

Head office:
Dansk Data Elektronik A/S
Herlev Hovedgade 199,
DK-2730 Herlev, Denmark
Tel: (+45) 42 84 50 11. Fax: (+45) 42 84 52 20.

Danish sales offices:
Dansk Data Elektronik A/S
Vindingvej 2C,
DK-7100 Vejle, Denmark
Tel: (+45) 75 72 26 00. Fax: (+45) 75 72 27 76.

Dansk Data Elektronik A/S
Lucernevej, Klokkeholm,
DK-9320 Hjallerup, Denmark
Tel: (+45) 98 28 45 44. Fax: (+45) 98 28 45 65.

Subsidiaries in other countries:
DDE Sverige AB
Kanalvägen 12.S-194 61 Upplands Väsby, Sweden
Tel: (+46) 760 74040. Fax: (+46) 760 74485.

DDE Norge A/S
Svovelstikka 1
Postbox 6437, Etterstad
N-0605 Oslo, Norway
Tel: (+47) 2 672267. Fax: (+47) 2 672215.

DDE Great Britain Limited
2-4 Oxford Road, Newbury
Berkshire RG13 1PA, England
Tel: (+44) 635 550909. Fax: (+44) 635 550900.

DDE Belgium N.V.
Excelsiorlaan 45
B-1930 Zaventem, Belgium
Tel: (+32) 2 725 1225. Fax: (+32) 2 726 0305.

Dansk Data Elektronik S.A.
Comte d'Urgell nº 240, 6º-B
E-08036 Barcelona, Spain
Tel: (+34) 3 4301619. Fax: (+34) 3 4307356.

Dansk Data Elektronik Italia S.r.l.
Via Cantù 29
I-20092 Cinisello Balsamo (MI), Italy
Tel: (+39) 2 66014381. Fax: (+39) 2 66014380.


Dansk Data Elektronik (NZ) Limited
598 Main Street,
Palmerston North, New Zealand
Tel: (+64) 6 356 1544. Fax: (+64) 6 357 1522.

