SUPERMAX CAD/CAM SOLUTION

MARKETING KIT

TABLE OF CONTENTS

DDE
04.10.88

SUPERMAX CAD/CAM SOLUTION

INTRODUCTION.

Why to sell Supermax Technical Solutions ?

In the future more and more customers will demand integrated solutions, and when you have got the necessary know how to use the Supermax Technical Solutions, you can establish a position for marketing technical solutions, where there will be few competitors, because the Supermax Technical solutions are:

* modular
* open systems
* integrated solutions
* high function systems
* multi-user systems

Therefore, Dansk Data Elektronik a/s decided to introduce a professional CAD/CAM program, ANVIL-5000, on the mechanical CAD/CAM market, and we are able now to offer our customers a wide range of technical solutions, which may be integrated with other solutions on the Supermax.

Dansk Data Elektronik signed a contract with one of the oldest CAD/CAM-companies in the world, Manufacturing and Consulting Services (MCS), California. The president of MCS, Dr. Pat Hanratty, is known as the Godfather of CAD/CAM-programming.

The Supermax CAD/CAM solution includes:

* Consulting
* Supermax in some configuration
* ANVIL-5000 in some configuration
* Training
* Software applications
* Technical service and support

DDE,Dk has prepared a marketing kit enabling you to overcome

most of the practical problems when selling the Supermax CAD/-CAM solutions. The marketing kit will give you a survey of the support and services supplied by DDE,DK, when selling the Supermax CAD/CAM solutions, and a survey of target markets as well as all benefits and features of the solutions.

As a Supermax Distributor you are not allowed to sell AN-VIL-5000 without an explicit agreement covering the AN-VIL-5000- program. As a Supermax Distributor you will have two possibilties when selling ANVIL-5000:

* you can make a contract with MCS and become an ANVIL-5000 Distributor
* you can make a contract with DDE,Dk and sell ANVIL-5000 for DDE,Dk

For all matters concerning the introduction of ANVIL-5000, please take a look in the ANVIL-5000 agreement.

marketing/introduktion

1. OVERVIEW

1.1 Purpose, Audience & Content

This manual deals with the marketing aspects of the Supermax CAD/CAM solution. The manual is intended as a tool for the marketing and sales personnel of Supermax Distributors all over the world and answers questions such as:

- What is the Supermax CAD/CAM solution

- Pre- and post-sales support available

- Pricing and ordering

- Delivery

- Promotion (OH presentation copy enclosed!)

If you have any questions, comments or suggestions, then please contact the CAD/CAM group in Dansk Data Elektronik a/s, Denmark.

1.2 Product Offerings

The Supermax CAD/CAM solution is supplied in different ways, namely :

1) **Hardware and software assembly by the Supermax distributor.**

You order the hardware components (see chapter 9 for details) and make the configuration of the machine yourself (see chapter 10 for guidance in how to configure the system).

Dansk Data Elektronik a/s will supply instruction on the configuration, a complet set of diskettes and tapes including a program for installation as well as the software you may order.

Dansk Data Elektronik a/s has arranged the necessary education (see chapter 7) in order that the skills enabling you to do the configuration and the installation of the program may be obtained.

2) **Hardware and software assembly by Dansk Data Elektronik a/s**

The Supermax distributor orders the DDE CAD/CAM-system at Dansk Data Elektronik a/s, Denmark. Dansk Data Elektronik a/s will do the configuration, install the software, and ship the entire system to the Supermax distributor.

3) **1) or 2) supplied with special software development**

Dansk Data Elektronik a/s can offer to carry out special software development or offer special education in order to enable the Supermax distributor or the customer to make special software development (see chapter 7).

1.3 Service Offerings

Customer support Dansk Data Elektronik a/s, Dk provides a number of services related to the Supermax CAD/CAM solution. The philosophy behind the services being provided is that the local Supermax distributor should become self-sufficient with respect to Supermax CAD/CAM solution sales and installations. This is reflected in the pricing and availability of our services; i.e. in order to minimize your investment in increasing the learning curve, certain services are cheaper the first time requested.

The standard educational and support services are described in chapter 7 and 8 respectively.

1.4 Nomenclature

Dansk Data Elektronik a/s, Denmark will be refered to as **DDE** throughout the remainder of this document and Manufacturing and Consulting Services, Inc. as **MCS**.

The term customer implies an end-user.

The CAD/CAM-group is the name of the group in DDE, responsible of training and pre- and post-sales support to local Supermax distributors.

marketing/1.1

2. SYSTEM SUMMARY

2.1 System concept

The Supermax CAD/CAM solution comprises:

* Supermax in some configuration
* ANVIL-5000 in some configuration
* Consulting
* Training
* Software Applications
* Technical service and support
* Usergroup

ANVIL-5000 was developed by Manufacturing and Consulting Services in order to provide a common platform for general manufacturing systems. By applying a truely modulated architecture in designing the basis hardware and software, the DDE CAD/CAM solution covers a complete range from small stand-alone systems to large scale production surroundings, and from the six modules in ANVIL-5000, 3D Design/Drafting, Surface Modeling, OMNISOLIDS®, OMNIFEM™, Numerical Control Machining and 5-Axis Numerical Control Machining, which are available in 12 configurations, the user may select the requirements needed without compromising growth.

ANVIL-5000 and the Supermax with UNIX system V® are also platform products with a comprehensive set of user-friendly tools that enables the user (DDE, local DDE distributor, software house or customer) to customize applications to meet individual and corporate needs.

