
User's Manual



CorobWORLD

Version 4.5 - R2

COROB S.p.A.

© 2017 COROB S.p.A.

**CorobWORLD
User's Manual
Version 4.5 - R2**

© COPYRIGHT 2017, COROB S.p.A.
All rights reserved in all countries.

If you require additional copies of this manual or further technical information about it, please write to:

COROB S.p.A.

Via Agricoltura 103 • 41038 San Felice s/P • Modena • Italy

Phone: +39-0535-663111 • Fax: +39-0535-663285

www.corob.com

INTELLECTUAL PROPERTY RIGHTS AND DISCLAIMER

No part of this manual may be translated into any other languages and/or adapted and/or reproduced in any form, or by any means, electronic or mechanical, including but not limited to photocopying and recording, without prior written permission of COROB S.p.A..

COROB™ is a registered trademark and/or commercial trademark used on an exclusive basis by COROB S.p.A. and its affiliated companies (hereinafter "COROB").

A failure of a trademark to appear hereunder does not mean that COROB does not use the trademark in question nor does it constitute a waiver by COROB of any related intellectual property rights.

COROB has carefully reviewed the wording and images contained in the present manual, nevertheless COROB reserves the right to modify and/or update the information herein to correct editorial errors and/or inaccuracy of the information herein without notice or commitment on its part.

Unless otherwise indicated, all references to other companies other than COROB and its affiliated companies, their names, data and addresses used in the screens and/or examples are purely coincidental and serve as a reference only to clarify the use of the COROB™ products.

Printed in Italy.

Contents

Introduction	5
Information about CorobWORLD.....	5
Minimum system requirements	6
Conventions	6
Parts of a window.....	6
Use of the mouse.....	8
Use of the keyboard.....	8
Terminology	9
Installation	11
Installing CorobWORLD.....	11
Installing the data structure.....	12
Installing the customizing disk	12
Getting CorobWORLD ready for use	13
<i>Operation in Demo mode</i>	13
<i>Customizing the program name and icons</i>	13
Interfacing the measuring instrument	13
Starting CorobWORLD	15
How to start CorobWORLD.....	15
Initialization	16
<i>Dispensing test and Purge</i>	17
<i>Initialization of more dispensers</i>	17
The screen of CorobWORLD.....	18
Formula document	20
Menus and tools.....	20
HTML background	22
Starting ColorTECH	22
Exiting CorobWORLD	22
Access to functions via user profiles.....	22
External programs.....	23
CorobSTORE	24
Color matching loop	24
CorobQUALITY	25
Using CorobWORLD	27
Creating and managing formula documents.....	27
Using Cylinder, NCS and Collections from the formula document.....	28
Printing labels from the formula document	30
Searching a formula.....	31
Selecting product and subproduct	32
Selecting the formula from the list	33
<i>How to operate in the formula list</i>	34
<i>Search by an identification key and use of the filter</i>	34
Selecting a custom formula.....	35
<i>Deleting custom formula</i>	36
Selecting a formula from the cylinder	36

Selecting a formula from the NCS triangle	37
Selecting a formula from the color collections.....	38
Find closer color	39
Selecting a formula by Color matching.....	42
Searching the formula in all the system products	42
Searching the formula by alternative codes	45
<i>Color list</i>	46
<i>Filter</i>	46
<i>Procedure</i>	46
Color matching	47
Choosing a color to be reproduced	48
The Read button.....	48
<i>Color selection from database - reading management</i>	49
<i>Manual entry of reflectance values</i>	51
Formulation.....	52
Manual selection of the formula	53
Correction	55
Color matching with colorant reduction	58
Deleting the colors to be reproduced	59
Using the color measuring instrument.....	60
Reading the samples.....	60
Download of readings (only Minolta instruments)	61
Calibration of the instrument	62
Defining a cansize	62
How to select a cansize	63
Standard dispensing.....	64
Dispensing window.....	64
<i>Dispenser status bar</i>	65
<i>Control buttons</i>	65
<i>Cansize selection</i>	66
<i>Dispensing counter</i>	66
<i>Formula colorants check</i>	66
<i>Series dispensing</i>	67
<i>Dispensing in background</i>	67
<i>Printing labels</i>	68
Editing the formula.....	68
Buttons and status bar.....	69
Colors section.....	69
Changing the selections	70
<i>Base and cansize</i>	70
<i>Product and subproduct</i>	70
Defining the color.....	71
<i>Automatic adjustment of quantities</i>	72
<i>Warning signs in the quantities section</i>	72
Colorant concentration check bar.....	72
Unit of measure	73
Edit mode dispensing	74
Colorant addition	74
Saving a formula.....	74
Formula price (CorobSTORE).....	75
Displaying price groups	76
Queuing and Formula query.....	76
Formula queuing.....	77
Local queue	78
Remote queue	79
Technical information	81
Dispenser commands.....	81
<i>Reset</i>	83
<i>Initialization</i>	83
<i>Recirculation</i>	83

<i>Stirring</i>	83
<i>Punching</i>	83
<i>Purge</i>	83
<i>Autocap - Open / Close / Half way</i>	84
<i>Shelf - Up / Down / Move to</i>	84
Levels.....	84
How and when to update colorant level.....	86
<i>Procedure</i>	86
Multiple circuits	86
Refilling history.....	87
Refilling lot code.....	88
Warnings and error messages.....	89

Configuration 91

General options.....	91
Labels.....	91
<i>Selecting the layout before printing</i>	92
<i>Importing a layout</i>	93
<i>Using the Print dialog box</i>	93
Formula exchange	93
<i>Formula queuing</i>	93
<i>Reception</i>	93
<i>Transmission</i>	94
<i>Port settings</i>	95
Web and MDI	95
Edit formats	96
Fonts	98
Base formula.....	99
External codes	99
Miscellaneous	100
<i>Refilling history</i>	100
<i>Program title and icon</i>	100
<i>Product tree always enabled in the Modify formula window</i>	100
<i>Automatic formula search from main screen</i>	100
Barcode.....	101
Advanced options	101
Color management	101
Color collections.....	103
<i>Creating a new collection</i>	104
<i>Choosing the colors for the collection</i>	104
<i>Deleting a collection</i>	105
<i>Printing the collections</i>	105
Spectrophotometer	106
Find closer color.....	106
Color matching.....	107
<i>Section Colorimetry and Formulas</i>	107
<i>Section Formulation type</i>	108
Color matching - advanced.....	108
<i>Section Colorants</i>	109
<i>Section Automatic selection</i>	110
<i>Section Correction</i>	110
User profiles	110
Administrator user.....	111
Guest user.....	112
Modifying a user profile.....	112
Adding or deleting a user	112
Log Off time.....	112
Shop info	112
Shop info	113

<i>Notify quantities not adjusted</i>	113
<i>Default cansize</i>	113
<i>Custom cansize</i>	114
Keys.....	114
Databases	114
Database management	114
<i>Rebuilding indexes</i>	115
<i>Backup</i>	115
<i>Restore</i>	116
<i>Bitmap</i>	117
Formula time check	118
Catalog maintenance.....	118
<i>Including, removing and deleting</i>	119
<i>Error display</i>	120
Modifying the language	120
System information.....	121
External programs Configurator	121

Appendix 123

Documentation	123
Use of the shortcut keys.....	123
Screen saver	124
Compatible external devices	125

Introduction

Information about CorobWORLD

CorobWORLD is one of the operator interface application programs for managing a COROB™ automatic dispenser. It operates in Microsoft Windows 95/98/ME/XP and Microsoft Windows NT/2000 environments.

CorobWORLD not only manages the dispenser, but offers the user with a series of services and features that make it a complete, flexible tool. The main functions are:

- searching formulas from the list, graphic display of color cards on cylinder to quickly find the color to be dispensed
- selecting the color from customized collections
- color matching, even without the use of a color measuring instrument
- dispensing formulas of the tinting system
- dispensing customized formulas not included in the tinting system
- creating and saving customized formulas in a dedicated database
- printing the label for the dispensed product
- data backup and restore functions
- price and stock management, and barcode management for cansizes (optional CorobSTORE module)

CorobWORLD also offers all functions necessary for daily maintenance of the dispenser and to manage the level of colorants in the canisters.

CorobWORLD is a complete **colorimetry** program, capable of reproducing a color sample determined by an instrument reading or selected from a reference color card; the reproduction may take place by searching for the closer color among the formulas of the system in use, or by formulating a new formula using the bases and colorants of the tinting system used.

The “Find closer color” function allows you to search for the system formula closest to a given color.

The “Color matching” function allows you to formulate a color, thus create a new formula or recipe to obtain a given color (or the most similar color) using bases and colorants of the tinting system used.

The color to be reproduced using the aforementioned functions may be selected from a reference color card (RAL, NCS etc.) or read by an instrument interfaced with the computer.

This document supplies all the information you need on how to learn and to work with the program. We suggest you to read this document carefully and in all its parts before starting to use the program.

First of all, install Windows 95/98/ME/XP or Microsoft Windows NT/2000 operating system (purchased separately). Learn how to use Windows. Do not attempt to install or use the software until you are comfortable using Windows environment.

Minimum system requirements

CorobWORLD is a program to be used on the Personal Computer that equips a COROB™ automatic dispenser.

If the Personal Computer is supplied by the manufacturer, both the hardware features and operating system are pre-configured to ensure optimum performance of the software package.

For Personal Computers purchased directly by the customer and, in any case, not supplied by the manufacturer, it is important to respect the following **minimum** requirements:

- IBM® PC and compatibles
- Intel® Pentium III Processor 400 Mhz, 600 Mhz recommended
- Windows® 95/98/ME/XP, Windows® NT® Workstation or Windows® 2000
- 64 MB RAM or more recommended
- Hard disk 5 Gb
- SVGA compatible display with minimum 4 MB RAM
- Mouse or Trackball
- CD-ROM drive 24X
- Windows® compatible Modem recommended
- 2 serial communication ports (COM1, COM2), additional serial ports required if used with Color matching or label printing
- 1 parallel port (LPT1)

Conventions

Below are a few general conventions regarding the use of a program in the Windows environment, and conventions used in this document. For a more detailed description of the Windows dialog boxes, see the Microsoft Windows Help Guide.

Parts of a window

This section describes the main elements of Windows dialog boxes.



The **Minimize** button in the title bar of a window allows you to minimize the window, or reduce the main window to a button in the Windows taskbar.



The **Close** button in the title bar of a window allows you to close the window or exit the program.



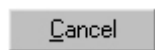
The **Maximize** button in the title bar of a window, allows you to enlarge the window so that it covers the entire desktop, the taskbar excluded.



The **Restore** button in the title bar of a window, allows to return the window to its former size.



The **OK** button carries out the choices made within a dialog box.



The **CANCEL** button tells the application to ignore any changes made to that point in the dialog box, and returns the user to the previous situation.



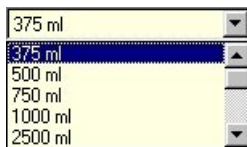
The **control buttons** and **function buttons** produce an action.



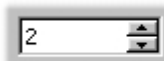
The **option buttons** offer two or more mutually exclusive choices. To select one of the possible choices, click on the corresponding button. Contrary to check boxes, you may select only one of the options in the group.



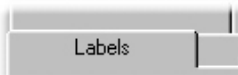
A **check box** is enabled if the corresponding option is activated, or when a check mark appears inside it; it is inactive if the corresponding option is disabled, thus when the check box is empty. Contrary to option buttons, you may check all of the options contained in a group of check boxes.



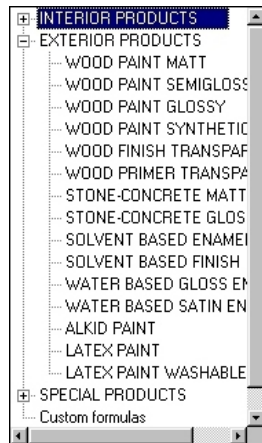
The **drop-down list boxes** offer a list of options; scroll through the list by clicking on the arrow next to the box, and select an item by double-clicking on it, or select it and click OK. If the list is too long, the box will have a scroll bar; in this case you may scroll through the list by clicking on the arrows or dragging the bar with the mouse.



In the **numerical boxes** it is possible to either type values via the keyboard or use the corresponding selection boxes (arrows) that allow you to change the values using the mouse; the upper arrow increases the value shown, while the lower arrow decreases it. You may click on an arrow to change the value by a single increment, or hold the mouse button down on the arrow to change the value by multiple increments. In the **text boxes** you must type text using the keyboard.



Tabs appear along the top of some dialog boxes. These allow you to move through the pages of properties grouping related commands together.



If a **window** or **section** containing information is not large enough to hold them all (i.e.: list of products and subproducts while choosing the formula, list of circuits in the updating colorant levels window, etc.) a scroll bar will appear on one side and/or at the bottom of the window or section: drag the bar or click the scroll arrows.

If the information in a **window** or **section** is structured in tree format, click on the + sign to expand the selection if it is collapsed; click on the - sign to collapse the selection if it is expanded.

If the information in a **window** or **section** is structured in columns, click in any point of a column to activate it: the activated column is highlighted by a grey background.

If there are no vertical scroll bars, scroll through the list by dragging the mouse up or down.

Use of the mouse

To work with CorobWORLD it is advisable to use a mouse. Here below you will find some conventions concerning the use of the mouse.

- The mouse left button is assumed as the main button.
- When the use of the secondary button is required, this button will be referred to as the mouse right button.
- **“Point”** means to position the mouse pointer on the desired object.
- **“Click”** means to point to the desired object and then press and release the main mouse button in quick succession.
- **“Double-click”** means to point to the desired object and then press and release the main mouse button twice in quick succession.
- **“Drag the mouse”** means to point to the desired object, press the main mouse button, and while continuing to hold the button down, move the item in the desired position. When the action is completed you release the mouse button.

Use of the keyboard

As for all Windows programs, CorobWORLD can also operate with the keyboard alone. To learn how to work with a Windows application using the keyboard, refer to the Windows User's Guide and to the *"Use of the shortcut keys"* on page 123.

Here below you will find some conventions concerning the use of the keyboard.

- **“Arrow keys”** or **“Cursor keys”** indicate the up, down, left and right arrow keys.
- To execute some actions or procedures with the keyboard, it is often required to press more than one keystroke at the same time or in succession. For instance, Ctrl+F4 means to press and hold down the CTRL control key and F4 at the same time; Alt, C means to press the ALT key and then release it before pressing C.
- Press TAB to cycle through the options inside a window.

- Use the ALT+SPACEBAR keyboard shortcut to open the control menu.
- Use the ENTER key instead of the OK button and the ESC key instead of the Cancel button.

Terminology

Below is an explanation of the terminology used in the program and manual.

Catalog	Unique data structure (tinting system) identification system that allows you to record information (custom formulas, statistical data, etc.) about various data structures. The saved data are filtered based on the tinting system to which they refer. Users with several tinting systems on the same machine benefit from this system.
Can	Can, canister or drum, pre-filled with base product used for dispensing.
Cansize	Can of specific sizes. The cansize may normally be selected from among those available in the current system in relation to the product and base selected.
Custom cansize	A cansize that is not part of the system used, whose capacity is defined as needed.
Characterization	Process that determines the colorimetric characteristics of the components of a tinting system (bases and colorants).
Custom formula	Formula not included in the data structure but created by the user through the edit mode dispensing function.
Data structure	A database organization of all information about a tinting system such as colorants, bases, cansizes, formulas, etc. needed to run the program.
Default	The predefined setting of a parameter, if not otherwise stated.
Edit mode dispensing	Function for dispensing a formula that requires direct operator assistance in defining a color not included in the data structure, or for the correction of a previously dispensed formula.
Formula or color	Recipe to produce a certain color or hue.
Standard dispensing	Function for dispensing a formula that does not require operator assistance in defining the color, since all information is taken directly from the data structure.
System formula or color	Recipe included in the data structure, i.e. in the tinting system.
ΔE	Measurement of the perception difference of two colors.
ΔE_{cmc}	Corrected measurement of the perception difference of two colors, taking into account the physiology of the human eye.
Color matching or formulation	This is the automatic calculation procedure to create a formula that reproduces a sample of a certain color.
Colorimetry	Science that allows you to identify a color by measuring the three parameters that characterize it (luminosity, hue and saturation).
Fill level	Maximum and minimum fill level of the base in a 1-liter can.
Luminosity	One of the three coordinates of chromatic space, expressing the white light intensity of a color, which thus ranges from "lighter" to "darker".
Metamerism	Phenomenon by which two colors of the same spectrum composition appear identical if observed under a certain type of light, and different if observed under another type of light.
Reflectance	Ratio between incident light flow and reflected flow as the wavelength changes.

Saturation	One of the three coordinates of chromatic space, expressing the fullness of the hue.
Spectrophotometer	Instrument capable of determining the intensity of radiation in the various parts of the spectrum, and reading a color sample.
Hue	One of the three coordinates of chromatic space, expressing the perception of the color; attribute by which the subject of the perception is defined red, yellow, blue, etc.

Installation

Installing CorobWORLD

The installation program decompresses the files on the disks so that they may be opened and used on your hard disk.

Important - To avoid problems during installation, disable any virus protection programs installed on the computer; these may be re-activated when installation is complete.

To install CorobWORLD:

1. Place the "Software & Colormatching" CD on your computer CD-ROM drive.

If your CD-ROM drive has AutoPlay enabled, the setup will start automatically, in this case skip to step 3. If the setup does not start automatically continue with step 2.

2. Open **My Computer** and double click on the CD-ROM icon.

The "Software menu" appears on the screen.

3. Choose the desired category and then click the button with the name of the software you want to install. Follow the on-screen instructions to finish installing the selected software.

When installation of a software is complete, the "Software menu" will appear again.

4. Repeat the previous steps to install other programs or click on the **Exit** button to quit the installing procedure.

Important - If you are upgrading from version 3.5 or lower, you will need a new validation password to start the new version (4.0 or later). Make sure you have this password before proceeding with the upgrade.

Important - To install a new program version, you need to remove the existing version in your system.

The CorobWORLD icon will appear on the desktop when installation is complete.

To start CorobWORLD follow the instructions given in chapter "*How to start CorobWORLD*" on page 15.

Installing the data structure

In order for the program to run, and to configure the COROB™ automatic dispenser, once you have installed the program you must also install the floppy disk containing the **data structure** (or database) for the tinting system used, generally provided by the manufacturer of the tinting system and usually available on floppy disks.

1. Insert the first floppy disk labeled "Database - Installation Disk" into the computer floppy disk drive.
2. Click the **Start** button and choose **Run**.
3. Type **a:\install** or **a:\setup** (if a:\ is the unit associated to the floppy disk drive) and click on **OK**. Installation will take place automatically; simply insert the disks in the drive when requested by the program.

Data structures created and maintained with ColorLAB (version 3.5 or later) are marked by an univocal identification number (ID) that allows management of data through the Catalog (chapter "*Catalog maintenance*" on page 118).

The installation program of the data structure includes correctly the database in the Catalog. The data structure must be installed only by following the procedure described above. **Do not transfer databases by copying data from one disk to another.**

If incongruencies in the Catalog are found when the program is started, a warning message is displayed.

It is possible to install several data structures.

For further information, see the document "The concept of Catalog and Gdata ID" available in the CD-ROM "Software & Colormatching".

If the program must manage more than one dispenser, you may associate to each dispenser the relevant data structure (that is to say, the data structure featuring the colorants present on the machine).

This configuration must be carried out using the configuration and calibration program ColorTECH, when you get the program ready for use (chapter "*Getting CorobWORLD ready for use*" on page 13). As soon as a formula is chosen from a data structure, the program will control the dispenser the data structure is associated with.

If the program controls a single dispenser, the data structures must have the same colorant list.

Installing the customizing disk

If required, install the customizing data.

The customizing data consist of all customized elements that differ from the defaults (customer logo, label layout etc.). The customizing disk also makes it possible to set specific settings for special program functions.

1. Insert the "Customizing disk" CD on your computer CD-rom drive, or floppy on your computer floppy disk drive.
2. Click the **Start** button and choose **Run**.
3. Type **a:\setup** or **d:\setup** (if a:\ is the unit associated to the floppy disk drive and d:\ is the unit associated to the CD-rom

drive). Follow the on-screen instructions to finish installing software customization.

When installation is complete, you may start the program.

Customizing data may be installed at any time; you may therefore install and use the standard program, and add customization later.

Getting CorobWORLD ready for use

To get the program ready for use it is necessary to install the ColorTECH configuration and calibration program onto the dispenser computer where CorobWORLD is installed.

You may install ColorTECH from the CD-rom "Software & Colormatching" by following the same procedure described for program installation (chapter "*Installing CorobWORLD*" on page 11).

Using ColorTECH, configure the dispenser, paying particular attention to the assignment of colorants to canisters (consult the ColorTECH user's manual).

Technical note: To simulate the machine, add the following setting to the AUTOEXEC.BAT system file: SET DSPDEBUG=256.

Operation in Demo mode

For operation in Demo mode, it is not necessary to install the ColorTECH program and set up the program as described: simply install the **Demo Database** from the "Software & Colormatching" CD-ROM, following the same procedure described for program installation (chapter "*Installing CorobWORLD*" on page 11).

In addition to installing a demonstrative data structure, a default dispenser will be automatically configured. The program will be able to run without further configuration by the user.

If the program is used with a DEMO key, communication with the machine will always be simulated even if the setting for machine simulation is missing.

If the program is used with a DEMO key, the Color matching function is simulated on a single standard sample.

Customizing the program name and icons

Through the CorobWORLD options, the user is given the possibility to customize some elements of the program:

- program name and icon, displayed on the title bar of the main window
- icon displayed on the title bar of the formula document

To learn how to customize the program name and icons, see General options - Miscellaneous (chapter "*Program title and icon*" on page 100).

Interfacing the measuring instrument

The instrument selected to read the color samples must be interfaced via one of the serial ports available on the computer; in addition, the COM serial port to which the instrument is connected and the model itself must be selected from within the program.

Consult the instrument user's manual and see the function Advanced options - Spectrophotometer (chapter "*Spectrophotometer*" on page 106).

Starting CorobWORLD

How to start CorobWORLD

The protection key is necessary to operate the program. Insert the key, that you will find in the CorobWORLD package, in the LPT1 parallel port of your computer (consult your personal computer's technical manual).

To start CorobWORLD carry out the following procedure:

- Click the **Start** button, then choose **Programs**.
- Choose the **Corob Windows Software** folder then click the program **CorobWORLD**.

or

- Double click the corresponding icon on the desktop.

When starting CorobWORLD for the first time, a message asks to carry out validation; after confirmation, the validation dialog box named "Module/Program activation" will appear (Figure 1).

Messages for the validation procedure are in English, while the program runs in the operating system language if the translation is available -- if not, it will also be in English. Anyhow, it is possible to change the program operating language by choosing it from among all those available (chapter "*Modifying the language*" on page 120).

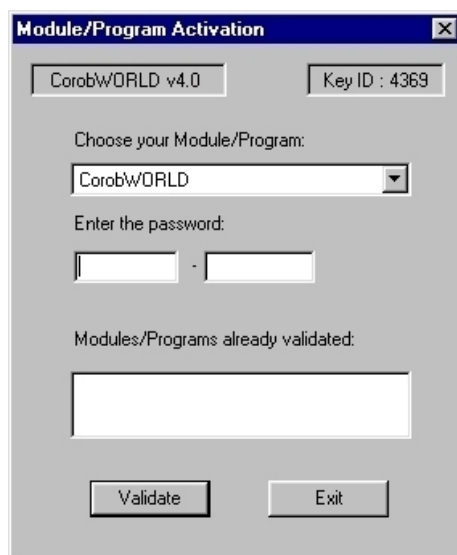


Figure 1

The identification number of the key currently inserted on the computer is automatically detected and displayed on the top right corner (Key ID); the program version displayed in the top left corner indicates which password should be used to validate the program.

Check that the identification number and the version correspond to those indicated in the document “Password list” supplied together with the program.

1. Check that the name of the program you are about to validate is displayed in the **Choose your Module/Program** box; if this is not the case, select it in the list that appears by clicking on the arrow placed next the box.
2. In the **Enter the password** boxes, type in the safety password indicated in the Password list concerning the program you want to validate.
3. Click **Validate** to validate the program. If validation is successful, a message will appear on the screen.
4. Repeat the steps to validate possible further modules (CorobSTORE, for example) or click on **Exit** to quit the validation program and start the COROB™ program.

When starting the program, initialization of the dispenser is required.

Initialization

Initialization is the first step required by the program upon start-up.

Initialization is essential for smooth dispenser operation; **the dispenser must be initialized every time it is turned on.**

If the shutdown/start-up involve the computer alone, this operation is not strictly necessary, even if requested by the program, and is left to the operator's discretion.

We recommend that you **DO NOT SHUT OFF THE DISPENSER** to prevent colorants from drying out, thanks to recirculation and stirring automatic timed processes (consult the dispenser user's manual).

Click **OK** to carry out dispenser initialization or click **Cancel** to abort.

Wait until initialization is complete before performing any other operations with the dispenser or simply with the computer.

The initialization process carries out pump releasing and then colorant recirculation inside the circuits.

Pump release process slowly begins circulating the colorants through the circuits, starting the machine pumps in a non-traumatic manner.

Colorant recirculation process serves to restore fluidity to the colorant and prevent pigments from settling in the machine circuits.

The initialization process may be activated at any time through the function **Dispenser commands** (chapter "*Dispenser commands*" on page 76).

Once initialization is complete, the program requests a Dispensing test or a Nozzle Purge.

To carry out the test, click **OK** and follow the instructions appearing on the screen or click **Cancel** to abort.

The dispenser is now ready for use and the CorobWORLD main dialog box appears on the screen.

After a few seconds of inactivity, the Colorant stirring process is automatically activated in the canisters, allowing to keep the colorant in the machine canisters homogeneous and fluid.

Dispensing test and Purge

The dispensing test checks the efficiency of the machine circuits by dispensing the same amount of colorant from all the circuits, one at a time.

At program start, instead of Dispensing test, it is possible to carry out Purge.

The purge process cleans the nozzles from any encrusted colorant, by dispensing a defined amount of colorant from groups of 8 circuits at a time.

The dispensing test and purge are programmable, meaning that they may take place at regular intervals while the dispenser is in use, simply by programming a time-out. During the first dispensing once the time-out has elapsed, the system will ask whether to perform purging or the dispensing test.

To configure the Purge process, refer to the command **Purge** (chapter "*Purge*" on page 83).

Cleaning the nozzles from colorant build-up ensures that dispensing is always precise; this is why the purge process is always recommended before beginning a working cycle. The Purge (or nozzle cleaning) process may be activated at any time using the **Dispenser commands** function (chapter "*Dispenser commands*" on page 76).

Initialization of more dispensers

If the application program must manage more than one dispenser connected to the same computer, when confirming the dispenser initialization it will be possible to choose the machine you want to operate with.

Before confirming initialization, choose the dispenser you intend to use, from among those listed in the **Current dispenser** list box; the asterisk indicates the default dispenser.



Figure 2

If the dispensers use colorants belonging to the same data structure, each time the machine is managed the program will ask to choose which machine to use.

If the dispensers use colorants belonging to different data structures, the system will automatically select the dispenser associated with the data structure from which the formula to be dispensed has been selected.

If a dispenser is selected that has not yet been initialized, initialization is requested.

The screen of CorobWORLD

The first time the program is started, the screen displays an empty *formula document*.

Figure 3 shows all the areas of the CorobWORLD screen.

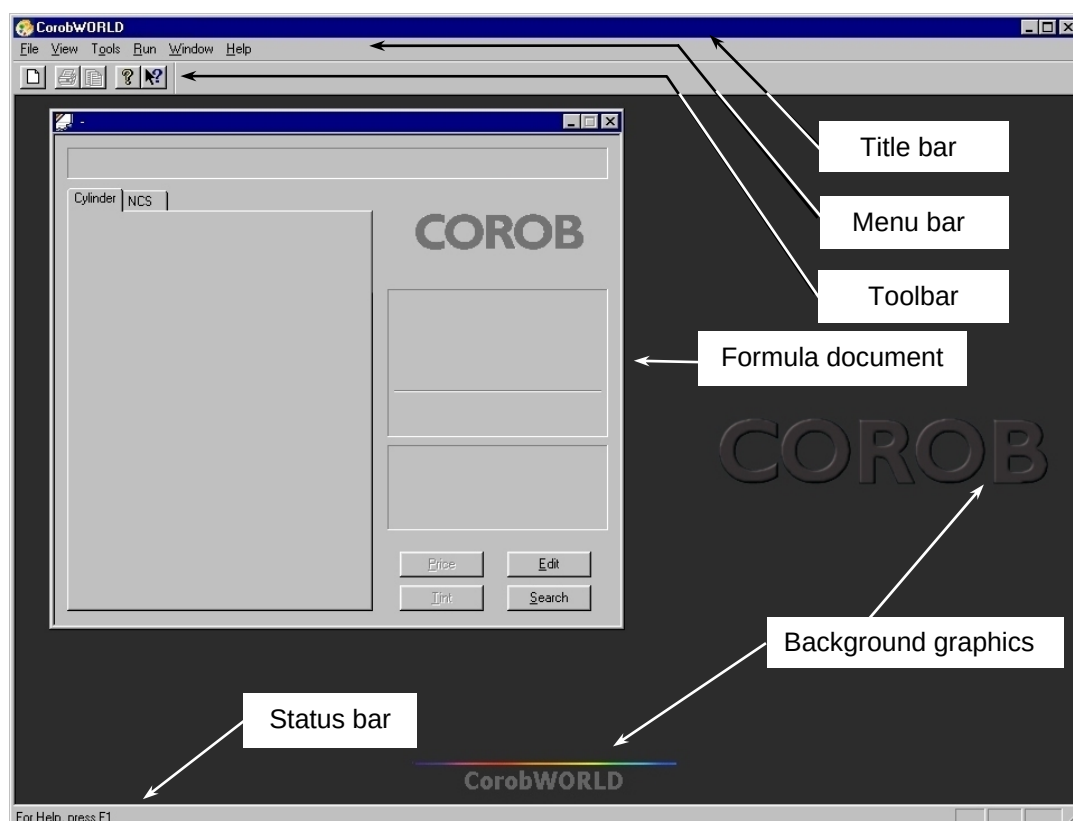


Figure 3

Title bar

containing the name of the program and the control menu button

Menu bar

open the menus on the bar to display some CorobWORLD commands

Toolbar

to quickly select certain commands

<i>Status bar</i>	displays a description of the function of each menu command when the mouse pointer is placed over it.
<i>Background graphics</i>	with the program name
<i>Formula document</i>	displays the formula selected, provides the function buttons and the Cylinder and NCS tabs, and the Color collections tab if available.

If at program start, the status bar and the toolbar are not shown, choose the corresponding item in the **View** menu to have them displayed.

The main CorobWORLD window may be:

- enlarged so that it covers the entire desktop (taskbar excluded), by clicking the  button in the upper right corner of the screen, or by clicking the logo in the upper left corner on the title bar and choosing **Maximize**.
- restored to its former size, by clicking the  button in the upper right corner of the screen, or by clicking the logo in the upper left corner on the title bar and choosing **Restore**.
- minimized to a button in the Windows taskbar, by clicking the  button in the upper right corner of the screen, or by clicking the logo in the upper left corner on the title bar and choosing **Minimize**.
- to change its size, drag the window's borders or corners, or click the logo in the upper left corner on the title bar and choose **Resize**; the mouse pointer will change to a double-headed arrow , use the arrow keys to enlarge or shrink the window and confirm with the **Enter** key of the keyboard.
- to move the window drag its title bar, or click the logo in the upper left corner on the title bar and choose **Move**; the mouse pointer will change to a double-headed arrow , use the arrow keys to move the window and confirm with the **Enter** key of the keyboard.

The working document for CorobWORLD is the formula document, from where it is possible to search for a formula and then dispense, edit, or view its price.

You may open several formula documents simultaneously to select multiple formulas.

The maximum number of formula documents, thus the number of formulas that may be opened during the same session, may be configured (chapter "Web and MDI" on page 95).

The program displays a warning message when the maximum number allowed of open formula documents is reached; simply close a formula document to open a new one.

If background dispensing is enabled (ColorTECH, "Setup dispenser options" from main menu, "Separate Thread" function, Separate Thread enable = 1), while the program orders a formula to be dispensed, the operator may use CorobWORLD to select in another formula document the next formula to be dispensed, or in any case use the program for any operations that do not involve the machine (chapter "Dispensing in background" on page 67).

The logo appearing in the formula document window may be customized for the user; this customization must be requested from the manufacturer when purchasing the program, and is executed during installation of the customizing disk (chapter "Installing the customizing disk" on page 12).

Formula document

The *formula document* window (Figure 4) displays, in the right-hand section, all information about the formula selected.

The title bar of the window shows the formula code (Key1) and the name of the tinting system (data structure) being used.