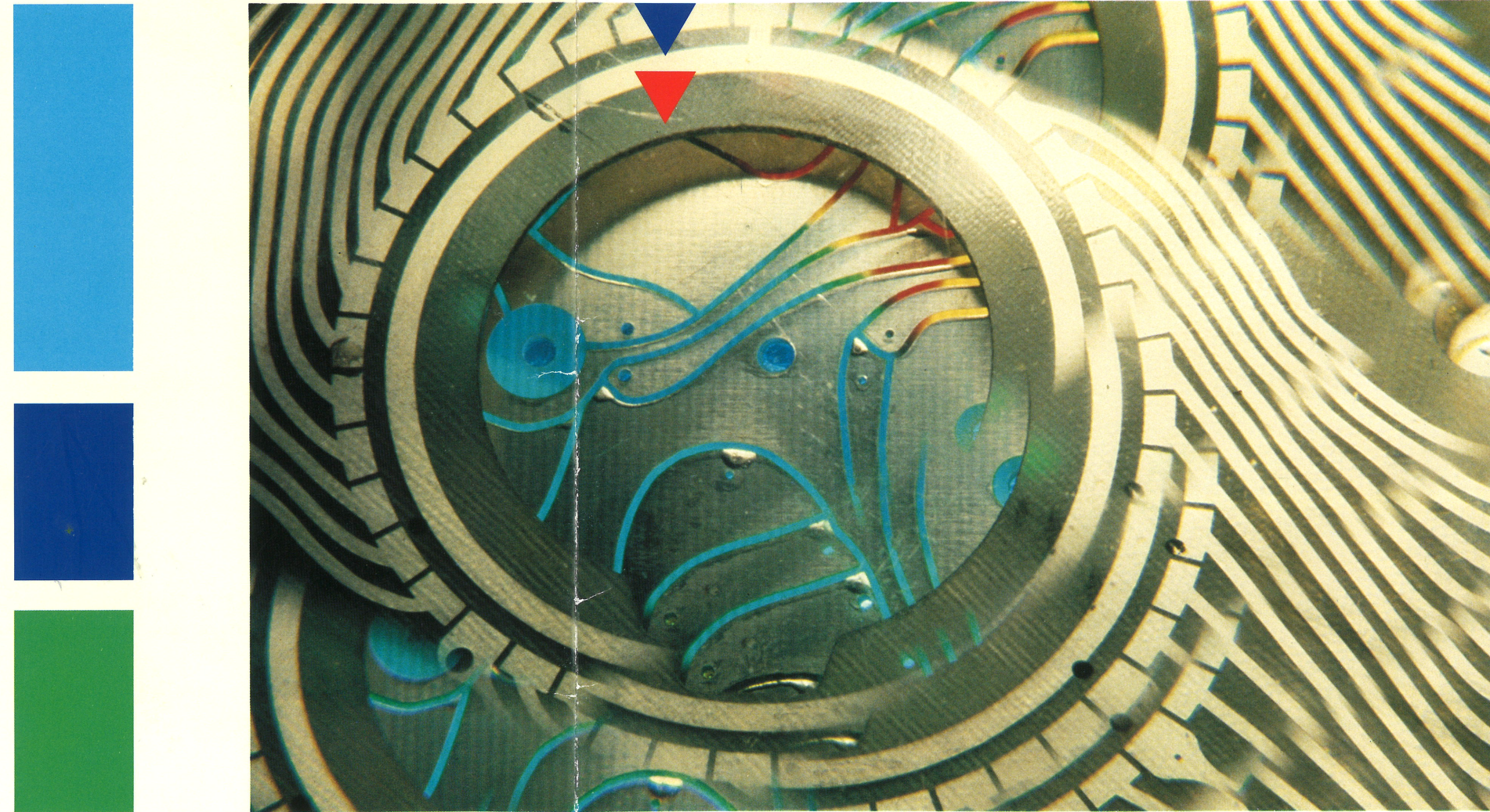
Sales offices in other countries:
DDE Sales Office Germany
Dürener Strasse 19
D-5170, Jülich, Germany
Tel: (+49) 2461/4150. Fax: (+49) 2461/56831.

DDE Sales Office France
6 Parc de Noailles
78100 Saint Germain en Laye, France
Tel: (+33) 1 39 73 03 13. Fax: (+33) 1 39 73 03 13.

DDE Sales Office Asia/Pacific
13th Floor, Technology Resources Tower
161-B, Jalan Ampang,
50450, Kuala Lumpur, Malaysia
Tel: (+60) 32622852. Fax: (+60) 32622855.

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SUPERMAX
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Electronic
Design
Automation



SCRENSHOTS 12-91

 **supermax**
C O M P U T E R S Y S T E M S

 **supermax**

CONTRIBUTING TO YOUR SUCCESS IN A CHANGING WORLD

**The world keeps changing.
But our business goals remain
the same:**

Competitiveness and success.
What is new and revolutionary today
will be obsolete tomorrow. So no one
can doubt the importance of techno-
logical development and its crucial
role in the growth of a company. If a
company falls behind in develop-

ment, it may well lose the competitive
race.
Among those goals is competitive-
ness, which is itself the success-
ful combination of several ingre-
dients. When designing electronic
devices, one of the most important of
these is the choice of electronic de-
sign automation (EDA) systems and
partners.

Your EDA system must, of
course, be the best available today.

ty, and be able to demonstrate con-
tinuous product development. Only
then can he contribute to your
success.

To meet today's demands and
those of the future, Dansk Data Elek-
tronik (DDE) and Viewlogic Systems,
Inc., have formed an international
strategic alliance. Together, we pro-
vide more than an EDA system. We

ment, it may well lose the competitive
race.

The world never stands still.
Customer demands for products
and services are changing tremen-
dously. But one thing remains con-
stant – the goal of success that a
company sets for itself. A goal that is
only reached by achieving a number
of other goals along the way.

But if you are to cope with the pres-
sure for increasingly rapid develop-
ment, it must also be the leader
tomorrow.

