
TSL™ TCDView Version 1.5
User's manual

**Program for presentation of raster,
vector and hybrid documents**

for Microsoft Windows™



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1.Introduction

1.1. Basic functions of the program

TCDView is a *composite document* viewer. It allows to collect a set of raster or vector documents into a single composite document. Individual drawings in the composite document can be selected to allow changing of their parameters, their position in common world coordinates and their visible areas (viewports). The current coordinates of the mouse cursor in the composite document world are displayed in the status bar. It is also possible to measure distances between selected points. TCDView can print composite documents. Composite documents are stored in files with the TCD (*Tessel Composite Document*) extension and can also be embedded in other documents. Composite documents currently contain references to document files but do not contain document files themselves. Composite documents are especially useful in GIS applications for seamless display of neighbouring or overlapping sections of raster and vector maps.

TCDView displays composite documents that refer to document files saved in various raster and vector formats. The full list of formats supported by TCDView can be found in *Appendix A. Supported File Formats* at the end of this manual. File names of raster and vector documents must have extensions appropriate for their formats. Several composite documents can be open in one TCDView session. You may arrange the positions and sizes of windows, as to view all or selected documents that are open in the session.

Individual documents and composite documents can be selected for viewing by entering their file names or using 'drag and drop' technique.

Document files can come from outside of the system or they can be acquired with an installed scanner. TCDView cooperates with any scanner that is compatible with the TWAIN standard.

Scanned and vector documents displayed by TCDView can be printed on any device, printer or plotter, which is controlled by an MS Windows graphics printer driver. TCDView can print to standard MS Windows drivers, drivers provided by printer/plotter vendors or drivers developed by Tessel Systems for selected raster devices.

TCDView can efficiently print documents of any size supported by given output device. The printing process is always performed using full resolution data from scanned or vector document file scaled to the demanded output size.

1.2. Program requirements

In order to use TCDView you should have:

- IBM-PC class computer with 80386 (or higher) processor (the use of 80386-SX is also possible);
- at least 3 MB of free hard disk space;
- mouse or other pointing device supported by MS Windows;
- graphics card and monitor of at least EGA or VGA capabilities;
- 4 MB of RAM;
- MS-DOS version 3.1 or higher;
- Microsoft Windows version 3.1 or higher.

1.3. Program installation and running

TCDView consists of the main program file TSLTCDVIEW.EXE and several auxiliary libraries. Compressed versions of all these files and the installation program SETUP.EXE are on the installation disks. Installation procedures for both single user and network configuration are described below.

After proper installation TCDView can be run by clicking on the TCDView icon in the Tessel Software Line window or from command line (Program Manager window, File command, Run option). While running TCDView from a command line you can supply a list of full path names of document files as parameters. For example, the command line can read as follows:

```
C:\TSL\TSLTCDVIEW.EXE C:\TSL\DOC\ GOTEORG.TCD PHONE.P  
CX
```

where C:\TSL is the directory, in which TCDView has been installed, C:\TSL\DOC\ is the directory containing document and document files, GOTEORG.TCD is the file name of a composite document and PHONE.PCX is the file name of a picture, which are to be loaded at start-up. When the program starts, it will open each composite document file in a separate document window. The *CmdLineParsMode* parameter in the *TCDView Settings* section in the TSLTCDVIEW.INI file allows you to control how TCDView opens simple document files in raster or vector format supplied on the command line list (see Appendix B for description of TSLTCDVIEW.INI file). By default (*CmdLineParsMode=0*) TCDView opens simple document files in a separate document windows. If you set *CmdLineParsMode* parameter to 1 than all simple document files are opened in a single document window.

1.3.1. Single user installation

The installation of TCDView on a single computer (not connected to a network) is described below.

In order to install TCDView use the Run command from the File menu of Program Manager. In the command line enter the full path to the installation program SETUP.EXE, for example A:\SETUP.EXE. Clicking the *OK* button will start the installation process. You will be asked whether you want a full or a minimal installation and you will have to select the directory, in which TCDView will be installed. The default directory name is C:\TSL (if selected directory does not exist, it will be created, even with parent directories).

After successful installation all TCDView files are in the chosen directory. The list of operations performed during installation is saved in the TSLTCDVIEW.LOG file in the same directory. If the full installation was selected, demo files are copied to the additional DOC subdirectory. They can be used to show program features. If these files are not needed, you may delete them together with their subdirectory. The newly created program group Tessel Software Line contains two items: TCDView and TCDView Read Me. The former is used to run TCDView and the later launches MS Windows system Notepad with a short document containing important notes about installation and using of TCDView. The text file TSLTCDVIEW.INI is copied to the \WINDOWS directory. It contains option settings and default parameter values for some of TCDView commands.

1.3.2. Network installation

The installation program SETUP.EXE can also install TCDView on a network. As a result of such installation a copy of TCDView will be placed on and run from a file server. If the performance of the network is not adequate, TCDView can be installed locally on a workstation, not only from installation disks but also from the network installation.

In order to perform network administrator's installation of TCDView, select the *Run* command from the *File* menu of Program Manager. As a command line enter a full path to the SETUP.EXE file with /a parameter, for example:

```
A:\SETUP.EXE /a
```

Clicking the *OK* button will start the installation process. In this part it is similar to the single user installation, except that the installation program is also installed on the server with its necessary files.

After installation on the server, a workstation installation is also needed. As indicated earlier, there are two possibilities:

different color). After the name of the current document there is a list of the first three component drawings of this composite document in brackets. Below there is the main menu bar with the program's menus. Each of them is an entry to a pull-down menu with a set of commands. An optional toolbar is displayed under the main menu bar and contains icons, which allow access to the most frequently used commands. Documents are displayed in the remaining place of the main window. A status bar, also optional, is displayed under window(s) with documents. It shows the information supporting the user such as messages, system Help information, selected information concerning the active document and some keyboard status information.

Each of composite documents displayed by TCDView (an open document) has its own window with scrollbars. In the caption bar of each document window, after the document name, there is a list of the first three component drawings of this composite document (in brackets). The layout of windows with documents can be changed automatically (with commands invoked from the *Window* menu) or manually according to specific user's needs. A document window can be minimized to a TCDView icon labelled with the document name. Such a document is still present on the list of open documents in the *Window* menu.

When none of documents is open, for example immediately after program start-up or after closing all of document windows, the program main menu is in shortened form with only *File*, *View*, *Options* and *Help* entries. Using them you can open document(s), configure system by attaching printer, plotter or scanner, start acquiring document from a scanner and perform raster files format conversion. You can also disable or enable the toolbar and status bar. The *Help* command is always accessible.

When the first document is opened, the main menu is extended with new commands, so that all program functions are available. They are described in detail in the section "TCDView commands".

1.5. TCDView and Clipboard operations

The ability to transfer data between applications is one of the most important features of the MS Windows system. It allows, for example, to place a document created by one application inside a document in another application. *Copy* and *Paste* commands are used for transferring data between applications. The *Copy* command puts information in an appropriate format to the MS Windows Clipboard. The *Paste* command gets information from the Clipboard to another application in one of the formats supported by that application.

A document can be copied to the Clipboard in one of the standard MS Windows document formats:

- Device Dependent Bitmap
- Device Independent Bitmap

- MS Windows metafile

TCDView allows to control formats of data copied to the Clipboard. Relevant parameters in TSLTCDVIEW.INI file, described in Appendix B and in section 2.2, are used for switching on and off the copying of data in different formats. Moreover, it is also possible to control the moment, in which data will be copied to the Clipboard. Document data can be copied immediately after issuing the *Copy* command or only when the data is embedded to a document in client application.

2. TCDView commands

2.1. File menu Commands

File	
N ew	
O pen...	Ctrl+O
S ave	Ctrl+S
S ave A s...	
C lose	
C onvert...	
P rint...	Ctrl+P
P rint P review	
P rint S etup...	
A cquire	▶
S elect S ource	
1 SUPER2.TCD	
2 SUPER4.TCD	
3 SUPER3.TCD	
4 W:\DEMO.CDR\WIDOW1.TCD	
E xit	

The *File* menu commands are used for selection of documents to be opened, for selection of scanner and for starting the scanning, for document printing or conversion to different raster formats, for closing the documents and for exiting the program.

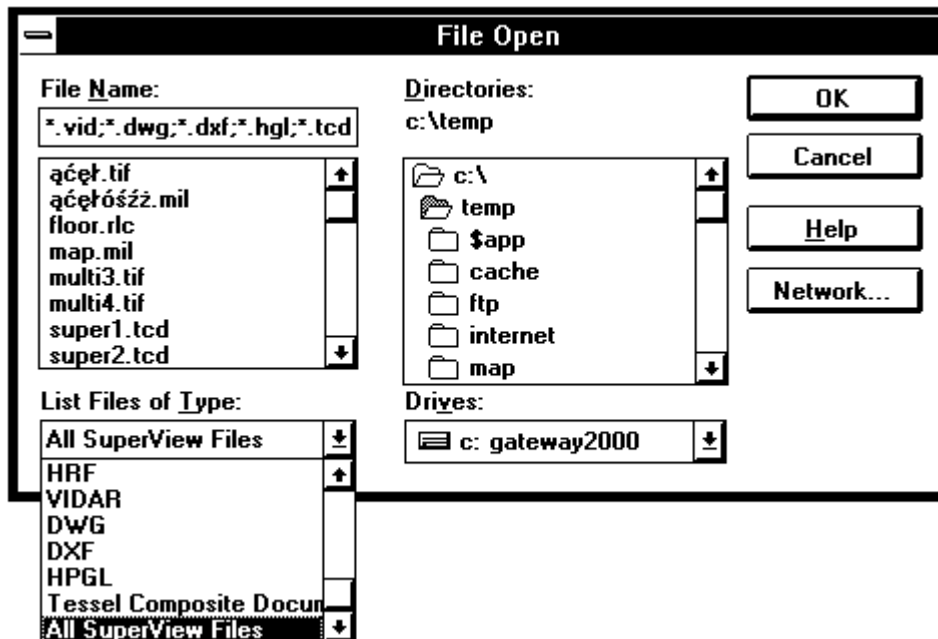
This menu also shows up to four file names of documents that were most recently used. Clicking on a name opens the selected document. Names of these files are stored in the TSLTCDVIEW.INI file in the section *Recent File List*.

2.1.1. New

The *New* command is used to create a new empty composite document. Drawings can be added to such a document using the *Add Subdoc* command from the *Document* menu.

2.1.2. Open...

The *Open* command is used for selection of a composite document or a single drawing file, which is to be opened by TCDView. In the dialog box, launched by the *Open* command, you should select a needed file format type, disk drive and directory on this drive.



