RGB Technology®
MODERN TECHNOLOGIES

RGB ColorStudio

User`s manual

Table of Contents

1 Software overview 3
2 Basic terms 3
3 Program languages 4
4 Installation and initial start-up 4
5 Main program window, working with the program 5
6 LED displays management 6
6.1 Displays list 6
6.2 Display addition wizard 7
6.3 Adding, removing and duplicating the display, display specifications 7
6.4 Display type and size 8
6.5 Addressing display panels 8
6.6 Display brightness 10
6.7 Displays list export and import 11
6.8 Downloading, sending and deleting configuration 12
6.9 Setting date and time 12
6.10 Network settings 12
6.11 Resetting the display 13
7 Management through the website 13
8 Manual reset of the device network settings 14
9 Project 14
9.1 Project settings 14
9.2 Spots management 14
9.3 Estimating the controller memory usage 15
10 ColorStudio 5 tools 16
10.1 Background setting tool 16
10.2 Text attributes editor 16
10.3 Setting an effect 18
10.4 Setting effects with two images 18
10.5 File manager 18
11 ColorStudio 5 effects 19
11.1 Adding effects 19
11.2 Adding special frames 19
11.2.1 Fonts used to generate special frames 20
11.2.2 Options of generating special frames content 21
11.2.3 Simple addition of special frames 21
11.2.4 Advanced addition of special frames 22
11.2.5 Adding images 23
11.2.6 Adding video files 23
11.2.7 Adding SWF files 23
11.2.8 Effects' list 23
12 Sending a project to a display 24
13 Uninstalling the program 24
14 Error codes 24

1 Software overview

The RGB ColorStudio 5 program is designed to run on color graphic LED displays with an internal memory (5G), manufactured by RGB Technology. Its basic functions include creating and editing animations, managing the RGB Technology LED displays and communicating with them.

Requirements:

System:	**Windows XP SP2, Windows Vista, Windows 7**
Screen resolution:	**Minimum: 1024x768, recommended: 1920x1080**
Hard disk space:	**Approximately 20 MB**
Processor:	**Minimum: 1.2 GHz, recommended: above 3 GHz**
Memory:	**Minimum: 1 GB, recommended: above 4 GB**
Others:	**Installed FlashPlayer for Internet Explorer**

2 Basic terms

Before you start operating the ColorStudio 5 program, please get familiar with the terms described below.

Frame - an image displayed on the display for a specific time. The minimum (shortest) time of displaying one frame is 17 milliseconds.

Special frame - a special type of frame that causes the display to generate specific content: date, time, temperature or an analogue clock. For the generated content, you can set a static background. The minimum (shortest) time of displaying a special frame is 500 milliseconds. To generate special frames, the display uses fonts, which can be replaced with your own fonts (as described in Fonts used to generate frames).

Spot - a set of frames. Depending on the display mode, the attribute of a spot may be the order, the time of display or the time and date of display. In the ColorStudio 5 program, you can add up to 512 spots.

Project - a set of spots arranged in a specific order. The attributes of a project are its dimensions and the so-called project mode. You can upload one project at a time onto the display.

Project mode - the way in which spots are played. The used modes are as follows:

- automatic mode - spots are played one after another; the attribute of this mode is *repetition*, or how many times the spot will be played before the display starts playing the next spot
- 24-hour mode - spots are played at a specific time within 24 hours
- weekly mode - similar to the 24-hour mode, spots are played at a specific time and on a specific day within a week
- manual mode 1 - in this mode a spot will be played non-stop until the display is switched (by the RGB Technology remote control) to play the next or the previous spot
- manual mode 2 - in this mode a single frame (spot) will be played non-stop until the display is switched (by the RGB Technology remote control) to play the next or the previous frame (or spot)

Sending a project - sending specific frames and spots to the display

Effect - a set of frames in a spot generated by the ColorStudio 5 program, created by the User. Described in ColorStudio 5 effects

Address - in a display - a virtual module of a surface of 16 x 8 pixels. In the ColorStudio 5 program - important information used for unambiguous identification of the location in a display to which it refers. The attribute of an address is a location, a port to which it is assigned, and a three-byte identifier consisting of six characters in the range of **[0-9]** and **[A-F]**.

Port - piece of equipment that generates graphic signals for specific addresses. In one port there can be up to 16 addresses. On the device there can be up to 8 ports, that means 128 addresses.

Panel - a device containing LEDs and displaying graphical content. The attributes of a panel are the numbers of addresses on a panel, and a, so called. **pixel pitch** indicating LEDs distance from one other. The types of panels compatible with ColorStudio 5 are as follows:

- RGB 30 - one address, 128 pixels
- RGB 25 - one address, 128 pixels
- RGB 20 - two addresses, 256 pixels
- RGB 16 - two addresses, 256 pixels
- RGB 12 - four addresses, 512 pixels

A port has an associated panel and is physically connected to it. On a panel, there can't be more than one port.

LED display - a set of panels arranged in rows and columns. The communication with a LED display is carried out using TCP/IP, so it is necessary to set the correct display IP address.
A display can be single-sided or double-sided. A double-sided display shows the same content on both sides, which is displayed at exactly the same time. The maximum number of ports on one side of a double-sided display is 4. A special variant of a display is a set of panels arranged in a pharmacy cross. In its current form, it consists of 5 panels (in case of RGB25 - 10 panels).

Display configuration - a process involving setting the access to a display (IP number and port), a display type, its dimensions, addressing panels and brightness.

Addressing - part of the display configuration process, the process of entering panel addresses into the ColorStudio 5 settings.

3 Program languages

If the language has not been selected and stored before, when you start the program it tests the Windows system language. If the language identified by the Windows language code is found in the ColorStudio 5, the program is set to that language. If the language is not there, the program is set to English.

To get the program in the language of your country, contact your local distributor to make a translation.

4 Installation and initial start-up

The catalogue in which the program settings are saved is as follows:

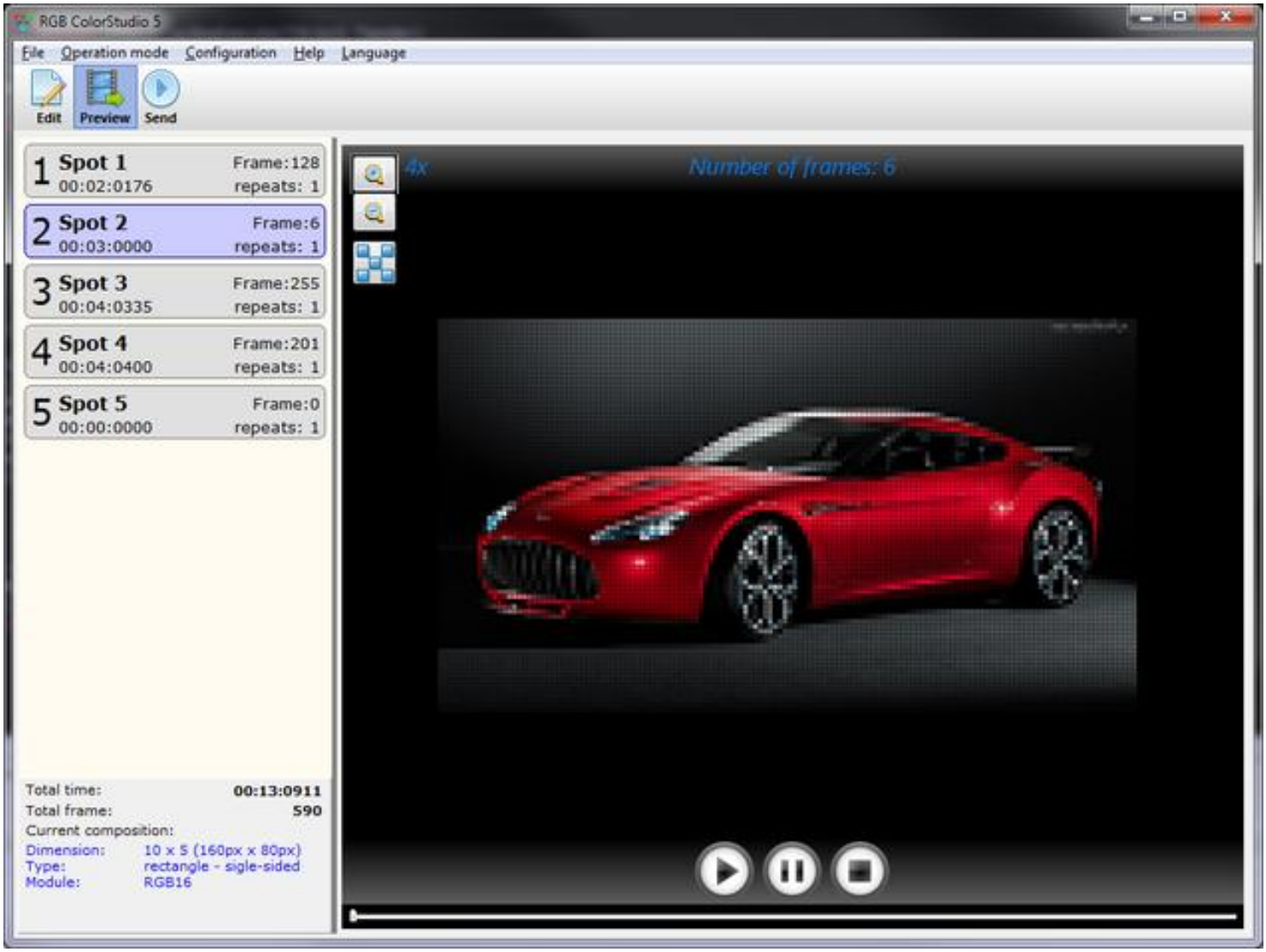
System	Path
XP SP2	*C:\Documents and Settings\All Users\AppData\RGB Technology\CS5_5.xx*
Vista, 7	*C:\ProgramData\RGB Technology\CS5_5.xx*

