ForwardT Software Package

SLClockDesigner

Task Editor for the Clock2 Title Element

Revision as of
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User's Guide

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Introduction

The SLClockDesigner program is intended to prepare tasks for title elements of the Clock2 type.

Using the Clock2 title element, you can display the following information in the specified screen area:

- current time – as a clock with hands and/or a digital clock;
- date (e.g. 19 July);
- day of week (e.g. Thursday);
- year.

For more information on the Clock2 title element see the «FDTitle Designer. Title Project Editor».

General Information

Function

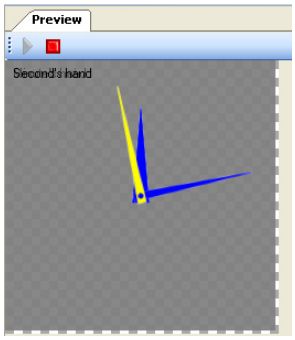
The SLClockDesigner program is intended to create and edit task files for title elements of the Clock2 type.

Using projects created in the program, you can display the following information in titles:

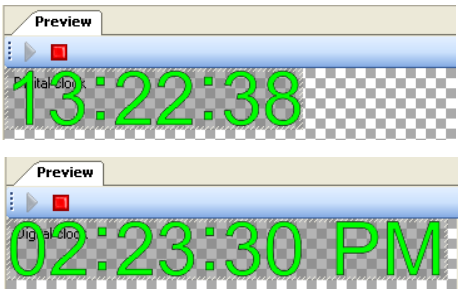
- current time as a clock with hands and/or a digital clock;
- date (e.g. 19 July);
- day of week (e.g. Thursday);
- year.

Figures below present examples of projects created in SLCLockDesigner:

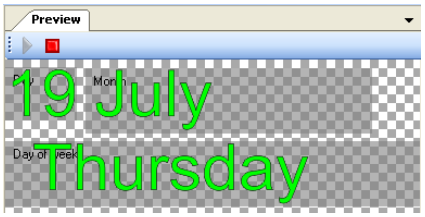
- clock with hands (a);
- digital clock (b);
- calendar (c).



a



b



c

Important: In the SLClockDesigner program there are no components for designing a background for a clock (for example, a dial for a clock with hands).

Tip: The clock background can be designed in the FDTitleDesigner program when creating a title project. For this you may use the Picture or AnimLogo title elements.

Project File

A file created in SLClockDesigner has the SLClockProj extension and is called a project file.

A project is a multilayer image on each layer of which a separate component is placed. A project may contain the following components:

- Hour's hand;
- Minute's hand;
- Second's hand;
- Digital clock;
- Year;
- Month;
- Day (date);
- Day of week;
- Sound (the audio accompanying the movement of the clock hands).

The set of components and their location are specified by the user.

The height and width of the project are also specified by the user.

After the project is created and saved to a file, all graphic and sound files that were used to create it are no longer required, as the project file contains all information necessary for playback.

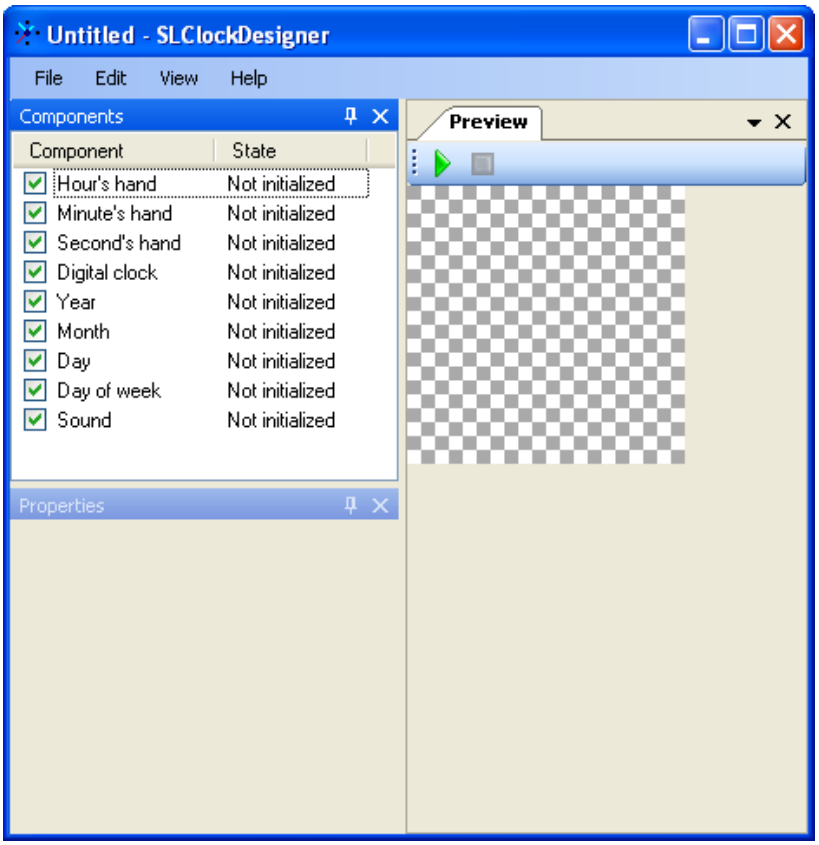
Interface

1. Program Startup

To launch the program, use the following file ~\FDTitle\SLClockDesigner.exe,
where ~ is the full path to the folder with the ForwardT Software Package.

You can launch the program using the Start menu: Programs > ForwardT Software > Titles > SLClockDesigner.

After the startup the main program window opens, in which a new Untitled project is loaded with default settings.

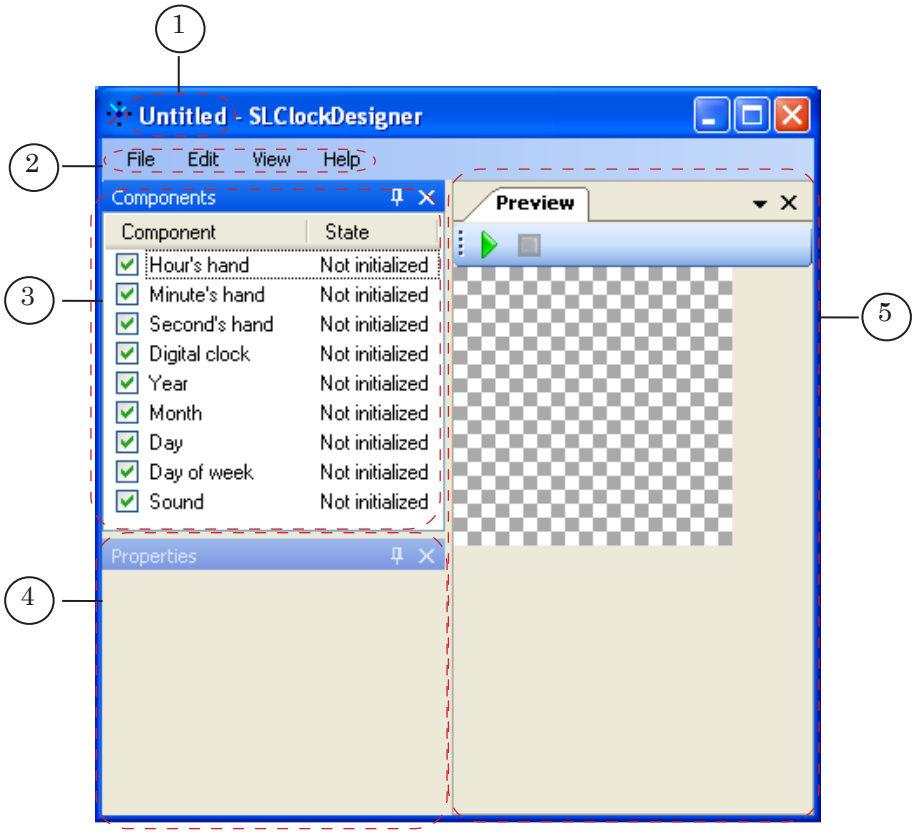


Location of the main program window parts corresponds to their location during the previous program session.

2. Main Program Window

2.1. Main Window Overview

The figure below displays the view of the main program window right after the startup.



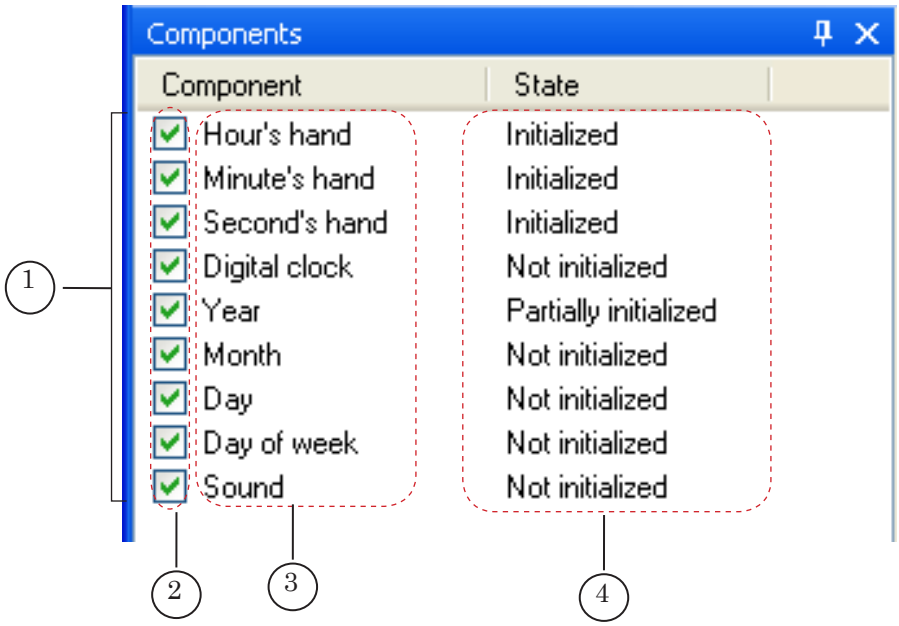
The main window title bar displays the name of the loaded project (1).

