Designing with type

A BASIC COURSE IN TYPOGRAPHY **BY JAMES CRAIG**

REVISED EDITION

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Also by James Craig

Production for the Graphic Designer

Basic Typography

Graphic Design Career Guide

Thirty Centuries of Graphic Design

Working with Graphic Designers

Designing with type

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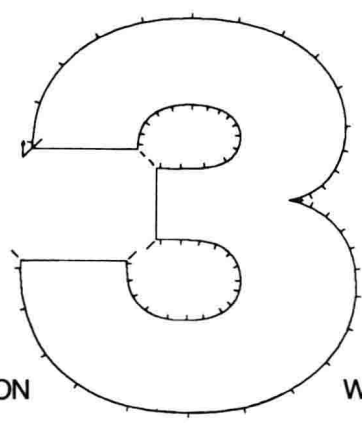
EDITED BY SUSAN E. MEYER



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Dedicated to every student who had to take typography—and hated it.

Contents

Introduction

With the end of the century and the beginning of a new millennium, the field of information and visual communication will continue to grow, surely becoming one of the major industries of the twenty-first century. A major part of that industry will be typography: the style and arrangement of typeset matter. Graphic designers working with computers will be the typographers of the future and their success will be greatly determined by how well they are trained to work with letterforms.

Typography is probably the most important subject design students will study in art school. As professional graphic designers, they may never be called upon to create an illustration or photograph, but they will certainly be called upon to use their typographic skills throughout their entire career. Illustrations and photographs may attract attention, but in the end the words are what sell. Because clients know this, you will find few projects that are devoid of type. In fact, many jobs will consist entirely of type.

Typography and Technology

Since Johannes Gutenberg perfected the art of printing from movable type in the mid-fifteenth century, we have witnessed many changes in technology but no change has been more dramatic than the introduction of electronic publishing. Type, once cast as individual pieces of metal, is now computer-stored and generated by high-speed laser technology. Typeface design, once modeled on handwritten scripts, is now subject to electronic manipulations. And some of today's typography would probably shock Gutenberg and his contemporaries—both technically and esthetically.

What technology has not changed is how we read. There are still twenty-six letters and we still read them left to right, one line at a time. So, while typesetting methods, typeface design, and fashions in page layout may continue to evolve, we must never lose sight of two facts: that type is still meant to be read and that typography, by its very nature, is a conservative art. We work with an alphabet that has slowly evolved over thousands of years. We learn letters when we are children, just as we learn to read and write. Once these skills are mastered, even the most adventurous among us does not wish to see the alphabet redesigned or tampered with.

Does this mean that all typography must be predictable and "boring?" Certainly not. Type is wonderfully versatile: it can be solemn, serious, businesslike, playful, or downright silly. Of course, there are times when type should be "invisible," i.e., unobtrusive, and there are times when type can shout. Whatever the approach, type should always be appropriate to both the subject matter and the audience.

What makes a particular type treatment appropriate is a process that involves a number of factors. Foremost is the general purpose of the piece. Is it to be read for information, knowledge, pleasure, entertainment, or is the piece meant simply to attract attention? Additionally, what is the makeup of the audience? What would be an appropriate typeface and type arrangement for that audience? What is the length of the copy? Will the type be affected by the paper or production processes? To answer these and other related questions, you must first respect the fundamental principles of typography. These can be challenged, modified, or even broken, but they cannot be ignored.

Teaching Typography in the Computer Age

Desktop publishing has given the student a freedom never before experienced: the ability to create and manipulate design elements with unforeseen speed and ease. Designs can be created in fractions of seconds, limited only by the student's imagination. Not only great typography but also very bad typography are possible to achieve with ease.

While this is an understandable dilemma when working with a technology that almost begs for innovation, it is also the main reason why students must augment their computer skills with an understanding

and appreciation of type. Although typography can be taught in a number of ways, instructors around the country generally agree that the most successful curricula are those built around projects that involve a knowledge of metal type, comping (tracing or simulating letterforms), copyfitting, and computer technology.

A knowledge of metal type is essential because it is the foundation of all current typesetting technologies and prepares the student for the electronic age by laying down a solid foundation in typography. Not only are all type measurements and type terminology based on metal type, but metal type is an important part of our heritage.

