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| COMPUTER CONTROL SYSTEM  FOR  **Desmet Ballestra S.p.A.**  ***SABIZ PLANT***  JOB 2F11  SYSTEM ADMINISTRATOR MANUAL |
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# Object

This manual is useful to System Administrator for a correct management of the system.

It determines the system architecture as both the hardware and the software aspects.

# System Architecture And General Concepts

The architecture is **Peer to Peer**; data processing, communication with the PLC and storing is performed by the applications.

Architecturally the system is composed of:

- PLC

- PC1

- PC2

- PC3

The system consists of 3 computers containing the LogoView NT application.

Notwithstanding the basic arrangement, **every PC is configured for monitoring the application**.

From the Windows main menu 1 icons will be provided to start application. The operator will start application by clicking the relevant icon.

# Network Files / Database Management

**All data are stored on the PCs.**

**The PCs communicate with PLC to receive the data from the field; moreover on the PCs are stored all the archives, the database and the recipe files that the application needs for its right functioning.**

The applications can visualize, modify and download recipes. In the same way all the network print out functions are controlled by all applications; this means that all various “reports” foreseen and requested from any PC network-connected, are printed out on the network printer.

All data are aligned in network. When one application modifies some of these data, it write them on the others applications.

All function/data relating to the alarm management (acknowledgement, strings, thresholds) are aligned in network too.

## Data Organization

Data managed by CCS can be divided into the following classes, according to the type and functionality :

1. database for internal use only of the LogoView application (format “dbf” e “txt”)
2. database managed by the LogoView application but having the purpose of historical filing and therefore with reading possibility through other tools (format “dbf”)
3. file of “RAW\_MATERIAL\_DEFINITION” (format “xls”)
4. files of “RECIPE” (format “xls”)
5. files of “DOCUMENTATION” (format “doc”)

More in detail, the following files are subdivided for the above mentioned types:

### Type “A”

**“dbloop.dbf**”; this results to be a univocal-type file whose functions are exclusively of internal use of LogoView application software; any manipulation and/or reading of this file is absolutely forbidden .

“**dbanl.dbf**”; this results to be a univocal-type file whose functions are exclusively of internal use of LogoView application software; any manipulation and/or reading of this file is absolutely forbidden .

**“DBRMDOS.dbf”**,**“DBRMPB.dbf”**; this results to be a univocal-type file whose functions are exclusively of internal use of LogoView application software; any manipulation and/or reading of this file is absolutely forbidden .

### Type “B”

**“alarm.dbf”**; this results to be a univocal-type file whose function is the filing of all the alarms and/or the machine logging commands .

Data visualisation is possible through a suitable key from operator interface ; there is a limit of 100000 record and the storing is managed in circular mode .

LogoView automatically manages this file which must never be opened and re-saved , above all during the operator station running; for any manipulation it is anyway possible to make a copy (in another folder or in another machine) and to process the file with tools like Excel.

This file is stored in the application folder.

**“htrend.dbf”**; this results to be a univocal-type file whose function is the filing of analogic variables for the visualisation of historical trends during the present month.

Data visualisation is possible through suitable key from operator interface.

This file is stored in D:\HTREND

**“hbatch.dbf”**; LogoView stores in this univocal file the Dosex batch weights for a maximum of 700 batch.

This file is stored in D:\HBATCH

These files are automatically updated by the system in the moment of **STOP/End** production, **Abort** or **Reset** Totalizers.

### Type “C”

**““Raw\_Material\_Definition.xls”**; it will be possible to have access to it through function key from application that will start the Microsoft Excel package present in the machine.

After the setting of necessary data the operator will use the save-function of Excel without changing the file name that must always be the one indicated.

### Data Type “D”

**Recipes (DX-PB)**; *T.I.E.*, together with *Ballestra*, will supply the recipe master file. Files that will be progressively created by the enabled operator through the Microsoft Excel package will also be in “xls” format and a name can be chosen for them (which will be the RECIPE code).

So, also in this case it will be possible to have access to the recipe files through function key from station that will start the Microsoft Excel package present in the machine.

The system will automatically point at the Recipes folder, and at that point it will be the operator’s duty, guided by suitable names, to choose the subsequent folders up to the opening of the file in question.

In general there is no limit in the creation of recipe files (the only physical limit is the space on the Hard disk), even if, as a matter of fact, from the process point of view, with the introduction of the “RECIPE I.D.“ number limited from 1 to 100, it is obvious that is possible to create only 100 recipes max.

## Folder Definition On The Pc

In this chapter it is indicated the structure of folders present in the PC where files/data described above will be stored (the letter in brackets indicates the type of files that are present).

**All these files stand on the folder D:\DATA that is shared with the name DATA. The PCs use this logic name for approaching it; in this way we are not obliged to use a particular, definite disk (D: or E: etc…) that so could quietly replaced without modifying the LogoView program.**

So **DATA = D:\DATA** if it is addressed by the PC.