Your EDA business partner must
be more than just a supplier. He
must understand your market
thoroughly, and be able to offer use-
ful advice and guidance on a broad
front. He must show obvious creativi-

provide a new attitude to solving a
problem, a new way of doing things.
We strive to meet all of your data
processing needs, so that you can
make the most of your opportunities.

Together, we can help you be
better prepared and better equipped
to succeed in the markets of
tomorrow.

THE CHALLENGE

As a company that depends on EDA
tools and that is probably a designer
of electronic components, you face
some pretty tough questions.

Are you sure that you can offer
the **high quality** and reliability
demanded by an increasingly
sophisticated market?

Will your present design en-
vironment allow you the **quick
response** required by in today's dy-
namic market, or will you be left
hopelessly behind?

How are you going to stay at the
front of constant technological ad-

ty is making a product that is fully
reliable, a product that exceeds the
requirements.

That means involving the quality
department from the conceptual
stage. It means simulations and test-
ing, and using the results to improve
the design. It means finding mis-
takes early, and correcting them long
before prototyping.

Quick response means constantly
listening to the changing demands
of the market. Moreover, it means in-
corporating those changing de-

its needs today, and its likely needs
tomorrow. Preferably before even the
market itself realizes what it will want.

Profitability is the sum of quality,
quick response, and competitive-
ness. It means producing superior,
timely products and putting them
onto the market before the competi-
tor. Studies show that, in the con-
sumer electronics industry, for exam-
ple, the first maker to market can col-
lect 60% of the industry profits for
that cycle.

vance and so stay **competitive** and
thus **profitable**?

Tough questions, but important
ones. Because high quality and
quick response, and through them
competitiveness and profitability, are
the only keys to success.

High quality is more than making a
product that works and that meets
the design specifications. High quali-

ty is making a product that is fully
reliable, a product that exceeds the
requirements.

Competitiveness combines quality
and quick response. In other words,
getting it right the first time, instead
of spending valuable time and
resources needlessly reworking the
design.

But competitiveness also de-
mands understanding your market,

How will you ensure that your new
product not only reaches the market
before the competitor's, but also fully
meets the market's demands?

It may not be easy, but it is by no
means impossible. The winning
combination of DDE and Viewlogic
will go a long way to getting it right.
Because we are the single, Euro-
pean vendor solution to your elec-
tronic design needs.

THE EVER-CHANGING MARKET

Electronic design engineers face many challenges. As consumers demand more and more sophisticated products, designs must also become more and more complex. Yet new products must be developed faster than ever before if they are to reach the shelves in time to compete successfully against other products.

New products must also be a good value. Because over the past few years, consumer attitudes have changed: a low price is no longer synonymous with poor quality. Now it can mean a high quality product designed and produced efficiently and cheaply.

Moreover, electronics products are increasingly short-lived. It takes little time before someone introduces a substitute that is more functional and more versatile.

How to Keep Up.

These are tough challenges. Meeting them is even tougher. So it helps to have the right tools for the job. The Supermax™ EDA – the product of the DDE/Viewlogic strategic alliance – has redrawn the boundaries of the PCB, ASIC, IC, and hybrid



design processes. We let you combine the tools, the technology, and the design process into a seamless package, giving you the competitive edge.

Until now, you had to prototype the design before you could even be sure that it would work. But now a product can be developed and tested on screen. The product's operation can be simulated under a variety

of conditions, even before it is prototyped. Knowledge gained from the tests can be fed back into the design, ensuring a better product. Best of all, the design process is speeded: what previously took weeks and months of expensive effort can now be completed in a matter of days.

With DDE/Viewlogic as your partners, you get the best of two worlds. DDE's origins, in 1975, were in EDA technology. As a Danish company, DDE understands the needs of European users. And as a company working towards ISO 9001 certification, DDE is proving its commitment to the international standard of excellence. Viewlogic Systems, an American company, has established an impressive record of innovation in CAE solutions for system, ASIC, analog, and IC design.