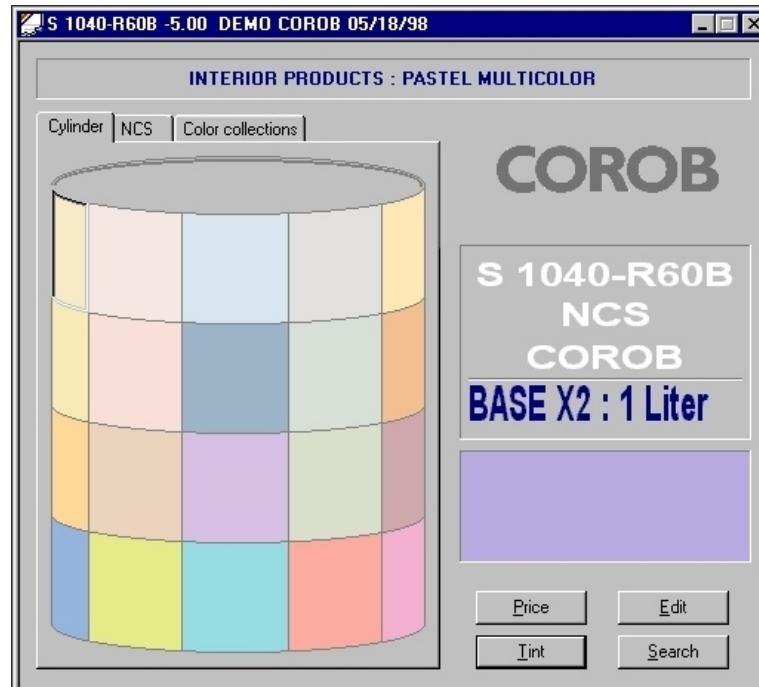


Figure 4

The function buttons are available in the lower right. On the left are the tabs to select formulas via the Cylinder, the NCS triangle and, if available, the Color collections.

When the program is started, it always shows the last formula selected before the previous exit.

The name of the tinting system being used will be always shown in the title bar of the formula document.

Some function buttons will be active only after a formula has been selected, or only if the corresponding functions have been enabled.

If no formula has been selected, the formula document will be empty and the dialog box will appear as shown in Figure 3.

Menus and tools

The program menus allow you to access certain commands not present in the formula document dialog box. In its complete version, when there is at least one formula document open, the menu bar contains the following menus (alongside the name of the menu is the corresponding toolbar button, if present):

File**New**

to open a new formula document

**Print**

to print the label for the current formula directly from the formula document window

Exit

to quit the application

Options

to change the general and advanced program settings

User profiles...

to manage user profiles to access protected program functions

Log On...

to access the program as a new user

Language...

to change the program operating language

Module validation

to start validation procedure for the modules of the program (for example, CorobSTORE)

View**Toolbar**

to show or hide the toolbar

Status bar

to show or hide the status bar

Tools**Find formulas in all products...**

to select a formula by searching it in all the products and subproducts of the available data structures

Find formulas by external codes...

to search for a formula corresponding to a color chosen from a list of alternative colors within the tinting system

**Formula query...**

to open the window to request formulas received via network

Levels...

to update the levels of colorants in the canisters

Refilling history...

management of the history of refilling operations of the colorant levels in the canisters

Dispenser commands...

commands to control dispenser operation

Shop info...

information about the shop or the working station and program configuration functions

Databases

functions to manage databases (backup, restore etc..) and the Catalog, for data structures maintenance

CorobHARMONY...

module to search for color combinations. An appendix is dedicated to the CorobHARMONY module, available on the CD.

Run**CorobSTORE...**

module to manage prices and stock (optional)

Color matching loop...

to start the module Color matching loop, to formulate a list of colors in sequence (optional)

CorobQUALITY...

to start the CorobQUALITY program, for the quality control

ColorTECH

to start the ColorTECH program

External programs Configurator...

program to configure the external applications that may be run directly from CorobWORLD

External programs

list of the external programs configured

Window**Cascade**

to arrange windows so they overlap

Tile

to arrange windows as non-overlapping tiles

Arrange icons

to arrange the icons for minimized windows at the bottom of the main window

Help**Help Topics**

to open Help online

System information... to display additional information about the program and its configuration (data structures installed, catalog situation, identification number of the protection key, etc.), as well as information about the configuration of the computer and operating system. The information displayed may also be printed.



About...

to display program information, version number and copyright. In the title bar of the window that appears using this command, you will see the identification number (ID) of the current protection key mounted on the computer.

HTML background

The background of the main program window may display an HTML document resident on the hard disk, in a local network or in a remote network (Web/Internet). By taking advantage of links to other documents, it is possible to browse the Web and take advantage of its potential. The background will appear and function similarly to a Web page, from which you may view or search for information, download upgrades, etc...

Application of a background in HTML format requires the presence of Internet Explorer version 4.01 or later in order to function; if you do not have the appropriate version of Internet Explorer, you may install it from the CD-ROM "Software & Colormatching" (available in English); you may order the CD containing Internet Explorer in the language of your operating system through the manufacturer.

The possibility of using an HTML document on the Web also requires a working Internet connection on your computer.

To configure the HTML background, see General options - Web and MDI (chapter "Web and MDI" on page 95).

Starting ColorTECH

The configuration and calibration program ColorTECH may be executed directly from CorobWORLD without needing to exit the application. This is possible only if ColorTECH has been correctly installed.

To start ColorTECH, choose **ColorTECH** in the **Run** menu.

Exiting CorobWORLD

You may exit CorobWORLD with many techniques:

- Click the  close button at the upper right corner of the dialog box.
- Choose **Exit** in the **File** menu.
- Press Alt+F4.

Access to functions via user profiles

Some of the main functions of CorobWORLD, like the program itself, may be accessible only to users enabled to use these functions.

Each user who accesses the program by entering a password is associated with a user profile, which enable access to functions. The Administrator user can manage the user profiles, add new profiles, edit or delete existing profiles (chapter "User profiles" on page 110).

When profile management is enabled, when the program is launched it requires a connection, then the user must specify a user name and password (Figure 5).



Figure 5

The name of the user accessing the program is displayed in the title bar of the program and in the title bar of the formula documents created by the user.

The user connected is prevented from accessing a protected function and the message "Access *denied!*" appears.

Once the program has been launched, you may log on under a different user name by selecting **Log On...** from the **File** menu or pressing F11 on the keyboard.

The formula documents created by a user may be changed or closed only by the same user or by the Administrator.

The Administrator has complete access to the program functions and all formula documents created by the various users.

Even if the log on request does not appear when the program is launched, certain functions may not be accessible to the user (meaning that only the Guest user has been configured, an access profile that has some restrictions).

If no user name and password are entered in the **Log On** window, you will in any case access the program as the Guest user (only if the Guest user is enabled to use the program).

External programs

In addition to the preset CorobWORLD tools, the **Run** menu provides a list of external programs that may be launched without having to exit the CorobWORLD program.

This list of programs may be set using the CorobExtern utility program, or External programs Configurator (chapter "External programs Configurator" on page 121).

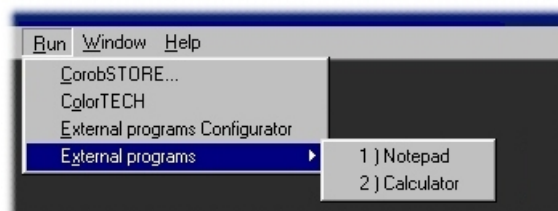


Figure 6

To launch an external program, choose **External programs** in the **Run** menu, then choose the program to be launched in the submenu that appears (Figure 6).

If no sub-menu appears when **External programs** is selected from the **Run** menu, this means the program has not been configured to launch external programs.

CorobSTORE

CorobSTORE is a program module that functions only if it has been enabled via the specific password.

CorobSTORE allows the configuration of all the data necessary to manage prices, cansize stock and barcodes.

To start the module, choose **CorobSTORE...** in the **Run** menu (Figure 7).

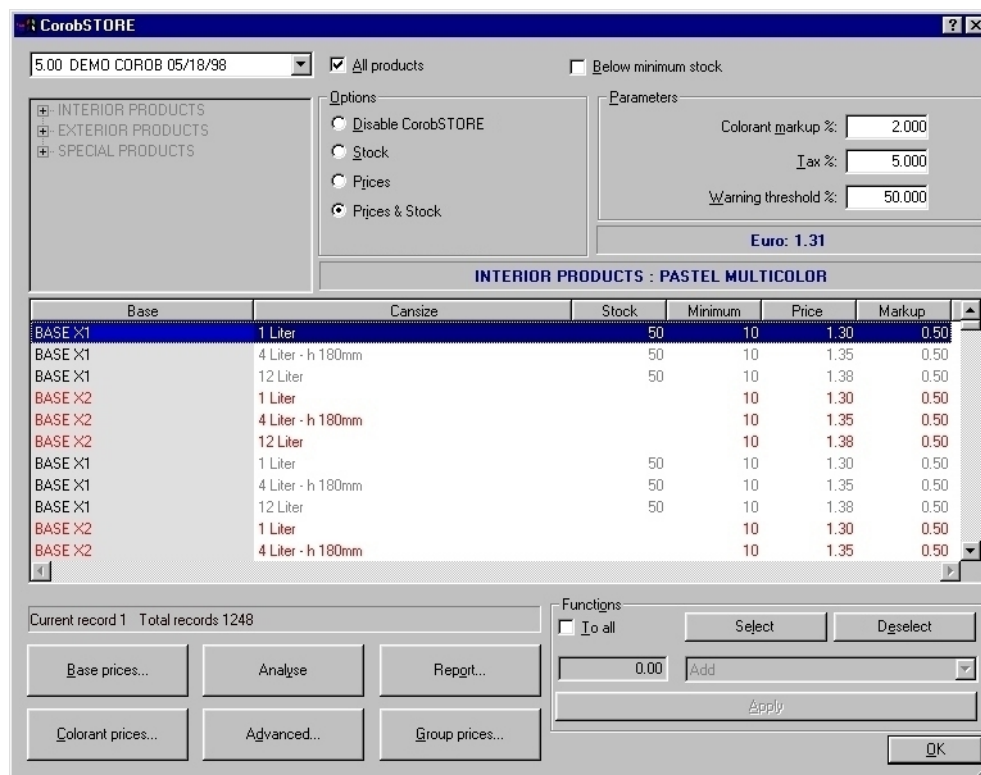


Figure 7

An appendix available on the CD is dedicated to the configuration of the CorobSTORE module.

Color matching loop

The Color matching loop is a program module that functions only if it has been enabled via the specific password.

The Color matching loop allows the formulation in sequence of a list of colors.

To start the module, choose **Color matching loop...** in the **Run** menu (Figure 8).

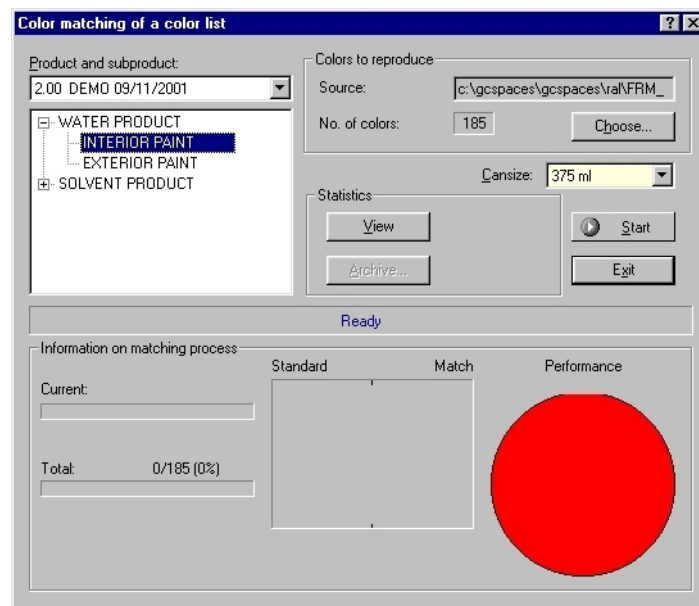


Figure 8

An appendix available on the CD is dedicated to the module Color matching loop.

CorobQUALITY

CorobQUALITY is a powerful and easy-to-use tool that allows comparison of two or more colors, by taking into account their reference colorimetric properties.

CorobQUALITY is capable of testing the tinting system, executing a quality control and performing readings with a spectrophotometer.

To start CorobQUALITY, choose **CorobQUALITY...** in the **Run** menu (Figure 9).

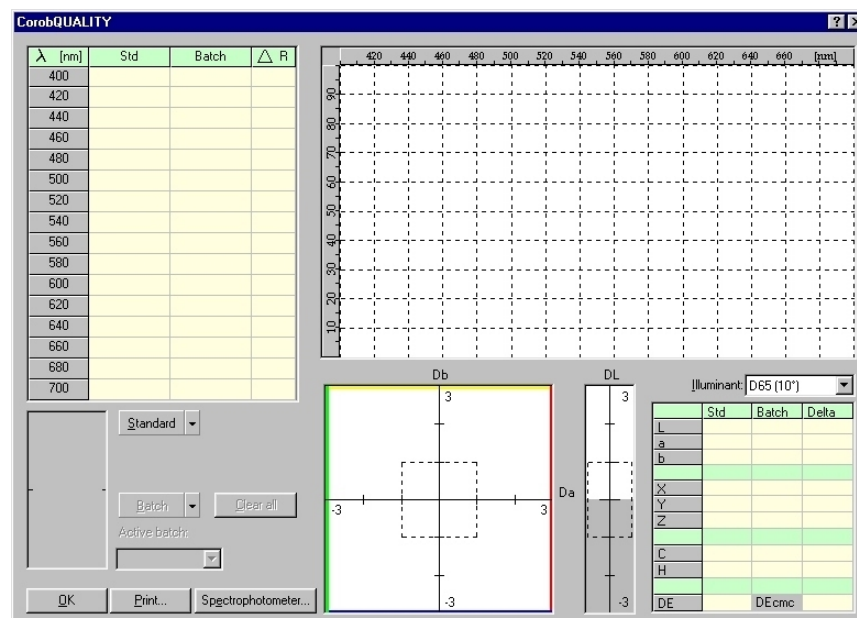


Figure 9

An appendix available on the CD is dedicated to the CorobQUALITY.

Using CorobWORLD

Creating and managing formula documents

To create a new formula document, so that you may open a formula, click the  button or choose **New** in the **File** menu.

You cannot open a formula until after you have created an empty formula document (chapter "Searching a formula" on page 31). After opening a formula, the formula document will look like the one below:

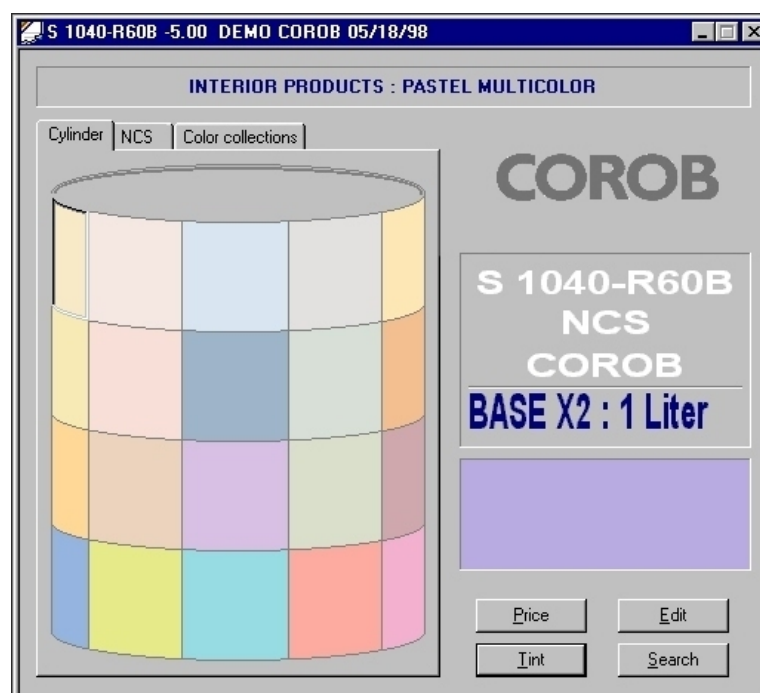


Figure 10

The formula document displays all information about the formula selected: product and subproduct at the top, formula code and base to be used in the middle, and color preview at the bottom. The tabs to select formulas via the Cylinder, NCS triangle and Color collections are displayed in the left (chapter "Using Cylinder, NCS and Collections from the formula document" on page 28).

Along with the base to be used, the current cansize is also displayed (if previously defined). If this information is not displayed, it means that the cansize has not yet been defined, or the one defined is not valid for the formula's product and subproduct.

Each open formula document has the following function buttons available in the right-hand section:

- Search** to select the formula.
- Tint** to dispense the current formula (standard dispensing).
- Edit** to edit the current formula, save and dispense the modified one (dispensing in edit mode). Using this function from an empty formula document, makes it possible to directly create a new formula.
- Price** to display the price of the current formula (CorobSTORE option).

It is possible to create several formula documents so that you may open multiple formulas during the same work session.

Formula documents display modes:

- Choose **Cascade** in the **Window** menu, to arrange the open formula document windows so they overlap.
- Choose **Tile** in the **Window** menu, to arrange the open formula document windows as non-overlapping tiles.
- Click the  button to reduce a formula document to an icon.
- Click the  button to restore a formula document previously minimized, or double-click its title bar.
- Choose **Arrange Icons** in the **Window** menu to arrange the minimized formula documents at the bottom of the main window.

The maximum number of formula documents, thus the number of formulas that may be opened during the same session, may be configured (chapter “*Web and MDI*” on page 95).

The program displays a warning message when the maximum number allowed of open formula documents is reached; simply close a formula document to open a new one.

Using Cylinder, NCS and Collections from the formula document

It is possible to select a formula belonging to the current product and subproduct and available on the cylinder, on the NCS triangle (if the data structure includes NCS formulas) or on a color collection, directly from the formula document.

If the tinting system does not include NCS formulas, the NCS tab may be disabled.

If no collections have been defined for the current tinting system, the Color collections tab may be disabled.

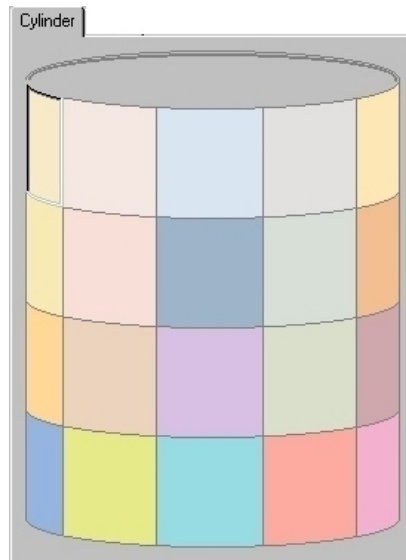


Figure 11

If you wish to select a formula from the cylinder (Figure 11):

1. Choose the **Cylinder** tab.
2. With the mouse pointer positioned on the cylinder, hold the mouse button down and drag to the right or left to rotate the cylinder until you identify the desired color, then click on the cylinder chip showing the color desired.
3. With the keyboard, use the “right arrow” and “left arrow” cursor keys to rotate the cylinder clockwise and counter-clockwise, respectively, and the “up arrow” and “down arrow” cursor keys to scroll vertically through the cylinder chips.

The selected formula will be displayed in the corresponding area of the formula document.

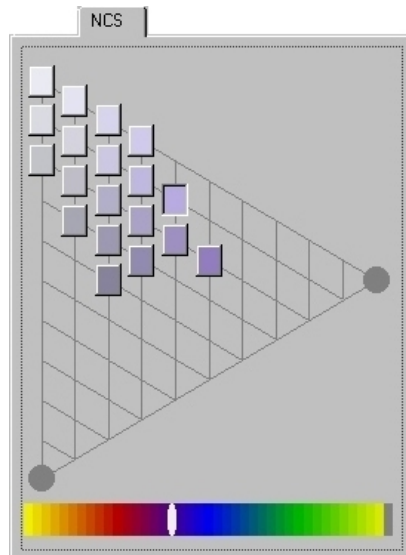


Figure 12

If you wish to select a formula from the NCS triangle (Figure 12):

1. Choose the **NCS** tab.
2. With the mouse, in the color area bar at the bottom of the window, select the desired NCS page and click on the NCS triangle chip representing the color desired.

3. With the keyboard, use the PgUp and PgDn keys to select the desired NCS page, then use the cursor keys to scroll through the various chips of the NCS triangle until the desired color is selected.

The selected formula will be displayed in the corresponding area of the formula document.



Figure 13

Formulas may be selected from a color collection (if available) (Figure 13):

1. Choose the **Color collections** tab.
2. From the list box, select the desired collection from among those available for the current product and subproduct.
3. Click on the chip representing the color desired.

The selected formula will be displayed in the corresponding area of the formula document.

Printing labels from the formula document

If the print function is enabled, after you have selected a formula through the Search function it is possible to print the label directly from the formula document.

Click the  button in the toolbar, or choose **Print...** in the **File** menu.

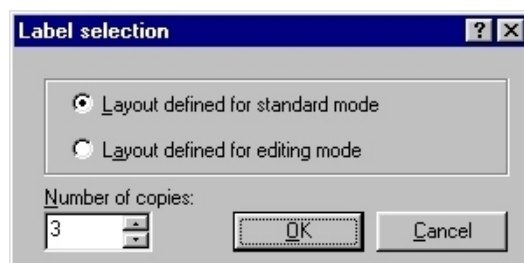


Figure 14

Select the type of label layout to be used and set the number of copies you wish to print, then click **OK**.

Searching a formula

To select a formula of the tinting system or a custom formula, click the **Search** button in the formula document window.

The **Select product and color** dialog box will now appear on the screen (Figure 15).

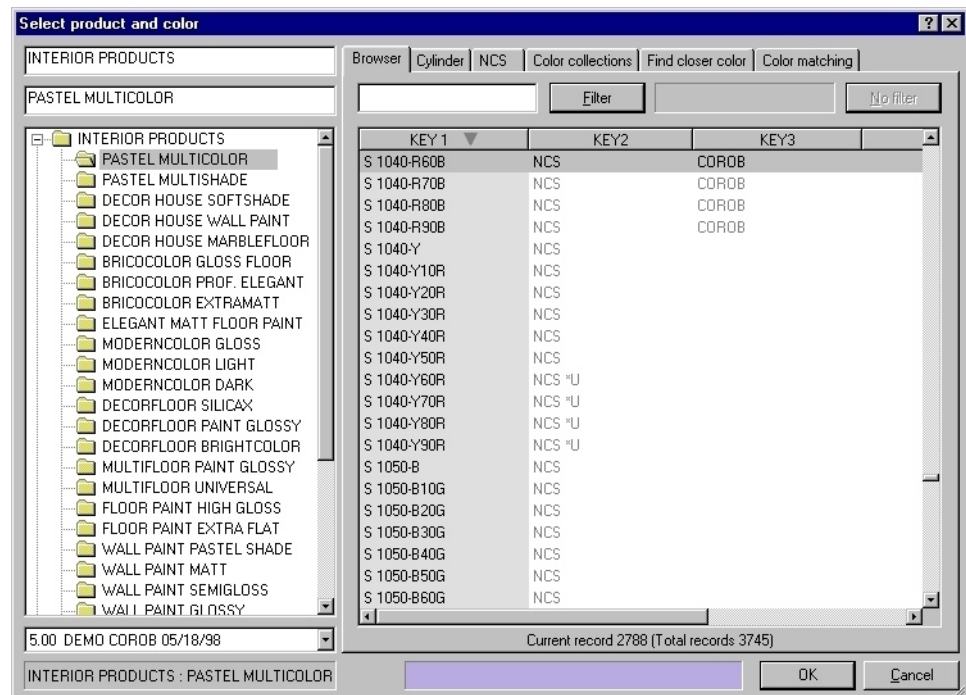


Figure 15

The **Select product and color** dialog box is divided into two sections, one to select the product and subproduct, and the other to select the formula.

The section for selecting the formula is divided into tabs representing different ways of selecting a formula:

- selecting a formula from the list - Browser tab
- selecting a custom formula - Browser tab
- selecting a formula from the cylinder - Cylinder tab
- selecting a formula from the NCS triangle - NCS tab
- selecting a formula from the color collections - Color collections tab
- searching for the closer color - Find closer color tab
- searching for a color by Color matching - Color matching tab

If a formula has already been opened in the formula document, the cursor bar in the **Select product and color** window will be positioned over the same formula in the **Browser** tab.

A preview of the selected color is displayed at the bottom of the window.

To change the size of the dialog box, drag with the mouse its borders or the lower right corner of the window.

Activate the areas of the dialog box by simply clicking on them.

Activate with the keyboard the areas of the dialog box sections, so as to select the items (product, subproduct, formula), as follows: use the “right arrow” and “left arrow” cursor keys to move right and left respectively, and the “up arrow” and “down arrow” cursor keys to scroll vertically the items inside the active area.

To activate the various tabs, use the **Tab** key to enable the headers, then use the “right arrow” and “left arrow” cursor keys.



In the bottom left, in the drop-down list, you may select the tinting system to be used from among all of those installed on the computer and included in the Catalog.

If a single data structure is installed, or if the Catalog includes a single data structure, the tinting system list box is disabled.

Selecting product and subproduct

Tinting systems are organized into various product lines. Each product may have several subproducts. The structure of the products and subproducts is displayed in the left-hand section (Figure 16). The system formulas (belonging to the tinting system) are available for each subproduct, and will thus be shown in the codes section only after a subproduct has been selected.

Some tinting systems are organized in a single list of products; in this case, there is no need to select a subproduct in order to select the color.

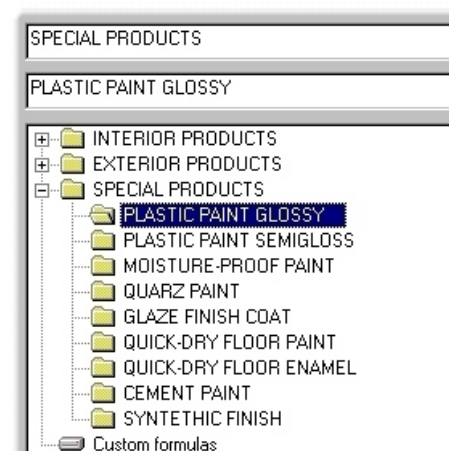


Figure 16

A cursor bar allows you to select the product or subproduct over which it is positioned; to display the subproducts related to a product, click on the + sign before the name of the product itself or use the “right arrow” cursor key or the **Enter** key of the keyboard.

If necessary, the section will be provided with scroll bars to make visual search easier.

You may type in the name of the desired product and subproduct. The text entered is automatically written in the upper (product name) and lower (subproduct name) text boxes.

By entering the first few characters of the name, if the string entered matches the names of any of the products (or subproducts), the cursor bar moves to the first product or subproduct that satisfies the partial match: as the string is gradually entered, the cursor bar will move to the first name that satisfies the partial match.

The names of the selected product and subproduct are displayed in the lower left of the dialog box.

You can change product and subproduct even after selection of a formula: if the previously selected formula still exists, the program will propose it automatically, without needing to perform a new search. If the formula is no more available, the cursor bar goes to the first formula in the list.

Selecting the formula from the list

The **Browser** tab displays the list of the formula codes (Figure 17) where you may search for formulas using the identification keys associated with them.

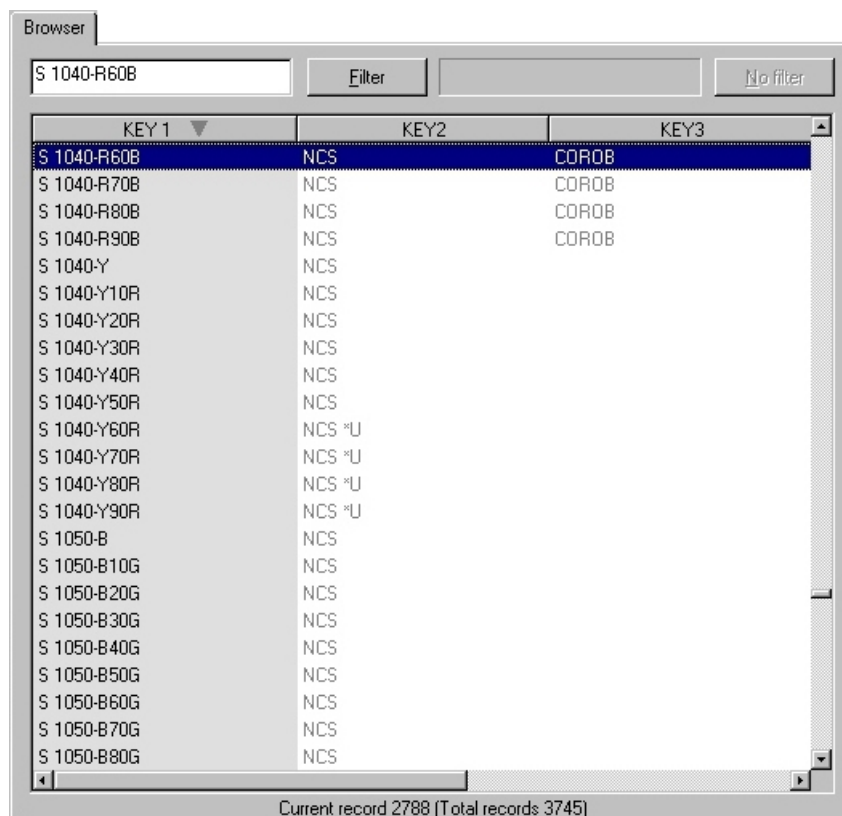


Figure 17

The section is divided into columns based on the number of identification keys used to encode the formulas. The number of keys is specific to each tinting system; the number of columns thus depends on the tinting system being used, for a maximum of 3 (Key1 - Key2 - Key3) plus a Comment column.

A cursor bar allows you to select the formula over which it is positioned.

To learn how to operate in the formula list, see the following chapter. Once you have identified the desired formula, confirm your choice by:

- double-clicking on the code
- clicking **OK**.

or

- by pressing the **Enter** key on the keyboard.

The dialog box will close and the formula code selected will be displayed in the corresponding area of the formula document.

Pay careful attention to the code of the base to be used, shown at the bottom of the formula area of the formula document.

How to operate in the formula list

To browse quickly through the list of formulas and to make visual search easier, horizontal and vertical scroll bars are provided.

When a formula is selected (i.e. when the cursor bar is placed over it) the bottom area of the window will display the following information: the number of the formula (current record) and the total number of available formulas (total records).

The columns in this section display the identification keys (Key1, Key2 and Key3); only those columns corresponding to the identification keys used for the formulas of the system in use will be available.

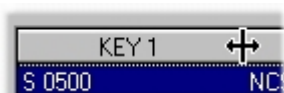
The last column (Comment) is always available, and displays any comments about the formulas.

A grey background highlights the active column; the formulas are sorted by the key corresponding to the active column.

It is possible to change the active column to sort the list of formulas in increasing order based on a different key, by clicking on the header of the column in question.

To change the type of sorting in the active column, click again the column header box; the symbol ▼ indicates sorting in increasing order, while the symbol ▲ indicates sorting in decreasing order.

To expand or reduce the size of a column, point the mouse on the right side of the header box until the mouse pointer changes shape, then drag to reduce or increase the width of the column.



You can change product and subproduct even after selection of a formula: if the previously selected formula still exists, the program will propose it automatically, without needing to perform a new search. If the formula is no more available, the cursor bar goes to the first formula in the list.

Search by an identification key and use of the filter

To search for the desired formula using the search method by identification key, begin typing one of the known identification codes; the text typed will be automatically written in the text box at the top of the window.

When a few initial characters of the code are entered, the program will search for the typed string among all names in the active column; if the search fails, it will continue in subsequent columns.

As you gradually input the string, the cursor bar will move to the first name that satisfies the partial match.

If the string entered does not find a match in any of the columns available, the background of the text box turns red to point out the search error.

Applying a **filter** to the formula list is a quick way to find a subset of formulas.

The filtered formula list displays the formulas whose codes (Key1, Key2 and Key3) contain the specified string.

To apply a filter, type the string you wish to show in the list and click the **Filter** button. The background of the text box turns yellow to indicate that a filter is active in the list of formulas.

The first column will automatically be activated, where the desired string is found.

The string on which the filtered list is based is displayed next to the button, while the total of filtered formulas is displayed at the bottom of the window.

To remove the applied filter, click the **No filter** button; in any case, the applied filter will be deleted when you change product or subproduct and when you exit the formula selection window.

Since even a filtered list may be fairly long, it is possible to search for a formula using the methods previously described (visual search or using a key).

Selecting a custom formula

To select a previously saved custom formula, select **Custom formulas** in the left-hand section.

Existing custom formulas may be selected for immediate dispensing, or for additional changes before dispensing.