The main program window contains the following control elements:

- main menu (2);
- Components window (3) in which the list of all components that can be included into the project is displayed;
- Properties window (4) in which the properties of the component selected in the Components window are displayed and adjusted;
- Preview window (5) in which an image generated during the execution of the project is previewed.

2.2. Components Window

The Components window contains a table with a list of all components that can be used in the project (1).



The table displays the following information for each component:

- the Component column displays:
  - check-box (2) for control over displaying the component during project execution in the Preview window;
  - component name (3);
- the State column displays information about the state of the component setup (4). The following states are possible:
  - Not initialized – setup is not performed;
  - Partially initialized – setup is partially performed, but not completed;
  - Initialized – setup is completed.

✔ **Important:** Unlike the preview, during the playing back of the prepared project in FDTitleDesigner and FDOnAir all the elements having the Initialized state irrespective of the check mark presence/absence in the Component column are displayed.

The sequence order of components in the list is constant and corresponds to the sequence order of the layers with component images in the resulting image of the project: the lower layer is the layer of the Hour's hand component; the upper layer is the layer of the Day of week component.

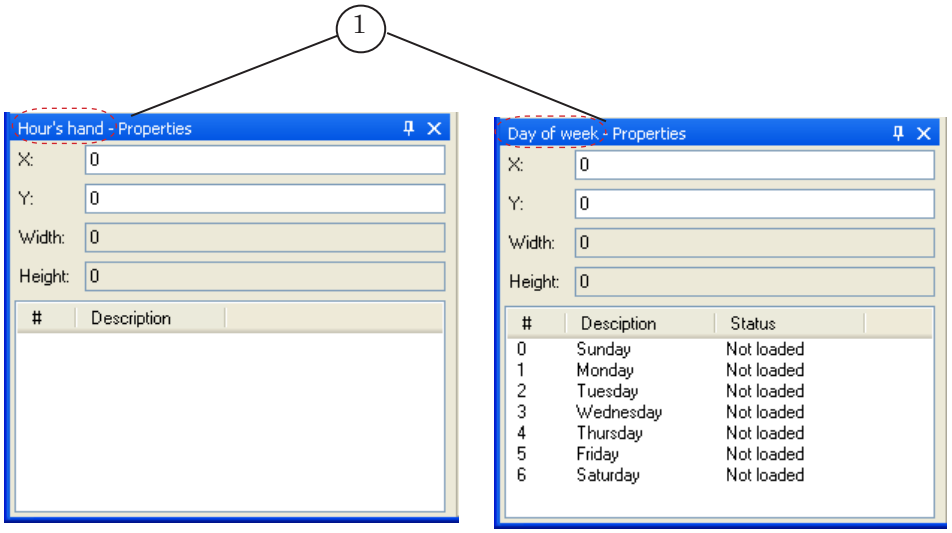
2.3. Properties Window

The Properties window is designed to adjust component properties.

The set of the elements displayed in this window is different depending on the component selected in the Components window.

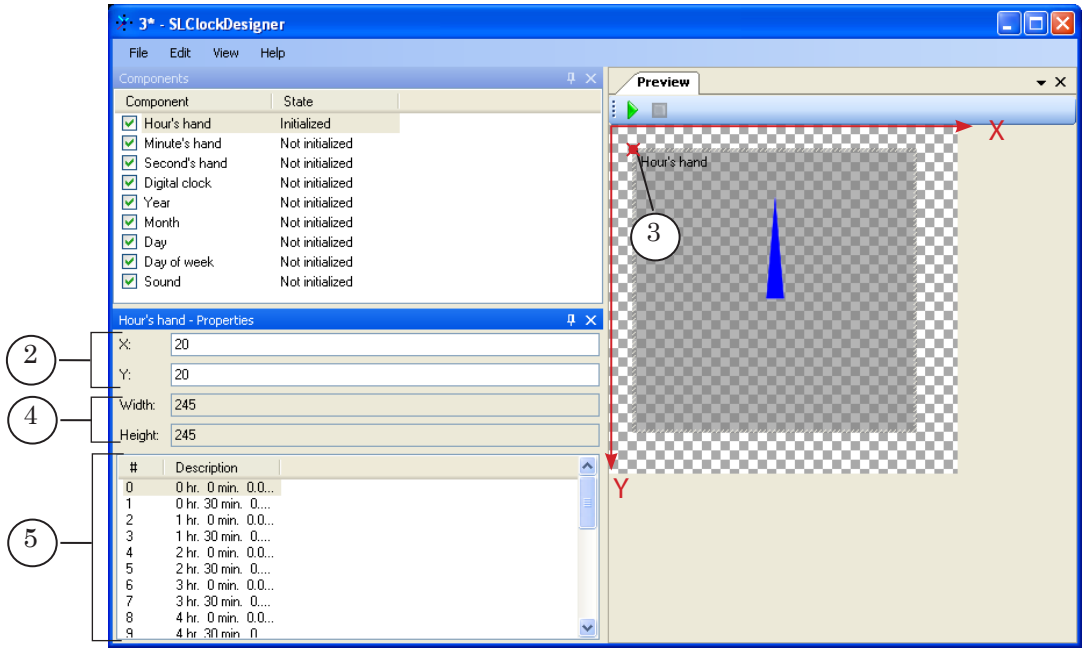
The name of the selected component (1) is shown in the Properties window title bar.

Figures below present the view of the Properties window for the Hour's hand and Day of week components.



The Properties window has the following elements for all components except for Sound:

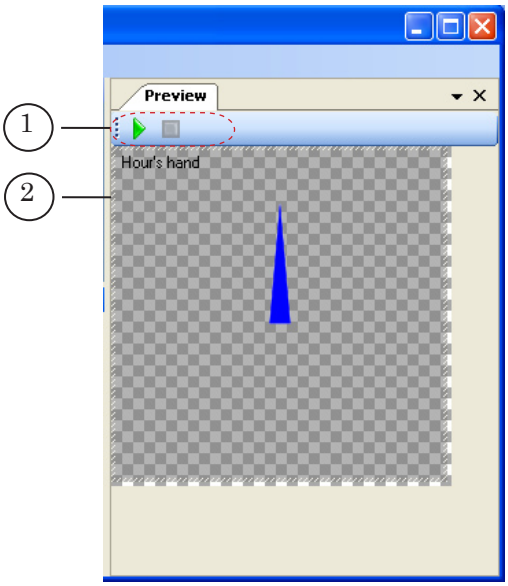
- X and Y (2) – fields to specify location of the component layer in the project display area (e.g., Hour's hand). A shift of the upper-left corner of the layer (3) from the upper-left corner of the project display area is specified (in pixels):
  - X – a shift along the X axis;
  - Y – a shift along the Y axis.
- the Width and Height fields (4) – fields showing the size of the layer of the adjusted component;
- a table with a list of images used to display the component (5).



2.4. Preview Window

The Preview window contains:

- buttons to start/stop the execution of the project (1);
- the project display area (2).



Creating a Project

1. General Procedure

1. Determine the project size (width and height in pixels).
2. Prepare graphic and WAV files required to adjust the project components.

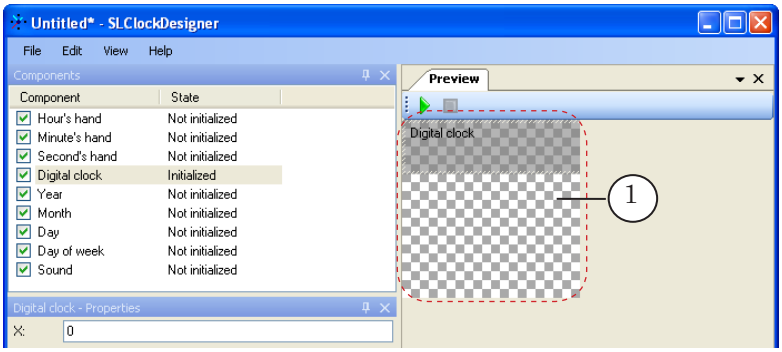
Tip: The SLClockDesigner program does not allow you to scale images used to adjust components, that is why their width and height should correspond to the size of the created project from the very beginning.

3. Create the project in the SLClockDesigner program:
    1. Launch the program.
    2. Specify the project size.
    3. Adjust the components.
    4. Check the project playback.
    5. If necessary, correct the component properties and the project size.
    6. Save the project.
    7. Exit the program.

