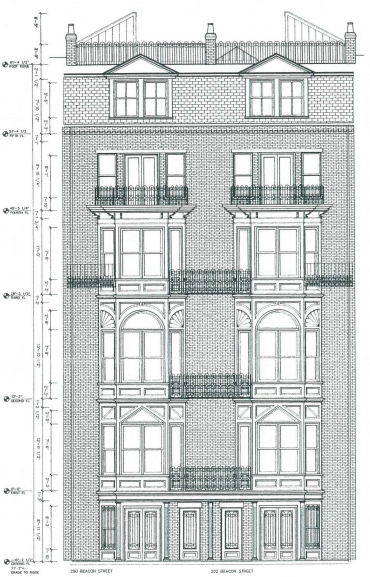
Perspectives

The MICROTECTURE A/E/C Newsletter

Volume 2 Number 3

DataCAD Profile:

The Rick Gleason Partnership



BACK STREET ELEVATION
SCALE 1/4" = 1'-0"

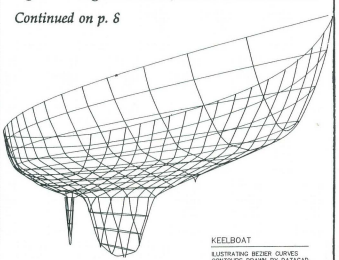
BEACON STREET ELEVATION
SCALE 1/4" = 1'-0"

The firm is essentially two partners and several other employees as needed. We work from a large room 12' x 20' in our home which we renovated about the time we purchased DataCAD, one year ago. The card tables and drafting boards would no longer hold our Tandy 2000 which we use for specs and word processing and our new AT for DataCAD. The plan is essentially a row of desktops and files along each long side with four rows of open shelves above. There is one thing I would do differently which is to have 36" desktops instead of 30" tops. I'm planning a shelf for the AT and monitor so that drawings can lie flat underneath the monitor with a larger work surface, making entry easier. As we all know, proper lighting is essential, we need to install a light valence in front of the desk lighting so that there is no reflection in the monitor. Right now I simply turn off the lights on the opposite side of the room which is sometimes difficult to do when others are working.

The machine we use is a NEC APC IV with an 8mhz co-processor with Micro-way's crystal board for the co-processor, a 2Mb RAM board, Vega EGA card, NEC Multisync Monitor, mouse and Micro-way's diskcache software. The machine is quite acceptable but towards the end of a big drawing there is some waiting while editing lines already entered. I am tempted to try a 10mhz crystal from Ariel in the machine. The RAM board was an excellent addition and eliminated that wait each time I sent the Hard Disk on a "trip." With the waiting from hard disk operation eliminated, I added the disk-cache software from Microway because the DataCAD command files still reside on the hard disk. This saves time accessing commands on the hard disk if you are jumping between two or three edit commands. Speeding up the co-processor to the full 8mhz, using Microway's turbo, speeds up redraw and calculation time. I now wish I had gotten a 10mhz co-processor. The last change I made was to jumper two pins on the main board to make the machine zero wait state. It is difficult to tell the exact effect of the various improvements, but each improvement was definitely worthwhile. Some experts might say making the machine zero wait state doesn't help that much, because normally the interleave factor on the hard disk should be changed. However, since the main datafile is re-siding in the e: or virtual drive (RAM) the zero wait state machine seems to be faster. I haven't had any difficulties with the program hanging up. If the program did hang up too much I would just pull out the jumper.

The first spiral bound volume of DataCAD's manual was used all the time when we first started. We used many of the suggestions for drawing file names and labels and much of the organizational suggestions in the front of the manual. I basically learned the system by doing the design and construction drawings for 384 Marlborough Street. I knew the project would take longer than we had planned, because of the learning involved. While doing those drawing I spent a considerable amount of time working on office standards and setting up the system for other work. Obviously this time should be separated from the project time. Developing legends and general notes, standard text sizes and

Continued on p. 8



PERSPECTIVE
GENERATED FROM 3D PLAN AND SAVED AS AN IMAGE

KEELBOAT
ILLUSTRATING BEZIER CURVES CONTOURS DRAWN BY DATACAD

DRAWN BY
THE GLEASON PARTNERSHIP
114 COMMONWEALTH AVENUE, BOSTON, MA.

From the Chairman

Microtecture Corporation celebrated its fourth anniversary this month. For those of us who have been around since the "early" days, we have seen lots of changes as both the corporation and the product have grown over time.

Organizationally, we have taken a major step forward with the addition of two new top level management positions. Daryl Ferguson, our new president, brings to Microtecture both an academic and practical business background. After receiving his PhD in business administration from George Washington University, he continued his work in related high technology industries where he gained experience with several companies as their CEO. Mr. Ferguson will be using his strong marketing background to strengthen our distribution base and to increase the quality and quantity of services we offer. Also new to Microtecture is Mr. Bob Runser, former Chief Financial Officer of the Signal Companies. Mr. Runser will be refining the basic control and business analysis aspects of Microtecture. He will also be involved with strategic financing issues relating to our long-term growth plans.