Figure 18 shows the **Select product and color** dialog box when trying to select custom formulas.

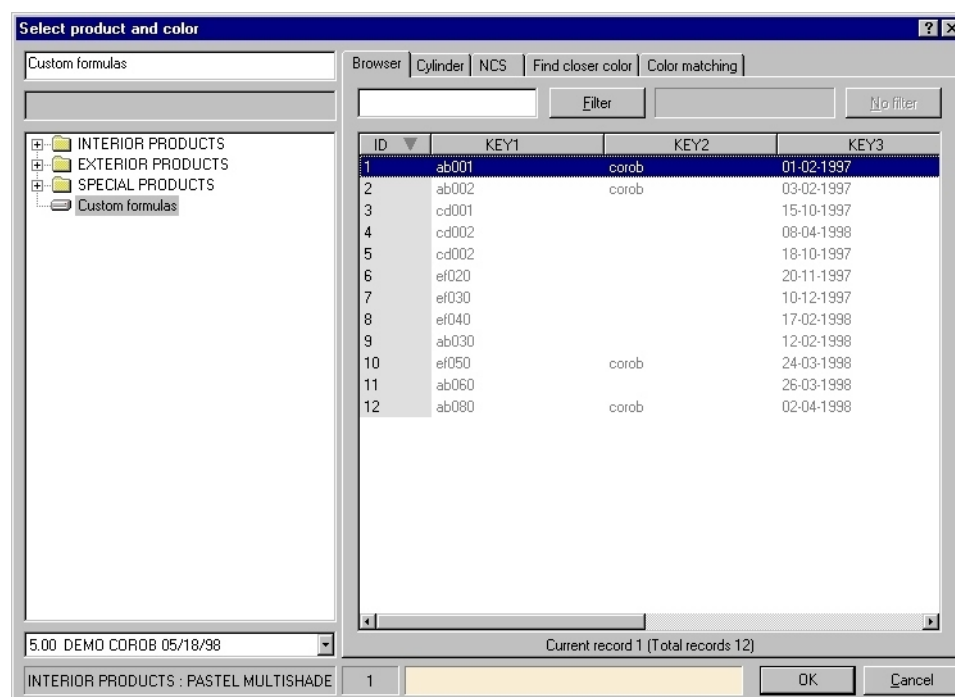


Figure 18

When a custom formula is selected, the product and subproduct to which it belongs are displayed in the lower left, together with the identification number (ID).

The formula codes section is divided into columns showing the identification number and keys assigned when the formula was saved.

The identification number and product/subproduct listing allow you to identify formulas with the same name created for different products/subproducts.

To operate in the custom formulas list, see *"How to operate in the formula list"* on page 34, to carry out a search for a custom formula, see *"Search by an identification key and use of the filter"* on page 34.

A cursor bar allows you to select the formula over which it is positioned. Once you have identified the desired formula, confirm your choice by:

- double-clicking on the code
- clicking **OK**.

or

- by pressing the **Enter** key on the keyboard.

The dialog box will close and the formula code selected will be displayed in the corresponding area of the formula document.

Pay careful attention to the code of the base to be used, shown at the bottom of the formula area of the formula document.

Deleting custom formula

The custom formulas in the dedicated database may be deleted.

To eliminate a custom formula, proceed as follows:

1. Select **Custom formulas** in the left-hand section of the **Select product and color** window.
2. In the list of formulas, select the one to be deleted by positioning the cursor bar over it.
3. Press the **Del** key on the keyboard: the formula will be crossed through, thus marked for deletion. Repeat for all formulas you wish to eliminate.
4. To remove the marking from a formula, and thus prevent it from being deleted, select it again and press the **Del** key on the keyboard once again.
5. To delete the marked items, select an unmarked formula or another product/subproduct, then click **OK**: a message will appear to indicate that you are about to definitively erase certain formulas. Confirm by clicking on the **Yes** button, or cancel the operation by clicking **No**.

Selecting a formula from the cylinder

The **Cylinder** tab displays the formulas for the current product and subproduct through an actual color card organized on a rotating cylinder, the same one shown in the formula document window.

If you select a product and subproduct for which the cylinder is not available, the section will be empty, as well as the Cylinder tab in the formula document window.

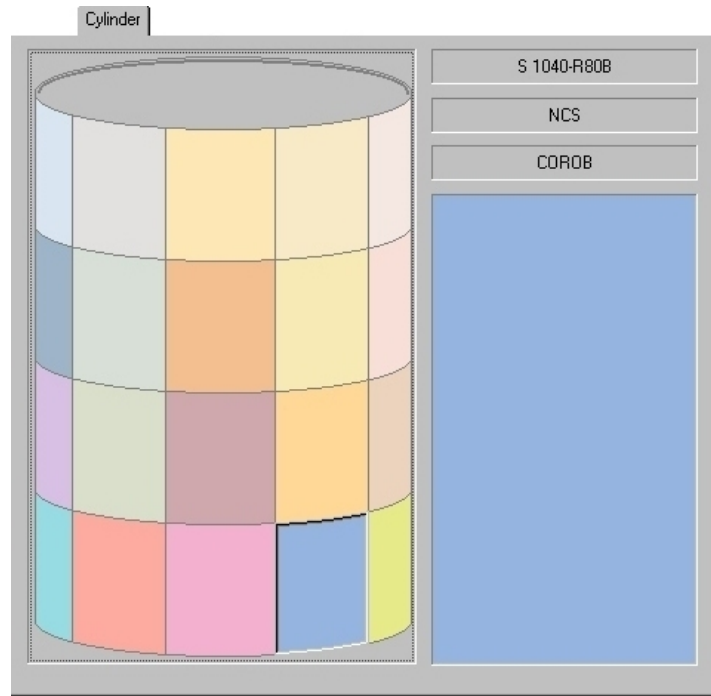


Figure 19

To select a color from the cylinder (Figure 19):

- With the mouse pointer positioned on the cylinder, hold the mouse button down and drag to the right or left to rotate the cylinder until you identify the desired color, then click on the cylinder chip showing the color desired.
- With the keyboard, use the “right arrow” and “left arrow” cursor keys to rotate the cylinder clockwise and counter-clockwise, respectively, and the “up arrow” and “down arrow” cursor keys to scroll vertically through the cylinder chips.

The color code and its preview are displayed alongside the cylinder.

Once you have identified the desired color, confirm your choice by:

- double-clicking on the cylinder chip
- clicking **OK**.

or

- by pressing the **Enter** key on the keyboard.

The dialog box will close and the formula code selected will be displayed in the corresponding area of the formula document.

Selecting a formula from the NCS triangle

The **NCS** tab displays all of the NCS formulas for the current product and subproduct through the NCS triangle, the same one shown in the formula document window.

If the tinting system does not include NCS formulas, the NCS tab may be disabled.

If you select a product and subproduct for which NCS formulas are not available, the section will be empty, as well as the NCS tab in the formula document window.

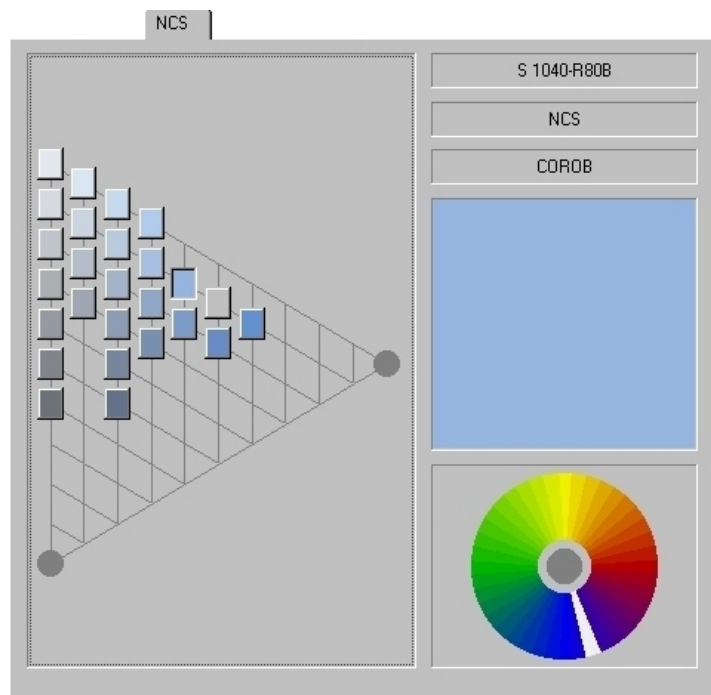


Figure 20

To select a color from the NCS triangle (Figure 20):

- With the mouse, in the lower right, in the section showing the color areas, select the desired NCS page by clicking the mouse on the corresponding colored area, then click on the chip of the NCS triangle showing the desired color to select it.
- With the keyboard, use the PgUp and PgDn keys to select the desired NCS page, then use the cursor keys to scroll through the various chips of the NCS triangle until the desired color is selected.

The color code and its preview are displayed alongside the triangle.

Once you have identified the desired color, confirm your choice by:

- double-clicking on the triangle chip
- clicking **OK**.

or

- by pressing the **Enter** key on the keyboard.

The dialog box will close and the formula code selected will be displayed in the corresponding area of the formula document.

Selecting a formula from the color collections

The **Color collections** tab displays the colors in the current tinting system, appropriately grouped into collections related to the selected product and subproduct, the same collections shown in the formula document window.



Figure 21

To select a color from a collection (Figure 21):

1. From the **Name** list box, select the desired collection from among those available for the current product and subproduct.
2. In the **Colors** section, click on the chip representing the color desired.

The color code and its preview are displayed on the right.

If from the list box **Name** it is not possible to select any collection, this means that no collection was defined for the current product and subproduct.

Once you have identified the desired color, confirm your choice by:

- double-clicking on the chip representing the color desired
- clicking **OK**.

or

- by pressing the **Enter** key on the keyboard.

The dialog box will close and the formula code selected will be displayed in the corresponding area of the formula document.

To create or change the color collections, refer to the function Advanced options - Color collections (chapter "Color collections" on page 103).

Find closer color

The purpose of this function is to search the current data structure for the color most similar to a given color selected from the reference database Gcspaces or read with a colorimeter or spectrophotometer.

Gcspaces is a special data structure created by the program ColorLAB, with two essential features: it resides on the hard disk in the directory C:\GCSPACES and contains at least one formula book with spectrophotometer readings of color cards.

The Gcspaces Demo database contains the NCS and RAL color cards. The Gcspaces demo will be installed automatically, when the Demo Database is

installed from the "Software & Colormatching" CD-rom (chapter "Operation in Demo mode" on page 13).

To configure the instrument you intend to use for reading the sample, see the function Advanced options - Spectrophotometer (chapter "Spectrophotometer" on page 106).

The **Find closer color** function may be configured so as to change the display of details of the colors found; refer to the description of the function Advanced options - Find closer color (chapter "Find closer color" on page 106).

To search for a formula using the **Find closer color** function, first select the product and subproduct for which you wish to design the formula search, then click on the **Find closer color** tab in the **Select product and color** window (Figure 22).

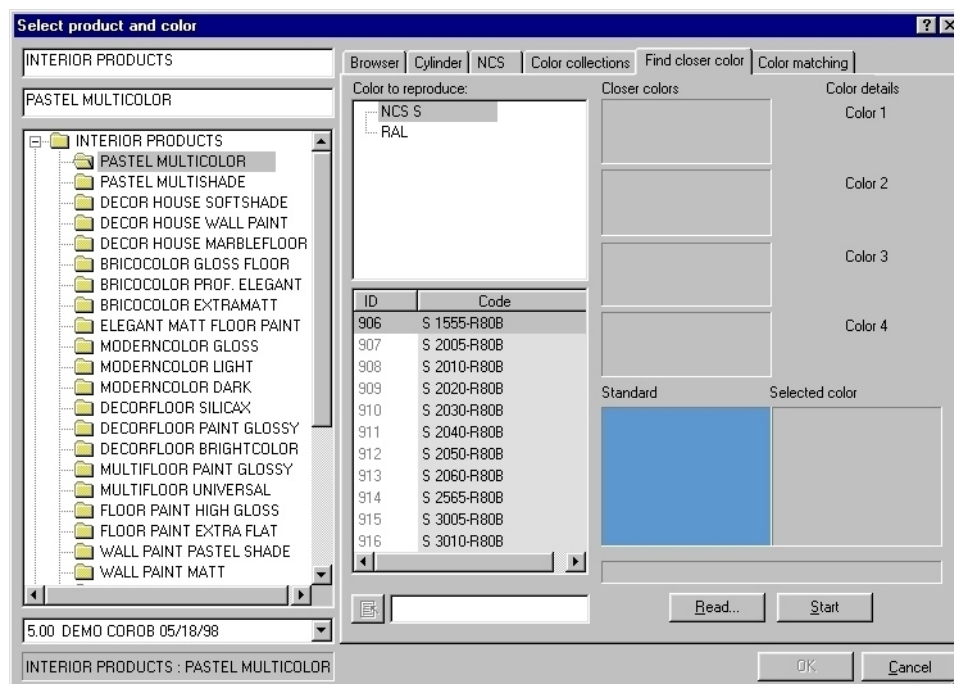


Figure 22

To select the color to be reproduced from Gcspaces reference database

- In the **Color to reproduce** section, select the desired color card, then the color code in the section below. To search quickly for the color, type the code in the text box at the bottom of the window. To change the type of sorting of columns, click the header box of the column to sort. The selected color will be displayed in the **Standard** area.

To select the color to be reproduced by reading with a spectrophotometer

- Select the folder **Readings list** that appears in the section **Color to reproduce**, then the name of the reading in the section below (Figure 23). To search quickly for the reading name, type the code in the text box at the bottom of the window. To change the type of sorting of columns, click the header box of the column to sort. The folder **Readings list** appears only after at least one reading with the instrument has been done (chapter "Using the color measuring instrument" on page 60).

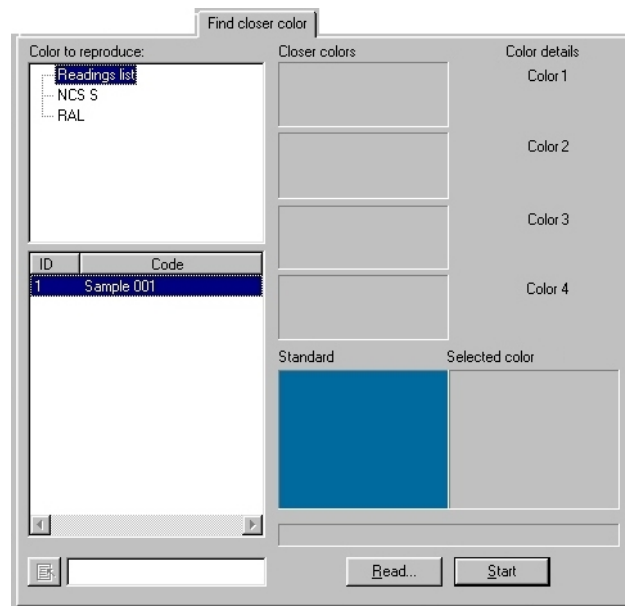


Figure 23

To start searching

- Click on the **Start** button to search for the color closer to the one selected. To abort the search in progress click the **Stop** button.

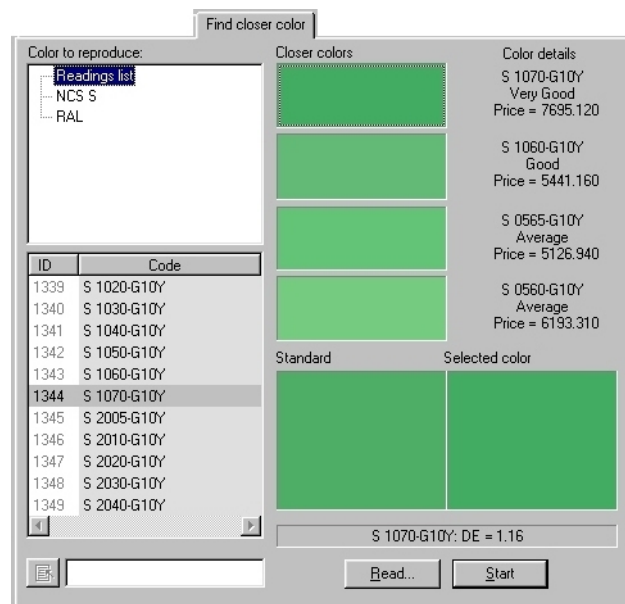


Figure 24

When the search is complete, the **Closer colors** section will display 4 colored chips (Figure 24). The largest at the top is the color selected by the program as the closest match, while the 3 chips below are the most closer colors shown in increasing order of ΔE_{cmc} .

The **Selected color** section automatically displays the color with the lowest ΔE_{cmc} , and thus the most closer; the bottom of the window shows the color code and ΔE_{cmc} value.

The details of the colors found are indicated next to the section **Closer colors**. The type of details that the program displays may be configured (chapter "Find closer color" on page 106).

The following information may be displayed beside each color found:

- color code
- color price
- the specific value of ΔE_{cmc} or a message, indicating the degree of similarity to the sample color.

If you wish to select one of the other colors found by the program but with a higher ΔE_{cmc} , click the mouse on the corresponding chip to select it and the color will be displayed in the section **Selected color**.

If the search for a closer color gives no satisfactory results, it may be repeated by selecting different products and subproducts.

Once you have identified the desired color, confirm your choice by:

- clicking **OK**.

or

- by pressing the **Enter** key on the keyboard.

The dialog box will close and the formula code selected will be displayed in the corresponding area of the formula document.

Selecting a formula by Color matching

Using the Color matching function to select a formula means creating a new formula that does not exist among those in the current tinting system, having as a reference sample a color selected from a specific color card (from among those in the reference database Gcspaces) or read with a color measuring instrument.

The chapter "*Color matching*" on page 47 is dedicated to this topic.

Searching the formula in all the system products

To select a system formula, by searching it in the whole data structure, choose **Find formulas in all products...** in the **Tools** menu, or press **F5** on the keyboard.

The **Find formula in all products and subproducts** dialog box will now appear on the screen (Figure 25).

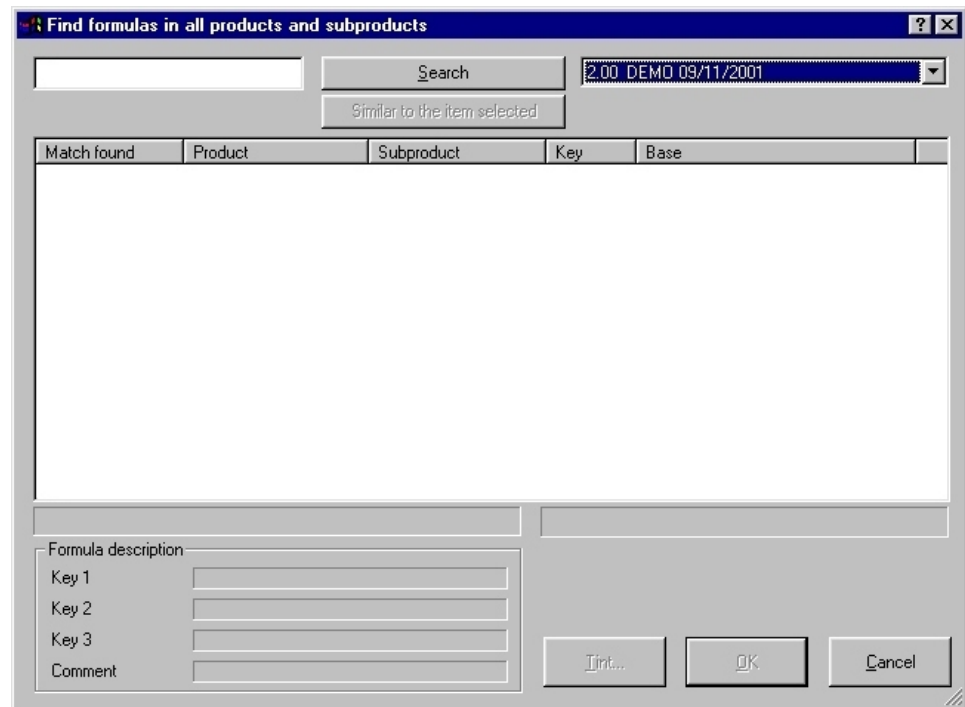


Figure 25

To change the size of the dialog box, drag with the mouse its borders or the lower right corner of the window.

Activate the areas of the dialog box by simply clicking on them.

Activate with the keyboard the areas of the dialog box sections, so as to select the items (product, subproduct, formula), as follows: use the “right arrow” and “left arrow” cursor keys to move right and left respectively, and the “up arrow” and “down arrow” cursor keys to scroll vertically the items inside the active area.

In the top right, in the drop-down list, you may select the tinting system to be used from among all of those installed on the computer and included in the Catalog.

If a single data structure is installed, or if the Catalog includes a single data structure, the tinting system list box is disabled.

Type in one of the identification codes known; the text entered will automatically appear in the text box in the top left of the window. Click the **Search** button or press the **Enter** key of the keyboard.

The section below automatically displays the list of formulas that match the search done (Figure 26).

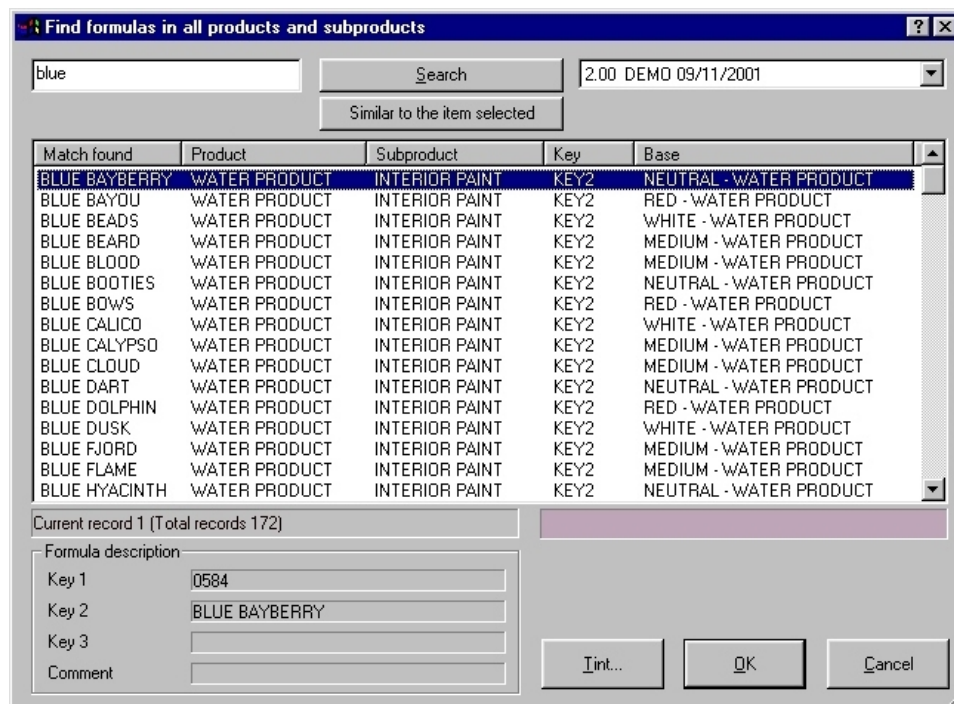


Figure 26

For each formula, the column *Match found* displays the item (or part thereof) that matches the string searched, which can be found in the identification keys Key1, Key2 or Key3.

The columns that follow display the Product and Subproduct to which the formula belongs, the identification key where the searched string is present and the base to be used.

To change the type of sorting in a column, click the column header box; the symbol ▼ indicates sorting in increasing order, while the symbol ▲ indicates sorting in decreasing order.

To browse quickly through the list of formulas and to make visual search easier, horizontal and vertical scroll bars are provided.

When a formula is selected (i.e. when the cursor bar is placed over it) the bottom area of the window will display the following information: the number of the formula (current record), the total number of formulas found (total records) as well as the complete description of the formula.

The window also displays the preview of the color currently selected.

If your search fails, repeat the search by selecting another tinting system.

To further filter the list of formulas found, based on a particular match string, select the formula from the list containing this string and click the **Similar to the item selected** button.

Once you have identified the desired formula, confirm your choice by:

- double-clicking on the code
- clicking **OK**.

or

- by pressing the **Enter** key on the keyboard.

The dialog box will close and the formula code selected will be displayed in the corresponding area of the formula document.

The selected formula may be dispensed directly from the **Find formula in all products and subproducts** window.

Click on the **Tint...** button; the chosen formula will be opened in the formula document and the dispensing procedure will be started directly (chapter "*Standard dispensing*" on page 64).

Searching the formula by alternative codes

CorobWORLD allows you to search for a formula in the tinting system that matches an alternative list of colors, outside the system.

This type of search is possible only if the appropriate data structure is available, which includes the databases of external codes and the corresponding matches in the tinting system being used.

In addition, the program must be configured so that the search function through external codes is enabled (chapter "*External codes*" on page 99).

To select a formula corresponding to an alternative code, choose **Find formulas by external codes...** in the **Tools** menu, or press **F6** on the keyboard.

The **Find formulas by external codes** dialog box will now appear on the screen (Figure 27).

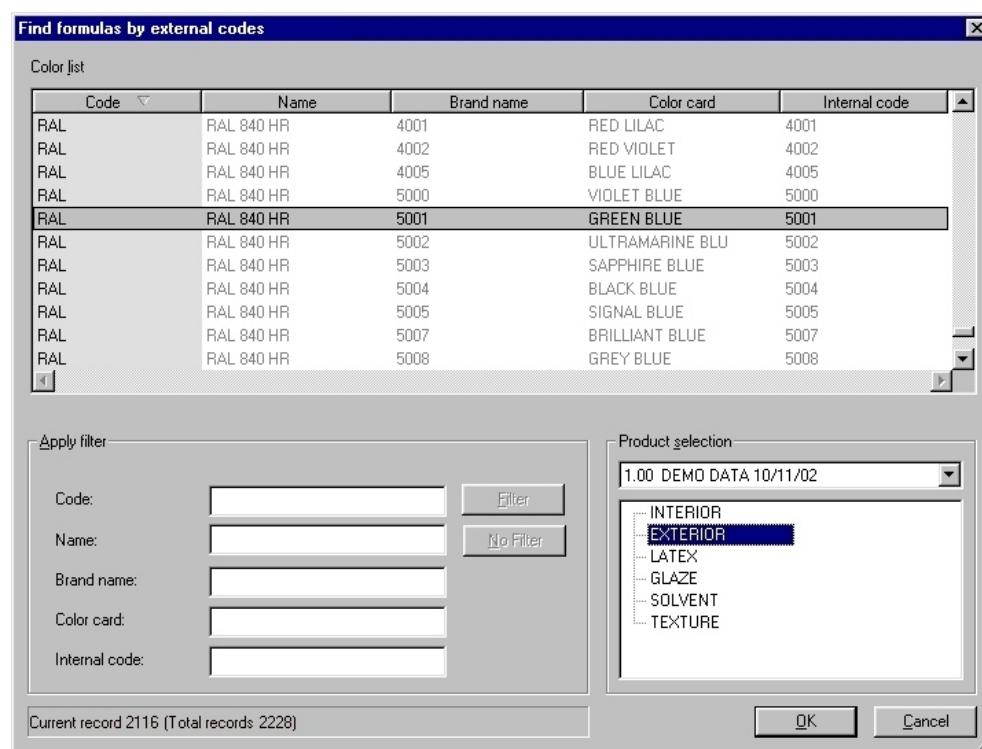


Figure 27

To change the size of the dialog box, drag with the mouse its borders or the lower right corner of the window.

Activate the areas of the dialog box by simply clicking on them.

Activate with the keyboard the areas of the dialog box sections, so as to select the items (code, name, brand name...), as follows: use the "right arrow" and "left arrow" cursor keys to move right and left respectively, and the "up arrow" and "down arrow" cursor keys to scroll vertically the items inside the active area.

In the *Product selection* area, you may select the tinting system to be used from among all of those installed on the computer and included in the Catalog.

If a single data structure is installed, or if the Catalog includes a single data structure, the tinting system list box is disabled.

Color list

The *Color list* area displays the list of formulas that belong to the database of alternative codes, divided into columns. The last column shows the code of the corresponding formula in the tinting system used.

The number of columns displayed, as well as their description, may be configured through the CorobWORLD options (chapter "*External codes*" on page 99).

To change the type of sorting in a column, click the column header box; the symbol ▼ indicates sorting in increasing order, while the symbol ▲ indicates sorting in decreasing order.

To browse quickly through the list of formulas and to make visual search easier, horizontal and vertical scroll bars are provided.

When a formula is selected (i.e. when the cursor bar is placed over it) the bottom area of the window will display the following information: the number of the formula (current record) and the total number of formulas found (total records).

Filter

Applying a **filter** to the formula list is a quick way to find a subset of formulas.

The area *Apply filter* shows some text boxes, each one associated with the columns in the color list. To apply a filter, type in the text box the string you wish to show in the list and click the **Filter** button.

The filtered formula list displays the formulas whose fields contain the specified strings.

To remove the applied filter, click the **No filter** button.

Procedure

To select a formula, proceed as follows:

1. Select the desired formula in the color list; you may use the mouse or the keyboard.
2. Select the formula product and subproduct, from among those available in the *Product selection* area.

Now, confirm your choice by:

- double-clicking on the product/subproduct.
- clicking **OK**.

or

- by pressing the **Enter** key on the keyboard.

The dialog box will close and the system formula corresponding to the color selected will be displayed in the corresponding area of the formula document.

Color matching

To formulate a color using the **Color matching** function:

1. click the **Search** button in a formula document window;
2. in the **Select product and color** dialog box, select the reference product and subproduct;
3. then click on the **Color matching** tab.

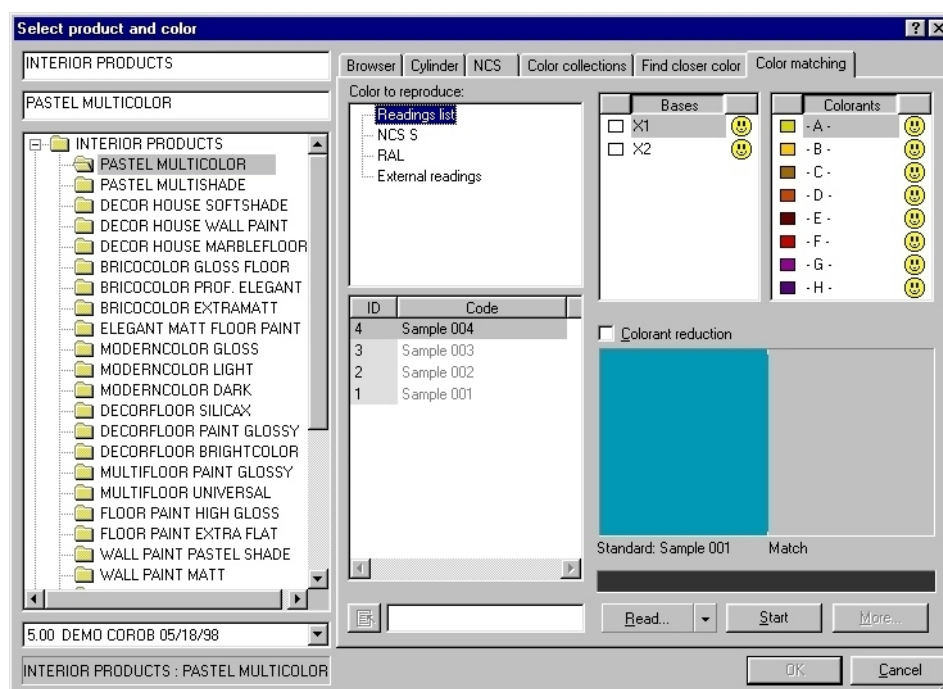


Figure 28

If the functions in the **Color matching** tab are disabled, and the status bar at the bottom of the window displays the message "Please select a product", make sure you have correctly selected a product and subproduct. If the product has already been selected, the color matching function is disabled when not permitted for the selected product and subproduct, since the characterization data are not available (the status bar at the bottom of the window displays the message "No valid characterized colorant" or "No valid characterized base").

If the luminosity, hue and saturation values of a color sample are known, the program is able to search the combinations of system components (bases and colorants) that most closely match the sample.

It is important to remember that, in many cases, the program formulates a color that perfectly matches the sample as viewed by the human eye; in other cases the program instead formulates a color that varies slightly from the sample.

Certain external factors may prevent perfect formulation.

System colorimetry limits - A tinting system is developed to satisfy a number of color matching needs; one may obtain a wide range of hues using the system components (bases and colorants). However, it is impossible to imagine that any shade may be obtained.

Physical limitations of the system - The tinting system is based on the following basic principle: unfinished product (or base) + colorant = color or finished product. The two elements must be combined according to certain criteria in order to uphold the characteristics of the finished product.