2. Project Size

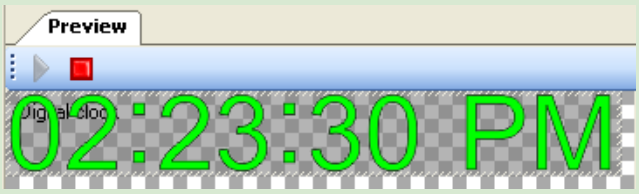
The project size is the size of a picture played back during execution of the project.

In the Preview window the project display area is shown as a rectangle with a “chequered” pattern (1).



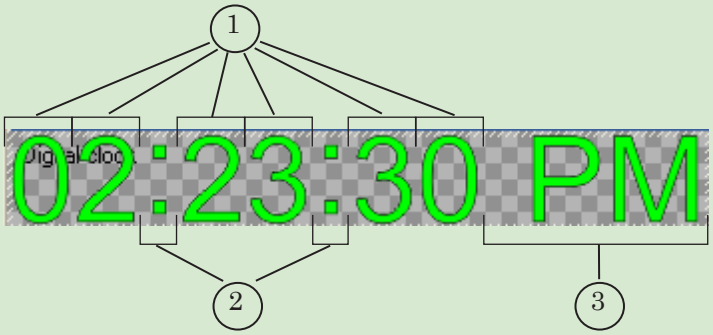
The size of the project is specified by the user. When deciding on the project size, consider the set of components used in the project, their size and position.

Example: When deciding on the size of the project containing a digital clock, consider the size of the Digital clock component.



The width of the Digital clock component is made by:

- the width of images with digits – 6 digits are used to display time (1);



- the width of images with separators – 2 separators (2);
- the width of the A.M. (P.M.) image, when time is displayed in the 12 hour format (3).

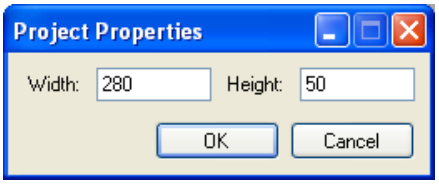
The height of the component corresponds to the biggest height of the image used in the digital clock.

Tip: Sizes of separate components added to the project are determined automatically and shown in the Properties window.

You can correct the project size at any stage of the project creation.

Procedure:

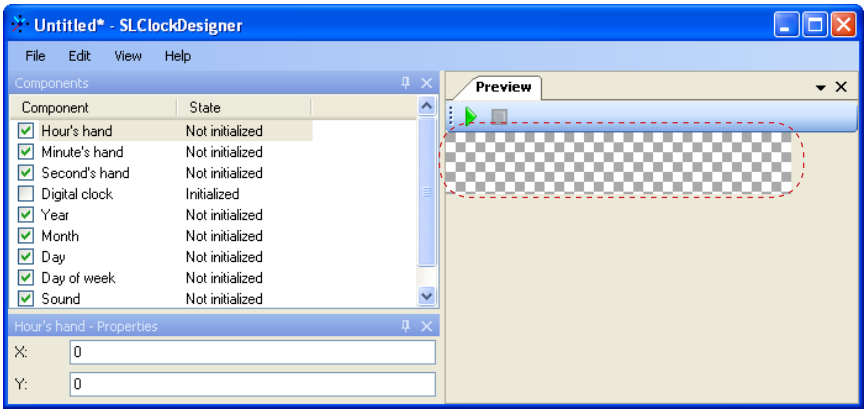
1. Select the Edit > Project properties... menu command. The Project Properties window will open.



2. Specify the project width and height values in pixels in the Project Properties window.

✔ **Important:** The width value must be a multiple of 2 the height value must also be a multiple of 2.

3. Click OK to apply the specified values. The window will close.
4. The project display area will change to the specified size in the main program window.

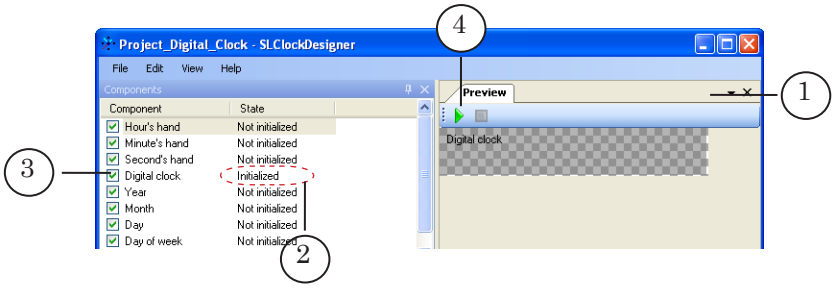


3. Saving the Project

1. In the main program window select the File > Save as... menu command.
2. The Save Project window will open. Select the folder to save the project; enter a name in the Project Name field and click Save.

4. Project Preview

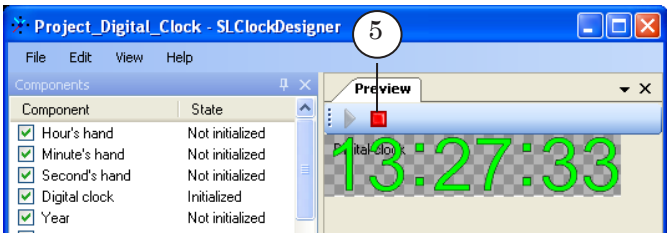
The project is previewed in the Preview window (1).



Project components with the Initialized state (2) and with the selected check-box that enables displaying the component (3) are only displayed during preview.

✔ **Important:** Before launching the preview be sure that at least one component is enabled to be displayed (the check mark is put in the Component column) and is completely set up (the Initialized state is shown in the State column).

Click the Start Preview button (4) to start the preview; click the Stop Preview button (5) to stop the preview.



✔ **Important:** Unlike the preview, during the playing back of the prepared project in FDTitleDesigner and FDOnAir all the elements having the Initialized state irrespective of the check mark presence/absence in the Component column are displayed.

Adjusting Components

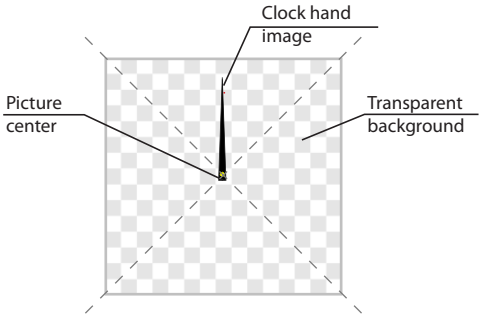
1. Hour's Hand, Minute's Hand, Second's Hand

1.1. Preparing Graphic Files

It is necessary to prepare graphic files with images of corresponding clock hands before adjusting the Hour's hand, Minute's hand, and Second's hand components. The acceptable file types are PNG, BMP, DIB, JPG and TGA.

Pictures of hands must meet the following requirements:

1. A picture is an image of a clock hand on a transparent background.

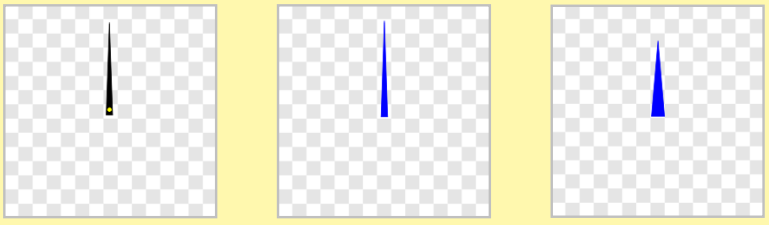


Tip: Transparent background can only be saved in the PNG and TGA image formats.

2. The axis of hand rotation is strictly located in the center of the picture.
3. The width and height of the picture must be equal to each other.

Tip: The rotation centers of the hour's, minute's and second's hands will easily coincide if pictures of all hands are of the same size.

The width and height of the pictures must be at least equal to two lengths of the longest hand used in the project.



1.2. Number of Prepared Images

When the project is executed, the hands keep moving to positions corresponding to the current time. Thus, a separate picture should be prepared for each position of a hand on the clock.

There are two ways to prepare pictures of hands in different positions:

1. Automatic – the user prepares and loads into the program one image of a hand in the position of the 00:00:00 time.

   When loading the image, the program requests the number of positions, into which the hand must move (from 1 to 999), and automatically generates the corresponding number of images.

2. Manual – the user manually, using a graphic editor, prepares images for each position, into which the hand must move. The program automatically determines time corresponding to each position on the basis of the number of loaded images.

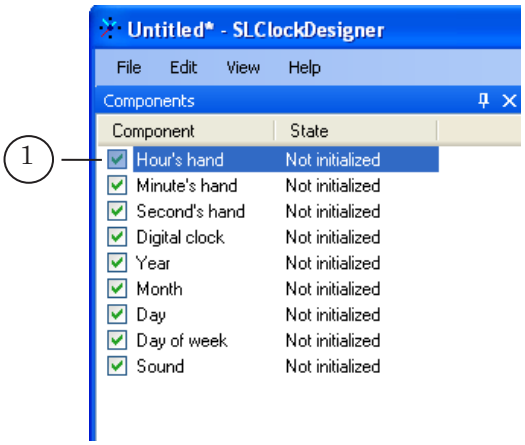
   In this case, names of the graphic files prepared by the user should have the following structure:
   prefixNN.extension, where:

   - prefix – an arbitrary character or a set of characters;
   - NN – an index (an ordinal number) of the hand position; the numbering begins with 00;
   - extension – an extension of the graphic file name.
     For example: sec00.tga, sec01.tga, ..., sec11.tga.