Together, we offer the most sophisticated electronic design tools available and the best experience and advice in how to make the most of them. We believe that you'll find the DDE/Viewlogic Supermax EDA to be the natural design systems solution.



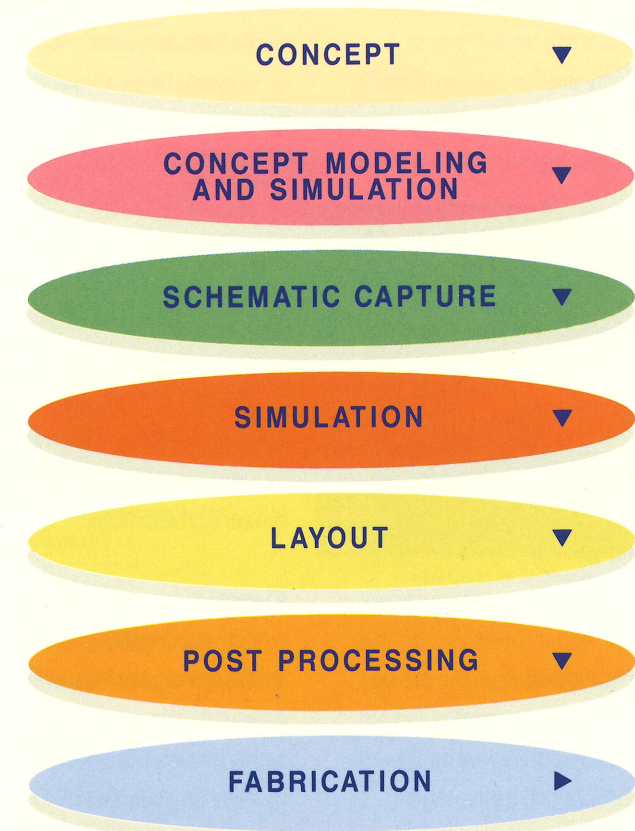
Supermax EDA is a powerful UNIX™, X-Window™-based design system that delivers today's most innovative design technologies in one package.

Supermax EDA is a truly open solution. Supermax EDA is a modular, open software solution that is structured on a case-by-case basis to meet users' specific needs. Thus you can choose the combination of Supermax EDA features and applications required by your design routines.

Supermax UNIX computers are also open. Built to ACE standards, the Supermax can be used with over 40,000 other applications.

Supermax EDA runs on PCs, workstations, servers, or minicomputers. In addition to our own Supermax hardware platform, you can run Supermax EDA modules on Sun, 386/486 and other platforms.

Supermax EDA enables you to manage the complexity of the whole design process – from concept and synthesis through fabrication. In fact, the Supermax EDA's CAM facility is unmatched among EDA systems in allowing you an unbroken flow through to fabrication.



SUPERMAX EDA IS A FULLY INTEGRATED CAE/CAD/CAM SYSTEM

Supermax EDA is a flexible, iterative design system. It gives you the power to ask "what-if?" at each stage of the design process so you can test the design under various simulations, and make corrections long before committing to silicon. The result: shorter development cycles, a greater chance of first-turn success, reduced investment in development, and if significant new technology becomes available during the design process, you can include and test the usefulness of that technology in your design. Thus your design can always make the most of the latest technology.



Supermax EDA advanced CAE and CAD tools in a multi-window, multitasking environment.

That's important, because the power to ask "what if?" and to exploit the latest technology could well be the source of competitive advantage in the Nineties.

Naturally, the Supermax EDA combination that is best for your de-

sign routines depends entirely on those routines. Let's look at some of the modules that are available in the Viewlogic Workview® and Supermax EDA suite of tools.

Viewdraw™ is a design-entry application that features hierarchical support, multiple component views, an on-line symbol editor, and comprehensive symbol sets. It serves the needs of analog, digital, or mixed-signal designers working at the ASIC, IC, and system level. Viewdraw has on-screen, back annotation capability to display simulation or analysis results.

