User manual
Columbus

for Casablanca

Legal notices

To avoid making mistakes during operation, we recommend that you carefully follow the instructions provided in this manual.

We would also like to point out that the **Columbus** software has been designed with the hobby enthusiast in mind.

We have taken a great deal of care whilst programming and checking this software.

Nevertheless, since it is not possible to guarantee totally error-free software applications in all environments and at any time, we unfortunately cannot rule out the possibility that some errors may have crept in.

If, contrary to all expectations, this is indeed the case, we shall remedy any errors in the program and supply the affected customers with the new software free of charge. We cannot, however, accept any liability for loss of data/time or any consequential damages that may occur as a result, particularly since we have no influence over correct software installation and operation by the customer. **MacroSystem Digital Video AG** and its dealers therefore cannot be held liable for any defects or unintentional damage in connection with the installation or use of the **Columbus** software.

MacroSystem Digital Video AG and its dealers do not guarantee fault-free use of the product or complete flawlessness of the product.

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Neither **MacroSystem Digital Video AG** nor its dealers are responsible for any damages resulting either directly or indirectly through the use of the software or the operating instructions, e.g. for profit loss, costs, hardware or software problems or other problems.

Please therefore ensure that you backup your video footage before using the device. We recommend that you do not delete the video footage and that you create a backup on DV tape beforehand.

Since it is possible that changes have been made to the software after the manual was printed, the functions shown and described in this manual might differ from the software.

Contents

1. General information

1.1 General information

Thank you for buying Columbus from your dealer!

We would like to thank you for placing your trust in us and hope that this product will fulfill your expectations.

Columbus will help you get even more out of your Casablanca.

Please do not hesitate to contact us if you have any further questions or wish to suggest ways of improving the product.
To contact us, please refer to the addresses and telephone numbers printed in the Casablanca manual.
We kindly ask you to provide the serial number of your device or your customer number whenever you contact us.

1.2 What is Columbus?

Columbus is a totally new program that has a wide variety of uses. Its primary function is to help you display your travel routes clearly on maps or street plans. The large variety of options allows you to change the look of your projects in many ways.
You can import maps or access the supplied maps in the image pool. You can place objects on them (e.g. locations in the town) and label the map with town names using all the fonts installed on your Casablanca. You can use waypoints to trace out straight and curved stretches of the route, and you can move objects such as cars, airplanes, ships, arrows, etc. along these paths. You can insert pauses in the journey at key points and use video footage that you recorded en route to show the viewer the various sights at the various locations.
You also have the option of highlighting particular parts of the picture, e.g. people or objects.

You can let your imagination run wild! Columbus also allows you to check your settings at any time in full-screen mode thanks to the real-time preview function.

## 1.3 Installation/starting the program

To install the Columbus software, leave your Casablanca switched on and, in "**System Settings**", select the "**Install Product**" button to open the corresponding window. Now insert the SmartMedia installation card into the Casablanca's drive. When you insert it, make sure the gold-colored contacts are facing downwards and the beveled corner is on the left pointing towards the front (i.e. towards the Casablanca).

After you insert the card, you will see the Columbus software listed in the window. Select it in the list and click on "**activate**".
A numerical keypad appears. You can use it to enter the license code that you purchased from your dealer. A message will then inform you that the installation process has completed. You can now remove the SmartMedia card.

If you want to install Columbus as a demo version, first select the program and click on "**activate**", and then click on "**Cancel**" in the numerical keypad window. Afterwards, remove the SmartMedia card. You will now see the word "**Demo**" appear after the program name. Columbus is now installed as the demo version.

After you have installed Columbus, you will see it listed alphabetically in the "**Edit**" menu under "**Special**".
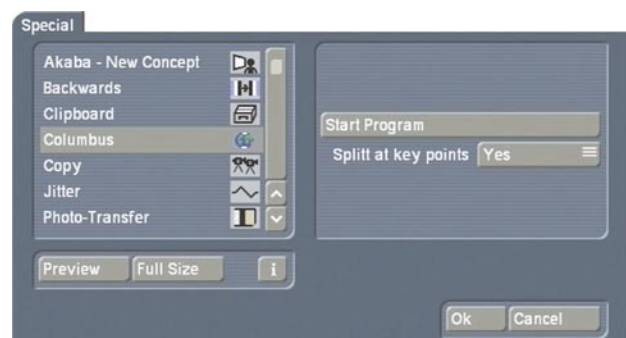
You can start the program by clicking on the "**Start program**" button that is shown in the right screen area (effect options). The activated scene in the scene bin serves as the background and generally shows a map. Only the first complete frame is used from the scene and is repeated as many times as necessary for later calculations in order to create a new scene of the required length.

If you want to incorporate pauses in the Columbus (i.e. pause times greater than 0 seconds), the software can automatically generate several scenes during later calculations. In order to do so, set the second effect option "**Split at key points**" to "**Yes**". If set to "**No**", a single continuous scene will always be generated. You can stop and exit Columbus by clicking on the Edit button in the bottom right of the Columbus menu – it is not possible to cancel using the right trackball button.

Columbus automatically saves all the changes made so that if you interrupt your work, you can resume it at any time. If, however, you use another scene in the meantime, you will see your previously created route against this new background – you can then continue working on it or you can return to a simple line default by clicking on the "**Default**" button.

1.4 Notices regarding other programs:

Columbus supports the **Power Key-Option**.
To view the available key codes, please press the "**F2**" key.
In Chapter "**4. Notes on the Power Key-Option**", you will find additional functions that are, to some extent, not available using the trackball.