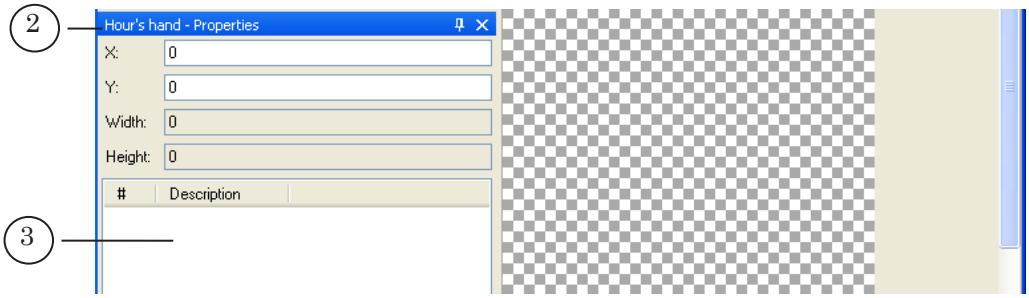
1.3. Adjustment Procedure

The adjustment procedure is as follows:

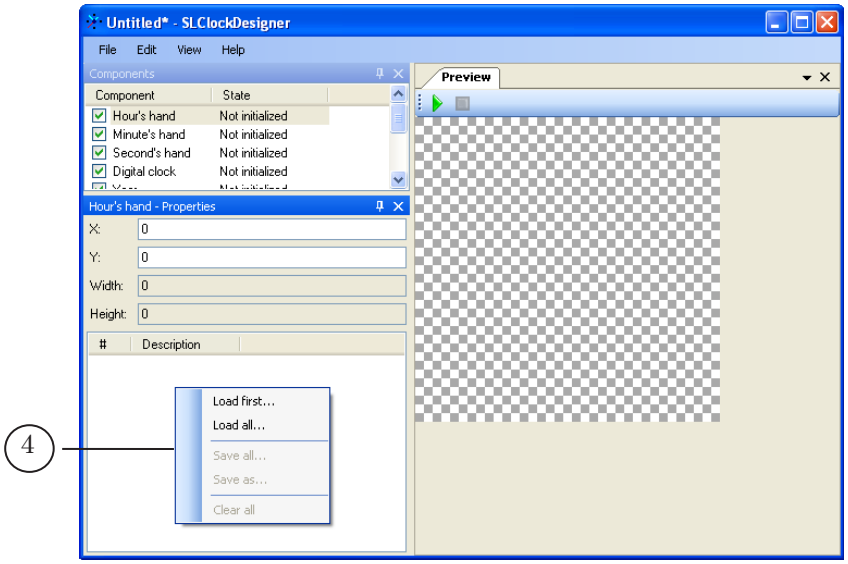
1. In the Components window, click on the component, being adjusted for example, Hour's hand (1).



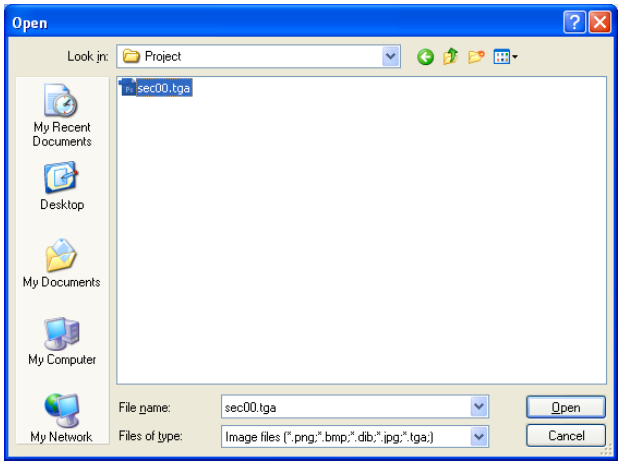
The name of the selected component will be shown in the Properties window title bar (2); control elements for adjustment will be shown in the Properties window.



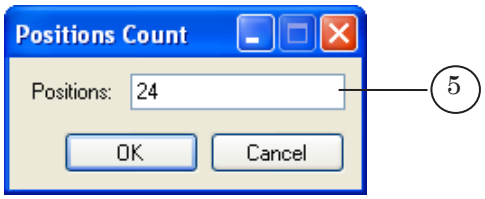
2. Right-click on any place of the table area (3). A context menu will open (4).



3. Select one of the items in this context menu:
   - Load first – if you have only one initial component image. Then perform the following steps:
     1. Select an image file in the Open window and click Open. The window will close.

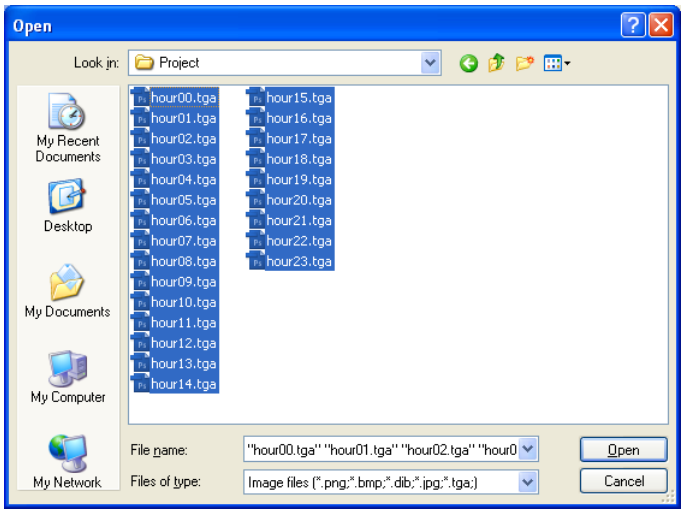


2. The Positions Count window will open.



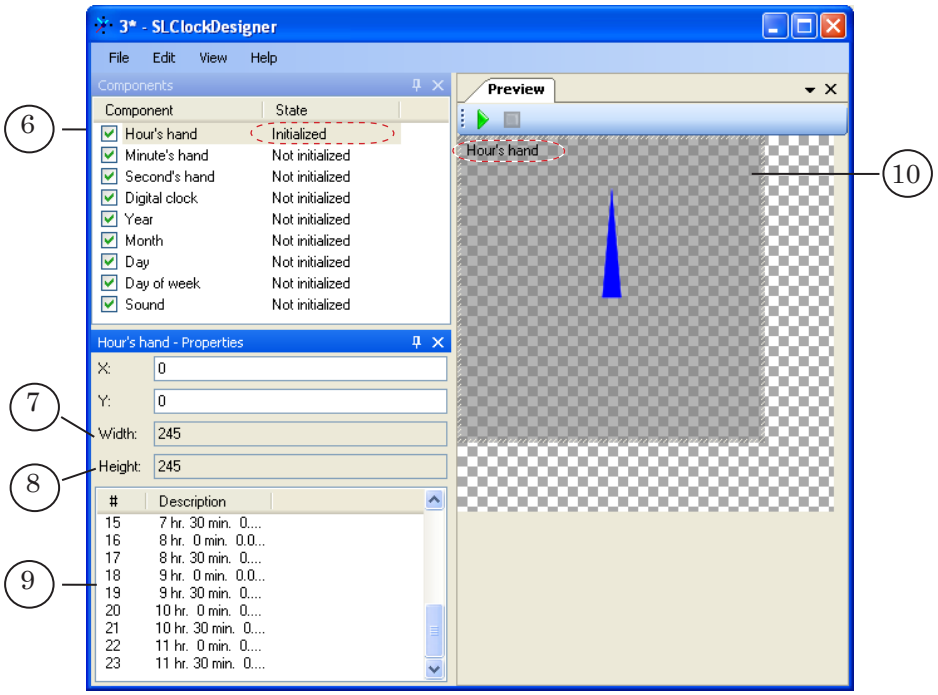
In the Positions field (5) enter a number corresponding to the number of hand movements (the field shows the value of 60 by default). Click OK. The window will close.

- Load all – if you have pictures for all positions of the hand. Then perform the following steps:
  1. Select all files with hand position images in the Open window and click Open. The window will close.



4. The following changes will take place in the main program window after loading images:

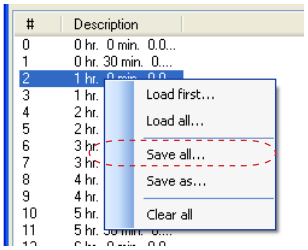
- in the Components window the state of the adjusted component will change to Initialized (6);
- in the Properties window:
  - the corresponding sizes of the loaded image will be shown in the Width (7) and Height (8) fields;
  - a list of all hand positions will appear (9). The numbering of positions begins with 0;
- a layer will appear in the project area in the Preview window, whose name will correspond to the name of the component (e.g., Hour's hand) (10).