During the initial start-up a project configuration window will appear, in which you should specify the initial settings of your project. To find more about project settings, see the point Project settings.

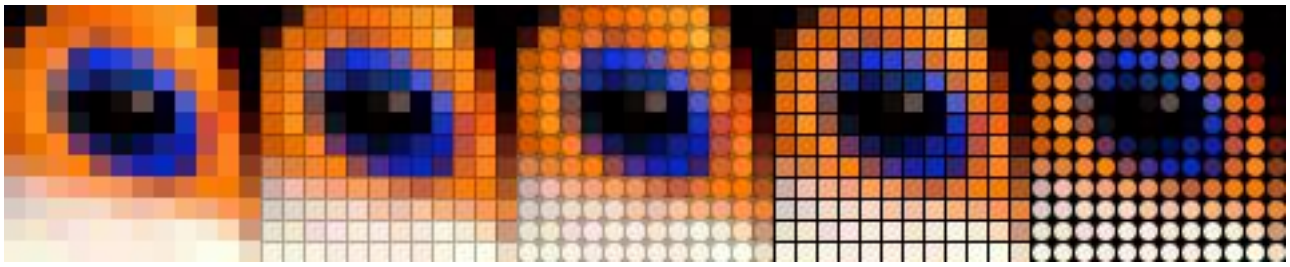
5 Main program window, working with the program

The main program window consists of a list of spots, a palette of effects, and a list of the generated frames of the selected spot.

Working with the program consists in adding frames to spots by using effects and, then, in sending them to displays. The prepared spots can be previewed. To go to the preview, click on the **Preview** button:



The preview is equipped with an option to zoom in the created content. The magnification is automatically adjusted to the size of the window. Another advantage is the possibility to overlay nets on the preview in order to smarten up the project after sending it to the display:

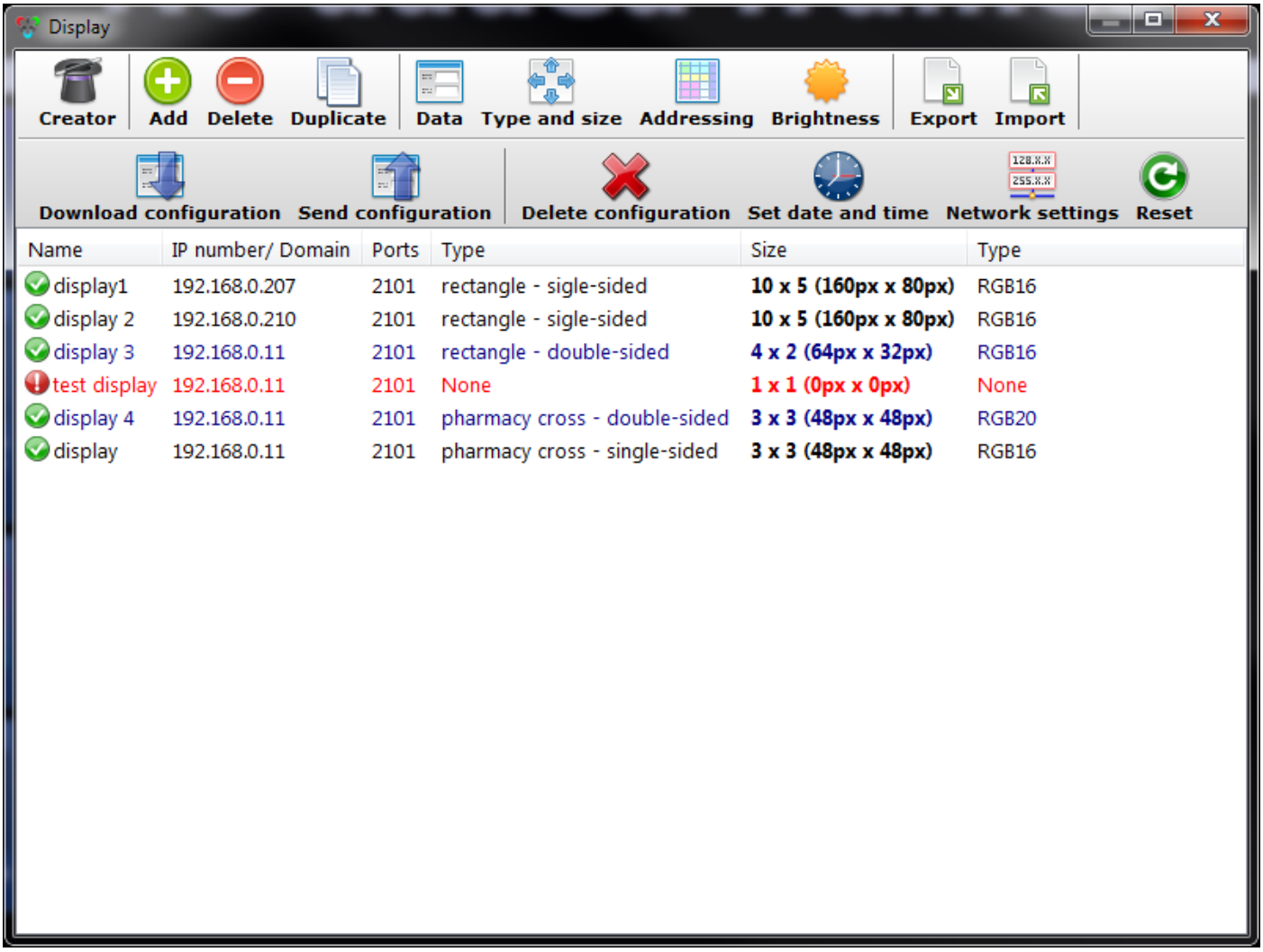


You should start working with the program by configuring your displays. Then configure your project parameters adjusting them to the display to which it will be sent. The next step is to add spots and frames.

6 LED displays management

6.1 Displays list

To configure your displays, select *Configuration* → *Displays list* from the main menu. You will see a window as in the figure below:



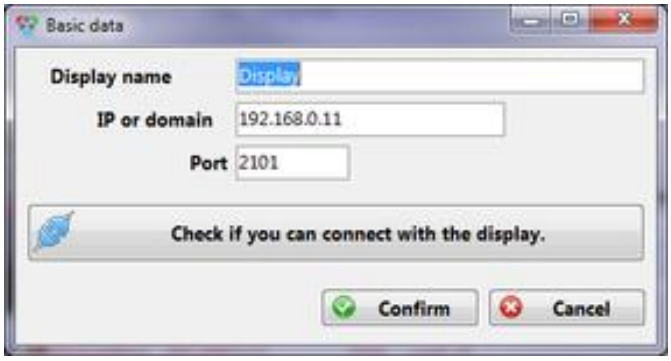
Here is a list of displays to which the projects will be sent. The operations described below (setting specifications, type and size, addressing, brightness, configuration management, setting date and time, network settings and resetting the device) are based on the assumption that the User has checked the chosen display on the list.

6.2 Display addition wizard

The wizard allows you to configure your display in four steps (display specifications, type and size, addressing, and brightness), maintaining the recommended configuration order. To start the wizard, click on the **Creator** button. Particular steps in the wizard are described below as separate windows.

6.3 Adding, removing and duplicating the display, display specifications

To add a display, click on the **Add** button.