As a result of these selections the program will display the list of all files in the selected directory with the selected extension. Every change of the format type or of a disk and/or directory is immediately reflected in the displayed list of files. Opening of a document file from that list is done by its selection with the left mouse button click and then clicking the *OK* button; the left mouse button double click on the file name on the list is an alternative method.

When you select raster or vector drawing file for opening, TCDView creates a new composite document, which contains a single drawing just selected.

When the *Shift* or *Control* key is pressed, it is possible to select multiple file names. When the *Shift* key is pressed, you select only the first and the last of files you want to open and all the files between them on the list will also be selected. When the *Control* key is pressed, you select multiple file names by clicking on each of them separately - they do not have to be neighbours on the list. After selecting all desired file names, you click the *OK* button and all selected files are opened - each in its own window.

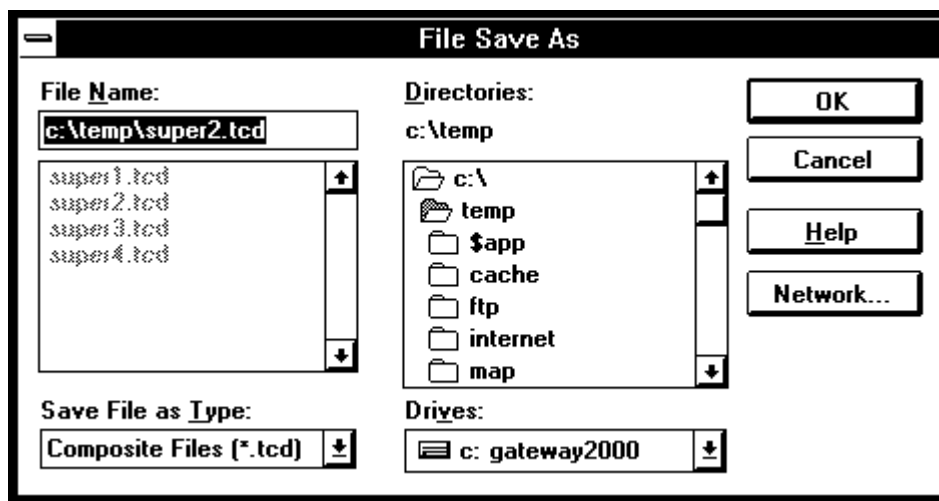
The *Open* command can be always used, i.e. you can view more than one document at any given moment. Documents are displayed in separate windows. Only one of them is active at any given moment - its title bar is displayed in a different color - and all commands apply to this document. To make another document window active, you simply click this window area. If it is invisible, you

select it from the list available in the *Window* menu. The *Window* menu is also used for document windows ordering.

2.1.3. Save

The *Save* command is used for saving the changes to the current composite document in the same file from which the document has been loaded (opened). The *Save* command is available if the current document is a new document or if it has been modified using commands from the *Document* menu.

2.1.4. Save as...



The *Save as...* command is used to save the current document in a file different from which that document has been loaded. When several documents are loaded, the *Save as...* command refers only to the active document. In the dialog box, invoked by this command, you select a disk drive and a directory on this drive. Then enter, or select from the displayed list, a file name with TCD extension. If the file with the entered name exists, the program launches additional dialog box that asks you, if you want to overwrite the existing file.

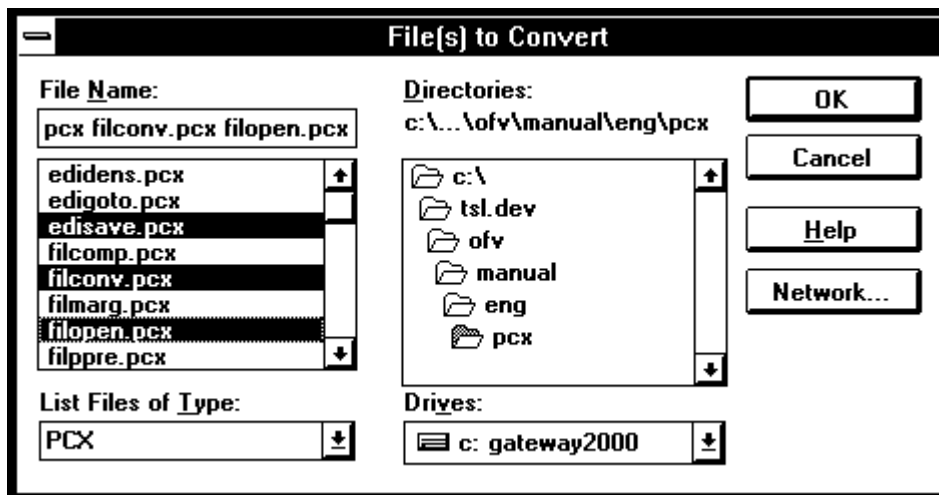
2.1.5. Close

The *Close* command is used to terminate displaying a document by closing the file with its contents. When multiple documents are open simultaneously, the command refers only to the active document. When in the course of the session the document has been modified, the user is asked to decide whether to save the changes. If positive, the document will be saved in the same file from which it has been loaded (opened).

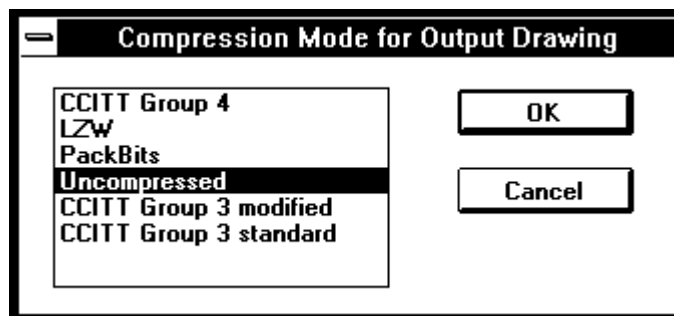
If a composite document being closed was created by opening a single raster or vector drawing and no viewport or parameter changes were made, then *Close* does

not ask for saving this document and, if it is to be saved, it must be done explicitly using the *Save As...* or *Save* command. This facilitates the viewing of single raster and vector files without creating trivial composite documents that refer to one file only.

2.1.6. Convert...



The *Convert...* command is used to create a new version of a drawing in a raster format different than the original. This command launches the dialog box named *Input File*, otherwise identical to the dialog box in the *Open* command and serving the similar purpose of the drawing file selection. The selected file in this case will not be displayed but only read in order to be converted. After the input file is selected, the analogical dialog box *Output File* appears. It allows to select a new drawing format, file name and destination (disk drive and directory). If the newly selected file format supports multiple compression modes, an additional dialog box appears for precise selection of a desired file subformat.



The list of output file formats and compression modes depends on the format of the converted (input) file. The full list of formats that are available in each case is displayed in the *File Type* list box.

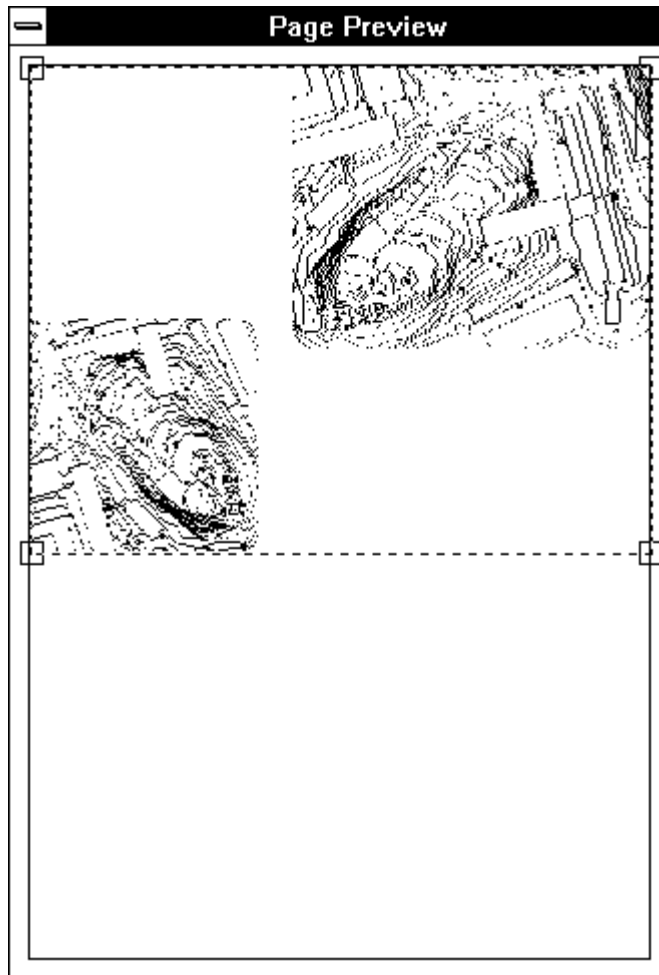
When multiple input files are selected, they are converted to a single file in one of multi-page formats (TIFF, DCX). Each page in the resulting document contains

data from the corresponding input file. You can suppress this feature and convert each input file to a separate destination file by setting the *ConvertToOneFile* parameter in the TSLTCDVIEW.INI file to 0 (see Appendix B for description of TSLTCDVIEW.INI file).

2.1.7. Print preview...

The *Print preview...* command in the *File* menu launches the *Print* dialog box and the *Page Preview* window. The *Print* dialog box allows setting several important print parameters and printing (see the *Print* section). The *Page Preview* window allows setting the layout of the printed document view on the displayed paper sheet.

The *Print* dialog box is described in the section *Print*.



The *Page Preview* dialog box delivers the following functions:

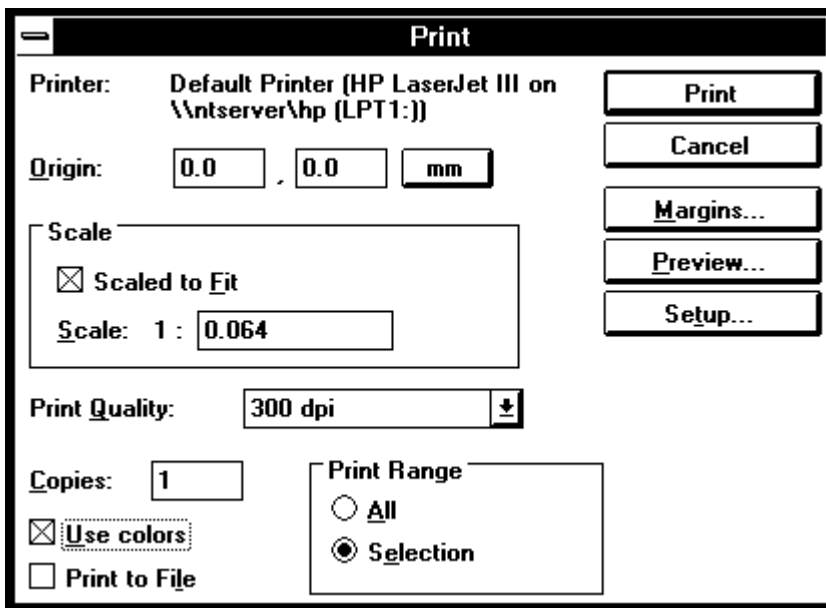
- showing the position of the document on paper;
- changing the position of the document on paper, without changing the print scale, by dragging it with the mouse (after clicking in the document area with a mouse and holding the left mouse button down you can drag the document to the desired place);

- changing the print scale by dragging the markers in the corners of the document with the mouse.

