Special considerations

Printing on rough, thin or otherwise problematic paper stock, coarse resolution of high-speed typesetting systems, uneven inking, extremely small typesizes, minimum line-feed to save space, and very often – as in listings of all sorts – line after line of similar word shapes pose particular problems to the design of a typeface.

These adverse conditions can only be counteracted by technical and aesthetic manipulations during the design process. Pretty shapes viewed at large sizes are thus less important than the fact that individual characters work well within words and fulfil their purpose within the constraints of that particular brief.

Specially-designed faces such as Bell Centennial show that solutions can be found for clearly defined problems. In order then to define the task instead of relying on individual inspiration by gifted artists, we analysed six families of faces to see what they have in common and how far one can deviate one way or the other.
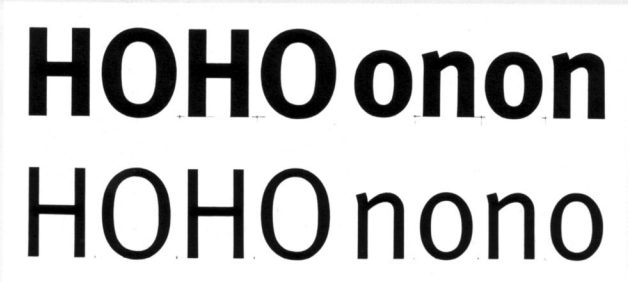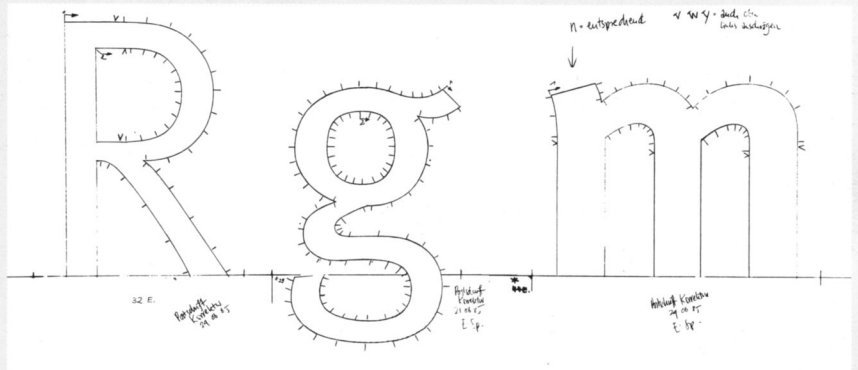
The concept

After having measured various proportions, eg x-height to cap-height, stroke thickness to cap-height, average width, dimensions of ascenders, descenders and figures as well as having looked at critical shapes – letters which are easily mistaken for each other, relationships between white space and black shape, etc – we had a clear view of what our typeface should look like:
it had to be a sans serif face – to go for anything else would have been too much of a culture shock for a rather conservative client;
we needed a narrow typeface, but not a condensed version of an existing design;
the main strokes had to be thick enough to withstand printing on rough paper but at the same time light enough to give an even appearance with enough space between letters to distinguish individual characters;
characters needed to be individual enough to avoid mix-up with similar characters but not over-designed;
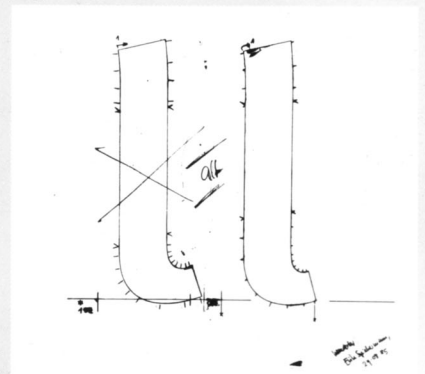capital letters had to clearly mark the beginning of new words (in German, all proper nouns start with a capital letter) but not to stick out obtrusively when used as caps only;
x-height had to be relatively large but not too much so;
figures needed to be clearly distinguishable from each other and somewhat smaller than caps to avoid groups of figures sticking out and looking bigger than type;
curves, indentations, flares and open joins were to counteract bad definition, overinking and optical illusions, especially in small sizes;
tension between smooth outer shapes and somewhat squared-off counters was to increase clarity and legibility;
counters and negative shapes were to be given special consideration.

Having a family of three weights – regular, regular italic and bold – would provide enough differentiation for the Bundespost's needs. The regular and bold weights have to be drawn by hand; after digitisation the data can be used to interpolate the italic, which then needs small adjustments made.

▟ 8
Most display faces for signage systems are too **bold,** not giving the inner shapes enough definition. This version (top line) is 15% heavier than the regular weight.
▟ 9
Corrected outline drawings at the final size of 192.5 mm (7¾ inches). The little ticks are the points the computer needs to store the complete character.
▟ 10
Could regular and **bold** have the same widths?

▟ 8

▟ 9

▟ 10

▟ 11

▟ 12

▟ 13

▟ 11
Defining the rhythm – **h, o,** and **n** are unitised and set the standard for the rest of the alphabet.
▟ 12
Preliminary artwork for the regular weight, cap height approx. 90 mm (3½ inches).

▟ 13
After digitisation, more corrections were (and still are) needed.