



Flight Case Design Software

Penn Elcom GmbH

Manual

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Introduction

The Penn-Elcom Casedesigner software begins a new era in flightcase construction. At last, it is possible to visualize case designs in the planning stage including 2 or 3D representations and full 360 degree rotation, and at the same time generate sheet cutting sizes, a list of all the component parts and their cost. Whether you are making similar cases repeatedly or 'one offs' the user design interface is clear, simple to use and a sheer joy to work with, enabling cases to be designed and made faster and easier, saving you time effort and avoiding costly mistakes by obtaining customer approval to finalized designs and specifications.

Concept

Penn Elcom Case Designer is not "just" a 3D program for accurately representing flight cases, but in addition also provides a complete customizable solution with calculations of all possible designed outcomes by the consistent use of modern means of communication to present.

Due to the simplicity of operation, it is possible to create a case in minutes, to calculate dimensions and create parts lists, quotes or invoices. Thus, the planning time is reduced considerably. And time is money. Nearly all input is done visually. A case is created by selecting objects that are placed on drawing surfaces. Of course, the mouse is very central to the operation. You make only a few basic inputs such as the internal dimensions via the keyboard. In addition, the program facilitates the use of pre-construction (preconfigured default cases) or the creation of new cases. If you create a preset case, it usually takes a few seconds to finish.

Every effort has been placed on the output functions. Cases are of course printed out with part- or spreadsheet lists. Additionally, you can pass on offers, delivery notes, purchase orders or invoices in various ways to customers. So you can as an example create pdfs separately. Alternatively, they can also be emailed directly from the program to the client. All documents can of course also be printed. The preview module gives the opportunity to look at the documents again and check them before sending / printing. You can also add images of the designed case to all documents.

External data can be easily processed with the program. Thus, cases of other CaseDesigners, sales representatives or presets from the PE CaseDesigner website can be read in seconds. In addition, you can send a created case file directly to a colleague or other person so that he can process it.

To round off the PE CaseDesigner has an ordering module to send the fitting-orders via direct data transfer to Penn Elcom.

Personalization of all price lists (including special prices) are made by converter and saves hours of tedious typing.

The aim of the PE case designer is easily formulated. The case manufacturer uses the simple operation of the program as an additional super tool, which can cope with both special and recurring tasks such as planning, estimating, creating lists or to-scale presentation of its products in the shortest possible time. This includes the use of modern communication channels, many of them available directly to Penn Elcom CaseDesigner.

Installation and Activation

Before first use, it is essential to install the .Net Framework from Microsoft.

Microsoft .NET Framework 4

This is an extension to Windows, by Microsoft. The framework allows for much faster computers, graphic representation. The CaseDesigner **will** not function without this. On most modern computers from Win 7 on, the Framework is already installed. If you do not know whether it exists on your computer, it's easily installed. There are no known disadvantages to .net, it allows older computers to use contemporary graphic methods, as required by 3D software. All the latest software from Windows 7 requires the .Net framework.

This software is provided free by Microsoft and can be downloaded here.

Download link:

<http://www.microsoft.com/download/en/details.aspx?id=17718>

(It is absolutely necessary to install Microsoft .NET Framework 4)

Tip: you can click on this link with your mouse or copy/paste it into your browser address bar.

When you have completed this step, the CaseDesigner can now be installed.

To install, click the program "setupPECD.exe". The installer **will** ask during the installation process for a password. This is obtained by registering at Penn-Elcom.

If the password entered is correct, the rest of PE Case Designer will be installed automatically. The program will default to directory C:/PE CaseDesigner. This is for future automation of updates necessary to keep your program up to date. It also shows the images created more easily later, because the directory is at the highest level.

The program may not be installed in the subfolders programs, program files or program files (x86). The PE CaseDesigner is now installed as a demo version. To **enable** the full version, you must activate the program. This activation code you should have received from your local Penn Elcom sales.

Activation

In order to start the program in design mode, it must be activated. It does not matter whether you are using a trial or full version. You should have received the activation key from PE sales, usually by email. Enter the key code in the upper text box. Once you have entered the code, click the "Install" button. The software will automatically be activated. Please ensure that your computer is connected to the Internet.

Now the program should be activated. A key test will allow the use of the program for a specified (trial) period. On the "Run time indicator" it is noted when the program starts. If you purchased the product as a full version, this notice will no longer be active. Now close the activation window in order to start the Penn Elcom CaseDesigner.



System Specifications

Windows XP SP3, Windows Vista, Windows 7

2 Button Wheelmouse

- Supported operating systems: Windows 7, Windows 7 Service Pack 1, Windows Server 2003 Service Pack 2, Windows Server 2008 and Windows Server 2008 R2, Windows Server 2008 R2 SP1, Windows Vista Service Pack 1, Windows XP Service Pack 3
 - Windows XP SP3
 - Windows Server 2003 SP2
 - Windows Vista SP1 or Later
 - Windows Server 2008 (Not supported on Server Core-Role)
 - Windows 7
 - Windows Server 2008 R2 (Not supported on Server Core-Role)
 - Windows 7 SP1
 - Windows Server 2008 R2 SP1
- **Architectures:**
 - x86
 - x64
 - ia64 (ia64: some features are not supported, such as WPF)
- **Hardware Configuration:**
 - Minimum of 1G Processor or faster, with at least 500MB memory.
 - Minimum hard disk space:
 - x86 – 850 MB
 - x64 – 2 GB

At least 100MB is required for installation. The rest of the space is required for data, program and image files.

User interface

The user interface follows a new concept. Nearly all input is done visually.

There are three main windows:

1. The **3D window**, where all the basic inputs are made, at the same time the case is presented.
2. The **2-D window**
3. The **interior window**

There are more windows for database management, print or other sets of options. These are all selected on the 3D window.



As mentioned above, the mouse has a central role in the operation. It should be a two-button mouse with scroll wheel (mouse wheel).

In the 3D window the following mouse commands are important:

1. Left mouse button
If you hold down the left button, you can drag the case in all directions. With double click on a side you go into the 2-D mode, in order to place movable components.
2. Right mouse button
The right button has a reset function. If you have zoomed in too large or too small, you can simply reset to it's original size and position.
3. Mouse Wheel
Use the mouse wheel zooms the case in and out, depending on which way the wheel is rotated.

Basic inputs

Before you get started on design detail, some basic data inputs need to be made. These are usually entered only once. Later on, changes can be made. To Continue, enter the following data in the required sections:

Company data

Construction (Design)

Calculation

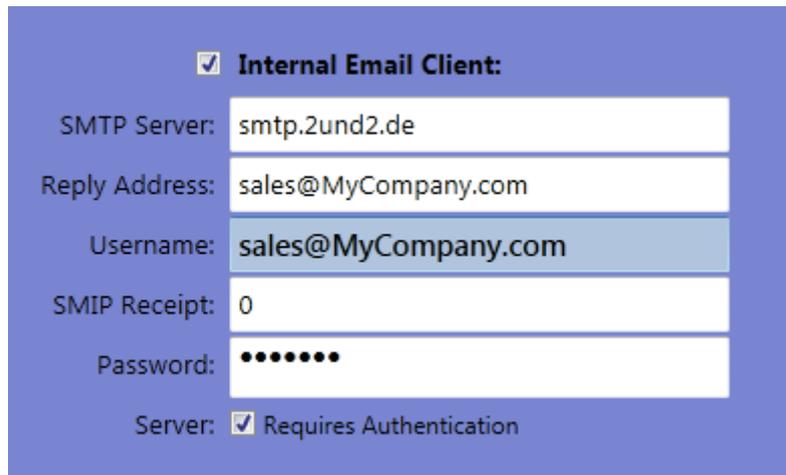
Company data

Menu: Options / company data

At this point, enter all addresses, contacts and communications info for "your" company. Now enter all the relevant information.

Fields that are used in expressions are marked by a tick. If you for example, have only one bank account, add just the one field for a bank, otherwise leave blank. This is then printed with all documents.

If proposals are to be sent via email, you will need to input your email info and password for your email account or service, otherwise no case design docs can be emailed.



The screenshot shows a configuration window titled "Internal Email Client" with a checked checkbox. It contains several input fields: "SMTP Server" with the value "smtp.2und2.de", "Reply Address" with "sales@MyCompany.com", "Username" with "sales@MyCompany.com", "SMTP Receipt" with "0", and "Password" with a masked field of seven dots. At the bottom, there is a "Server:" label with a checked checkbox and the text "Requires Authentication".