These criteria have been formulated and quantified in the tinting system, and determine the absolute maximum and minimum amounts of colorant in the various products and subproducts to which the finished product belongs.

If these limits are exceeded, this alters the proper balance of the product, which therefore loses its formulation characteristics (drying, durability, appearance, etc.). Vice-versa, if the minimum threshold of colorant needed in the base is not reached, the final product will not have coverage.

Choosing a color to be reproduced

To select the color to be reproduced from Gcspaces reference database

- In the **Color to reproduce** section, select the desired color card, then the color code in the section beneath. To quickly search for the color, type the code in the text box at the bottom of the window.

For further information about Gcspaces database, see the chapter "*Find closer color*" on page 39.

To select the color to be reproduced from the list of readings made with a spectrophotometer

- Select the folder **Readings list** that appears in the section **Color to reproduce**, then the reading name in the section beneath. To quickly search for the reading name, type the code in the text box at the bottom of the window.

The folder **Readings list** appears only after at least one reading with the instrument has been done (chapter "*Using the color measuring instrument*" on page 60).

The readings available in the folder Readings list may be deleted (chapter "*Spectrophotometer*" on page 106).

To select the color from the list of external readings

It is possible to select a color from an external database to be reproduced, or enter a color's reflectance values manually. The colors thus loaded by the program are entered into a temporary list of external readings. This list will be deleted upon closing CorobWORLD.

- Select the folder **Readings list** that appears in the section **Color to reproduce**, then the reading name in the section beneath. To quickly search for the reading name, type the code in the text box at the bottom of the window.

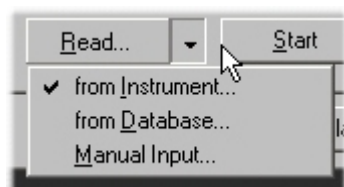
The folder **External readings** will appear only after at least one color has been loaded with the Read button configured for loading data from a Database (next chapter).

The readings available in the folder External readings may be deleted (chapter "*Spectrophotometer*" on page 106).

The selected color to be reproduced will be displayed in the **Standard** area.

The Read button

Clicking on the arrow next to the **Read...** button causes a drop-down menu to appear in which to choose the acquisition mode of the color to be reproduced. The check mark indicates the active mode.



- by activating **from Instrument...**, the **Read...** button will be used to carry out readings of the color samples using an instrument (such as the spectrophotometer) (chapter "Using the color measuring instrument" on page 60). The readings may be selected in the **Readings list** folder that will appear in the section *Color to reproduce*.
- by activating **from Database...**, the **Read...** button will be used to get the reflectance values of the color samples from an external source (for example, an archive of reflectance values) (next chapter). The samples loaded may be selected in the **External readings** folder that will appear in the section *Color to reproduce*.
- by activating **Manual Input...**, the **Read...** button will be used to enter the reflectance values of the color samples directly (chapter "Manual entry of reflectance values" on page 51). The colors entered by defining the reflectance values may be selected in the **Readings list** folder that will appear in the section *Color to reproduce*.

Use the mouse to select the desired mode in the drop-down menu. The reading mode chosen will be directly started.

If you wish to use a color measurement instrument see chapter "Using the color measuring instrument" on page 60.

Color selection from database - reading management

Using the **Read...** button configured in **from Database...** mode will cause the dialog box **Reading management** to appear (Figure 29).

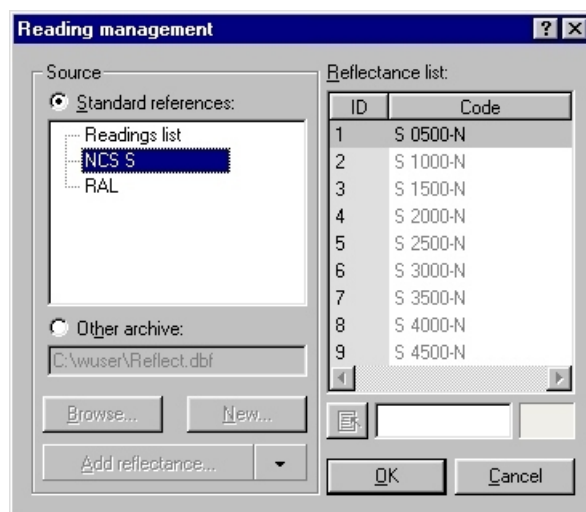


Figure 29

The dialog box allows you to:

- select an external reading from standard references, thus the list of readings carried out by an instrument or obtained by

manually entering the reflectance values (Readings list) and the Gcspaces reference databases (in the example, NCS S and RAL)

- select an external reading from a generic archive of readings
- create a new external archive of readings or add readings to an existing archive
- add colors to the Readings list by reading with an instrument or manually entering the reflectance values

To select an external reading from the standard references, proceed as follows:

1. Click on the option button **Standard references**.
2. Select one of the folders available as a standard reference.
3. The codes of all available readings will be displayed in the right-hand section. To quickly search for the reading name, type the code in the text box at the bottom of the window. Select the desired reading and click **OK** to load it.

To select an external reading from a generic data archive, proceed as follows:

1. Click on the option button **Other archive**.
2. Click on **Browse...** and search the disc or network for a database containing reflectance data; the file must be in DBF format, have a name with no more than 8 characters, and start with the letter R (R*.dbf). The name and path of the loaded file are displayed in the dialog box.
3. The codes of all available readings will be displayed in the right-hand section. To quickly search for the reading name, type the code in the text box at the bottom of the window. Select the desired reading and click **OK** to load it.

To create a new archive of readings, or add readings to an existing archive:

1. Click on the option button **Other archive**.
2. Click on **New...** then type a name for the new archive and select the directory in which to save the new archive; the archive must have a name with no more than 8 characters and start with the letter R (R*.dbf). The name and path of the newly created archive are displayed in the dialog box.

Using the **Add reflectance...** button it will be possible to save new colors in the new archive by reading with the instrument, or manually entering the reflectance values.

3. Click on the arrow next to the **Add reflectance...** button, and in the drop-down menu that appears choose the reading acquisition mode: select **from Instrument...** (chapter "Using the color measuring instrument" on page 60) or **Manual Input...** (chapter "Manual entry of reflectance values" on page 51). The check mark indicates the active mode.

The same procedure may be used to add new readings to an existing archive. In both cases the colors added will be displayed in the right-hand section.

To add colors to the Readings list:

1. Click on the option button **Standard references**.
2. If available, select the folder **Readings list**.

Using the **Add reflectance...** button it will be possible to store new colors by reading with the instrument, or manually entering the reflectance values.

3. Click on the arrow next to the **Add reflectance...** button, and in the drop-down menu that appears choose the reading acquisition mode: select **from Instrument...** (chapter "Using the color measuring instrument" on page 60) or **Manual Input...** (chapter "Manual entry of reflectance values" on page 51). The check mark indicates the active mode.

The readings available in the **Readings list** folder and present in the reflectance values archives open in the **Reading management** window may be deleted (chapter "Spectrophotometer" on page 106).

Manual entry of reflectance values

Using the **Read...** button configured in **Manual Input...** mode will cause the dialog box **Insert reflectance** to appear (Figure 30).

Wavelength (nm)	Reflectance (%)
400	43.88
420	69.52
440	71.90
460	73.08
480	73.50
500	72.82
520	70.84
540	68.28
560	64.66
580	62.04
600	60.62
620	59.48
640	59.73
660	60.81
680	60.42
700	59.49

Reflectance code:
Std color

OK Cancel

Figure 30

In this dialog box you may enter the known reflectance values of a color expressed in percentages, read, for example, with an instrument with no software interface.

Enter the corresponding reflectance values between the wavelengths from 400 through 700 nm, at 20-nm intervals.

In the **Reflectance code** box, type a name with which to identify the color.

Confirm by clicking on **OK**.

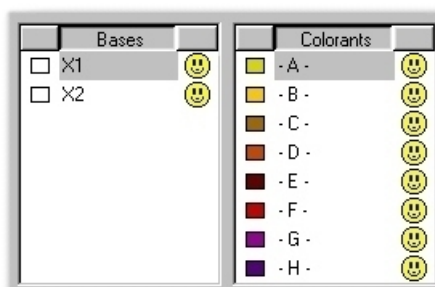
Reading a color by manual entry of the reflectance values may also be used to create an archive of reflectance values, or to add colors to the Readings list, using the **Add reflectance...** button configured for **Manual Input...** in the **Reading management** dialog box (chapter "Color selection from database - reading management" on page 49).

Formulation

If certain bases and colorants in the current system may not be used for a given color from a color matching standpoint, they may be eliminated from the choices available to the program before the actual formulation stage; this method helps avoid creating an overly expensive formula, or one which uses bases or colorants momentarily unavailable or not suitable for a given product.

Vice-versa, for the same reasons it is possible to require the program to use certain colorants or a particular base.

The program may be configured so that the most appropriate bases and colorants for formulation are selected automatically (chapter "Advanced options - Color matching - advanced" on page 108).



The colorants in the current tinting system and the bases for the selected product and subproduct are displayed in the upper right.

If the list of bases or colorants does not fit into the corresponding section, you may scroll down the cursor bar using the cursor keys on the keyboard or by holding down the mouse button and dragging it along the list.

Next to each element is a symbol indicating the status of use by the program; to change this status, double-click the mouse repeatedly on the element until the desired symbol is displayed:

-  indicates that the program will automatically choose whether or not to use the specific base or colorant
-  indicates that the program will not use the specific base or colorant for any reason, as it is disabled
-  indicates that the program will always use the specific colorant; this setting does not apply to bases

If the attempt to disable a colorant fails, this means that the maximum number of colorants that may be disabled has been reached: no fewer than 4 colorants may be enabled (green or yellow symbol); among the remaining 4 colorants, only three may be forced for use, and therefore take on the green symbol.

We recommend letting the system choose the use of white colorant.

It will be impossible to disable the *white colorant* if the "Force white if necessary" function is activated among the Color matching options (chapter "Advanced options - Color matching - advanced" on page 108).

To start the procedure, click the **Start** button.

When formulating is complete, the **Match** section displays the best formulated color.

Confirm the choice of the formula derived by the color matching by:

- clicking **OK**.

or

- by pressing the **Enter** key on the keyboard.

The dialog box will close and the new formula will be displayed in the **Modify formula** window (chapter "Editing the formula" on page 68).

The colorimetric values of the formula are displayed in the boxes Key 1, Key 2 and Key 3.

Now the formula can be dispensed (chapter "Edit mode dispensing" on page 74), modified and saved. If necessary, the identification keys Key 1, Key 2 and Key 3 may be changed (chapter "Saving a formula" on page 74).

Manual selection of the formula

The formula proposed by the program is the best in terms of color matching; after formulation, other formulas are created, from among which the user may select the one that best satisfies his needs (for instance, low cost, use of a particular colorant available in greater amounts, etc.).

Click the **More...** button to select manually the formula. The **Manual formula selection** dialog box will appear on the screen (Figure 31).

Formula	Base	DEcmc	M.Idx	Price	Comment
1 - B - F - J -	X1	0.01	1.64	4951	
2 - H - J - M - N -	X3	0.01	1.67	7176	
3 - E - G - J - N -	X3	0.01	1.48	5212	
4 - E - H - J - N -	X3	0.01	1.53	5008	
5 - B - F - J - N -	X3	0.01	1.54	5079	
6 - B - F - J -	X2	0.01	1.55	4962	
7 - H - J - L - N -	X3	0.01	1.56	4963	
8 - E - G - J -	X2	0.01	1.58	4998	

Figure 31

The top section of the window lists the formulas created by the program. The formulas are listed according to a quality index based on ΔE_{cmc} and metamerism, and possibly linked to the results of consulting the system formulas.

The number of formulas that may be displayed by the program can be configured; refer to the function Advanced options - Color matching (chapter "Advanced options - Color matching" on page 107).

The following are listed for each formula: the base used, the ΔE_{cmc} value, the metamerism index (M. Idx) and the calculated price (CorobSTORE optional).

A cursor bar allows you to select the formula over which it is positioned.

You may change the order of the formulas list based on the various characteristics shown: click on the column header by which you wish to sort.

Click on the **General** tab to display additional information about the selected formula.

The **General** tab shows the comparison between the color sample preview (Standard) and the selected formula preview (Match).

By selecting a different cansize in the **Cansize** list box, you may see that the amounts of colorant and the price shown in the top section have been adjusted for all of the formulas listed.

Enabling the **Set formula description** check box, it is possible to edit the identification keys Key1, Key2 and Key3 assigned to the calculated formula by the program, to appropriately encode the formula that you wish to select and that will be displayed automatically in the **Modify formula** window. In any case it will be possible to edit the identification keys directly from the **Modify formula** window (chapter "Editing the formula" on page 68), or while saving (chapter "Saving a formula" on page 74).

Confirm the choice of the formula by:

- clicking **OK**.

or

- by pressing the **Enter** key on the keyboard.

If you wish to choose the formula based on its colorimetric characteristics, tabs are available showing more detailed information.

Click on the tab **Colorimetric values - XYZ** or **Colorimetric values - Lab**; the bottom section of the **Manual formula selection** window displays the comparative colorimetric data between the color sample and the color selected in the window, derived by color matching (Figure 32).

General			Colorimetric values - XYZ			Colorimetric values - Lab			Chart - Lab			Reflectance					
Illuminant D65						Illuminant A						Illuminant F2					
Standard			Match			Standard			Match			Standard			Match		
X	60.71		60.72			X	69.03		69.00			X	65.41		65.57		
Y	66.34		66.34			Y	64.53		64.53			Y	64.88		64.95		
Z	77.07		77.11			Z	25.41		25.41			Z	49.62		49.74		
DE*			0.03			DE*			0.06			DE*			0.20		
DEcmc			0.03			DEcmc			0.06			DEcmc			0.25		

Figure 32

Click on the tab **Chart - Lab**; the bottom section of the **Manual formula selection** window shows the $L^*a^*b^*$ chromatic diagrams in comparison between the sample

color and the color derived from color matching selected in the window (Figure 33); in the **Illuminant** list box you may change the reference illuminant for each of the two colors being compared.

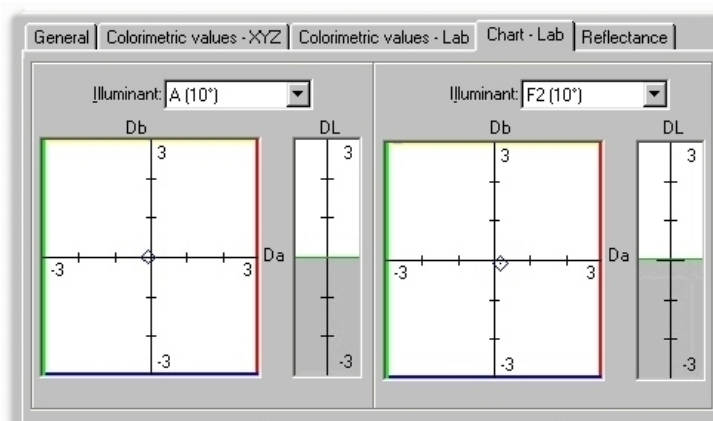


Figure 33

Click on the tab **Reflectance**; the bottom section of the **Manual formula selection** window will show the spectral reflectance chart comparing the values of the sample color (Standard) to those of the color derived from color matching selected in the window (Batch) (Figure 34).

Right-click with the mouse anywhere on the chart to display the popup menu. Using the options available in this menu, it is possible to change the look of the chart, i.e. show or hide some elements, zoom an area of the chart, etc.

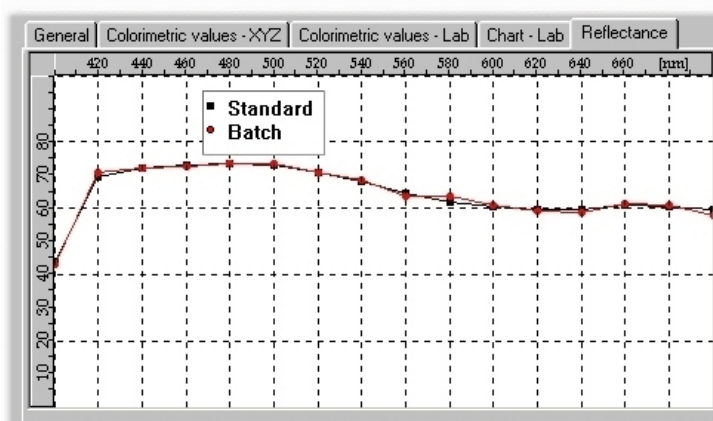


Figure 34

Correction

The color matching algorithm implemented in the CorobWORLD program is highly accurate; the percentage of satisfactory matches on the first try is very high.

“Satisfactory matches” refers to proposed formulas whose color has a **real ΔE_{cmc}** of less than one unit compared to the sample, also called the standard.

However, it may occur that some colors, especially difficult to reproduce using a given tinting system, may require correction after the first formulation.

It is possible to correct a formula resulting from color matching once said formula has been saved. You may save the formula from the **Modify formula** window (chapter “Editing the formula” on page 68).

You must dispense the formula from the same window. The product obtained, whose hue requires correction, must be appropriately blended then drawn down

and allowed to dry. It is then possible to proceed with the correction as indicated below.

The correction procedure may be repeated multiple times on the same formula, as the correction phases are managed in levels; after the first dispensing, the formula will be available at level 1; once it has been dispensed and saved, the corrected formula will be available at level 2 for further correction, and so on.

To proceed with correction:

1. Click the **Search** button in a formula document window then click on the **Color matching** tab;
2. Click on the + sign next to the folder **Corrections list** that appears in the section **Color to reproduce** to display the levels of correction (Figure 35).
3. Select the level corresponding to the correction phase in progress then select, in the section beneath, the name of the saved formula which must be corrected. To quickly search for the formula name, type the code in the text box at the bottom of the window. The folder **Corrections list** appears only after at least one formula derived by color matching has been saved.

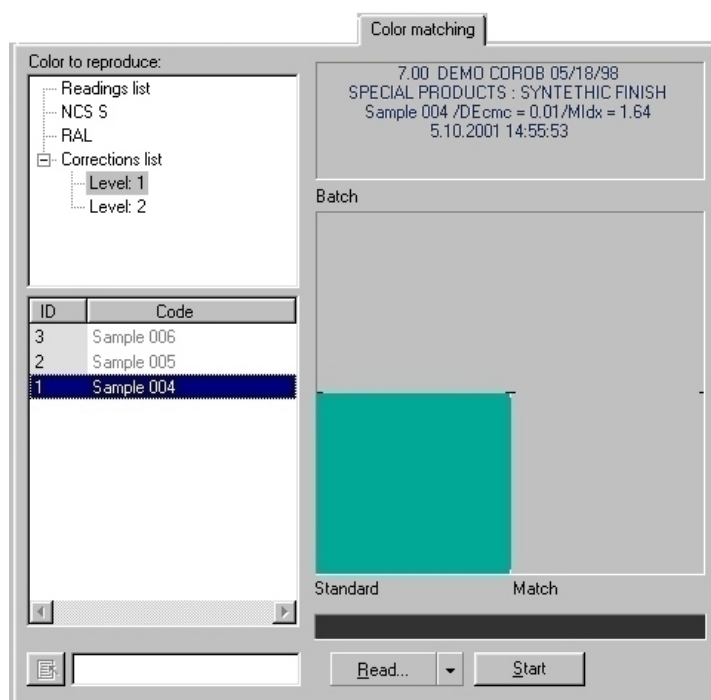


Figure 35

The information regarding the formula to be corrected is shown at the top: the name of the tinting system, the product and subproduct, the colorimetric data and the date and time the formula was saved.

The Standard section displays the preview of the formula to be corrected.

- Click the **Read...** button (appropriately configured) to read the draw-down of the dispensed color (chapter "Using the color measuring instrument" on page 60). A preview of the color read is displayed in the largest section, titled Batch (Figure 36).

- Click the **Start** button to begin the color matching procedure for correction. The preview of the final color corresponding to the corrected formula is displayed in the Match section (Figure 37).

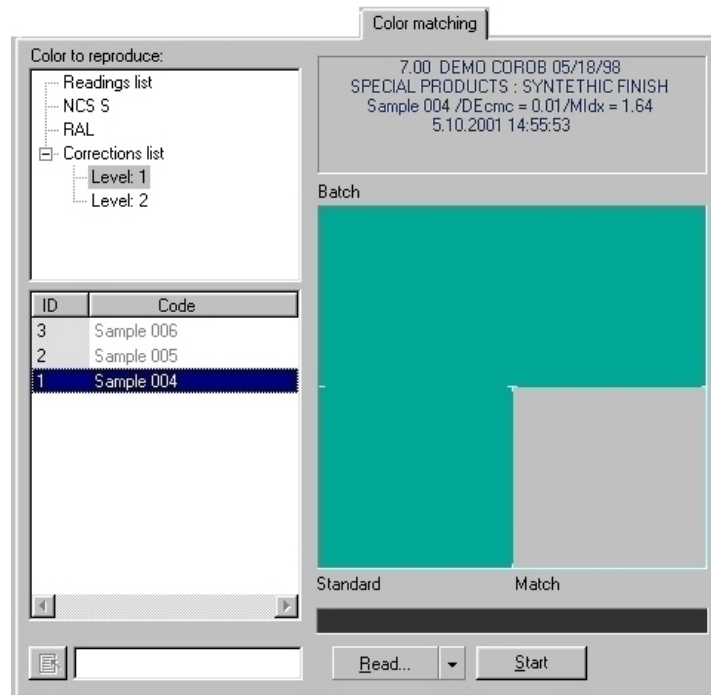


Figure 36

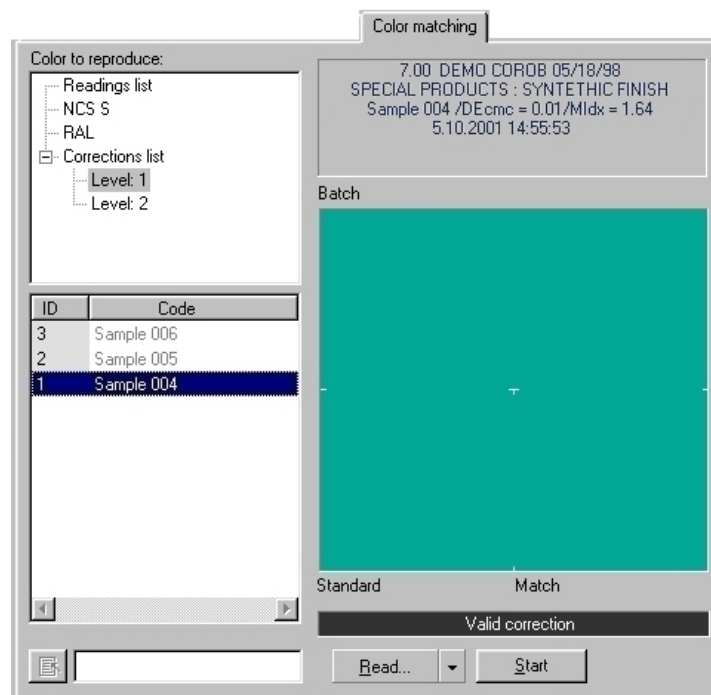


Figure 37

By comparing the theoretical reflectance of the formula and that actually read by the spectrophotometer, the program calculates the “efficiency coefficients” for the colorants; through these coefficients the program is able to redefine the concentrations of the various elements and produce a new formula.

To obtain the new formula, when possible, the program attempts to reuse the product already dispensed. In this case, only the amounts of colorant needed to correct the hue are dispensed.

If not, thus when the can is no longer able to hold the colorants to be added, the program suggests using a new can.

This typically occurs when the original formula contains one or more excess colorants; as it is not possible to remove colorant already dispensed, it is necessary to add white to compensate for the effect of the excess colorant. Therefore, the proportions of the other formula components must also be redefined.

If the correction is successful, but requires the use of a new can, a message will appear in the status bar at the bottom of the window (*"This correction requires a NEW CAN"*).

Otherwise you may proceed directly with dispensing into the can already used; a message in the status bar at the bottom of the window indicates that the correction has been successful (*"Valid correction"*).

The program may be configured so as to require correction in a new can in any case (chapter *"Advanced options - Color matching - advanced"* on page 108).

Confirm the choice of the new formula by:

- clicking **OK**.

or

- by pressing the **Enter** key on the keyboard.

In the **Modify formula** window, where the correction formula is loaded, the function **Colorant addition** is automatically enabled (chapter *"Colorant addition"* on page 74) to emphasize that the formula displayed includes only the colorants to be added to the previously dispensed formula (Key 3 shows *"Correction Old can"* to indicate that the previous can must be used).

If this function is disabled, the original formula already dispensed will be displayed, but cannot be edited.

Proceed therefore with dispensing into the same can.

At the end of dispensing the program will return to the **Modify formula** window, displaying the total formula also taking into account the amounts added to correct the hue. Proceed therefore by saving the complete formula.

If the program has pointed out the need to use a new can (or has been configured to always require a new can), the formula loaded into the **Modify formula** window will be complete (Key 3 shows *"Correction New can"* to indicate that a new can is needed).

Color matching with colorant reduction

Color matching with colorant reduction is a **two-step procedure** (first formulation, followed by correction formulation) which takes place regardless of whether or not the color actually requires correction.

Using the color matching procedure with colorant reduction, it is very likely that the second formulation may be dispensed re-using the product already dispensed in the first dispensing.

To ensure reuse of the product dispensed after the first formulation, in this dispensing the amounts dispensed correspond to a reduced percentage of the amounts included in the final formula, thus the amounts of the colorants are not definitive, but merely partial.

The percentage of colorant not dispensed in the first phase is configurable; the predefined value is 25%, meaning that during the first dispensing only 75% of the total colorant is dispensed.

To configure the colorant reduction percentage, see the function Advanced options - Color matching - advanced (chapter "*Advanced options - Color matching - advanced*" on page 108).

To carry out color matching with colorant reduction, proceed as follows:

1. click the **Search** button in a formula document window;
2. then click on the **Color matching** tab;
3. enable the **Colorant reduction** check box, select the color to be reproduced (chapter "*Choosing a color to be reproduced*" on page 48) and proceed with formulation (chapter "*Formulation*" on page 52).
4. afterwards, proceed with correction (chapter "*Correction*" on page 55).

After the reading of the draw-down obtained by the first formulation, the program calculates any corrections to be made to the formula, considering the fact that the concentrations in the color read represent only a percentage of the theoretical ones.

Since the amount of colorant actually dispensed is less than the nominal value required by the formula, the possibility of having excess colorant in the can after the first dispensing is significantly reduced, thereby increasing the probability of reusing the original can.

It is important to note that if color matching with colorant reduction is carried out, **even if the initial formula is perfect, it is still necessary** to proceed with reading the draw-down sample obtained and completing a second formulation; this is because only part of the colorant required by the formula is dispensed the first time around, and thus the color obtained is too light. If no corrections are necessary, the second dispensing will simply add the colorant held back during the first dispensing.

Given the excellent results achieved by the color matching algorithm implemented in CorobWORLD, it is rarely necessary to use colorant reduction; in most cases, it involves needless two-step dispensing of formulas already correct during the first formulation.

The colorant reduction option is therefore normally disabled.

It is available for those colors that are especially "difficult", and thus for which it is known beforehand that the tinting system will need at least one correction cycle.

The color matching with colorant reduction is conceived for dispensing in the same can. Therefore, the **Colorant reduction** check box will not be available if the option **Use always a new can** is enabled in the color matching advanced options (chapter "*Color matching - advanced*" on page 108).

Deleting the colors to be reproduced

The colors available for selection in the *Color to reproduce* section may be deleted, excluding those of the Gcspaces reference databases (NCS S, RAL etc.).

1. In the **Color to reproduce** section, select the desired color card, then the code of the color to be deleted in the section below. To search quickly for the color, type the code in the text box at the bottom of the window.

2. Press the **Del** key on the keyboard: the formula will be crossed through, thus marked for deletion. Repeat for all formulas you wish to eliminate.
3. To remove the marking from a formula, and thus prevent it from being deleted, select it again and press the **Del** key on the keyboard once again.
4. To delete the marked items, select a different folder in the section **Color to reproduce**: a message will appear to indicate that you are about to definitively erase certain formulas. Confirm by clicking on the **Yes** button, or cancel the operation by clicking **No**.

Using the same procedure it is possible to delete readings from the dialog box **Reading management** (chapter "Color selection from database - reading management" on page 49).

Using the color measuring instrument

It is very simple to manage color measuring instruments. A single dialog box allows you to read the color samples and calibrate the instrument.

- Click the **Read...** button in the **Find closer color** tab.

or

- In the **Color matching** tab, make sure the **Read...** button is configured to read from an instrument (chapter "The Read button" on page 48), then click on the button **Read...**

The instrument interface window will appear on the screen (Figure 38).

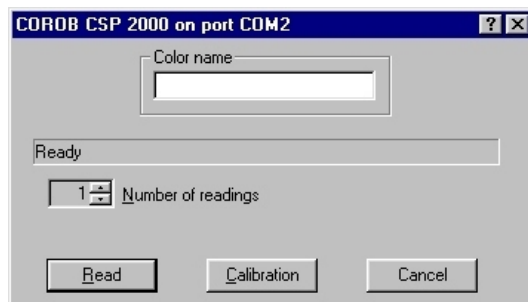


Figure 38

The title bar of this window shows the model of the instrument and the serial connection port used.

A status bar is also available, displaying the steps the user must carry out as well as error messages.

For instruments equipped with a control button to perform readings (as for example the COROB™ spectrophotometer Oracolor), the check box **Remote mode** will be available. Activate this box to enable the use of the instrument control button.

You may also use a color reading through use of an instrument to create an archive of reflectance values using the **Add reflectance...** button configured to **from Instrument...** in the **Reading management** dialog box (chapter "Color selection from database - reading management" on page 49).

Reading the samples

Reading a sample is a very simple, rapid operation.

Before carrying out a reading, we recommend that you always enter the reference name with which the reading will be saved, to facilitate subsequent searches in the readings list (Color to reproduce section).

Place the sample as described in the instrument's user manual.

In the **Number of readings** box, it is possible to set how many readings the instrument shall have to perform on the same sample; the program will calculate a final average value upon the readings performed.

Once the sample has been correctly positioned, click the **Read** button.

After the reading, the interface window closes and the completed reading will be saved in a dedicated database.

All saved readings may be subsequently selected for color matching or searching for closer color.

Download of readings (only Minolta instruments)

If you are using one of the Minolta spectrophotometers supported by the program, it is possible to transfer the readings stored in the instrument to the CorobWORLD program.

In addition to the **Read** tab, where you can perform readings in the standard way (previous chapter), the instrument interface window also displays the **Download** tab, where you can transfer the readings to the program (Figure 39).

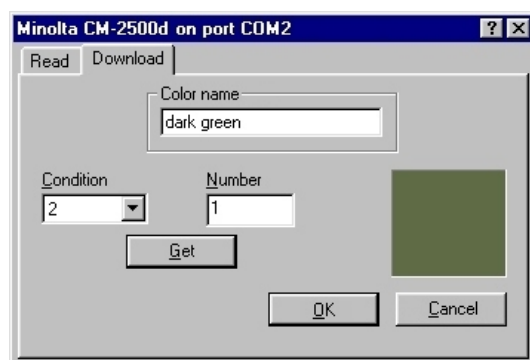


Figure 39

It is possible to download only one reading at a time. The readings are transferred to the active folder in the section *Color to reproduce* of the dialog box **Select product and color**.

Click on the **Download** tab and proceed as follows:

1. If present, from the list box **Condition**, select the condition with which the reading was made (for further information, refer to the instrument user's manual).
2. In the text box **Number** enter the number of the reading you want to download.
3. Click on the **Get** button. The preview of the color for the reading chosen is displayed in the box at the right.
4. In the text box **Color name** enter a reference name with which the reading will be saved.
5. Confirm with OK to close the instrument interface window.
6. Repeat the above steps to carry out the download of the next reading.

Calibration of the instrument

Combined with a measuring instrument (spectrophotometer), CorobWORLD is a precise and reliable system for formulating color recipes.

Regular calibration of the instrument is an essential part of maintaining these characteristics.

The program requires complete calibration of the instrument the first time it is used (by clicking on the Read button), and every 8 or 12 hours thereafter (based on the instrument model).

In this situation, in the instrument interface window, the **Read** button is disabled and thus the user is forced to perform calibration.

However, it is possible to perform calibration at any time by clicking the **Calibration** button.

Calibration should be carried out once or twice a day, and only takes a few seconds. We also recommend that you always calibrate whenever significant climate changes occur, or when the instrument is moved to a different environment.

For instructions on how to use correctly calibration standards, read the user's manual provided with the instrument.

Click the **Calibration** button and follow the instructions in the window status bar.

Defining a cansize

Defining the cansize is an essential step in both dispensing a system formula or color and in creating a new color and subsequently dispensing it.