If the *Scale* parameter in the *Print* window was set to *Scaled to Fit*, then as a result of dragging, the *Scale* control becomes active and shows the scale calculated from the current parameters. When the corner markers are dragged, the value of this parameter is changing respectively to contain the value of the current print scale. Similarly the *Origin* parameter is changing, when the upper left corner of the document is moved.

2.1.8. Print

The *Print* command launches the *Print* dialog box.



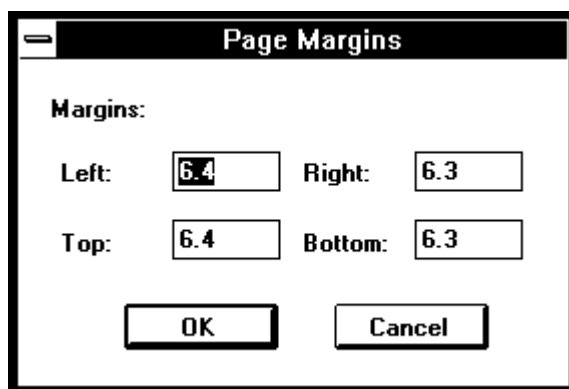
This dialog box is also launched by the *Print Preview* command. It displays the information about the output device, on which the printing is done, and current values of several print parameters. These parameters are:

- *Origin*: the coordinates of the document's start position (usually the upper left corner) on paper; they can be changed by entering desired numerical values to coordinates boxes (in inches or in millimeters) or with the mouse - dragging the document in the *Page Preview* window (see the *Print Preview* section); actual coordinates entered there define the document's start position relatively to the upper left corner of page margins (see below the description of *Margins* button and the units setting); it is possible to enter negative origin values, which are useful while placing documents larger than the printable area. Document portions outside page margins will be clipped;
- *Units* button: the label on this button is either inch or mm (pressing the button toggles the label) and defines the units in which the *Origin* parameter and the values in the *Page Margins* dialog box are expressed;

- *Scale*: parameter, which defines the factor of modification (scaling up or down) of the printed view relatively to the original document (the ratio of input dimensions - i.e. document dimensions - to output dimensions - i.e. printout dimensions); two modes of operation are available here:
 - *Fit*: the scale is automatically calculated, so that the document covers maximal area of the paper sheet;
 - *Scale*: in this mode the user enters numerically the desired scale (if a document printed with a given scale exceeds margins of the printable area, the printout is clipped accordingly); the scale can be also changed by dragging small rectangular markers displayed in the corners of the document in the *Page Preview* window.
- *Print Quality*: this parameter defines a vertical and horizontal print resolution (in dots per inch); the selection is made from the list of possible values;
- *Copies*: the number of copies to be printed;
- *Use colors*: when this option is switched off (no cross in the relevant box) a monochrome print can be done on a color printing device;
- *Print to File*: when this option is switched on (cross in the relevant box) the print-out will be directed to a file - after pressing the *Print* button, a dialog box appears, in which the name of the output file should be entered;
- *Print Range*: two modes are available:
 - *All*: the whole document will be printed - independently of the current view;
 - *Selection*: the current view of the document will be printed.

There are following buttons in the *Print* window:

- *Print*: pressing this button starts printing of the current document on the active printing device according to the parameters which are set in the *Print* window. Printing process is divided in two phases:
 1. Preparing data for the *Print Manager* program. During this phase a window *Printing.. <document name>* is displayed with two meters: the percentage of filling the internal program data buffer and the percentage of sending the data to the *Print Manager*. This progress window has also the *Cancel* button. Pressing this button cancels printing and is the only action available to the user in this phase of printing.
 2. Transferring the data from the *Print Manager* to a printer or plotter. During this phase it is already possible to work with TCDView. When the *Print Manager* is turned off (in the *Control Panel*) TCDView sends the data to a printer/plotter directly.
- *Cancel*: pressing this button closes the *Print* dialog box and reverts any changes that might have been done to the print parameters after the last opening of this dialog box;
- *Margins*: pressing this button launches the *Page Margins* dialog box. You can define the page margins values using four controls in this dialog box: *Left*, *Top*, *Right*, *Bottom*. They are represented in the same units (inches or millimeters) as the *Origin* parameter in the *Print* dialog box.



The *Origin* parameter added to the margin values (upper left corner) defines the beginning of the paper area on which the document will be printed. Margin values must be positive and greater than physical printer margins. The *Origin* parameter can be negative, but the result of adding it to the upper left corner of margins must be positive (or at least zero); in this way it is possible to use physical printer margins to crop the document to a degree; pressing the *Cancel* button restores the previous state of margin parameters;

- *Preview*: pressing this button activates the *Page Preview* dialog box (see the *Print Preview* section);
- *Setup*: pressing this button launches the *Print Setup* dialog box (see the *Print Setup* section).

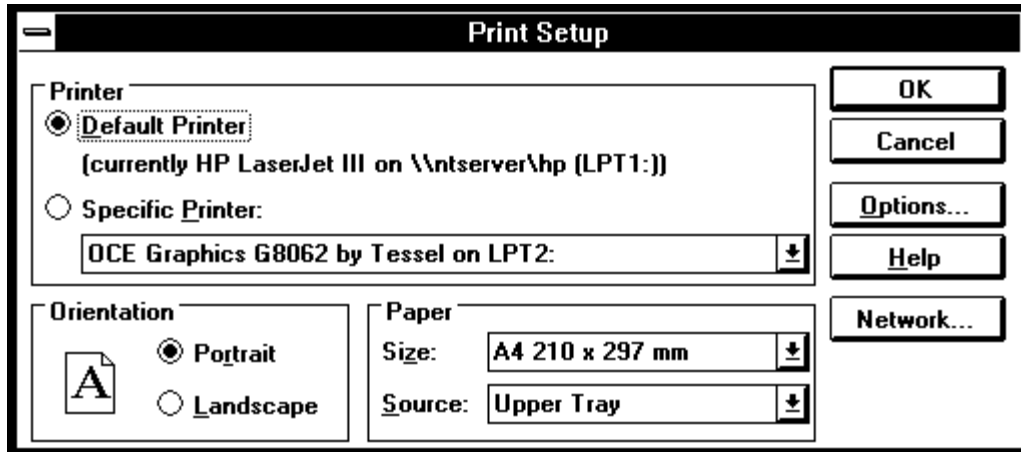
Print origin, scale (and scaling mode), margins and other print parameters remain constant until the next change. In this way the same parameter settings can be used to print many documents - using the *Print* command only.

The changes of print parameters in the *Print* dialog box are reflected in the *Page Preview* window only after moving the input focus to another control in this dialog box. Only the changes of the *Scaled to Fit* check box are reflected immediately.

Initial values of print parameters are stored between sessions in the TSLPPL section of the TSLTCDVIEW.INI file (see Appendix B).

2.1.9. Print Setup...

The *Print Setup...* command launches the *Print Setup* dialog box.

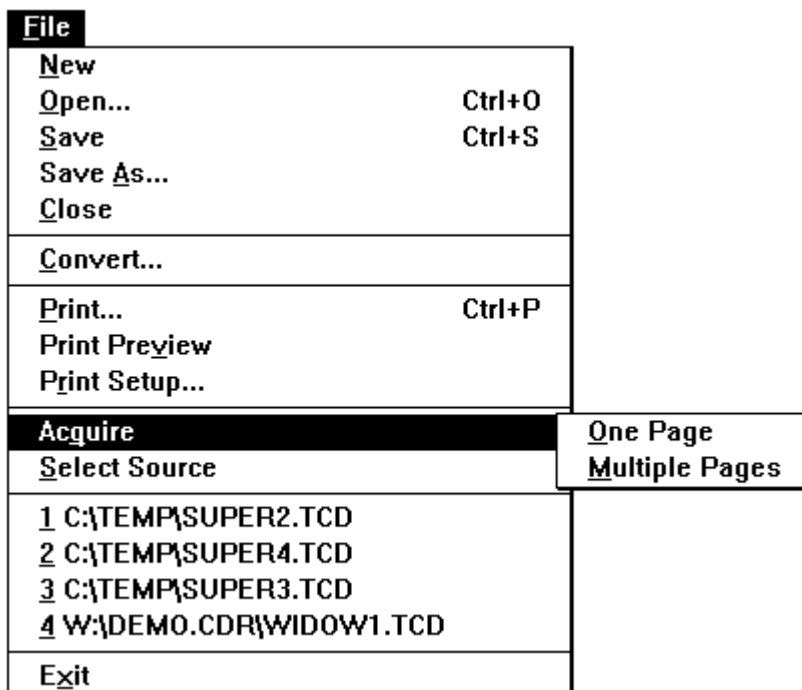


In this dialog box it is possible to:

- select the current print device from the list of available devices;
- change some printer parameters (e.g. print orientation, paper size, paper source);
- set print quality parameters in the *Options* dialog box, which is displayed after pressing the *Options* button.

New printer drivers can be added and printer to port mappings can be changed using the MS Windows system *Control Panel*.

2.1.10. Acquire



The *Acquire* command is used to start scanning of a new document. Depending on the kind of scanned document (single-page or multiple-page) one of two options can be selected:

- *One page*;

- *Multiple pages.*

Before scanning it is necessary to select a file name and a raster format of the drawing that will be created as a result of scanning. After scanning, a new composite document is created, containing a single raster file with the scanned image.

2.1.10.1. One page

This command starts scanning of a single-page document.

Depending on the type of the selected scanner it may be necessary to start scanning physically, e.g. by pressing a button on the scanner. Some scanners can start scanning automatically, others can display their proprietary window with information about scanning progress. The scanned document is then displayed in a window labelled with a temporary name, e.g. SCAN_1.

2.1.10.2. Multiple pages

This command starts scanning of a multiple-page document.