The RGB Technology displays are set by default to the IP address **192.168.0.11** and the port is set to **2101**. To find the RGB Technology displays in the web, use the RGB Devicer 2 program attached to the program installer on the installation CD.

The ***Display Name*** field is for information purposes and is used only for indentifying, when the User manages more displays.

If your display was pre-configured, simply set the IP address in this window and download the configuration described in the Downloading, sending and deleting the configuration.

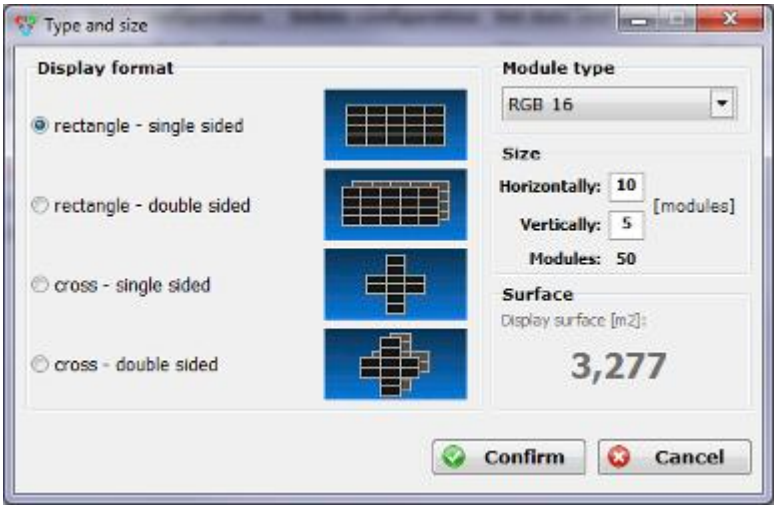
After the addition of a display, the size and the type of its panel is not set, and, therefore, it is displayed in red on the list. You can also send no project to this display.

After entering the IP number, it is recommended to check whether the display is present in the web by clicking on the **Check if you can connect with this display** button. When you click on the ColorStudio 5 program, it will try to connect with the given IP number, and then it will force the device to introduce itself. If the connection is not completed or the device gives incorrect signatures, appropriate messages will be displayed. To change the specifications of the already added display, click on **Data**. To remove the display, click on the **Remove** button.

Sometimes, you may need to duplicate information on your display. To duplicate the display, click on the **Duplicate** button. This will create a new display with the data copied from the source display.

6.4 Display type and size

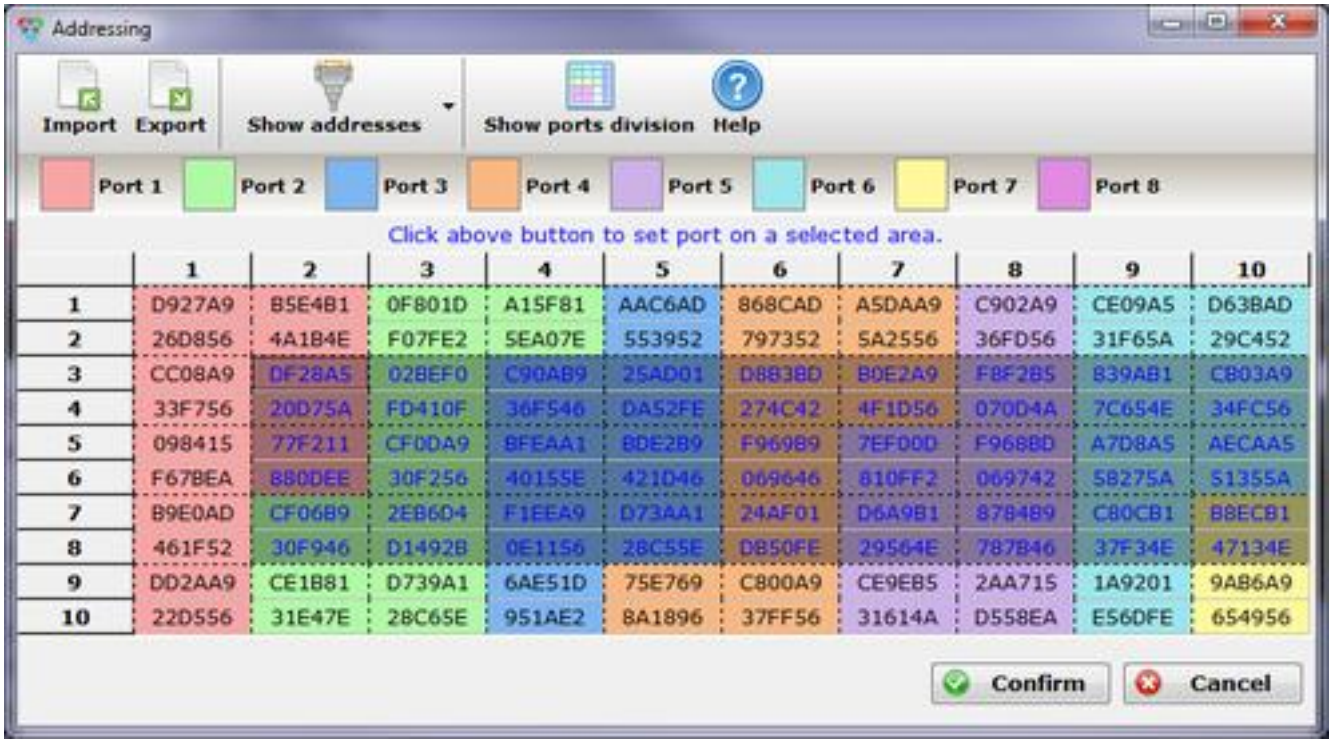
To change your display type and size, click on the **Type and size** button.



If you choose a cross from display types, the field **Size** will be set automatically.

6.5 Addressing display panels

To address your display panels, click on the **Addressing** button.



	1	2	3	4	5	6	7	8	9	10
1	D927A9	B5E4B1	0F801D	A15F81	AAC6AD	868CAD	A5DAA9	C902A9	CE09A5	D63BAD
2	26D856	4A1B4E	F07FE2	5EA07E	553952	797352	5A2556	36FD56	31F65A	29C452
3	CC08A9	DF28A5	02BEF0	C90AB9	25AD01	D883BD	B0E2A9	F8F2B5	839AB1	CB03A9
4	33F756	20D75A	FD410F	36F546	DA52FE	274C42	4F1D56	070D4A	7C654E	34FC56
5	098415	77F211	CF0DA9	BFEAA1	BDE2B9	F96989	7EF00D	F9688D	A7D8A5	AECAA5
6	F67BEA	880DEE	30F256	40155E	421D46	069646	810FF2	069742	5B275A	51355A
7	B9E0AD	CF06B9	2EB6D4	F1EEA9	D73AA1	24AF01	D6A9B1	878489	C80CB1	B8ECB1
8	461F52	30F946	D1492B	0E1156	28C55E	D850FE	29564E	787B46	37F34E	47134E
9	DD2AA9	CE1B81	D739A1	6AE51D	75E769	C800A9	CE9EB5	2AA715	1A9201	9AB6A9
10	22D556	31E47E	28C65E	951AE2	8A1896	37FF56	31614A	D558EA	E56DFE	654956

The addressing window consists of a menu, a port setting panel, and an address grid.

The addressing process is interactive, therefore, to begin addressing, the addressed display must be turned on, configured (type, size, IP number and port) and connected to the web.

To move around the cell grid, you can use cursor keys. You can also select cells with a mouse, both one or more cells. The full description of the movement and selection is given below, in the table of the keyboard shortcuts list.

To address the panels, you should:

1. Select a port from the menu **Show addresses**. On the display, three-byte addresses will be displayed on the selected port. The address display format is composed of three consecutive bytes, preceded by a double display of two white rectangles, e.g. for the **FE762C** address:

Sequence	Displayed data
1	□ □
2	□ □
3	**FE**
4	**76**
5	**2C**

2. Enter the address shown on the display in the corresponding location on the address grid.
3. After entering all the addresses, you should set one port on them, i.e., select the cells you have just edited and select a port in the ports setting panel.

After editing the addresses, the program will not allow you to enter other characters than the allowed ones, i.e., the characters in the range of **[0-9]** and **[A-F]**.

After activating the command *Show addresses,* the display shows the addresses for the given port for a few minutes, and, next, it automatically switches into the display mode (if it has been configured and the project has been uploaded)

For the User's convenience, the panels of the **RGB20, RGB16, Rgb12** type have been upgraded with the following facility: after entering an address in **a cell, the number (location) of which in the vertical sequence is odd,** the address below will be completed, which reduces the time needed to enter addresses by half. However, in extreme situations, the address on the screen may differ from the completed address, which must be corrected in the program.