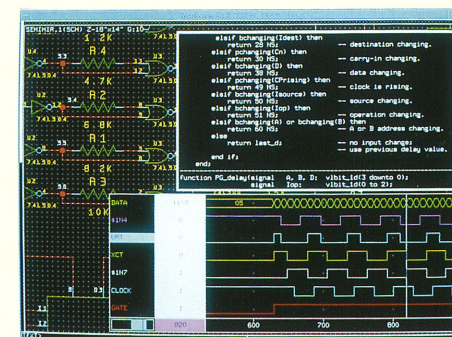
Viewtrace™ is a wave-form analysis tool that uses the industry-standard, Common Simulation Data Format (CSDF), to read data from a simulator. Using interactive graphical measurement techniques, Viewtrace aids the designer in making complex engineering decisions.

Viewdesign is a synthesis framework that comprises Viewlogic's **VHDL Designer™** and **Retargeter™**. Through a tight integration with Viewsim/SD and Viewdraw, engineers can use the VHDL Designer to test trade-offs between circuit speed and area in synthesizing a design. Retargeter allows FPGAs to be

retargeted to a gate array technology by reading single or multiple gate netlists and PLD JEDEC files, and optimizes the resulting design for a particular technology.

Viewsim/SD™ is a high-capacity, full-timing logic and mixed analog/digital simulator. Viewsim/SD delivers a unique combination of all-level modeling and all-level technology support across a broad spectrum of computer platforms. By integrating the design team, the system components and the computing environment, Viewsim/SD is the only simulator you need for system-wide development.

Viewsim/SD makes unprecedented use of breakthrough technologies such as VHDL, mixed-mode structure/VHDL simulation, mixed analog/digital simulation, and second-generation hardware modeling. With Viewsim/SD you can simulate designs that you could never simulate before.



Viewsim/SD - the only simulator required for system-wide development.

Viewgen™ generates schematics from a structural or netlist description. It generates schematic graphics that can be edited while allowing engineers complete control over final circuit design. This schematic can be edited and modified and becomes the actual design, not just a viewing tool. Viewgen streamlines design

processes such as logic synthesis and design re-mapping for all ASIC technologies, including FPGAs and PLDs.

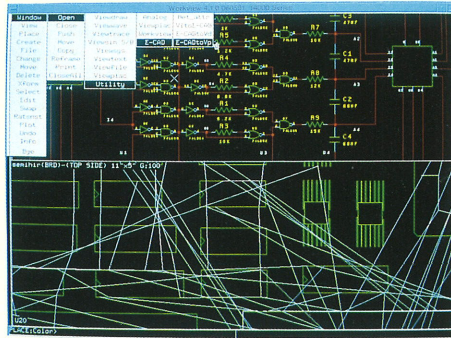
Viewfault™ is an advanced fault simulator that couples high-performance concurrent fault simulation with complete schematic integration. By using toggle test to analyze test vectors, designers can use Viewfault to grade their fault coverage. The results of toggle test and Viewfault can be visualized at any level of design hierarchy in Viewdraw.

Viewfile™ is a file and project management facility that helps organize and maintain Workview data files on a project or library basis. It handles library creation and backup, generation of hierarchy maps and development of macro files that plot all schematics, symbols, boards or shapes for a given project.

Viewbase™ is a library of C-language routines that give engineers access to the design information of multi-sheet, multi-level projects. Engineers or programmers can use Viewbase routines to develop custom design solutions with Workview applications and applications from vendors other than Viewlogic.

Viewwave™ is an interactive digital wave-form editor and processor that allows designers to view the results of Viewsim/SD and other digital simulators and to perform mathematical operations on wave-forms. It aids in the generation of test patterns and in the documentation of circuit timing.

SUPERMAX EDA: THE DESIGN SOLUTION TAILORED TO YOUR ROUTINES



Viewplace helps broaden the link between logic and physical design.

Viewplace™ is a PCB pre-placement tool that allows designers to integrate specific engineering layout requirements into a PCB CAD system. It allows pre-placement of critical components into the final PCB layout; a bi-directional interface communicates logical and physical data. Viewplace can function as the front-end to wire-wrap machines and allow creation of databases directly from a CAD system.