These changes significantly increase our management strength, and position Microtecture to support a large increase in staff without suffering the typical growth related problems which are so disruptive to small companies. By making these organizational changes now, we can maintain a continuity and product focus which few growing companies achieve. I am confident that these new additions will increase our chances for success in this highly competitive marketplace.

Changes are also taking place in our dealer network. In October we introduced our new "partnership" dealer program. This incentive based plan will increase the level of sales and support services our top dealers offer to DataCAD customers. Also, in the near future, we will increase our direct mail and advertising efforts to augment our partnership dealers in their ongoing marketing plans.

DataCAD too has changed in many ways with the release of version 3.5. Over 60 new features and enhancements have been added, and several significant changes to the interface of the program have been incorporated. We know that any "change" to DataCAD meets with some resistance from the experienced users who are on the boards every day. We hope that version 3.5 will be well received.

One of the few things which hasn't changed during the last four years is our commitment to you the DataCAD customer. Our collective effort to improve every aspect of our company, from R & D to dealer support, is visible evidence of this dedication.

Stuart G. Burgh, AIA
Chairman

RADIUS
Raleigh Area DataCAD Information & User Support
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Raleigh, North Carolina
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Pressed to meet the deadline for inclusion in this issue of PERSPECTIVES, we realize as we write that while the excitement of A/E/C '87 and the National DataCAD End User Meeting last June is still fresh in our minds, your thoughts as you read this probably run more toward the holidays. Accordingly, we thought that this would be an excellent opportunity to reflect on what we learned in Washington and to share it with those of you who were unable to attend.

We know from the excellent attendance and the letters we received that the National End User Meeting was a resounding success. DataCAD users from Hawaii to Florida and twenty-two states in between met in the superb headquarters of the American Institute of Architects and had their first opportunity to share thoughts about DataCAD with other users, MICROTECTURE, and nationally known experts in the CADD field. By making this meeting possible, MICROTECTURE confirmed what many of us already knew; that our concerns and opinions are an important factor in the evolution of DataCAD.

RADIUS was delighted to have had a role in the meeting. As it turned out, when we said back in January that we'd like to help, we had no idea how much work we were letting ourselves in for. We thought then that five months would be plenty of time to put the meeting together, but it almost wasn't; three hours before starting time we were still debugging the software that we needed to copy onto 120 floppies, and hadn't started to assemble the information packages. Somehow it all got done, the flurry of activity kept stage-fright at bay, and none of the featured speakers forgot to come.

As the meeting progressed, it became clear that what we had hoped for was occuring; the distinction between audience and program was beginning to blur, and by the time the panel discussion began interesting ideas were coming from both sides of the podium. The cocktail party after the meeting reinforced this sense of cohesiveness, and by evening's end, we had made many new friends and gained new perspectives on the use of CADD.

There were two points made that evening that need mention here because they seem most central to the reason for having a national user group meeting. First, and in a sense obvious to those of us who have been using DataCAD for a while, is that DataCAD is well regarded by people who have been closely following microCAD for A/E's including Oliver Witte and Eric Teicholz, who were present at our meeting. It is not a sideline product. The opportunity to see version 3.5 and the 3D Modeler work provided tangible proof that DataCAD is growing in directions that make it an excellent tool for our work. By the time you read this we should have version 3.5 on our own systems.

The second point is everyone felt that while a national user group meeting was a good idea and should be an annual event, there should be an entity that functions as a national user group. Many people thought that RADIUS should expand to fill that role and we have received a number of letters from other DataCAD user groups who wish to join RADIUS. We have discussed this issue at our meetings in July and September and in the column below are our thoughts for the first steps in the creation of a national user group.

To MICROTECTURE, our speakers and panel members, all of you who worked hard to make the First National DataCAD End User Meeting a reality, and most importantly, those of you who attended, our sincerest thanks. Let's do it again in Chicago in 1988!

Mark R. Dickey for RADIUS

A National Organization of DataCAD User Groups

Discussion at the National DataCAD End User Meeting in Washington, D.C. last June made it clear that there is a lot of support for an organization of DataCAD user groups on a nationwide level. In response to this effort, we have worked with MICROTECTURE over the past few months to set up a framework for a national organization. Our proposal is that the national organization be an extension of, rather than a replacement of, the local user group. The national organization will exist as a clearinghouse for communications and information sharing between the local groups.

MICROTECTURE has offered their help and editorial space in the PERSPECTIVES newsletter to serve as the first vehicle for the national organization. We understand that the newsletter will be published more frequently, and MICROTECTURE's help will ensure that we reach all DataCAD users. In addition, the national organization can get started without delay or overhead. For the present, we would like to have your thoughts on how best to use this opportunity. Interested user groups or individuals should write to: NODE (National Organization of DataCAD End Users), C/O MICROTECTURE Corporation.

Watch this column next issue for more information on this exciting project.