List of keyboard shortcuts in the address grid:

Keyboard shortcut	Activity
HOME, CTRL+LEFT	Single meaning appears at the beginning of the current row.
END, CTRL + RIGHT	Single meaning appears at the end of the current row.
CTRL+HOME	Single meaning appears at the beginning of the first row.
CTRL+END	Single meaning appears at the beginning of the current row.
SHIFT+CURSORS	Selecting many cells.
DELETE	Deleting the content of the selected cells.
SHIFT+1 - SHIFT+8	Show ports from 1 to 8 on display.
BACKSPACE	Deleting the last character of the selected cell.
CTRL + C	Copying the content of the selected cells to the clipboard.
CTRL + V	Pasting the content of the clipboard to the cells.
F2	Going to the single cell edit mode. To go this mode, you can also double-click on a cell with the left mouse button.

In the single-cell edit mode, the editor behaves like a normal edit control. You can then use the following shortcuts:

Keyboard shortcut	Activity
ESC, UP, DOWN, ENTER	Exiting the editor. To exit the editor, you can also click on another cell with the left mouse button.
HOME, CTRL+LEFT	Moving the cursor to the beginning of the editor.
END, CTRL + RIGHT	Moving the cursor to the end of the editor.
LEFT	Moving the cursor before the preceding character in the editor.
RIGHT	Moving the cursor before the following character in the editor.

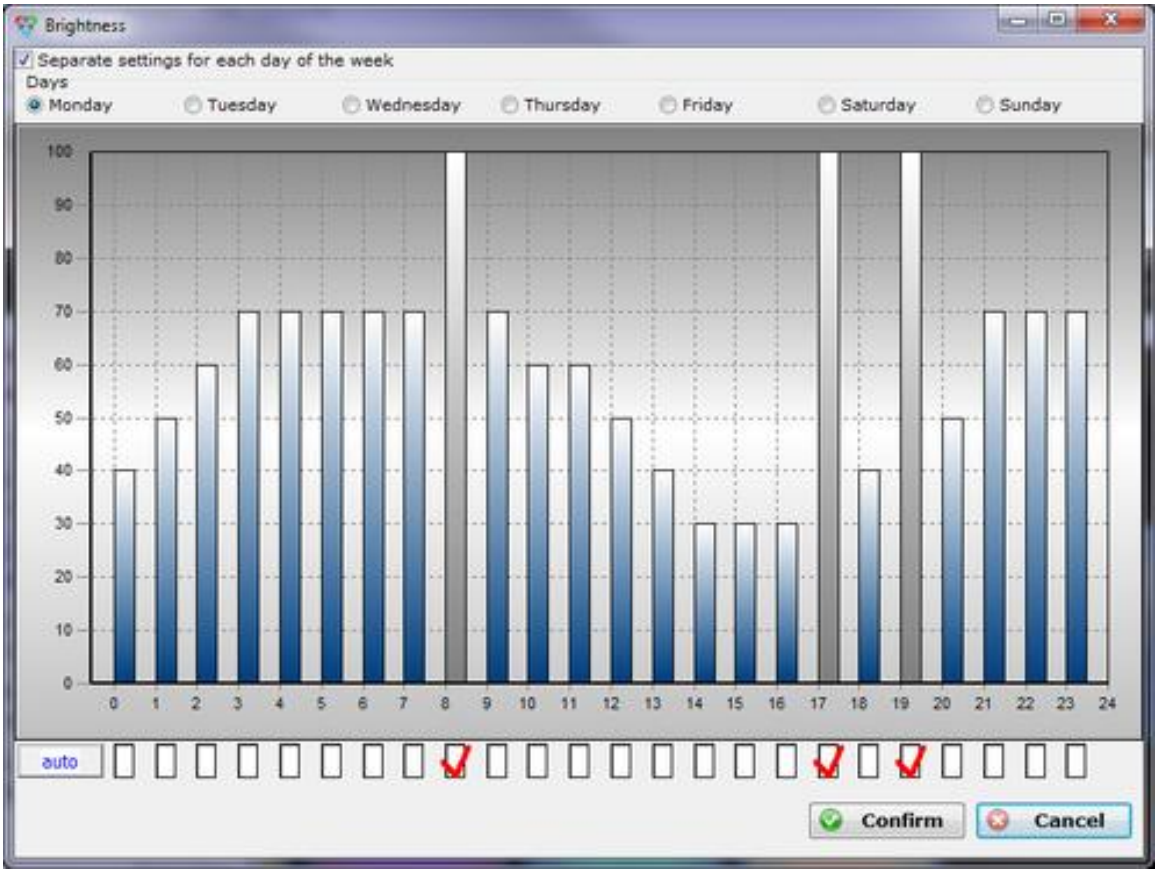
Ports are assigned to the following colors:

Port	1	2	3	4	5	6	7	8
Color								

These colors will also be visible on the display during the management through the website - Management through he website.

6.6 Display brightness

To set the display brightness, you should click on the **Brightness** button. The following window will appear:



The main element of the window is the graph showing brightness at a specific time. Brightness is set as a percentage, in increments of 10%. The default brightness is set at 100% for each day. To adjust the brightness for a specific date, you should change the brightness adjustment mode by clicking on ***Separate settings for each day of the week***. To adjust the brightness, click on the column symbolizing brightness at a specified time. You can also press the left mouse button on the graph and move it in the direction convenient for the User, as shown in the figure below:

To quickly set all the brightnesses at one level, click on the numbers to the left of the Y axis. You can also force the display to use the sensor for automatic brightness adjustment. To do this, click on the rectangle below the brightness column at a specific time. If the selection appears, the column will be set at 100% and, additionally, marked as inactive. To set up quickly all the times for automatic use of the sensor, click on the ***auto*** button .

After setting a display to use the sensor, the display brightness will not change immediately. Such situation is normal and is caused by averaging the downloaded brightness measurement.

6.7 Displays list export and import

In order to transfer the information about displays from one computer to another, use the displays export list (the **Export** button). When you click on it, a configuration file with the extension ***rgbcs5c*** will be created. To import the file, click on the **Import** button. The imported displays will be added to the existing list.

6.8 Downloading, sending and deleting configuration

After setting the type, size, addressing and brightness, send the configuration to the display. To send the configuration, click on the **Send configuration** button. The configuration is sent together with the bitmaps of special frame fonts.

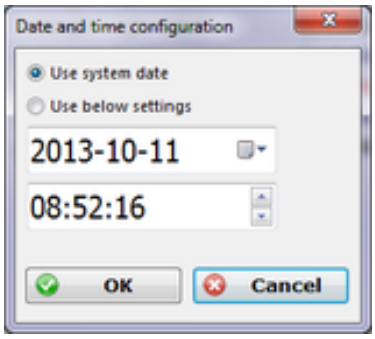
If the display has already been configured but is not on the list (for example, after installing a new version of the ColorStudio 5 program), you only need to add the display to the list, making sure to enter the correct IP address, and to download the configuration from it. To download the configuration, press the **Download configuration** button.

Sometimes, it is necessary to delete the configuration from the display. To do this, press the **Delete configuration** button. After deleting the configuration, the display will return to the factory settings - you delete the display size and the type of panels which it is composed of, and also the project stored in the display.

After removing the configuration, the display will show the NO CONFIGURATION code described in the section Error codes.

6.9 Setting date and time

To set the date and time on the display, click on the **Set date and time** button. A window will appear as shown below:



In this window you can choose whether to set the system date and time or to set the date and time entered by the User. After clicking on the OK button, the program will try to connect with the display and to set the date and time.

6.10 Network settings

To change the network settings, click on the **Network settings** button. A window will appear as shown below:

Do not confuse the IP and port numbers in this window with the IP and port numbers in the display list window. In this window you should set the actual parameters of the display, since the window shows only the access parameters.

Network settings can also be managed using the web interface as described in the Management through the website .

If a device of a target address already exists in the web, an IP address conflict may occur. If this happens, connect directly with the display and then configure it. Another solution is to change the conflicting IP address.

6.11 Resetting the display

To reset the display, click on the **Reset** button. After clicking on this button, the device will behave as if it was turned off and turned on again. The device may also be reset using the web interface as described in the Management through the website .