Despite the fact that desktop systems can generate type at incredible speeds, comping is still an indispensable skill. It requires little time to learn and is an ideal way to become familiar with the characteristics of individual typefaces. There is no better way to comprehend the structure, serifs, strokes, stress, and feeling of letterforms than by tracing the individual letters. Professional designers use comps as a shorthand method of visualizing ideas, developing designs, and communicating these ideas quickly to clients. Finally, creating comps teaches discipline, develops hand skills, and comps make excellent portfolio pieces.

Copyfitting is the process of establishing how much space typewritten copy will occupy when converted to type. Although computers have relieved the designer of much of this task, there will be times when the designer will be confronted with typewritten copy and will have to fall back on copyfitting skills in order to complete a task. The day when all jobs are delivered on disks is still in the future.

Courses involving computer technology are an absolute essential part of any design curriculum. Students must be computer-literate if they are to be given serious consideration for any design position. Having said this, it must be remembered that even the most sophisticated desktop system is only a tool and without design knowledge and typographic skills the student is doomed to fail.

The Third Edition

Designing with Type was first published over twenty years ago. Despite the changes in technology during this period, the book has sold well over a quarter million copies and has been adopted by art and design schools around the world. All this would suggest that in spite of the dramatic changes in the typesetting industry and the introduction of desktop publishing, *Designing with Type* continues to educate and inspire students.

When preparing this edition, we had to consider just how much, or how little, to change. While the entire text has been revised, developments in desktop publishing and digital typesetting introduced, and the glossary expanded, we have tried to maintain the qualities that have made the book indispensable to generations of students and instructors. We believe we have struck the right balance.

I would like to express my appreciation to all those who helped make *Designing with Type* a success. Thanks to all my instructors at The Cooper Union and Yale University, especially Paul Rand whose approach to graphic design and teaching methods greatly influenced me. To my associate at The Cooper Union, William Bevington, who helped update the text and projects in this book, I extend my most sincere thanks. I am grateful also to my many friends, critics, and proofreaders: John and Pat Noneman, Jennifer Place, Terry Tolva, Harry Siddeley, and Lynne McElhaney. And the thousands of instructors and students all over the world who have enthusiastically used this book and recommend it to others. And many thanks to my colleagues at Watson-Guptill, Mary Suffudy, Candace Raney, Marybeth Tregarthen, and Stan Redfern.

Above all, I would like to thank Susan Meyer and Margit Malmstrom, my two editors, who each in their own ways helped make this book the success it is.

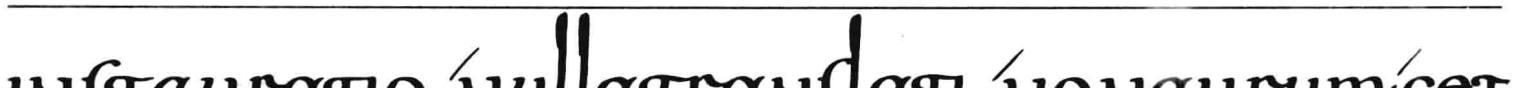
1. Phoenician alphabet (c.1000 B.C.) reads from right to left; the small letters indicate the sounds they represented.

2. Greek alphabet (c.403 B.C.) originally adapted from the Phoenicians c.900 B.C.

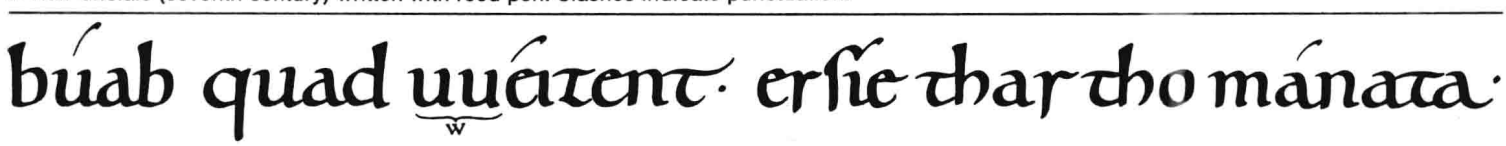
3. Roman alphabet adapted from the Greek.