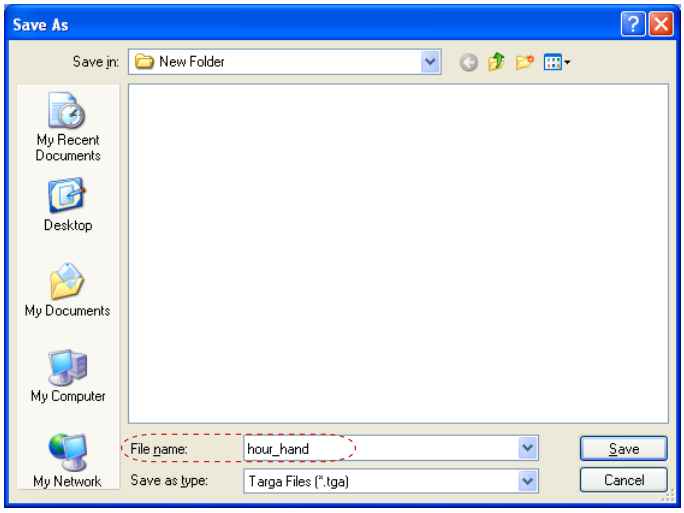
5. You may implement the following operations with the list of hand positions located in the Properties window (9):

   1. You may save images of all positions into separate files. Saving all images is not required for creating the project and is performed to solve user tasks. The names of saved files will have the following structure: PrefixNNN, where Prefix is an arbitrary set of characters specified by the user, and NNN is an ordinal number of a hand position recorded to a file (000, 001, etc.). Then follow the procedure below:

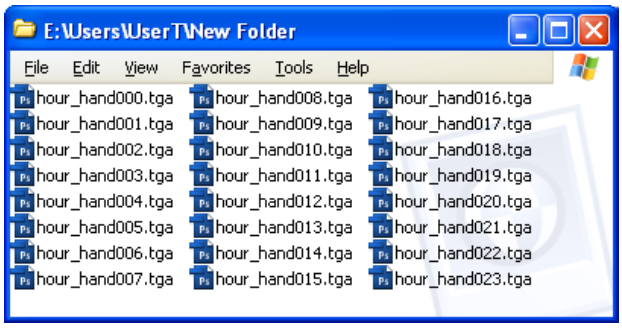
      1. Right-click on any element in the list to open the context menu. Select Save all... .



2. The Save as window will open. Select a folder to save images. Enter a text in the File name field, that will be a prefix in the file names.

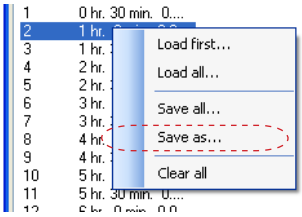


Click Save, the window will close.
A set of files will appear in the folder.

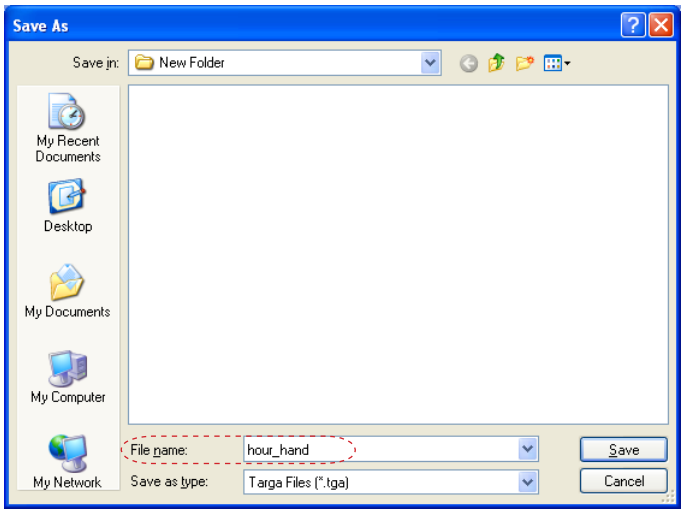


2. You may save to a file an image of a separate hand position.
The procedure is as follows:

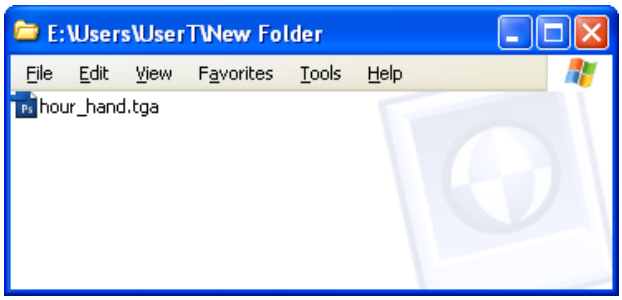
1. Right-click on the line with the required hand position to open its context menu.
2. Select Save as... .



3. The Save as window will open. Enter a file name in the File name field, then click Save.

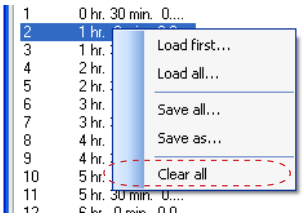


The window will close. The folder will now contain the file with the specified name.



3. You may also clear the list. The procedure is as follows:

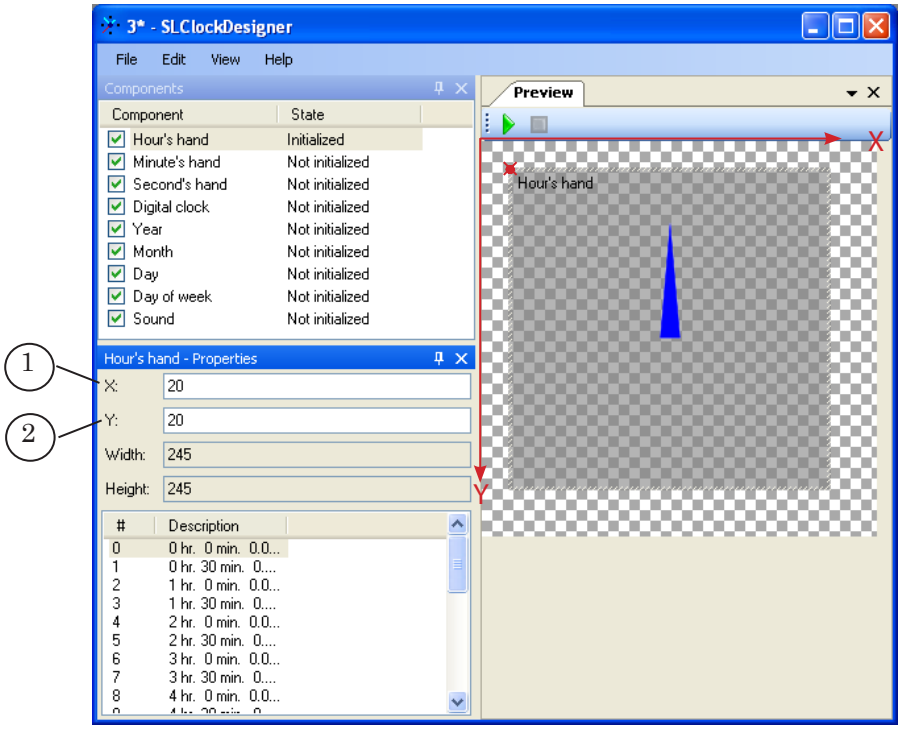
1. Right-click on the table area with the list of hand positions to open the context menu.
2. Select Clear all.



6. If necessary, change the location of the layer with hands in the project display area using one of the following ways:
   - specify the shift of the upper-left corner of the layer (in pixels) from the upper-left corner of the project display area:
     - in the X field: (1) enter the value of the shift along the X axis;

- in the Y field: (2) enter the value of the shift along the Y axis.

- in the Preview window, place the mouse cursor over the layer, left-click and drag it to the required position with the left button pressed.



2. Digital Clock

2.1. Preparing Images

It is necessary to prepare the following images before adjusting the Digital clock component:

- digits (0, 1, 2, ..., 9). An image of each digit must be saved to a separate file. The sizes (width and height) of all images must be exactly the same.

For automatic loading of images with digits the names of graphic files with digits should have the following structure:
PrefixNN.Extension, where:

- Prefix – an arbitrary set of characters, which is the same for all files with digit images;
- NN – a digital index corresponding to the digit, whose image is recorded in the file. For example, for a file with the “0” digit image the index in

the file name should be 00, for a file with the “9” digit – 09;

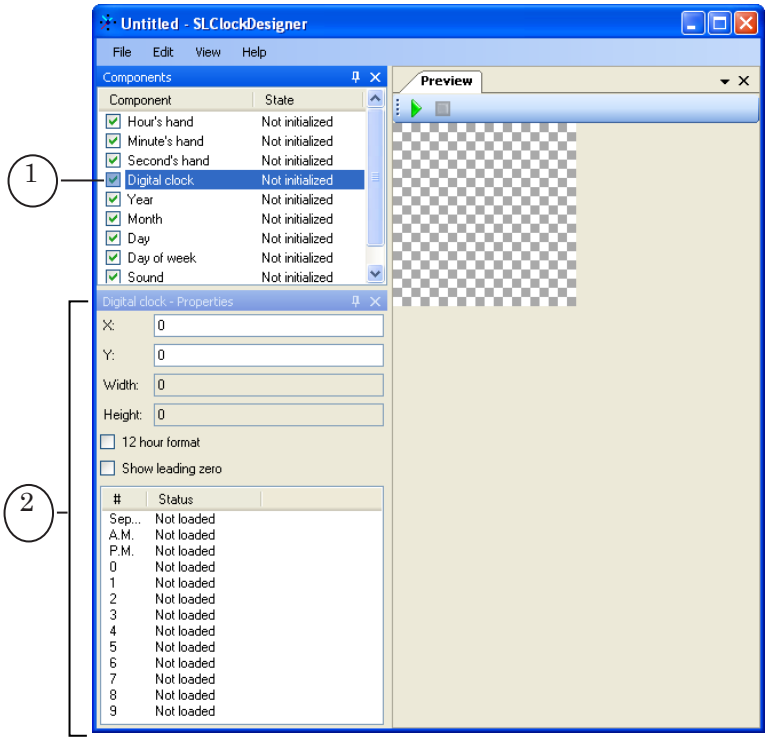
- Extension – the extension of the graphic file name (for example, tga, bmp, etc.).