2.2 MARKET STRATEGY

Owing to the fact that all the ANVIL-5000 modules are not yet available (see 2.5), DDE will now start marketing the Supermax CAD solution. When DDE is in possession of and has tested the NC-machining, we will ship you a supplement to the marketing kit with a proposal for a market strategy for the Supermax CAD/CAM solution including NC-machining.

2.2.1 TARGET MARKET

The Supermax CAD solution.

The general criterions:

Many users having access to the same data, fx.

- libraries of drawings
- libraries of symbols

Integration with other applications, fx.

- database systems
- material & production systems
- professional publishing
- administrative systems

Development of specific solutions, fx.

- parametric design
- creating specific CAD systems

Market Areas:

CAD Design, fx.

Mechanical

Plastic

Building

Registration, fx.

Mechanical

Building

etc...

You should go for customers meeting several of these criterions and who ask for technical solutions such as:

* modular

* open system

* integrated solution

* high function system

* multi-user system

You will meet competitors, who can offer ANVIL-5000 on workstations such as APOLLO, SUN and Textronic. They are in possession of the old version of ANVIL-5000 now, but they will be in possession of version 2.0 of ANVIL-5000 at the same time as DDE.

If your customer wants only one seat, it is cheaper to buy a workstation. In case there will be several users (>2), you can compete with prices and you can offer a good solution to overcome a lot of administrative problems, which will appear from the socalled the "workstation anarchy". Some of the "netsolutions" might also give problems with performance. ANVIL-5000 also runs on a MicroVAX in which case you are able to compete on price/performance. If a customer has ANVIL-5000 on a Micro-

VAX, you may offer the customer to move the ANVIL-5000 licens to a Supermax for a small price covering the administrative work.

marketing/2.2

2.3 SUPERMAX - ANVIL-5000 Highlights.

DDE will currently supply you with additional input to the list of feature, function and benefits.

FEATURES, FUNCTIONS AND BENEFITS:

* Consulting before and after the purchase of the DDE CAD/CAM solution. Provides an effective utillization of the investment.

* Modular software and hardware.
Provides the company to select the capabilities needed without compromising growth.

* Technical service and support from only one distributor.
Provides optimum utilization of the CAD/CAM investment.

* ANVIL-5000 with the same interface in all modules and user-friendly with tutorials for every interactive function. Menus, messages, tutorials and prompts support an extensible set of international languages.
Provides easy to learn.

* ANVIL-5000 with possibility to customize the menu structure, tablet and keyboard macros. Automatic conversion among eight major international standards and your own standard also supported. Library functions, ANSYS, NASTRAN and MOLDFLOW interfaces, and IGES support for maximum data exchange flexibility. GRAPL, a parametric and associative language with a full set

of geometric manipulation, interaction control and programming functions.

Provides fulfilment of individual and corporate application needs.

* ANVIL-5000 with a completely integrated database with the same data structure and interactive interfaces for all modules, 3D Design/Drafting, Surface Modeling, Omnisolids®, Omnifem™, Numerical Control Machining and 5-axis Numerical Control Machining.
Provides elimination of errors and approximations that may occur, if data is copied or translated or when moving between functions or systems.

2.4 SYSTEM OVERVIEW

2.4.1 Processor modules

The heart of the DDE CAD/CAM-system is the the entire Supermax family, a 32-bit multi-CPU computer system. The Supermax series is a modular construction facilitating expansion. All components may be used throughout the entire range.

2.4.2 Peripherals Supported

The Supermax and the ANVIL-5000 support the following peripherals :

* Supermax Graphic Terminal 20

* Supermax Graphic Terminal 15

* Summagraphic Tablet

* Printers

* Plotters

2.4.3 SOFTWARE

The software comprises :

UNIX® system V

The Supermax operating system, SMOS, is a multi-CPU, realtime implementation of UNIX® system V. The same operating system is used in all models of the Supermax series.

ANVIL-5000

comprises the following modules:

* 3D Design/Drafting

* Surface Modeling

* OMNISOLIDS®

* OMNIFEM™

* Numerical Control Machining

* 5-Axis Numerical Control Machining

Those moduls are available in 12 different configurations.

Different combinations of modules in ANVIL-5000, (the no. refers to the no. in the pricelist):

ANVIL-5000 MODULE

ANVIL-5000-101F	3-D Design/Drafting
ANVIL-5000-102F	3-D Design/Drafting Surface Modeling
ANVIL-5000-103F	3-D Design/Drafting Surface Modeling NC Machining (3-Axis)
ANVIL-5000-104F	3-D Design/Drafting Surface Modeling NC Machining 5-Axis NC Machining
ANVIL-5000-105F	3-D design/Drafting Surface Modeling OMNISOLIDS™
ANVIL-5000-106F	3-D design/Drafting Surface Modeling OMNISOLIDS™ OMNIFEM®
ANVIL-5000-107F	3-D design/Drafting

	Surface Modeling NC Machining (3-AXIS) OMNISOLIDS™
ANVIL-5000-108F	3-D design/Drafting Surface Modeling OMNIFEM®
ANVIL-5000-109F	3-D design/Drafting Surface Modeling NC Machining (3-AXIS) OMNIFEM®
ANVIL-5000-110F	3-D design/Drafting Surface Modeling NC Machining (3-AXIS) OMNISOLIDS™ OMNIFEM®
ANVIL-5000-111F	3-D Design/Drafting Surface Modeling NC Machining 5-Axis NC Machining OMNISOLIDS™
ANVIL-5000-112F	3-D Design/Drafting Surface Modeling NC Machining 5-Axis NC Machining OMNISOLIDS™ OMNIFEM®

PROGRAMMING LANGUAGES

* Pascal
* C
* RM/COBOL®
* mbp COBOL®
* Fortran77

4 GL

ORACLE®

APPLICATIONS

* Office Automation
* CAD/CAM for professional design in electrical engineering.
* Process control systems for the automatic regulation and monitoring of operations or processes.
* Integrated publishing system for complete control of texts from entry to typesetting.