Very important:

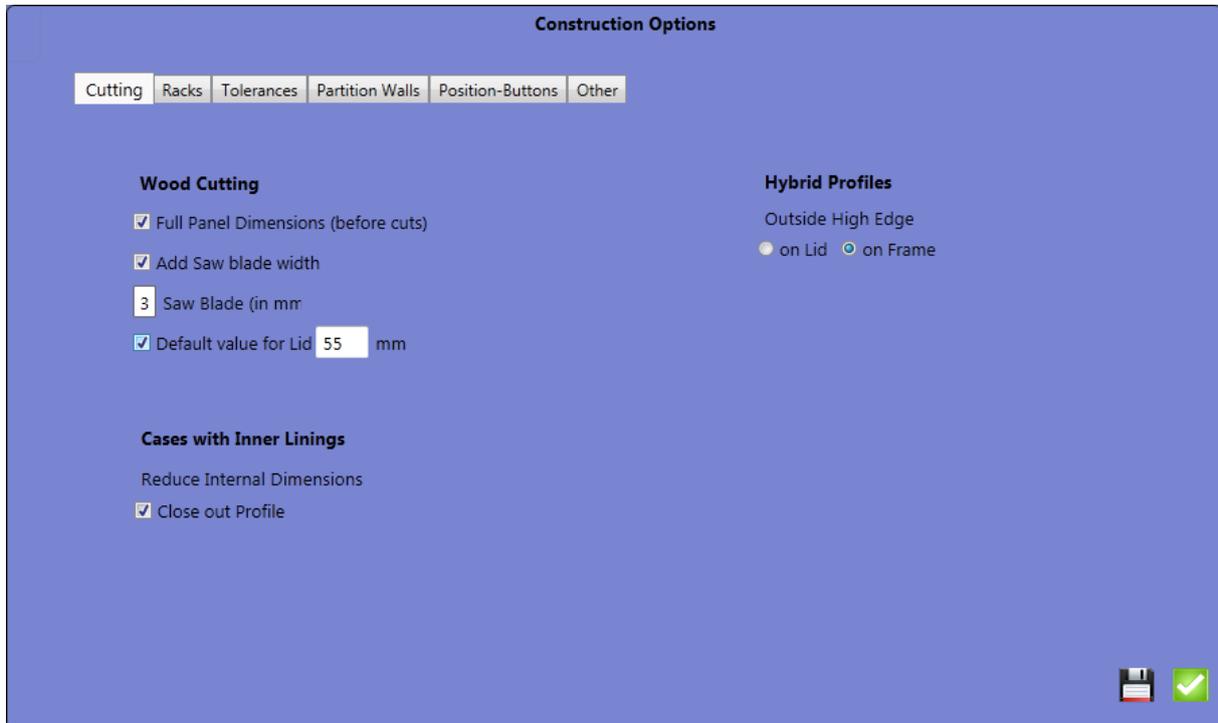
Confirmation of the green check bar allows you to change the company data temporarily for testing purposes, and will be reset every time you start the program. If you want to save your data permanently, you must click the disk icon on the left below. Then all entries will be saved for the current and future sessions.

Construction Options

Open the menu and select *options/construction*:

All inputs on this window allow you to customize your CaseDesigner to your own specifications. You can jump around to each input box by using the TAB key (or shift TAB to reverse) or mouse-clicking on a box. The representation chosen here is simplified to show all fields.

Wood cutting



The screenshot shows a software window titled "Construction Options" with a blue background. At the top, there are several tabs: "Cutting", "Racks", "Tolerances", "Partition Walls", "Position-Buttons", and "Other". The "Cutting" tab is selected. Below the tabs, there are three main sections:

- Wood Cutting**:
 - Full Panel Dimensions (before cuts)
 - Add Saw blade width
 - Saw Blade (in mm)
 - Default value for Lid mm
- Hybrid Profiles**:
 - Outside High Edge
 - on Lid
 - on Frame
- Cases with Inner Linings**:
 - Reduce Internal Dimensions
 - Close out Profile

In the bottom right corner, there are two icons: a floppy disk icon and a green checkmark icon.

Use the first checkbox to select, if the individual sheets for your case are left in one complete piece per side and will be divided later with a saw or router.

If you plan to cut all parts before routing, then do not check mark the first box.

If you have selected the first option and want to add the sawblade thickness to your calculation, check the second checkbox as well. To an internal height of 500mm the sawblade thickness (example 3.0mm) will be added which makes a total size of 503mm. After cutting, the two sheets will then again be the desired height of 500mm. The blade thickness can be adjusted according to your personal circumstances.

If the sheets are cut split (first checkbox unchecked), this setting has no effect on the measurements.

As the last value in this section, you can specify a standard measure of cover (lid) cuts. You can recall this value on the main screen by pushing this image.



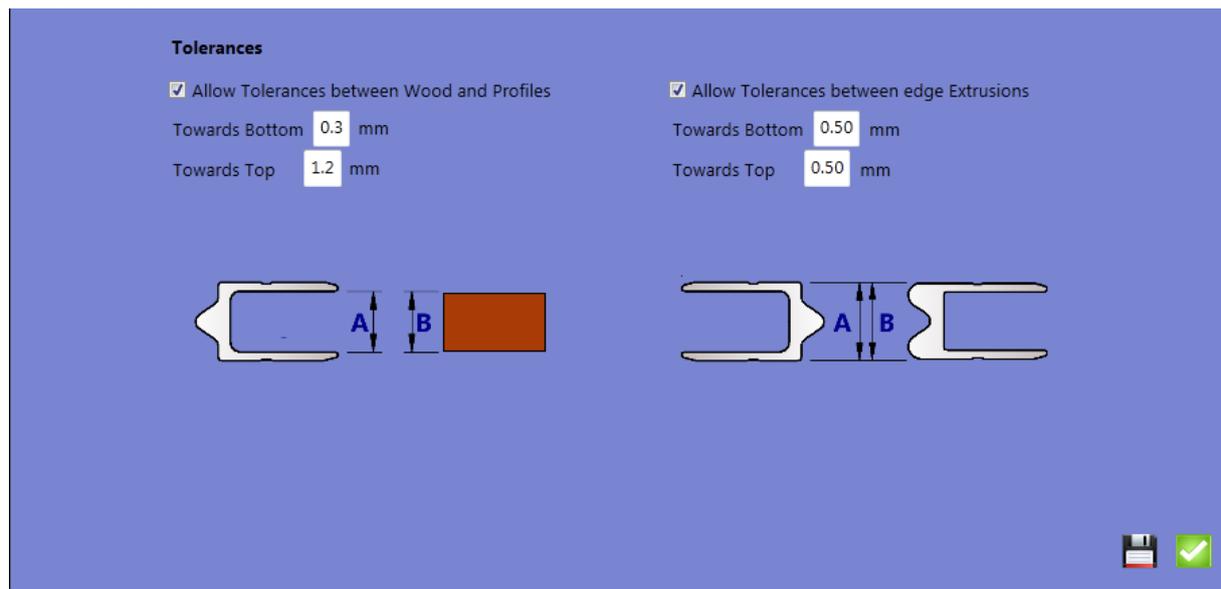
Cases with linings

The second section allows to generally reduce the total dimensions for all cases with linings by the gap thickness of the edge extrusions to get the required dimensions. **An example:** A case with two parts of 50 and 100 mm height would otherwise result in a total of 150mm + closing profile dim (usually around 7-10mm), for example 158mm. This is a little to much compared to the desired height of 150mm. So if you are setting the check mark on this option, you'll get 150mm, because the total height is reduced by the gap value of 8mm. The Case Designer automatically generates these values, because it has saved all the values for edge and frame profiles in its database. This eliminates the hassle of manually figuring or looking up specs in catalogs. This function refers to all lined cases, including on rack or hood types.

Hybrid-Profiles

In this area you decide on general settings that apply hybrid location. As the CaseDesigner draws absolutely to scale, it is crucial to determine on which part of the case (either lid or bottom) the high part of the hybrid location is turned towards the outside. Changes will result logically in different images. If you are using the profile as shown in figure A, select option 1, otherwise option 2 is the right choice (shown in figure B). If you are using lidmaker profiles, the CaseDesigner automatically detects the setting. Male and female profiles on this setting are not granted.

Tolerances



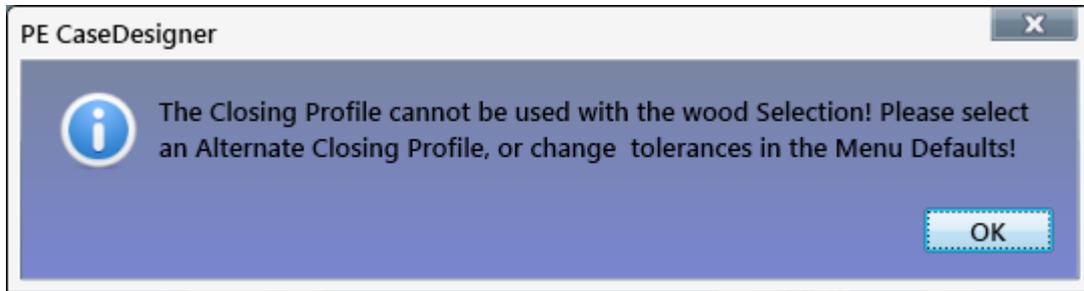
This is a special area that can save you a lot of mistakes with the correct settings. Of course, in principle a 7mm and a 9mm-location profile can be combined as long as the profiles are from the same group (either male / female or hybrid). In fact no one would really do that, unless he was committing a clerical error. In order for these errors to be minimized, but allow combinations of profiles (eg, 6.3 and 6.8 mm), we have given the CaseDesigner this function.

Wood with thickness of 6.5 mm for example is often used with profiles of 6.8 mm nominal size. The profile fits better then when it has a little "gap". On the other hand, nobody wants to work with the with values like 6.6 mm. In addition, it is hardly to adjust a saw so exactly.

The default values correspond to experience and are set to 0.3 / 1.2 mm by default.

This setting thus allows for a 6.5 mm panel a profile in the range of 6.2 to 7.7 mm. Find the settings that best suit your applications.

If you select profiles outside these limits, the CaseDesigner will show you this message in order to avoid miscalculations.



As with the above-introduced combination of closing profile and wood dims, does the setting of the closing profile tolerances work. You can decide, how much tolerance to allow. The measurements are stored in the database and are used to check the closing lips of the profiled cases. The factory setting allows under-and overruns of 0.5 mm. The program also recognizes, of course, through error checks whether the type of profiles are generally allowed to be combined. Thus, a combination of hybrid and male/female profiles is not possible, and is logically and immediately displayed as an error.

Partitions

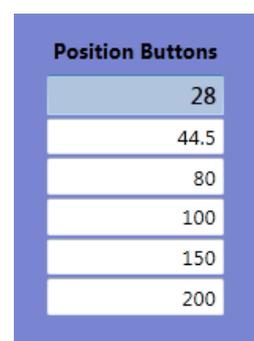


In this section, you can select divider profiles and other materials for partitions and set them as default. Set these selections to suit your needs. You can always change these settings later or in the design process, however - with this pre-selection you save many clicks.

Position Buttons

Here you enter the values that are available on the 2D screen for the positioning of components. Since everyone here has his own preferences, this area is completely open to choice.