Technical Corner

by Dan McDaniel

About DOS and Directories

In this issue I want to talk about DOS. Since DOS is the operating system under which DataCAD runs, it is difficult to escape contact with it at some point. Whether you are trying to create a new directory or copy files, your job will be easier if you understand a little bit about how DOS works.

One of the most important concepts is that of hierarchically structured directories for files. That sound imposing, but really isn't that bad. It's just a way of arranging information logically.

Why do we need to be concerned with how things are arranged? Why not simply put all our files in one place, and forget about directories and sub-directories? It will help us understand the reasoning behind the directory system, if we turn for a moment from computers to ordinary paper and file folders.

If I have only five or six pieces of paper on my desk, I don't really need a filing system. If I have a few dozen documents on my desk, I may want to use folders to organize them. For example, I could have a folder for correspondence, a folder for memoranda, and one for magazine articles. When things grow to the degree that I have dozens of folders on my desk, I will probably invest in a file cabinet of some kind. Eventually, I might have four file cabinets, each with three drawers, each of which contains many folders of documents.

When I need to direct someone else to a particular piece of paper in my files, I begin with the largest grouping, and work down to the smallest. This is to say that I begin at the top of the hierarchy and work down. The sequence, "Second cabinet, first drawer, folder labeled 'memos'" should enable anyone to find the desired document.

This is a hierarchical filing system analogous to the directory structure in DOS. The directory structure in DOS exists for the same reason as our file cabinets: when we have enough different things, we find it convenient to organize them into managable groupings. That way, if I want to find a particular template file, I can look in the directory for template files. I don't have to search for it in a list cluttered with drawing files, DataCAD program files, driver files, and symbol files.

In order to describe where something is located in the DOS file system, we use a PATH NAME. A path name corresponds to the "Second cabinet, first drawer, ..." description of a document's location given above. "c:\mtec\dwg\house.dc3" is a complete description of the location for the drawing file "house.dc3." It says that we should look on drive C:, in a directory named "mtec" for a directory named "dwg," and in it we will find the file "house.dc3."

Templates and Symbols

Templates are very handy when you want to quickly add some graphic item to a drawing without having to draw it each time. However, the subject of managing and creating a template library can be confusing. Perhaps we can make it a little clearer.

A template system is made up of a template file and one or more symbol files.

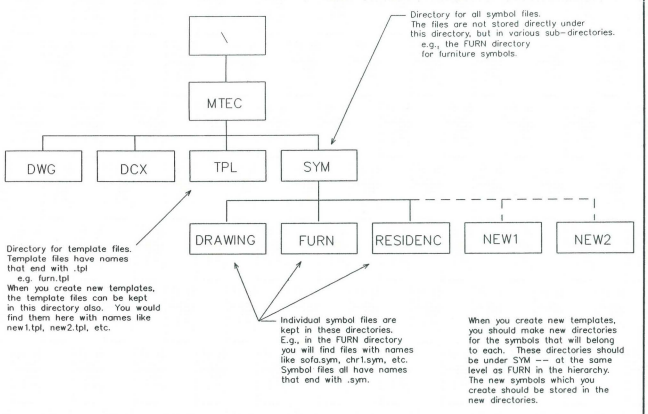
The symbol files have the actual drawing entities, or "pictures," that you want to have available. The template file contains information which allows DataCAD to keep track of all the symbols. It may be helpful to think of this by analogy to an ordinary book. The book has a table of contents and several chapters. The table of contents helps you find the chapter you are looking for, but the actual information you want is in the chapter. The template file is like the table of contents. The symbol files are like the chapters.

Let's look at an actual example. If you have DataCAD's Architectural Group I diskettes installed on your system, you will be able to follow along. Change to the directory \MTEC\TPL. Look at the files there with the DIR command. You should see files with names like FURN.TPL, DRAWING.TPL, and RESIDENC.TPL. These are the template files for furniture symbols, drawing symbols, and residential symbols.

Now change to the directory \MTEC\SYM\FURN. This is the directory for symbols from the furniture template system. Look at the files in this directory with the DIR command. You should see files with names like SOFA.SYM, CHR1.SYM, and CHR2.SYM. These are the symbol files for the sofa and two types of chair.

Note that although the endings on template files and symbol files (called filename extentions), are significant for DOS, and are used internally by DataCAD, they are not displayed by DataCAD in the various menus. In the template menu, you will see FURN, not FURN.TPL.

When you make a new template system, the template file can be placed in \MTEC\TPL along with the other template files. The symbols for the new system should be placed in a new directory at the same level as FURN in the hierarchy. See the accompanying figure for more information.



Converting Template Files to Version 3.5

When converting DataCAD 3.1 template files to the new version with the CONVTPL program, you may see the message, "Unable to open PATH\FILENAME." This usually means that the conversion program could not find that symbol file. This will happen if the symbol was originally saved with a relative rather than an absolute path.

Example:

c:\mtec\sym\furn\soft.sym	absolute path
\mtec\sym\furn\soft.sym	absolute path
smy\furn\soft.sym	relative path

The relative path works correctly within DataCAD because it is relative to the mtec directory, and DataCAD is operating out of the mtec directory also. However, the conversion program is operating from the tpl directory so it cannot find paths relative to mtec.