DATA COMMUNICATION

An extensive range of data communication products based on widely-used standards are available for the Supermax computer series.

2.4.4 **Serial and ethernet connection**

* Serial connection is possible in a single-user configuration.

* Ethernet connection is recommended for multi-user configurations.

2.5 **FUTURE ENHANCEMENTS**

MCS is still working on the basic modules and the software will continuously be enhanced in order to meet the market demands for new features and increased functionality. The enhancements will be made available through future releases on an annual or semi-annual basis, and the basic modules will be finished within a year, see fig. 2.4.

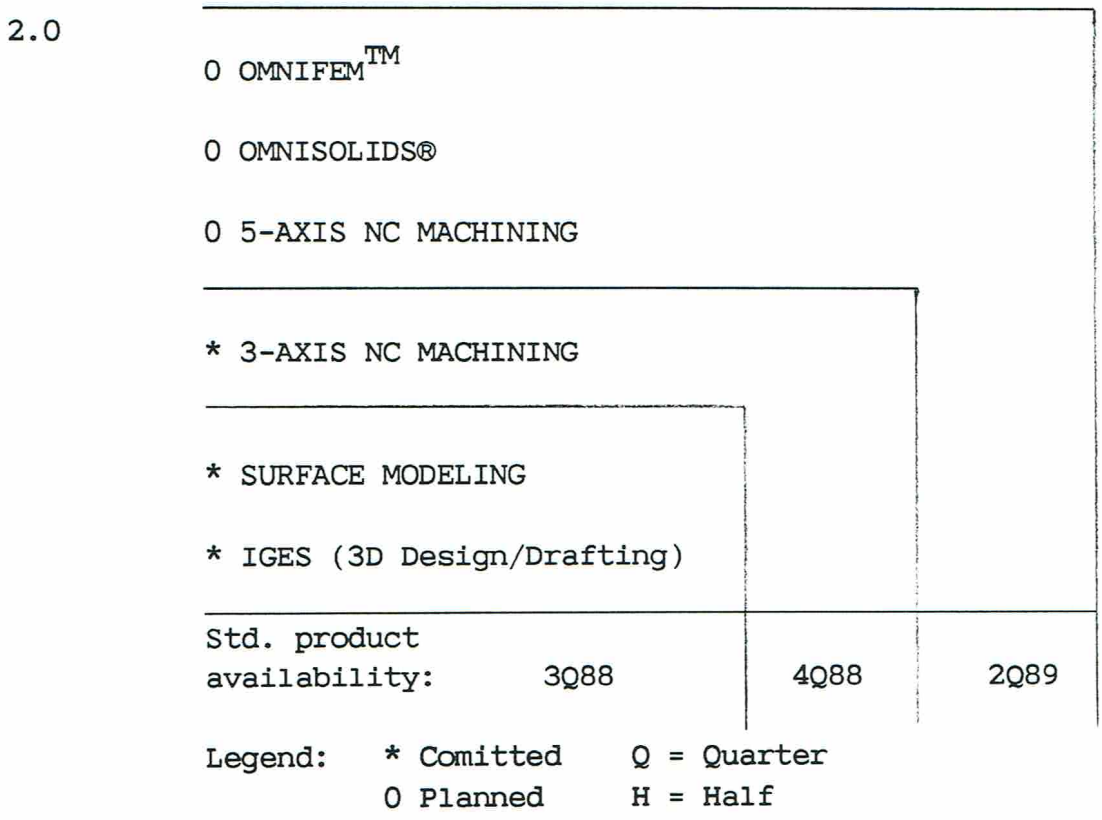

Fig. 2.4 ANVIL-5000 Product Phasing

3. HARDWARE

3.1 Introduction

This chapter deals with the Supermax Graphic Terminal. For all matters concerning the rest of the hardware please see in the other DDE marketing kits.

3.2 Supermax Graphic Terminal

The Supermax Graphic Terminal is a high-resolution RGB terminal to be used as a display unit for graphic software on the Supermax computer.

The Supermax Graphic Terminal is an intelligent terminal providing various built-in functions, such as scaling, clipping, filling and graphical macros.

The terminal consists of a processing unit, a high resolution, non-interlaced RGB monitor and a detached ergonomically designed keyboard.

3.2.1 Application

* Character representation
  25 lines of 80 characters including status line. Character matrix 12 x 32 dots

* Character attributes
  Underscore, flashing, reverse video, eight background colours (including translucence) and eight foreground colours (including translucence).

* Graphical data processing
  The terminal meets the specifications of ISO DP for Virtual Device Interface (VDI)

* Special Escape Functions (macroes) for PBC design: PADS, Tracks and TEXT.

3.2.2 Communication

The Supermax Graphic Terminal uses RS-232C interface to host computer and allows direct connection to Supermax Local Area Network (Ethernet).

3.2.3 Specifications

* Resolution 1024 x 800 pixels (non-interlaced)

* 8 bit planes

* 256 colours from palette of 16 million colours

* Graphics and alpha modes overlaid

* 70 Hz raster frequency

* 15" or 20" tiltable screen with antiglare etching

* local set-up menu

* RS 232C interface (up to 38400 baud per sec.)