Note: The position buttons will always appear a rounded value, so from a position 44.4 mm the button will be labeled 44, In fact, the component is set to 44.4 mm, when this button is pressed.



Width depth and height of racks

Width and Depth of Racks

Depth between Rack Strips

Automatic Rack width Calculation

Fixed Value for Racks mm

Auto Calculation

Hole Spacing 19" mm

Panels under Rack Strip

Always add - 2 x mm

Rack Height

Dimension 1 R mm

Add EP Strength to Height

Automatic Height Calculation

Use Your Own Values

1RU	55
2RU	95
3RU	135
4RU	190
5RU	235
6RU	280
7RU	325
8RU	370
8RU	415

The first option decides about the depth of a rack. If you check this box, each rack is calculated as follows:

If you enter 400mm for the depth of a rack, this value will represent the depth of a rack inbetween the rack strips. This is usually useful, because the customer needs that space for equipment. If you prefer to use the wood-cut as the basis for your calculations, uncheck the first option.

The setting of this checkbox will be used for the calculation of all Racks and L-racks.

In the next setting, you can decide whether the CaseDesigner has to calculate the width of racks automatically. You can specify a fixed value here or select from the normal hole distance for 19-inch equipment to perform this calculation automatically. The second feature is of course much more flexible, because racks can then be calculated with different rack rails. However, here the width is always automatically adjusted. If all racks, regardless of the rack rails always have the same width, select option "Fixed Value".

If, you're always working with the same panels (e.g. 9mm) underneath the rack rails, checkmark the box "Always add...".

Set the desired value for these panels in the following textbox.

In the last section "Height of racks", enter your desired height for one rack unit. International standards are customary 44.5 mm. This default value is also specified in the program. If you want to change this value for any reason, you can do so here. It determines the heights of racks, if the next option "automatically calculate the amount" is turned on. However, if you want to use your own values, you have to edit the list at the bottom right.

Tip:

All functions in this section can be changed temporarily in one session. To confirm, select the green check mark. For entries to be permanent, click the disk icon. Then all entries are saved on disk and available for future use.

Cost Calculations

In this section you can generate a valid cost for your product. The input values always correspond to the selected currency.

Calculation Specifications			
Costs			
Material Procurement	10	%	<input checked="" type="checkbox"/> Add
Labor Costs/hr	35	USD	<input checked="" type="checkbox"/> Add
Non Production Labor Time	20	%	<input checked="" type="checkbox"/> Add
Other Costs:	3	USD	<input checked="" type="checkbox"/> Add
Average price for 1000 rivets	23,9	USD	
Cuts			
Waste Panels/Foam	15.20	%	<input checked="" type="checkbox"/> Add
Waste Alu:	10.8	%	<input checked="" type="checkbox"/> Add
Surcharges			
Material Surcharge:	25.2	%	<input checked="" type="checkbox"/> Add
Surcharge:	50.7	%	<input checked="" type="checkbox"/> Add
Screen Display Price:	<input checked="" type="checkbox"/> On	<input type="radio"/> NET	<input type="radio"/> Gross

Each parameter has a check calculation, which you can add to your spreadsheet. The values are quite self-explanatory. Nevertheless, here are some definitions:

Manufacturing Costs:

MATERIAL PROCUREMENT:

No goods are free of cost. To include freight charges, here you can enter a percentage value that takes account of these.

HOURLY WAGES

Enter the labor costs per hour.

NON-MFG HOURLY WAGES

In this area, setup times are considered. If for example Tools must be changed, goods cannot be produced.

OTHER COSTS

Here you can set a fixed value allocation in your currency which is added to each case.

Cuttings

The CaseDesigner calculates the material prices very closely. Profile dimensions are given exactly. If you are using Butterflies, the amount of needed location profile is reduced by the cutout width of this component. As a case manufacturer, you also know that after all cut-outs, a small part remains as a residual. This residual is used rarely, and therefore, unfortunately, lost material. A correct calculation of this waste must therefore be taken into account as well. You can now specify material values used in your business. The field represents the values for all panel materials - whether wood or foam. "Waste Alu" includes loss on aluminum edges and closure strips and rack rails.

Surcharges

First, you can set a premium on the materials used. This is then added into the calculation. You can also add another surcharge on top of this by entering your desired value to the surcharges textbox.

Display prices

Here you determine the price that is displayed on the screen. If you for example make a presentation to the client, you can also turn off the display price.

Databases

A total of five editable databases are available to manage your data.

Fittings database

This database includes all components that are used in the calculations of Case designs. The only exceptions are the “extra components”, which are further described below.

The screenshot shows a software window titled "Fittings Database" with a sub-window titled "Butterflies". The window contains a form with the following fields and values:

Description	Butterfly klein in schmaler Schale
Part Number	L903-7336z
Weight	220 g/St
Price	5.46 Euro/St
Work Units	4 Min./St
Value A	54 mm
Value B	100 mm
Value C	34 mm
Value D	80 mm
Value G	6 mm
Rivets	7 Pcs.

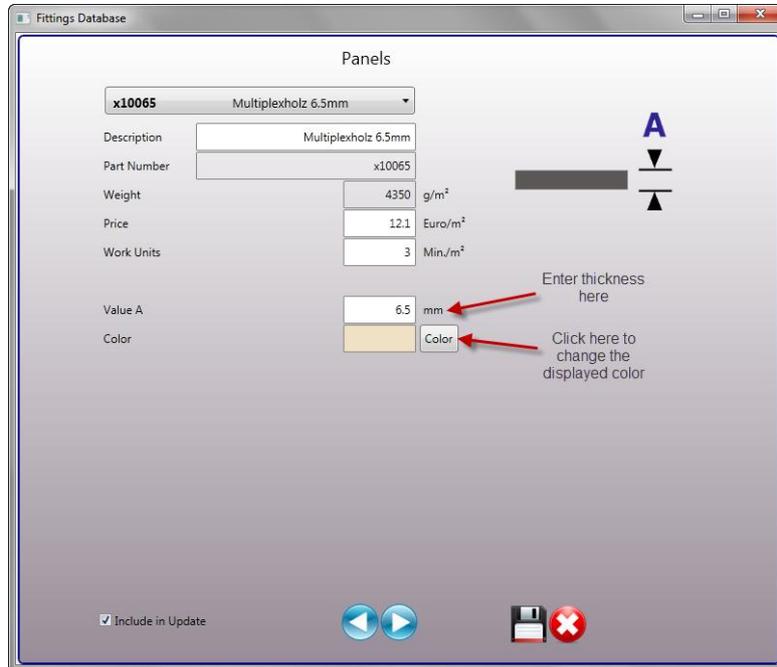
At the bottom left, there is a checkbox labeled "Include in Update" which is checked. At the bottom center, there are two blue navigation arrows (left and right). At the bottom right, there are icons for saving (a floppy disk) and deleting (a red X).

On the right side of the window, there are two technical drawings of the butterfly fitting. The top drawing is a top view with dimensions A, B, C, D, and G indicated. The bottom drawing is a side view of the fitting.

All data table structures are the same. As you scroll through the respective data tables you get a preview of each product. You can change various values. These changes are available only after you save the record permanently. If there are many database changes, you may want to consider restarting CaseDesigner again. The check mark in the bottom left corner has an important function. By checking it, the changed contents will be reset at the next update. Most data tables are self explanatory, however, features that are described:

Wood

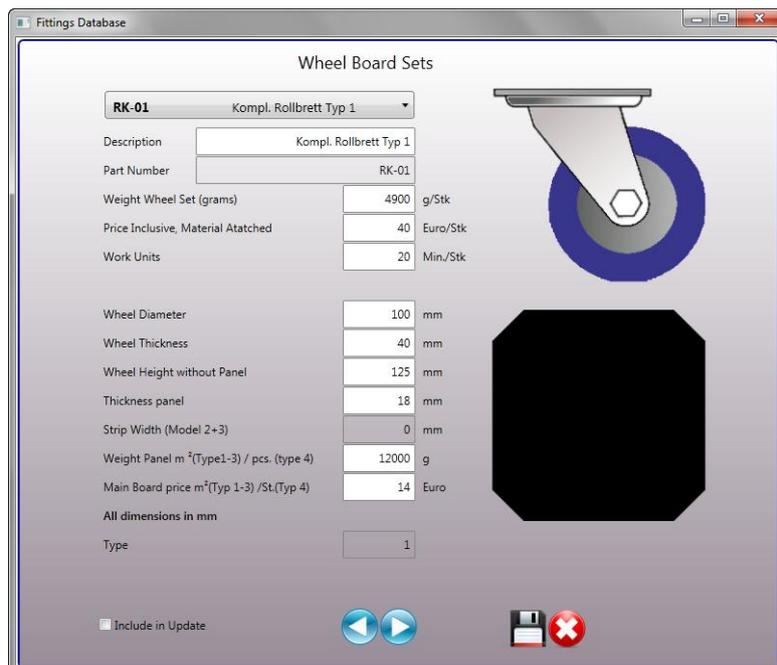
The wood database is freely editable. Penn Elcom provides the real current calibrated sheet thicknesses. If you want to round off these values, you can do so here. Many manufacturers are working with values of 6.5 mm in addition to a "round" value of 13 mm in total. In fact, the plate thickness is usually larger. You are free here to choose your own approach.



In the wood section, you can also change the screen display colors do this, press the button "color" and then enter your own values.

Wheel Assemblies

The special feature in the data table "Wheel Boards" allows you to create complete assembly sets for wheels and associated parts. The following figure shows the input options:



"Weight" means the total weight of the roller assembly set without the mounting board. Here the weights for the remaining hardware should also be included.

In the next input field, enter the total price of these materials, then the operating time required for the complete wheel assembly.

In the lower section, the values for the carrier plate must be entered. Depending on the plate that was chosen here, the results will vary for different weights. The Case Designer program will calculate the carrier plate dims, depending on the current entries.