4. Square capitals (fourth century) written with a reed pen.

5. Rustica (fifth century) written more freely with reed pen. The dots represent the beginning of punctuation.



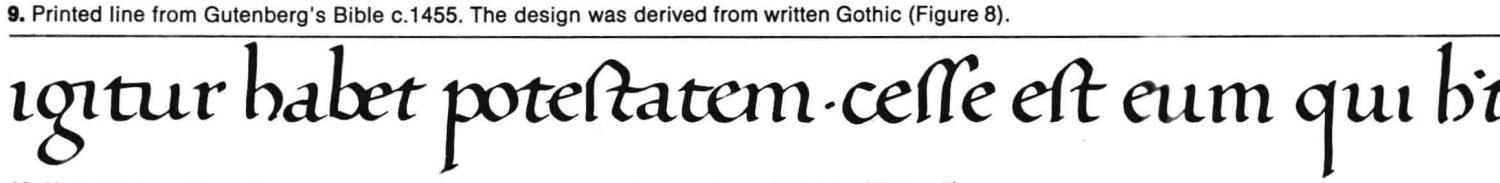
6. Half-uncials (seventh century) written with reed pen. Slashes indicate punctuation.



7. Carolingian minuscule (ninth century) written with reed pen.

8. Gothic letter (fifteenth century German) written with reed pen.

9. Printed line from Gutenberg's Bible c.1455. The design was derived from written Gothic (Figure 8).



10. Humanistic writing (fifteenth century Italian) based on the Carolingian minuscule (Figure 7).

11. Printed line of type, Venice, 1475. The design by Nicholas Jensen was derived from Humanistic writing (Figure 10).

12. Printed line of the first italic type. Also based on Humanistic writing (Figure 10).

1. Origins of the Alphabet

Before proceeding with the more practical aspects of typography, let's first consider the twenty-six symbols we call our alphabet. We tend to forget that the alphabet is made up of symbols, each representing, more or less, the sounds made in speech. Many of the symbols used today are the same as those used thousands of years ago.

Pictographs

At some point in time, people began to communicate visually. They made simple drawings of the things that existed in their world: people, animals, weapons, and so forth. These images, called *pictographs*, are symbols representing an object (**13**). Perhaps the most familiar example of this is the picture-writing of the American Indian.

13. The pictograph is a symbol representing an object. On the left is an early symbol that represents an ox; on the right is the symbol for house.

Ideographs

As the need developed to communicate more abstract thoughts, the symbols began to take on broader meanings: ox, for example, could also mean food. Abstract thoughts could also be communicated by combining different pictographs: a pictograph of a woman and that of a child could combine to mean happiness, for instance. Now the symbols no longer represent objects, but ideas. These symbols are called *ideographs*. A more contemporary example of the ideograph is the warning symbol for poison. The skull and crossbones (**14**) are not seen for what they are, but for what they could represent: death, pirates, or poison.

It is with this system of picture-writing, combining symbols for the concrete (pictographs) and for the abstract (ideographs), that most early cultures communicated and kept records. (The Chinese and Japanese still use this system today.)

This evolution in visual communication from pictographs to ideographs represented a major step in the development of a written language. There were, however, disadvantages to this system: not only were the symbols complex, but their numbers ran into the tens of thousands, making learning more difficult and writing slow.

14. The ideograph is a symbol that represents an idea. The skull and crossbones represent death.

15. First two letters of the Phoenician alphabet. On the left is the symbol *aleph*, which was their word for ox; on the right is the symbol *beth*, which meant house.

16. First two letters of the Greek alphabet. Borrowed from the Phoenicians, these forms were modified by the Greeks, who called them *alpha* and *beta*.

17. First two letters of the Roman alphabet show further refinement. The Romans dropped the Greek names for the simpler *A, B, C's*.

Phoenician Alphabet

As a nation of traders and merchants, the Phoenicians needed a simplified writing form that would allow them to keep ledgers and write business messages with a minimum of fuss. Around 1200 B.C., a new concept in writing communication evolved: *using symbols to represent the sounds made in speaking rather than using symbols to represent ideas or objects.*

To better understand how this change came about, let's look at the first two letters of our alphabet, *A* and *B*, and see how they evolved (**15**). One of the primary spoken sounds the Phoenicians wished to record was "A." This sound occurred at the beginning of their word *aleph*, meaning ox. Instead of devising a new symbol for this sound, they simply took the existing symbol for the object. They did the same for the sound "B," which was found in their word *beth*, meaning house. Again, they took the existing symbol for the object and applied it to the sound.

In this way, by using a different symbol for each of the recognizable spoken sounds, the Phoenicians developed their alphabet (**1**). As this system had far fewer symbols than the older picto-ideograph system, it was easier to learn, and the simplified letterforms made rapid writing possible. The Phoenicians had found the perfect business tool.