- separator – a character added to separate the values of hours, minutes, and seconds. The size of a separator image may be different from the size of digit images.

- if a 12 hour format is used, it is necessary to prepare and load images with the AM and PM indicators (AM – ante meridiem, “before noon”; PM – post meridiem, “after noon”).
  The sizes of the AM and PM images should be the same, but they may be different from the sizes of images with the digits and separator.

2.2. Adjustment Order

1. Right-click on the Digital clock component in the Components window in the main program window (1).



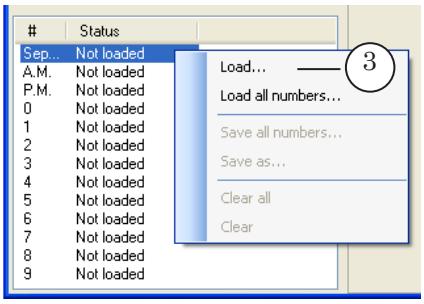
2. The Properties window will show control elements for adjusting Digital clock (2).

3. Load images used to display the clock.

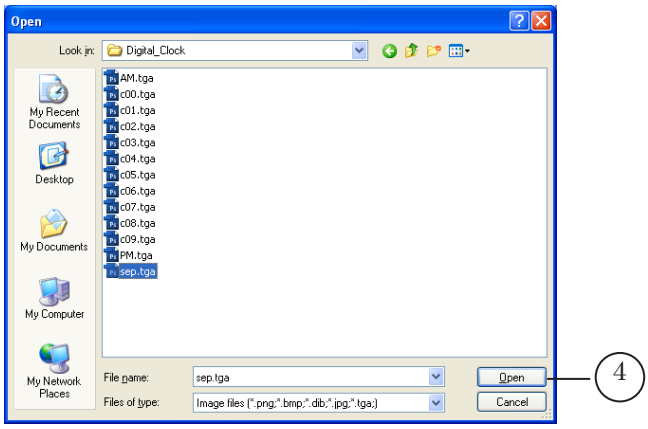
The Separator, A.M. and P.M. images are loaded separately. The images of digits (0–9) can be loaded separately for each digit or simultaneously.

Perform the following steps to load a separate image:

1. Right-click on the line with the name of the element to be loaded in the table with the list of images to open its context menu and select Load... (3) or double-click on the line.



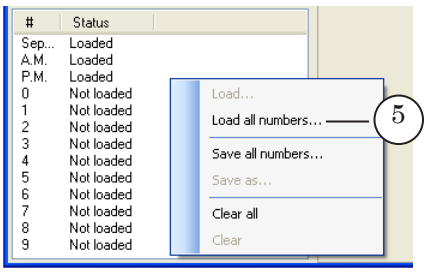
2. The Open window will open. Select the file with the required image, then click the Open button (4).



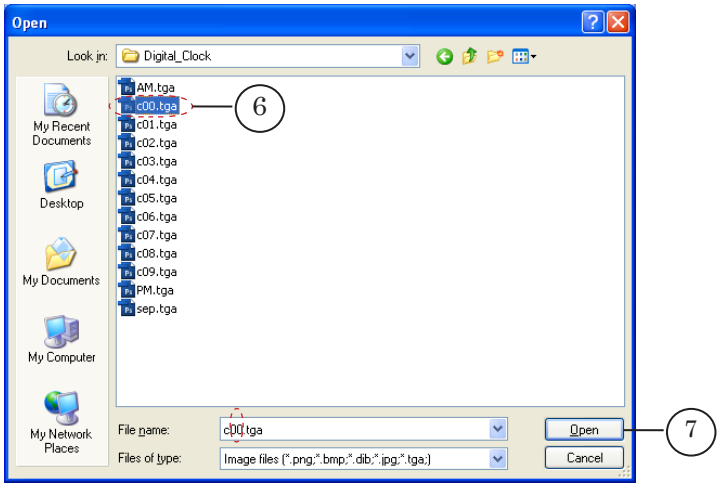
The window will close. The image status will change to Loaded (8).

To load images of all digits simultaneously, perform the following steps:

1. Right-click on the table with the list of images to open the context menu and select the Load all numbers... item (5).

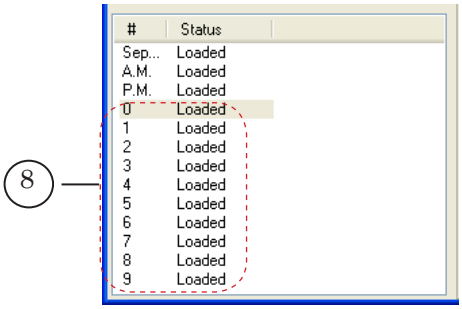


2. Click on the file with the “0” digit image in the Open window. The name of this file must contain the 00 index (6).



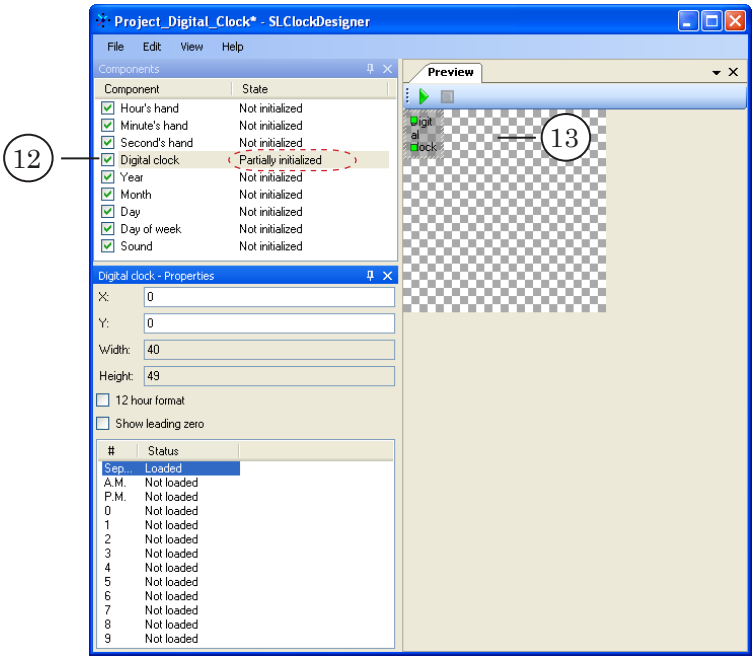
Click Open (7). The window will close.

3. The status of all digits will change to Loaded in the table with the list of images (8).



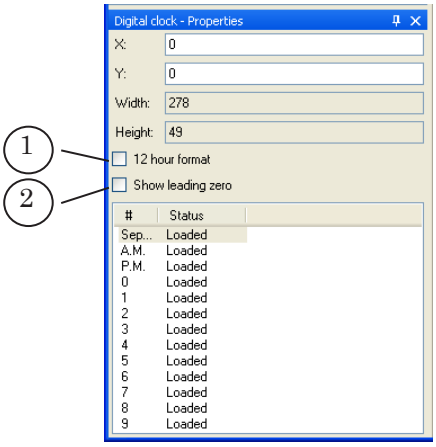
4. After any first image is loaded, the main window will show the following information:
   - the state of the Digital clock component will change to Partially initialized in the Components window (12);

the Digital clock layer will appear in the project preview area in the Preview window (13);



5. The digital clock shows time in the 24 hour format (hours, separator, minutes, separator, seconds) by default.

   To display time in the 12 hour format, put the 12 hour format check mark (1).



✔ **Important:** When using the 12 hour format of time, it is necessary to load the A.M. and P.M. images; when using the 24 hour format the loading of these images is not required.

5. To display time (hours) with the leading zero, put the Show leading zero check mark (2).

6. After all images are loaded, the main window will display the following information:

- the state of the Digital clock component will change to Initialized in the Components window;
- the Width and Height fields in the Properties window will show the size of the Digital clock image (layer). The size is determined automatically.

7. If necessary, change the position of the layer of the adjusted component in the project area by one of the following ways:
   - specify the shift of the upper-left corner of the layer (in pixels) from the upper-left corner of the project display area:
     - in the X field: (1) enter the value of the shift along the X axis;
     - in the Y field: (2) enter the value of the shift along the Y axis.
   - place the mouse cursor over the layer area in the Preview window, left-click and drag the layer to the necessary position with the mouse left button pressed.