* Supermax Local Area Network

* Connection for printer, tablet and mouse

3.2.4 Additional Specifications

Power supply: 220 VAC +/-10%, 50Hz

Power Consumption:	Processing unit:	100W
	Monitor:	120W
Weight:	Processing unit:	12kg
	Monitor:	37kg

4. SOFTWARE

4.1 INTRODUCTION

ANVIL-5000^{tm}

SIX BASIC MODULES

3 - D DESIGN/DRAFTING

The 3-D Design/Drafting package is the basic foundation of all packages of ANVIL-5000. It contains the eight functional components common to all configurations:

* User Controlled Environment
* Basic Geometry
* Viewing & Manipulation
* Family of Parts
* File Management
* Production Planning
* Drafting
* Section & Curve Analysis

SURFACE MODELING

Surface Modeling is a natural extension of the 3-D Design/-Drafting package, providing a designer with rich 3-D surface modeling capabilities. Since this module includes the mass property analysis component, it is a completely integrated design system.

OMNISOLIDS

The OMNISOLIDS^{tm} solid modeler is a CSG/B-Rep hybrid that is fully integrated into ANVIL-5000. It provides comprehensive, fast, easy to use techniques for construction solid models from either basic primitives or any 3-D wireframe or surface model.

NUMERICAL CONTROL MACHINING

Comprehensive support for 2-D, 2 1/2 D and full 3-D machining operations is provided with this module. Dynamic display of the tool in multiple views for milling, drilling, and lathe operations, combined with simultaneous display of the APT CL-file, permits visual verification and editing of the tool path. Tool paths may be edited graphically or by text editing. Tool paths are associative with the part geometry so that a charge to part geometry can, if desired, result in the automatic generation of a new tool path.

5-AXIS NUMERICAL CONTROL MACHINING

This module supports swarf milling, end cutting and surface grooving in 4 and 5-axis milling operations. APT-like control of the tip and side of the tool enables users to perform finish cuts along the intersection of part, drive and check surfaces.

4.2 3D DESIGN/DRAFTING

The 3-D Design/Drafting Module contains all of the functional components necessary to first produce a 3-D wireframe model of mechanical parts or systems, then produce a fully annotated engineering drawing. The results go far beyond the engineering drawing, to a data defining the design with an accuracy of over 15 decimal digits. This data base is accessibly by all other ANVIL-5000 modules and applications.

This base for the other ANVIL-5000 modules provides the basic wireframe construction tools: Display and plotting routines, file management capabilities and utilities (keystroke files, GRAPL, etc.).

Highlights of the main areas of the 3-D Design/Drafting Module follow.

USER CONTROLLED ENVIRONMENT

ANVIL-5000 easily can be configured by each user to meet spe-

cific application requirements. The areas which the user controls include:

* Interactive Configurator
* Modals for Each Major Module
* Drafting Standards

These are stored in either individual or shared files (User Technology Files) so the way Anvil-5000 works, and the way users interface with it, can be customized to fit personal preference or job requirements.

The Interactive Configurator allows a selected sub-set of ANVIL-5000 commands required for a specific activity to be placed on a tablet overlay. Macros can be defined to concatenate frequently used sequences of commands. The Interactive Configurator allows templates, petterns and GRAPL programs to be assigned to a tablet location, creating an environment where commonly used components or stings of menu selections can be retrieved with one touch of a stylus or puck.

Users may easily change the order of menu items or eliminate menu items entirely, if desired. In this way, ANVIL-5000 can be made concise for some individuals while others are offered the full richness of each menu.

ANVIL-5000 Modals are a selection of parameters which govern the interaction and display of ANVIL-5000 designs. Easy modification of interfaces, colors, weights, fonts, etc., gives the user total control of default conditions for all common operations and provides ease of control and adaption to each user's needs.

Drafting Standards may be created to suit corporate needs or meet industry standards. In addition, a total of eight standards, including ANSI, BSI, ISO and JIS, are supplied with the system.

Futhermore, since all menus, prompts and tutorials are file driven, they are available in a variety of languages, including American, English, French, German and Japanese.

BASIC GEOMETRY

The essential building blocks for design are provided in the Basic Geometry Module. These building blocks consist of these entities:

* Points	* Conics	* Rectangles
* Lines	* Planar splines	* Hexagnons
* Chamfers	* Offset curves	* Strings
* Arcs	* N-gons	* Composite curves
* Fillets	* Triangles	

ANVIL-5000 provides an exceptionally rich selection of methods for creating these entities. Consequently, there are no practical limits to the type of 3-D wireframe parts that can be constructed.

Benefits derived from Basic Geometry include:

* Flexibility and ease of construction
* Powerful yet simple product definition techniques

FILE MANAGEMENT

ANVIL-5000 appears to the user as a pictorial graphic system, but the heart of the system is its mathematical data base. The system uses the data base to store components of a medel called entities in accurate, canonical form. It provides for a total geometric description of each component and for descriptive text or numeric data (attributes) to be associated with every entity.

Each entity is described to a precision of over 15 decimal digits. The data base includes libraries and files which are accredded for information storage and retrieval of entire parts, patterns, templates, configuration information and similar data.

These may be stored on a system wide basis or may be associated with individual users in the User Technology library. When a user signs on, the system configures itself according to the parameters set for (or by) that user, specifying tablet overlays, customized menus, indvidual pattern libraries and GRAPL programs.

Items within these libraries can be saved, restored, listed and deleted. When a work session is initiated, data stored in these different files can be combined, modified and manipulated to develop new parts. Data generated or stored outside the system can be quickly loaded into the data base via special input handlers.