1.5 Tips on recording maps

Columbus is supplied with a range of country and continent maps. Since it is naturally impossible for us to provide all the different types of map that you might need, you will no doubt want to use your own maps or street plans. In order to do so, you have to video them. To achieve the best results possible when doing this, you should take note of the following:
• Use a tripod to prevent camera shake.
• Use weights (heavy objects) to keep the edges of the atlas page flat and to smooth out folds in the map.
• Use a sheet of glass to flatten out the atlas page but watch out for reflections caused by the glass.
• If you have the Casablanca program **PC-Link** that allows you to exchange data between the Casablanca and your PC, you can scan the map using a flatbed scanner, then edit it if necessary on the computer (cut and crop), and then transfer it to your Casablanca.
• Make sure the lighting conditions are suitable.

After you import the map into your Casablanca, you can edit it before using it. You can use such effects as "**Control Image**", "**Control Color**" and any other image processing effects. And bigger programs like **Akaba - New Concept** are also very useful to use too.

2. Operation

2.1 The route

A route, e.g. the course followed by a stretch of road, is defined by positioning various waypoints and then by tracing out (drawing) a line over a variable period of time. The starting, finishing and key points can be specially emphasized and you can influence the way the line develops.
A route comprises several elements that are displayed and listed below:
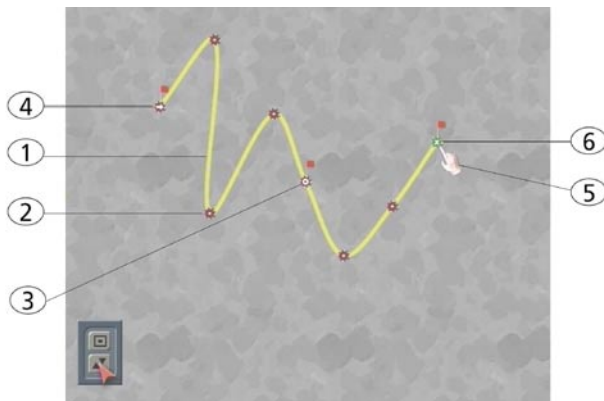
(1) Line
The line can be displayed in various ways and the following line properties are available:
• Various line thicknesses
• Various colors (invisible when alpha = 0)
• Various line patterns
For certain parts of the route, you can make the line appear angular (e.g. for roads) or curved (e.g. for air routes).

(2) Way points
Way points are used to trace out the course that the route takes. They are only visible during editing but not in the final results.

(3) Key points
You can place key points along a route. You can then label them in various ways, though generally you use the same type of label for all key points so that you can easily make global changes. You can also define pauses in the line's growth at key points. These can be simple pauses or interruptions to the generated scene. In the second case, you can interrupt the video footage to display how the various route sections develop throughout the film.

(4) Starting point
The starting point for drawing the route is the origin of the line. Other than that, the starting point provides you with the same options as a key point.

(5) Head
You can optionally provide the head (leading end) of the growing line with an additional label that moves as the line grows (e.g. an arrowhead, hand, car, etc.). An object moving with the head can be made to automatically change direction to point in the direction that the line is developing.

(6) Finishing point
The finishing point represents the journey's destination and provides the same options as a key point.

Various symbols positioned inside the colored points on the route are used to represent the above mentioned points. These symbols are shown in the table below.

Symbol	Name
→	Starting point
•	Way point
O	Key point
✕	Finishing point

Starting and finishing points
If you have not done any editing yet, the starting and finishing points that are connected by a line are generally displayed in a position outside the menu bar area. The starting and finishing points are clearly marked as such and can be repositioned and edited like any other point. However, you cannot delete them.

Setting points

To set a new point, position the trackball pointer at the required position on the line and click on the left trackball button. A new waypoint (green) appears.

Activating points

You can activate an inactive point (red) by clicking on it. It changes color (green) but its position remains unchanged.

Repositioning points

You can reposition all the points on the map display. You can "pick up" an active point (green), which as a result changes blue. Whilst you are repositioning the point by rolling the trackball, the curves automatically change shape to suit the new position. Clicking again causes the point to be "dropped" at the new position. Clicking on the right button cancels the repositioning operation.

Deleting points

You can delete an active point (green) by clicking the right trackball button. To do so, the trackball pointer must be positioned directly over the point.

2.2 Transition effects

In the Transition Effects menu, you have the option of inserting various fade effects to enhance the way the map display fades into the video scene (and back again). To create these transitions, you must set the pause time in the software at the set key points to a value greater than 0, and then set the "**Split at key points**" effect option to "**Yes**" in the "**Special**" window before the calculations are carried out. This causes the sections that are generated during the calculation process to be saved separately in the scene bin so that they can be joined to the video scenes using the effects.

These effects therefore allow you to switch back and forth between the map display and the normal film footage at various key points along your journey. You can of course also do this without using these effects or by using any

other transition effects – the Columbus effects, however, give you the advantage of being able to generate a very precise fade effect.

The available effects are **Rotate**, **Circle**, **Rectangle** and a **Zoom**.

All the effects naturally also have additional effects options with which you can create your own custom fades: first of all, select the "**Direction**" of the fade. "**Col. -> Video**" fades from the map scene (left in the storyboard) to the video scene (right in the storyboard). The "**Video -> Col.**" option on the other hand fades from the video (left) back to the map (right).

You can use the "**Select destination**" button to select the required point at which you want the video scene fade-in to start. Depending on the setting of the "**Direction**" button, the map image will always be displayed whilst this is taking place. The "**Position**" function allows you to position the small marker over the center of the symbol that represents the key point that you require. If you do not see the map display here, please check the setting of the "**Direction**" button. You cannot activate the "**Size**" function.