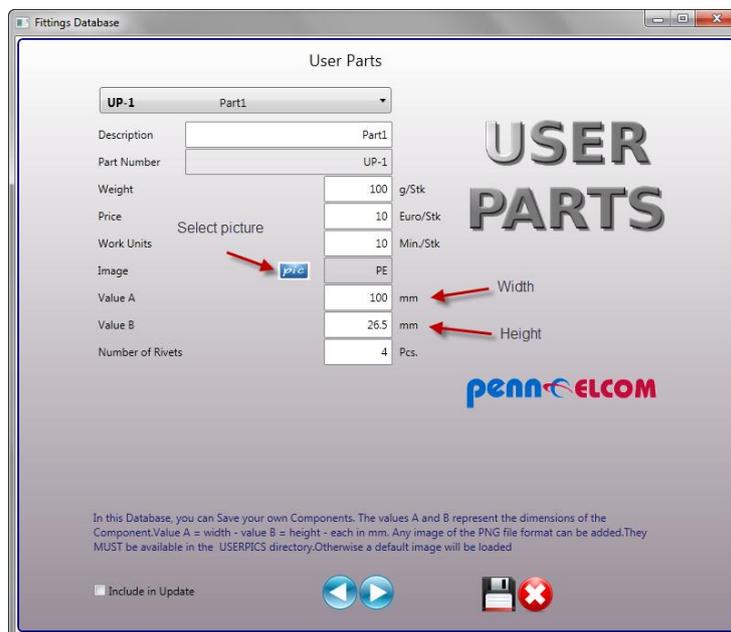
If you use wheel assembly strips, you can also specify the width of this design, and the database will generate a list of required values.

Foams

A variety of foam materials are stored in the database. Because these materials can also have different densities, the CaseDesigner uses a value called "value A - pressed". This is used for the dimension calculation. You can edit each foam form and adapt it to your specific design.

User Parts

This table is of particular importance, as it allows you to store items such as Logos, Service Panels, Special parts by other Manufacturers, basically you can develop your own components here, items that are not included by default. To obtain a representation of these components in your case design, click the icon. This will open a dialog that allows you to map the components and include its image.



Important

The images must be in the directory C: / PE Case Designer/ Userpics and in .png file format, otherwise they are not usable and will be displayed as a blank space.

Tip:

On one-use components, you can easily capture them under the heading "Extras" in the respective flight case calculation.

Please note:

Because of the large number of parameters that are required by the program in any associated design, and the risk factors of erroneous information input, there is a possibility that the program may crash. What you configure here does not include basic materials (wood, edges and shutter profiles, L-shapes and corners). If you choose to override the specific default values provided by Penn Elcom, or you require other alternatives, you will need to scale similar items manually. You can edit items if necessary in name and price base.

Automatic Price List Update

This feature item is only required if you need an updated price list. Penn Elcom provides you with this automated feature. This offers you the possibility to create your own price list of any special rates with a single click in the CaseDesigner.

This will save valuable time. In addition, your calculations are also always up to date.



Your default price list is included when buying the Casedesigner by email. Copy this file to the directory C: /PE Case Designer/updates. By clicking on the button at the top left, your customer price list is imported. If the file exists, it will automatically be included and updated if the "Update" button is used. The program will automatically update all the rest.

It will replace all the prices at which a check mark is placed in the field(s) before updating. Wait for the completion of the update.

Do not perform any other work at this time. The process should not exceed two minutes. After a successful update, please close the window.

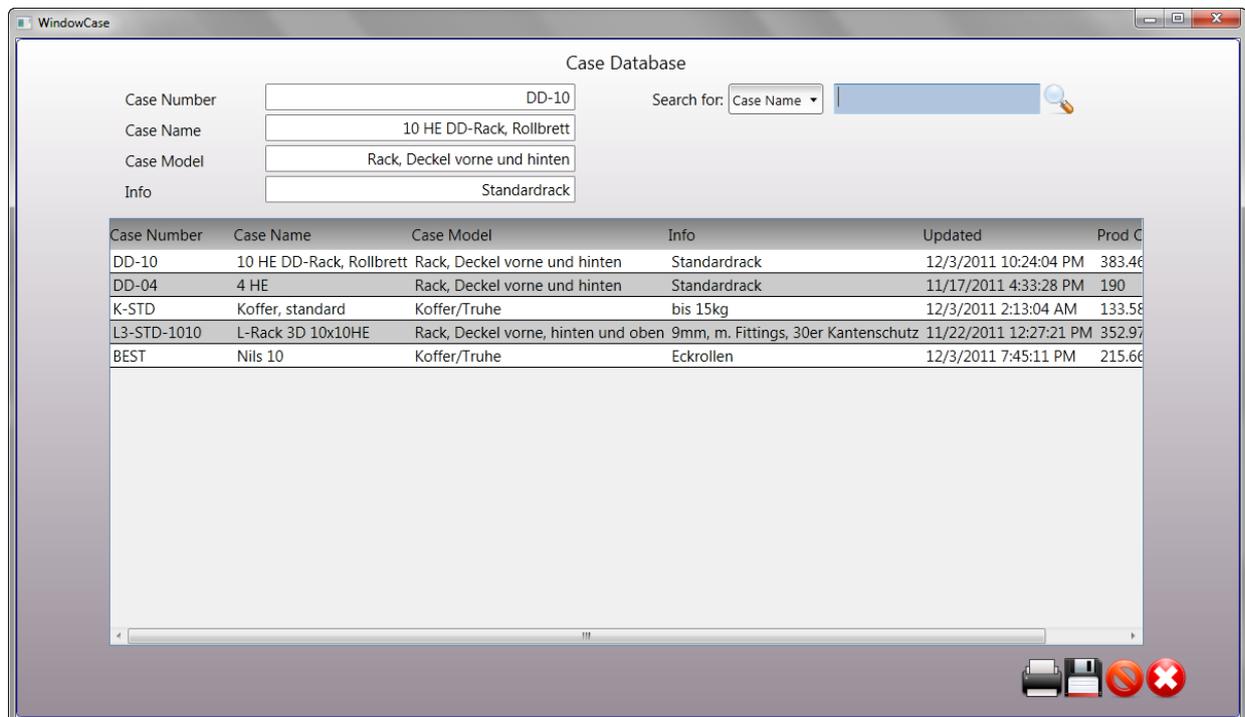
You must restart the case designer now to put the changes into effect.

Case database

Here you can manage the created cases. The sorting can be changed by clicking the column headings. You also find a search function at the top right. Here you enter the search term or part thereof, to start press the Enter key or click the magnifying glass. The first data row, which corresponds to the input search criteria will pop up.

You can also select records by clicking on them in the table.

To edit a record, enter the new values in the text boxes above. By clicking on the floppy disk icon, the changed data is stored in the database.



Create price lists

In Case Database window, you can create your own price lists. To do this, click on the printer icon at the bottom right. In the next dialog you can choose to create the kind of list you want. In addition, you can choose to output in in a list format. Besides being able to print the document, you can create an Excel file.

When choosing this option with the basic price list, a price list is generated that gives information on the basic prices of your cases.

Selecting "premiums," expands the window and shows you the instructions stored in the spreadsheet calculation parameters for your premiums. For a standard price list, you should accept these values.

However if you want to create a special list for a customer, you can change the values. The stored calculation parameters are not changed by any changes or additions here.

The screenshot shows a blue-themed form titled "Create Case List". It contains the following fields and controls:

- Title:** A text input field containing "Case List".
- Sorted by:** A dropdown menu with "Case Name" selected.
- Calculation:** A dropdown menu with "Production Price List" selected.
- Generate List:** A button with a "CSV" icon and a printer icon.
- Red X icon:** A red circle with a white "X" is positioned below the "Generate List" button.

The screenshot shows the same "Create Case List" form but with different values:

- Title:** A text input field containing "Net Price List".
- Sorted by:** A dropdown menu with "Case Number" selected.
- Calculation:** A dropdown menu with "Surcharge List" selected.
- % Material Surcharge:** A text input field containing "25.2".
- % Manufacturing Surcharge:** A text input field containing "50".
- Generate List:** A button with a "CSV" icon and a printer icon.
- Red X icon:** A red circle with a white "X" is positioned below the "Generate List" button.

Preset database

The preset database is organized just like the case database. Of course you can also change values in order to structure your database.

Customer Database

The customer database is by default used as all other databases in the program. Again, there is a search box that allows you to filter specific records. With the "plus sign" at the bottom right you can add new records in this database. Enter all your customer data and confirm by clicking on the "diskette icon". It is important to select or not select the "Country" box, because that will decide whether or not VAT is calculated. For "Domestic customers" the box should be not marked, to add VAT to the documents.



Create Cases - basic concept

Case types, presets, and import files

First, it is important to recognize the format which the CaseDesigner creates and loads.

there are three ways to load and store cases. They differ primarily by their later use.

Presets

In general, approximately 90% of flight cases are not designed from scratch, but copied on the basis of existing proven templates, often by changing a few dimensions to provide form and fit. The Penn Elcom CaseDesigner uses this basic principle of saved design templates with a changeable separate database to accomplish quick flight case design generation.

When you design a new case with presets, you will only need to change the desired internal dimensions and construction plans are created. Components such as locks, hinges and handles that are included from the Penn Elcom database are positioned automatically, and are set at preset positions according to the model selected.

The database contains a number of presets. These essentially follow proven methods of construction of well-known flight case manufacturers.

More presets models will be available in the future and provided on our website for download.

Cases

“Cases” are special calculations. A special calculation (case) should be stored as a case if it is unique. It is advisable to save a calculation as a preset model, if it will be used as a template.

Import files

You can import a CaseDesigner file and also save it as a preset or case.

Example: You are at a client and the CaseDesigner is installed on your notebook. With your client you work out a solution and you want to start production immediately. The program offers editors the opportunity to send the case data via email to others. You can for example send the case data file directly to your factory. Seconds later, your colleague opens the file you’ve sent and start production.