AArchitect™ is a powerful, easy-to-use analog design solution that allows engineers to make design trade-offs to ensure predictable product quality at minimum cost. It features advanced statistical analysis tools and capitalizes on Workview's full spectrum of application frameworks to provide leading edge technologies as mixed analog/digital simulation and mixed-signal ASIC design kits.

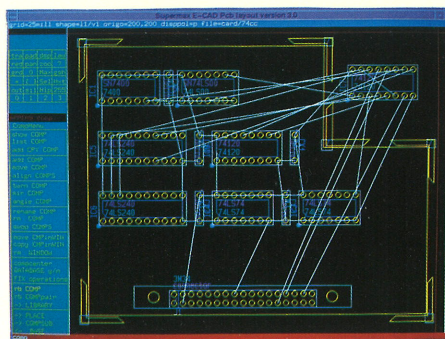
EDA Placement/Layout helps ensure successful routing, and the optimal finished layout.

EDA Placement/Layout lets you position components automatically or interactively.

All automatic routines are fully re-entrant, giving you full control over placement in the design. You are able to easily work with SMD components on two sides, or a mix of SMD and through-hole technology components. Functions such as paired swapping and mirroring of components help you create the most efficient placement.

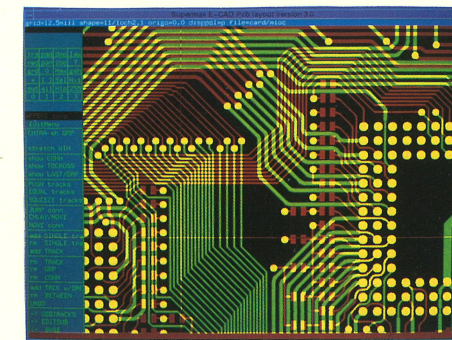
You can use EDA Placement/Layout to work with all types of layouts: digital, analog, fineline, flex-PCBs, multi-layer, and SMD.

The program helps you optimize the finished layout by reducing vias and track segments, removing 90 angles, and spreading safety distances equally.



Rubberbands lead to optimal component placement.

EDA Hybrid helps you design hybrid layouts and PCB layouts using the polymer technique. EDA Hybrid supports all techniques – for example: single and double-sided substrata with wiring on various layers and hidden or staggered vias.



Complex routing in the minimum of time.

EDA Thermo, an interactive program, detects hot spots and calculates heat transference on layouts.

Case, junction and board temperatures are calculated under various simulated environments, creating an output that shows isotherms on the layout.

EDA Database gathers information about input and output, supplies, pin and gate-swap possibilities, and production technology. The information is available on-line, and can be used with the other Supermax EDA functions.

The EDA CAM programs – photoplot, and drilling and milling – are designed to reduce production time to a minimum. The programs are combined in the Makepost tool.

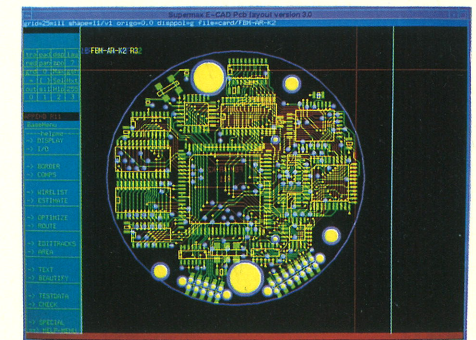
Here the operations needed in a specific job are described in detail. These could be, for example, photoplot of specific layers, drilling, milling, and pen plots for documentation. In addition, the job can be paneled to further reduce production time. All operation descriptions can be reused on other jobs.

Besides information for production and layout fabrication, the EDA CAM can provide data for insertion machines, semi-automatic mounting boards, bare board testers, and in-circuit testers.

EDA Pre/Post Processing helps you efficiently prepare and finalize data for production.