The additional settings depend on the effect being used:

The "**Columbus Rotation**" effect provides you with the "**Rotation**" option (which allows you to specify the number of scene rotations) and the "**Trail**" option (which generates trails of "ghost images" behind the rotation that continuously become more or less transparent).

The "**Columbus Circle**" and "**Columbus Rectangle**" effects provide you with the "**Threshold**"

effect option, which allows you to set the blurri-
ness of the scene in percent.

3. The menus

When you first see the Columbus user interface it might seem a little complicated. We shall now explain the various controls to help you find your way through the extensive menus.
At the top left edge of the Columbus menu you see six buttons showing various symbols. They represent the six main menus that are described below.

If you click on one of these buttons, the name of the menu that opens as a result is displayed in the top line of the little box in the middle. You will therefore always precisely know in which menu you currently are.
The top four buttons switch to menus that relate to the active (green) point. So first of all make sure that the required point is green.

3.1 "Points" menu
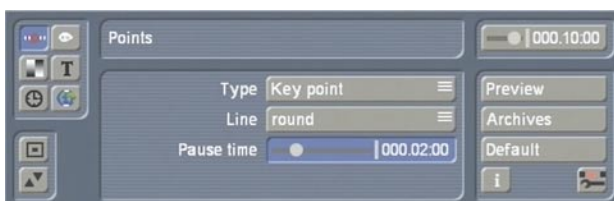
The "**Type**" option allows you to switch between "**Way point**" and "**Key point**". A waypoint only influences the course the line takes but is not visible in the finished video. The key point, on the other hand, is generally linked to a visible object (e.g. a flag) and provides you with additional options.
You can use the "**Line**" button to select how the line behaves in the area around the point. Usually "**rounded**" is selected to ensure a smooth curve. If "**angular**" is selected, the line will bend sharply at this point.
The "**Pause time**" option allows you to set a time during which the line progression is halted at that particular key point. You can use this function if you want to insert a somewhat longer commentary at this point or if you want to use a transition effect to fade out from the route display to another video scene.
A new scene can be generated automatically at a key point during the calculation process if the pause time is greater than 0 (must be set in the effect options). The break takes place half way through the pause time.

## 3.2 "Look" menu

This menu can only be accessed for key points. The "**Look**" option first of all allows you to switch between "**Object**", "**Position**" and "**View**". All three settings allow you to select between "**Local**" and "**Global**". The "**Object**" setting also allows you to select "**Off**", which means that no object will be displayed at this key point regardless of what the global settings specify.
Usually all the buttons are set to "**Global**", which ensures that the global settings are applied to the key point. This means that all the key points look the same and can simply be changed globally.
Only in rare cases is one of the three components set to "**Local**" in order to make changes to the selected point independent of the other functions. You can use "**Select object**" and then change the "**Size**".
The available options for the global changes can also be found in the "**Global settings**" menu (Chapter 3.6) under "**Key object**", "**Key position**" and "**Key view**" and are explained there.

3.3 "Transition" menu
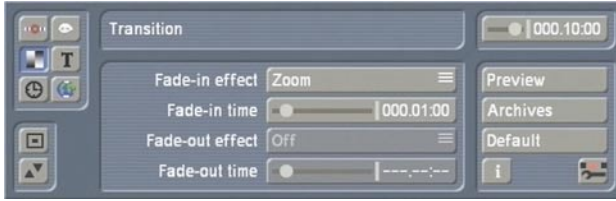
This menu can only be accessed for key points. This is where you can configure settings for the head object relating to how it fades in or out at the key points and how long the transitions take to complete. At general key points, you can separately select the required fade-in and fade-out effect as well as their transition times. At the starting and finishing points you can only configure a fade-in or a fade-out. The times can only be adjusted if an effect has been selected.

The available transitions are as follows:

Transition	Description
Off	No transition takes place. The slider for adjusting the time is locked.
Smooth fade	The object is smoothly faded in or out.
Light up	The object briefly lights up and is then faded.
Zoom	The object grows smaller when fading out and grows in size when fading in.
Global	The global settings for the transition are applied at this point.

3.4 "Inscription" menu

This menu can only be accessed for key points. A text can be entered at every key point independently of one another. Clicking on the "**Text**" button opens the keyboard that you are already familiar with and allows you to enter a label.

You can also optionally enter the text using an external keyboard. The text can be positioned independently of the position of the route and the position of the displayed key object so that no overlapping occurs. To do so, you can set the "**Position**" relative to the point and the "**Distance**" in percent. The text appearance (font type, color, etc.) can be changed globally in the „**Global settings**" menu (Chapter 3.6) in „**Text attributes**".

3.5 "Timing" menu

You can use the "**Route**" slider to set how long the actual journey along the route should take. The shorter the time, the quicker the route is displayed. The "**Pause**" times and "**Transitions**" that have been defined for the individual points appear here as well and increase the length of the "**Total**" time and therefore the length of the generated scene(s) that you will get after the calculations have been carried out.

3.6 "Global settings" menu

This is where you will find the various global settings, i.e. those settings that apply to the entire project and not to individual points. You can use the "**Global settings**" selection button to switch to them.

3.6.1 Line

In "**Draw line**", you can first of all configure whether a line should be drawn or not. If yes,

you can select the "**Line type**" (continuous or various types of dashed line), the "**Line width**" and the "**Line color**".

If you have configured the setting so that a line will not be drawn out, you will see a thin grayish white line instead which displays the course that the route takes. This will of course be left out when the calculations are carried out later on. Even if the time control in the top right of this menu (Chapter 3.7) is not set to maximum, the dashed-line setting will still be selected for the remaining time of the scene.