Calculate Cases

Create New Case or Preset

If you want to create a new case, click on the button right below the main screen. In the dialog which follows, select the options provided to create your new case calculation. If a case will be created based on an existing preset, select the options described in Figure 1, if you want to create a case by type, select the setting described in Figure 2.

The following case types are available:

- Hinged Lid Case
- Lift Lid Case
- Double Door Rack
- Single Door Rack
- 2D L-rack type 1
- 2D L-rack type 2
- Triple Door Rack
- Split Lid Case

Due to the variation of these basic models (with more options), it is possible to create dozens of different designs.

You also have the opportunity to change the values provided for the automatic calculation of build time. This comes in handy if you have a production run of many of the same case types. The selection in Figure 3 gives the automatic time calculation for single or multiple builds, unchecking this causes the feature to be disabled. You can enter your own build time value here, if you don't want to use the default automatic calculation.



Load case or preset

You can load case models or presets which you have created. In addition, cases can be imported. Again, you can turn off the automatic time calculation based on your requirements.



The 'Load Preselection' dialog box is displayed on a blue background. It features a 'Select Customer:' label above a dropdown menu with 'Self' selected. Below this is a small icon of a person. The 'Options:' section contains three buttons: 'Load Case', 'Load Preset', and 'Import Case'. The 'Load Case' button is highlighted. Below the buttons, the text 'Case is Uniquely Defined' is visible. Underneath, it says 'Use a Preset as Template for a New Case' above the 'Import Case' button. Below that is the text 'Open External Case Files' and a checked checkbox labeled 'Automatic Time Calculation'. At the bottom center is a red circular button with a white 'X'.

Store case

All case (design) calculations can be saved in the database or even exported. The illustration below shows the different ways to save your data.



The 'Save' dialog box is displayed on a blue background. It has three input fields: 'Description' with '4 HE', 'Number' with 'DD-04', and 'Additional Info' with 'Standardrack'. Below these fields is a 'Save' section with two radio buttons: 'as Case' (selected) and 'as Preset'. Below the radio buttons are two floppy disk icons, one labeled 'New'. The 'Export' section contains three icons: a CSV file, a floppy disk, and an envelope. At the bottom center is a red circular button with a white 'X'.

In export functions, the data can be saved in the following formats:

As Excel CSV: This format allows you to further process your data in an enterprise resource planning program. The file is saved in the default subdirectory ImExport. You can also choose another.

	A	B	C	D	E	F	G	H
1	Bezeichnung	10 HE DD-Rack, Rollbrett						
2	Casotyp	Rack, Deckel vorne und hinten						
3	Menge	1						
4	Auftragsdatum	14.11.2011						
5	Kunde	Lager						
6	Bearbeiter	Thomas						
7	Auftragsnummer	N.N.						
8	Liefertermin	14.11.2011						
9	Bauteile							
10	1,75	x10090k20br	Multiplexholz x10090 +PVC braun	19,2	33,57	Euro	5,246	Min
11	3,41	0521/1	Schließprofil male, 10.2mm	1,43	4,88	Euro	17,048	Min
12	3,41	0521/2	Schließprofil female, 10.2mm	1,59	5,42	Euro	17,048	Min
13	5,63	100	Kantenschutzprofil 30x30x1.5	1,43	8,05	Euro	16,891	Min
14	8	C1339z	Kugelecke 1.8mm Stahl, Innenradius 2mm	0,69	5,52	Euro	8	Min
15	8	B0715z	Schließwinkel 31.0x19	0,16	1,28	Euro	8	Min
16	8	B1125z	Schließwinkel 29.0x40, Bohrungen 5mm	0,18	1,44	Euro	8	Min
17	1	Set	Rollensatz incl. Befestigungsmaterial	40	40	Euro	20	Min
18	1	Set	Rollbrett: 535,2x661,2x18	14	4,95	Euro	0	Min
19	8	L905/915/10ez	Butterfly mittel, 10mm-Schale	3,45	27,6	Euro	32	Min
20	6	H1050z	Stahlklappgriff in Einbauschale	2,82	16,92	Euro	24	Min
21	1	D2101/04z	Einbaulüftungsgitter 18x13	3,72	3,72	Euro	3	Min
22	1,82	6060	Rackschiene stufenlos, mit Klemm-Keder	4,03	7,33	Euro	21,84	Min
23	301	div.	Nieten (ca.)	25	7,52	Euro		
24	Summe	Material	o.Verschmitt		168,21	Euro	181,073	Min

In addition, you can save the calculation as a **CaseDesigner file**. This can be opened by any CaseDesigner program worldwide.

The last option allows you to send the case file as an **email attachment**. This allows users at different locations to share files easily. Please note that your computer must have an Internet connection to use this option.

Email File

File Name

4 HE

Receiver

Sender

sales@MyCaseInc.de

Comments 1

Comments 2

Editor

Save and Send

Select basic components

If you load a preset or case, the values for the basic materials are already available. To create a new case, however, you must make the selection of materials needed. You click on the following icon, which can appear in three variations:



All components are chosen properly



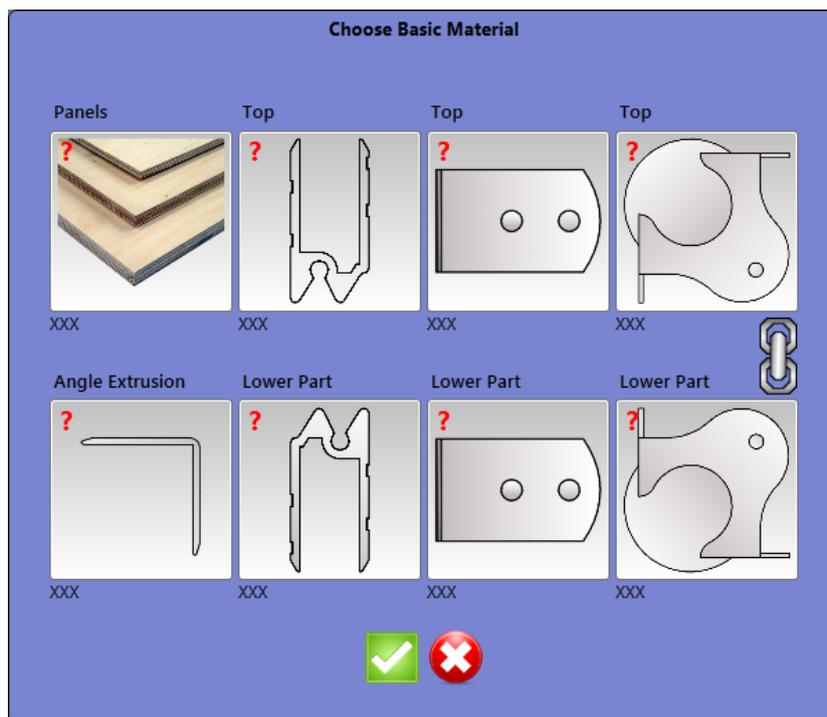
All components selected, but there are deviations of the radii



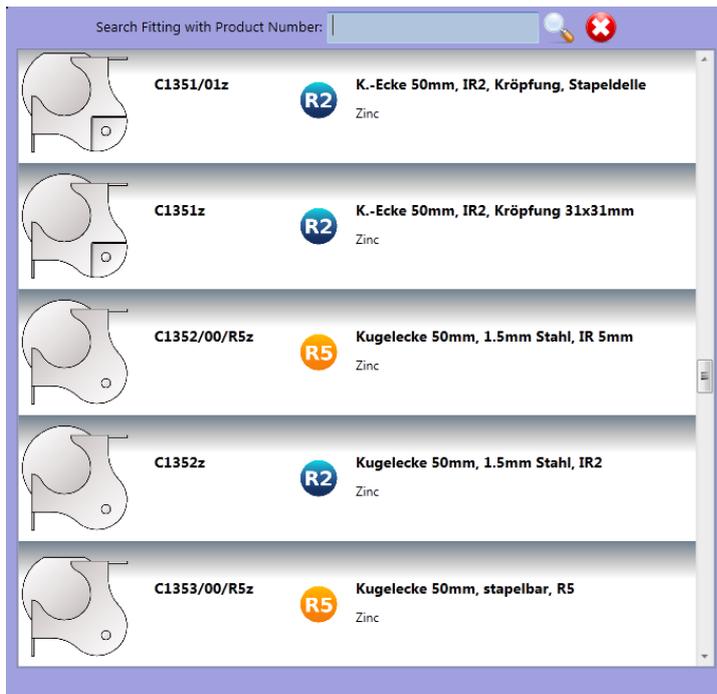
None or not all the components chosen

Through the different characters that "accompany" the icon, you immediately have an overview of whether a correct selection was made.

In the following window you will see a group of components you must select to create a case.



You can see at this screen if components are selected. Not yet selected areas are labeled above the left with a red question mark. To change this, we click on the images and now select the desired material.



Select components by scrolling the mouse wheel down until you have reached your selection. Alternatively, there is also a search box available to enter a part item number. This need not necessarily be the beginning of a number. In the example above a search was made for "C1339", we entered only "1339". So if you know only a part of the article number that's enough to find the component.

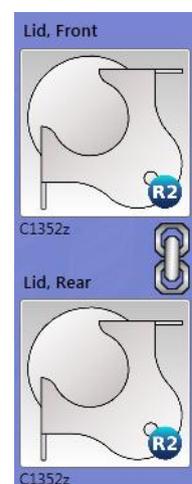
Now select your components and materials for all areas.

On some hardware, additional information is displayed showing the radius of a component. There are three different radii, which are indicated by the following symbols:



In order for consistency and the the parts to fit perfectly, you should only use components of the same radius. Fittings with radius R3 and two other dims also offer a good combination.

