

# DBUG Meeting

January 18, 2006

## Selection Options:

### 1. Masking and Selection Sets

#### Old Method:

DCADWIN.INI file entry:

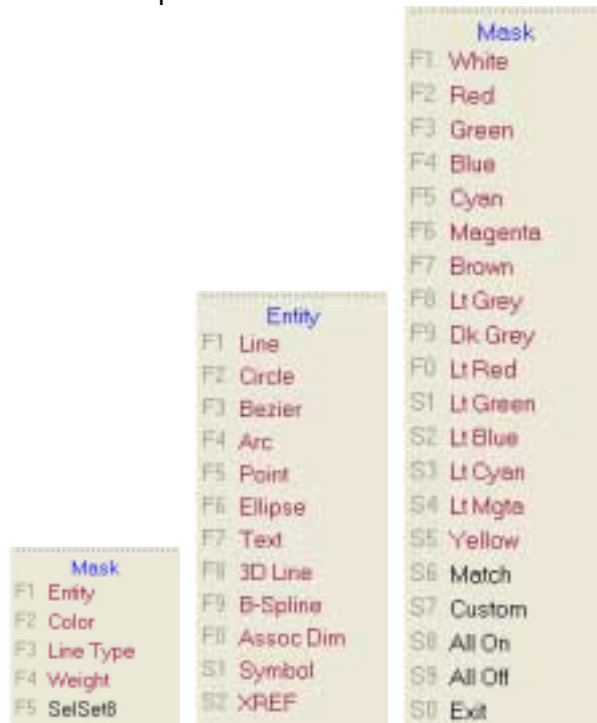
[Mask]

UseGlobalMask=FALSE

- Edit/Sel. Sets/Add To Set/SelSet#/<Add To Set menu>
- *Add to Set* menu looks like this. The key difference is the **Sel. Set** option, which is only there if the above DCADWIN.INI entry is set to FALSE:



- With this method you select the entities to be acted upon via **Mask** first, and then picking the edit command second (NOUN/VERB based).
- **Mask** options



Shortcut to Masking by Color, using Selection Set #8:

*Alt+H* in DCA DWIN.MCR (in Support Files folder)

H^;^S2^F4^F8^F5^F0^F1^F8^S0^F2^F8^F3^F0^F2^S9^

- Now when you make an edit, like Move, Copy, Mirror, etc., you can pick **Sel. Set** and all the masked entities will be acted upon.

### New (default) Method:

DCADWIN.INI file entry:

[Mask]

UseGlobalMask=TRUE

- The **Move** menu looks like this. The key difference is the **Mask** option, which is only there if the above DCADWIN.INI entry is set to TRUE:



- With this method you mask on the fly, picking the edit command first, and then the objects to be acted upon second (VERB/NOUN based).

## 2. Match

- In many cases this option is now implied, meaning you do not have to actually pick **Match** from the menu.
  - Instead you pick an edit option like **Layer/On/Off**, click directly on an entity, then the layer that the entity was on will be turned OFF.
  - Match is implied when DataCAD is prompting for a color such as the **Color** sub-menu in **Linetype** and **Mask**.
  - Match is implied when DataCAD is prompting for an angle. You may point to a 2D Line, 3D line, Text, Symbol or XRef to match its angle, or you may select an Arc or a Circle to set the angle to the tangent nearest the point entered.
  - The Match function is now implied whenever DataCAD is prompting for a layer name and displaying the list of layers on the function keys. You are no longer required to select Match. Just click on an entity. So you could select Move/To Layer, then pick an entity on the layer you desire to move to, rather than first selecting the **Match** option from the menu.
- **Match** is good for matching custom colors, like those you might get from an ACAD or another CAD program.

## 3. Clipboard Select

- Shortcut: **Ctrl+E**
- Saves the entities to the Windows clipboard, where they can be pasted into any DataCAD drawing, or even into other Windows programs like Microsoft Word.
- You can either **Cut** or **Copy** the entities selected.
- The current colors and layers are retained, though when you paste them back into a DataCAD drawing you will have options to put them elsewhere.
- If you use the **Insert Pnt.** option then DataCAD will prompt you for an insertion point, much like a symbol. When placing the entities in a DataCAD drawing you will have the option of placing them in their original location relative to the absolute zero point of the drawing (**Abs. Zero**), or by the center point of the bounding box containing the entities (**By Center**).
- Once you use Clipboard Select to select entities, you can use the standard Windows shortcuts of **Ctrl+C** to Copy the entities, **Ctrl+X** to Cut them, and **Ctrl+V** to Paste the entities into the drawing.