The cansize may be selected from the **Cansize** box (Figure 40) listing only those cansizes that may be selected under given conditions: when a product and subproduct are chosen, the list box will display only the list of cansizes available for the product and subproduct selected.

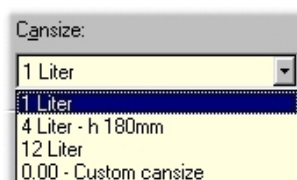


Figure 40

Once you have selected a cansize, the program offers the same one by default in every situation until a different one is selected.

The program automatically opens the **Cansize** list box when it becomes essential to define a cansize, or when the cansize defined is no longer valid (a different product/subproduct has been selected).

In any case, the box may be used whenever the cansize may be changed.

Each time the cansize type changes, the program automatically recalculates the amount of colorant needed to obtain the tint in the new can.

The program may be configured to show the user the same cansize, which we will call the default cansize, instead of the last cansize selected (chapter "Default cansize" on page 113). The default cansize may be configured for each of the data structures used.

When the dispense command is given, the program asks to place the can on the positioning surface provided (automatic shelf, manual shelf, roll conveyor etc.) as described in the dispenser user's manual. If the automatic shelf is installed, the can resting on it will automatically be placed in the most suitable position for dispensing.

The dispensing operations for the same cansize are counted by a counter displayed during dispensing; the counter resets to zero when a different cansize type is selected for dispensing the same formula (chapter "Dispensing counter" on page 66).

How to select a cansize

1. In the **Cansize** list box, select the desired cansize from the list of those available. The list box has vertical scroll bars, if necessary.

If your data structure does not include the cansize list or if you wish a cansize other than those of your tinting system (not included in the drop-down list), it is possible to use a custom cansize whose capacity may be each time specified. If the custom cansize is enabled, proceed as follows:

1. click the arrow at the right side of the **Cansize** box then choose the item **Custom cansize** in the drop-down list;
2. in the dialog box that appears (Figure 41) type with the keyboard the capacity of the cansize;
3. if this choice is available, click the option button corresponding to the unit with which the capacity of the can is expressed: weight (grams) or volume (milliliters). The bottom area of the window will show the fill level of the base, that is to say, the quantity of base (expressed in volume and weight too) that must be contained in the can.
4. click **OK** to confirm.

Figure 41

Note - The possibility of selecting the unit of measure between weight and volume is available only if the data structure allows.

The last capacity entered in the **Custom cansize** window will be suggested next time, without needing to type the value again in case of cansizes having the same capacity.

When a custom cansize is selected, after the dispensing command is given, the automatic shelf of the dispenser (if present) will move all the way down, then rise until the can resting on it is correctly positioned.

When a custom cansize is selected, the quantity of base (expressed in volume and weight) that must be contained in the can is shown in the dispensing window of the formula (chapter "*Dispensing window*" on page 64).

When a custom cansize is used, the calculation of the formula price (CorobSTORE optional) is carried out considering the base price per liter.

Standard dispensing

To dispense the formula, click the **Tint** button.

The **Tint** button is enabled when a formula has been selected (chapter "*Searching a formula*" on page 31).

The dispensing procedure activated from the formula document window is defined as **standard**, since no intervention is involved in defining the color to be dispensed; the information is taken directly from the data structure in the case of a system color, or from the dedicated database in the case of custom formulas.

The only intervention required is in selecting the cansize (chapter "*Defining a cansize*" on page 62). The choice of the cansize is automatically required the very first time you wish to dispense; afterwards, the program always suggests the last cansize used.

Dispensing window

The **Tint** button is available in both the formula document window and the formula edit window. In both cases it allows you to launch the dispensing procedure by opening the dispensing window (Figure 42).



Figure 42

The title bar shows the formula code and the code of the base to be used, while the current cansize is selected in the window.

Carefully follow the instructions shown in the status bar of the dispensing window, and proceed with dispensing the formula.

1. Place the can correctly on the can positioning surface (automatic shelf, manual shelf, roll conveyor, etc..) and carefully follow the instructions given in the dispenser user's manual.
2. Click **OK** to confirm operations.

The accessories that equip the COROB™ dispenser affect how the program manages the dispenser itself, and how it is used by the operator.

Take special care when using a COROB™ dispenser equipped with manual accessories, since the manual operations to be carried out are not indicated by the program (i.e.: carrying out manual punching before dispensing). If properly configured, the program will warn to execute the manual punching operation on Rondo and Jazzo dispensers.

If present, the automatic shelf will position itself so that the can is at the proper height, and the dispenser will begin dispensing the formula; if present, automatic accessories will be activated (automatic cap opening/closing, automatic punching, automatic plug insertion in the can lid).

3. If the automatic punch is present, before dispensing the operator will be asked to confirm punching of the can lid; if the can does not require punching, click the **Skip** button.

The machine begins to dispense the colorants included in the formula in the preset amounts.

When dispensing is complete, the same formula may be repeated for the same type of cansize, or you may change the cansize by selecting it in the **Cansize** list box. If the cansize is changed, the automatic shelf, if present, will adjust its position to bring the new can to the appropriate height.

After a formula is dispensed, the levels of the colorants in the canisters are automatically updated, the statistic information is saved (data for analysis with the program CorobSTAT) and the number of cans in stock is updated (CorobSTORE, optional).

If background dispensing (chapter "*Dispensing in background*" on page 67) is disabled, when the dispensing window is open you may not use other program functions until the window is closed after dispensing. This only if the dispensing procedure has been activated by the formula document (standard dispensing).

Dispenser status bar



The status bar displays:

- the information concerning the operation of the dispenser
- the instructions to be carefully followed by the user.

Control buttons

- | | |
|---------------|--|
| OK | To confirm dispenser operations, such as dispensing, punching and so on. |
| Cancel | To cancel dispensing and close the dialog box.
It is only available if the dispenser is equipped with an automatic punch (see ColorTECH user's manual). This button comes on when punching is requested; it allows to ignore punching request and proceed with dispensing, in case, for example, you want to dispense in a can without a lid. |
| Skip | |



- | | |
|--------------|---------------------|
| Print | To print the label. |
|--------------|---------------------|



- | | |
|------------------|---|
| Levels... | To update the colorant level in the canisters |
|------------------|---|

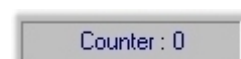
While the dispensing process is in progress (autocap opening, dispensing, shelf movement, etc.) it will not be possible to close the dispensing window or quit the program.

Cansize selection

If you intend to use a cansize other than the one proposed in the dispensing window, it may be selected from among those in the tinting system available for the current product and subproduct in the **Cansize** list box (chapter "Defining a cansize" on page 62).

If a custom cansize is selected, the quantity of base (expressed in volume and weight) that must be contained in the can is shown in the dispensing window.

Dispensing counter



It is a fixed box that tells you how many dispensing operations you have carried out for each cansize. This value is automatically zeroed every time you select a different cansize for dispensing.

Formula colorants check

The program checks the colorants of the formula to be dispensed; if they are not all available on the dispenser, the following message window is displayed (Figure 43) since the formula is not valid and cannot be correctly dispensed.

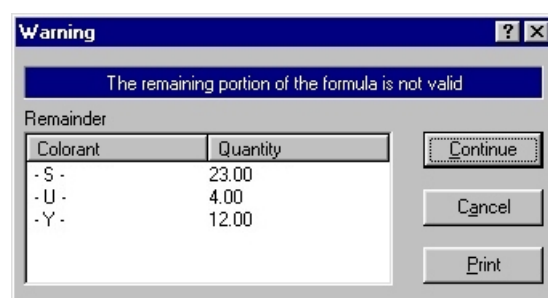


Figure 43

The **Remainder** section lists the colorants - and the relevant quantities - that cannot be dispensed since they are not present on the machine.

Click **Cancel** if you do not intend to proceed with dispensing.

Click **Print** to print a label which will list the colorants - and the relevant quantities - excluded from dispensing.

Click **Continue** to proceed with dispensing the formula (Figure 44).

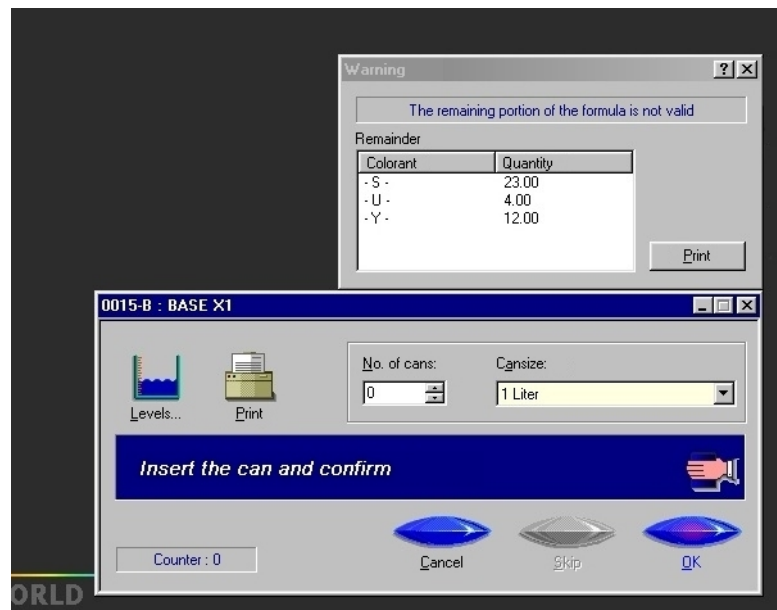
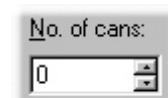


Figure 44

Series dispensing

If you want to produce a series of cans with the same formula, you should set, before dispensing, the number of cans to be dispensed.



- click the **No. of cans** box and type the value;

or

- click the scroll arrows to change the value.

In the **No. of cans** box either a negative or a positive value can be set.

When the number of cans reaches zero, the program informs that the series has been completed and blocks any further dispensing.

Dispensing in background

By enabling background dispensing, it is possible to make the dispensing window inactive or minimize it ( button) while dispensing is in progress, so that the other program functions that do not involve communication with the dispenser may be used (for example, it will be possible to open a new formula document and search for the next formula to be dispensed).

The formula document containing the formula being dispensed is highlighted by a red border; no operations can take place in the formula document until the dispensing window is closed.

Background dispensing is possible only if the dispensing procedure has been activated from the formula document (standard dispensing).

Background dispensing may be enabled using the ColorTECH program ("Setup dispenser options" from main menu, "Separate Thread" function, Separate Thread enable = 1).

Printing labels

If appropriately configured, the program automatically prints a label before or after each dispensing, even when the same formula is dispensed several times in the same cansize. Each label may be then applied to each can of color produced.

Also, by clicking on the **Print** button  you may print the label at any time, or print extra labels.

The print layout of labels may be differentiated based on the type of formula being dispensed.

If, for example, you are dispensing a system formula using the Tint button in the formula document window (standard dispensing), the label may show the information about the product, subproduct and formula code.

If instead you are dispensing a formula created in the modify formula window (edit mode dispensing), the label may contain more information, such as the colorants used, the quantities, the price, etc...

If automatic printing is not enabled, you may still print by clicking on the **Print** button.

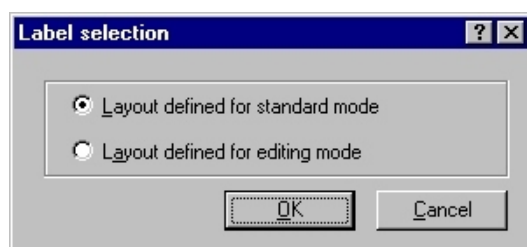


Figure 45

Printing via the **Print** button may be configured so that it is possible to select the type of label layout to be used (Figure 45).

The print function may also be disabled (Print button disabled).

To configure the label printing function, refer to the function General options - Labels (chapter "Labels" on page 91).

If you have a layout with multiple labels on a single page, the program may be configured to display the Print dialog box, in which you may choose which label to print (chapter "Using the Print dialog box" on page 93).

Editing the formula

The **Edit** function allows you to create a database of personal formulas developed by changing the system colors, or by setting each and every parameter to define a new color not available in the system in use.

The formulas may be created and dispensed directly, or saved to be dispensed later, by selecting them with the Search button in the formula document window (chapter "Searching a formula" on page 31).

To create a new formula by modifying a system formula, select the system formula through the Search function (chapter "Searching a formula" on page 31) then click the **Edit** button. The **Modify formula** window shows the current formula (Figure 46).

To create a brand new formula, open a formula document, then click directly the **Edit** button. In this case, the **Modify formula** window will be empty, no information is set.

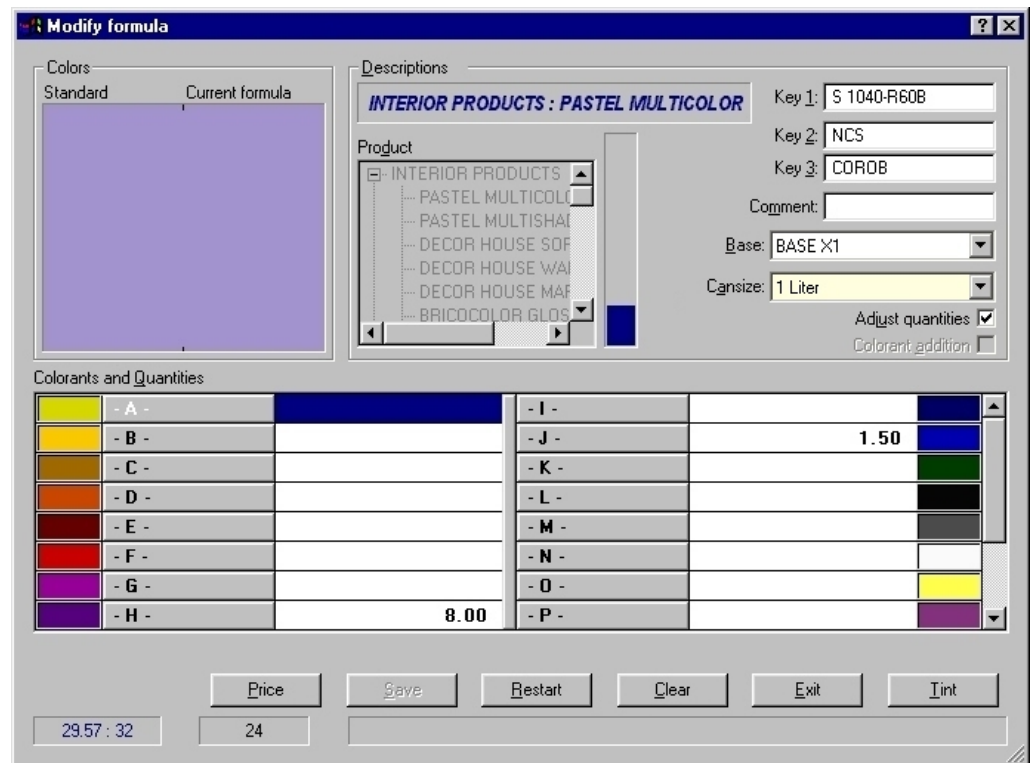


Figure 46

Buttons and status bar

At the bottom of the window are the function buttons and status bar.

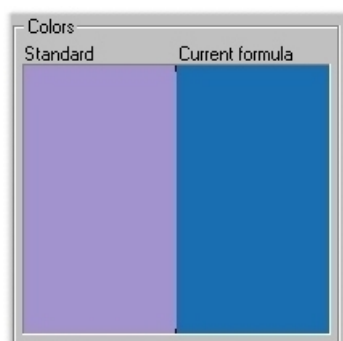
The status bar serves to display messages about error situations that may occur while defining a formula (chapter "Warnings and error messages" on page 89).

The buttons are active only if the corresponding functions are enabled.

Price	To display the price of the formula (option)
Save	To save the formula
Restart	To restore the original formula
Clear	To set at zero the amounts of all the quantities
Exit	To quit the window
Tint	To dispense the formula

Colors section

The *Colors* section, in the upper left of the window, displays the preview of the current formula and the preview of the modified color.



The color preview is displayed in two side-by-side sections; the **Standard** section shows the hue of the current system formula, while the **Current formula** section displays the variations of the hue according to the changes that will be made (changes to the amount of colorant or to the base used).

The comparison allows you to check the results of the changes made to the original formula.

If the **Modify formula** window is empty, the Standard section will be and will remain grey, since no system formula is selected, while the Current formula section will display the color of the base selected.

Changing the selections

In the **Modify formula** window it is possible to modify or define the information about the formula: the base, the cansize, the code to assign to the formula and, if possible, the product and subproduct too.

In the bottom left, next to the unit of measure, is displayed the ID of the formula that will be assigned to the formula when it is saved.

When modifying an existing formula, as soon as any changes are made to the original formula, the color code disappears; when the original formula is restored using the **Restart** button, the color code reappears.

The **Restart** button also allows to restore the original formula after changing the selections.

Base and cansize

- From the **Base** list box select the base that you wish to use from among those available for the current product and subproduct.

If the base used is changed, the *Colors* section displays any changes to the hue of the current formula.

- From the **Cansize** list box select the cansize that you wish to use from among those available for the current product and subproduct.

Product and subproduct

Usually, changing the product and subproduct is possible only when all amounts are set to zero in the *Colorants and Quantities* section (next chapter); this is therefore the first selection to make when creating a new formula in the empty **Modify formula** window.

Through the CorobWORLD options, the program may be configured so that the product and subproduct may be selected even when the amounts have already

been defined, making it possible to change the product and subproduct at any time while defining the formula (chapter "Miscellaneous" on page 100).



- To change the product and subproduct, select them from the corresponding box. A cursor bar allows you to select the product or subproduct over which it is positioned; to display the subproducts related to a product, click on the + sign before the name of the product itself.

INTERIOR PRODUCTS : PASTEL MULTICOLOR

The names of the selected product and subproduct are displayed in the upper left, in the section *Descriptions*.

Defining the color

The *Colorants and Quantities* section shows the colorants available in the system in use (Figure 47). For each colorant, the code and a small chip representing its hue are shown. If an amount is defined for a colorant, the value is displayed in the numerical box alongside the chip.

	- A -	3.00		- I -	
	- B -			- J -	9.00
	- C -			- K -	
	- D -	6.00		- L -	
	- E -			- M -	
	- F -			- N -	
	- G -				
	- H -				

Figure 47

The colorants and amounts may be changed in this section to define the color.

In color defining, a good basic rule is to follow the product instructions given by the manufacturer to achieve good color yield and product quality.

If there are too many colorants in the system to fit in this section, the latter has vertical scroll bars. In any case, it is possible to adjust the height of the dialog box to display all of the colorants on the screen: use the mouse to drag the lower right corner of the window.

Clicking with the right mouse button on any point of the section *Colorants and Quantities* allows you to sort the list of colorants by increasing amount, to see all of the colorants used in the formula grouped together at the top.

To change the composition of the formula using the colorants and amounts:

1. double-click on the numerical box next to the code of the colorant you wish to add or change the amount

2. an editable field will appear where you must type, via the keyboard, the new amount or change the preset amount, expressed in the unit indicated, then confirm using the **Enter** key on the keyboard or by clicking in another area of the window
3. repeat this operation for all colorants to be inserted in the formula.

To set to zero all the quantities defined in the section, click the **Clear** button.

To restore the original formula, click the **Restart** button.

If the amounts of colorants are changed, the *Colors* section constantly displays any changes to the hue of the current formula.

Automatic adjustment of quantities

If the **Adjust quantities** check box is enabled, when the user changes cansize from the **Cansize** list box, the amounts set in the *Colorants and Quantities* section are automatically recalculated and updated.

By disabling the **Adjust quantities** check box, the background color of the numerical boxes changes to indicate that you are working on the colorants and the amounts with the control disabled. When a new can is selected, the program does NOT recalculate the amounts of colorant set, and a warning message will be displayed. If the warning message constitutes an annoyance, enable the check box **Don't ask me again**, so that it will not be displayed in the future (chapter "*Notify quantities not adjusted*" on page 113).

Warning signs in the quantities section

A symbol may appear or be present next to the colorant code, indicating the situation of the colorant in the canister where it is stored on the machine.

Symbol  always present...

...colorant in the canister is under the reserve level.

Symbol  always present...

...colorant in the canister is at pre-warning level.

Symbol  which appears after setting an amount...

...dispensing the set amount would bring the colorant to reserve level and is thus prevented.

Symbol  which appears after setting an amount...

...dispensing the set amount will bring the colorant in the canister to pre-warning level.

Grey color code and symbol  always present...

...the colorant of the tinting system is not present on the machine.

Colorant concentration check bar

The amount of colorant that may be contained in a base is limited and depends on factors such as, for example, the level to which the can is filled with base (fill level), the coverage power of the base, the dispersion specifications of the colorant within the base, and so on.

In this case, we refer to physical limitations of the system; if exceeded, or if the minimum threshold has reached, the finished product could lose its formulation characteristics.



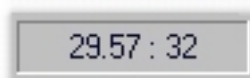
The amounts of colorant that make up a formula are automatically checked by the program; the concentration of the colorants contained in the formula being defined or changed is displayed through the colorant concentration check bar.

While changing the amounts of colorant in the *Colorants and Quantities* section, warning messages appear in the status bar (chapter "Warnings and error messages" on page 89) when the minimum or maximum concentration is reached.

Exceeding the maximum limit could compromise the proper dispersion of the pigment in the base, thereby losing the formulation characteristics (drying, durability, appearance, etc.). Vice-versa, if the minimum limit of colorant needed in the base is not reached, the final product may compromise coverage.

With equal amounts of colorant, selecting a different base could change the concentration indication of the colorant in the base.

Unit of measure



The Modify formula window shows also the unit of measure defined during creation of the data structure for the current product/subproduct. The unit of measure is expressed in UNIT (value in cc corresponding to the unit of measure used) and FRACTION (subdivision of the unit into fractions). The unit of measure must be taken into account to determine the amounts of colorant that make up a formula.

For instance 29.57 : 32 means that the unit of measure used to interpret the amounts in the formula is the American Fluid Ounce (U.S. fl. oz., corresponding to 29.57 cc) divided by 32 (that is to say 0.924 cc). If a colorant amount is set to 10 units, the amount of colorant dispensed will be $0.924 \text{ cc} \times 10 = 9.24 \text{ cc}$.

If appropriately configured, the program may display the amounts of colorant using different units of measure, defined by the user (chapter "Edit formats" on page 96). In this case the amounts of colorant entered while editing a formula are interpreted based on a unit other than the one in the tinting system.



If a single unit of measure is configured, its label is shown next to the amounts defined in the quantities section.

If more than one unit of measure is configured, a **Unit** list box is displayed in which to select the unit of measure with which you wish to see displayed or enter the colorant quantities.

When a unit of measure is changed, the quantities already set are automatically converted.

Edit mode dispensing

The dispensing procedure activated from the **Modify formula** window is known as dispensing in **edit mode**, since it involves direct intervention in defining a color that does not exist in the system in use.

After defining a formula, you may proceed directly with dispensing by using the **Tint** button.

The dispensing procedure in edit mode is the same described for standard dispensing; see the chapter "*Dispensing window*" on page 64.

Colorant addition

The function *Colorant addition* may be activated only when the formula has been dispensed at least once with the dispensing procedure from the **Modify formula** window, or with the standard dispensing procedure.

It allows you to add a certain amount of colorant to a can already tinted, thus correct a dispensed formula if the initial results obtained are not satisfactory.

By enabling the **Colorant addition** check box in the section *Colorants and Quantities*, the background of the numerical boxes changes color to indicate that you have switched into Added colorant mode, while the amounts of all colorants are cleared.

Set the amounts of colorant necessary to correct the formula and touch up the hue.

Make sure that the can in which the hue to be corrected has been developed is correctly positioned on the dispenser, and click on the **Tint** button to dispense the correction amounts (chapter "*Edit mode dispensing*" on page 74).

You may not change the cansize throughout this procedure.

The correction formula may be dispensed only once.

While dispensing the correction formula, from the dispensing window it is possible

to print the label by clicking on the **Print** button  (chapter "*Printing labels*" on page 68); the label printed will be cumulative of the first formula dispensed and the correction formula being dispensed.

At the end of the dispensing the program will return to the **Modify formula** window, displaying the complete formula that also takes into account the amounts added to correct the hue.

The procedure may be repeated to further correct the formula.

This formula may then be saved as appropriate (next chapter).

Saving a formula

After defining a formula, you may save it. The formula will be saved in a dedicated database, and may be selected using the Search function.

To save the formula, click the **Save** button, type the codes and information with which you wish to save the formula in the text boxes **Key1**, **Key2**, **Key3** and **Comment** and confirm by clicking the **Save** button in the dialog box (Figure 48).

Figure 48

A message will inform you that the formula has been saved.

In the case where a formula already exists with the same codes of the formula that you wish to save, it is possible to overwrite the old formula with the new or cancel and change the codes to avoid deleting the previous formula.

Formula price (CorobSTORE)

The function to calculate the formula price is available only if the optional module CorobSTORE has been activated. CorobSTORE may be purchased separately, and may therefore be activated only if you have the corresponding validation password (chapter "CorobSTORE" on page 24).

If you wish to find the price of a system formula or custom formula, select it using the Search function, then click on the **Price** button in the formula document window.

If you wish to find the price of a formula while defining it using the Edit function, click on the **Price** button in the modify formula window.

In both cases the following window appears (Figure 49):

	Lire	Euro
Base	2550.00	1.32
Colorants	1173.46	0.61
Sub total	3723.46	1.92
Tax 5.00%	186.17	0.10
TOTAL	3909.63	2.02

Figure 49

From the **Cansize** list box select the cansize for which you wish to find the price for the current formula.

If the price of the colorant is displayed in yellow, this means that, in relation to the base price, it has reached a value greater than or equal to the warning percentage. If the price of the colorant is displayed in red, this means that, in relation to the base price, it has reached a value greater than or equal to double the warning percentage. For further information, refer to the Appendix CorobSTORE Module, available in the CD.

Click **OK** to close the Price window.

When a custom cansize is selected, the calculation of the price is made considering the base price per liter.

Displaying price groups

The configuration of the program so as to display price groups is possible only if the optional module CorobSTORE has been activated. CorobSTORE may be purchased separately, and may therefore be activated only if you have the corresponding validation password (chapter "CorobSTORE" on page 24).

This function allows you to hide the real price of a formula to show only the category to which it belongs, such as for example "Low price," etc.

If the price grouping system has been enabled in CorobSTORE (refer to the Appendix CorobSTORE Module), the price window may display the name of the group to which the formula belongs based on its price, rather than the price expressed in the set currency (Figure 50).



Figure 50

The price groups are defined in CorobSTORE (refer to the Appendix CorobSTORE Module).

Queuing and Formula query

The **Formula query** dialog box lists all of the formulas received by the program via a local formula queue (residing on the hard disk) or via a remote formula queue (residing on a local network).

Furthermore, the **Formula query** dialog box allows you to manage the *queuing* both of system formulas and of custom formulas.

To open the Formula query dialog box, click the  button or choose **Formula query...** in the **Tools** menu.

If the **Formula query** function is disabled, this means that reception from the local queue or the queuing of formulas have not been activated (chapter "Formula exchange" on page 93).

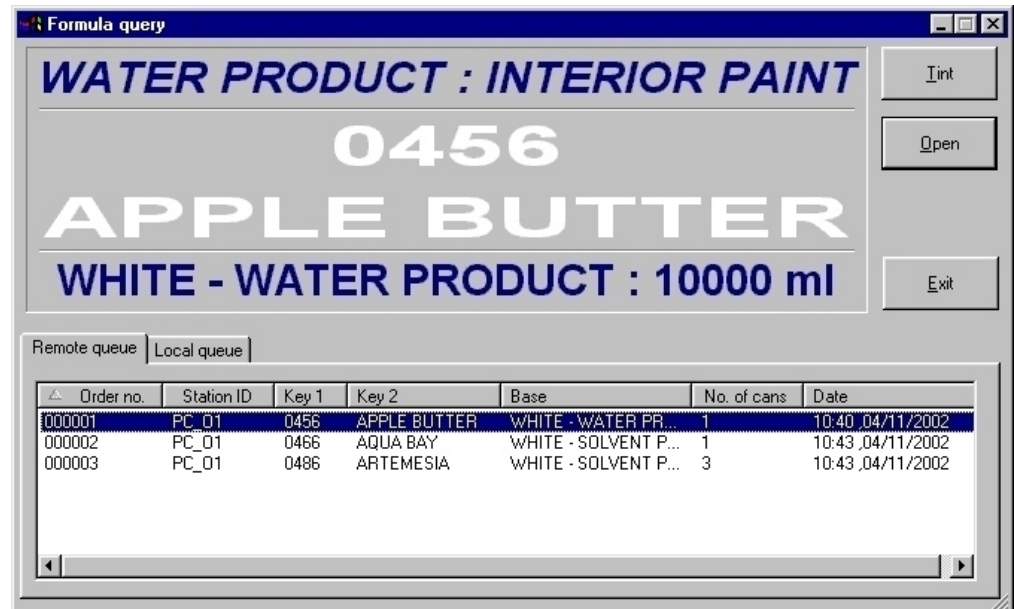


Figure 51

The **Formula query** dialog box offers two tabs, which may be configured to access the local and remote queues.

Click the desired tab to proceed with selecting a formula.

To dispense the currently selected formula in the **Local queue** or **Remote queue** tab, click the **Tint** button.

Click the **Exit** button to close the **Formula query** dialog box.

The size of the **Formula query** dialog box may be changed by dragging the borders; click the  button in the title bar to minimize the dialog box or click the  to restore it.

Following is a description of the situations where it is possible to access the formulas via the *Formula query* function.

Formula queuing

If appropriately configured, CorobWORLD provides a function that allows you to queue system formulas and custom formulas in a local queue, or list of formulas that may be called up at any time.

Is therefore possible to organize the dispensing activity of the formulas by selecting all of those desired in the **Select product and color** dialog box, and later calling up the list when you are ready to dispense the formulas.

Proceed as follows:

1. Select a system formula or a custom formula (chapter "Searching a formula" on page 31).

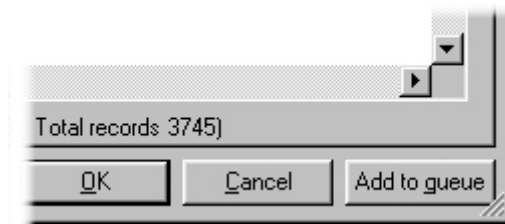


Figure 52

2. Click the **Add to queue** button, in the bottom right of the window (Figure 52).

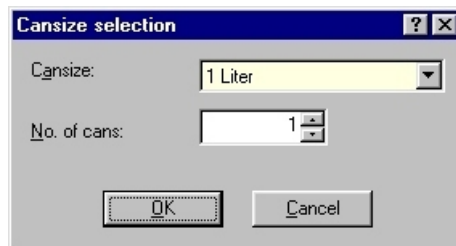


Figure 53

3. In the **Cansize selection** dialog box (Figure 53), choose the desired cansize from the **Cansize** list box. If necessary, the list box will have vertical scroll arrows.
4. If you want to produce a series of cans with the same formula, set the number of cans in the **No. of cans** box.
5. Click **OK** to confirm and add the selected formula to the queue.
6. Repeat these steps to queue other formulas.

To display the queue created and select the formulas for dispensing, open the **Formula query** dialog box and click on the **Local queue** tab (next chapter).

Local queue

The **Local queue** tab lists all of the formulas received by the program and sent "via network" or "via serial line" by remote computers.

The same tab also lists the system formulas or custom formulas queued from the **Select product and color** dialog box.

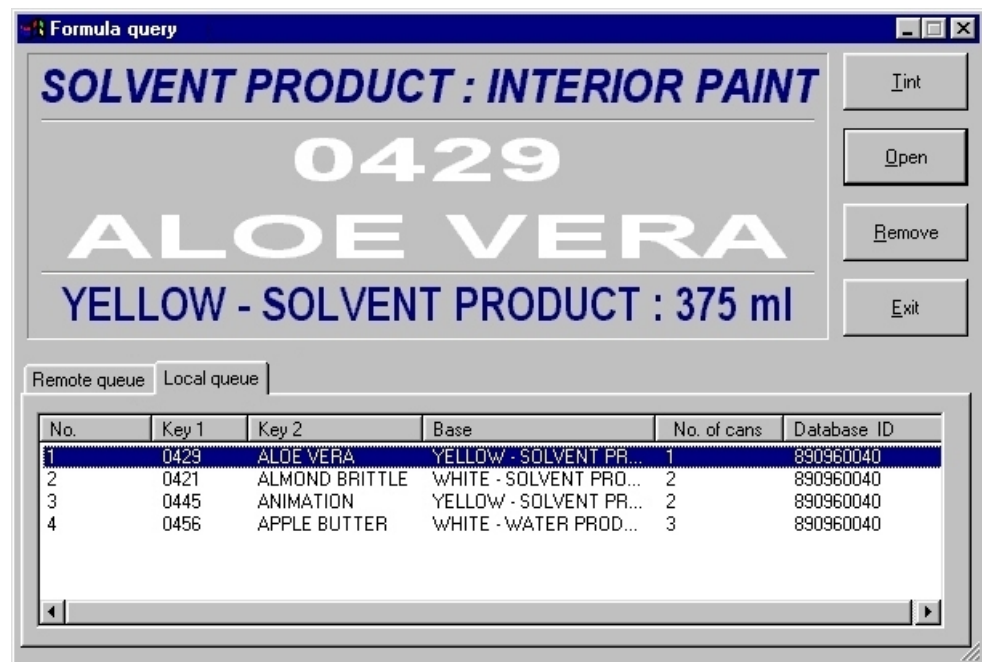


Figure 54

The bottom part of the window displays the list of available formulas that may be selected and dispensed. A cursor bar allows you to select the formula you wish to open. The top part of the window shows the characteristics of the formula selected by the cursor bar.

