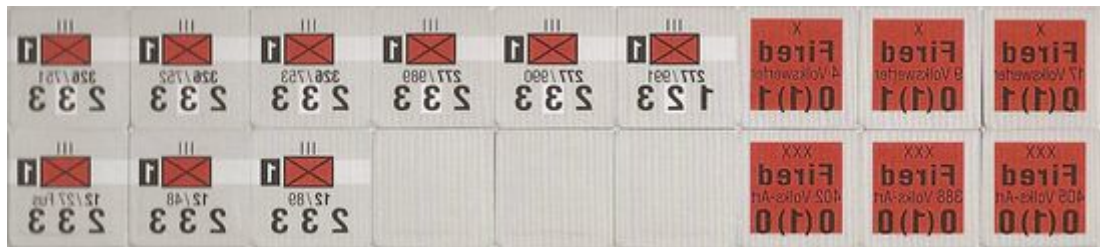
Another `-flop` flips the (now individual) image back.

Let' dissect command `magick front-stripe.png -crop 9x2@ output\front-^%%02d.png` to better understand what is happening:

1. `front-stripe.png` is the input file
2. `-crop 9x2@` orders ImageMagick to crop stripe into 18 individual files, 9 columns each in row, 2 rows.

3. `output\front-^%%02d.png` orders ImageMagick to save cropped files in folder named `output`. `%02d` adds two digit suffix to each file (left-padded with `0` if required)

Vassal Piece Mass Loader allows to define a suffix of counter backs soyou may want to change commands to:

```
magick front-stripe.png -crop 9x2@ output\counter-^%%02d.png
magick back-stripe.png -flop -crop 9x2@ -flop output\counter-^%%02d-back.png
```

and instruct Vassal to treat files with `-back` suffix as backs of counters sharing the remainder of the filename.

The above procedure can be augmented by post-renaming of the files (if that's required). To achieve this you would need a batch file (bash script in Linux) that would rename all generated files accordingly. To generate such script you can use your favourite programming language or even a spreadsheet. More on this later if a need be.

Hope that helps.