A special feature is the chain between the two ball corners. If this function is set, you must select only one corner. The second corner of the field is then also assigned to this value. If you want to use different corners, you simply loosen the chain. If all entries are correct, you can now enter the next step and enter size and components placed on the case.



Enter dimensions

In the boxes on the left you can enter the interior dimensions of your case. In each case, this area according to the required data is presented differently. The view below shows the input box for a Hinged Lid Case.

Inner Dimensions (mm)		
Width	Depth	Height
480	400	150

Cut Lid
Top

50



In addition for racks, frame depths inputs are available. The stored values for rack heights and depths can be also selected via a selection box. By default, racks contain a 19" symbol. If this is shown with a check mark, the measurements are always based on the default rack values, which you've set previous in the construction options.

Inner Dimensions (mm)		Frame
Width	513	Depth 390
Cut Lid		Height 190
Front	55	4U ▼
Rear	55	

19" 



To create a rack with inner lining, click the 19" icon. The values are then valid on the entire case.

Inner Dimensions (mm)		
Width	Depth	Height
513	500	190

Cut Lid
Front 55 | Rear | 55 |

19" 



Parts Placement

To edit a case and add components to be placed on it, click twice on each side of the case to be processed. This will open the 2-D screen, where you can add components and locate them accordingly. To place a component on your case, click on the "fittings-book" at the bottom left. After that, a selection box will open with ten component groups. Select by clicking on it, the part you want to place on your case. The search function in the groups makes it easier to search components. You can also enter a part of search term to find a component. After you select your part, it will be placed on the case. By holding down the left mouse button to move the component, you can rotate it by clicking the button above the right direction, to delete a component, use the "delete" icon at top right. There are several placement assistance tools available:



- Position buttons. You can click these for easy alignment of a component.
- In the four fields (top left), you can choose to determine the distances of the selected component of any case.
- In addition, helplines are switchable that allow you to align your part easier.

If two sides of the same design case, it is easier to use the built-in advantage of copying. You can find this button at top right.



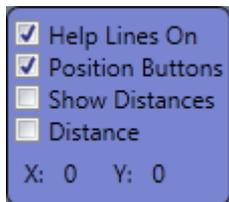
Click on it to copy the components to create the opposite side. All components on the opposite side are then deleted and replaced with a copy of your current view there. To carry out detailed drawings, there is a "zoom bar" below right, in which you can zoom in on details to allow for editing. After you made all entries, click the "check" at the top right to return to the main screen. The case has modified by your changes and the associated components are now added to the existing case.



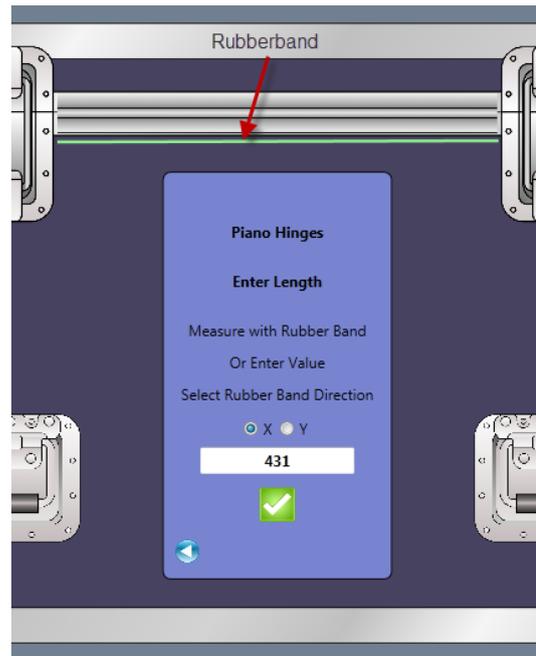
Tip: components can be duplicated by selecting a component and pressing the right mouse button.

A special feature is the placement of butt hinges. These can be found in the "Fitting Book" for hinges.

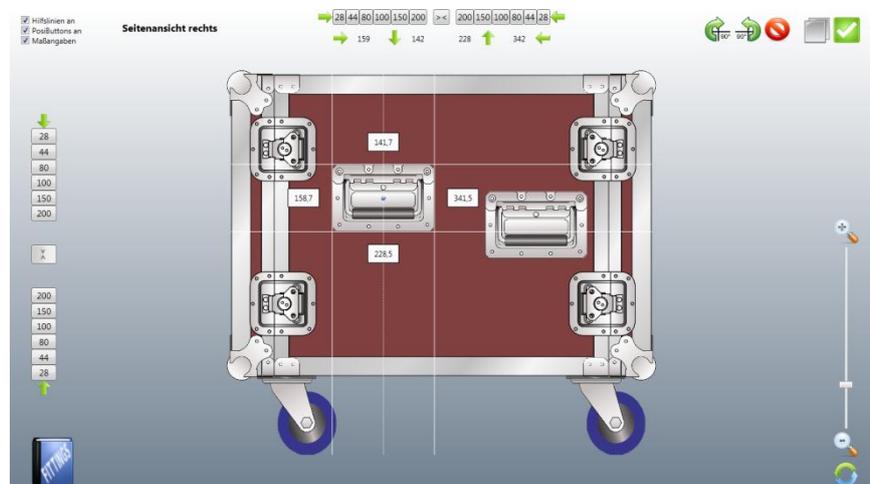
After you have chosen a hinge, it opens a dialog box in which its length is entered. Rather than estimate this value, you can also measure and then add it in the input field. The measuring function is carried out with a rubber band, which is automatically switched on when displaying the dialogue. To measure, use the mouse to the point where the hinge is to begin. Then press the left button and hold it down. Now move your mouse to the point where the hinge is to end. It does not matter whether you measure from left to right or from right to left, the measured value is stored



even while moving the mouse in the box. Choose one of the two radio buttons, whether you want to determine horizontal or vertical values. By clicking on the green check you'll create a piano



hinge to the desired length. The rubber band is always available in the program. If you should need it in other drawings, simply place a checkmark in the Options window top left, and you'll have the feature available. In this option you can turn off and change other display options to on and off.



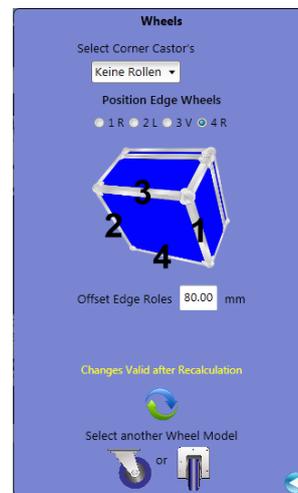
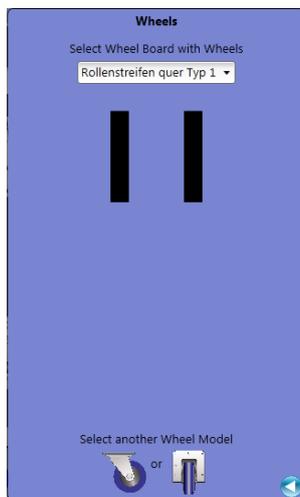
The other images on this page show a list of butterflies as well as an overview of the 2D screen. Once you have placed all the required fittings, exit the 2D screen by clicking the green check mark to the right above. All inputs are now applied and the case is re-drawn and re-calculated.

Wheels

If you are providing a case with wheels, click on the "Options" icon in the "Wheels" section. Now you have the choice between wheelboards and corner castors.

Wheelboards: Choose from one of your previously created wheel sets, by clicking on it in the current selection. This will give you a preview of this selection. If you are satisfied with it, click the "refresh" button at the bottom to create the wheel set.

Edge and corner castors: Alternatively you can use these types of wheels in your construction. Select the desired model, and then decide in what position they are to be placed. For orientation, a labeled case will be displayed, with positions indicated. The field "offset" is used to adjust the distance between the selected wheels and the Case edge. Again, you have to use the "refresh button" button to save your entries.



Extra components

Select the "Extra components" to add items to your case that are not included in the database.

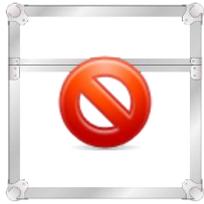
The screenshot shows the 'Extra Components and Work Instructions' panel. It has a title 'Extra Components and Work Instructions' and a subtitle 'Add Penn Elcom Products'. Below this is a table with columns: Quantity, Dime, Part Number, Description, WU, Weight/g, Price, and Total. There are two rows of data. Below the table is a section 'Comments and Work Instructions' with a text input field containing 'Add comments here'. At the bottom, there is a legend and a green checkmark icon.

Quantity	Dime	Part Number	Description	WU	Weight/g	Price	Total
4	St	B1141z	Abdeckwinkel, 51.2x20mm	4	17	0.5	2.00
1			Anything you want to add	10.00	1	2.00	2.00

Interior

Foam selection

To view a case internally, select the inside view icon. If it displays a small transparent case with no foam or dividers that indicates that no foam or dividers are added to the case. If the green check mark is on, it means that you've already entered values to this section.



No Interior Exists



Interior Available

Clicking on the icon enables opens an inside view of a case or rack. You will now be able to add any foam to the base or frame(rack) of the case. Basically entries are always copied the cover (lid). This can be seen in the "chain" icon at top right. So you need to make entries only once.

You can pad all cases internally with foam. If you want to change the internal dimensions of your cases, you can do this again at this point. These values are then transferred to the main screen.

Options available to line your case:

All foam same: With this option, all compartments are lined with the same material.

Single lining: If you want to edit only one case wall, click on it to select the materials for it.

Interior dimensions are allways available after lining is inserted. In addition, you will find a small picture on the bottom left which shows the case outside dimensions.

If you unlock the chain, you will have the opportunity to line the lid differently. You can determine now which pieces of foam you put in the lid. If the lining of the lid(s) is different to the base(frame), this is indicated by a green check mark on the chain symbol.

Partitions

If you select the type **Hinged Lid Case**, there is an option available to place dividers. Click on the button and choose the partition wall material and the attachment type. You can add partition walls by clicking on the "blue plus-symbol". This has now formed another compartment in the case.