The following is indicated for each of the formulas available in the window:

- the progressive number
- the formula identification keys
- the base to be used
- the number of cans to be produced with the formula
- the identification number of the database the formula belongs to

After selecting the formula to be loaded, click the **Open** button to load the formula into the current formula document; if an empty formula document has not been opened previously, it will be created automatically.

The open formula is deleted from the list of available formulas.

To delete a formula from the list, select the formula and click the **Remove** button.

Remote queue

The **Remote queue** tab lists all of the formulas received by the program and sent "via network" from ordering workstations connected to the computer via network; transmission and reception of formulas is managed by the CorobMONITOR program.

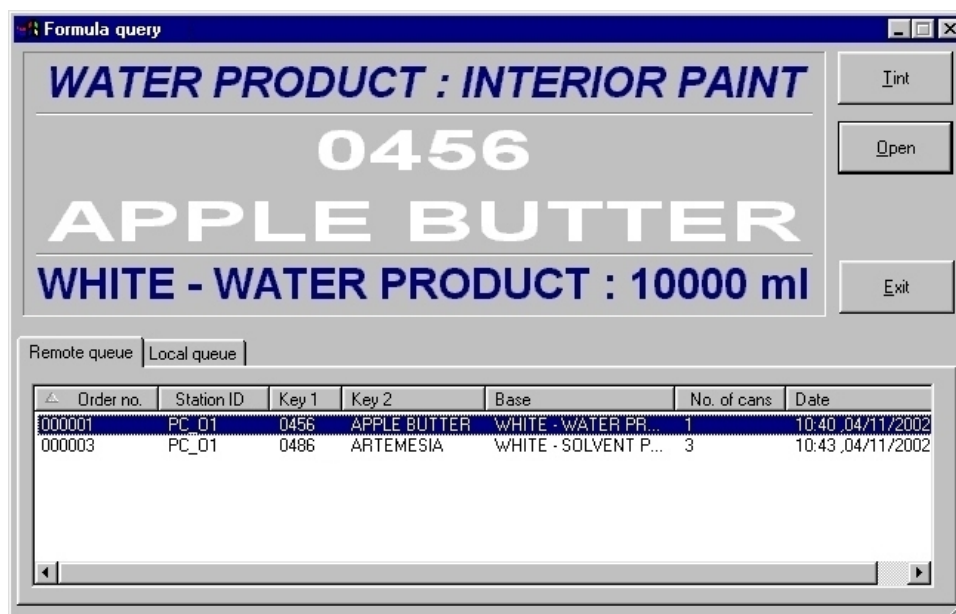


Figure 55

The bottom part of the window displays the list of available formulas that may be selected and dispensed. A cursor bar allows you to select the formula you wish to open. The top part of the window shows the characteristics of the formula selected by the cursor bar.

The following is indicated for each of the formulas available in the window:

- the order number
- the identification number of the station that sent the formula
- the formula identification keys
- the base to be used
- the number of cans to be produced with the formula
- the date the formula was received

After selecting the formula to be loaded, click the **Open** button to load the formula into the current formula document; if an empty formula document has not been opened previously, it will be created automatically.

The open formula is deleted from the list of available formulas.

Dispense the formula to fill the production order received. From the formula document, the formula may be dispensed only through the standard dispensing function. Therefore, click the **Tint** button (the **Edit** button is disabled); the cansize set in the order cannot be changed (the cansize selection list box is disabled).

If you close the formula document before completing the requested dispensing series, thus without completing the number of cans indicated in the order, the following message is displayed: *"Series not completed! Do you want to close the document?"*; cancel to continue the dispensing series or confirm to abort.

Proceed with the next formula request or close the **Formula query** dialog box.

For further information about dispensing order management, see the documentation for the CorobMONITOR program.

Technical information

The program may be configured to display the Technical information window. This window displays the html pages residing (based on the configuration) on a local network (hard disk) or remote network (Internet).

The Technical information window requires Internet Explorer version 4.01 or later in order to function; if you do not have the appropriate version of Internet Explorer, you may install it from the CD-ROM "Software & Colormatching" (available in English); you may order the CD containing Internet Explorer in the language of your operating system through the manufacturer.

The main purpose of the **Technical information** window (Figure 56) is to display the product data sheets, showing the characteristic data of a product, its application, etc.

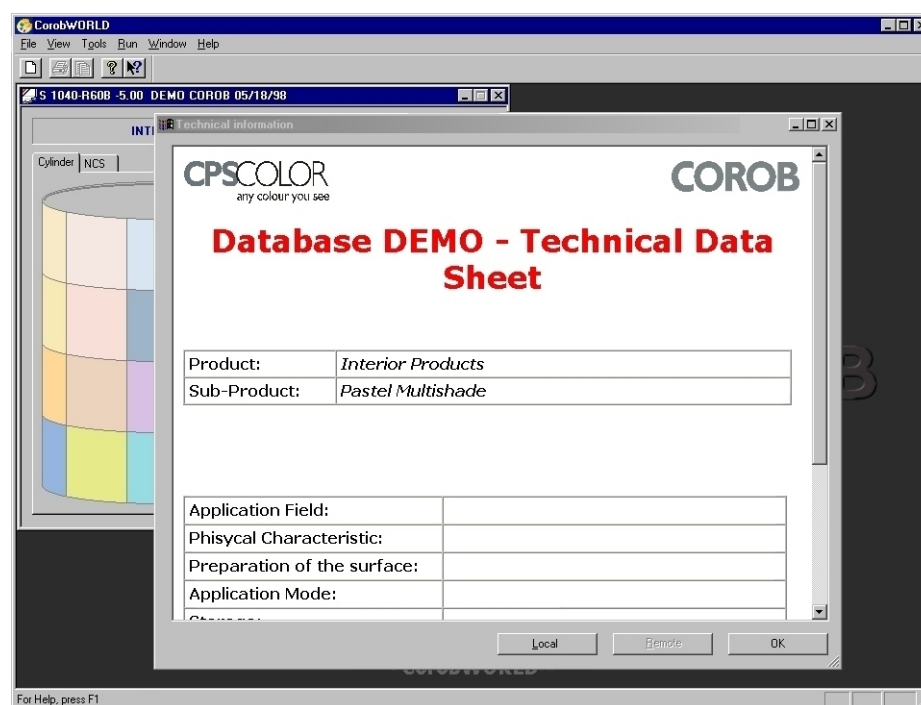


Figure 56

The data sheet that appears in the window corresponds to the product/subproduct selected, but only if the system data structure has been appropriately created (ColorLAB 4.5 and later).

The **Technical information** window may be minimized by clicking **OK**, or resized; vertical and horizontal scroll bars are available if necessary.

If the program is configured for both local and Internet browsing, to switch between modes use the **Local** and **Remote** buttons, respectively.

To disable the Technical information window, see General options - Web and MDI (chapter "Web and MDI" on page 95).

Dispenser commands

The program allows you to carry out an accurate test of your COROB™ dispenser. It is possible for instance to carry out dispenser initialization, colorant recirculation, autocap opening or closing and so on.

Choose **Dispenser commands...** in the **Tools** menu (Figure 57).

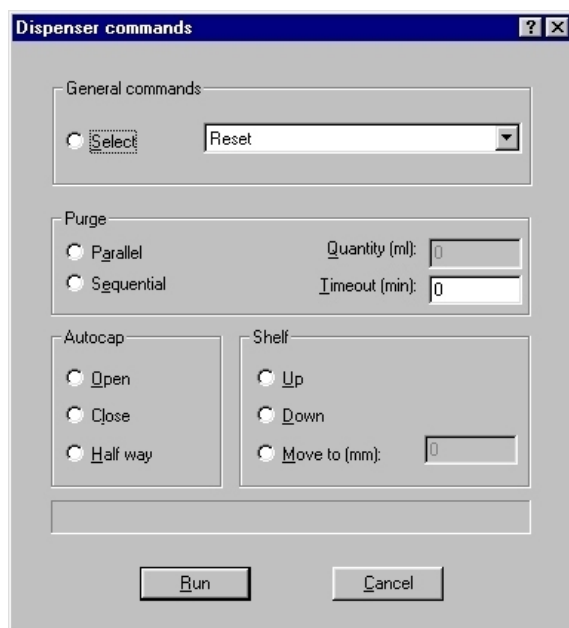


Figure 57

These are the commands that can be sent to the dispenser:

- General commands
- Purge commands
- Autocap commands
- Automatic shelf commands

There will be available all commands relevant to the accessories present on the machine and enabled through ColorTECH (see ColorTECH user's manual). If, for instance, the dispenser is not equipped with an automatic shelf, the relevant functions will be dimmed and it will not be possible to select them.

To select one of the commands included in the general list, click the **Select** option button and choose the desired command in the drop-down list.

To select the other commands, just click the relevant option button.

In some cases you need to type a particular value in a text box, required for the execution of the command.

After selecting the process to be carried out, click the **Run** button to send the command to the dispenser.

The window contains a bar showing messages from the machine regarding the execution of the command.

Using the **Dispenser commands** function also allows to configure the dispensing test and the nozzle purge; set the desired parameters (Timeout and Quantity) and click the **Cancel** button to quit the window and save changes.

If the program must manage more than one dispenser, the **Dispenser commands** dialog box will show at the top the **Current dispenser** list box, where it is possible to select the dispenser to whom the commands must be sent.

Note that, in this case, setting the configuration parameters for the dispensing test and the nozzle purge (timeout and quantity) is applied equally to all dispensers.

Following is a brief description of the dispenser commands. Refer to ColorTECH user's manual if you need more detailed information.

Reset

This is an overall dispenser reset. This command interrupts any process in progress and returns the dispenser to its initial status; if the shelf is present and positioned at a certain height, it moves to its lowest position while the autocap, if present and open, will close.

Initialization

The initialization procedure is divided into two phases:

1. pump releasing; the pumps run at low speed to allow a slow circulation of colorant in the circuits
2. colorant recirculation

During initialization the times and parameters controlling the timer-controlled processes of colorant stirring and recirculation are also sent, as well as the parameters controlling the working of the accessories and optional devices the dispenser is supplied with. The times and parameters sent to the dispenser must be defined in ColorTECH.

Initialization is the first step required by the program at start-up.

Recirculation

This command allows you to start colorant recirculation. The pumps run at a high speed to allow a complete recirculation in the machine circuits to keep the colorant as much homogeneous as possible.

Stirring

This command allows you to stir colorant in the canisters so as to keep it as much homogeneous and fluid as possible.

Punching

This command perforates the lid of the can resting on the shelf, and must be sent to the dispenser when the shelf is already in the position for dispensing into the can to be punched. When punching is complete, the shelf lowers to the appropriate dispensing position.

If the automatic plugger is present, the same command must be sent to insert the plastic plug into the punched can lid.

Purge

Parallel - This command allows the dispensing of a certain quantity from all dispensing circuits, in groups of 8 at a time. The parallel purge cleans the nozzle centre from colorant incrustations. Type in the **Quantity** text box the quantity to be dispensed expressed in milliliters; place a can on the shelf and click the **Run** button to confirm. The last value typed in the text box will be suggested the next time the operator will open the dialog box. The storing of a quantity in this text box also enables the execution of the nozzle purge at the start of CorobWORLD (chapter “Dispensing test and Purge” on page 16), in fact, if the quantity set is greater than zero, when starting the program the dispensing test will be replaced with the purge process.

It is possible to program the purge or dispensing test function so that the user is requested to carry it out at regular intervals. In the **Timeout** text box write the time (expressed in minutes) after which the program will automatically request to perform the nozzle purge (if Quantity > 0) or the dispensing test (if Quantity = 0) before dispensing. If the timeout is programmed, during the first dispensing after the timeout has elapsed, the operator will be requested to perform the set process.

Important - Programming the timeout may be very useful when the dispenser is frequently used to dispense the same formula--and thus the same group of colorants--repeatedly, leaving the others unused for long periods without closing the humidifying cap. The possibility of performing a purge or dispensing test at set times prevents the colorant from drying out, and thus keeps the nozzle center in perfect working order.

Sequential - This command allows the dispensing of a fixed quantity from each dispensing circuit, one at a time in a sequence. The sequential purge allows a check of all parts of the dispensing circuits (pumps, electrovalves, etc.) by activating the circuits one at a time.

Autocap - Open / Close / Half way

Open - This command opens the autocap. When the Open command is launched, the autocap opens and its operation is disabled until the Close command is launched.

Close - This command closes the autocap. When the Close command is launched, the autocap closes and its operation is enabled.

Half way - This command moves the autocap to the center when equipped with the punch and plugger. In this case, the central position corresponds to the autocap open or dispensing position.

Shelf - Up / Down / Move to

Up - This command moves the shelf upward, stopping it as soon as the can it is carrying is detected by the photocell; if no can is resting on the shelf, then the latter will stop at the end of its stroke.

Down - This command moves the shelf downward, stopping it at the lowest position.

Move to - This command allows you to position cans of different heights to dispense a particular formula. Enter in the text box the height of the can to be positioned, expressed in millimeters; rest the can on the shelf and click the **Run** button to confirm; the shelf will rise if the height you have entered is less than the height at which it was positioned before the command was sent, or lower if the height you have entered is greater than the height at which it was positioned before the command was sent.

Levels

When you physically add colorant inside the dispenser canisters, it is necessary to update in the program the value of the quantity assigned to each canister.

If this updating is carried out correctly, the program will warn you when the colorant becomes insufficient for dispensing.

Choose **Levels...** in the **Tools** menu or click on the relevant button  in the dispensing window. The **Update colorant levels** dialog box will now appear (Figure 58).

Colorant	Circuit	Level	Max level
A - YELLOW	1	13987.2 ml	20000.0 ml
- B - YELLOW OCHRE	2	13987.2 ml	20000.0 ml
- C - BROWN	3	3834.2 ml	5500.0 ml
- D - ORANGE	4	5500.0 ml	5500.0 ml
- E - RED OCHRE	5	3310.7 ml	5500.0 ml
- F - RED	6	3990.0 ml	9000.0 ml
- G - BORDEAUX RED	7	3703.0 ml	9000.0 ml
- H - VIOLET	8	3855.1 ml	5500.0 ml
- I - DARK BLUE	9	3990.0 ml	5500.0 ml
- J - BLUE	10	5500.0 ml	5500.0 ml
- K - GREEN	11	4000.0 ml	5500.0 ml
- L - BLACK	12	5500.0 ml	5500.0 ml
- B - YELLOW OCHRE	13	13987.2 ml	20000.0 ml

Mode: ☒ Add ☐ Subtract

Quantity: 5000.0 ml

Unit: milliliters

Operate with: ☒ Selected canister ☐ All canisters

Buttons: Add, Cancel, OK

Figure 58

The dialog box shows the list of the dispenser circuits, divided into three columns. The associated colorant is indicated for each circuit, and for each colorant the hue and the current level in the canister are graphically shown; this level is displayed compared to the maximum canister level.

A colored cursor bar allows you to select the circuit you want to update. Scroll the list with the cursor keys of the keyboard or drag the mouse while holding down the mouse button.

When the colorant list does not fit the window, a vertical scroll bar is provided.

To display and update the colorant amounts using a different unit of measure, choose the desired unit in the **Unit:** box; the colorant amounts will be automatically converted.

To search some information more rapidly (for instance you might like to know which canisters need to be filled because their colorant level is insufficient for dispensing or maybe which ones contain the same colorant) it is possible to sort the circuit list.

Sorting by...	click the column header...
circuit numbering	Circuit
colorant description	Colorant
colorant level inside the canisters	Level

All the last configured settings (such as sorting, filling quantities, etc.) will be suggested the next time the operator enters this dialog box for the update of the colorant level.

To quit this dialog box and save changes made to the levels and settings to the dialog box (sorting, filling quantities, etc.) do the following:

- click the **OK** button

If you do not want to save changes:

- click the close button  in the upper-right corner of the dialog box or click the **Cancel** button.

How and when to update colorant level

When the level reaches the pre-warning value in at least one of the canisters containing a colorant involved in the formula to be dispensed, the program shows a warning message to indicate the need to top up, but does not inhibit dispensing ("*Warning - Please, check colorant levels*").

When the colorant reaches a level too low for the dispensing requested, the program shows a warning message and does not carry out dispensing ("*IMPOSSIBLE TO DISPENSE - Colorant level too low!*"). This means that inside at least one of the canisters containing a colorant involved in dispensing, the level is too low.

In the **Update colorant levels** dialog box the canisters in which the colorant has exceeded or is reaching the reserve level are marked by the following symbols:



Pre-warning level: warns that the level is about to reach the reserve value



Reserve Level: warns that the level is too low for dispensing

Procedure

To update colorant level, do the following:

1. Select the canister whose level must be updated;
2. select the **Selected canister** option button in the **Operate with** option section, to update the level of the canister currently selected with the cursor bar;
3. in the **Mode** option section, select the **Add** option button if you wish to add colorant; on the contrary, select the **Subtract** option button if you wish to "remove colorant", namely reduce the value of the current level, by adding a negative quantity;
4. enter in the text box the value to be added or removed (expressed in the unit of measure selected in the **Unit:** box);
5. click the **Add** button to increase or reduce the colorant level.

To add (or "remove") the same colorant quantity from all canisters at the same time, choose the **All canisters** option and proceed as described above starting from point 3.

Multiple circuits

When the same colorant (usually, the most used one) is contained in two canisters, during dispensing the colorant is taken from the canister that contains more. In this case, to each canister corresponds a circuit.

The dispensers equipped with external circuits often have got two circuits of different size, leading to a single external tank. One circuit will be involved when dispensing big quantities of colorant so as to achieve a fast dispensing operation; the other circuit will be involved when dispensing small quantities, for a more precise dispensing. In this case, to two circuits corresponds a single tank.

In the first case, the representation of the circuit list corresponds exactly to that of the canisters; in the second case, the number of canisters does not correspond to the number of circuits.

Colorant	Circuit	Level	Max level
A - YELLOW	1	13987.2 ml	20000.0 ml
- B - YELLOW OCHRE	2	13987.2 ml	20000.0 ml
- B - YELLOW OCHRE	13	13987.2 ml	20000.0 ml
- E - RED OCHRE	5	5500.0 ml	5500.0 ml
- F - RED	6	6522.0 ml	9000.0 ml
- G - BORDEAUX RED	7	8703.0 ml	9000.0 ml
- H - VIOLET	4	5500.0 ml	5500.0 ml
- H - VIOLET	8	3032.0 ml	5500.0 ml
- H - VIOLET	15	5500.0 ml	5500.0 ml
- I - DARK BLUE	9	4266.0 ml	5500.0 ml
- J - BLUE	10	5500.0 ml	5500.0 ml
- K - GREEN	11	4000.0 ml	5500.0 ml
- L - BLACK	12	5500.0 ml	5500.0 ml

Figure 59

In the example, Figure 59, colorant B, marked as , is contained in a single tank served by circuits no. 2 and no. 13.

The colorant level assigned to the circuits leading to a single tank is always the same, since the tank is the same.

When you update, for example the colorant level in circuit no. 2, the level of circuit no. 13 will be automatically updated too.

In the same example, colorant H is contained in tanks no. 4, no. 8 and no. 15.

Refilling history

If configured, CorobWORLD allows you to manage the history file of colorant level refill operations on the dispenser.

The information regarding refilling operations is stored in a database that may be consulted from CorobWORLD using the function **Refilling history...** in the **Tools** menu (Figure 60).

Refilling history

Refilling table Unit: milliliters Current record 1 (Total records 4)

Circuit	Colorant	Quantity	Lot code	Date	Time
3	E - FAST RED	543.3 ml	14569871521565166	04/11/2002	16:08:14
4	H - OXIDE RED	567.6 ml	64698989777867432	04/11/2002	16:08:37
5	L - OXIDE BROWN	1000.0 ml	12345678954	04/11/2002	16:08:06
5	L - OXIDE BROWN	712.5 ml	47892562325124587	04/11/2002	16:08:26

Apply filter

From: To:

Circuit: Colorant: Lot code:

Dispenser: Tinting system:

Filter No Filter Report Exit

Figure 60

The section *Refilling table* lists the refilling operations carried out for each configured dispenser and each data structure installed.

The section *Apply filter* allows you to filter the refilling table.

To discover how many refills have been performed within a certain time interval, set the interval using the calendar in the **From** - **To** boxes and click on the **Filter** button.

To discover what refills have been carried out on the colorants of a particular tinting system or a particular dispenser, select the tinting system or dispenser in the corresponding list boxes, click OK, then click on the **Filter** button (Figure 61).

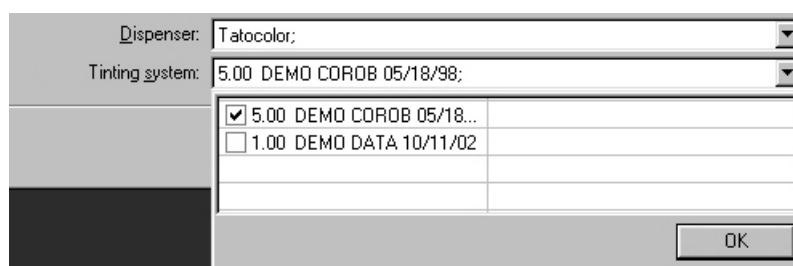


Figure 61

The list may also be filtered based on other information such as the circuit number, colorant or lot code.

Click on the **No Filter** button to remove the filters applied.

The information about the refilling history may be transferred to a text file, which can in turn be saved and printed. Click the **Report** button. The default Microsoft Windows word processing program will be launched automatically and display the requested report. See the Microsoft Windows Help Guide to learn how to manage the report files using the word processing program.

The report file refill.txt is saved in directory c:\wuser\corobworld.

The refilling history data may be backed up on floppy disks (chapter "Backup" on page 115).

Refilling lot code

If the **Refilling history** function is enabled in the CorobWORLD options (chapter "Miscellaneous" on page 100), when updating the levels the user will be asked to enter a code identifying the batch of colorant being used to top up the canister.

If the refilling history is enabled, only a single canister may be updated at a time (the **All canisters** option in the dialog box **Update colorant levels** is disabled).

Proceed as described in the previous chapter. After clicking on the **Add** button, the dialog box **Refilling lot code** will appear on the screen (Figure 62).



Figure 62

Type the refilling lot code required and confirm to update the colorant level.

If the code entered is too short or too long compared to the characters allowed and configured in the program options, the program displays an error message.

By pressing **Cancel**, the colorant level is not updated.

Warnings and error messages

ERROR - Invalid cansize

In the Cansize list box, select a new cansize valid for the current product and subproduct.

IMPOSSIBLE TO DISPENSE - Colorant level too low!

Top up the canister and update the level.

ERROR - Incorrect formula

The formula uses colorants in the tinting system that are not present on the machine. This formula cannot be dispensed; select another formula.

Please, check cansize stock

The number of cans in stock has reached the minimum figure set in CorobSTORE. You may continue dispensing.

Please, check colorant levels

At least one of the colorants involved in the formula has reached the pre-warning level. We recommend that you check the level in the canister. You may continue dispensing.

Dispenser not connected or configuration error

The program has not been correctly set up. Check the dispenser configuration using ColorTECH.

Messages in the **Modify formula** window

The formula is empty

No colorant has been defined in the formula; the formula cannot be saved. Insert at least one colorant.

Base not available for this product

Warning indicating that the current base is not valid for the product and subproduct selected; we recommend selecting another base. The formula may still be saved.

Cansize not available for this product

Warning indicating that the current cansize is not valid for the product and subproduct selected; we recommend selecting another cansize. The formula may still be saved.

One or more colorants are not allowed for this product

Warning indicating that one or more colorants used are not suggested for the product and subproduct selected; we recommend using other colorants. The formula may still be saved or dispensed.

No cansize selected

No cansize has been selected. Select a cansize from the **Cansize** list box.

No base selected

No base has been selected. Select a base from the **Base** list box.

Colorant concentration exceeds the maximum limit

The formula contains too much colorant. Reduce the amounts.

Colorant concentration is below the minimum limit

The formula does not contain enough colorant. Increase the amounts.

Messages in the dispensing window status bar

Can missing or too small

No container has been positioned into which to dispense, or the can positioned is smaller than the cansize selected for dispensing. Insert a can or replace it with one of the appropriate size, and continue.

Can too big

A larger can than the cansize selected for dispensing has been positioned on the automatic shelf of the machine (if present). Replace the container with one of the appropriate size, and continue.

Door open

The dispenser equipped with protection door will function only if the door is closed. Close the door and continue.

Configuration

General options

A single dialog box contains the general utility functions for program configuration.

Choose **Options** in the **File** menu, then choose **General....** The **General options** dialog box will appear on the screen (Figure 63).

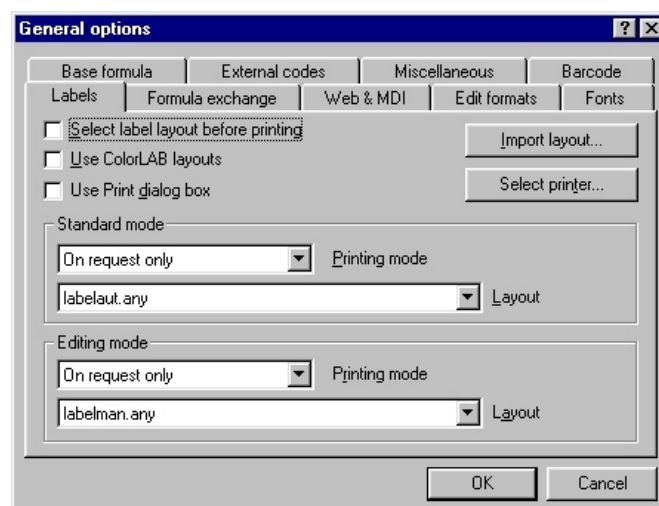


Figure 63

Clicking on the desired tab accesses the various functions.

Labels

The program supports the printing of labels containing information about the formula dispensed (formula code, product and subproduct, etc.).

To configure label printing mode, choose **Options** in the **File** menu, then **General...** and click on the **Labels** tab (Figure 64).

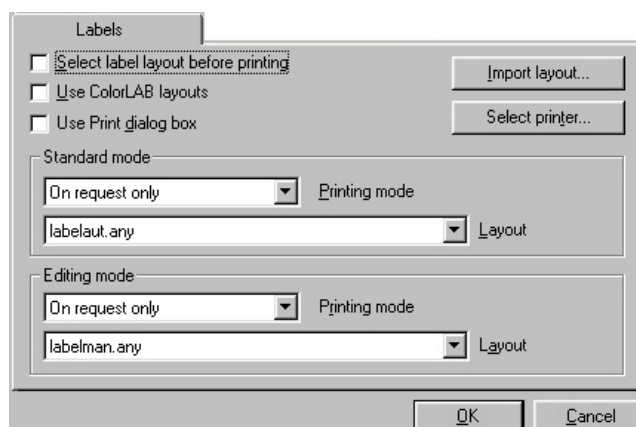


Figure 64

It is possible to configure differently the label printing of the formula dispensed using the Tint button from the formula document (Standard mode), from the label printing of the formula dispensed from the Edit formula dialog box (Edit mode).

This allows you to add more information to the label of the custom formula created using the edit procedure and, vice-versa, limit the amount of label information for system formulas.

In addition, printing the label is also possible at any time directly from the formula document (chapter “*Printing labels from the formula document*” on page 30); in this case it's the operator who must choose the label layout to use.

From the **Printing mode** list box select the mode used to print labels:

<i>disabled</i>	the print function and corresponding button are disabled
<i>on request only</i>	printing is not automatic, and takes place only by clicking on the Print button
<i>always before dispensing</i>	printing is automatic and always takes place before dispensing (the Print button is still enabled)
<i>always after dispensing</i>	printing is automatic and always takes place after dispensing (the Print button is still enabled)

From the **Layout** list box select the label layout you wish to use to print the label.

The program supports label layouts in Anylabel format (.any), made using the program AnyLabel™ (ID Innovations Incorporated). You may purchase AnyLabel™ from COROB S.p.A. to create and customize your own labels.

If the **Use ColorLAB layouts** check box is enabled, the **Layout** list box will display the layouts available in the database of the tinting system.

If more than one printer is installed on the computer, it is possible to select a printer other than the system default for printing the labels: click on **Select printer...** and select the desired printer from among those installed.

Selecting the layout before printing

Enable the **Select label layout before printing** check box if you wish to select from between two different layouts each time you need to print a label.

Then select two different layouts in standard mode and edit mode.

When this mode is activated, printing will be possible only by clicking on the **Print** button and not automatically before or after dispensing.

Importing a layout

Click on **Import layout** to use a label layout not available in the list box. The imported layout will be available in both standard and edit modes.

Using the Print dialog box

If the layout of the labels includes multiple labels on a single page, it may be useful to select which label on which to print.

By enabling the check box **Use Print dialog box**, when printing the program displays a dialog box showing the label layout, on which, among other options, it is also possible to choose on which label to print.

Formula exchange

The program may be configured to exchange formulas (taking advantage of the COROB™ Flink format) between computers connected via serial line or network.

For example, you may transfer formulas from computers dedicated to sending orders to those connected to dispensers, and therefore dedicated to dispensing the formulas received.

It is also possible to enable the formula queuing function (system or custom formulas) to create a local work queue; this allows you to group together all formulas that must be dispensed without having to select them one at a time with the Search function.

To configure the formula exchange options, choose **Options** in the **File** menu, then **General...** and click on the **Formula exchange** tab (Figure 65).

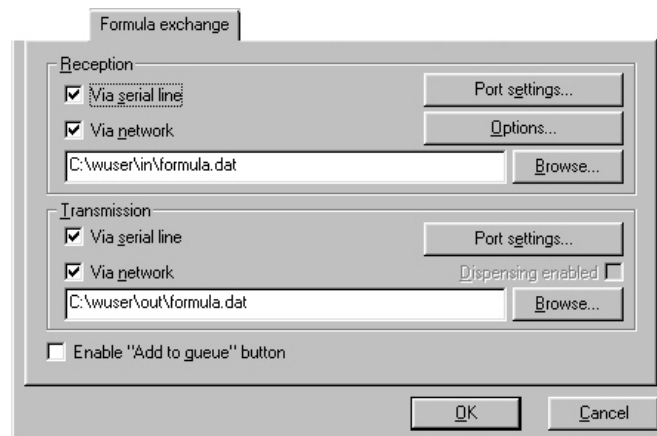


Figure 65

Formula queuing

The program may be configured to create a local queue containing the formulas that must be dispensed. This makes it possible to organize the work to be carried out by selecting the desired formulas from the **Select product and color** dialog box and inserting them in the local queue using the button available when the queuing function is enabled (chapter “*Formula queuing*” on page 77).

To enable formula queuing click the **Enable “Add to queue”** button check box.

Reception

The program may be configured to receive formulas from any application or device capable of transmitting them in COROB™ Flink format. Reception may take place via either serial line or network (and even in both modes simultaneously).

To activate the Reception of formulas via serial line:

1. click the **Via serial line** check box, in the **Reception** section.
2. click the **Options** button to configure the via serial line reception mode (Figure 66).
3. select the **Popup document** option button, if you want the formulas to be automatically loaded into new formula documents as they are received; select instead the **Add to local queue** option button if you want the formulas received to be added to a *local queue* accessible via the Formula query command (chapter “*Local queue*” on page 78).
4. if necessary, configure the port settings (chapter “*Port settings*” on page 95).