In addition to the broad data base upon which the systems is built, there is an underlying structure for interfacing with other applications external to the system. Such functions, required for the complete design cycle, may include various programs such as finite element, kinematic or hydraulic analusis.

Features include:
* Libraries of Parts
* Libraries of Patterns
* Libraries of Templates
* User Technology Files

Benefits include:
* Archiving og parts
* Release of parts
* Data exchange via IGES or inter-computer formats

PRODUCTION PLANNING

A CADD/CAM system is not complete if it does not supply a link between design and manufacturing. Many features of the system, such as drafting, are general in nature, so production planning can use the system for documentation. However, more specific functions are provided for handling non-geometric attribute data, producing bills of material and generating simple bar charts and graphs for applications such as scheduling and managing the stock of tools.

ANVIL-5000 data files can be passed on to other systems for total integration into an inventory control system, a parts classification system or the total MIS of your company.

Features include:
* Attribute definition
* Attribute management
* Data graphs
* Data management
* Tool management

Benifits include easy generation of:
* Bills of material
* Vendor lists
* Costs lists
* Business graphs
* Pie charts
* Histograms
* Linkage with in-house MRP

VIEWING AND MANIPULATION

This user is provided with numerous functions that control the representation of the model on the display device. With ANVIL-5000 manipulation functions, you can modify most aspects of the model's graphic representation in many ways. ANVIL-5000 zooms and pans for expanded display and display of multiple views in various ways. With "view independent construction," the user can design on any face of the model, independent of the views currently displayed. Hidden line removal can be used to enhance the model's presentation. A view editing capability allows the user to modify any view of a model without affecting the other views.

Features include:

* Translate, rotate, mirror & Duplicate
* Trim-extend-strech
* Up to 32 views displayed at once
* Hidden line presentation
* Resize
* Pan and zoom

benefits include:

* Easy modification of the model and its position
* Flexibility in viewing the model from any aspect
* Ability to work on different faces of the model in a single view.
* Rapid repetive construction
* Regeneration of dimensions as a result of geometry changes

FAMILY OF PARTS

The use of standard components is a major area of cost savings in any industry, since it reduces design and development time. Anvill-5000 provides for the storeage and retrieval of patterns and templates. Either can be manipulated by translation, rotation, duplication and scaling.

Simple "off the shelf" parts such as nuts, bolts and washers can be specified by few parameters. More complex components may require more parameters and involve some mathematical interdependence between them. The system provides the means for creating libraries of commonly used families of parts, including a sophisticated programming language called GRAPL. This language permits the definition and manipulation of most types of ANVIL-5000 entities by both mathematical statement and conditional logic.

Features include:

* Patterns
* Templates
* GRAPL programs
* Part merge

Benefits include:

* Ease in repetitive construction
* Libraries of standard geometry
* Parametrically defined models
* Data capture & variable calculation
* Direct interface between GRAPL and Fortran programs

CURVE AND SECTION ANALYSIS

Curve analysis is the determination of various properties of 2-D curves, including lenght, lenght between two points, slopes, tangents, normals, curvatures, radii of curvature and first moment. Section analysis provides analysis of perimeter, area, first and second moments and radii of gyration for planar sections.

DRAFTING

The drafting package is used to dimension and annotate geometry to produce fully annotated engineering drawings. Its many functions are blended together in a package that lets the drafter achieve and results quickly and completely.

A full complement of dimension types, symbols, notes and labels are further enhanced by comprehensive options. Some of these include user defined character sets, detail magnification, regeneration and cross-hatching by material type. As with the rest of ANVIL-5000, the drafting package is controlled by a complete set of modals which control the image, style and aesthetics of the drafting entities.

Drafting standards are a part of the package. Defaults are set to ANSI and the touch of two keys can modify the displayed standards to BSI, ISO, JIS and many others. The user can also create custom drafting standards to meet company requirements.

Features include:

* Eight drafting standards, including full ANSI (both 1977 & 1982)
* User defined drafting standards

* Variety of dimensional forms- horizontal, vertical, parallel, thickness, normal, arc radius, arc diameter, angle, flange angle beseline, chained and ordinate
* Cross-hatching-16 standard materials plus user defined
* Notes and labels
* Two default sets and user defined character sets
* Detail magnify
* Regenation of dimensions as as result of geometry changes
* Complete set of modals and modification capability

SURFACE MODELING

The ANVIL-5000 Surface Modeling module contains functions enabling one to progress from planar modeling to the more complex three-dimensional designing. The system has a wide variety of surface types from the simplest planar faces of componets to complex sculptures aesthetic designs. Several options are provided to define explicit surfaces, double curvature surfaces, offset surfaces, blending surfaces and a contiguos set of surfaces defined as a "composite" surface.

3-D curves can be created corresponding to any display path of a surface, silhouette of a surface, the intersection of any two surfaces and the projection of a set of curves onto a surface.

Any curve or surface can be a specified plane. Flat pattern development functions are provided for single curvature surfaces and features which are defined upon them.

A rich variety of 3-D features include:

* Surface of revolution
* Tabulated cylinder
* Ruled surface
* Developable surface
* Curve mesh surface
* Fillet surface
* Curve driven surface
* Improved Coon's patch surface
* Normal offet surface
* 3-D splines
* Cross section slicing
* Surface and faeture development
* Hidden surface removal

ANVIL-5000 provides both simple and powerfull techniques to generate complete 3-D objects, so the user can select the technique most suitable to the job. Once the object is generated, sophisticated shading can be performed by using the capa-

bilities of advanced displays.