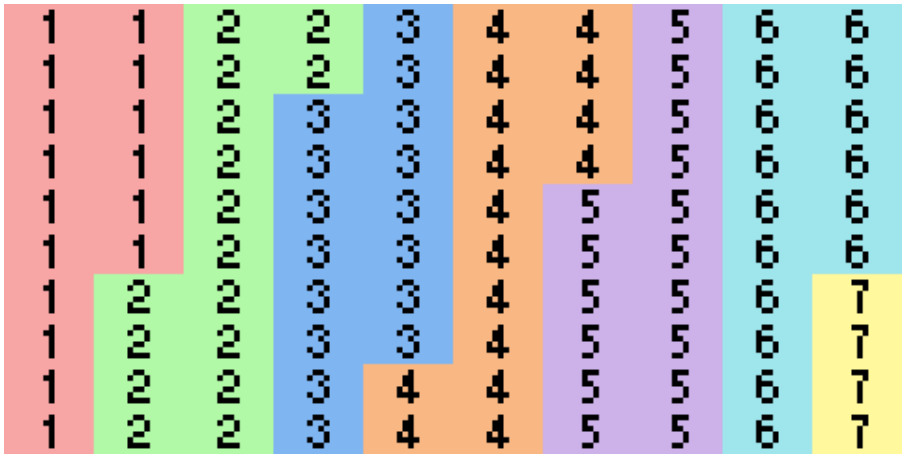
7 Management through the website

To manage the display, select the IP address of the device in the web browser. In the pop up authentication window, enter the following information:

User: **admin**
Password: **dbps**

If the authentication fails, the web browser will display the text string: `401 Unauthorized.`
From the Website, you can set network parameters and a password to access the website (the tab "Network Settings", settings from Display addition, Display specifications) as well as PPPoE (**Passive Power over Ethernet** - the tab "PPPoE settings").

In the tab "Ports and addresses" you can enable showing addresses ("Show addresses"), or the location of the ports on the display, by the panels. After enabling showing ports on the display, an image will appear similar to the figure below:



The colors describing a specific port are described in the point Addressing the display panels.

The remaining tabs are „Status" (information from the sensors and the display specifications), „Current mode" (current display settings set in the ColorStudio 5 program), and „Reset" including the commands „Reset factory settings" (restoring the deafault IP number, port, password and login) and „Reset device" operating in an identical way as the program reset described in the point Resetting the display.

If you forget the password, the only solution is to reset the User's data, as described in the point Manual reset of the device network settings.

8 Manual reset of the device network settings

To reset the network settings manually contact the RGB Technology Technical Support.

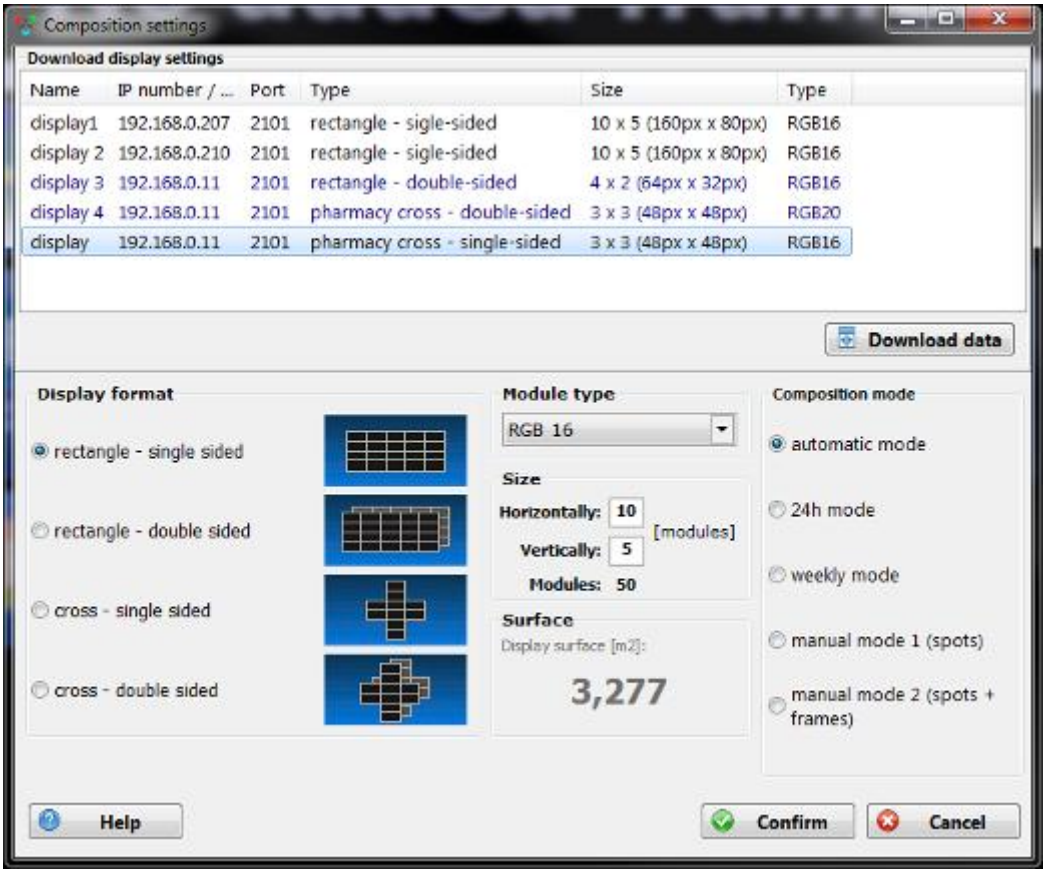
9 Project

A project is the content generated on the display. It is a set of spots that are composed of frames.

The following subpoints describe how to manage the project content.

9.1 Project settings

To configure the project, select *Configuration* → *Composition settings* from the main menu.



In this window define the dimensions of the project, the display format and the mode.

The dimensions of the project must be the same as the actual dimensions of the display to which the project will be sent.

A display dimensions and a panel type can be entered manually or copied from the list of the defined displays. To copy the data select a display from the list and then click on the **Download data** button.

9.2 Spots management

Spots are managed by using the buttons located above the spot list:

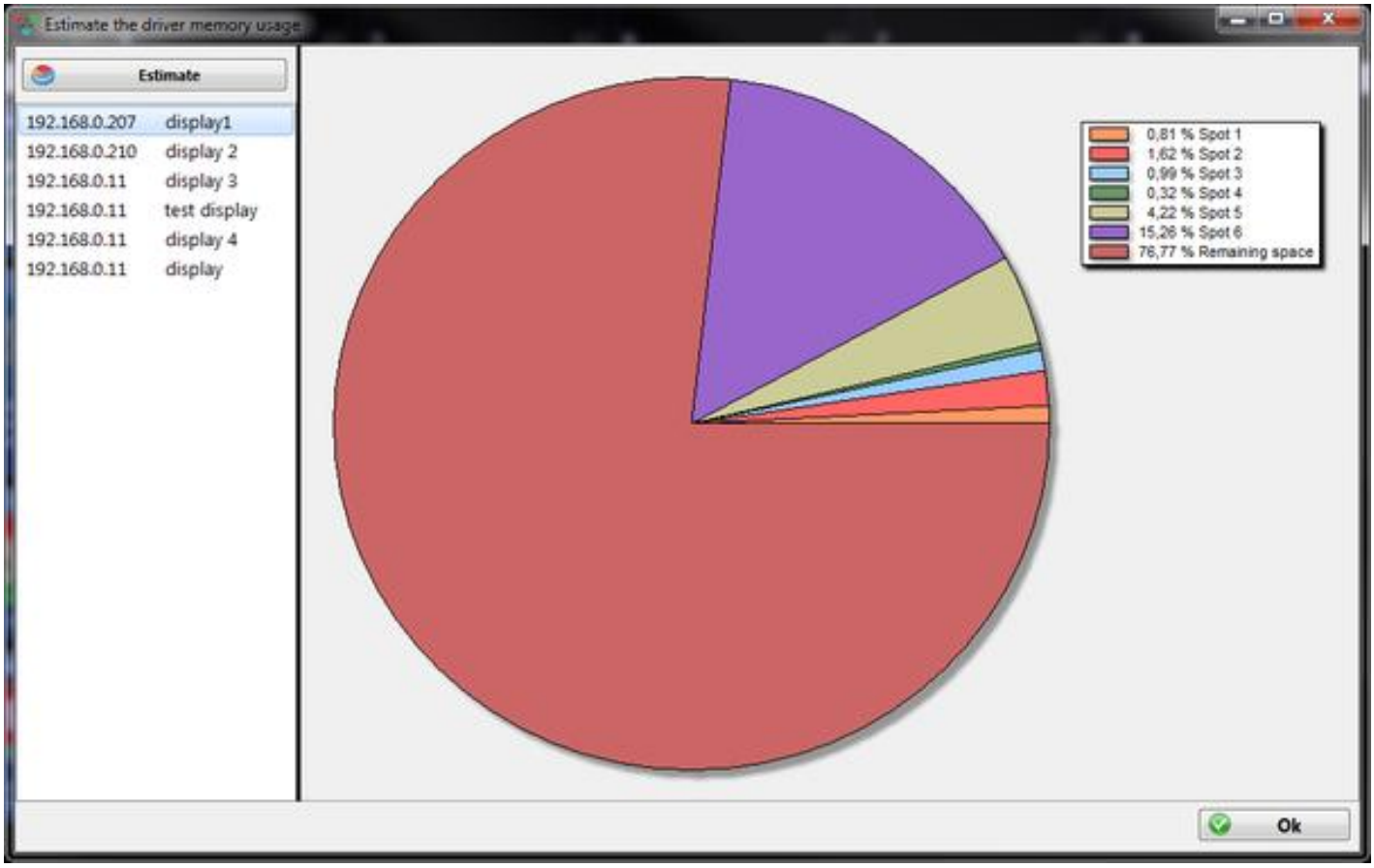
To add a spot click on the *Add a spot* button. To delete a spot select this spot and click on the *Delete a spot* button. The buttons *Move up* and *Move down* are used to change the spot position on the list. The button *Sort spots* sorts out spots as follows:

- if the project mode is a week mode, spots are arranged according to the display day of the week, next according to the display time
- if the project mode is a 24-hour mode, spots are arranged according to the display time
- otherwise spots are arranged according to the order of addition

After double-clicking on a spot, the spot edit window is displayed. The set data depend on the selected project mode.

9.3 Estimating the controller memory usage

To estimate the controller storage occupancy of the display use the occupancy estimation window (*Configuration→Estimate the driver memory usage*) :



Using the window consists in selecting a display and clicking on the **Estimate** button. You may also double-click on the display list. As a result, the application will try to connect to the display to check the parameters. If there are any problems with communication, a window will appear in which the User must select the controller storage capacity of his/her choice:

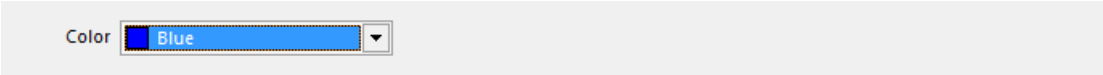
10 ColorStudio 5 tools

After adding effects, to define their parameters (text, text appearance, background pictures, etc.) use the tools described below. The application of these tools is described in the point ColorStudio 5 effects.

10.1 Background setting tool

When setting the background you can choose from four options:

Uniform background (filling with color):



The other option of filling with background is gradient:

In this case, select both colors and the direction of the gradient.

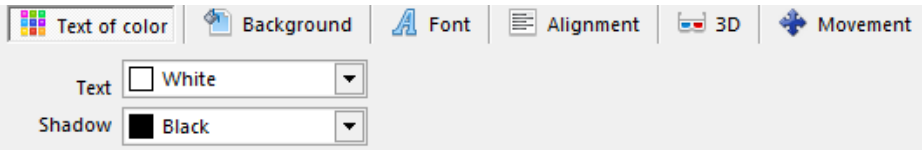
Another option is an image. In this option, select an image file, background color and a method of filling the frame with an image:

The last option is inserting the image of the frame selected on the spot:

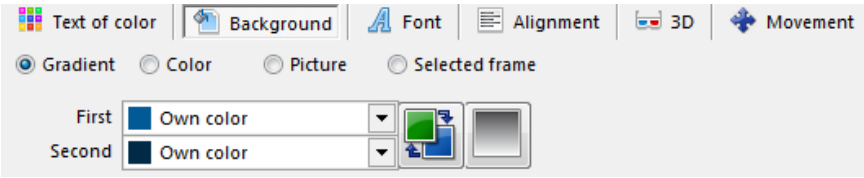
10.2 Text attributes editor

The text attributes editor is activated by clicking on the *Advanced view* caption below the text input control. The editor consists of tabs - text color, background, font, alignment, 3D and moving. If the effect is powerful enough, the tab *Settings,* containing various options depending on the effect, appears in the editor.

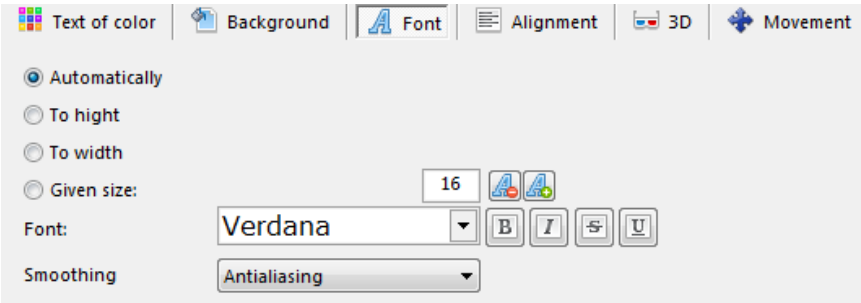
In the tab *Text color*, select text color and the color of the shadow cast by the text.



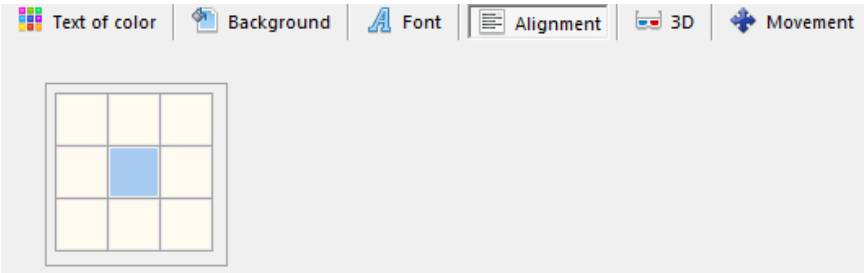
In the tab *Background,* there is the background setting tool described above.



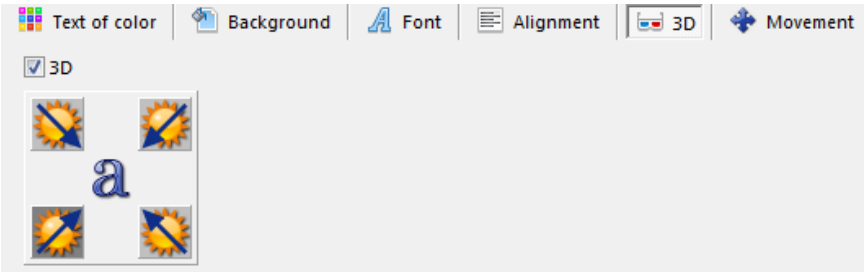
In the tab *Font* select font for the text.



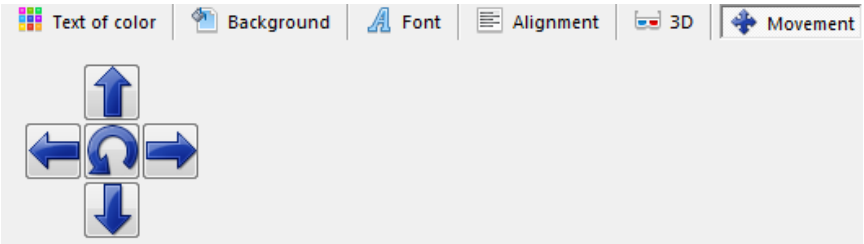
In the tab *Alignment,* set how to align text. Clicking on the appropriate box will cause the selection of the proper alignment:



In the tab *3D* you can determine whether to display the shadow under the font or not and you can set the direction of the light incidence on the text. The interval between the shadow and the text is 1 pixel.