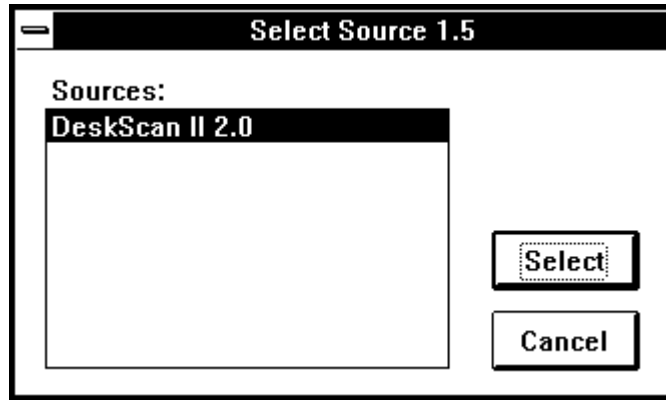
The process of multiple-page scanning is similar to the single-page scanning. After each page the dialog box appears and informs about the number of pages scanned so far. Four buttons are available (some of them can be disabled, depending on the situation):

- *Next* - confirms the last scanned page and starts scanning of the next one;
- *The Same* - repeats scanning of the last page;
- *Close* - confirms the last scanned page and stops scanning; the file will contain the number of pages as currently displayed in the dialog box;
- *Cancel* - stops scanning and discards pages scanned so far.

The first page of the scanned document is displayed in a window labelled with a temporary name, e.g. SCAN_1.

2.1.11. Select Source

The *Select Source* command is used for selection of the current scanning device (see the *Acquire* command). The *Select Source* command is relevant only when more than one scanner is installed.



Click a name and press the *Select* button to choose a scanning device. Particular scanning parameters can be set using the *Scan Parameters* command from the *Options* menu. The list shows only TWAIN-compatible devices that have been properly installed. When the part of scanning software that is responsible for cooperation with applications that use the TWAIN standard is present, the device should appear on the list of available scanners (no additional installation on the part of TCDView is required).

2.1.12. Exit

The *Exit* command closes the TCDView application. If the user has made any changes to a document(s), he can choose to save or cancel the changes using buttons of the dialog box that appears automatically.

2.2. Edit menu commands

Edit	
<u>C</u> opy View	Ctrl-C
Copy A ll	
Copy S pecial	
Copy Special I o...	

The commands from the *Edit* menu are used for transferring data representing the current document to the MS Windows system Clipboard or to a file in order to be used by other applications. The type of the data transferred through the Clipboard is defined by CopyEmbedded, CopyLink, CopyBitmap, CopyDIBitmap and CopyMetafile variables in the TSLTCDVIEW.INI file in the TSLRVC Library Settings section. This and related copy parameters are described in Appendix B.

2.2.1. Copy View

The *Copy View* command is used to transfer the current view of the current document to the MS Windows system Clipboard. Only the currently visible part of the document is transferred in its current scale. Independently of the values of *CopyEmbedded* and *CopyLink* variables in the TSLTCDVIEW.INI file, the *Copy View* command does not allow to embed or link data from the Clipboard to other applications. The copy of the document view can be prepared only in DDB bitmap, DIB bitmap and metafile formats (see section 1.5).

2.2.2. Copy All

The *Copy All* command is used to send a copy of the current document to the MS Windows system Clipboard. Basically it is used for simple interchange of documents between different MS Windows applications.

The *Copy All* command, unlike the *Copy View* command, prepares data from the whole document, no matter what the current view is. It is also possible to define sizes and resolution for preparing a copy of the document. Four variables are used for this purpose, *Width*, *Height*, *Xres* and *Yres*, all with the *ClipboardCopy* prefix defined in the TSLRVC Library Settings section of the TSLTCDVIEW.INI file. All these parameters can be changed by editing this file. New values are used next time the program is run.

The default settings of variables result in making a copy of a document that is 6.67 inches wide and 5 inches high with 96 dots per inch resolution. These parameters reflect the size and resolution of a typical monitor screen. A document will be scaled in such a way that it will cover the demanded area as fully as possible. A document can be copied in every available format (embedded object, link, bitmaps and metafile).

When multiple documents are displayed, the command acts only on the current document.

2.2.3. Copy Special

The *Copy Special* command is used for sending a copy of the current document to the MS Windows system Clipboard. Basically it is used for an interchange other than simple interchange of documents between different MS Windows applications (see *Copy All*). The command also copies the whole document, no matter what the current view is, but it uses parameters defining sizes and resolution of the document copy, different than the *Copy All* command. These parameters are read from four variables, *Width*, *Height*, *Xres* and *Yres*, all with the *ClipboardCopySpec* prefix defined in the TSLRVC Library Settings section of TSLTCDVIEW.INI file. All these parameters can be changed by editing this file. New values are used next time the program is run.

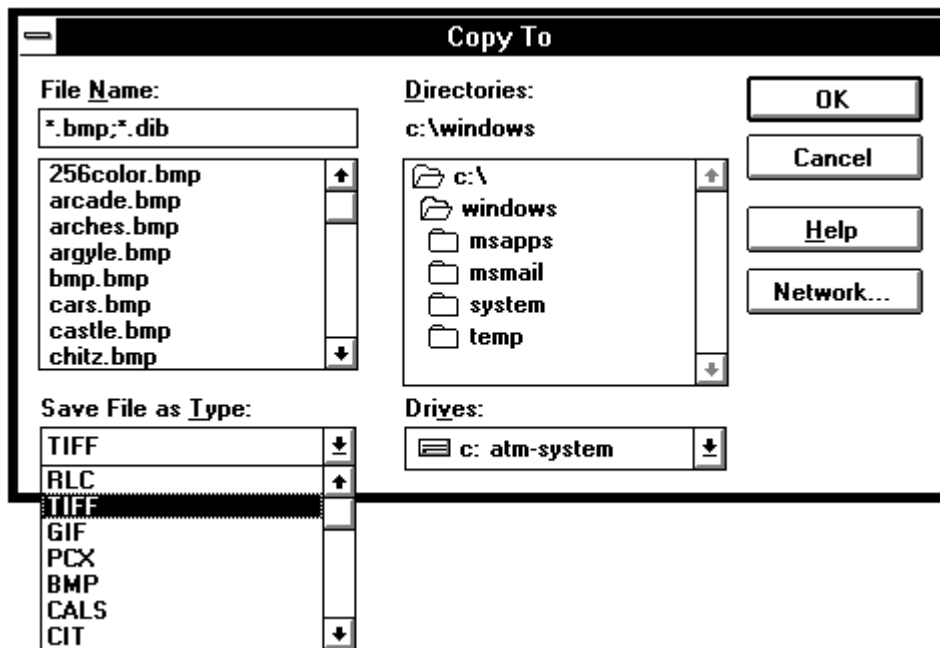
The default parameter values are prepared for 1:1 copying of documents in a typical fax format, i.e. 8 inches wide, 11 inches high, 96 dots per inch of vertical resolution and 203 dots per inch of horizontal resolution.

If the current document is greater than the demanded copy size, then it is scaled, so that it fills the requested copy size as fully as possible. A document can be copied in every available format (embedded object, link, bitmaps and metafile).

When multiple documents are displayed, the command acts only on the current document.

2.2.4. Copy Special To...

The *Copy Special To...* command is used to make a copy of a document and save it to a selected file. The width, height and resolution of created file are defined by the same parameters as in the *Copy Special* command.



The default parameters are set for copying to the A4-size page with a resolution typical for fax devices. These parameters are read from four variables, *Width*, *Height*, *Xres* and *Yres*, all with the *ClipboardCopySpec* prefix defined in the TSLRVC Library Settings section of the TSLTCDVIEW.INI file. All these parameters can be changed by editing this file. New values are used next time the program is run.

Saving a document in a new file can be combined with changing of the raster format and compression mode (see the *Convert...* command from the *File* menu).

When multiple documents are displayed, the command acts only on the current document.

In the dialog box invoked by the *Copy Special To...* command you select a raster format type, a disk drive and a directory on this drive. Next, you enter a file name with an extension that is appropriate for the selected raster format type. You may type it or select it from the displayed list of files with previously chosen extension. If another file with the same name exists, the program asks you, if you want to overwrite the existing file. If the selected output file type supports multiple compression modes, you can choose a compression mode in an additional dialog box *Compression Mode for Output Document*, which opens automatically.

2.3. Zoom menu commands

Zoom	
<u>W</u> indow	Ctrl-W
<u>P</u> revious	
<u>I</u> n	Ctrl-N
<u>O</u> t	Ctrl-T
<hr/>	
<u>E</u> xtents	Ctrl-E
Scale 1:1	

The *Zoom* menu commands are used for displaying selected fragments of documents and for magnifying or lessening the current view.

For each open document TCDView keeps a full view of this document. This feature allows to execute the *Zoom - Extents* command very fast. Full view cache is also used for other zooms, unless it decreases view quality too much. The *Regenerate* command forces the full resolution redraw without using the intermediate stored view. Storing and using of the full view cache can be disabled by setting the *UseFullViewCache* parameter in the TSLTCDVIEW.INI file to 0 (see Appendix B for description of the TSLTCDVIEW.INI file).

2.3.1. Window

The *Zoom-Window* command allows to define any rectangular view of a document. After defining a rectangle, the raster area inside it is redisplayed according to a new scale, such that the selected area fills up the whole current document window. View expansions in one direction, if necessary, are added automatically. The *Zoom-Window* command is the default action when the user selects a rectangle in a document window, so it is not necessary to invoke this command directly to execute it - selecting a rectangle to be viewed with the mouse is enough.

2.3.2. Previous

The *Zoom-Previous* command displays the previously defined view of the current document (if such a view exists). The maximal number of remembered views is 15.

2.3.3. In

The *Zoom-In* command magnifies the current view (approximately two times) relatively to its center point. The view will present a smaller document area but will contain more details.

2.3.4. Out

The *Zoom-Out* command increases the area covered by the current view (approximately two times) relatively to its center point. The view will present a larger document area but will contain less details.

2.3.5. Extents

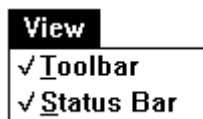
The *Zoom - Extents* command is used to display the view of the whole current document (by magnifying or lessening its view), so that it fills up possibly largest part of its full window.

2.3.6. Scale 1:1

The *Zoom - Scale 1:1* command is used to view a single drawing document on the screen in its original physical dimensions. When the current composite document contains more than one drawing, this command is not available.

In this command the vector or raster data is displayed on the screen in such a way, that one inch on the screen is equivalent to one inch on the paper document original (with maximal possible accuracy).

2.4. View menu commands



The *View* menu contains commands to activate and deactivate *Toolbar* and *Status Bar*.

2.4.1. Toolbar

The *Toolbar* command toggles the display status (visible/invisible) of the toolbar (see the *Windows and menus layout* section), which is on the top of the main TCDView window, just below the main menu bar.