3.6.2 Text attributes

You can use any font installed on the Casablanca when working with Columbus (except for the DEMO fonts). Under the "**Select font style/size**" setting, you can configure the font type and size. You can use "**Font color**" to set the color in which the font will be drawn. "**Outline**" can be used to draw an outline around the letters (the outline strength can be adjusted) and the "**Outline color**" allows you to select its color.

3.6.3 Key object

The key object is an object that is displayed at the key points. It is displayed in exactly the same way at all the key points that have their key objects setting set to "**Global**" (default setting). Firstly, the key object display can be activated or deactivated using the "**Show key object**" setting. If it is activated, you can select the object using "**Select key object**". A selection window (similar to the familiar pattern selection window - see Chapter 3.11) opens allowing you to make

your selection.

Furthermore, you can adjust the "**Object size**". The „**Key position**" and "**Key view**" selection items in the "**Global settings**" allow you to change the position and the rotation of the objects.

3.6.4 Head object

The head object is directly linked to the line growth and moves simultaneously with the head of the line (i.e. the leading end). Basically the same selection and settings options are available as for the key objects. An additional setting for "**Head object**" allows you to make the direction of the head object change automatically. If "**Auto direction**" is activated (default setting), the head object is continuously rotated automatically so that it points in the direction in which the line is growing. This ensures, for instance, that an aircraft symbol will always appear to fly forwards and not sideways or backwards. This option should be deactivated for 2D objects. You can change the position and rotation of head objects using the "**Head position**" and "**Head view**" selection items.

3.6.5 Transition

This is where you can define a transition that applies to all key points whose transition setting has been set to "**Global**".
The settings correspond to those in the "**Transitions**" menu.

3.6.6 Light

Many Columbus key objects or head objects are three dimensional. This effect, however, is only seen clearly if the lighting is simulated. In this submenu you can use the "**Use light**" switch to activate and deactivate the lighting. You can also use the „**Light**" button (type of light) to change the "**Light direction**" and "**Light color**".
Note: If the color of the light is not white, all the objects will be slightly colored by it. So if the color of some objects appears different to how you imagined they would look, please check the lighting settings.

3.7 Time control

In the top right of the main menus, you will see a slider control that you can use to set the particular point in time at which you want the current route display to be used (you can adjust this slider control whenever you like). Normally it should be set to the maximum value (to the far right) to ensure that the whole route section is always visible. The default setting for the maximum value is 10 seconds, though this can be changed whenever you like using the „Route" control in the „Timing" menu (Chapter 3.5). The times stated here exclude the times needed for transitions or pauses.

3.8 Preview

In contrast with other Casablanca programs, the Columbus shows a full-motion preview in full-screen mode. The menu bar and the trackball pointer are not available during the preview, so you can only prematurely cancel the preview by clicking on the right trackball button.
Depending on the complexity of the Columbus project and on the Casablanca model that you

are using, the preview display might not appear to be totally smooth. However, the timing will generally be accurate. You might notice some imprecision in the display but this will not be visible later after the calculations have been carried out.

3.9 Archives

This is where you can store entire routes alongside all the settings so that you can use them as many times as you like.

3.10 Default

You can use this button to delete the created route alongside all the settings and reset the software to the predefined default values. The system asks you for conformation first.

3.11 Selecting objects

Columbus provides a special window for you to select objects for the key points (also starting and finishing points) and for the head of the line. Its user interface is similar to the pattern selection function (image pool) that you are familiar with from the Casablanca system. These kinds of objects are currently only supported by the Columbus program.
The "**Type**" option allows you to switch between 2D (flat) and 3D (three dimensional). However, you can later rotate both types as you wish. To select an object, simply click it in the list. The object is shown on the right with its name and an animated preview.
You can end the selection process by clicking on "**Ok**". If the "**Ok**" button is locked (i.e. you cannot press it), the object in question is only installed as a demo and so cannot be used in the Columbus.
Note: 2D objects should only be used for key points since they are not particularly suitable as moving head objects.

Supplied maps:

Columbus is also supplied with some maps. To use them with Columbus, proceed as follows: Open the Edit menu and select the "**Pattern**" effect under "**New**". Next, click on the „**Select Pattern**" button there. In the window that sub-sequently opens, first set the "**Product**" button to "**Columbus**" and then, if necessary, set the "**Type**" button to "**Images**".
Now you can select a map and confirm your choice with "**Ok**".
The length of the scene that needs to be created is not relevant since Columbus sets the precise length automatically – so set a length of about one second. The created scene that displays the selected map is now contained in the active frame in the scene bin, so you can start Colum-bus.

4. Notes on the Power Key-Option

Besides providing key shortcuts for the existing buttons that you can access using the "**F2**" button, Columbus also provides a whole range of functions that to some extent are only available using the keyboard. The various control options accessed using the keyboard are only available if the Power Key Option is activated.

They are listed in the following table.

Key combination (s)	Description
Ins	This key creates a new waypoint and configures it with the default values. To set the waypoint, you must place the trackball pointer over the required position on the route.
Ctrl Ins	This key combination creates a new key point and configures it with the default values (trackball pointer must be placed over the position on the route).
Del	The currently selected waypoint or key point (green) is deleted. Starting and finishing points cannot be deleted.
Ctrl c	This command copies the settings for the currently selected point into an internal memory buffer („clipboard").
Ctrl v	This combination applies the values that you previously copied using <Ctrl c> to the currently selected point.
Ctrl i	This creates a new point using the values that you previously copied using <Ctrl c> (trackball pointer must be placed over the position on the route).
Ctrl s	The currently selected point changes state from "way point" to "key point" or vice-versa.
Enter	The currently selected point (green) is activated (blue) thus allowing you to move it. To move it, you can use the cursor keys whilst pressing and holding down the <Nav> key (compare also <Ctrl Nav Cursor> in the Power Key Option manual). After you have moved the point, you can "drop" it in position by pressing <Enter>.
Esc	You can cancel moving an active point (blue) at any time by pressing <Esc>. The point turns green and jumps back to its original position.
Home	The starting point of the route is selected (green).
End	The finishing point of the route is selected (green).
Pg Up ▲	The next point along the route towards the starting point is selected (green).
Pg Dn ▼	The next point along the route towards the finishing point is selected (green).
F13	Preview - even if the toolbar has been minimized.