Greek Alphabet

The Greeks began to adopt the Phoenician alphabet around 800 B.C. They saw something quite different in the potential of this new system: to them it was a means of preserving knowledge. Along with the alphabet, the Greeks took the Phoenician names for the letters and made them Greek. For example, aleph became *alpha*, beth became *beta* (**16**). From these two letters we derive our word *alphabet*.

The alphabet the Greeks acquired had no vowels, only consonants. Words would have looked similar to our abbreviations—Blvd., Mr., St. Although this might work very well for business ledgers, its broader use was limited. Therefore, the Greeks added five vowels. They also formalized the letterforms, and in 403 B.C., a revised alphabet of only capital letters was officially adopted by Athens (**2**).

Roman Alphabet

Just as the Greeks had modified the Phoenician alphabet, the Romans adopted and modified the Greek alphabet (**3, 17**). Thirteen letters were accepted unchanged from the Greek: *A, B, E, H, I, K, M, N, O, T, X, Y, Z*. Eight letters were revised: *C, D, G, L, P, R, S, V*. Two letters were added: *F* and *Q*. This gave the Romans a total of twenty-three letters, all that were needed to write Latin. The Romans also dropped the Greek designation for the letters, such as *alpha, beta, gamma*, for the simpler *A, B, C*'s that we know today.

The letters *U* and *W* were added to the alphabet about a thousand years ago, and *J* was added five centuries later.

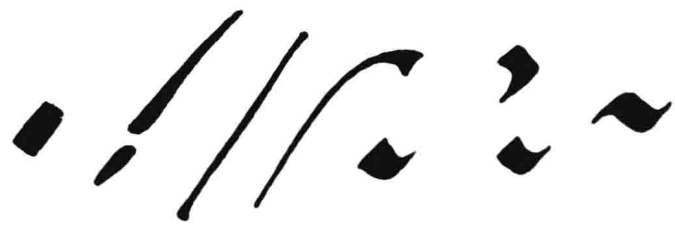
Small Letters

Up to now, we have been discussing capital (majuscule) letters only. The small (minuscule) letters were a natural outgrowth of writing and rewriting capital letters with a pen (**4, 7, 18**). Prior to Gutenberg's invention of printing from movable type in the mid-fifteenth century, there were two popular schools of writing in western Europe: the pointed Gothic, or black letter, in Germany and northern Europe, and the round Humanistic hand in Italy (**8, 10**). The Humanistic hand was a revival of the Carolingian minuscule of the ninth century and is the basis of our small letters (**7**). A flowing form of this same hand is the basis of our italic. The Gothic hand was the model for the typeface designed by Gutenberg in 1455 (**9**).

18. Small letters *a* and *b* of the Carolingian minuscule.

Punctuation

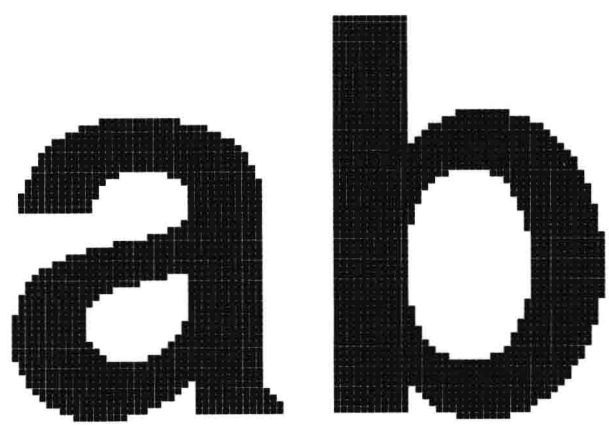
In early Greek and Roman writing, there was no punctuation as we know it. Words were either run together or separated with a dot or slash (**4–7, 19**). It wasn't until the fifteenth century, with the advent of printing, that punctuation became specific.



19. Early forms of punctuation consisted of slashes and dots.

Summary

Our alphabet is made up of twenty-six distinct symbols that represent thousands of years of evolution. As a designer, you can modify, simplify, or embellish the forms, but you cannot change the basic shapes without weakening communication. Yet within this seemingly fixed structure, there is a lifetime of creativity (**20, 21**).