## 4. Group

- Not Mike's favorite option due to its potential dangers.
- GROUP: is a set of any number of entities, linked together logically but not necessarily graphically. Entities that do not touch may be part of the same group, and entities that are contiguous may be part of different groups. Entities are linked as a group in a number of ways. A group of entities drawn in succession without disconnecting the cursor are linked as one group.

Similarly a series of lines of text entered at the same time are linked as one group. Similarly a series of lines of text entered at the same time are linked as one group. You can link entities or groups of entities using the LinkEnts options in the Edit menu. Entities are also grouped when they are created at the same time with the Copy option. If the AndCopy option is toggled ON when you use Move, then the copies will be a single group. When an existing entity is edited, with the Change or Move options for example, it retains the same group associations.

- The new toggle **KeepGrps** has been added to the **Copy** (2D/3D) menu and when **AndCopy** is on in the **Move** (2D/3D) menu. When on, this new option will retain entity grouping.
- Examples:
- After adding a line(s) of text to an existing note, you can then Group all the lines, so that they act like they had been created together. It is best if you do this by Entity, and pick them in order.
- Before saving a symbol (of a window, for example), it is a good idea to Group all the lines, so that if you need to Explode it, it then can be moved/copied/erased/etc. as a Group.
- Before Copying/Moving a group of lines, I find it easier to Group them, and then use Group rather than using Fence/Area/Crossing.

### **Knoppix (Linux OS) & Ultimate Boot CD for Windows:**

- I don't know or care about the Linux operating system, but this is a great free, downloadable, bootable CD product that gives you new ways to work with your computer when Windows crashes or has other problems that keep you from working in Windows.

Web page: <http://www.knoppix.org/>

KNOPPIX is a bootable Live system on CD or DVD, consisting of a representative collection of GNU/Linux software, automatic hardware detection, and support for many graphics cards, sound cards, SCSI and USB devices and other peripherals. KNOPPIX can be used as a productive Linux system for the desktop, educational CD, rescue system, or adapted and used as a platform for commercial software product demos. It is not necessary to install anything on a hard disk. Due to on-the-fly decompression, the CD can have up to 2 GB of executable software installed on it (over 8GB on the DVD "Maxi" edition).

What to download:

<http://www.knopper.net/knoppix-mirrors/index-en.html> -> Use one of the US mirror sites (HTTP or FTP) at the bottom of the page.

The only caveat with k3b is that it might not work right away, with your machine; and if it doesn't, you'll need to do a little "tweak" while booted to the Knoppix desktop (which is a full GUI system): On the bottom row of menus, click the Knoppix menu (which is the one with the penguin icon), and select 'root shell' and Type (without the quotes): "chmod 755 /usr/bin/cdrecord.mmap" and that should get the CD drive "mounted" so it will work with k3b, which is the CD/DVD burning program.

### **Ultimate Boot CD**

I have tried out the Ultimate Boot CD for Windows (<http://www.ubcd4win.com>), and it is quite similar to Knoppix; though there are important differences. Here's a brief synopsis on how to make the disk:

- Read the instructions and requirements: <http://www.ubcd4win.com/howto.htm>
- Download the Bart's PE© <http://www.nu2.nu/download.php?sFile=pebuilder319.zip>
- Download the Ultimate Boot CD for Windows file.  
<http://public.planetmirror.com/pub/ubcd4win/2.6/UBCD4WinV26.exe>
- Download the "Original" driver package  
<http://www.securitywonks.org/ubcd4win/UBCD4WinDriversV16.exe>
- Optionally download the "BTS" driver package  
<http://www.securitywonks.org/ubcd4win/UBCD4WinBTSDriversV101.exe>
- Extract the PE Builder first.
- Extract the UBCDfW next.
- Extract the driver package(s).
- Either copy the contents of your WinXP CD-ROM to your HD, or run with it in an optical drive.
- Build the ISO by running the PE Builder program.

- Burn the resulting ISO file to a CD-ROM. I recommend using BurnCDCC (<http://www.terabyteunlimited.com/downloads/burncdcc.zip>) to do this. You must be logged in as an administrator in Windows in order to do this, BTW.

I like the UBCDFW -- it is actually Linux with the various tools that it needs to write to NTFS "slipstreamed" in. In addition to the CD burning software, it has password editors, networking, internet, several antivirus programs, several anti-malware programs -- and of course it can **erase** the nasty Trojan/virus/malware that may be infecting your hard drive! This is the major thing that UBCD lacks; the other being the password editor.