3. Year, Month, Day, Day of Week

3.1. Preparing Graphic Files

To adjust the Year, Month, Day and Day of week components, it is necessary to prepare graphic files containing special images. The table below gives the list of components and presents images used to adjust these components.

Component	Images prepared to adjust the component	
	Image	Quantity
Year	Digit from 0 to 9	10
Month	Month name (January – December)	12
Day	Digit (0 – 9)	10
Day of week	Name of a day of the week (Sunday – Saturday)	7

All images prepared for one component should be of the same size.

If you want to have the possibility to load all images simultaneously by one command, the names of the files with images for one component should have the following structure:

prefixNN.extension, where:

- prefix – an arbitrary character or a set of characters that should be the same for all images prepared to adjust one component;
- NN – an image index, the numbering begins with 00;
- extension – the extension of the graphic file name.

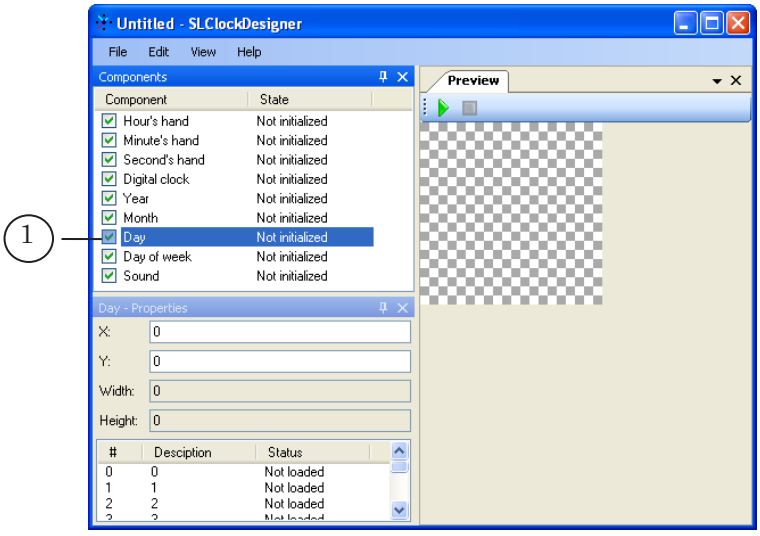
The table below gives the correspondence of indices and images recorded to files.

Index	Image		
	Digit	Day of week	Month
00	0	Sunday	January
01	1	Monday	February
02	2	Tuesday	March
03	3	Wednesday	April
04	4	Thursday	May
05	5	Friday	June
06	6	Saturday	July
07	7		August
08	8		September
09	9		October

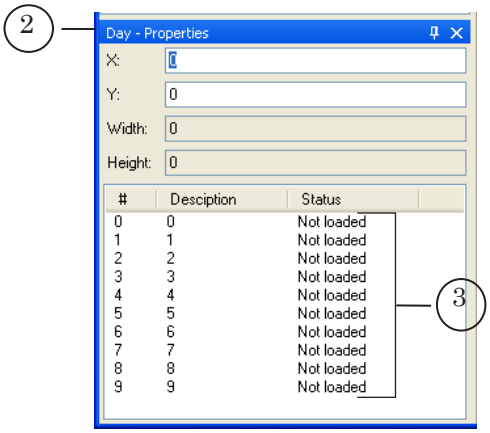
Index	Image		
	Digit	Day of week	Month
10			November
11			December

3.2. Procedure

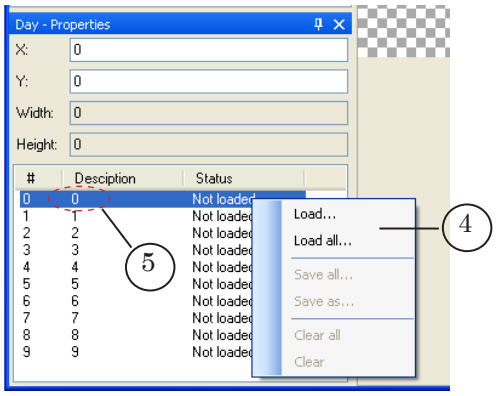
1. Click on the required component, for example, Day in the Components window (1).



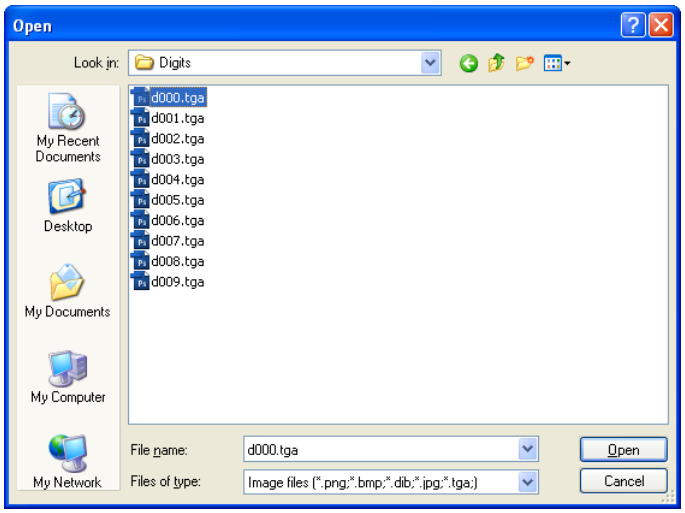
The Properties window title bar will show the name of the selected component (2); the window will contain control elements for adjusting the properties of the selected component.



2. The table (3) will show the list of images to be loaded to adjust the component. Load images by one of the following ways:
   - To load each image separately and successively, perform the following steps for each table line:
     1. Right-click on a table line to open its context menu (4).

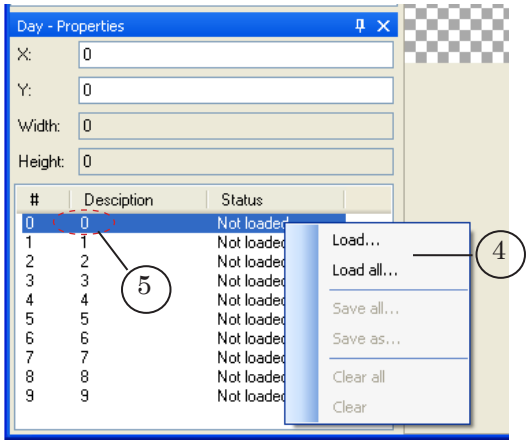


     2. Select Load.
     3. In the Open window go to the required folder and select the file with the image corresponding to the description in the selected table line in the Description column (5). Click Open. The window will close.

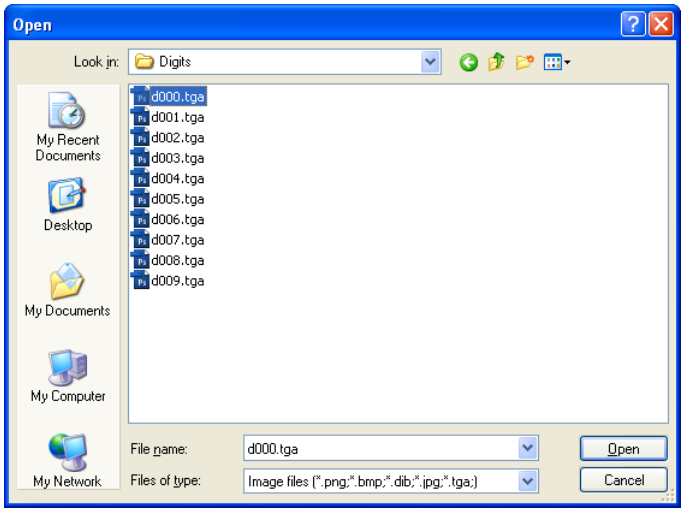


     4. The status of the loaded element will change to Loaded in the table with the list of images.
     5. Repeat steps 1–3 to load all necessary images.

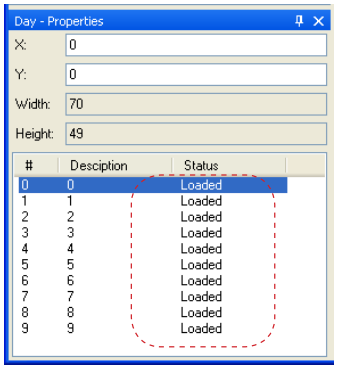
   - Perform the following steps to load all images simultaneously:
     1. Right-click on one of the table lines. The context menu will open (4).