5. Application examples

We recommend that you work through the following application examples in order to familiarize yourself with how Columbus works.
The example exercises and tips do not of course relate to all the functions included in the program. However, they do provide you with a good starting point from where you can easily learn to recognize and use the other functions after a little practice. For further details on the functions of individual buttons and controls, please refer to the previous chapter. The examples have been specially put together for newcomers to the program and therefore introduce you slowly to the various controls. Afterwards, we recommend you try out your own ideas.

5.1 Creating a route

In this example you will learn how to operate the Columbus program, how to use simple effects and how to create a simple route traced out by a hand symbol.
Open the "**Edit**" menu and either select a map of the world that you have imported yourself or use a map from the image pool. Open the "**Special**" menu, select "**Columbus**" and click on „**Start program**".
You will now see your map in full screen mode and the Columbus toolbar appears in the foreground.
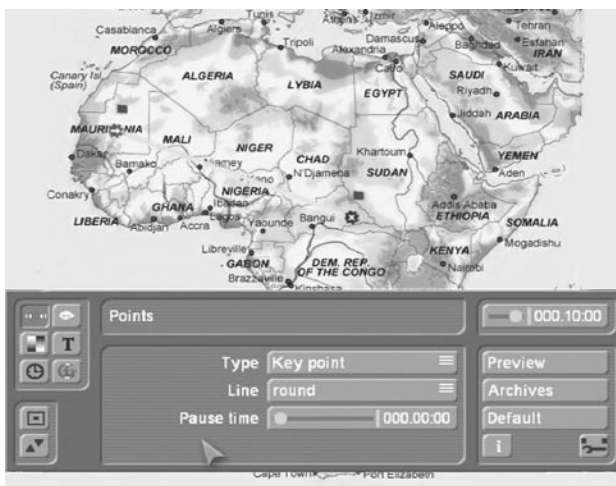
If you have already configured some of the program settings earlier on, please click on the "**Default**" button and answer the confirmation request with "**Yes**". You will see a yellow diagonal line that has a starting and finishing point each labeled with a little flag.
Now click once on the green starting point (on the left) so that it turns blue. You can now move it by rolling the trackball. Position the point anywhere near the left edge of the screen (e.g. on the city of Casablanca) and click on the left trackball button again to confirm the new position.
Next, click twice on the finishing point so that it first turns green and then blue. You can now move it to a city near the right edge of the screen (e.g. on Kairo). Afterwards, confirm the new position by clicking on the left button again.
Next, position the trackball pointer over any position on the yellow line and click on the left trackball button. You will see that a new point has been set. Repeat this procedure a few more times until you have several points evenly distributed along the line.
Now click on one of the points that you have just set. If it is red, click on it twice so that if first turns green and then blue. If it is already green (i.e. active), just click on it once.
The blue point can now be repositioned in the same way as you moved the starting and finishing points. Position the points one after another on your map so that you create a few stopovers in other cities (e.g. Dakar, Lagos, Nairobi, Addis Ababa).
Now open the "**Global settings**" menu by clicking on the following symbol.

In this menu, set the top selection button to "**Head object**", activate the "**Show head object**" function and click on "**Select head object**" to choose a symbol for the leading end of the growing line. In the selection window that then appears, you will see 2D and 3D objects (can be set under "**Type**") of which some are better suited for use as key points and others as the head object.
Select the "**Right hand**" symbol (3D object),

confirm your choice with "**Ok**" and click on the "**Preview**" button.

You will see the hand move along the line. Afterwards you see the toolbar appear again - make sure that the „**Auto direction**" function is activated on the toolbar.

To make the whole thing look more realistic, you need to make the pointing finger on the hand appear to trace out the line – to do so you have to change a few values.

Set the selection button to "**Head position**", then set the "**Distance**" to 20% and the "**Angle**" to 80° so that the hand initially is positioned at a distance from the finishing point.

Afterwards, set the selection button to "**Head view**", then set a value of 10° for X and 0° for Y and -60° for Z.

If the entered values do not prove to be very accurate, please feel free to experiment a little with them.

We should now change the line that is drawn by the object a little. To do so, in the "**Global settings**" selection button, select the "**Line type**" function. This is where you can change the type, width and color of the line to ensure, for instance, that the line contrasts better against the background.

Now look at the "**Preview**" once again, save your example (e.g. under the name "Africa") in the "**Archives**" and then close the program by clicking on the "**Edit**" menu symbol in the bottom right corner. Next, close the "**Special**" window by clicking on "**Ok**" so that the scene is calculated with a length of 10 seconds (default value). The setting for the "**Split at key points**" control in the "**Special**" menu is irrelevant in this case, since you have not set any key points other than the starting and finishing points.

5.2 Changing how the key points look

This example explains another settings feature – the "look". You will use a map of Europe and then change the appearance of the starting and finishing points. You can change any defined key point using this method.

Open the "**Edit**" menu and either select a map of Europe that you have imported yourself or use a map of Europe from the image pool. Make sure that the scene that you want is marked in the scene bin and then start the Columbus program. You will see map of Europe displayed, and the menu area will appear in the foreground.