And **PC..\D:\DATA** if it is addressed by the other PC.

**2F11 PLANT**

**DATA\2F11\CONFIG\** DBANL.DBF (A)

DBLOOP.DBF (A)

DBRMDOS.DBF (A)

DBRMPB.DBF (A)

DBRECPB.DBF (A)

DBRECDOS.DBF (A)

RAW\_MATERIAL\_DEFINITION.XLS (C)

**APPLICATION FOLDER** ALARMS.DBF (B)

ANALOG.ARC (B)

**D:\HTREND**  HTREND.DBF (B)

**D:\HBATCH** HBATCH\_A.DBF (B)

**DATA\2F11\DOC\**

**DATA\2F11\RECIPE\** 2F11\_DX\_PB.XLS (D)

## Management Of Production Files

The system supplied by *T.I.E.* will provide a suitable program for searching and processing production files automatically created and stored on the PC in an appropriate folder.

In particular three Microsoft Excel applications will be supplied; it will be loaded and configured on the PCs.

Excel software will also be configured/programmed so that starting the appropriate program it will be possible to visualize production data .

On the PC, having anyway LogoView licences/software necessary for the operations described up to now, it will therefore be possible to monitor data relative to the production files.

The LogoView program stores in Database the production report, which is printed automatically in file format.

## Data Excange With Host

On the PCs following data exchange will be provided with a customer host computer.

**No other hardware necessary to the connection of the Application with the Customer Host must be intended at LogoView charge.**

**The technique used to exchange the files is therefore simply a Files Transfer.**

It means that the Application will put at host disposal the above mentioned files (type C, D, E, F) in the indicated folders and it will be up to the host to read them when necessary.

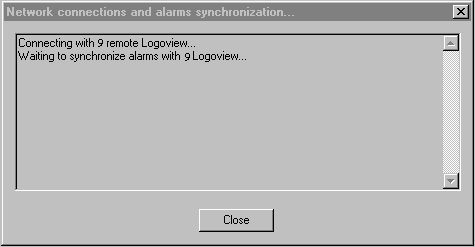
On its turn the host can transmit to the Application new recipes **copying them in the folders provided**.

**As mentioned, the files are all in the “xls” data format.**

# Application

**Sabiz applications will run on the PCs at the same moment.**

When the application on PC start, the window “**Network connections and alarms synchronization…**” is shown:



The alarm synchronization in the network is fundamental for the system.

When the application starts it will appear a string that put it in wait of linking with all Run application, because the real synchronism will happen at the start of every application (but of closing window written above).

The System Administrator can press the **Close** button to make the window disappear or leave it open to read the reports of the links with the different nodes that will be activated; it is not important because the connection will anyway occur at the moment when all Applications will be started.

The Application, is enabled to the alarms management as described into the OPERATOR MANUAL.

## Hardware/software technical features of “PCs”

Each PC will have the following technical features :

- DELL PRECISION T3500

* CPU Intel Xeon W3530, 2.80GHz, 8M Cache
* 4GB Memory, DDR3, 1066MHz
* 2 x 320GB, SATA, 3.5-inch, 7.2K RPM Hard Drive, RAID Level 1
* 1 16X DVD+/-RW Drive with SATA Cable
* 1 Controller Gigabit Ethernet Broadcom® 5761 (integrated).
* 1 additional Gigabit Ethernet Broadcom card
* 1 Microsoft Office Home & Business 2010 software / license
* 1 LogoView NT software / license
* 1 RSLinx Classic OEM Software / license

The following hardware, connected to every PC, will also be supplied:

* 1 Dell Standard Quietkey USB Keyboard Black US International
* 1 Dell Black 2 Button USB Optical Mouse
* 1 Dell E-series E2210 22" Wide Monitor - Black

Moreover also these items complete the SABIZ supply:

- 1 Colour laser printer HP CP4025N

- 1 Ethernet switch CISCO SLM2016T 16 ports Gigabit

- 1 RSLogix 5000 software / license (installed only on PC1)

- 1 Simantec pcAnywhere (installed only on PC1)

## Local Area Network Connections

The table here below exactly defines the networks used by the system with the corresponding TCP/IP addresses:

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **IP address** | **Subnet mask** | **Port number** |
| PC1 | 192.168.10.1 | 255.255.255.0 | - |
|  |  |  |  |
| PC2 | 192.168.10.2 | 255.255.255.0 | - |
|  |  |  |  |
| PC3 | 192.168.10.3 | 255.255.255.0 | - |
|  |  |  |  |
| PLC | 192.168.10.51 | 255.255.255.0 | - |
|  |  |  |  |
| HP1 (network printer) | 192.168.10.101 | 255.255.255.0 | - |
|  |  |  |  |

# Configuring A New Operator Workstation

The operations listed in next chapters, must be performed in order to configure a new operator workstation.