A site to read about other security measures: <http://www.firewallguide.com/>

### **AEC CAD Exchange:**

The purpose of this site is to foster the free exchange of peer to peer AEC details and information. We hope it will become the "Graphic Standards" of the web, including an online forum for various AEC topics, and all for free. Your participation and input will help fine tune the site. It's not up and running, yet, but hopefully in the next several weeks.

[www.aeccadexchange.com](http://www.aeccadexchange.com)

### **Useful Things to Know:**

#### **Google Earth and DataCAD**

- <http://earth.google.com/> -- download the FREE version (the \$20 PLUS version might have some use for some users, but not for most of us).
- Tools/Measure: measure any distance along a Line or Path.
- Tools/Options: several useful options you should review.
- File/Save Image: save the current view as a .JPG image (the PLUS version can save higher resolutions).
- View Options: Roads, Terrain and Buildings. With the Buildings option, 3D buildings generally only show up for major cities (try Boston or New York).
- Insert: in DataCAD, use Insert/Bitmap to bring in the image. But remember that bitmaps cannot be rotated in DataCAD, so you have to either make the bitmap an XREF or a symbol and then you can insert it in the drawing and rotate it all you want (if you rotate by very small amounts, on many computers the bitmap will disappear. To get around this, rotate the image by 20 or 30 degrees, and then rotate back to where you need it).

#### **Working with angled plans in DataCAD**

- Importing non-DataCAD drawings: use **Move drawing to origin**. Even with the double precision database in v.11, the display routines are NOT double precision, so errors creep in when the drawing entities are too far from the drawing origin. This should be addressed in v.12.
- Tangents: Utility/Geometry/Tangents (shortcut = **Bb**). Use this to rotate your cursor to match the angle of any other line currently displayed.
  - Once the cursor is rotated you may have to do a quick check to see which cursor lines represent your snap angles (0, 90, 180, 270 degrees).
  - With the cursor rotated, when you select entities by **Area** you will have the option to rotate the selection box to match. This **Rotate** option only becomes available after you select the first point of the **Area** bounding box.
- Grid Angle: Utility/Grids/Angle. Use this to rotate not only the cursor, but the whole grid system. It is more noticeable when you turn on **Disp. Grid 1** and **Disp. Grid 2**. If you use **Grid Snap** you will find this more useful than just rotating the cursor with Tangents.
- Reference line: because Tangents and other angle options have a potential for small errors that will compound themselves. It is often beneficial to create a couple of reference lines on a locked layer for reference. By using Tangents and picking one of these reference lines before you draw and angled line, you can be sure that all your lines will be drawn at the exact same angles.

- Rotating via XREF:
  - Create drawing A with dimensions and everything except text (notes). It is drawn on the standard X/Y axis
  - Now create drawing B, XREF drawing A into it, and rotate that XREF to the desired angle. All text/notes are entered in drawing B so they will be on the normal X/Y axis.
- 2 Buildings: If you have two buildings, only one of which is rotated, then you could:
  - Draw both buildings in the same drawing file, but with standard X/Y axis, then use the XREF option described above for one or both buildings.
  - Draw the angled building in a separate drawing file, but with standard X/Y axis, then use the XREF option described above to bring the rotated building into the non-rotated building file.
- MSP Details: You have a plan at an angle. You now want to lay it out in an MSP sheet along a standard X/Y axis. To do this:
  - Go to **Print/Plot**.
  - Select **Rotate**, and enter the angle that the plan should be rotated by.
  - Select **Multi-Layout**.
  - Lay out the current plan, or pick one from the **GoTo View** list.
- My Wishlist For Rotated Plans in DataCAD: to be able to rotate the entire drawing window to work in a standard X/Y axis, then be able to rotate the entire screen back, at will.

### Nesting in XREFs

Nesting is using an XRef that contains another XRef. There are several issues with using nested XRef's: you need to toggle on **two** settings in order for them to work. One is in the XRef itself; Nesting must be On – this can be done either in the Reference File Manager, or by Control-Right Clicking on the XRef. The second thing is in Tools/Program Preferences/Misc – look in the lower right, and check the Display Nested XRef's.

You will also notice the setting below this: Inherit current highlight setting. This is the choice between having the **nested** XRef show the same highlighting as the main XRef; or not.