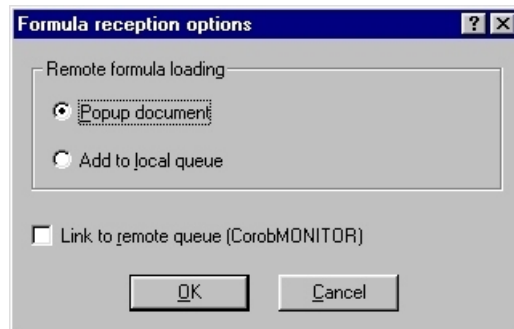


Figure 66

The reception of formulas **via network** is possible if the device sending them writes an Flink file into the same directory where the program, appropriately configured, automatically reads the formula file. The formula file read by the program is automatically deleted to allow you to send the next formula. To activate the Reception of formulas via network:

1. click the **Via network** check box, in the **Reception** section.
2. in the text box, in the **Reception** section, specify the path and filename in Flink format that the program must read and load; click the **Browse** button to search the desired directory on the hard disk or over the network.
3. click the **Options** button to configure the via network reception mode (Figure 66).
4. select the **Popup document** option button, if you want the formulas to be automatically loaded into new formula documents as they are received; select instead the **Add to local queue** option button if you want the formulas received to be added to a *local queue* accessible via the Formula query command (chapter “*Local queue*” on page 78).
5. click the **Link to remote queue (CorobMONITOR)** check box if you intend to use the order management program CorobMONITOR, thus making the tab *Remote queue* available in the Formula query dialog box, with the list of the formulas received. In this case the Flink formula files are moved by the program CorobMONITOR, which supervises the order queue (chapter “*Remote queue*” on page 79).

Transmission

The program may be configured to transmit formulas to another COROB™ dispensing application, taking advantage of the COROB™ Flink format. Transmission may take place via either serial line or network (and even in both modes simultaneously).

A formula is transmitted by the program using the **Tint** button from the dispensing window (standard dispensing or edit mode dispensing).

To activate the Transmission of formulas via serial line:

1. click the **Via serial line** check box, in the **Transmission** section.
2. if necessary, configure the port settings (chapter "*Port settings*" on page 95).

The formula dispensing window undergoes a few changes: the **Levels** button will not appear, and the status bar turns grey. The latter shows different messages, since "dispensing" is actually transmission of the specified file in Flink format, containing the "dispensed" formula.

To activate transmission of formulas via network:

1. click the **Via network** check box, in the **Transmission** section.
2. in the text box, in the **Transmission** section, specify where and with what filename the formula transmitted must be written; click the **Browse** button to search the desired directory on the hard disk or over the network.

The formula dispensing window undergoes a few changes: the **Levels** button will not appear, and the status bar turns grey. The latter shows different messages, since "dispensing" is actually transmission of the specified file in Flink format, containing the "dispensed" formula.

3. click the **Dispensing enabled** check box if you wish to dispense the formula upon transmission. This option must be enabled if the computer transmitting the formulas must also send them to the dispenser to which it is physically connected.

Port settings

To change the settings of the communication port, click the **Port settings...** button.

From the **Port** list box, select which serial port is used to exchange formulas.

If you are not certain which values to set, consult the hardware documentation or use the default values. To restore the default values click on **Defaults**.

Web and MDI

Choose **Options** in the **File** menu, then **General...** and click on the **Web & MDI** tab (Figure 67).

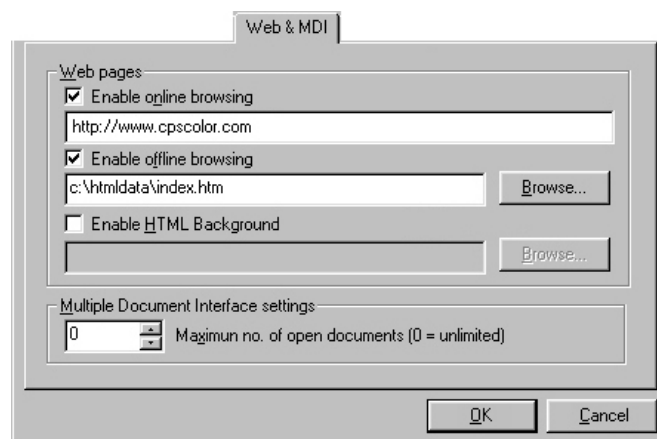


Figure 67

To enable browsing html pages on the Internet, activate **Enable online browsing** and indicate the reference Web address.

To enable browsing html pages stored on the hard disk, activate **Enable offline browsing** and indicate the reference directory. Click **Browse** to search the path and file of the home page.

Both browsing modes may be enabled.

You must reboot the program to activate the changes. The **Technical information** window will be displayed in the main program window.

To change the background of the main program window using a document in HTML format, activate **Enable HTML background** and indicate the directory (or URL – *Uniform Resource Locator*) where the HTML reference document resides. You must have Microsoft Internet Explorer version 4.01 or later to use an HTML background.

The HTML document may be available on your hard disk, over a local network or on the Web; in the latter instance, your computer must have a working Internet connection.

You must reboot the program to activate the changes.

To place a limit on the number of formula documents, and thus of formulas that may be opened simultaneously, in the section **Multiple Document interface settings** enter a number other than 0 in the corresponding numerical box.

The program displays a warning message when the maximum number allowed of open formula documents is reached; simply close a formula document to open a new one.

You must reboot the program to activate the change.

Edit formats

The unit of measure with which to display and enter colorant amounts in the **Modify formula** window may be chosen by configuring the specifications of these units of measure using the Edit formats function.

If a single unit of measure is set, its label is displayed next to the amount in the Quantities section of the **Modify formula** window. If instead there is more than one unit configured, a **Unit** list box will be displayed in the **Modify formula** window to select the most appropriate unit.

Choose **Options** in the **File** menu, then **General...** and click on the **Edit formats** tab (Figure 68).

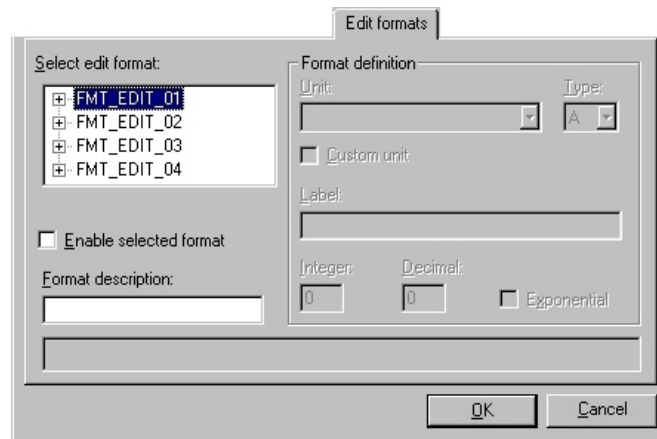


Figure 68

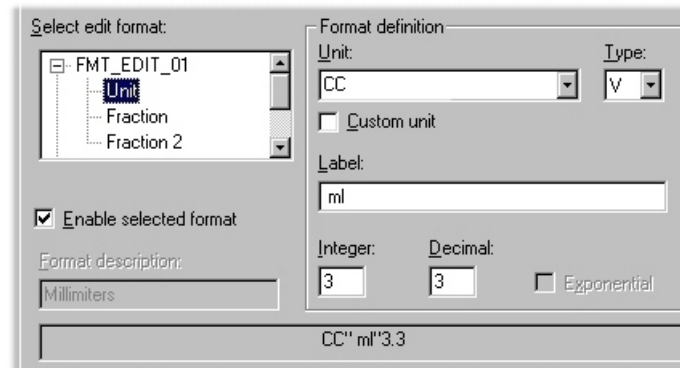
When defining an edit format, you configure a unit of measure, specifying how it must be shown (number of whole numbers and decimal places, any fractions, etc.).

It is possible to set up to a maximum of 4 edit formats.

Each format set may be enabled or disabled if you wish to prevent its use without deleting it.

To set an edit format, proceed as follows:

1. In the section **Select edit format**, select the first available format not yet configured (FMT_EDIT_xx).
2. Enter a description of the format in the **Format description** text box, then enable (or disable) the current format from use by the program in the **Enable selected format** check box.



3. Click on the + sign to expand the structure for the edit format being configured, then select **Unit** to define it.
4. In the **Unit** list box select the desired unit (see table) or enable the **Custom unit** check box and then type the unit in the **Unit** text box; in this case the direct value of the unit entered must be expressed between parentheses for the unit and without parentheses for fractions.

()	to use the database unit without assigning whole numbers or decimals
CC	Cubic centimeter
FLOZ	Fluid Ounce (29.570 cc)
FMT_FRMEDIT	to use the database unit and assign whole numbers and pre-set decimals
FMT_FRMEDITF	like FMT_FRMEDIT with the addition of fractions

FMT_FRMEDITL	like FMT_FRMEDIT with the addition of labels
GALS	Gallon (3785 cc)
LBS	Pounds (453.592 gr)
MTOZ	Metric ounce (31.246 cc)
OZ	Ounce (28.350 gr)
QUARTS	Quarter Gallon (946.250 cc)
GR	Gram

5. If necessary, set the type of unit in the **Type** box (V = Volume, W = Weight).
6. In the **Label** text box, type the label that will appear after the amount in the modify formula window; insert the "?" character if you want the label to be taken from the data structure.
7. In the **Integer** box, enter the number of whole numbers with which the amounts must be expressed.
8. In the **Decimal** box, enter the number of decimal places with which the amounts must be expressed. Note that entering Decimal places prevents you from editing subsequent Fractions.
9. If necessary, select **Fraction** and/or **Fraction2** to proceed with defining the fractions, repeating the steps described above.

The bottom part of the window displays the format string created when defining the edit format or, if the cursor bar is positioned over a main branch of the tree (FMT_EDIT_xx), an editable field to check that it works properly.

Fonts

It is possible to change the font used in the Product and Color selection window to display the list of product and subproduct names and the list of formula codes.

Choose **Options** in the **File** menu, then **General...** and click on the **Fonts** tab (Figure 69).

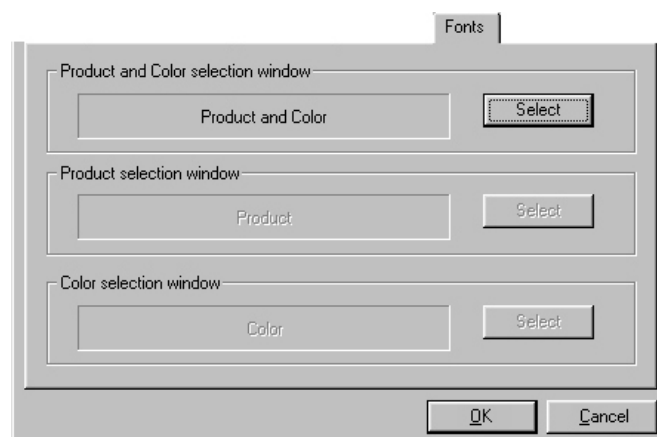


Figure 69

To set a font type other than the default one, proceed as follows:

1. click **Select**.

2. from the list of available fonts, choose the font type, style and size, then confirm.

To restore the default font, proceed as follows:

1. click **Select**.
2. enable the check box **Restore default font** and confirm.

Base formula

The program configuration for dispensing bases requires the use of a dispenser suitable for this kind of dispensing, and an appropriate data structure. An appendix is dedicated to this topic, available on the CD.

Choose **Options** in the **File** menu, then **General...** and click on the **Base formula** tab (Figure 70).

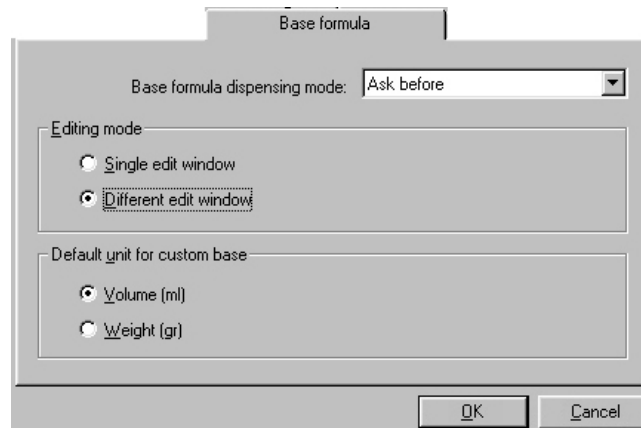


Figure 70

External codes

An appropriate data structure must be available to configure the program to search for a formula from alternative codes.

Choose **Options** in the **File** menu, then **General...** and click on the **External codes** tab (Figure 71).

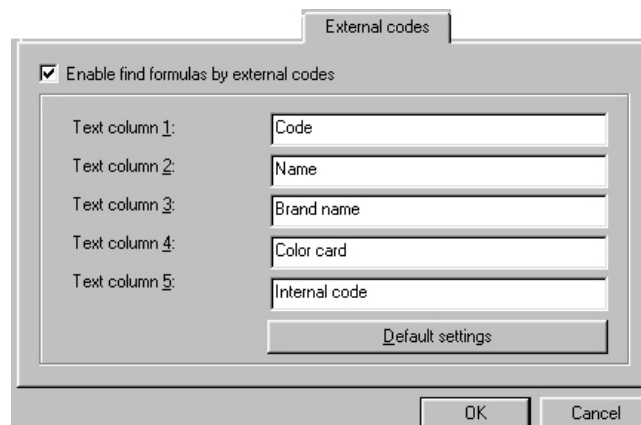


Figure 71

To enable formula search through alternative codes, check the box **Enable find formulas by external codes**.

In the text boxes below, enter the text which will be displayed in the column headers of the **Find formulas by external codes** dialog box.

The dialog box **Find formulas by external codes** will display only those columns for which a text has been defined.

To assign the default text (Code - Name - Brand name - Color card - Internal code), click **Default settings**.

Miscellaneous

Choose **Options** in the **File** menu, then **General...** and click on the **Miscellaneous** tab (Figure 72).

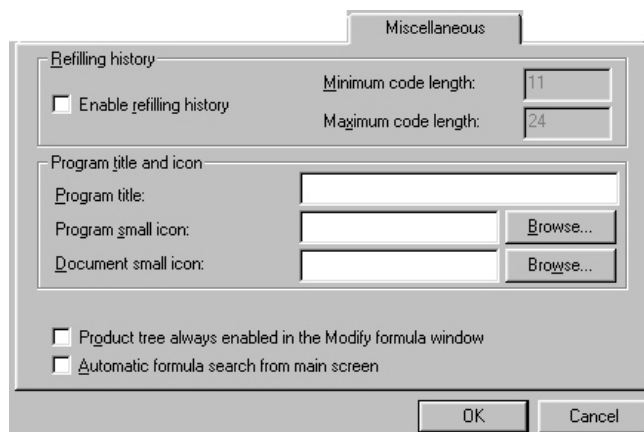


Figure 72

Refilling history

To enable management of the refilling history for colorant levels inside canisters, check the box **Enable refilling history**.

The boxes **Minimum code length** and **Maximum code length** allow you to set the minimum and maximum length allowed for the refill batch code that the user must enter when updating the colorant levels.

Program title and icon

It is possible to customize the name of the program, displayed in the title bar of the program itself. Enter the desired name in the **Program title** box.

To customize the icon on the program title bar and that on the formula document title bar, enter the path and name of the image files to be used. Click the **Browse...** buttons to search the files on the hard disk or over the network.

The image files must be of the type *.ico, 16 x 16 pixels.

You must reboot the program to activate the changes.

Product tree always enabled in the Modify formula window

To ensure that the tree structure for selecting products and subproducts is always enabled in the **Modify formula** window, enable the check box **Product tree always enabled in the Modify formula window**.

Automatic formula search from main screen

Make sure that the option **Enable barcode reading for Formulas** in the **Barcode** tab is enabled (refer to the Appendix Barcode, available in the CD).

Enable the check box **Automatic formula search from main screen** to search for a formula as soon as you begin typing the code directly from the main window.

Barcode

The **Barcode** tab is available only if the optional module CorobSTORE has been activated (chapter "CorobSTORE" on page 24).

To learn how to configure the CorobWORLD options for barcode management, refer to the Appendix Barcode, available in the CD.

Advanced options

A single dialog box contains the advanced utility functions for program configuration.

Choose **Options** in the **File** menu, then choose **Advanced....** The **Advanced options** dialog box will appear on the screen (Figure 73).



Figure 73

Clicking on the desired tab accesses the various functions.

Color management

The Color management function allows you to obtain the best reproduction of the colors from a screen image or while printing an image. The color profiles are installed along with the monitor or printer, and are used every time you display or print color images.

Color management allows you to maintain matching between color display and printing, regardless of the type of output device used.

In order for Color management to function, however, the output device (printer or monitor) must support this feature, that is to say the calibration file (extension ICC or ICM) supplied by the manufacturer must be available.

Windows 98 and Windows 2000 have native support for the so-called «color chain», thus the possibility of obtaining similar colors during the various image processing phases (scanning, screen reproduction and printing).

The COROB™ programs provide support regarding the reproduction of colors in the tinting system, primarily aimed at users of Windows 95 and NT 4.0, for whom the operating system does not offer any type of color management. The mechanism is similar to the one used by Microsoft as far as the screen and printer

are concerned, while faithful reproduction of color card colors is ensured in the acquisition phase by using the spectrophotometer.

The use of the native Windows 98/2000 color support is possible even with the earliest versions of COROB™ Windows programs. Users of Windows 95/NT may instead access the COROB™ color chain on the screen beginning with version 2.0, and in printing beginning with 3.0.

We recommend that users take advantage of native operating system support when available, since the wide variety of device models on the market and the speed at which they are replaced by newer models makes it difficult to ensure an ongoing and prompt adaptation of the color management service.

To configure color management, choose **Options** in the **File** menu, then **Advanced...** and click on the **Color management** tab (Figure 74).

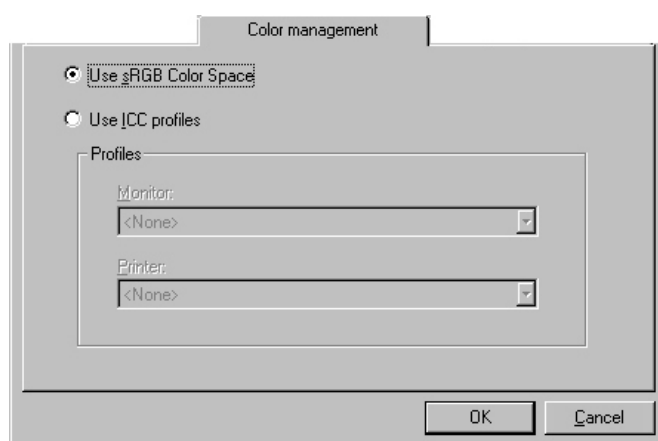


Figure 74

To enable color management of the COROB™ program:

- If monitor and printer profiles are not available, select the **Use sRGB Color Space** option button to use the default sRGB conversion.
- If the monitor and printer profiles have been installed, select the **Use ICC profiles** option button, then in the Profiles section list box, select the ICC profile for the monitor and the printer, respectively.

If the operating system supports color management, the color profiles are installed normally when the various device drivers are installed. The color profiles are located on the installation disks, or in some cases may be downloaded from the manufacturer's site.

Operating system	Default directory for the color profiles	Profile installation
WIN98	windows\system\color	automatic installation
WIN95	windows\system\color	if automatic installation does not take place, copy the profile files into the directory
WINNT	winnt\system32\color	the directory must be created and the profile files copied into the directory
WIN2000	\system32\spool\drivers\color	automatic installation

To enable the native color management of the operating system in use:

- **Disable color management of the COROB™ program.** Select the **Use ICC profiles** option button in the Profiles section and select the item <none> both for the monitor and the printer.
- **Color management for the monitor.** From the operating system, right-click with the mouse button on the Desktop, then click on the **Settings** tab in the **Screen properties** dialog box; click the **Advanced** button, then the tab **Color management** (if this tab is not present, this means that the monitor you are using does not have any color management function). You should now see a list of color profiles associated to the monitor; activation and selection of profiles usually take place automatically during installation of the device. If the list is empty, you should manually select the most appropriate profile from those available (refer to the operating system documentation).
- **Color management for the printer.** From the operating system, click the **Start** button, choose **Settings**, then **Printers**. Right-click with the mouse button on the desired printer, choose **Properties**, then click the tab **Color management** (if this tab is not present, this means that the printer you are using does not have any color management function). You should now see a list of color profiles associated to the printer; activation and selection of profiles usually take place automatically during installation of the device. ***The first time you print with the printer, you must also explicitly enable color management via the native driver***; this operation must be carried out during printer setup (or at the time of printing). In general, the setup window for a color printer includes a function for the color management allowing you to select the ICM option (refer to the printer documentation).
It is also essential to select the correct printer settings, especially in regard to the type of paper and print resolution.

Whichever system you choose (color management via the operating system or using the COROB™ program), it is important to avoid conflicts in color handling by making sure that you have not activated both management systems. In particular, if you select COROB™ management you must change the default settings of a few drivers, which during installation are set to «photo-realistic», «automatic», «manual» or similar management modes.

Color collections

It is possible to create pages that collect a selection of the chosen colors in a product and subproduct of a tinting system so as to group, for example, the most commonly used colors, or winter colors, and thus create customized color cards.

These color collections will be displayed in the formula document, along with the cylinder and NCS triangle and in a tab of the **Select product and color** dialog box.

To create the color collections, choose **Options** in the **File** menu, then **Advanced...** and click on the **Color collections** tab (Figure 75).

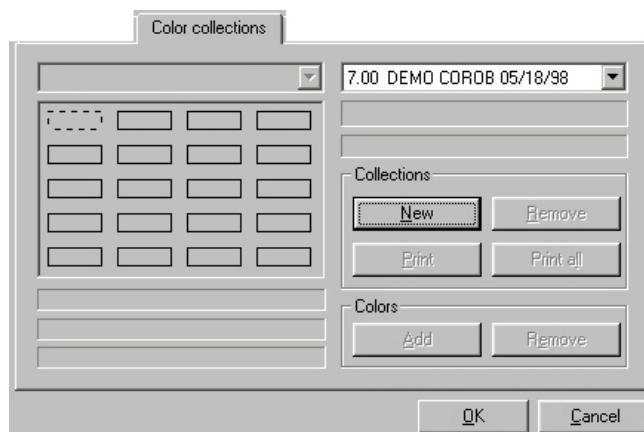


Figure 75

In the top right, in the drop-down list, you may select the tinting system for which to create the collections, from among all of those installed on the computer and included in the Catalog.

Creating a new collection

To create a new collection, click on **New** in the *Collections* section.



Figure 76

In the dialog box **New collection** (Figure 76) enter a name for the collection, then proceed with selecting the desired product and subproduct and confirm.

It is also possible to generate a collection of colors using the custom formulas: in the *Select product* section, select the item **Custom formulas**.

Multiple collections may be created for a product and subproduct.

Choosing the colors for the collection

The names of the collections created are listed in a list box in the upper left (Figure 77).

The section below displays the grid of the current collection in which you may place up to 20 colors chosen from among those of the reference product and subproduct. The reference product and subproduct are listed in the upper right.

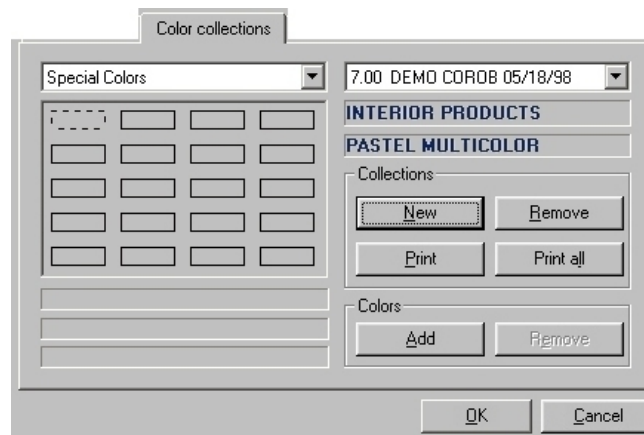


Figure 77

To select the colors, click on **Add** in the *Colors* section.

In the **Select product and color** dialog box, choose a color from the tabs Browser, Cylinder, NCS or Find closer color (chapter "Searching a formula" on page 31). You may not change the product and subproduct.

The chosen color will be displayed in the first box of the grid; proceed in the same manner to fill the rest of the grid boxes with colors (Figure 78).

When a color is selected from the grid, the identification keys are displayed in the lower left.



Figure 78

If you wish to place a color in a particular box of the grid, select it by clicking with the mouse. The box will have a dashed outline to show that the next color selected will be placed in it.

By dragging a box with which a color is associated onto another box of the grid, if the destination box is empty the color will move to the new box; if the destination box is already assigned to another color, the two colors will switch places.

To delete a color from the grid, click on the corresponding box and then click on **Remove** in the *Colors* section.

Deleting a collection

To delete a collection related to a product and subproduct, select it from the list and click on **Remove** in the *Collections* section.

Printing the collections

To print the current collection, click on **Print** in the *Collections* section.

To print all collections in the entire system, click on **Print all** in the *Collections* section.

Spectrophotometer

The CorobWORLD program may interface with one of the spectrophotometers or colorimeters supported. Through this function it is possible to configure the program to communicate with the instrument used to read a sample.

Choose **Options** in the **File** menu, then **Advanced...** and click on the **Spectrophotometer** tab (Figure 79).

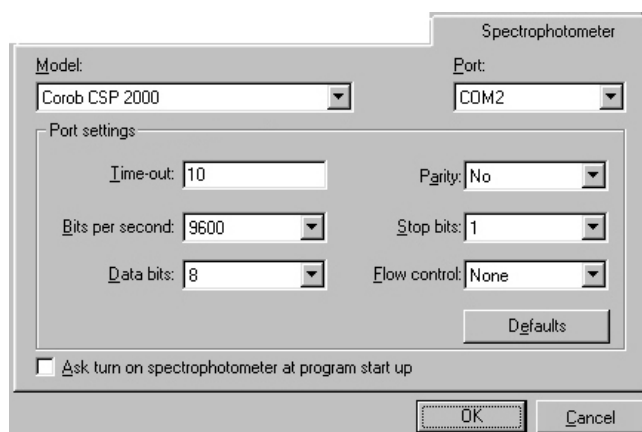


Figure 79

In the **Model** list box, select the type of spectrophotometer or colorimeter connected.

In the **Port** list box, select the serial port to which the instrument is connected.

Configure the communication port in the **Port settings** section.

If you are uncertain of the values to set to configure the port, consult the hardware documentation or use the default values. To restore the default values click on **Defaults**.

The default serial communication port is COM2, since the COM1 serial port is normally used to communicate with the dispenser (configured via the ColorTECH program). If you select a serial port different from the default, make sure there are no conflicts with the serial port used for the dispenser.

Check the box **Ask turn on spectrophotometer at program start** if you want that, upon starting CorobWORLD, a window is displayed to remind the user to turn on the spectrophotometer.

To see which models of spectrophotometers and colorimeters are supported by the program, see the appendix *"Compatible external devices"* on page 125.

Find closer color

The Find closer color function, which allows you to search for the color in the data structure that most resembles a given color, may be configured in terms of details regarding the found color that the program displays alongside the color swatches (chapter *"Find closer color"* on page 39).

Choose **Options** in the **File** menu, then **Advanced...** and click on the **Find closer color** tab (Figure 80).

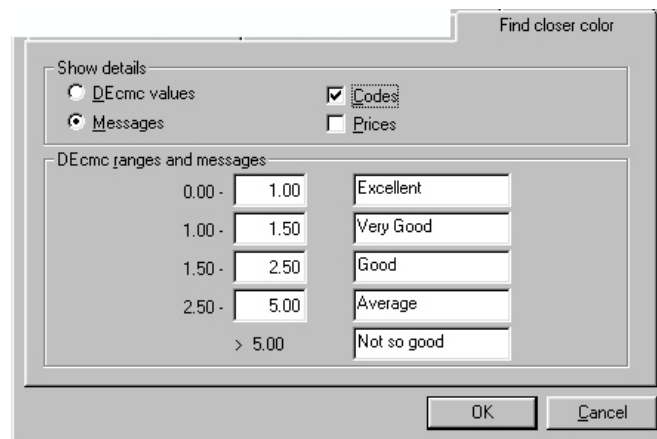


Figure 80

In the section *Show details*, select the option button **DEcmc values** if you want the ΔE_{cmc} values to be displayed; if you prefer to display a message that gives a general idea of the resemblance of the colors compared to the color sample, select the **Messages** option button. These messages may be set up in the section below based on ΔE_{cmc} intervals.

In the section *DEcmc ranges and messages* enter the maximum limit of the first (lowest) interval in the top numerical box, and in the text box next to it type the message to associate with all values ΔE_{cmc} that fall within this range (ex. Excellent); fill the remaining fields to identify all desired intervals and messages.

In addition, it is possible to display the codes (enable the check box **Codes**) and prices (enable the check box **Prices**) of the colors found by the program.

Color matching

Choose **Options** in the **File** menu, then **Advanced...** and click on the **Color matching** tab (Figure 81).

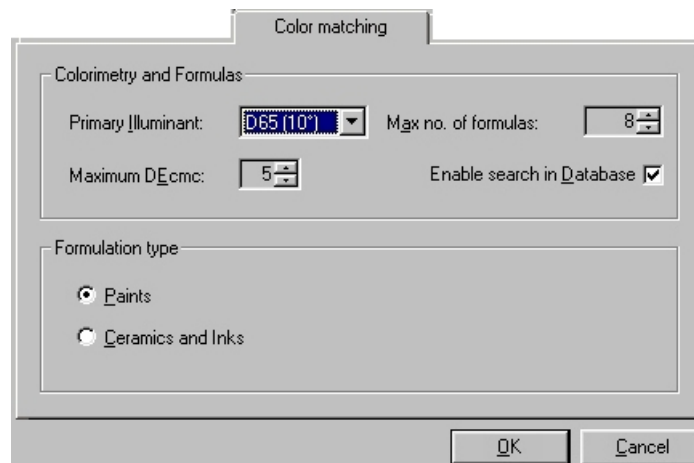


Figure 81

Section Colorimetry and Formulas

Primary illuminant

This option defines the primary illuminant, in reference to which color matching is calculated and under which matching is ensured.

If the sample is displayed under a different light source, differences may occur due to metamerism.

However, remember that a metamerism index is also provided for each formula proposed, to estimate the entity of this type of problem.

Maximum DEcmc

It is possible to set the maximum tolerance value for theoretical color difference. Formulas having a reflectance whose ΔE_{cmc} with the reference sample is greater than this value are not included in the list of formulas proposed by the program in the **Manual formula selection** dialog box (chapter "*Manual selection of the formula*" on page 53).

Maximum no. of formulas

It is possible to configure the number of formulas proposed by the program derived from the color matching, in the **Manual formula selection** dialog box (chapter "*Manual selection of the formula*" on page 53).

Enable search in Database

Click the check box **Enable search in Database** to rank the formulas proposed by the program after color matching also taking into account the characteristics of the formulas in the tinting system being used. For example, the formula containing colorants already widely used in the tinting system formulas shall gain positions in the list of formulas proposed by the program.

Section Formulation type

In the section *Formulation type* it is possible to configure the type of application for which you wish to carry out the color matching.

The default type of formulation is for Paints.

If you wish to carry out color matching for ceramic and ink, select the option button **Ceramics and Inks**.

The formulation of the type for ceramic and ink must be selected only if you have an appropriate data structure.

By selecting this type of formulation, certain functions in the **Color matching - advanced** tab will not be available.

An appendix, available on the CD, is dedicated specifically to color matching for the ceramic and ink industry.

Color matching - advanced

Choose **Options** in the **File** menu, then **Advanced...** and click on the **Color matching - advanced** tab (Figure 82).

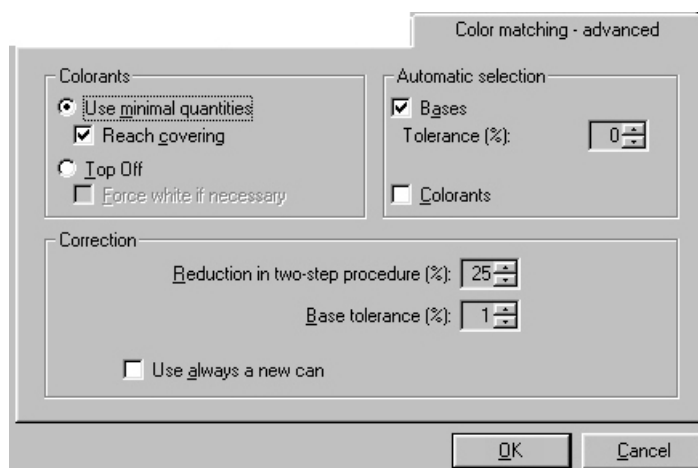


Figure 82

Section Colorants

The options in the *Colorants* section are not available if the formulation for ceramic and ink is selected.

In the section *Colorants* it is possible to configure the color matching mode you wish to use.

The default setting is **Use minimal quantities**, thus only the minimum amount of colorant is dispensed that is necessary to obtain the desired color.

In formulations obtained in "Use minimal quantities" mode, which involve the use of a transparent base, the minimum quantities are calculated taking into account the maximum concentration of the base (field "max conc. %" in the database of bases of the system in use); if this value is set to 100%, the formula generated by color matching will be empty.

However, since the field "max conc. %" may refer to chemical-physical properties of the base rather than colorimetric properties, it may be necessary to set a different percentage of transparent base in the mode "Use minimal quantities". This is possible by enabling the option **Reach covering** which sets the percentage of base to the value specified in the field "cover power" in the base database of the system in use.