Any surface model created can be used as a primitive in the OMNISOLIDS module, and most importantly, any surface that can be defined in the ANVIL-5000 data base can be analyzed and machined by the system's N/C tool path generators.

VOLUME ANALYSIS

ANVIL-5000 provides precise mathematical analysis for various properties of three dimensional figures and surface models. Figures for analysis can be created very simply using such techniques as projection of a curve through space and projection of surfaces to planes. ANVIL-5000 has the ability to create a surface model of almost any wireframe figure the user can imagine. Once created, the three dimensional model may be analyzed for a wode variety of mass properties, including:

* Surface area
* Volume
* Weight
* Weight per unit length
* First moment of mass
* Center of mass
* Moments of inertia
* Radius of gyration
* Spherical moment of inertia
* Spherical radius of gyrantion

5. COMPETITIVE INFORMATION

This chapter includes some MCS competitors as of 04.01.87. In the next versions of this manual we hope to be able to include competitive information on feature/function and price/performance comparisons.

If you have any such information that might be of general interest, then please let us know, so we can make the information available to others.

MCS Competitors:

* Applicon, Inc.
* Autodesk, Inc.
* Auto-trol Technology Corp.
* CADAM, Inc.
* California Computer Products, Inc.
* CALMA, A General Electric Company
* CATIA
* Combustion Engineering
* Computervision Corp.
* Computool Corp.
* Gerber Scientific Instruments Co.,Inc.
* Gerber Systems Technology, Inc.
* Graphics Technology Corp.
* Harris Computer Co.
* Holguin & Associates, Inc.
* Impell Corp.
* International Business Machines Corp. (CADAM)
* Information Displays, Inc.
* Intergraph Corp.
* Keuffel & Esser Co.
* Kongsberg
* Matra Datavision, Inc. (an affiliate of MATRA)
* McDonnell Douglas Automation Co.
* Perkin-Elmer (CALMA)

6. PRODUCT PROMOTION

This chapter describes the promotion materials and services available for ANVIL-5000.

If you have any material (e.g. direct mail materials, customers endorsement, experience stories or articles, etc.) that could be of general interest please inform DDE, so the material may be included in the next edition of this manual.

6.1 Sales Documentation

The Supermax CAD/CAM solution documentation is comprised of the two following types:

1) **Data sheets**

   Typically one to three leaf brochures serving as product appetizers and product overview. Available in English.

2) **Brochures**

   A multi-colour brochure aimed as a product presentation.

6.1.1 Ordering and Pricing Sales Documentation

Ordering and pricing sales documentation of Supermax CAD/CAM solution follows the general DDE procedure with exception for the ANVIL-5000 brochure, for which MCS will have to fix a price.

6.2 Demonstration Aids

In order to enable local DDE distributors to undertake customer demonstrations various demo aids have been made available:

6.2.1 Software Demo Kit

The software demo kit contains a few examples of different drawings demonstrating the broad spectrum of features in the ANVIL-5000 product line. We hope to be able to supply a greater number of drawings in the next version of the marketing kit.

6.3 Trade Show Concepts

The purpose of this section is to provide Supermax Distributors with ideas when exhibiting the Supermax CAD/CAM solutions at trade shows and fairs.

When visiting the stand the prospect should receive the following impression:

The prospect should get the following impression when visiting the stand:

1) The Supermax CAD/CAM solution covers the target market.

2) Modular software and hardware enabling the company to select the capabilities needed without compromising growth.

3) Features, functions and benefits, which make the Supermax CAD/CAM solution different from other solutions.

The above aspects should be emphasized when demonstrating the solution.

6.3.1 Posters

Product Line Poster

Product Line Poster
Customer Reference Poster
Highlights Poster

6.4 Overhead Presentation

In chapter 12 you will find a paper copy of an overhead transparency presentation. From those copies you will be able to make your own transparencies directly, or translate the text into your own language by using the Supermax Drawing System.

7. EDUCATION

This chapter describes the education (i.e. standard and special courses) available to software and sales engineers and end-users in order that they are able to handle succesfully the Supermax CAD/CAM solutions.

7.1 Standard Courses

All the ANVIL-5000 standard courses are held at DDE,Dk, and the scheduled courses will be announced half-yearly. Language of standard instruction is Danish, but we also arrange courses in English, as required.

If you want to arrange any of the standard courses locally please contact the CAD/CAM-group at DDE, DK.

In the event that DDE,DK cannot meet your requirements for education (e.g. overbooking of a scheduled course or no available resources to arrange a course locally) please contact the CAD/CAM group at DDE,DK, and we will try to make an extraordinary arrangement.

7.2 Special Courses

In addition to the standard courses a number of special courses are offered, for example :

Introduction to Supermax CAD/CAM solutions dealing with the sales and marketing aspects of Supermax CAD/CAM-solutions and a general training in using ANVIL with the purpose of selling CAD/CAM-solutions. The scheduled courses will be announced half-yearly, and it is possible to arrange extra courses if required.

Courses developed as required by a specific customer held in DDE,DK, locally or at the customer's.

7.3 Course Schedules and Descriptions

A survey of the scheduled courses is given in the Danish "Kursusplan" in chapter 12.

8. SUPPORT FROM DDE

During the various phases of selling and installing the Supermax CAD/CAM-solution to customers, DDE provides a number of services to the Supermax Distributor considering the general agreement about DDE personal support.

Figure 8.1 outlines the phases and corresponding type of support.

In the following you will find a more detailed description of the support services and the terms on which they are available.

