

# SOLUTIONS

## FROM ANALOG TO DIGITAL

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### Digital Basics

Welcome to **Solutions, From Analog to Digital**, the first PDF newsletter that shows how creative people solve complex corporate communication problems using appropriate technologies like Acrobat and the Web. In each issue, working professionals will show how they integrate tools like this that enable companies to compete more successful in today's global marketplace.

Each issue will present one or more problems with accompanying solutions. In most cases, the particulars of each solution will differ but the end result will be the same, greater productivity for that organization(s). As each solution is being examined, underlying technical concepts will be explained as to what role they play in the problem solving process. Also in **Solutions** will be a *Digital Basics Section* that will discuss different aspects of digital computing.

#### The Computer, Engine of the Information Age

All digital computers, whether it's a \$900 IBM PC or a \$20,000,000 Cray supercomputer, simply count for a living. To do this quickly requires the computer to count by two's (binary notation - 0's & 1's) using a very fast on/off digital switch called a microprocessor or CPU (Central Processing Unit). The CPU acts as the "brain" of the computer as it generates the 0's and 1's needed

### The Problem: From print to the Net

**Knowledge Transfer International** had a problem. They wanted their web site to present a print magazine in both HTML (Hypertext Markup Language - the language of the World Wide Web) and Adobe Acrobat. They also wanted the design set of both to look similar in order for their audience to be able to easily view and print either document type for both off and online situations.

To accomplish this, **Digital Constructs Inc.** first developed a consistent look for the site, a separate style for the Metazine (the KTI print document) and finally, a system to generate Acrobat PDFs from the Quark Xpress produced Metazine. *Down below is the WWW view of the KTI Metazine cover. On the upper right is the KTI Home Page.*

Knowledge Transfer International



*Knowledge is power - Sir Francis Bacon*

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For the Web Site design, DC used *World Wide Web Weaver* for WWW layout & *Photoshop* and *Graphic Converter* for art production. With these Mac-based tools, DC could develop a look consistent with the type of consulting KTI does for companies like Chase

Manhattan, JP Morgan and GTE. For the Metazine, DE relied on Prime Design to create the different style that KTI wanted for the publication. For this, Prime used *Quark Xpress*, *Illustrator* and *Photoshop*.

The fun began with the need to



## 0&1 On/Off + -

Digital counts, Analog measures. A light switch is digital, while a thermometer is analog. In binary, 00001010 = 10

to do meaningful work

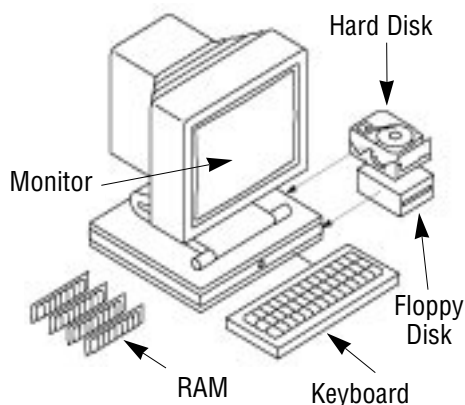
The smallest expression in a computer is called a bit and 8 bits = a byte. A byte, in turn, is considered to be an 8 bit "word" and the more bytes a CPU can handle at one time determines, in large part, how fast the computer is. Today's systems use 32 bit CPUs.

In conjunction with the CPU is RAM (Random Access Memory), a temporary storage space for information (program + data) that the CPU addresses in executing instructions requested by the system's software.

To store information permanently requires the use of floppy and hard disk/optical media. The difference between the two lies in the amount of data stored and the speed of accessing and storing information. The average 3.5" High Density floppy holds about 1.4mb (mb = 1,024,000 bits X 1.4 = 1,400,000 bits or 760 pages of typewritten copy) while hard disks & ODs usually start at 650mb (mb X 650= 650,000,000 bits or 325,000+ pages of copy).

*Because hard media spins from 1800-7500 RP (Revolutions Per Minute) vs. 300 RPM for floppies, hard media runs at least 6 times faster.*

Below is a diagram showing the parts of the average computer.



move this layout to the web. To accomplish this, DC used *Beyond Press*, an extension that converts Quark data into clean HTML. Because *Beyond Press* is not a complete HTML editor, DC used *Web Weaver* to do the required touchups prior to uploading the information to the Net.

*Below is the equivalent PDF of the Metazine cover*



For PDF, the process was considerably easier. After Prime finished the design, DC took the layout and converted it to PDF using *Acrobat Distiller*. *The key to making this work was to turn off all of Quark's smoothing options before doing the rip.*

The reason for generating PDFs so early in the process was to permit faster proofing. To do this, DC trained KTI to use *Remark*, an IBM-based Exchange plug-in that allows people to markup Acrobat documents. By working this way, the team of writers that produce the Metazine could make editorial changes without the need of Faxes and phone conversations.

After the Metazine was proofed, DC used *Acrobat*

*Exchange*, to turn the Metazine and it's individual articles, into interactive documents complete with embedded URLs (Universal Resource Locators) to permit readers to link (by clicking on the URL) to relevant online information mentioned in the publication.

By combining HTML and PDF in this seamless fashion, KTI is able to better communi-

cate with it's diverse audiences whether they be Knowledge pros or with corporate clientele. Another benefit from PDF is that KTI can now electronically send the PDF to it's printer to

generate the geometry for the job. For high res images, the printer got the graphics through Fed Ex.

For automatic PDF output, DC set up a Windows 95 Compaq server with 64MB RAM and a 3GB hard disk connected to a Novell/ethernet network. On the Compaq, *Distiller* runs in the background ready to process any PS (PostScript) documents that are placed in the "in" folder of the "Watched" directories. To automate the process further, DC also installed *Compose* (an Exchange plug-in that creates bookmarks on the fly) to build interactive documents in real time.

KTI URL: <http://www.ktic.com>  
DC URL: <http://www.dconstructs.com/dc/>