To find out whether the symbol was originally saved with a relative path, look at the contents of its template file, (e.g., FURN.TPL for furniture symbols).

If relative path names are causing the problem, there are two things you can do. You can edit the template file, and change the relative paths to absolute paths. Or, you can copy the template file to the mtec directory, and run the conversion program from there. In this case the relative path name is given relative to mtec, and the CONVTPL program is also running from mtec, so it will be able to locate the symbol files. When the conversion is complete, copy the template files back to their proper directories.

If you are not sure whether there are relative path names in your template files, follow the second procedure in the above paragraph. It will work for both relative and absolute path names.

Third Party Update

Many of you have been calling regarding the status of third party software programs for DataCAD. As you may know, we officially began our third party developers program in May, 1987. There are now a variety of new applications programs underway. The release of version 3.5 and DCAL, has given these developers quick access to DataCAD. We hope to be able to announce the first of our new third party products very soon.

In qualifying third party developers, we have taken a view different from most software companies. We will be looking for and adding to our product line, only the top programs in each application. We feel that this approach will let us give our users programs of the same caliber and quality as DataCAD. The coming year will bring a variety of new products for DataCAD, watch for the notices we'll be sending you as they're released.

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Richardson Chalmers is a small firm engaged since 1971 in architectural planning and design services as well as construction and facilities management. About two years ago we recognized that progressive architectural and engineering firms were moving in the direction of computerized production and design and, if we were going to keep pace, we too would have to computerize the drafting and design phases of our practice. We embarked on a search for software and hardware that would adequately produce drawings, if not faster, at least as fast as conventional drafting. We took a preliminary drawing to use as a benchmark to each CADD demonstration and were dismayed to find that in all but one, the operators giving the demonstration were unable to duplicate our drawing on their CADD system. We had reached the conclusion that the system that could produce drawings with any speed was beyond our present budget. Then we were introduced to DataCAD.

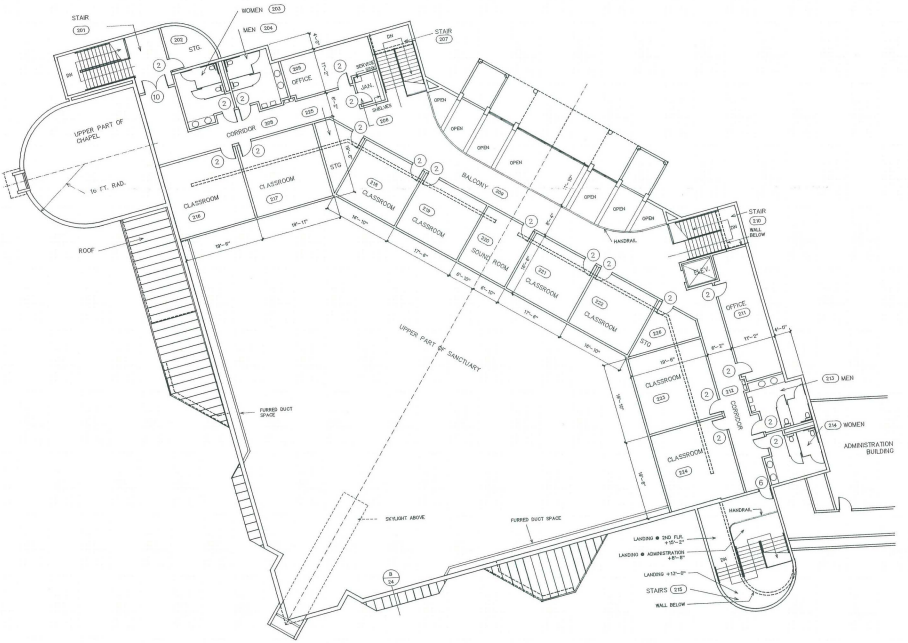
During the two weeks while waiting for our software and hardware to arrive we practiced with DataCAD for about twenty hours at our vendor's store, Micro Match Computers. We must give them much credit for our successful entry into CADD for they have given us outstanding support and guidance over the last several months.