If this option is switched on - what is indicated by the presence of a marker before the command name in the *View* menu - then the toolbar is displayed and through icons displayed on itself allows for fast access to the most frequently used TCDView commands. The verbal description of commands available through the toolbar is displayed on the status bar, when the left mouse button is press and held with the cursor over a toolbar icon. Switching the *Toolbar* option off by clicking on its name in the *View* menu results in disappearing of the toolbar. The next click on the option name switches the option and the toolbar on.

The list of commands invoked by the toolbar icons (from left to right):

File - New;
File - Open;
File - Save;
File - Acquire - Multiple Pages;
File - Acquire - One Page;
Edit - Copy All;
Zoom - Window;
Zoom - Previous;
Zoom - In;
Zoom - Out;
Zoom - Extents;
Document - Selecting;
Document - Composite Document;
File - Print;
Help - Contents;
Help - Search for Help on....

2.4.2. Status bar

The *Status Bar* command toggles the display state (visible/invisible) of the status bar (see the *Windows and menus layout* section), which is located at the bottom of the main TCDView window.

For Help, press F1		14818.871, 105190.181	inch
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If this option is switched on - what is indicated by the presence of a marker before the command name in the *View* menu - then the status bar is displayed, presenting in its left part the verbal description of the command currently being selected from the application menu or from the toolbar. Library procedures also display its messages on the status bar - mostly with percentages of progress of their complex operations. The *Measure Distance* command from the *Options* menu displays its results on the left side of the status bar.

There are three information windows on the right side of the status bar. They are used to display (from left to right):

- the first window is filled only in selecting state (see the description of *Document - Selecting* command) - when one component drawing is selected, its name is displayed, when two or more drawings are selected, their number is displayed (e.g.: “Sel: 2 of 4”);
- current coordinates of the mouse cursor in the world coordinate system of the composite document displayed in the current window;
- presentation units of the document displayed in the current window; mouse cursor coordinates are expressed in these units.

Switching the *Status Bar* option off by clicking on its name in the *View* menu results in disappearing of the status bar. The next click on the option name switches the option and the status bar on.

2.5. Document menu commands

Document
Composite Document...
Add subdoc Delete subdoc
Enable Disable Order ▶ Move Reset Viewport
Params... Pages...
Regenerate Selecting

The *Document* menu commands are used for composite document management. Using these commands it is possible to add and delete drawings to/from composite

document, to change the order in which they overlap one another, to change properties of individual drawings belonging to the composite document (like their position, current page or visibility status) and to change parameters of the composite document as a whole (e.g. its presentation units).

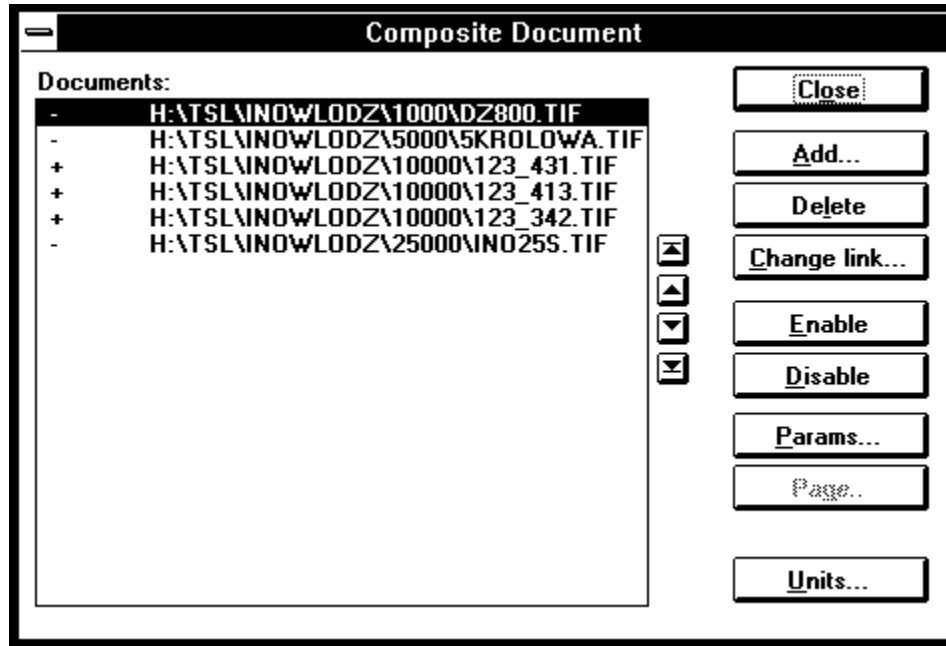
For each component drawing its visible area, called viewport, is defined. Initially (after adding the drawing to the document) it is set to full drawing extents. Viewport areas can be changed after entering the *Selecting* mode using the *Selecting* command from the *Document* menu (also available on toolbar). The *Reset Viewport* command sets the viewports of currently selected documents to their initial size (full extents of each respective drawing).

Entering the *Selecting* mode is also necessary when one of: *Enable*, *Disable*, *Change Link...*, *Copy...*, *Order*, *Move*, *Properties...*, *Undo*, *Redo* commands from the *Document* menu is to be issued, because each of these commands operates on currently selected drawings (*Change Link...*, *Copy...*, *Properties...*, *Undo*, *Redo* are active only when exactly one drawing is selected).

2.5.1. Composite Document...

Document
Composite Document...
Add subdoc Delete subdoc
Enable Disable Order ▶ Move Reset Viewport
Params... Pages...
Regenerate Selecting

The *Composite Document...* command launches the *Composite Document* dialog box. This dialog box groups together most of commands available in the *Document* menu (described in following sections). In addition to buttons for issuing these commands, the *Composite Document* dialog box displays a list of component drawings in the current composite document. Using this list it is easy to select drawings as arguments to commands that operate on specified drawings.



The *Composite Document* dialog box lists the component drawings in four columns. The first, the second and the third column show the drawing status information, and the fourth one displays drawing file names. The first column contains plus sign (+), if the corresponding drawing is enabled (visible) or minus sign (-), if the drawing is disabled (invisible). The second column can be empty or it can contain either the “N/A” text, if the drawing’s file can not be found, or the “R/O” text, if the drawing is open in the read-only mode. The third column contains “S” character, if the corresponding drawing is selected.

If the *Composite Document...* command is issued in the selecting state (see description of the *Selecting* command), currently selected drawings will be shown as selected in the dialog box list. After closing the *Composite Document* dialog box in the selecting state, drawings which were selected in the dialog box list remain selected and the other drawings are not selected. This way it is possible to perform drawing selection from the list of component drawings. This selection method is alternative to the mouse click selection method described in the *Selecting* command section below.

2.5.2. Add subdoc

The *Add subdoc* command from the *Document* menu is used to add a new component drawing to the current composite document. It launches a dialog box for selection of a drawing to be added.

2.5.3. Delete subdoc

The *Delete subdoc* command from the *Document* menu removes currently selected drawings (see the *Selecting* command) from the current composite document. Of course, it does not delete the drawing’s file.

2.5.4. Select

The *Select* command from the *Document* menu changes to *selected* the state of the drawings, which names are currently selected (printed on the dark background) on the drawing list box. The “S” character appears before the name of each indicated drawing.

2.5.5. Unselect

The *Unselect* command from the *Document* menu changes to *not selected* the state of the drawings, which names are currently selected (printed on the dark background) on the drawing list box. The “S” character disappears from before the name of each indicated drawing.

2.5.6. Change Link...

The *Change Link...* command from the *Document* menu is used to enter the new location of selected composite document element. It is especially useful when the previous drawing location is not valid (indicated by “N/A” on the list of component drawings). It can be issued only when exactly one drawing is selected.

2.5.7. Copy...

The *Copy...* command from the *Document* menu is active only when exactly one drawing is selected. It copies component drawing (with its associated parameter file, if one exists) to the location specified by the user with *Copy...* dialog box. The new drawing created this way reflects current edition state of the source drawing.

2.5.8. Enable

The *Enable* command from the *Document* menu turns the currently selected drawings visible (see the *Selecting* command).

2.5.9. Disable

The *Disable* command from the *Document* menu turns the currently selected drawings invisible (see the *Selecting* command).

2.5.10. Order

Document	
Composite Document...	
Add subdoc Delete subdoc	
Enable Disable	
Order	Bring to front
Move	Send to back
Reset Viewport	Bring forward
	Send backward
Params...	
Pages...	
Regenerate	
✓ Selecting	

The *Order* command from the *Document* menu allows to control the order in which component drawings overlap one another, when the composite document is displayed or printed. The *Order* command has four subcommands described below. Each of them moves selected drawings (see *Selecting* command) on the composite document's drawing list.

2.5.10.1. Bring to front

The *Bring to front* command moves selected drawings (see the *Selecting* command) to the front end of the composite document's drawing list, i.e. makes them cover the other drawings.

2.5.10.2. Send to back

The *Send to back* command moves selected drawings (see the *Selecting* command) to the back end of composite document's drawing list, i.e. puts them under the other drawings.

2.5.10.3. Bring forward

The *Bring forward* command moves selected drawings (see the *Selecting* command) one step in the front direction on the composite document's drawing list, i.e. makes them cover the drawing which preceded them immediately on the composite document's drawing list. Issuing the *Bring forward* command sufficient number of times is equivalent to issuing the *Bring to front* command one time.

2.5.10.4. Send backward

The *Send backward* command moves selected drawings (see the *Selecting* command) one step in the back direction on the composite document's drawing list, i.e. puts them under the drawing which followed them immediately on composite document drawing's list. Issuing the *Send backward* command sufficient number of times is equivalent to issuing the *Send to back* command one time.