The "maximum concentration" and "cover power" values of the bases are unique to the tinting system in use, and are specified when entering the colorimetric information into the data structure via ColorLAB.

If you enable the **Top Off** option, the formula is scaled so that the colorant dispensed exactly fills the can used, thus the amount of paint in the can after dispensing corresponds exactly to the nominal quantity.

Four colorants are used to obtain this result; this ensures the nominal quantity of product in the can.

Since the ideal choice of the fourth colorant is white to simulate the missing base, we recommend that you also activate the check box **Force white if necessary** in "Top Off" mode, to prevent the white colorant from being disabled. In this case, the CorobWORLD user will not be able to disable the white colorant.

In formulations obtained in "Top Off" mode, which involve the use of a transparent base, the quantities are calculated taking into account the fill level value of the base in reference to a one-liter cansize (field "fill quant." in the database of bases of the

system in use); if this value is set to 1000 cc, the formula generated by color matching will be empty.

The "fill level" values of the bases are unique to the tinting system in use, and are specified when entering the colorimetric information into the data structure via ColorLAB.

If the option **Force white if necessary** is disabled, any colorants will be used, chosen by the program based on the options enabled and disabled by the user in the list of colorants before color matching.

Section Automatic selection

The options in the *Automatic selection* section are not available if the formulation for ceramic and ink is selected.

Bases

Enable the check box **Bases** if you want the choice of bases to be used or excluded in the formulation, to be run automatically by the program. It is possible to set the tolerance percentage to minimum and maximum values relative to the L*a*b* colorimetric space of the bases.

Colorants

Enable the check box **Colorants** if you want the choice of colorants to be used or excluded in the formulation, to be run automatically by the program.

Section Correction

Reduction in two-step procedure (%)

It is possible to set the percentage of colorant that is not dispensed during the first dispensing, if the colorant reduction option is enabled.

Base tolerance (%)

Normally formulas are accepted after color matching only if the base and colorant amounts are in proportion in observance of two values of "minimum" and "maximum" concentration. These values are part of the tinting system being used, and are specified when the colorimetric data is entered into the data structure via ColorLAB.

When using formula correction, it is possible to set a small tolerance on the minimum and maximum concentration values.

We recommend that you **DO NOT CHANGE** the default value (1%), which is generally ideal for all tinting systems.

Use always a new can

Enable the check box **Use always a new can** if you want the correction procedure to always run in a new container, and never attempt recovery of previously dispensed product.

User profiles

The program may be configured to differentiate program access and the use of the main functions based on the user. In addition to any limitations on the use of program functions, the user who logs onto the program via a password is prevented from changing or closing the formula documents created by a different user.

Choose **User profiles...** in the **File** menu.

The first time this function is used, you will be asked to define the name of the user who will be considered the profile Administrator, the only one who will have access to the User profiles function to create and maintain profiles.

Type the name and description of the Administrator in the **Add new user** window (Figure 83), and enter the password with which the administrator will access both the program and the User profiles function itself.

Figure 83

Upon the first access, the profile of the Administrator will be added with authorization for all program functions, and the Guest user profile enabled for all program functions except Options.

Name	Description
COROB	Administrator
GUEST	GUEST

Figure 84

On the left side of the **User profiles** window (Figure 84) is the list of configured users, while the right side shows the function access profile for the selected user.

Only the Administrator will have access thereafter to the User profiles function, and must enter the user name and password.

Administrator user

The Administrator user is always the first on the list of users and has complete access to all program functions and to all the formula documents created by the various users.

The Administrator user will be the only one to have access to the User profiles function to maintain profiles.

It is not possible to modify the Administrator's profile, but it is possible to change its description and password. The Administrator profile may be deleted only if there are no other user profiles set.

Guest user

The Guest user may connect to the program without a password. If the Guest user is appropriately handled, it is possible to protect the program functions without requiring the user to enter a user name and password.

The Guest user profile may be modified. It is not possible to change the name and description. The Guest profile is deleted along with the Administrator user.

Even when user profiles are configured, it is possible to access the program as a Guest user by clicking **OK** without typing any user name or password in the Log On window.

Modifying a user profile

To modify a user profile, select the name from the users list, then in the Profile section enable the check box for the function you wish to make accessible.

To change a user description and password, click the **Modify** button and make the desired changes.

Adding or deleting a user

To add a new user click the **Add** button. In the **Add new user** window type your name, description and password, then click **OK**.

The new user is added to the users list; the new profile will include only access to the CorobWORLD program. Proceed with modifying the profile as described in the previous chapter. To delete a user, select it, click the **Delete** button and confirm.

Log Off time

It is possible to set a disconnection time for each user, meaning a time of program disuse after which the user is automatically disconnected.

This function protects the program from use by unauthorized people.

Select the desired user and set the time expressed in minutes in the **Log Off after** box, using the corresponding arrow boxes.

Shop info

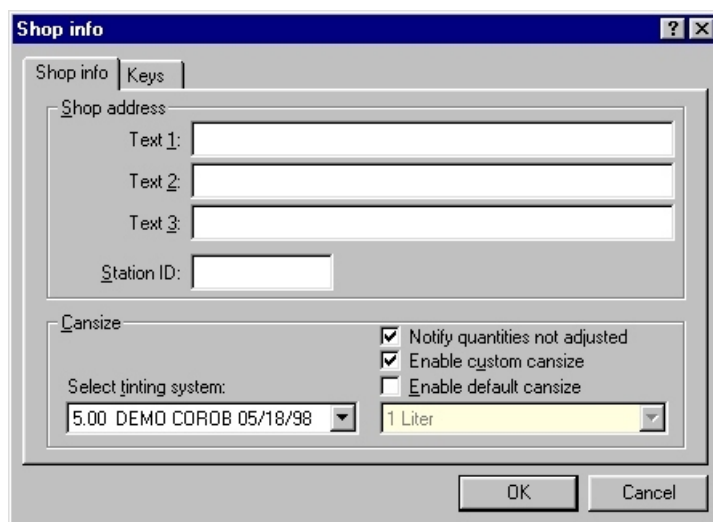


Figure 85

The **Shop info** function (Figure 85) provides some important possibilities for program configuration; the primary function is to enter information about the shop (address) to be used to print the adhesive labels.

It is possible to enter information about the specified machine (type of machine or workstation identifier) that are used by the CorobMONITOR program and configure the default cansize.

Furthermore, it is possible to customize the text used in the program for formula identification.

Shop info

Choose **Shop info...** in the **Tools** menu and click on the **Shop info** tab (Figure 86).

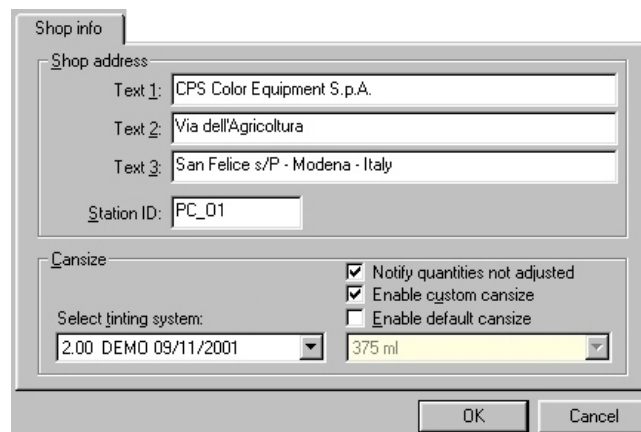


Figure 86

Enter in the **Text 1**, **Text 2** and **Text 3** boxes, the shop address.

In the **Station ID** box, type an abbreviation that uniquely identifies the computer on which the program resides. This last setting is important when using the formula transmitting and receiving system managed by the program CorobMONITOR.

Notify quantities not adjusted

In the *Cansize* section, it is possible to disable the warning message advising that the formula amounts are not adjusted as the cansize changes in the Edit formula window.

If you do not want the warning message to ever be displayed, uncheck the check box **Notify quantities not adjusted**.

If instead you wish to restore the warning message once it has been disabled via the check box **Don't ask me again**, select the check box **Notify quantities not adjusted**.

Default cansize

In the *Cansize* section, it is possible to set for each tinting system available (selected via the **Select tinting system** box) the default cansize that will be automatically proposed throughout the program.

Select the **Enable default cansize** check box, and in the list box below select the desired cansize from among those in the system.

Setting a default cansize is ideal for those who produce most hues in a certain cansize, and would rather not have to check whether the current cansize has been changed for the previous dispensing.

Custom cansize

In the *Cansize* section, it is possible to enable or disable the operation of the custom cansize.

If you wish to prevent use of the custom cansize, deselect the check box **Enable custom cansize**; in this case the list of cansizes will not include the item **Custom cansize**.

Keys

Choose **Shop info...** in the **Tools** menu and click on the **Keys** tab (Figure 87).

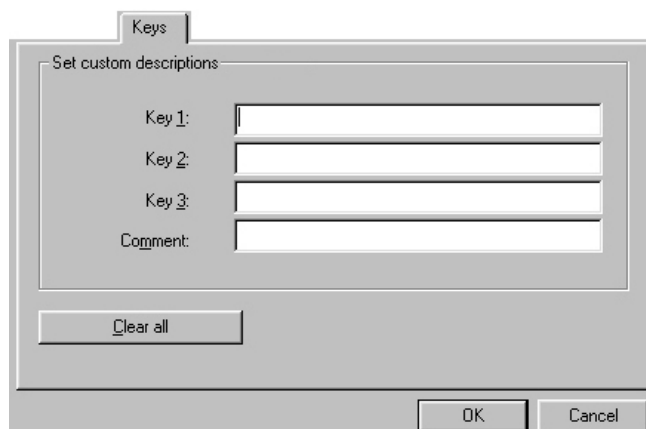


Figure 87

Type the text to replace the default into the text boxes **Key 1**, **Key 2**, **Key 3** and **Comment**.

To delete the text entered and restore the default situation, click **Clear all**.

We recommend that you not enter text longer than that of the default messages.

Databases

Database management

A single dialog box combines functions to manage the databases used by the program.

Choose **Databases** in the **Tools** menu, then **Database management....**

The **Database management** dialog box will appear on the screen (Figure 88).

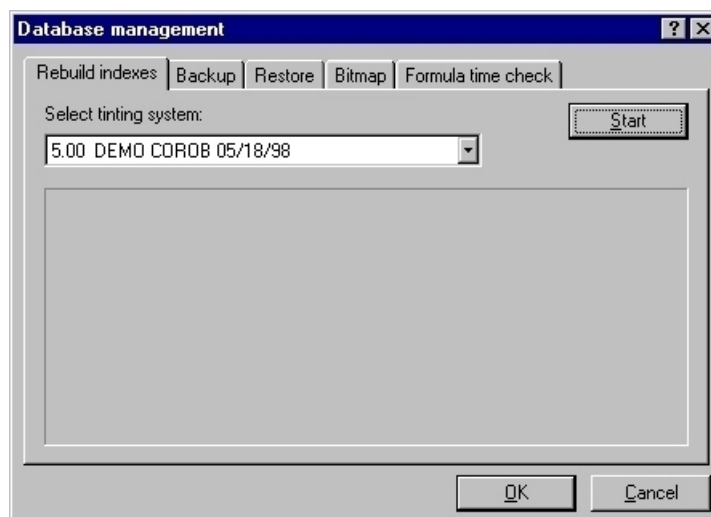


Figure 88

Rebuilding indexes

In order to fully understand the purpose of this function, we must first explain a few concepts.

Within a set of data comprising a database, each database is associated with an index file (extension NTX). The index file is a file that sorts the elements or records in the database. The indexes allow perfect interaction among the various databases. It is difficult to identify corruption of an index file, as it appears simply by causing errors when consulting the various elements of the databases.

To rebuild the indexes of the databases, choose **Databases** in the **Tools** menu, then **Database management...**, and click on the **Rebuild indexes** tab.

Select the database in the **Select tinting system** box and click on **Start**.

Depending on the complexity of the database, it may take several minutes to rebuild the indexes.

To abort index rebuilding, click on **Stop**.

Backup

You may save all data used by the program to floppy disk:

- custom formulas
- database of the tinting system
- all data entered in CorobSTORE
- statistical data (also in XML format)
- refilling history data
- color collections

We recommend that you protect your data by saving periodically. You can recover your data from the backup in case the computer is damaged or the original data lost.

Saving also allows you to use the same data on a computer other than the one where they were created or installed.

To save:

1. Choose **Databases** in the **Tools** menu, then **Database management...**, and click on the **Backup** tab.
2. Select the type of data to save from the **Select backup data** list box; if saving in the tinting system, then select the tinting system from the **Select tinting system:** list box, from all those available on the computer.
3. Insert a 1.44 Mb floppy disk in the computer's floppy disk drive and click on the **Start** button.

A message will appear on the screen to indicate the number of floppy disks necessary to make the requested backup.

Use only formatted, blank disks that are not write-protected; any data stored on the disks will be erased.

4. Follow the instructions displayed by the program to finish backing up your data.

Restore

You may restore the data used by the program from a backup floppy disk.

The disks must contain a previous save made using the Backup function of a COROB™ Windows-based application program; no other format will be accepted.

Backup disks created using the DOS version of the program will also be accepted.

To restore the data:

1. Choose **Databases** in the **Tools** menu, then **Database management...**, and click on the **Restore** tab.
2. Insert the first floppy disk containing the backup data in the computer's floppy disk drive and click on the **Start** button.
3. Follow the instructions displayed by the program to finish restoring your data.

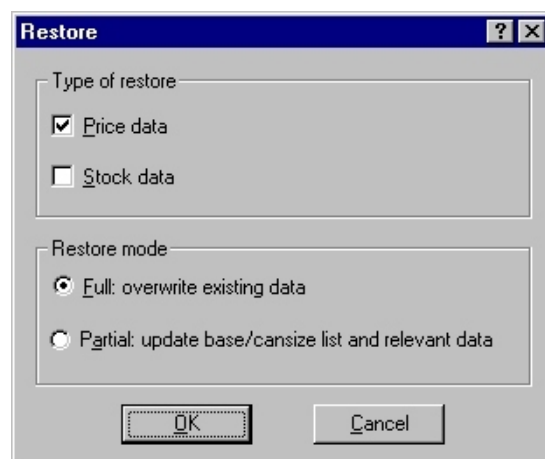


Figure 89

When restoring data regarding CorobSTORE (optional), thus prices and stock management data, a window is displayed in which it is possible to select whether to restore the Price data, the Stock management data, or both (Figure 89). In the Restore mode section, select whether to restore completely, overwriting all existing

data, or partially, including only new cansizes for each base and the corresponding data into the list.

When restoring statistical data for CorobSTAT (statistical data processing program) a warning messages is displayed, which indicates that the restore will be carried out in a directory different than the original one, to avoid loss of data. The restore directory is c:\wuser\restore.

To restore the statistical data saved with the DOS version, you must select the data structure to which to link the data being restored; if a single data structure is installed, or if the Catalog includes a single data structure, the tinting system need not be selected. It will also be possible to restore the data in the same source directory, thus c:\local.

Bitmap

It is possible to associate different logo with each of the data structures used. The logo associated with the data structure will appear in place of the default logo in the formula document in which a formula of that data structure has been opened (chapter "Creating and managing formula documents" on page 27).

To carry out this association (Figure 90):

1. Choose **Databases** in the **Tools** menu, then **Database management...**, and click on the **Bitmap** tab.
2. From among all the tinting systems available on the computer, displayed in the **tinting system** list, select the one you wish to associate with a custom logo.
3. Click on the button **Set bitmap**, choose the desired logo in the **Bitmap selection** window and confirm.
4. Repeat the above steps to associate a logo with other tinting systems.

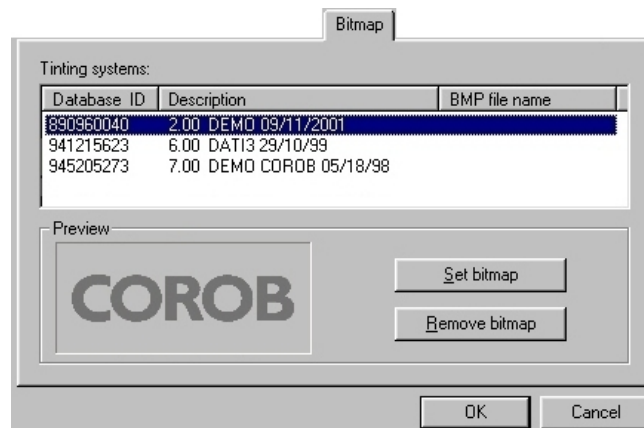


Figure 90

The graphics file to be used as a logo must have the following characteristics: Bitmap format, size 180 x 90 pixels, 256 colors. To create a transparent background, you must use the same color used for the first pixel to the left of the image. The images must be copied into directory c:\wuser\corobworld\gdatabmp.

To restore the default logo:

1. Choose **Databases** in the **Tools** menu, then **Database management...**, and click on the **Bitmap** tab.
2. From among all the tinting systems available on the computer, displayed in the **tinting system** list, select the one you wish to associate with a custom logo.
3. Click on the button **Remove bitmap**.

Formula time check

"Formula time check" refers to the program checking the date a formula was last edited.

This function may be employed only if different versions of the same data structure, thus updates thereof, are being used on the same workstation.

Upon installing a data structure, information is recorded regarding the installation date. The program, if appropriately configured, uses this information to indicate whether the formula being selected from a certain data structure has been changed compared to the previous version of the data structure.

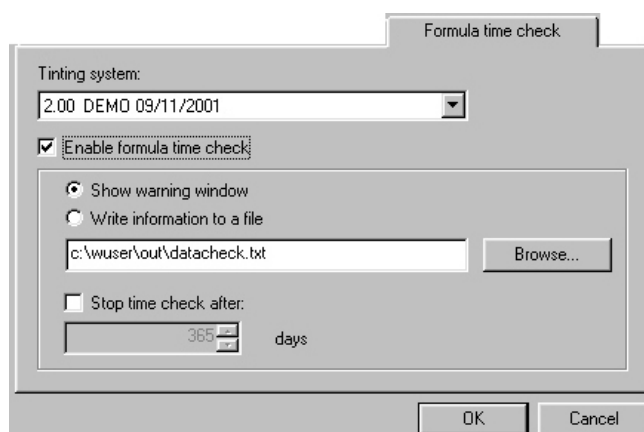


Figure 91

To configure formula time check, proceed as follows (Figure 91):

1. Choose **Databases** in the **Tools** menu, then **Database management...**, and click on the **Formula time check** tab.
2. In the list box **Tinting system**, select the data structure for which to perform the formula time check.
3. Check the box **Enable formula time check**.
4. Select **Show warning window** if you want a warning message to appear whenever a changed formula is selected, or **Write information to a file** if you want the information to be recorded in the text file specified.

It is also possible to set the number of days, beginning with the current date, to be covered by the time check.

5. Enable the check box **Stop time check after** and specify the number of days to establish the duration of the check for changed formulas.

Catalog maintenance

The Catalog is a system allowing you to uniquely identify the data structures (also called tinting systems or databases) created using the ColorLAB program (version 3.5 and later).

The data structures creation program marks the data structure created with an identification number (ID) and identifies the directory in which it is to reside; this database must be correctly installed in order for the Catalog to be handled properly.

Upon installing a data structure, a dedicated database is created, called Catalog, containing the ID and resident directory of the data structure, which will therefore be visible and usable in the CorobWORLD program. Installing additional, different data structures will update the Catalog, adding the data structures installed.

This system ensures that any updates to the data structure will be installed in the same directory. It also ensures proper management of information from different data structures: statistical data, custom formulas, prices and stock management data, etc.

Only users skilled in database management are advised to use the function described in this chapter. You may access the **Catalog maintenance** menu item only when no formula document is open.

The operations that may be carried out on the Catalog primarily allow you to:

- include or exclude data structures from the Catalog to enable or disable their use in the program.
- physically delete an unused data structure from the hard disk
- correct error situations caused by incorrect data structure handling.

Close any open formula document, choose **Databases** in the **Tools** menu, then **Catalog maintenance....** The **Catalog maintenance** dialog box will appear on the screen (Figure 92).

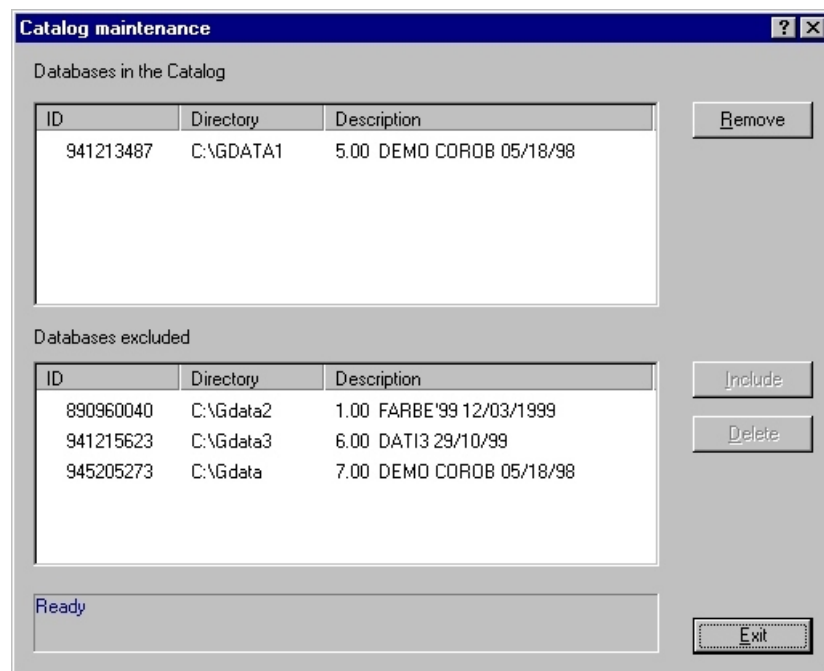


Figure 92

The top part of the window lists the databases included in the Catalog (and therefore available in the program).

The lower part lists the databases excluded from the Catalog but present on the hard disk. Next to the list are the control buttons to be used for Catalog maintenance.

The status bar, at the bottom of the window, displays a description of the function of each control button when the mouse pointer is positioned over it; it also shows error situation messages.

Including, removing and deleting

To include in the Catalog a database present on the hard disk, select it in the **Databases excluded** section and click the **Include** button.

To exclude a database from the Catalog, select it in the **Databases in the Catalog** section and click the **Remove** button.

To eliminate a database from the hard disk, select it in the **Databases excluded** section and click the **Delete** button.

Error display

Error situations caused by incorrect data structure handling are highlighted in the **Catalog maintenance** window by a few symbols displayed alongside the databases included in the Catalog.

Symbol	Meaning
	The Catalog includes a data structure that has been completely deleted from the hard disk
	The Catalog includes a data structure that has been completely deleted from the hard disk but the directory where it resided is still present
	The Catalog includes a data structure with an ID that does not correspond to that of the data structure on the hard disk
	The Catalog includes several data structures, but all residing in different directories

If any of the above errors takes place, remove the data structure from the Catalog. In the third case, it is possible to correct the error by once again adding the data structure to the Catalog.

Modifying the language

If the translation is available, the program uses automatically the system language, (Windows control panel, Regional settings), otherwise the default language is English.

If you wish to change the program language, choose **Language...** in the **File** menu.

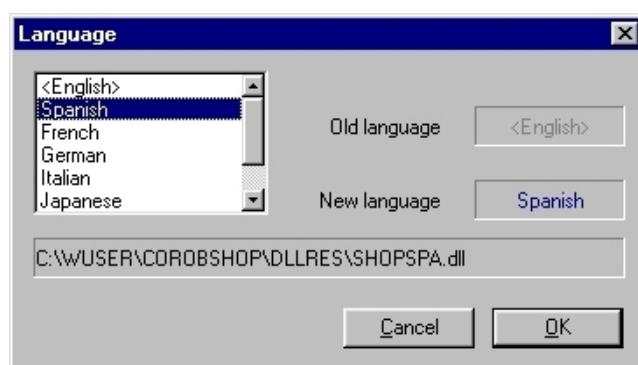


Figure 93

Activating the language change function will close all open formula documents.

In the **Language** dialog box (Figure 93), the language currently used is displayed in the **Old language** box; select now the new language in the list; the language chosen will be displayed in the **New language** box. Click the **OK** button to confirm.

System information

To get information about the program and the computer choose **System information...** in the **Help** menu.

The **System information** dialog box (Figure 94) displays the information about the program, the ID number of the protection key, and shows the list of data structures installed and data structures included in the Catalog, as well as the list of the dispensers configured.

Information on the computer configuration is also given (operating system, installed printers, network connections, etc.).

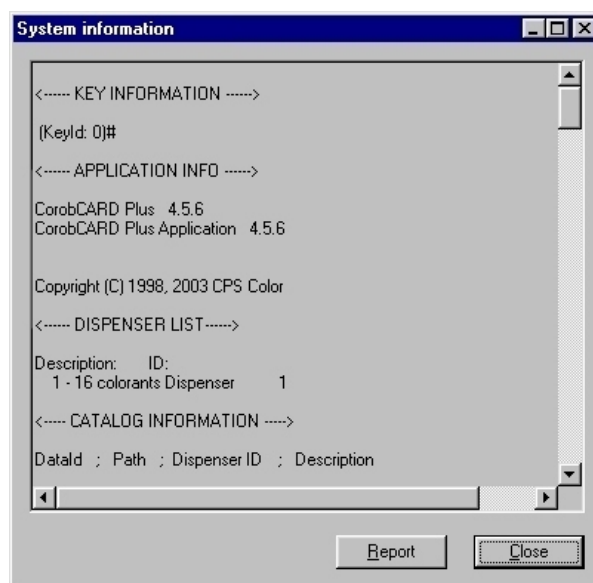


Figure 94

To quit this dialog box click the **Close** button.

The system information may be transferred to a text file, which can in turn be saved and printed. Click the **Report** button. The default Microsoft Windows word processing program will be launched automatically and display the requested report. See the Microsoft Windows Help Guide to learn how to manage the report files using the word processing program.

The report file sysfile.txt is saved in directory c:\wuser\corobworld.

External programs Configurator

To configure CorobWORLD so that it can directly launch external programs without having to exit the program, choose **External programs Configurator** in the **Run** menu.

The CorobExtern utility program is launched, which allows you to set up to nine external programs (Figure 95).

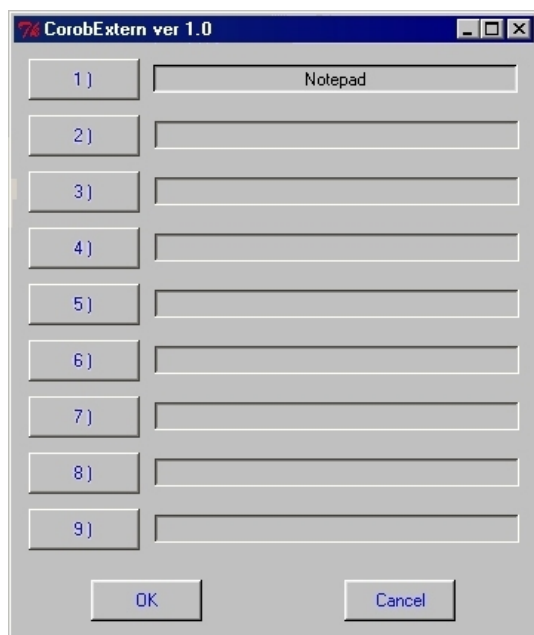


Figure 95

To configure a new external program, proceed as follows:

1. click on one of the available buttons in the left side of the window; the dialog box **External programs Configurator** appears (Figure 96).
2. in the text box *Program*, type path and name of the program executable file, or click the **Browse** button to search the desired program on the hard disk or over the network;
3. in the text box *Description*, type the description of the program that will appear in the External programs menu, then confirm;
4. repeat the above steps to configure all the desired external programs.

For DOS-based programs that may create conflicts with CorobWORLD, enable the check box **Suspend application**; in this case launching the external program will pause CorobWORLD, which will be minimized to the Windows taskbar. CorobWORLD may not be used until the external program is closed; exiting the external program will reactivate CorobWORLD.

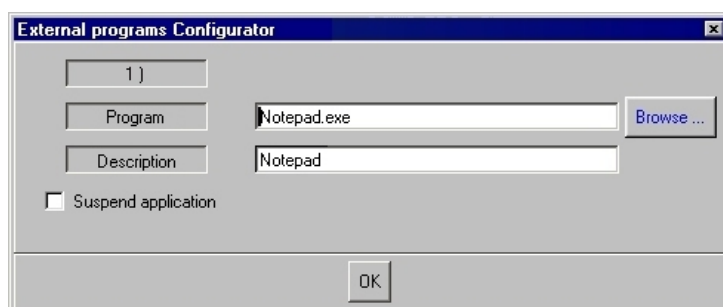


Figure 96

You must reboot the program to activate the change.

Appendix

Documentation

The CD-ROM "Software & Colormatching" includes the specific documentation regarding the following topics:

- Appendix "CorobSTORE Module"
- Appendix "Barcode"
- Appendix "Base formula management"
- Appendix "Balance management"
- Appendix "Safety Data Sheet Module"

The aforementioned documents are available in PDF format, in the directory "Manuals".

Use of the shortcut keys

In a dialog box, to	press
Cancel the command and close the dialog box	ESC
Click the selected button	ENTER
Click a button if the current control is a button - or - Select or clear the check box if the current control is a check box - or - Click the option if the current control is an option button	Spacebar
Cycle through the options of the drop-down list box selected - or - Cycle through the single options of a group	Arrow keys
Move forward through options	TAB
Move backward through options	SHIFT+TAB
Move forward through tabs	CTRL+TAB CTRL+PGDN
Move backward through tabs	CTRL+SHIFT+TAB CTRL+PGUP

Open a drop-down list box	ALT+DOWN arrow (if a drop-down list box is selected)
Close a drop-down list box	ESC (if a drop-down list box is selected)
Carry out the corresponding command in the menu	ALT+underlined letter in the menu

In a window, to	press
Activate the menu bar	F10
Close the window of the current document	CTRL+F4
Switch to the next document window	CTRL+F6
Switch to the previous document window	CTRL+SHIFT+F6
Quit the program	ALT+F4
Display Help online	F1
Display the system menu for current window/program	ALT+Spacebar
Display the system menu for current window	ALT+Hyphen (-)

In the product/subproduct list, to	press
Expand the current selection if it is collapsed - or - Select the first subfolder	RIGHT arrow
Expand the selected folder	NUM LOCK+plus sign (+)
Expand all the subfolders of the current selection	NUM LOCK+*
Collapse the current selection if it is expanded - or - Select the parent subfolder	LEFT arrow
Collapse the selected folder	NUM LOCK+minus sign (-)

To	press
Create a new formula document	CTRL+N
Modifying the program language	CTRL+I
Update the colorant level (when at least one formula document is open)	CTRL+L
Search a formula in all the products of the tinting system	F5
Search a formula by alternative codes	F6
Log on to the program as a new user	F11

Screen saver

The COROB™ screen saver is installed and activated during installation of CorobWORLD.

To configure the COROB™ screen saver, proceed as follows:

1. Click the **Start** button, choose **Settings**, click **Control panel**, then double-click on the **Display** icon.

2. In the **Display properties** dialog box, click the **Screen saver** tab and select the screen saver **Corobscr** from the **Screen saver** drop-down list box.

The screen saver starts if the computer is idle for the number of minutes specified in the **Wait** box.

To disable the screen saver, move the mouse or press any key.

For further information on the topic of screen savers, see the Microsoft Windows Help Guide.

The COROB™ screen saver displays a sequence of images over a background.

The images and background are automatically sought in the directory c:\wuser\scr\corob. The image named Backscr.jpg is used as a background.

The images to be inserted in the screen saver must be in jpeg format, and the files must be named pubxxx, where xxx is a progressive number that determines the order in which the images are displayed.

You may change the background of the screen saver by copying an image named Backscr.jpg into the directory, to replace the original.

Compatible external devices

SPECTROPHOTOMETERS and COLORIMETERS

Brand and Model	Version
COROB™ ORACOLOR	Serial
COROB™ CSP 2000	Serial
Hunterlab MiniScan	Serial
MACBETH Color-Eye 7000	Serial
MACBETH Color-Eye 2180	Serial
DATACOLOR DF100	Serial
MINOLTA CM series 500	Serial
MINOLTA CR-15	Serial
MINOLTA CM-2500d	Serial
BYK-GARDNER Color-Guide	Serial
X-RITE CFS57 (CF57)	Serial
X-RITE SP62	Serial
GRETAG Spectrolino	Serial

Note - The instruments MINOLTA series 500 and BYK-GARDNER Color-Guide are available in different configurations. COROB™ Windows programs support the SPHERE models, with SPECULAR included.