Above, an extra input box for the thickness of this compartment is displayed. If you want to take the width from the first compartment, then you can use the "123" button above left. This means that all dimensions of the selected field will be transferred to the new.



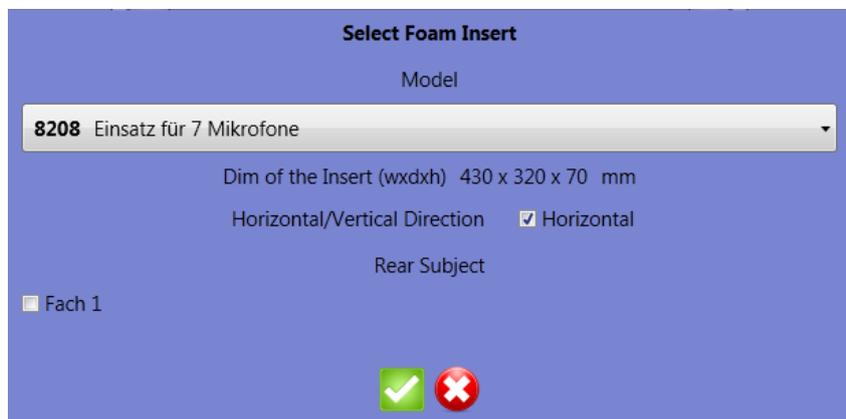
It is important in cases with multiple parts to use a reference field. This reference field is a master field, which all calculations follow. It is shown with a red border. This internal reference field determines the total amount, and will change when other parts are taken away or added. The reference field is always preserved regardless of changes.

Example: In one case there are two fields with the dimensions of 300x300x100 and 200x300x100. You want to line the larger compartment with foam. The smaller case will be only have the base lined with foam. We choose 20mm foam for the left field. This is our reference field, it now has the desired internal dimensions, while the smaller box now has an internal depth of 340mm. The program calculates the data from the reference field. If we now define the second field as a reference field, this has the depth of 300mm, while the left-lined box that is no longer used as a reference field, is now only 260mm deep.

Remember that only the reference field is the base for the case size, because it defines the area required for whatever is to be packed. Other fields are logically subordinate to this, because they e.g. are marked only for accessories. Therefore, the CaseDesigner always uses the dims from the reference field.

Foam inserts

If you want to place one or more of the available range of foam parts in your case, press top right on the "Inserts" button. This opens a dialog box where you can assign one or more inserts parts. The actual size of the inserts will be displayed in the dialog. The case interior height, however, differs from most from these, as protruding parts of the device to be placed in the foam will change this. In the database, these values are stored, so as to be always available for calculations. You can adapt the standard inputs to your requirements. If you work in the 'interior' view, the value is displayed in the "height"-field. Of course you can change this parameter. Remember, however, that a

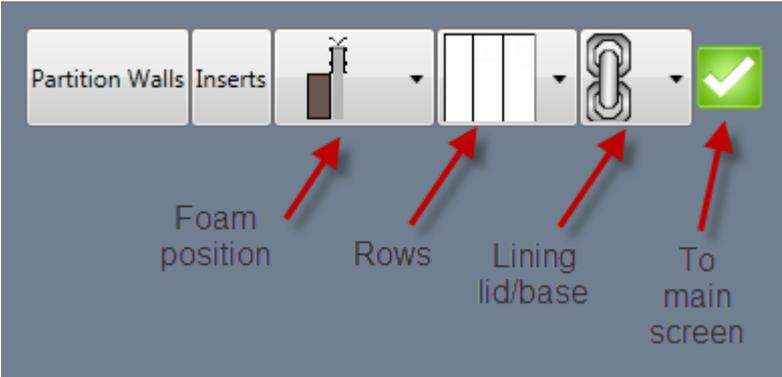


change in height can change the insert part so it will not fit into the case. By default, the initial values in the database are read only when loading. In the dialog, you can determine whether an insert is to

be placed horizontally or vertically, and in which compartment it will be placed. When you are finished with the entries, confirm by pressing the green check. After the foam inserts are placed in the case, the total size is adjusted.

Options

- Chain closed: the lid and bottom of lined cases are the same.
- Open chain: cover (lid) has a different lining.
- Glue the Foam below or parallel to the edge extrusion
- Inserts: You can select foam inserts that you want to place in your case.



Calculations and analysis

Calculation

The program provides extensive opportunities to evaluate your calculations. You can select the menu item "Documents" in the main window. The "calculation" tab makes available the materials and costs in list form, including the manufacturing cost and final price. This view allows you to print. In addition a "zoom" button is available that allows you to specify the display size. All resultant calculations are based on your specifications and inputs.

Parts List

Before you view the parts list, select which areas you want detailed. Select sections to specify how the list will look and print. You can use this window to change the case data by clicking on the "Edit" function. If you want to add images to your printouts, select "images" and add them. They will then be displayed in the partslist. Click on the "green check" to generate the list. You can now view and print.

Correspondence

To print or send documents to clients from this program, select the Documents menu, then select "Correspondence".

Choose Customer

Build a new document first by selecting "New Document" from the menu. Choose the document type which you want to create from the combobox top right (default is set to "quotation").

Then select the customer you want to send the document to. You can either fill in the fields at the top left or choose a customer who is already in the database. Click on the "book" to do this. Now you can select a customer and edit. For foreign customers, value added tax or VAT may not be calculated. To set this option, check on the "Country" option. As default this option should be already set in the database.

Add Case

To add the calculated case to a document, choose the "blue plus" you find in the menu section "Positions". You can also add other items. Select the option "Add other items". If you want to add an earlier created case from the database, do this with the "second" symbol. This will load the Case. You can edit this case now, or directly place it into your docs.

Select a document

Under "Options" you will find the text files for the respective documents. You can set your e-mail texts and texts for other document types. It is recommended to edit these texts at program start, then save them by clicking the "diskette icon". You can change the document's title and its contents. Save your work by clicking on the "diskette icon" to make these specifications available for the next program start.

In this section you can also set the backgrounds of your documents. You can choose your own images here. The CaseDesigner offers two templates which you can change according to your personal needs.

Furthermore you can edit all document headings and their shortform in this section. Also the starting numbers of your documents can be edited or reset here.

Add images and attachments

You can add 2 images to each document and one e-mail attachment. Select from below on the left.

Loading and saving documents

Before you proceed you have to save your document first. Without saving you cant print or email, because the document does not exist yet. Press the "diskette icon" in the menu "database". A document number is selected automatically by the program. You can also store a document as an external file. In that case you'll have to input your own document number. Documents can be accessed at any time by clicking on the menu item "Load". Please note that the currently displayed document will not be saved when closing, you should always save so you do not loose a document.

Print or send documents

In addition to printing your documents, you can send your documents either by e-mail or by creating a PDF, which can be used in other applications. If you have filled in an email address in the customer record in the database field "Email", it should be shown here. You can add additional addresses in the "cc" field by placing a checkmark here. Clicking on "Me" will send a cc to yourself.

Document parking

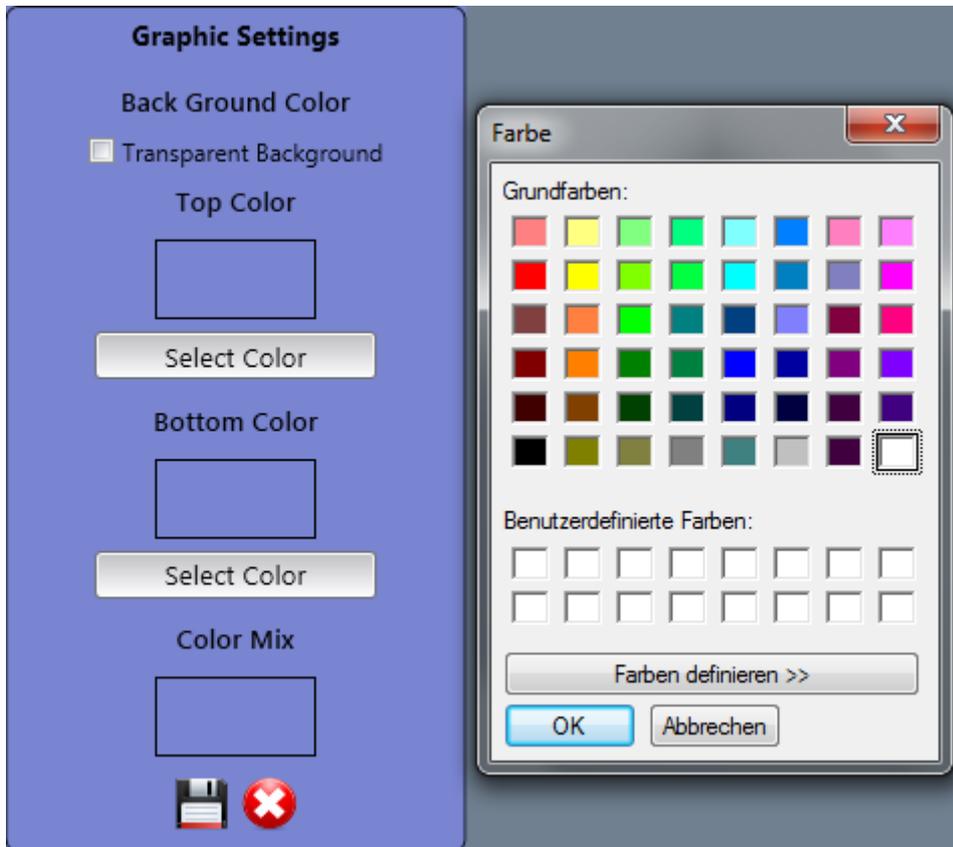
All data in the correspondence module remains in memory, if you minimize it using the "minus-icon" top right. This creates an icon at the bottom left and will be visible and can be accessed at any time for further processing. If you close the document window with the "red-x" icon, data will be lost. A dialog displays you a warning in that case.