2.5.11. Move

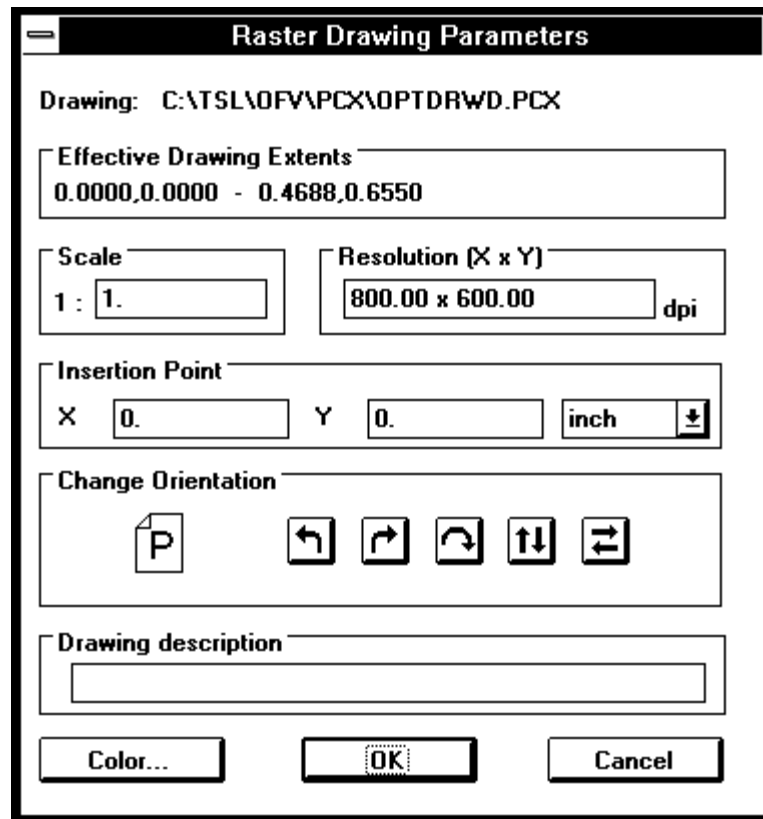
The *Move* command from the *Document* menu allows to change the position of the selected drawing (see the *Selecting* command) in the composite document world coordinate system. After selecting one drawing and issuing the *Move* command, click the point (within the selected drawing) to be moved and then click at the place that you want the first point to be moved to. The viewport (i.e. visible area) of the drawing being moved is moved with it as well. This way the same area of the drawing remains visible.

2.5.12. Reset Viewport

The *Reset Viewport* command from the *Document* menu resets the viewports of currently selected documents to their initial sizes (full extents of each respective drawing).

2.5.13. Properties...

The *Properties...* command from the *Document* menu is active only when exactly one drawing is selected. This command launches the *Raster Drawing Parameters* dialog box (or *Vector Drawing Parameters*, depending on the current drawing type), which allows to edit technical parameters of the selected drawing.

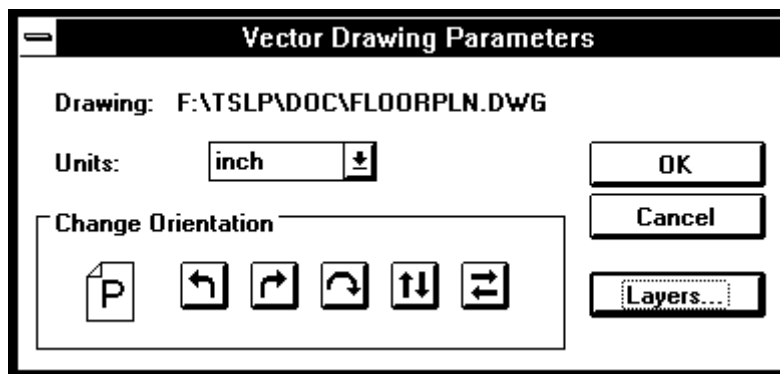


The *Raster Drawing Parameters* dialog box is a tabbed dialog. It can have from one up to three pages. The page titled *Parameters* is always present. The page titled *Pages* is present only when properties of multipage raster drawing are shown. The page titled *Colors* is present only when at least one drawing page is monochrome. On the *Parameters* page you can set the following:

- *Effective Drawing Extents* - values calculated from the other parameters;
- *Scale* - it is possible to set the nominal scale of the document;
- *Resolution X x Y* - it is possible to set the nominal horizontal and vertical resolutions of the bitmap in dots per inch;
- *Insertion Point* - it is possible to enter the insertion point coordinates, i.e. world coordinates of the bottom left corner of the drawing;
- *Units* - list box allowing to select units for the insertion point;
- *Change orientation* - it is possible to rotate the view of the drawing left, right, by 180 degrees or perform vertical or horizontal mirroring of the view;
- *Color* - pressing this button launches the *Raster Color* dialog box; color can be defined only for monochromatic raster drawings;
- *Drawing Description* - it is possible to add textual document description.

On the *Pages* page you can select the current page of multipage raster drawing.

On the *Colors* page you can select color of monochrome raster drawing.



Vector Drawing Parameters dialog box is a tabbed dialog. It has two pages: *Parameters* and *Layers*. On the *Parameters* page you can set the following parameters:

- *Units* - list box allowing to select units for the vector drawing;
- *Change orientation* - it is possible to rotate the view of specified drawing left, right, by 180 degrees or perform vertical or horizontal mirroring of the view;

On the *Layers* page it is possible to enable or disable displaying of particular layer of the vector drawing.

In the *Change Orientation* group of both drawing parameter dialogs there are icons with arrows describing available orientation changes. To make orientation changes even simpler there is also an icon with the *P* character. After entering the *Drawing Parameters* dialog box this icon shows the *P* character in normal orientation. After pressing any of buttons with arrows, the *P* character rotates accordingly, thus showing how drawing will be rotated when the *OK* button is pressed.

The values of drawing parameters are saved in the drawing file, if the drawing format allows for it, and in an additional parameter file with the same name as drawing file name but with TAF extension (see Appendix D for description of the TAF file format). The additional file is located in the same disk directory as the drawing file. The additional parameter file is necessary, because not every parameter can be saved in the original drawing file. Some drawing file formats allow to store more parameters than other formats. Parameters saved in the original drawing file override parameters saved in its additional parameter file. Creation and reading of parameter files can be controlled using the *BRAOpenOptions* parameter in the TSLTCDVIEW.INI file (see Appendix B for description of the TSLTCDVIEW.INI file).

The parameter values are read from the drawing file and possibly from its parameter file. All of them can be changed, except for *Drawing Extents* that are calculated from other parameters. When any parameter has been changed, the drawing is considered changed, and TCDView asks the user for saving changes in a file, when it is about to be closed.

2.5.14. Undo

The *Undo* command from the *Document* menu is active only when exactly one drawing is selected and if the changes have been made to its parameters since its opening or the most recent saving. The *Undo* command cancels the changes made in the last step of edition. If there have been several steps of edition, the *Undo* command can be issued several times, moving one step backward each time. One step of edition is the set of parameter changes made between opening *Raster/Vector Drawing Parameters* dialog box and closing it.

2.5.15. Redo

The *Redo* command from the *Document* menu is active only when exactly one drawing is selected and if the changes have been made and then undone (with the *Undo* command) to its parameters since its opening or the most recent saving. The *Redo* command repeats the changes undone in the last *Undo* command. If the *Undo* command has been issued several times, the *Redo* command can be issued the same number of times, moving one step forward each time. One step of edition is the set of parameter changes made between opening *Raster/Vector Drawing Parameters* dialog box and closing it.

2.5.16. Regenerate

TCDView is performance-optimized for viewing large raster and vector documents. For each open document it keeps a full view of this document. This feature allows to execute the *Zoom-Extents* command very fast. In some situations, however, the use of full view cache can somewhat decrease the quality of document display. In this case the user can issue the *Regenerate* command which forces full resolution redraw without using the stored view. Storing and using of full view cache can be disabled by setting the *UseFullViewCache* parameter in the TSLTCDVIEW.INI file to 0 (see Appendix B for description of the TSLTCDVIEW.INI file).

2.5.17. Selecting

The *Selecting* command from the *Document* menu toggles (switches back and forth) TCDView between the *normal* and *selecting* states.

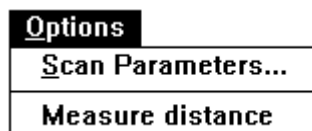
In the *normal* state, pressing the left mouse button and dragging (moving mouse while button is pressed) mouse in the document window is used to enter a zoom window which will be shown after the button is released (automatic issue of the *Zoom-Window* command).

In the *selecting* state, the interpretation of the window entered by pressing and dragging the mouse is different. This interpretation depends on two factors: the state of the *Shift* key during the window input and the direction of mouse dragging (from left to right or from right to left). If the mouse was dragged from left to right, only those drawings, which lie completely inside the entered window are selected (or deselected). If the mouse was dragged from right to left, drawings with extents intersecting the entered window are selected (or deselected). If the *Shift* key was released during mouse action, relevant drawings are selected and remaining drawings are deselected. If the *Shift* key was pressed, the selection state of relevant drawings is changed (selected are deselected and deselected are selected).

It is also possible to select and deselect component drawings just clicking with a mouse on the document area. Also here the state of *Control* and *Shift* keys is important. If the *Control* key was pressed, all drawings clicked on are selected, but if the *Control* key was released, only one of drawings clicked on is selected. While choosing drawing(s) to be selected, first the viewports are taken into account, but if there is no viewport at the mouse click point, full drawing extents areas are taken. Exactly as while selecting with window (described in the above paragraph), pressing the *Shift* key indicates, that the selection state of relevant drawings is to be changed (selected are deselected and deselected are selected). If the *Shift* key was released during the mouse click, relevant drawings are selected and remaining drawings are deselected.

For each component drawing its visible area, called viewport, is defined. Initially (after adding the drawing to the composite document) it is set to full drawing extents. A viewport can be resized by selecting relevant drawing and dragging small black rectangles (called trackers) that appear in the corners and in the middles of edges of the selected drawing's viewport. A viewport can be moved by selecting the relevant drawing and dragging its viewport window. The *Reset Viewport* command from the *Document* menu resets the viewports of currently selected documents to their initial sizes (full extents of each respective drawing).

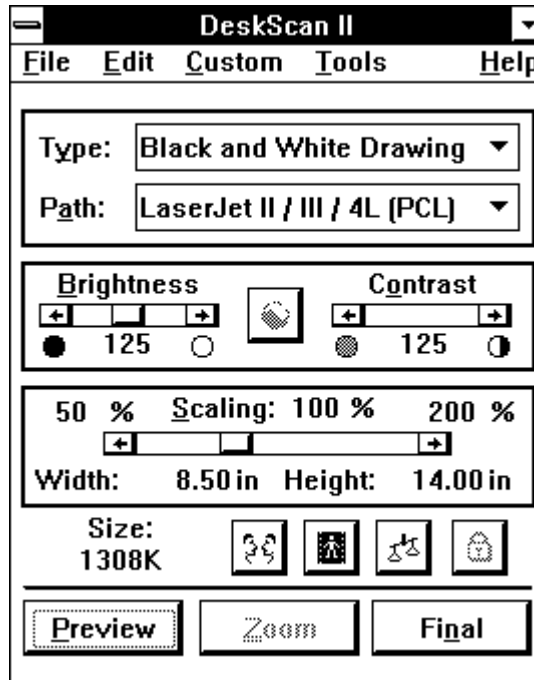
2.6. Options menu commands



The *Options* menu commands can be used to set some parameters of the current scanner and to measure distance (in the real world units) between points of the current document.