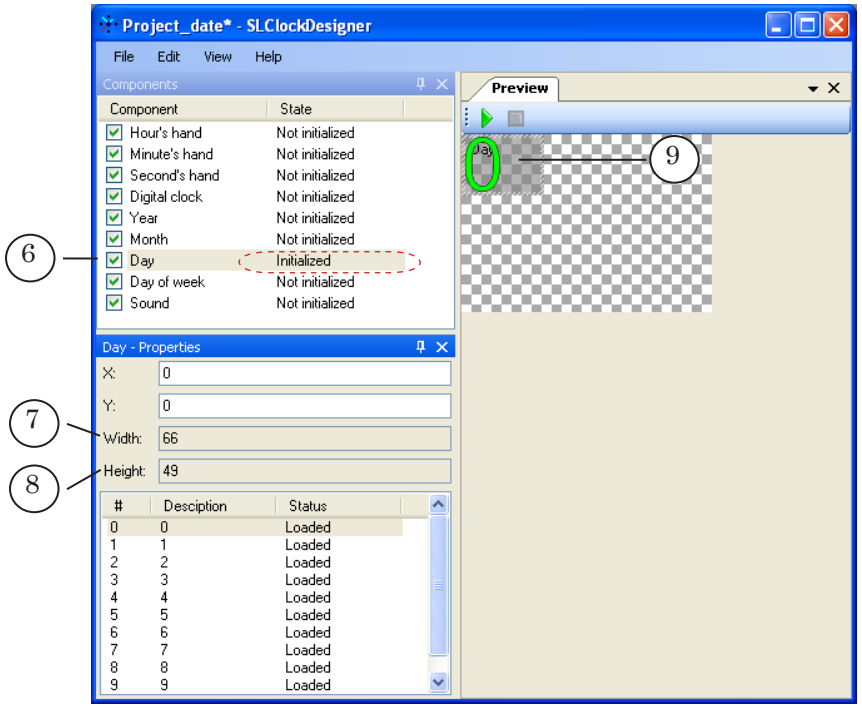
2. Select Load all... .
3. In the Open window go to the folder with graphic files and select the file, whose name contains the 00 index. Click Open. The window will close.



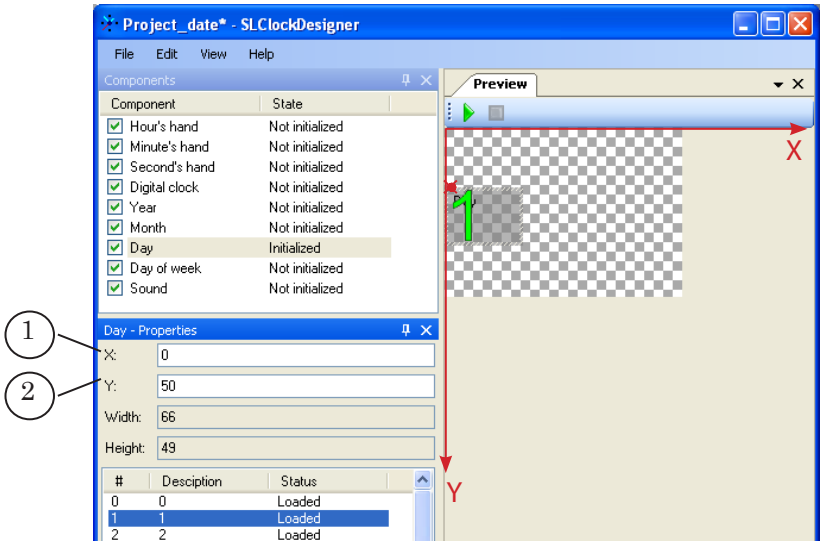
4. The status of all elements will change to Loaded in the table with the list of images.



3. The following changes will take place in the main program window:
   - in the Components window the state of the adjusted component will change to Initialized (6);
   - the size of the layer intended to display the adjusted component will be shown in the Width (7) and Height (8) fields of the Properties window;
   - a layer with the name corresponding to the name of the component (e.g., Day) (9) will appear in the project area in the Preview window.



5. If necessary, change the position of the layer in the project display area by one of the following ways:
   - specify the shift of the upper-left corner of the layer (in pixels) from the upper-left corner of the project display area:
     - in the X field: (1) enter the value of the shift along the X axis;
     - in the Y field: (2) enter the value of the shift along the Y axis.
   - in the Preview window, place the mouse cursor over the layer area, click and drag the layer to the necessary position with the left mouse button pressed.


Project_date* - SLClockDesigner
File
Edit
View
Help
Components
Component
State
Hour's hand
Minute's hand
Second's hand
Digital clock
Year
Month
Day
Day of week
Sound
Not initialized
Initialized
Preview
X
Y
1
2
Day - Properties
X:
Y:
Width:
Height:
0
50
66
49
#
Desciption
Status
Loaded

4. Sound

4.1. Description, Preparing

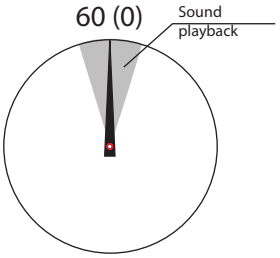
It is possible to play sound with every new hour, minute, or second (optionally):

- for a digital clock – when values change in the corresponding field;
- for a clock with hands – when the corresponding hand moves to another position.

WAV files with uncompressed audio are used for adjusting.

The duration of the sound playback corresponds to the duration of the fragment recorded in the file.

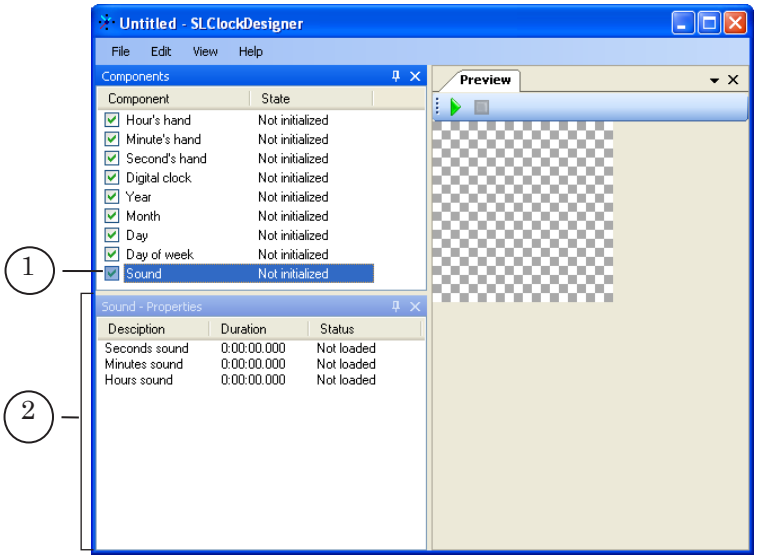
The sound playback starts in advance, so that the middle of the music fragment is played at the moment the corresponding value changes.



Different sounds can be specified for the moments of change of hours, minutes and seconds.

4.2. Adjustment Procedure

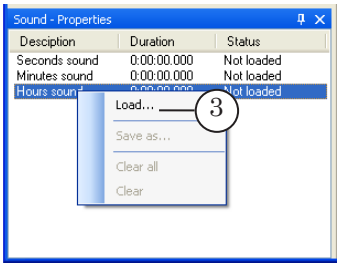
1. Click on the Sound component (1) in the Components window.



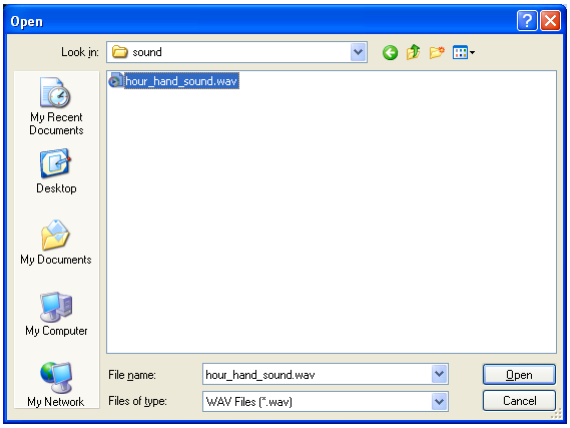
The Properties window will show control elements for adjusting properties of the selected component (2).

2. Right-click on the line with the description of the sound to be loaded in the Properties window (see the Description column).

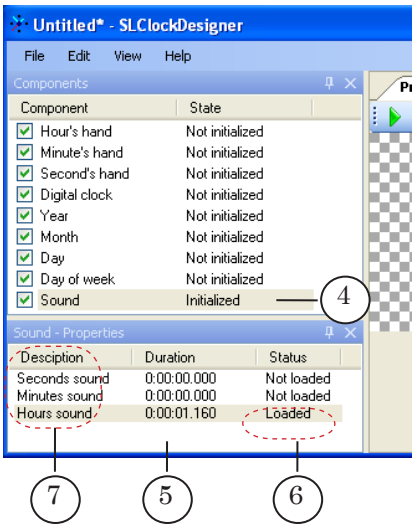
3. The context menu will open. Select Load... (3).



4. Select a WAV file in the Open window and click Open. The window will close.



5. The following changes will take place in the main program window:
   - in the Components window the state of the Sound component will change to Initialized (4);
   - in the Properties window the line with the loaded sound will show the fragment duration in the Duration column (5); the Status column will show Loaded (6).



6. Repeat steps 2–4 to load sound for other elements (7).

Useful Links

Forward T Product Line: Description, Software Delivery, Documentation, Ready Solutions

http://www.softlab-nsk.com/forward/index.html

Support

e-mail: forward@sl.iae.nsk.su

forward@softlab-nsk.com

forward@softlab.tv

Forum

http://www.softlab-nsk.com/forum (currently available in Russian only)

Documentation for Additional Information::

FDOnAir. Broadcast Automation

FDOnAir. Additional Sections

FDTitle Designer. Title Project Editor

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