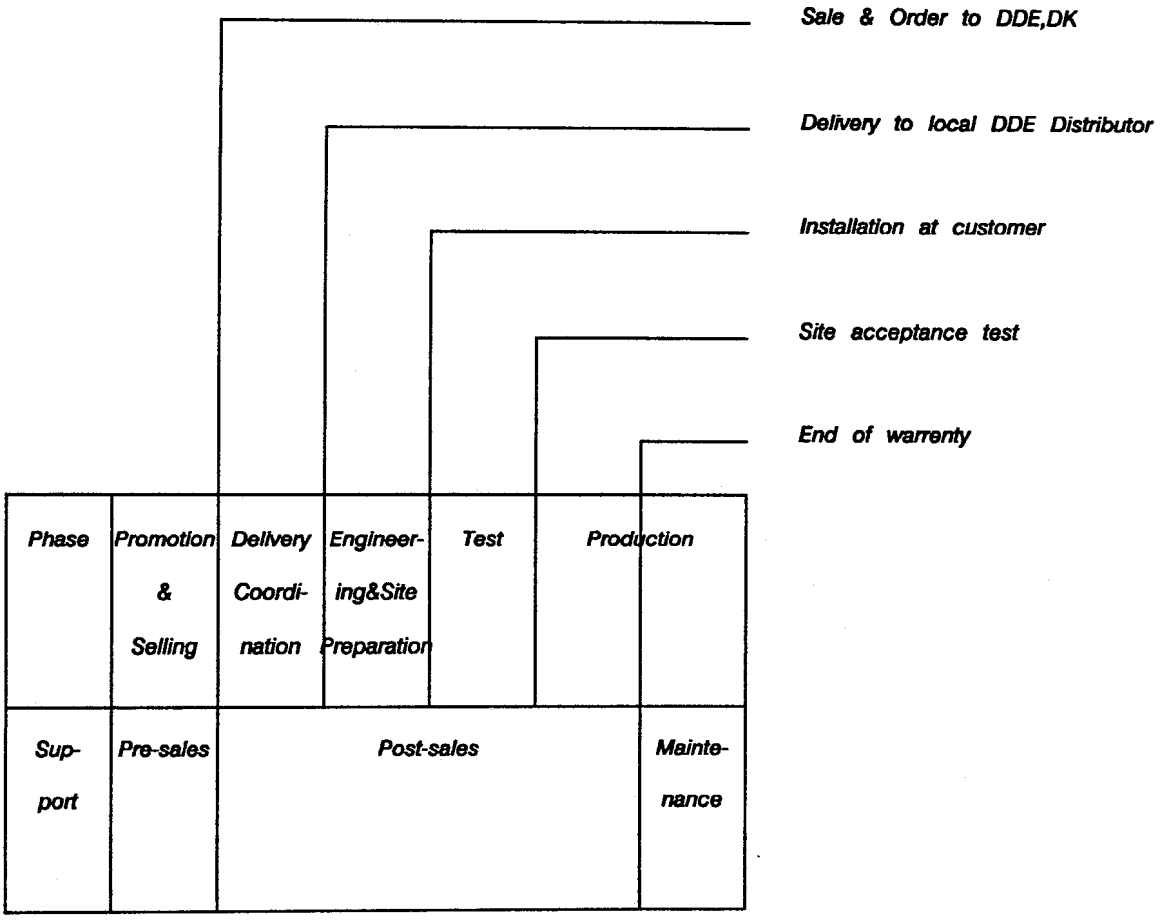

Fig. 8.1 Phases and Support Services

8.1 Presales Support

During the promotion and selling phase presale support is available as follows :

8.1.1 Hotline

A telephone (or telex) answering service "hot-line" is available to all Supermax Distributors, so that they may ask technical questions about the Supermax CAD/CAM solution or questions according to marketing.

The hot-line service is open Monday to Friday 09:00 - 16:30. The language for communication on the hot-line is English.

The hot-line service is free of charge.

8.1.2 Presentation and Demonstration

Supermax Distributor personel may bring prospects to DDE,DK for one day presentation and demo with the following contents:

Duration	Topic
15 min.	Welcome to DDE
75 min.	The Supermax CAD/CAM-solution overview.
15 min.	Break
60 min.	Demo and Hands-On.
15 min.	Support from DDE
60 min.	Lunch
30 min.	References and Future Plans
60 min.	Question and Answer Session
15 min.	Wrap-Up and Adjourn the Meeting

The presentation and demonstration is normally done in English.

The presentation and demo service is free of charge provided that it takes place at DDE, DK facilities. The presentation may also take place elsewhere and DDE will charge expenses according to the general agreement. If a demo is required, the local DDE distributor must arrange the set-up of the Supermax CAD/CAM solution.

8.1.3 Exhibition and Trade Shows

DDE can upon request provide assistance at major exhibitions and trade shows, in which a Supermax Distributor wants to display the Supermax CAD/CAM solution. When the local distributor has set up the hardware, DDE is willing to provide hard- and software support as well as supply promotion material and qualified personel to undertake demonstrations during the exhibition. DDE will charge expenses for this service according to the general agreement.

8.2 Post-Sales Support

When the customer has signed the contract and the local Supermax Distributor has submitted an order to DDE,DK, various post-sale support services are available to the local Supermax Distributor.

8.2.1 Post-sales Support

If the local Supermax Distributor is not that well aquainted with the Supermax CAD/CAM solution, or if unforeseen problems arise, then DDE,DK can provide installation support and consultancy on a travel, time-and-material basis or according to general agreement.

In order to ensure that a coherent technology transfer takes place, it is normally required that a local Supermax Distributor engineer attends the on-site support given by the engineer from DDE,DK.