2.6.1. Scan Parameters...

The *Scan Parameters...* command launches a dialog box which allows to set technical parameters of the scanning process. This dialog box depends on the current scanner type and is displayed and managed by its driver. The parameters are specific for the particular type of the scanner that is currently used. After setting parameter values one must initialize the scanning process.

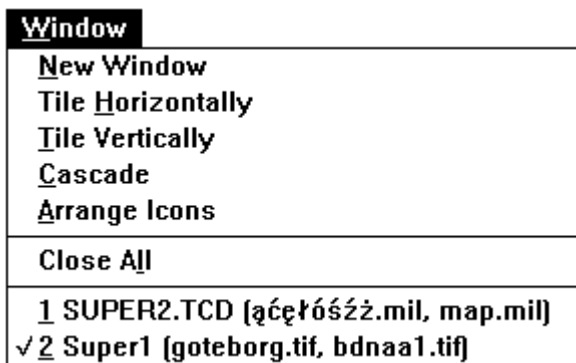


NOTE: Saving the parameter values is done during scanning. That is why in order to save parameters, one must perform “dummy” scanning - it is not enough just to set parameters up.

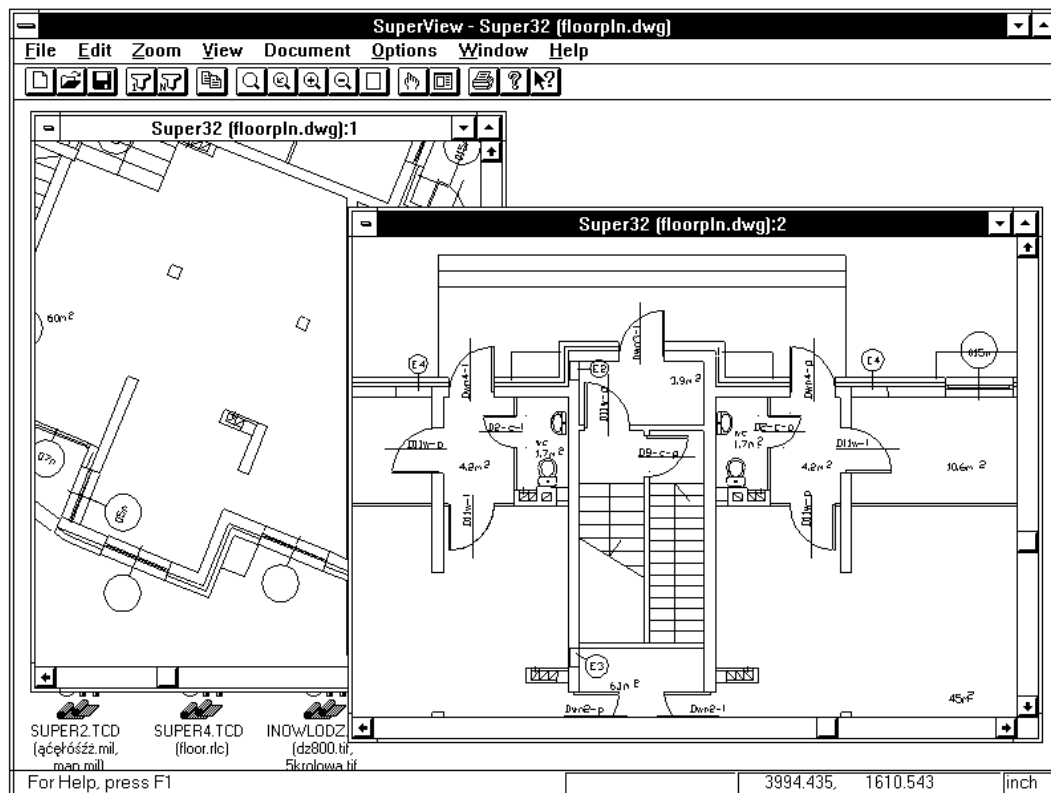
2.6.2. Measure distance

The *Measure distance* command expects you to click the mouse left button at two points of the current document area. It then displays the real world (not paper document) distance between these points on the left side of the status bar (see also the *Status Bar* command).

2.7. Window menu commands



The purpose of the *Window* menu commands is to change the layout of open document windows. The third part of this menu displays a list of open document names. These names are equivalent to document window names, which allows to select a new current (active) window. This is necessary, since the required window may be completely covered by other windows. The current window is marked in the menu with a check marker.



2.7.1. New Window

The *New Window* command opens a new window with the current document. The next ordinal number of the window (opened with the same composite

document as the previous current window) is displayed on the title bar of this window to the right of the file name(s).

2.7.2. Tile Horizontally

When more than one document window is open, the *Tile Horizontally* command divides the whole TCDView main window between all equally sized document windows. When just one document is open, its window is expanded to fill the entire TCDView main window.

As a result of this command, open document windows are arranged in such a way, that each is visible and does not overlap with any of the other windows and the neighbouring windows have common horizontal borders.

2.7.3. Tile Vertically

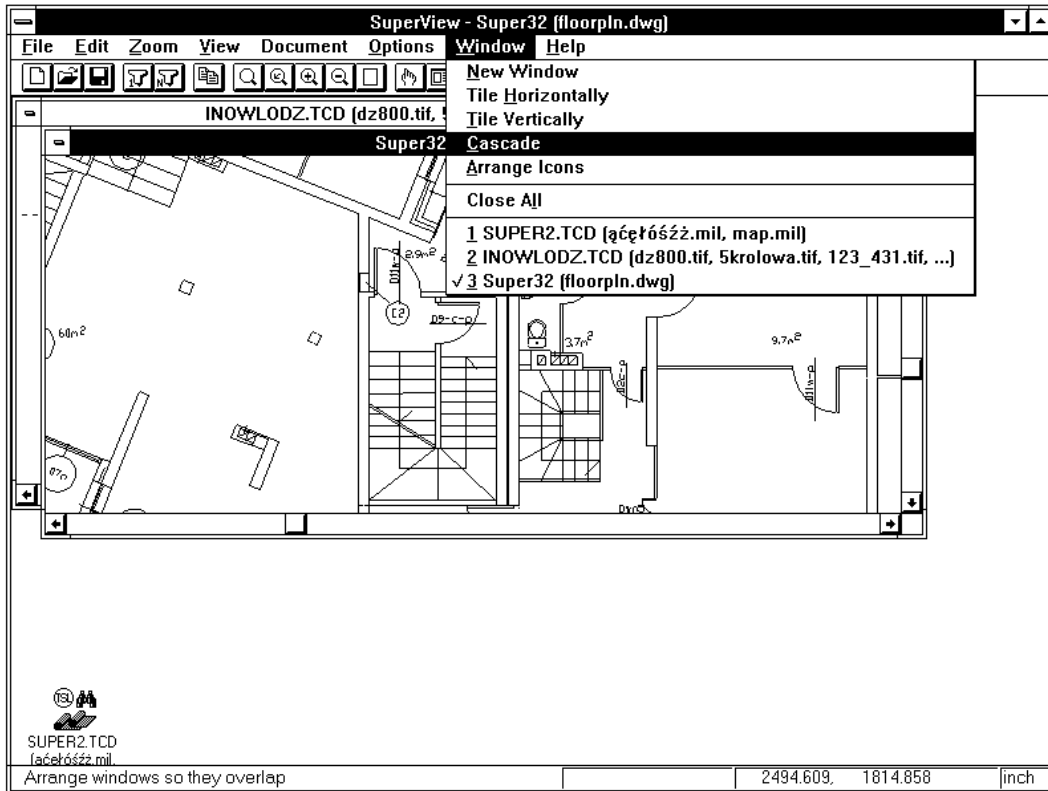
When more than one document window is open, the *Tile Vertically* command divides the whole TCDView main window between all equally sized document windows. When just one document is open, its window is expanded to fill the entire TCDView main window.

As a result of this command, open document windows are arranged in such a way, that each is visible and does not overlap with any of the other windows and the neighbouring windows have common vertical borders.

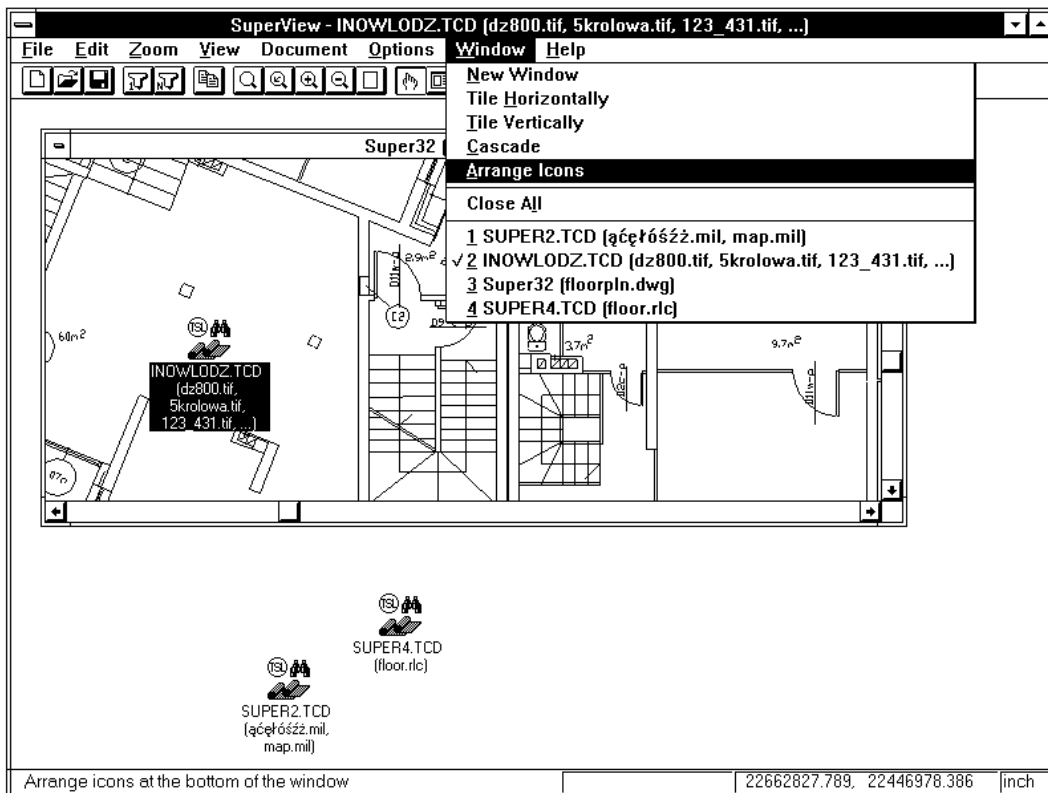
2.7.4. Cascade

When more than one document window is open, the *Cascade* command arranges open document windows on the main TCDView window in such a way, that they overlap and form a kind of stack but each is shifted a little, so that their title bars are visible. The current document window remains active and is put on the top of the stack of document windows.