Note: If you want to create multiple invoices with the Casadesigner, you must add an invoice number or order number to each document. This is done by selecting and entering data into the "order number".

Graphical functions

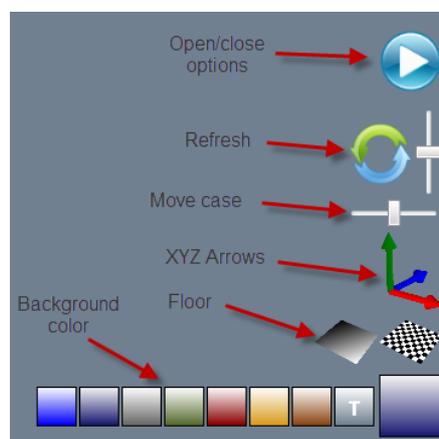
Background color

You can choose "your" own background color. Select the "background color" button in the menu "Options". You can now select the two colors (top-bottom) with which the gradient is created. You can also create single-color backgrounds. Set both values the same. If you prefer a transparent background, check this option. Save your settings with one click from the disk icon.



Background Options

On the main screen you will find the blue "arrow" symbol. If you click it, you get a variety of background options to choose from. You can now choose different layers, choose the background color from eight preset or move to the case. Note that these settings apply only for the current session and will not be saved.



TIP: If you have selected one color or have a gradient background activated, you can disable it by clicking on the "T". Thus the background is transparent, so your case appears to blend in the background in every page.

Screen

In the icon bar at the bottom center you will find some additional functions:

- *Full screen mode:* Click here to clear the display fields and click again to display.
- *Folding:* Select this to display the external dimensions of the case. These data will be saved to your images.
- *$E = mc^2$:* Here you can see how the case was calculated.
- *Catalogue:* Click the Penn Elcom fittings catalog to give you further information about products.
- *Globe:* Visit Penn Elcom's website.
- *Info button:* You can access further information and the manual of your case designer.

Create your own images



In many areas of the program you can create images of your work and save it. This is not just a simple screenshot, in which all areas of the screen are included, but a copy of the case or the view without the surrounding elements. Only the selected parameters for backgrounds or measurement will be included. These images are then available for all your presentations.

Ordering module

In using the order module, refer to the main menu option "Documents / order fittings". Above left you will see your own customer data at Penn Elcom and the current order number. Add an item by clicking on the "+" symbol on the left.

Selection of components:

Select a list view where so you can see all orderable Penn Elcom products. The search function allows you to find products more easily. You also have the option to click on the column headings in order to get more sorting options. If it is a discontinued line, this is marked with a check mark. If a replacement item is available, you find it in the "substitute" section. If you find an item to select, you can move the mouse to the "Info" button to receive additional product information. You can preview images and additional information of your selected items online from Penn Elcom's website. Please keep in mind that the computer must be online to use this option.

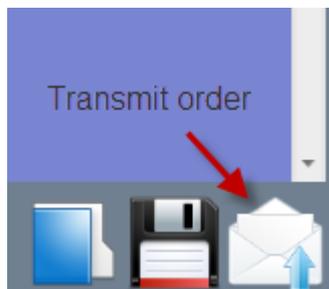
Load and Save

This option will help designers in finding the correct ordering solution. Depending on the sales item, values are rounded to the right amount. For sheet materials, where values can vary, you can choose the "Selection Bar" and make the right inputs. When you finished making your order, you will see the total cost of the order below. You can save this order and use it again.

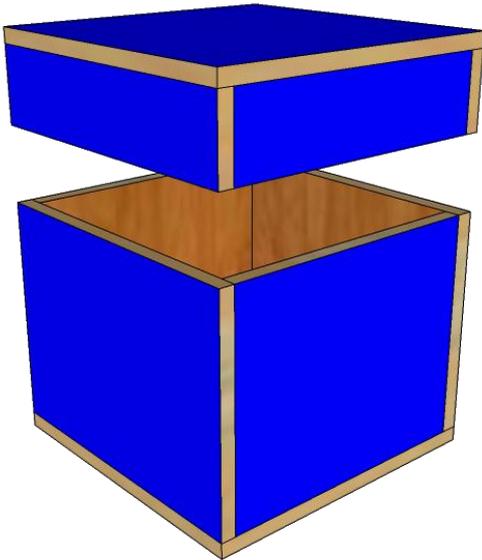
Electronic Order

The placement of the order to Penn Elcom works by remote data transmission by clicking on the "envelope" to send the order. You can also add comments.

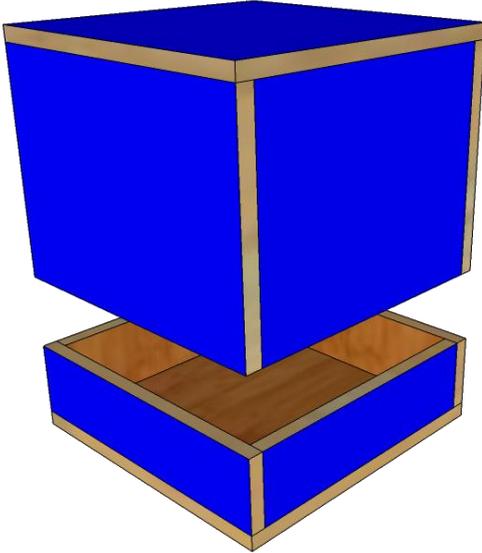
If you require a different delivery address, you can add this by clicking on "Edit" and selecting the check mark.



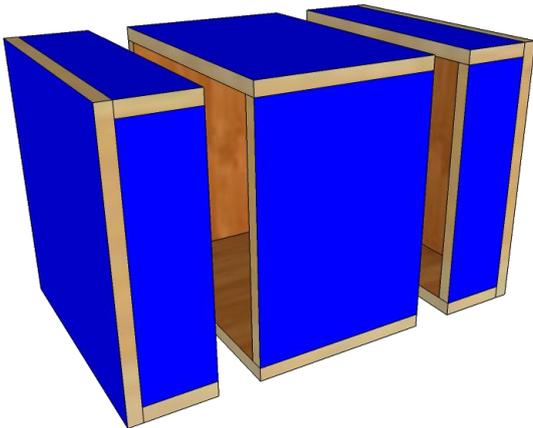
Case Types



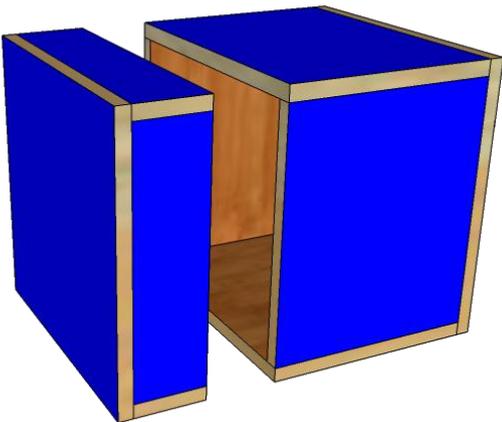
Hinged Lid Case



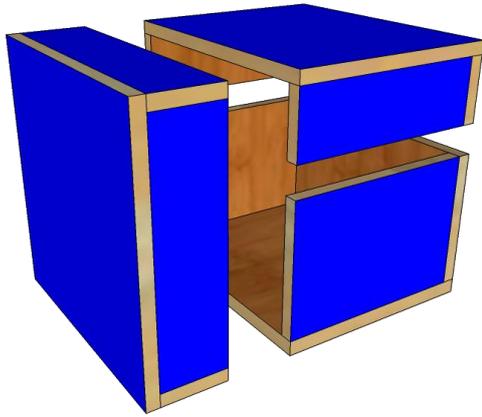
Lift Lid Case



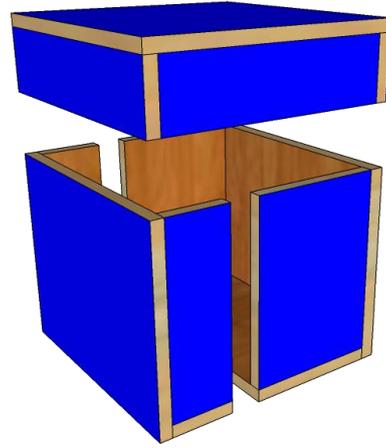
Double Door Rack



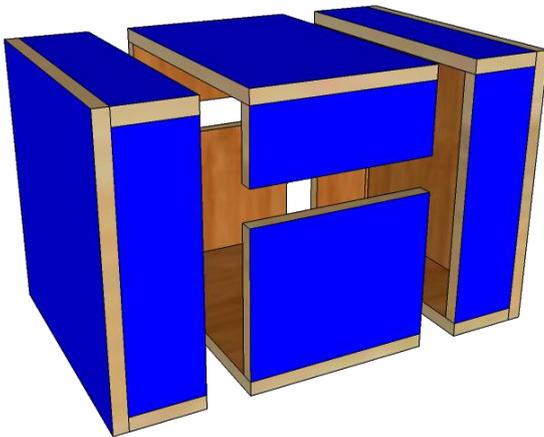
Single Door Rack



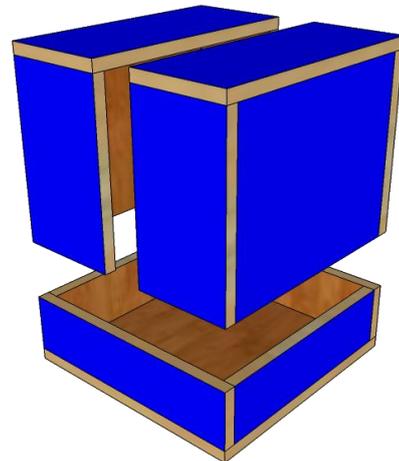
L-Rack 2D Type1



L-Rack 2D Type2



Triple Door Rack



Split Lid Case