## Disk Image Recovery Procedure

The fastest way to recover all the data stored in the disk is to use the Macrium Reflect Recovery Disk. In this way is not necessary to re-install all the softwares mentioned below.

To recover the disk:

* Insert the Macrium Reflect Recovery Disk provided with the PCs (the disk is one; it is the same for all PCs).
* Power up the PC and boot it from CD/DVD drive.
* Follow the instruction to recover the entire disk partitions.

The original image of disks is stored on the removable HDD supplied with the PCs. The images are stored in the folder “Disks image”. The subfolders PC1, PC2, PC3 contain the image for each PC.

Once the disk has been restored, please be sure that the Logoview application installed on disk D: is the last one. If it is necessary to update the application, please follow the instruction described in the paragraph “Application installation”.

## Windows 7 Installation

**Disk partitions**:

Create one disk partition for operative system and installed programs.

Partition name: OS

Partition type: NTFS

Partition size: 60 GB

Logical drive: C:

Create a second partition for application and data.

Partition name: Local Disk

Partition type: NTFS

Partition size: all remaining disk space (for supplied PCs, about 225 GB)

Logical drive: D:

Install Microsoft Windows 7 on the disk C: in the default directory Windows.

**Setup options**:

OS default language: English

Computer name: PCx (where “x” is 1, 2 or 3. This name is very important and must be set according to the operator workstation)

Create the following account:

Account name: User

Password: user

Account type: Administrator

Display setting: 1680 x 1050 pixels

Network card installation for Local Area Network:

configure the card as shown in the chapter “Local area network connections”.

## Microsoft Excel Installation

Install Microsoft Excel 2010 on the disk C: in the default directory.

## LogoView NT installation

Insert the LogoView NT CD-ROM.

Select the installation language “English”, the “ANSI” mode and the default folder “C:\ProgramFiles\LogoNT

Disable “Ole Automation” while you must leave both “LogoView Development” and “LogoView Runtime” enabled.

Once the installation is complete, browse the CD-ROM and run the following applications:

* \Drivers\PlugIns\LwOdb\LwOdb.exe
* \Drivers\PlugIns\RSLinx\ RSLinx.exe

In order to create the correct entries in the Windows register, after the installation the program must be started as administrator (only for the first time):

* Open the Windows menu (click the button Start in the Windows task bar)
* Open “All programs”
* Open “Logoview”
* Right click with mouse on “Logoview Windows RunTime”
* Choose “Run as administrator”

## Application Installation

The folder where the application must be loaded is:

D:\Lgw\_2F11\_SZ

The file “RSLinx.wdl” must be copied in the folder

“C:\ Program Files\LogoNT \PlugIns”.

For each computer is provided a zipped archive containing the LogoView application.

Please be sure to exctract all the following folders and copy them to the disk D:

* D:\Lgw2F11\_SZ\
* D:\DATA\
* D:\HBatch\
* D:\HTrend\

Only for the engineering workstation PC1, exctract and copy to the disk D: also the following folder:

* D:\PLC 2F11\

## Network Printer Configuration

Insert the HP printer CD, and follow the installation instruction. Install the printer on each PC. Configure the network address as shown in the chapter “Local area network connections”.

At the end of installation, from Windows menu (“Start”) open “Devices and Printers” and change the name of printer to “HP1” (the printer must have this name, otherwise LogoView cannot print the reports). Set the HP1 as default printer.

## RSLinx Classic OEM

RSLinx Classic is used by LogoView to communicate with ControlLogix PLC.

Insert the RSLinx installation disk.

Install RSLinx classic (from “Required steps” menu).

Install FactoryTalk Activation (from “Optional steps” menu).

RSLinx classic must be activated (see “Activation instructions” in “Required steps” menu).

Once installed and activated, open RSLinx and add communication driver:

* Select the menu “Communication”
* Choose “Configure drivers”
* In the box “Available driver type” select “Ethernet devices”
* Click the button “Add new”
* Set the name of driver “PLC” (the name cannot be different, otherwise LogoView will not communicate properly)
* In the “Station mapping” table write the Host name “192.168.10.51”
* Close RSLinx Classic

## PC Anywhere (Installed Only On PC1)

It is not pre-installed; this program allow to connect with a remote PC for debug operations.

## Changing Passwords

The administrator can act in the LogoView software on Users, Password and levels thus being able to regulate the access possibilities of the existing operators or to add new ones.

The administrator has few limits in this function; the system allows him to attribute 255 different values to the level and as many users.

The important thing is not to change levels so that the new added technicians always are of level 1 and that the new added engineers always are of level 2, in a way to respect the duty distribution defined by the system.

To do it he will use the Modify password command present in the Options Menu on the application main bar.

It is very important to remind that the password for *T.I.E.* user must never be modified.

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