When just one document is open, its window is expanded to fill the entire TCDView main window.



2.7.5. Arrange Icons



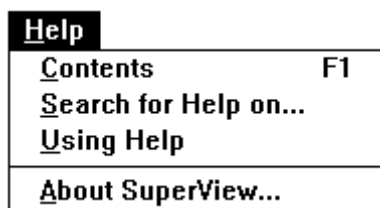
Every document window can be minimized to a form of a TCDView icon labelled with a document name. The names of minimized windows (documents) remain present on the list of open documents in the *Window* menu.

These icons can be dragged with the mouse one by one to a new place. The *Arrange Icons* command changes the placement of this icons. It puts them in a row(s) at the bottom of the main TCDView window. When you double click with a mouse on a document icon or click on a document name on the list in the *Window* menu, the selected document window opens again at the previous place and size. The *Arrange Icons* command does not move open windows, so they may overlap the area, where document icons are placed. In such a situation you can uncover the icons by resizing the windows manually or with the *Cascade* command.

2.7.6. Close All

The *Close All* command closes all open document windows and is particularly useful when many documents are simultaneously open in one session.

2.8. Help menu commands



2.8.1. Contents

The *Contents* command displays the help file index which contains items described in the help file. To see an item description, click this item on the list.

2.8.2. Search for Help on...

The *Search for Help on...* command is an efficient method of searching for necessary help information. The command activates the *Search* dialog. You can enter the phrase you search for help on or select it from the list. When you start writing the phrase to the edit box, the list will show you the phrases that are similar to what you have entered so far. After selecting a phrase, you press the *Show Topics* button that will display the list of topics with information on the selected phrase. Next you select a topic and press the *Go To* button to have the desired information displayed.

2.8.3. Using Help

The *Using Help* command displays information about using the TCDView help system.

2.8.4. About TCDView...

The *About TCDView...* command displays the TCDView serial number and copyright information.

3. Appendices

A. Supported file formats

TCDView supports viewing, converting and printing documents in the following formats:

Format	Format description	Supported compression modes	Extensions	Color	Multiple pages
RLC	Run Length Code		RLC		
TIFF	Tagged Image File Format	Uncompressed, PackBits LZW CCITT Group 3 Standard CCITT Group 3 Modified CCITT Group 4	TIF	√ √ √	√ √ √ √ √
GIF	CompuServe format		GIF	√	
PCX	Paintbrush format			√	
BMP RLE	Windows bitmap	Uncompressed, RLE4, RLE8	BMP DIB	√ √	
DMI			DMI		
ITI			ITI		
CALS			GP4 GC4 CAL MIL		
VIDAR		Uncompressed CCITT Group 3 Standard CCITT Group 3 Modified CCITT Group 4 Vidar RLE	VIM,VID		
DCX	Fax format		DCX		√
CIT	Intergraph G4		CIT		
RLE	Intergraph RLE		RLE		
IG4	CAD-Overlay	Group 4	IG4		
DWG	AutoDesk		DWG	√	
DXF	Standard vector format		DXF	√	
HPGL	Hewlett-Packard		HGL	√	

B. TSLTCDVIEW.INI file

The TSLTCDVIEW.INI text file is copied to the C:\WINDOWS directory during the single user installation or to the user directory during the network installation. It is used to store various TCDView control parameters. Some of them may be changed by TCDView commands, others can be changed only by editing the file.

File line syntax: *<Parameter_name>=<value>*

Comment line syntax: [*<comment>*]

Binary values of some parameters are coded as *0* or *1*, which means *switched off* or *on* respectively.

The list of parameters in the TSLTCDVIEW.INI file:

[SuperView Settings] section:

- **CmdLineParsMode**

binary value; this parameter controls how TCDView opens simple document files (in raster or vector format) supplied on the command line list (see section 1.3):

0 - each simple document file is opened in separate document window (TCDView default); 1 - all simple document files from command line are opened in single document window ;

[TSLRVC Library Settings] section:

- **LastSaveDir**

path name to the disk directory of the most recently open file;

- **LastSaveFilter**

file format code number of the most recently open file (this parameter must not be changed);

- **LastSaveSubFormat**

file compression mode code number of the most recently open file (this parameter must not be changed);

- **ViewBitmapWidth** (*parameter for later use*)

view bitmap width in pixels

- **ViewBitmapHeight** (*parameter for later use*)

view bitmap height in pixels;

- **ClipboardCopyWidth**

width of document copy in inches for the *Copy All* command;

- **ClipboardCopyHeight**

height of document copy in inches for the *Copy All* command;

- **ClipboardCopyXRes**

horizontal resolution of document copy for the *Copy All* command;

- **ClipboardCopyYRes**
vertical resolution of document copy for the *Copy All* command;
- **ClipboardCopySpecWidth**
width of document copy in inches for the *Copy Special* and *Copy Special To...* commands;
- **ClipboardCopySpecHeight**
height of document copy in inches for the *Copy Special* and *Copy Special To...* commands;
- **ClipboardCopySpecXRes**
horizontal resolution of document copy for the *Copy Special* and *Copy Special To...* commands;
- **ClipboardCopySpecYRes**
vertical resolution of document copy for the *Copy Special* and *Copy Special To...* commands;
- **DelayedClipboardRendering**
binary value; immediate or delayed data rendering for data transfer through the Clipboard;
- **CopyEmbedded**
binary value; copying data in the embedded object format to the Clipboard;
- **CopyLink**
copying data in the link to a linked object format to the Clipboard;
- **CopyBitmap**
copying data in the Device Dependent Bitmap format to the Clipboard;
- **CopyDIBitmap**
copying data in the Device Independent Bitmap format to the Clipboard;
- **CopyMetafile**
copying data in the MS Windows system metafile format to the Clipboard;
- **BRAOpenOptions**
decimal (without prefix) or hexadecimal (prefixed with 0x) number; used for control of document parameter files; zero or sum of some of the following values:
 - 0x0200 - read document parameters from RLD file (can be used for backward compatibility);
 - 0x0800 - read document parameters from TAF file;
 - 0x1000 - do not save document parameters to RLD file;
 - 0x2000 - do not save document parameters to TAF file;For example, setting this parameter to 0x1A00 (which is a sum of 0x1000, 0x0800 and 0x0200) means: “read and write TAF file; read RLD file”. This is the default TCDView behaviour.
- **DefXRes**
default raster drawing horizontal resolution;
- **DefYRes**
default raster drawing vertical resolution;
- **MaximizeApplication**
binary value; setting it to 1 causes TCDView to cover the full screen when opened;

- **MaximizeView**
binary value; setting it to 1 causes open document window to cover the whole TCDView main window when opened;
- **UseFullViewCache**
binary value; setting it to 0 disables creation and use of full view cache (see also the description of the *Regenerate* command);
- **CopyToOneFile**
binary value; setting it to 0 disables creation multi-page destination file while converting multiple input files;
- **ShowTwainInterface**
binary value; activates a scanner interface;

[TSLPPL Library Settings] section:

- **FitToPage**
binary value; causes such calculation of print scale, that a document covers maximal area of paper page;
- **PrintColors**
binary value; enables color printing;
- **MetricUnits**
binary value; when set to 1, print margins and origin are expressed in millimeters, otherwise in inches;
- **PrintingScale**
real number representing printing scale;
- **XOffset**
horizontal distance between the upper left corner of the document area on paper and the upper left corner of page margins; if negative, then a part of the document lies within the left margin area and is not printed;
- **YOffset**
vertical distance between the upper left corner of the document area on paper and the upper left corner of page margins; if negative, then a part of the document lies within the upper margin area and is not printed;
- **Selection**
binary value; when set to 1, the whole document is printed, otherwise its current view only;
- **BufferSize24**
the size (in kilobytes) of internal TCDView buffer used for printing of 24-bits-per-pixel color documents;
- **BufferSize**
the size (in kilobytes) of internal TCDView buffer used for printing of color documents (except for 24-bits-per-pixel color documents);

[Recent File List] section:

- The entries in this section specify the names of 4 documents most recently opened by TCDView.

C. TAF parameter file

Each drawing file can have a parameter file associated with it, where drawing's technical parameters are stored. It is especially useful to store parameters that can not be stored in the drawing file itself due to its format limitations. Some drawing file formats allow to store more parameters than others. The values of drawing parameters are saved in the drawing file, if the drawing format allows for it, and in additional parameter file with the same name as the drawing file name but with TAF (*Tessel Attributes File*) extension. The TAF file is located in the same disk directory as the drawing file. Parameters saved in the original drawing file override parameters saved in the additional parameter file. Creating and using of parameter files can be disabled using the *BRAOpenOptions* parameter in the TSLTCDVIEW.INI file (see Appendix B).

A TAF file is a text file formatted in sections (like INI files). If the drawing file is a multipage raster file, each section describes a separate page. The first page is described with the [RasterDrawingParams] section, the second page is described with the [RasterDrawingParams.1] section and so on. Parameters of a drawing file in one of vector formats (DWG, DXF or HPGL) are specified in the [VectorDrawingParams] section. Thus it is possible to have two drawing files with the same file name and different file name extensions in one disk directory: one in raster format and one in vector format and to use common TAF file for them. Their parameters are located in different sections of TAF file. Vector drawings use only two parameters: *Units* and *Orientation*.

Section name line syntax: [<section_name>]

Parameter line syntax: <Parameter_name>=< Parameter_value>

Parameters description:

Units - code number of units used to define the insertion point of the drawing;
one of the following values:

- 1 - inch
- 2 - foot
- 3 - yard
- 4 - mile
- 5 - millimeter
- 6 - centimeter
- 7 - meter
- 8 - kilometer

Color - color number from the AutoCAD palette (for monochrome raster drawings only)

Orientation - drawing orientation. Defined in the raster terms (lines and columns of pixels) but maintaining analogical meaning also for vector drawings. Orientation can have one of the following values:

- 1 - first line at the top, first column at the left side
- 2 - first line at the top, first column at the right side
- 3 - first line at the bottom, first column at the right side
- 4 - first line at the bottom, first column at the left side
- 5 - first line at the left side, first column at the top
- 6 - first line at the right side, first column at the top
- 7 - first line at the right side, first column at the bottom
- 8 - first line at the left side, first column at the bottom

XInsertionPoint - X coordinate of the lower left corner of the drawing;

YInsertionPoint - Y coordinate of the lower left corner of the drawing;

XScale - horizontal scale of the drawing;

YScale - vertical scale of the drawing;

XResolution - drawing's horizontal resolution;

YResolution - drawing's vertical resolution;

Length - the number of pixels in single raster line;

Width - the number of raster lines;

Comment - drawing's description or a remark text.

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