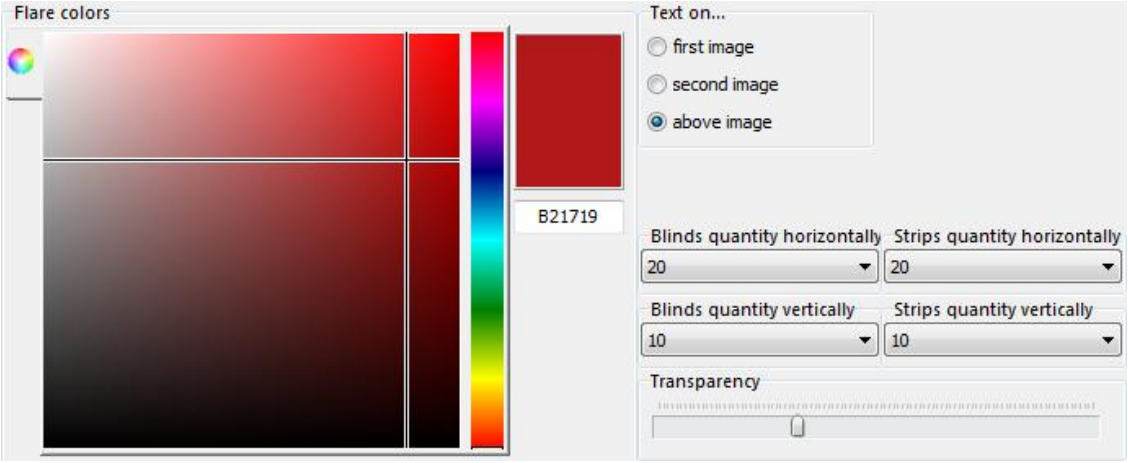


In the tab *Movement,* you can make the final adjustment of the text settings. Using the central button you can return to the default settings.



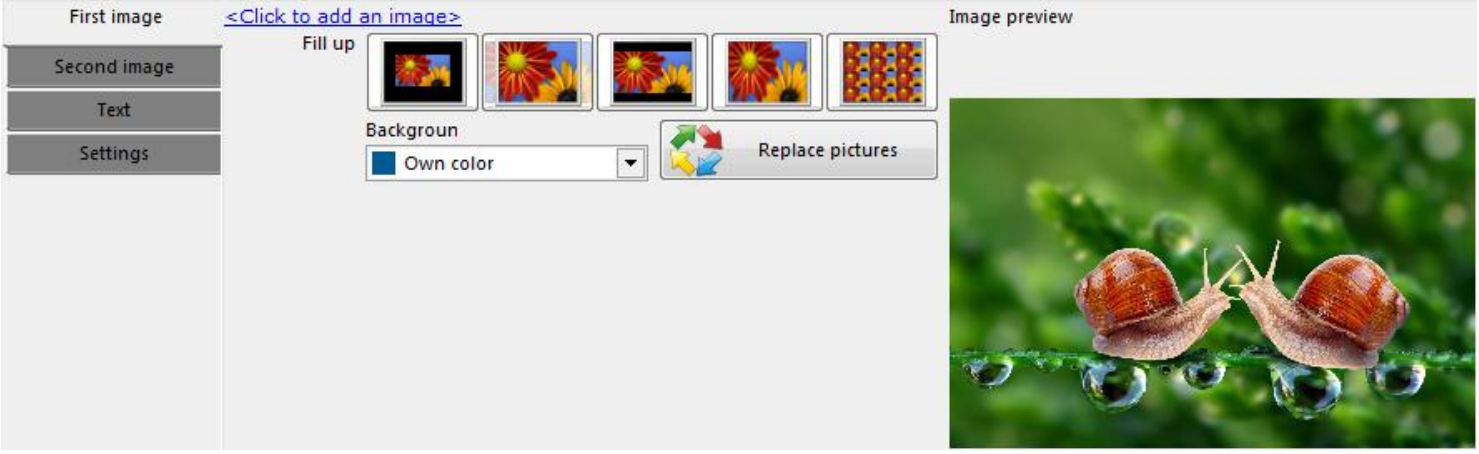
10.3 Setting an effect

If you need additional adjustment of the effect settings, additional controls will appear in the tab **Settings,** allowing you to adjust the parameters. Below, there is a figure showing the examples of using these controls - including the effects of transition between images, a flare, a reflex, blinds and strips.



10.4 Setting effects with two images

Some effects consist in changes between two images. In this case, you will see the following editor:



In the editor you have two standard controls of image selection, a tool to set text and settings. The button *Replace pictures* is used to swap images, which could be useful, for example, if you want to create a symmetrical effect, namely the transition from the first image to the other, and vice versa.

10.5 File manager

If you create effects using files, file managers are used to select them. Currently there are three manager versions in the program: for images, for SWF files and for films. In each of these versions, you can find the following buttons:

The first four buttons are used to select the method of displaying objects, and the others to select the location of the preview window.

11 ColorStudio 5 effects

11.1 Adding effects

To add an effect (i.e., to activate the appearance of frames in the selected spot), click on the chosen effect on the effects palette. The following editor will appear in the window:

The use consists in entering the necessary data and then in clicking on the effect option. As a result, a temporary spot will be created, which will be played in the effect preview window non-stop. After entering all the data and selecting the option, click on the OK button.

11.2 Adding special frames

Displays allow you to generate special frames including temperature, date and time in the form of both a digital clock and an analogue one (with hands). To make the display show the date and time properly, you need to set these data as described in Setting date and time. To make the display show the temperature properly, it must be connected to a thermometer. Thermometers connected to the RGB Technology 5G displays cover a range of temperatures from -40 ° C to 125 ° C.

11.2.1 Fonts used to generate special frames

When generating a frame, a display uses pre-defined fonts that are, in fact, bitmaps. The bitmaps are composed of eighteen pictograms arranged one by one. These bitmaps have 24 - bit color depth.

The following fonts are used by the display while special frames are generated:

The table of font dimensions (in pixels)

Font size	Character width	Character height	Space between characters	Bitmap dimensions
1	3	5	1	54 x 5
2	6	8	1	108 x 8
3	8	12	2	144 x 12
4	11	16	2	198 x 16
5	16	24	3	288 x 24
6	22	32	4	396 x 32

The fonts are designed for optimum legibility, but you can also send your own fonts to the display. To achieve this, they must meet the following requirements:

- bitmaps must have the same dimensions as the original ones (see the table of dimensions above)
- bitmaps must have a 24-bit depth
- transparency color (background) must be fuchsia (**$FF 00 FF**), while the font color must be white (**$00 00 00**), except for the last three pictograms
- bitmaps must be saved in subfolder *gfx* in the program directory, under the names **RGB_1**.bmp, **RGB_2**.bmp, **RGB_3**.bmp, **RGB_4**.bmp, **RGB_5**.bmp, **RGB_6**.bmp (from the smallest to the biggest)

To load your font bitmaps to the display, just send the configuration of the display as described in the point Downloading, sending and deleting the configuration .

11.2.2 Options of generating special frames content

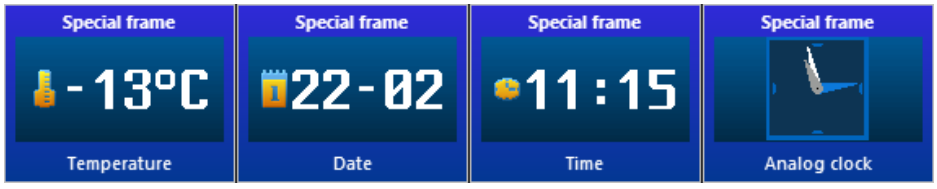
Special frames may be generated in various options:

Option	Description
Temperature	
+SS°C	Temperature with no decimal places
+SS.S°C	Temperature with one decimal place
Date	
DD-MM	Day-Month
DD-MM-YY	Day-Month-Year in two digits
DD-MM-YYYY	Day-Month-Year in four digits
DD-MM-YYYY	Day-Month-Year in four digits in two lines
MM-DD	Month-Day
MM-DD-YY	Month-Day-Year in two digits
MM-DD-YYYY	Month-Day-Year in four digits
MM-DD-YYYY	Month-Day-Year in four digits in two lines
YY-MM-DD	Year in two digits-Month-Day
YYYY-MM-DD	Year in four digits-Month-Day
Time	
HH:MM	Hour:Minutes
HH:MM:SS	Hour:Minutes:Seconds
Analague clock	
Rectangle	Clock dial-plate shape - rectangle
Rectangle with rounded corners	Clock dial-plate shape - rectangle with rounded corners
Ellipse	Clock dial-plate shape - ellipse