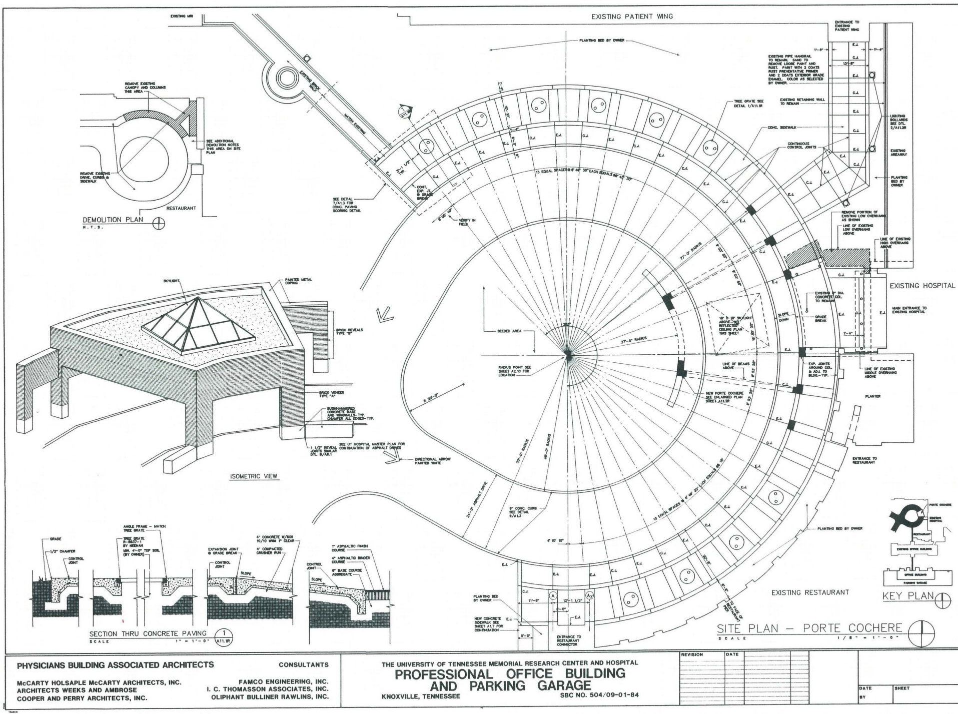
On January 15th of this year, having had only the experience gained at the store, we plunged into a large church project on a very tight time schedule. The sanctuary building is a two story structure with few right angles and is designed to accomodate a future balcony. There is an adjacent administration wing which is elevated above a portion of the parking area. Because of its rectangular shape it presented fewer problems. It was quickly obvious that the ability to view one layer over another and to easily move and adjust entities horizontally and vertically was one great advantage of computer drafting. Of a total of 36 architectural drawings we accomplished 26 CADD drawings with one station in about five weeks.

We had only a "D" size plotter so we plotted the 1/8" scale drawings on 24" x 36" paper at 3/32" scale and the 1/4" drawings at 3/16" scale and had them enlarged photographically on mylar to the proper scale.

In reviewing the disks of this first project, mistakes in layer and color organization, as well as drafting technique are evident. We are now in our ninth project fully on CADD and have learned a great deal since the first. Our problem now is that our clients *expect* their work to be done on the CADD system. This has severely overloaded our single work station. We will be forced to expand to two or more stations. Once exposed to computer drawings clients are no longer satisfied with conventional drafting. They quickly realized that the clarity of the drawings reduced the chance for errors and confusion in the bidding process, that there are fewer corrections from government agencies, and that changes can be accomplished with greater precision and speed.

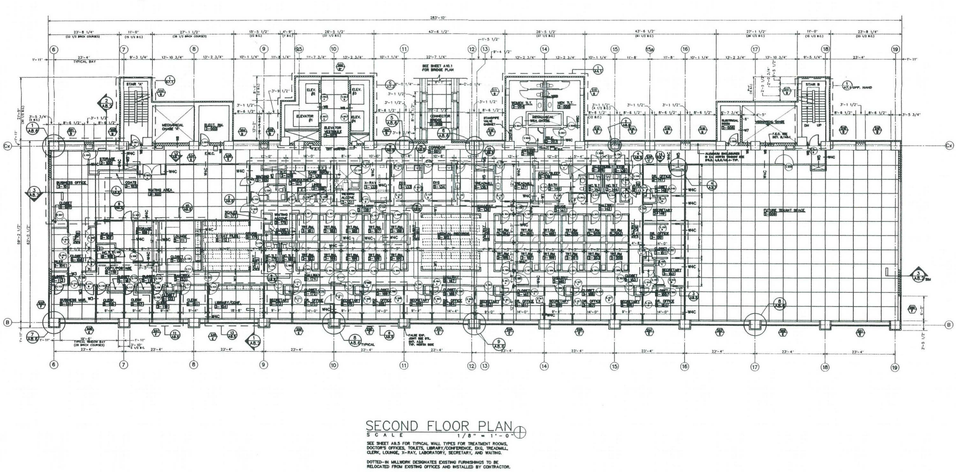
As we have time to expand our library of details and templates and to utilize the database aspects of DataCAD, we expect to realize increases in speed and efficiency in production. During our investigation period we contacted several professional colleagues using CADD and discovered quite a few who had abandoned their stations because they were slow and cumbersome. Invariably each was using one particular popular CADD package. We could not have begun and finished our first project in the time we did if we had had to plod our way through a complicated users manual and typed in commands. It is difficult to conceive of a software program that performs as many complex operations as DataCAD with commands that are so straightforward and obvious. We have yet to fully read the manual. Even in relation to other types of software and not limited to just other CADD software we feel that DataCAD has achieved a new standard in ease of use.