8.2.2 Error Reporting and Correction

If an error occurs this must be reported in writing using the format outlined in chapter 12. If the error creates urgent problems you may, of course, phone to obtain possible work-arrounds or discuss an immediate action plan. For our files and in order to prevent any misunderstandings we do, however, require a written error report (i.e. letter, telex or telefax).

Within 24 hours (excluding week-ends and national holidays) upon receipt of the error report DDE,DK will effect as follows:

a) Analyse the problem

b) Outline work-arounds or corrective action plans

c) Inform local Supermax Distributor about possible work--arounds or obtain concurrence in executing the outlined action plan.

If the error is coursed by misuse or a misstep by local Supermax Distributor DDE,DK will charge the costs associated with our effort in correcting the error.

8.2.3 Maintenance

For hardware please have a look in the Standard OEM Agreement.

ANVIL-5000

The licens to use the products granted by the reference contract and the clauses in this agreement is expressly conditioned on (1) Customer having currently in effect a software maintenance agreement with the distributor for the products; or (2) Customer having had in affect for at least five years a software maintenance agreement with the distributor for the products. (see chapter 12 for details)

9. ORDERING, DELIVERY AND BILLING

This chapter describes the procedure for ordering the Supermax CAD/CAM solution. When using the procedure DDE,DK takes the the total responsability for the delivery of a well-functionning solution within the delivery limit.

9.1 ORDERING

When ordering a Supermax CAD/CAM-solution assembled or in components you should send in a form for each solution by letter, telefax or telex.

When receiving your order we will evaluate your order technically and economically and give you a reply within 48 hrs (excluding week-ends and national holidays). If there are no inconsistencies or errors in the order specification, you will receive an order confirmation with a committed delivery date, and the customer must sign the end-user agreement from MCS.

9.2 Delivery

When all the items are ready for delivery, they will be packed carefully and shipped by lorry, train, air freight, mail or courier, whichever is the most cost-effevtive. If you have special requirements then please let us know, when ordering.

Custom papers and the like are filled out and usually a note of delivery (Advis) will be mailed directly to the delivery address.

9.3 Billing

DDE allows no credit to Supermax distributors. An irrevocable letter of credit or a bank guarantee must be DDE in hand before shipment of goods. Changes to this payment policy must be agreed upon in writing by both DDE and the Supermax distributor, before using different payment terms.

10. CONFIGURATION GUIDE

System configuration covers only UNIX system V and ANVIL-5000, module 3D Design/Drafting. DDE will currently supply you with additional input to the configuration, when we have made performance tests on the remaining modules in ANVIL and with other software applications, which you might need in specific CAD/CAM solutions.

BASIS CONFIGURATION		USERS	RAM
COMPACT	1 68020 CPU FLOATING POINT PROCESSOR 3 MB RAM 1 NIOC 560 KB DISKETTES 45 MB STREAMER 130 MB WINCHESTER 1 CONSOL	1	+ 2 MB
		2	+ 3 MB
		3	+ 4MB
VERTICAL	2 68020 CPU FLOATING POINT PROCESSOR 6 MB RAM 1 NIOC 560 KB DISKETTES 45 MB STREAMER 130 MB WINCHESTER 1 CONSOL	4	+ 6 MB
		5	+ 7 MB
		6	+ 8 MB

aobtilb1

Kommentarer til marketingkit

Det foreliggende marketingkit er udarbejdet efter de retningslinjer, som Klaus Skjerbæk udleverede i forbindelse med gruppe- og afdelingslederdag i foråret. Marketingkittet er et værktøj til de mellemforhandlere, der beslutter sig til at markedsføre Supermax CAD/CAM solution.

I afsnit 11 mangler dokumentation og i afsnit 12 mangler bilag i form af overheads genereret i tegnesystemet fra ANVIL-gruppen (dels i papirtryk dels de tilsvarende filer på diskette).

Der henvises nogle steder i teksten til en generel aftale mellem DDE og Supermax distributøren. Jeg har ikke udarbejdet en sådan aftale, men mener, at den bør indeholde retningslinjer for forholdet dels mellem MCS, DDE og Supermax distributøren og dels mellem DDE og Supermax distributøren.

Det første forhold er på en række punkter bundet af DDE's distributionsaftale med MCS, men der vil desuden være en række åbne spørgsmål om f.eks. prisfastsættelsen af ANVIL-5000 licenser.

I fastlæggelsen af det andet forhold bør inddrages en vurdering af omfanget af ressourcer, som DDE og Supermax distributøren vil investere i at bringe Supermax distributøren i stand til at sælge Supermax CAD/CAM løsninger. På det netop afsluttede SISC - møde understregede vi de store omkostninger, som kan være forbundet med at hjælpe en distributør i gang med at sælge tekniske løsninger, men efter afstemningsresultatet at dømme syntes det ikke at have skræmt Supermax distributørerne.

Ved gennemlæsningen af marketingkittet forekommer flere afsnit at være indholdsmæssigt tynde. Det skyldes, at der ikke er opbygget noget erfaringsmateriale, som kan danne grundlag for en uddybende beskrivelse af en given procedure. Der er heller ikke nogen Supermax distributør, som har haft lejlighed til at vurdere materialet, stille spørgsmål og forslag, etc.. Marketingkittet skal på den anden side opfattes som et dynamisk arbejdsredskab, som hele tiden skal udvikles i en dialektisk proces mellem DDE og Supermax distributørerne.

En række procedurer vil sandsynligvis være fælles for flere koncepter og kunne indgå i et generelt Supermax marketingkit.

DDE
agb
04.10.88