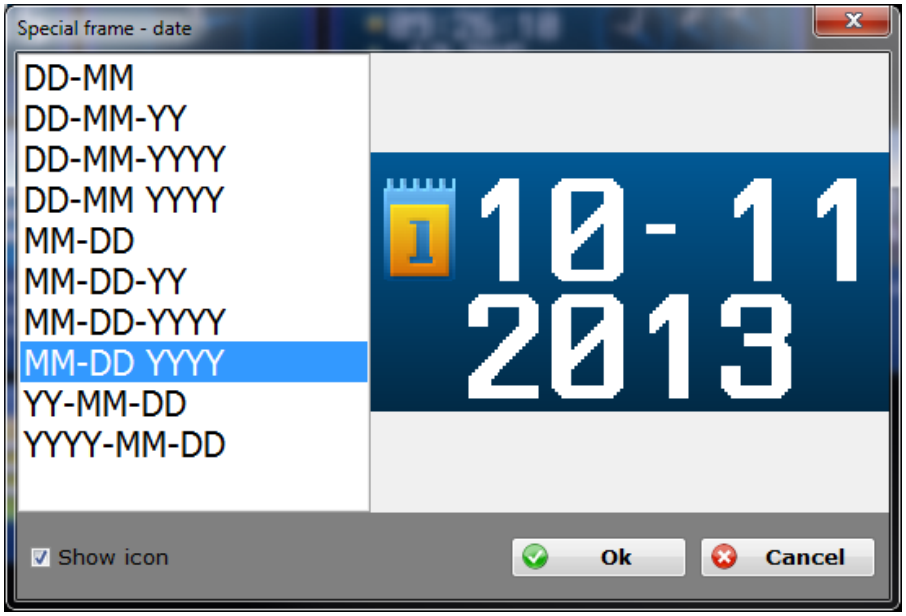
The ColorStudio 5 program offers two ways of adding special frames: simplified and advanced. In the simplified process, a frame background is always a standard gradient, and characters are always white. Only one special frame type can be inserted, adjusted to the biggest size and centered. In the advanced process, the User can insert all types to a single frame, and has full control over the font size and the place of displaying. You can also change a frame background (using a standard tool to set the background), and the order of displaying types.

11.2.3 Simple addition of special frames

To add a special frame quickly, click on any of the effects shown below:



After clicking on the window in which, depending on the type of the selected effect (temperature, date, time or analogue clock), you can select the option of generating special frames and the option whether to show the option icon or not:

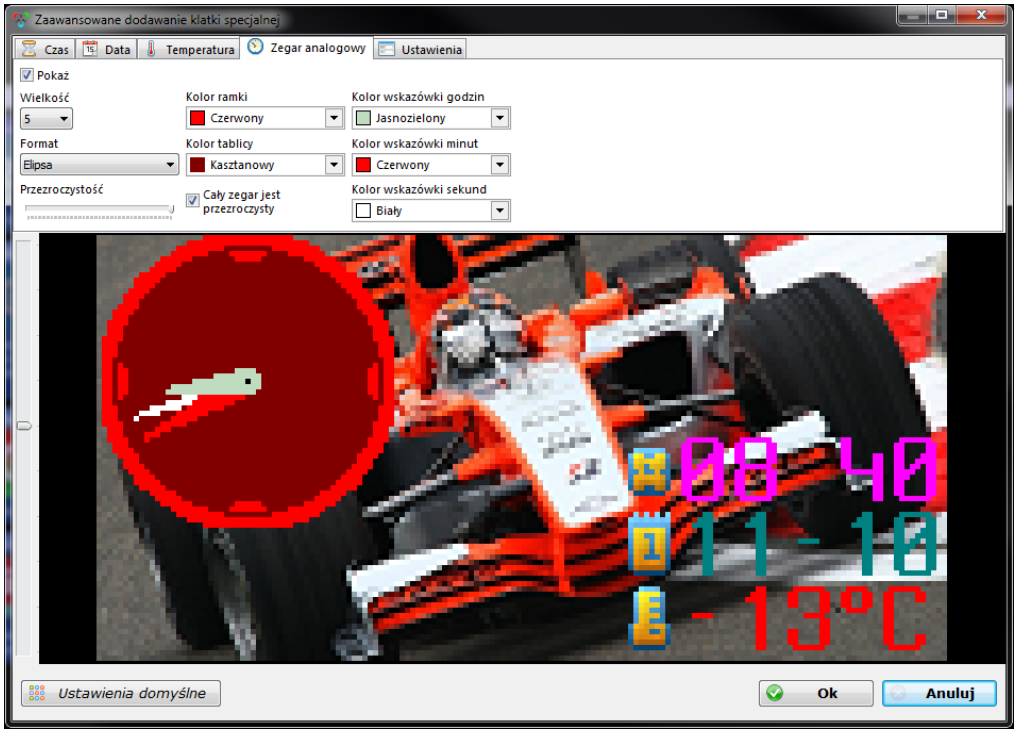


The program will centre the text vertically and horizontally and will adjust its largest font to the selected option. The background is the gradient of the default colors.

11.2.4 Advanced addition of special frames

To add a special frame in the advanced mode, click on the effect:

A window will appear as shown below:



The window is divided into five tabs: four tabs with special frame options and one with general settings. To show an option on the screen, select *"Show"* on the chosen tab. On the frame preview you will see an element the position of which you can set by dragging the mouse across the frame. You can also choose its size, format, text color, and whether to display the icon or not.

In the case of the analogue clock tab, you can also set the colors of the frame, the table and the clock hands as well as the transparency and format of the clock. In the case when " *Whole clock is transparent* " option is unchecked, only the table will be transparent.

If the height of the project is less than 32px, the **Analogue Clock** tab is not available.

On the *Settings* tab, you can select the order of displaying individual elements and a frame background.

11.2.5 Adding images

When you add images to the effects (as a background or an effect element), the ColorStudio 5 program offers different ways to arrange and adjust images. Unfortunately, almost always the adjustments associated with the change of an image size cause its distortion. Therefore, the best solution is to create drawings of such dimensions as the chosen project, and then to select the alignment *"Centre"*.

11.2.6 Adding video files

When you add frames from video files, be sure to install codecs that have been used to create these video files. Otherwise, the video file will not be played. Please also note that the number of frames in the video file should not exceed the amount which could be stored in the memory of the display controller.

11.2.7 Adding SWF files

When you add the frames from SWF files, please keep the following principles:

- Your computer must have the **FlashPlayer for Internet Explorer** software installed, to be downloaded from http://get.adobe.com/pl/flashplayer/otherversions/.
- A well-known problem is the SWF files that show a wrong number of frames when a video file has been added to the file. Therefore, if you input video files to a SWF file, add them in the following way:
  - either add the files as an embedded video
  - or add the files as film clips, and then, over them, add a mask of the same number of frames as these film clips

11.2.8 Effects' list

Effect	Description
Statistical	Simple displaying of text string
Plasma	A group of six effects with a constant text string and smooth transitions of background colors
Many pictures	Adding many pictures
Flash	Adding frames from flash files (SWF)
Video	Adding frames from video files
Flashing	Appearance and disappearance of text or background
Passing	Text movement across the screen in four directions to choose
Entry/Exit	Text entry or text exit from the screen in four directions to choose
Zoom	Text zooming- in and zooming-out
Transition effects	Smooth transitions of one image into another

Flare	Transition of one image into another, divided by a light flare. You may enter text on the first or the second image, and you may choose the flare color.
Blinds	Transition of one image into another, dividing the image into blinds.
Strips	Transition of one image into another, entering and exiting strips
Exposing	Showing one part of an image after another
Reflexion	Movement of a semi-transparent text string copy

12 Sending a project to a display

To send a project to a display press the ***Send*** button.

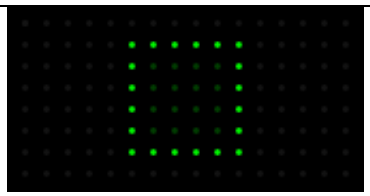
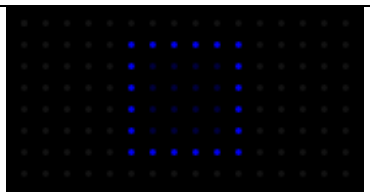
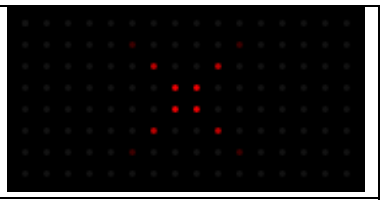
The ColorStudio 5 program supports sending a project to many displays. On the list, select the displays to which you want to send the project. The program allows for hiding the displays the dimensions of which do not match the dimensions of the project. If sending the project is interrupted, the device will display the error code NO PROJECT described in the point Error codes. Please note that the number of sent frames is closely related to the controller storage capacity, therefore you should estimate how much storage memory the sent project wil occupy. The display controllers are diverse in terms of built-in storage capacity, so, to perform the estimation, use the window described in the point Estimation of the driver memory usage.

13 Uninstalling the program

During the uninstall process you will be asked whether the ColorStudio 5 setting files are to be left on the disk or deleted.

14 Error codes

Below are the error codes generated by the display. If you see the error MEMORY ERROR, immediately contact the Technical Support.

Code			
Meaning	NO CONFIGURATION	NO PROJECT	MEMORY ERROR
Description	Send the configuration to the display	Upload the project to the display	Contact the Technical Support