Here's an example of how we have used nested XRef's:

We use a Self-Reference on a roof plan that shows the exterior walls of the story below, as light, dashed lines. This is what ends up being the nested XRef.

In another file, we XRef in the roof plan (sans text, etc.) and highlight it; and use it as the "background" for a roof framing plan. If we have Nesting turned on, and we have Show Nested XRef's turned on, then the walls show up.

Of course, there are often alternatives to doing it this way; like just turning on that exterior walls **layer** in the roof plan XRef. The only difference being that you could not have different highlighting for the roof and for the walls below.

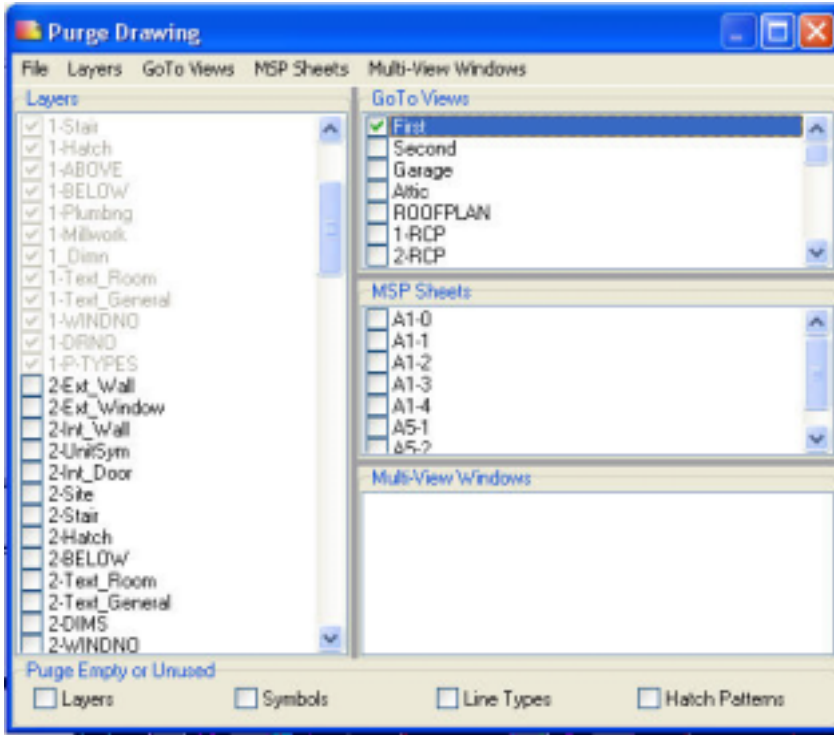
I highly recommend turning **off** all Nesting, by default, since if you are not using nesting, then you will save a **lot** of temporary file space. Using Nested XRef's is fine, but try to use them sparingly, since a lot of Nested XRef's will tax your computer and/or your network.

To turn OFF nested XREFs that already exist in your XREFs, go to the Reference File Manager, highlight an XREF, click **Nesting/Off** in the lower right corner. You have to do this for EACH XREF that has nested XREFs.

## **Purge** (whatever happened to LyrUtil?)

DataCAD files are automatically purged of any unused data each time you exit and save your drawing. In addition, a **Purge** dialog replaces the Layer Utility macro, allowing you to create new drawings based on a sub-set of an existing drawing. **Purge** will not affect the current drawing; after using Purge you will be prompted to save the resulting changes as another .AEC file, or a .DWG file.

1. Select **File/Purge**. The **Purge Drawing** dialog appears.



2. By default all the **Layers** in the drawing file are checked, indicating that all the layers of the drawing will be exported. Since there is no reason to do this (you could just do a Save As) then you will probably want to start by UN-checking all the **Layers**. Use the **Layers/Deselect All** option to do this quickly.
3. Decide what you want to **KEEP** from the file by:
  - a. Checking the boxes in the GoToViews, MSP Sheets and/or Multi-Views windows (when you do this, the layers in those checked items will be grayed out in the Layers list on the left. These grayed layers are the layers that will be EXPORTED.
  - b. If you are left with layers that are not grayed or checked, but you still want to export them, just put a check in the box in front of the layer.
4. If you want the exported file to be purged of empty or unused layers, symbols, line types and/or hatch patterns, check the appropriate boxes along the bottom of the dialog.
5. When you are finished with your selections, select **File** and then one of the 3 **Save As** options to save the drawing as an .AEC, .DXF or a .DWG file.

So what could you use this for?