20. Contemporary directions in type design dictated by the computer.

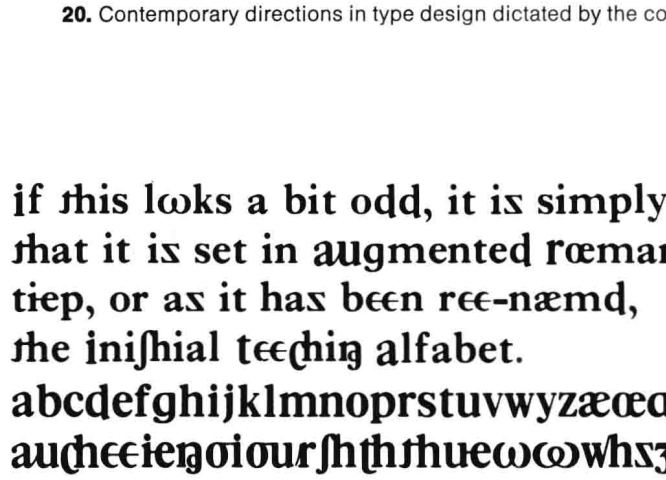
Design Projects

1. Design a twenty-seventh letter for the alphabet. This letter should be easily recognizable, and at the same time it should relate visually to the other twenty-six letters.

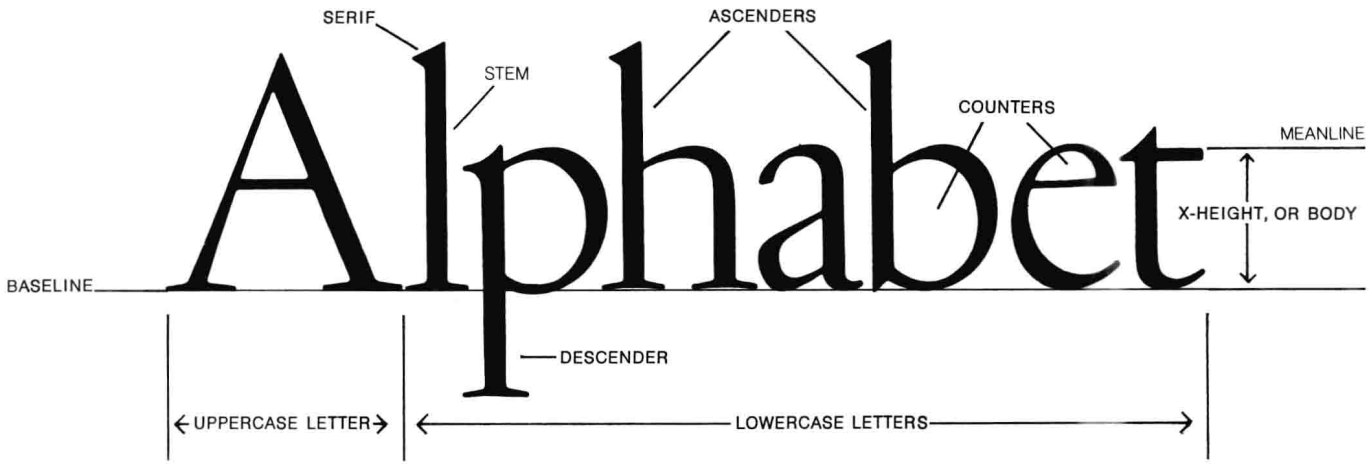
2. One of the most interesting and challenging design projects is to design your own alphabet of twenty-six symbols. Remember that each symbol (letter) should be visually different and esthetically pleasing. This is an excellent project to help you better understand the significance of our alphabet.

3. Do not stop with our alphabet. Study the alphabets of other cultures from around the world. Note the beauty and individual characteristics of their letterforms. You do not necessarily have to understand a language in order to design a typeface. Some of the great typographic designers have created typefaces for languages they never spoke.

4. Calligraphy is an excellent means of understanding the origins and structure of our letterforms. If courses in calligraphy are offered in your school, it would be wise to enroll. If they are not available in your school, you may find a professional course offered at an outside facility, at another art school, perhaps, or at a continuing-education institution.



21. Augmented roman type. Designed as a teaching alphabet to make it easier for a child to learn to read. New teaching methods create new design possibilities.



22. Roman uppercase and lowercase letterforms.

23. Italic uppercase and lowercase letterforms.

24. Sans serif uppercase and lowercase letterforms.
Shown is roman; there is also italic.

2. Laying the Groundwork

Because we tend to see words in terms of the information they convey, we are rarely aware of the actual appearance of the individual letter. As designers, we must consider the letterforms not only as black marks on white paper, but as white space inside and around the letters as well.