EXISTING PATIENT WING
EXISTING HOSPITAL
EXISTING RESTAURANT
DEMOLITION PLAN
ISOMETRIC VIEW
SECTION THRU CONCRETE PAVING
SITE PLAN – PORTE COCHERE
KEY PLAN
PHYSICIANS BUILDING ASSOCIATED ARCHITECTS
McCARTY HOLSAPLE McCARTY ARCHITECTS, INC.
ARCHITECTS WEEKS AND AMBROSE
COOPER AND PERRY ARCHITECTS, INC.
CONSULTANTS
FAMCO ENGINEERING, INC.
I. C. THOMASSON ASSOCIATES, INC.
OLIPHANT BULLINER RAWLINS, INC.
THE UNIVERSITY OF TENNESSEE MEMORIAL RESEARCH CENTER AND HOSPITAL
PROFESSIONAL OFFICE BUILDING
AND PARKING GARAGE
KNOXVILLE, TENNESSEE
SBC NO. 504/09-01-84
REVISION
DATE
SHEET

Architects Weeks and Ambrose

30 Market Square Mall · Knoxville, Tennessee 37902


SECOND FLOOR PLAN
SCALE 1/8" = 1'-0"
SEE SHEET A8.5 FOR TYPICAL WALL TYPES FOR TREATMENT ROOMS, DOCTOR'S OFFICES, TOILETS, LIBRARY/CONFERENCE, EKG, TREADMILL, CLERK, LOUNGE, X-RAY, LABORATORY, SECRETARY, AND WAITING.
DOTTED-IN MILLWORK DESIGNATES EXISTING FURNISHINGS TO BE RELOCATED FROM EXISTING OFFICES AND INSTALLED BY CONTRACTOR.
DOTTED-IN EQUIPMENT DESIGNATES EXISTING FURNISHINGS TO BE RELOCATED BY OWNER.

DC Modeler

by Ken Parrish

One of the more powerful editing features of DataCAD Version 3.5 with the DC Modeler is the ability to enter and edit geometric data (entities) not only in a standard plan view (orthographic projection), but with your model rotated in any orientation relative to the plane of the screen. In this article, I will discuss some of the basic concepts for editing an architectural model in parallel projections created by using the elevation command. The elevation command is accessed in DataCAD via the *3D Views* menu, and then by selecting either *Ortho* or *Parallel* from the main viewer menu.

In a typical architectural application such as a building or room, your model may contain a number of important surfaces which are perpendicular to the base plane of the model. In most architectural modeling situations, the base plane of your model is parallel and coincident with the xy-plane. In this case, a positive z-coordinate is in a direction upward from the ground plane or floor plane. These 'vertical' surfaces could be interior or exterior walls, partitions, windows, doors, cabinetry, or portions of furniture. Although it is possible, and sometimes preferable to edit these surfaces with the plane of the surface perpendicular to the screen, in many instances, if the plane of the surface were coincident with the screen, editing would be a much simpler task.

A useful DataCAD function for orienting your model so that you may perform these editing operations is the elevation command. The elevation command always creates a parallel projection of your model. As discussed in the DataCAD manual, a parallel projection is created by simply rotating your model in space, and then projecting an image of your model directly onto the plane of the screen. DataCAD is always aware of exactly how this projection has been created and allows the entering and editing of information in any parallel projection. Rotating your model relative to the plane of the screen first brings up the question of 'Which way is up?' The key to understanding this is to recognize that when editing in a parallel projection, not just one, but two coordinate systems are involved, the world coordinate system and the screen coordinate system.

World vs. Screen Coordinates

The world coordinate system is an absolute and fixed set of cartesian coordinates in space, and is the coordinate system in which all of the data for your model is stored in your drawing files. Since the world coordinate system is absolute, its origin is fixed and always lies at absolute zero.

The orientation of the screen coordinate system always coincides with your screen (or plotter). The positive x-direction is to the right of the screen, the positive y-direction is upward, and the positive z-direction is out of the plane of the screen. The screen coordinate system can be shifted to the right and left or up and down (scrolled), or can be scaled up and down (zoomed). However, the orientation of the screen coordinate system never changes; it cannot be rotated relative to the plane of the screen.

In a plan view (orthographic projection), the orientation of the world and screen coordinate systems coincide. In a parallel projection, the world coordinate system is rotated relative to the screen coordinate system. The screen then represents plane of infinite size which passes through your model at a particular location and in a particular orientation. This plane may be thought of as the editing plane. Unless the three-dimensional cursor is present, all entry and editing operations are relative to this editing plane. DataCAD understands this and automatically takes this into account when interpreting your input commands.