Now click on the "**Default**" button again to make the yellow line appear, and reposition the starting and finishing points over any locations in any country (e.g. London and Warsaw). Set additional way points in order to create a realistic looking route.

Then select the starting point to activate it (green), and click on the symbol for the "**Look**" menu.

In this menu, you can change the settings for the starting point. Make sure that the "**Object**" func-

tion is selected for "**Look**".

By default, the "**Object**" selection button is set to "**Global**", which means that the global settings from the "**Global settings**" menu are also applied to the currently active point. In order to make it possible for you to enter individual settings here, select the "**Local**" option for "**Object**". The starting point object is now no longer displayed.

Next, click on the "**Select object**" button and select an object from the window that subsequently appears, e.g. select "**Pin 2**" (3D object). You can also give the objects a different color so that they fit better into the overall look. To do so, click on the "**Color**" button beneath the object preview and confirm your selection with "**Ok**". You will see the new object at your starting point and can now set its "**Size**".

To make things look even better, you also have other options available to you to help you change the look. To do so, set the "**Look**" selection button to "**Position**". If you have the starting point positioned close to an important location on your map (e.g. London), you should nevertheless have the pin "sticking" in the city itself. You can change the position of the pin in such a way that it is „pinned" precisely in the town. To do so, set the "**Position**" to "**Local**" and adjust the values for "**Position X**" and "**Position Y**".

Next set the "**Look**" to "**View**", and then set the "**View**" setting itself to "**Local**" – this then allows you to rotate the pin about its point on the route in order to either uncover covered parts of the map or to simply improve the overall look. To do so, simply change the values for the X, Y and Z angles and see how the display changes.

You can now make changes to the finishing point in a similar way to the previous settings changes you just made.

You cannot change the appearances of waypoints since they are not visible in the final video anyway – if you do want to make them appear and make changes to them, you first have to turn them into key points.

In addition, you can add a head object (see example 5.1).

After also saving this exercise in the "**Archives**", you can let the route be calculated.

The setting for the "**Split at key points**" control in the "**Special**" menu is also irrelevant in this example, since you have not set any key points other than the starting and finishing points.

5.3 Fading the head object in and out

This example is based on an already existing route, so after you activate a map of a continent and start Columbus, you should create a totally new route or load one from the Archive – for instance, the one you created in the first exercise ("Africa").
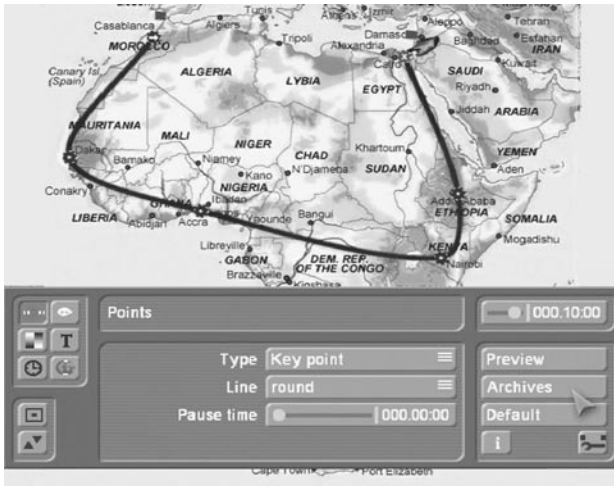
You will now use the route you created to learn about another settings option called "transition".

You will use the "**Transition**" menu to change the look of the head object at the point in time at which the object reaches the finishing point. Select the starting point on your route so that it turns green, and then click on the symbol for the "**Transition**" menu:

In this menu you can now change the settings for the starting point. In the transition settings, only the „**Fade-in effect**" and the "**Fade-in time**" buttons are currently active because the starting point is selected. If, on the other hand, you activate the finishing point of your route, only the "**Fade-out effect**" and the "**Fade-out time**" buttons will be active.

If you view the route using "**Preview**", you will see the head object that you selected appear fully in the very first frame and it will be visible at the finishing point until the very last frame. Since, however, you want your head object to fade in at the start and fade out at the end, you

should first activate the starting point and then set the "**Fade-in effect**" button to any value except "**Off**": you can choose between the three transition effects "**Smooth fade**", "**Light up**" and "**Zoom**". (The "**Global**" transition setting uses the standard settings for the transition that have been configured in the "**Global settings**" menu item.) In this case, select the "**Zoom**" transition setting.
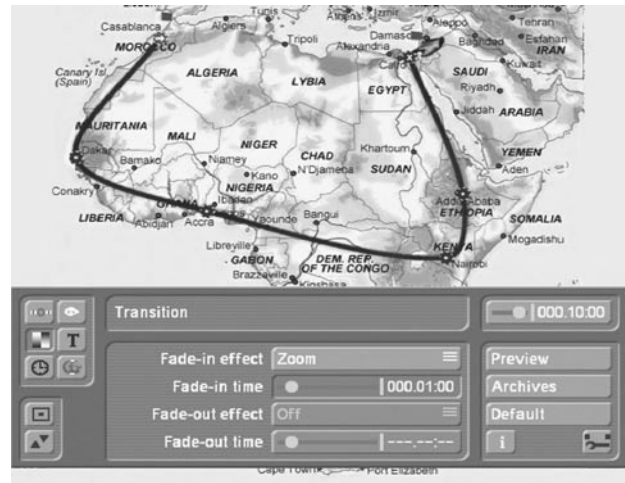
Once you have selected the type of transition, you will need to set the transition time (e.g. 1 second) and then start the preview so you see the effect taking place at your starting point. If you like the resulting effect, active your finishing point in order to fade out the head object there. Proceed in a similar way as described for the fade-in effect, though select the „**Smooth fade**" transition effect this time for the fade out.