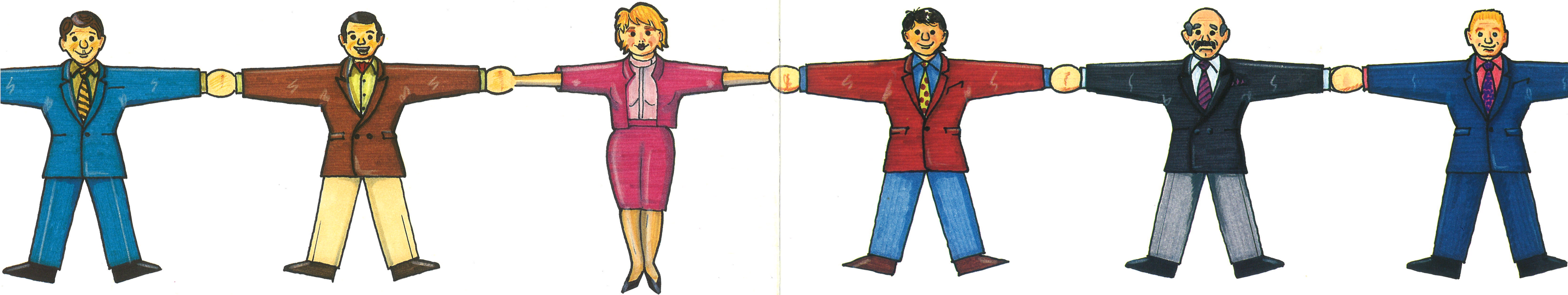
In the preprocessing program, you can syntax-check written net lists and net lists converted from other EDA systems against the Supermax EDA Wirelist Format. The program also lets you generate various reference lists, plus a user-specified bill of materials.

In post-processing, you can plot final artwork for documentation. Supermax EDA supports a range of penplotters, electrostatic plotters, and laser printers.



Complete board designs in the minimum of time.

A PARTNERSHIP - NOT JUST A PRODUCT



DDE is a unique provider of data processing solutions. Not only do we develop and make the software, we develop the hardware, too.

But we think of our job as more than simply delivering computer systems. We believe our job is to form computer solution partnerships with our clients. That desire to be your partner, and not just a supplier, offers you important benefits:

Our computer systems are wholly flexible. That's why the Supermax EDA is a modular system to which you can add more functions as you need them. All Supermax solutions are designed that way – and they're all compatible with one another, so that you can, for example, link a Supermax system in your accounting department with one in your production department.

We are just as flexible as our computer systems. So DDE is not a vertical hierarchy; instead it is a horizontally structured group of independent, yet cooperative business units. We hold each of these units responsible for the development, implementation, and follow-up for each customer.

We act as counsellors to you and your organization. We strive to create the data processing solution that exactly fits your organization's philosophy, structure, and competitive position. We then make every effort to help implement the solution as smoothly as possible. In fact, we take full responsibility for tailoring and setting up the Supermax EDA system in your organization.

No matter what configuration of the Supermax EDA you choose, DDE will always be there to offer you full support. That means evaluating the departments in your organization that will be using our systems, to

form a sense of what training will be necessary. It means providing that training – at both a basic and, if desired, an advanced level. So that it is your organization that controls the data processing system, not the other way around.

We stand by our systems forever. For example, as a Supermax EDA user, you will always have easy access to our technical department. Qualified engineers are at your disposal for advice and help with the use of your system. The department offers a team of application specialists whose sole purpose is to maintain and support all Supermax EDA

installations. In short, our definition of partnership means that we provide you with a flexible, solution-oriented system that can be continuously developed and adapted to meet your specific needs.

Dansk Data Elektronik has grown steadily since its founding in 1975. Today, DDE has sales of over \$75 million a year, and is active in 11 countries in Europe, North America, and the Far East. DDE has over 500 employees, most of whom are employed in product research and design, and customer support.

ViewLogic Systems was founded in 1984; and since then has been one of America's fastest growing companies, with 300 employees and annual sales of almost \$30 million. Through a combination of technological leadership and an open system approach, Viewlogic has become the recognized leader in integrated CAE solutions.