If you want to export all the entities in a single MSP drawing file (for instance), then you would go through Steps 1 and 2, then pick just the MSP Sheet that you want to export (Step 3). Now export via **File/Save As**. The resulting exported file will have all the MSP layers and entities. When saving as a .DXF or .DWG the MSP layout and clip cubes will not be saved; only the layers and entities. Likewise you could use **Purge** to save drawings that include the layers and entities for specific GoTo Views or Multi-View Windows.

# AEC CAD Exchange

Welcome to the AEC CAD Exchange. The purpose of this site is to:

1. Facilitate the free exchange of peer to peer construction industry details, specifications and information via the Internet.
2. Provide a free online forum for AEC professionals to openly discuss industry details and concerns.

Although most manufacturers provide CAD details of their products, they are specific to that manufacturer and their own products. To create the most appropriate details for every aspect of a project, AEC professionals must decide how to best put together a myriad of new and evolving materials and products from multiple manufacturers. Invariably some other AEC professional has probably already worked out a suitable detail for a given situation. So we are providing a location where AEC professionals can share details that they have found successful in exchange for being able to access other details from their peers.

A mostly unmoderated forum of AEC topics is also being provided to promote an exchange of industry related ideas, and to allow questions and discussions relating to posted details.

## RULES & INSTRUCTIONS

### **DETAIL UPLOADS AND DOWNLOADS:**

1. Our goal is to keep this web site free to registered, active users. We will rely on our sponsors help us keep it that way (so be sure to visit our sponsors' web links!). To ensure that registered users are uploading details as well as downloading them, registered users will be required to upload *ONE (1) DETAIL EVERY 60 DAYS* to remain ACTIVE members. This will ensure that the site remains fresh and relevant, and should allow for a large number of details to be posted in a short period of time. We want you to visit often!
  - a) **ACTIVE** status: As long as the account is ACTIVE then they will continue to have full access to the site. If those minimums are not met then a user's account will revert to an INACTIVE status.
  - b) **INACTIVE** status: An account will be INACTIVE if their upload quota has not been met. When an account is INACTIVE details can no longer be downloaded from the site, but new details may be uploaded. By uploading new details the account will once again be returned to ACTIVE status.
  - c) **GUEST** status: if you have not registered on the site then you will be a GUEST. You can browse the site, but will not be able to upload or download details.
2. **Registration:** Registration is FREE. Once you register with a USER NAME and E-MAIL ADDRESS you will receive a password via that e-mail address. Once you have logged on with your new password you will immediately have ACTIVE status (you can change your password after logging in the first time). However, after 1 week you will be required to begin uploading details or your account will become INACTIVE.
  - a) **Firm Registration:** Each individual in a multi-person firm is not expected to upload details; only the office as a whole. The upload/download rules will apply to the company, and not to each individual in the company. It is therefore important to use the same COMPANY NAME when employees register, so that only the firm's membership status will be tracked. Any individual in the company may upload details, and those details will count toward the company's upload requirement.
3. Our format for uploading details should ensure that details can be quickly and automatically posted to the site, and can be easily viewed and referenced, complete with descriptions and images describing the details, based on the industry standard 16 CSI specification sections.
4. Manufacturers are free to advertise their own web sites that contain their own details, but they will not be allowed to submit their own proprietary details to the site. Participation on this site must be PEER TO PEER.

5. Advertisers will be able to advertise on our site's Home page, in the LINKS page, and via targeted advertisements that will appear in the Details pages corresponding to the industry standard 16 CSI specification sections.

#### **ONLINE FORUM:**

1. The free ONLINE FORUM will provide an avenue for users to discuss details and other industry topics. Although the site will be mostly unmoderated, it will be monitored for appropriate content. Users who continue to make unprofessional comments, threats or post other inappropriate content will be blocked from the site.
2. As long as you are either an ACTIVE or INACTIVE member you may fully participate in any of the forums.
3. If you are a GUEST then you will be able to browse the forum, but will not be able to post questions or comments.

#### **SITE ETIQUETTE:**

1. Persons or companies who do not follow these rules will be notified of their infractions. If the infractions continue those persons or companies will be blocked from the site, at the sole discretion of the AEC CAD Exchange.
2. You agree, through your use of this web site and/or forum, that you will not post any material which is false, defamatory, inaccurate, abusive, vulgar, hateful, harassing, obscene, profane, sexually oriented, threatening, invasive of a person's privacy, adult material, or otherwise in violation of any International, Canadian, or United States Federal law.

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