Note: If, on the other hand, you select a key point within your route (you will of course first need to set one if you are using the route from the first example exercise), you can make your head object first fade out and then fade back in again there. We advise you only to use a fade out and fade in together. If, for instance, you only use a fade in effect, your head object will arrive at the key point and will disappear suddenly only to faded in again afterwards. Fading out and in within your route at a key point can be effective, for instance, if you want the journey to be paused at this point in order to be able to fade in briefly to some video footage that was filmed at this point in the journey. (To do so, however, you must make absolutely sure that

the "**Split at key points**" function is activated in the "**Special**" window.)
You can then use a transition effect at this point (see example exercise 5.5).

Store the results if necessary and then make the system carry out the calculations.

5.4 Labeling the points

This example deals with creating text using the Columbus.
Use a map of the continent and create a new route or load one that you have already saved from the "**Archives**".

You will now assign a text to one of the points on this map. A text can only be assigned to a key point, since waypoints only serve to trace out the route. Now select a key point that you want to label, e.g. the first point on the route – the starting point. Here we want to label the point with the city name or, if this is already present on the map, we shall label it instead with the time at which our journey began.
First of all, activate the point so that it turns green. Next, click on the symbol for the "**Text**" menu that has now become activated.

You will see three settings options in this menu. First, click on the "**Text**" field so that the familiar Casablanca keyboard appears with which you

can then enter the text. (Alternatively, you can also enter the text using an external keyboard.) After you confirm what you have entered, your text will appear positioned next to the point.

If the text overlaps the route or goes outside the visible screen area, you can change the length of the text using the "**Position**" and "**Distance**" controls.
Now proceed in the same way and activate the finishing point of the route and enter the text that you want (e.g. the city name or the arrival time).
If you want to change the type and size of the text, you must make the changes globally for all the texts on this map. This is carried out in the "**Global settings**" menu. To do so, open the menu and set the upper selection button to "**Text attributes**".
This is where you can now change the font type, size, font color, outline and outline color. (In "**Select font style/size**", you can select a font type from your installed fonts and set the size of the text.)

Please remember that these settings not only affect the text of the currently active key point but also all the texts that you have already entered! Afterwards, check the appearances of the overall picture by minimizing the toolbar. To do so, click on the corresponding button that you are already familiar with from the system software in the bottom left box of the toolbar.

Since you have already inserted two texts in your video image, you will now see that the settings have affected both texts. If the changes you have made to the text attributes mean you need to change the position of the text with respect to its key point, you can do this in the "**Text**" menu.

Take a look at the overall appearances using the "**Preview**" and archive your settings if necessary.

Close the program and make the system calculate the scene. If you have positioned key points along your route, set the "**Split at key points**" function to "**No**" – if you have not set any key points, this setting is irrelevant.

5.5 A cruise including video footage of day trips on land

Imagine you have just been on a cruise and now want your vacation video to start with a map that gives the viewers an overview of the route taken.

The ship has berthed at various ports and you have brought back video footage of various places that you now want to integrate in your route. The ship casts off, travels across the map to the next place where you went on land – and now the viewers see the video footage that you recorded there. Afterwards, the map is displayed again and you see the ship continuing along the route. At the next port you see some more video footage of various things you experienced there, etc.

To create this type of video, first select a suitable map, e.g. one that shows the Mediterranean Sea. Activate it in the scene bin and start the Columbus program.

You can now create a route using your newly acquired skills that you learnt in the previous example exercises. Here, you will of course want to choose a ship as your head object.

Make sure you insert a point at every port and convert the point "**Type**" to "**Key points**" (in the automatically activated "**Points**" menu). Set the "**Pause time**" for each key point to 2 seconds (000.02:00).

Afterwards, click on the symbol for the "**Timing**" menu.

Here you can see how long your displayed scene lasts. In this case you have a pause time of several seconds (the sum total of your key points). Furthermore, the route is traced out in 10 seconds. If you want the route to be displayed more quickly, simply shorten the time using the "**Route**" slider control.

Set the "**Way points**" function for the remaining points that only serve to trace out the route but

which do not mark out the position of any port. You can then label the key points with more detail by assigning objects to them. Activate a key point (you can tell the key points apart from the waypoints by the symbols that are displayed within the colored points – see Chapter 2.1), then open the "**Global settings**" menu and set the selection switch to "**Key object**". Next activate the "**Show key object**" function and click on the "**Select key object**" button. Now choose a suitable object, e.g. a flag (3D object) and select a suitable color. Then, if necessary, adjust the "**Object size**". Since the "**Global settings**" menu only makes global changes, you will see that the settings that you have just configured are applied to all the key points (including the starting and finishing points).

When the route is then calculated, please make sure that the "**Split at key points**" function in the "**Special**" window is set to "**Yes**"!
After the calculations are complete, you will see several scenes in the scene bin each displaying a part of your route. If you now place the individual scenes one after another in the storyboard they will make up the entire cruise route. However, you also have video footage for each stopover that you want to insert at each key point as soon as the ship arrives there.
That is why the route must be available split up into several scenes so that you can insert the video footage after the scene in which the ship reaches the key point. To ensure that the transition from the route scene to the video footage remains smooth, you must fade the scenes into one another using a transition effect.

To do so, open the "**Transition**" menu and select the two scenes that you want to fade into one another. You can of course use any transition effect that you want here but Columbus also provides its own special transition effects (Columbus Rotate, Columbus Circle, Columbus Rectangle, Columbus Zoom) that are also included in other effects packages in a similar form. The difference is that these effects have been specially adapted for the Columbus so that the starting or finishing point of each effect can be positioned precisely at any point in the scene. So if you want to fade from your route into the video, open the transitions menu, select an effect like "**Columbus Circle**" and insert it. Since you want to fade from Columbus into a video, set the "**Direction**" to "**Col. -> Video**".