Defining an Elevation View

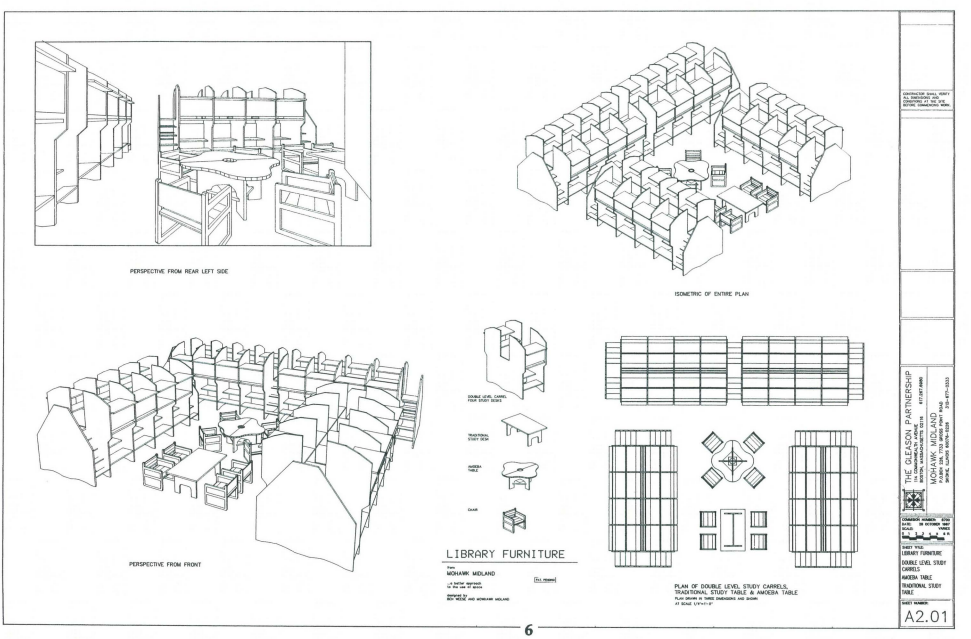
As an example, lets say that you have created a series of slabs which represent the walls of a small building. For this application, the vertical entry option for slabs is a convenient technique. Next it is desired to add a variety of details to the surface of the slab to represent window and door detail, mouldings, siding, or hardware. It would make sense to be able to draw or construct directly on this 'vertical' surface, but with the surface oriented parallel to the screen.

The elevation command provides a direct and accurate method for positioning your model so that one of these vertical planes coincides exactly with the plane of the screen. Furthermore, the elevation command provides you with the tools for insuring that the snapping grid is correctly oriented, and that z-base and z-height values are unambiguously interpreted.

Using the *New Elev* command, enter a point on your drawing which lies ON the vertical plane you wish to have coincide with the plane of the screen. The exact placement of this first point is all important. It establishes the reference point for z-base and z-height coordinates once the view is created. Ordinarily, this first point lies somewhere on the vertical plane. In this way, a z-base or z-height value of zero will lie ON the plane once the view is defined. After entering the first point which defines the elevation view, a cursor will appear consisting of a line and arrow perpendicular to each other. In addition, two tic marks will appear indicating the current values of z-base and z-height relative to the first point selected. If z-base is currently set to zero, the first tic mark will coincide with this line.

The location of this first point, in conjunction with the value of *Center Z*, also determines the location of the origin of the snapping grid once the view is defined. If you are defining an elevation view which coincides with a slab representing a wall, you may want to enter a point which lies at either end of the slab. In this way, the snapping grid will coincide with the extreme left or extreme right of the wall. In the same manner, the value of Center Z will define how high up on the wall the origin of the snapping grid will lie. In this manner you can insure the exact position of the origin of the snapping grid in the newly created elevation view.

The second point entered defines the overall orientation of the elevation view. The arrow indicates the direction that the viewer will be looking. The length of this arrow has no significance, only its direction is important. Note that for positive values of z-base and z-height, the tic marks lie to the opposite side of the arrow, indicating a positive direction out of the plane of the screen. These two points, along with the value of Center Z, unambiguously define an elevation view. The location and orientation of the view, and the origin of the snapping grid are all defined by



DataCAD Update Membership Program

There are some new developments in the Update Membership Program that will bring more benefits to our growing list of end users. I have recently joined MICROTECTURE to manage the services of update memberships. Therefore, you will have a direct link to MICROTECTURE for answers to questions you will have about the upcoming version releases.

I would like to make sure everyone understands the benefits of your update membership. You receive not only any updates that come out during your membership year but also the MICROTECTURE newsletter, Perspectives. You also receive product support from MICROTECTURE for any questions your dealers cannot answer.

I would also like to ask for some help, for you are a great source of marketing reserach. We would like to remain the top CAD package in the design industry and we can best remain competitive with your help. If you have any suggestions on how we can add more value to your membership, please feel free to call me at 804-295-2600. And remember "Membership has its privileges. . . ."

Tom Jennings
Update Account Manager

DataCASH Contest Winners

The winners of the DataCASH Contest were announced at the National End Users Meeting in June. For those of you who were unable to attend, here are the names of firms that won. Congratulations to all of the winners!