In fact, let's start right now (**25**). Have you ever really looked at a letter? Study this figure closely; notice the many intricate shapes in just one simple letter. Notice, also, the shapes outside the letterform. Your ability to see, understand, and appreciate these subtleties is very important.

Anatomy of a Letter

Let's examine printed letters more closely. The letterform in the type you are now reading is called *roman* (**22**). Just about everything you read is roman. It is the first type we learn and the most comfortable to read. There is also an *italic*, which is slanted to the right and is used for emphasis (**23**). *It looks like this.*

The alphabet, as you already know, has capital and small letters. In type terminology, we call the large letters *caps*, or *uppercase*, and the small letters *lowercase*. These terms derive from the early days of printing when caps were kept in the upper case, or drawer, and the small letters in the lower case.

Most letterforms have certain things in common. They are listed below:

Baseline. An imaginary line upon which all characters of a given line stand.

Meanline. An imaginary line that marks the top of most lowercase letters, such as *a, c, e, i,* and especially *x.*

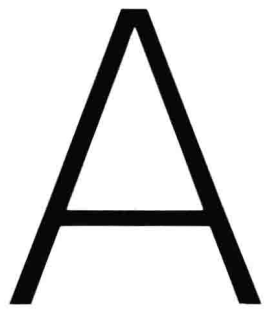
X-Height. The height of the body, or main element, of the lowercase letterform, which falls between the meanline and baseline. It is the height of the lowercase letters, such as *a, c, e, r,* and especially *x.*

Ascender. The part of the lowercase letter that rises above the meanline of the letter.

Descender. The part of the lowercase letter that falls below the baseline of the letter.

25. Letters normally appear as black shapes. When the image is reversed, other shapes become apparent.

LIGHT CONDENSED



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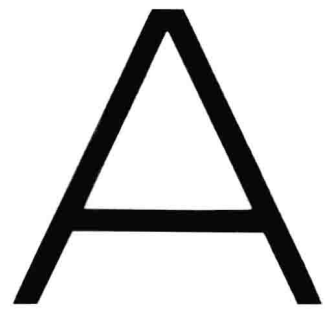

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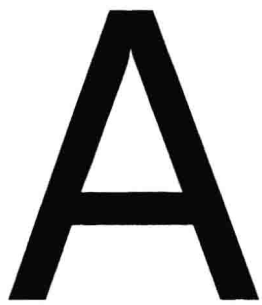

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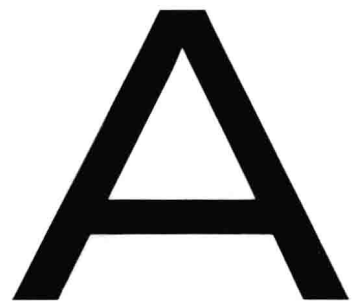
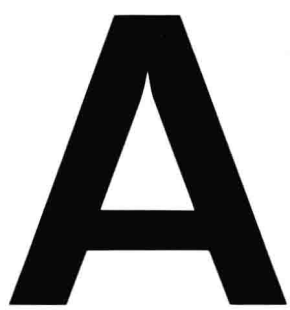


REGULAR EXTENDED

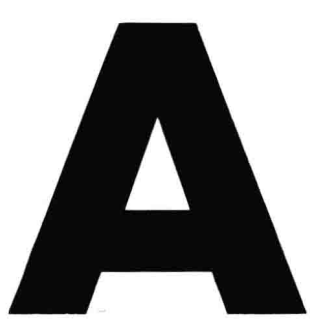
BOLD CONDENSED



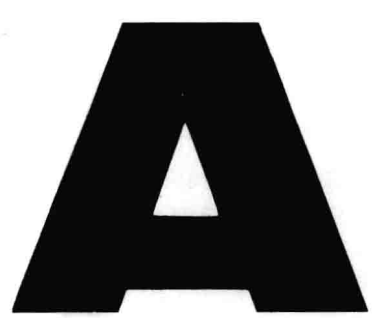
BOLD

BOLD EXTENDED

EXTRABOLD CONDENSED



EXTRABOLD



EXTRABOLD EXTENDED

26. Twelve versions of one letter, achieved by varying the width and weight of the letterform.