Next click on the "**Select destination**" button so that you see your video picture and then, using the "**Position**" button, you can set the position for the point at which the video scene should start fading in. In this case, select the point on the map that your head object (i.e. the ship) is currently heading towards and at which the pause time will start.
If necessary, now set the "**Threshold**" for the video fade-in.
Set the effect length to 1 second. This ensures that the effect is not too short and that the video scene is not faded in too early but that it only starts appearing when the object (ship) comes to a halt at the key point.

Similar to your fade-in at the beginning of the route sequence, you can also use a Columbus effect to fade back from the video into the Columbus scene ("**Direction**": "**Video -> Col.**"). Proceed in the same way for the remaining sequences along your route until you have finished editing your entire cruise.

Tip: If, whilst you are creating your route, you already know that you want to insert a transition into a video at a particular key point, you can already include the time needed for the transition effect here. If, for instance, you want a 2-second fade from "**Col. -> Video**" and another 2-second fade from "**Video -> Col.**", then the pause time at this key point should be at least 4 seconds (i.e. 2 seconds + 2 seconds). If the set pause time were less that this or not even configured at all, you would see the transition starting at this point before the head object had even reached the key point, and the transition would only come to an end once the head object had already gotten underway again.
In addition to the pause time that is used for a transition to other video footage, you can also set a transition for the head object at key points. An aircraft would then, for instance, approach a key point and would shrink in size as a result of the "**Zoom**" effect and thereafter the fade into the video would begin. After the transition from the video footage back to the map, the aircraft would start again and fly off.

5.6 Encircling a person

You can of course use Columbus not only for displaying routes but also for editing your video footage in other ways too. In this example you will learn how to encircle a person on a photograph. For instance, use a school photograph of your entire class to show your viewers what you looked like at the time. Import the photograph into your system using PC-Link or Photo-Transfer or alternatively create some video footage of it. Activate the photograph in the scene bin and start the Columbus program. Click on "**Default**" so that you see the yellow diagonal line. First of all, make sure that the "**Pause time**" is set to a value of 000.00:00 in the "**Points**" menu.
Click on the starting point, reposition it so that it is near your head and confirm its new position.
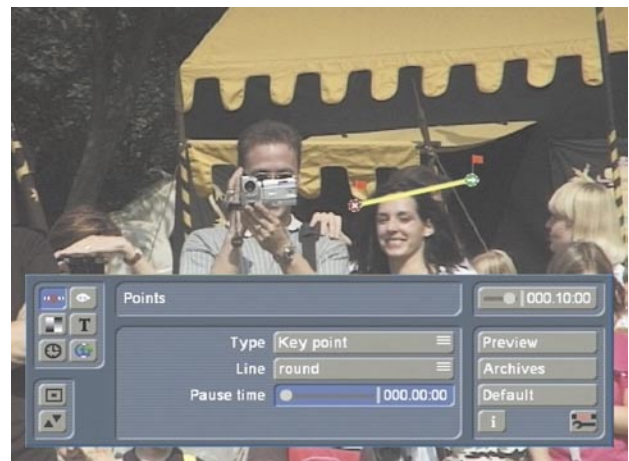
Next, activate the finishing point of the line and reposition it near your head as well.
After confirming it, insert further points along the route simply by clicking at various positions on the line. Make sure that the "**Type**" is set to "**Way point**" and that the "**Line**" is set to the "**rounded**" option. Now click twice on the point that is positioned immediately after the starting point so that you can reposition it. Move all the key points so that the line roughly traces out your head. (If the menu bar covers up too much of the class photo, you can of course hide it by pressing the button that you are already familiar with from the Casablanca). You can now make the fine adjustments, i.e. draw the circle closer around your head or more evenly around your
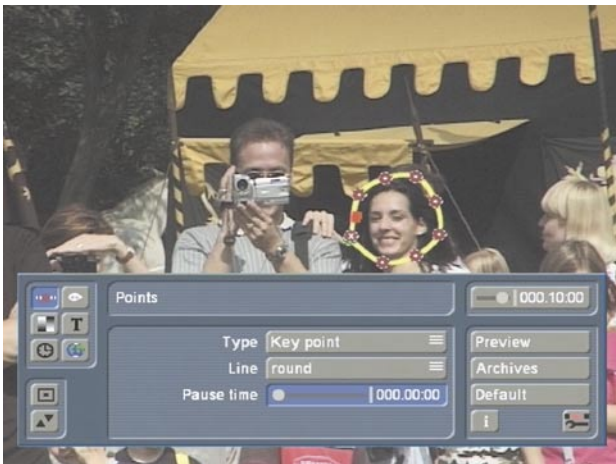
Next, open the "**Timing**" menu, set the "**Route**" slider control to 4 seconds and view the "**Pre-view**". Afterwards, open the "**Global settings**" menu by first setting the top selection button to "**Line type**" in order to make changes, if necessary, to the line (e.g. type, width, color).
Now open the "**Look**" menu and activate the starting point (which you can still recognize by its flag). Set the top selection button to "**Object**" and set the "**Object**" button to "**Off**". Proceed in the same way with the finishing point so that neither of the two points has an object (flag) displayed.
Now open the "**Global settings**" menu and set the top button to "**Head object**". Then activate the "**Show head object**" button so that a little check mark appears and causes the remaining buttons in this menu to become activated. Next, click on the "**Select head object**" button and select the "**Right hand**" from the 3D objects.

After confirming with "**Ok**", you can make the system calculate your scene - and that's it!