First Place:	The Rick Gleason Partnership, Boston, MA
Second Place:	Richardson Chalmers Architects Planners, La Canada, CA
Third Place:	Architects Weeks & Ambrose, Knoxville, TN
First Place Miscellaneous:	Fred Oesch Brown Eichman Dagliesh Gilpin Architects, Charlottesville, VA

We would like to make the next contest a little different. We've thought of a few unique competitions such as a DataCAD Template contest, but we'd like to know what would interest you. If you have suggestions for our next contest, please send them c/o DataCAD Contest, P.O. Box 3788, Charlottesville, VA, 22903, or contact Lou Bodnar at 804/295-2600.

DataCAD User Groups

Below is a list of DataCAD Users Groups registered with MICROTECTURE. If you want information on a group in your area, please contact them directly. If your Users Group is not listed, please let us know so that we can include you in future listings.

DataCAD User Groups

Boston Area DataCAD User Group
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Call for Articles

We are looking for drawings and articles on DataCAD in the professional design office, to use in future editions of the PERSPECTIVES Newsletter. If you would like to participate in PERSPECTIVES and share your DataCAD experiences with your fellow users, let us know. We are always interested in seeing the projects you're producing with DataCAD. Contact Lou Bodnar, PERSPECTIVES Newsletter, P.O. Box 3788, Charlottesville, VA 22903, for further information on submitting your drawings.

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In This Issue

From the Chairman

Technical Corner

Continued from p. 1

putting these standards into an office reference manual certainly increased the time spent, but it has been well worth it because the office standards are more easily transferable to others and the quality of the drawings is more consistent

The computer is not the solution to unorganized and sloppy office procedures and habits. A day's work can be ruined in the blink of an eye on a computer, whereas manual drawing is a little safer. After awhile computer drafting becomes second nature. DataCAD's file I/O and *.asv* file system is certainly forgiving and has saved many drawing files for us. I believe that a sloppy draftsperson can make more of a mess on a computer than on the boards, and for this reason I would permit a beginner to work on a single drawing file at a time, not permitting access to other files until the previous file has been checked for consistancy and corrected. DataCAD's password system is excellent for this reason. I have never used the password system because we have more control as a result of our size.

I have found that speed is not the main benefit of CAD. The primary benefit is improved quality and legibility. Also you tend to do more work than with manual drawing. One thing I have noticed is the tendency to make a drawing too detailed, because the natural tendency is to zoom into sections of the drawing. One has to develop a feeling for the level of detail required for the scale of the drawing. It is certainly true that the 384 Marlborough St. drawing files could have been smaller. We also found that patterns should be produced on a separate layer by making an outline shape using linkline. The outline shape has to be perfect, with no gaps or openings, otherwise the hatch pattern algorithm will escape the field you want hatched. Ideally the pattern/begin command should be the last command executed because the size of the file will increase dramatically. On occasion we have transferred the outline shape to a new drawing file labeled the same as the main file but with an ending "P" for pattern, and executed the command in the new file. To plot, one calls up each file and plots it using the same plotting reference point, before ending the plot on the plotter.

After a year of using the program, I would not trade it for any other drawing tool. After seeing the wonderful drawings produced in the newsletters by others using the program, I can't help wondering why our DataCASH contest drawings were selected, other than they represent a beginner's attempt to do a small but complete set of drawings with DataCAD, and as such represent in a fair way, the capacity of the program.

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entering two points and a single z-coordinate value. With a little practice, precisely and accurately defining an elevation view for the purposes of editing vertical planes should become a straight-forward and unambiguous process.

Now that you have defined a location for the plane of the screen that coincides with a vertical plane representing a wall, details may now be added. At first, try using 3D lines and blocks for adding detail to your wall units. Set z-base to zero, the block entry mode to *Bas+Thk*, and the block thickness to 2". You can now frame your windows and doors as if you were drawing upon the surface of the wall. 3D lines may be used to add surface detail such as siding or texture. 3D lines also work well for representing very thin window mullions or door hardware.

Using Saved Views and Clipping Cubes

Combining parallel projections created using the elevation command with the *GotoView* and *ClipCube* features of the DataCAD three-dimensional viewing system will provide you with a maximum of power and flexibility in the entry and editing of walls and vertical surfaces. The simple building described above consists of four walls. Prior to beginning the editing process, you could define an elevation view for each of the four sides of the building. For each of the views, make sure that the grid origin is correctly positioned, and that the view is centered and scaled in exactly the way that you want. Then save this view using the *GotoView* feature. Repeat the process for each of the four walls of the building. Name the views so you will remember which is which. Remember also, that you may access the first ten saved views from the keyboard by pressing Shift-1 through Shift-0. You can now switch from one wall surface to another wall surface without having to redefine the elevation view each time.

For more complex models, particularly those with articulated walls and surfaces, you may want to use clipping cubes in conjunction with elevation views and the *GotoView* feature. For each wall, define a clipping cube which surrounds the wall including some space on all sides for protruding details. The coordinates and status of the clipping cube will be saved with your view. Now as you switch from one wall to the next, any walls behind or in front of the wall you are working on will be removed from view and from consideration in any subsequent editing operation. Rather than looking through a forest of lines, only lines pertaining to a particular wall are displayed in any given view.

Drawings done using DC Modeler with version 3.5