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« Discover a universal suite of software designed to drive Balteau NDT & other brands hardware but also manage every step of the image processing & defect recognition... »

OEM
FRIENDLY



Automation



Acquisition



IPS012



X-Ray Remote
Control



Axis Remote
Control



Diaphragm



Shutter



RIO



ADR

INSPECTION SUITE ■ FROM BALSCOPE

MODULAR SOFTWARE SUITE DEDICATED TO X-RAY SOLUTIONS

Balteau is a one century old company specialised in X-ray generator manufacturing proposing X-Ray solutions for various Industries and applications. Having gained a very important experience in the design and manufacture of small to complex solutions for their customers, our systems activities has launched a **series of software** called the «Inspection suite» which are used in Balteau designed systems and can be use with most hardware available on the market.

The inspection suite is made up of **independent software** driving hardware such as X-Ray generators and detectors as well as motion controllers and securities. They can be linked together to form a user friendly intelligent coordinated NDT inspection solution. Acquisition software drives different models of flat panels, detectors or cameras and provides a much more flexible **fully NDT oriented** solution than software provided «in the box». X-Ray Remote Control with

the Shutter module can drive various X-Ray sources and shutters or automatic filter mechanisms for calibration or specific exposures. IPS is a universal Image Processing Software with options for quality assessment according to **EN or ASTM**, filters, recognizing most type of image formats. Axis Remote Control with the appropriate hardware connected is able to drive motors. Automation is the high level module linking all installed applications to provide users with a user friendly manual, semi or fully automated inspection process.

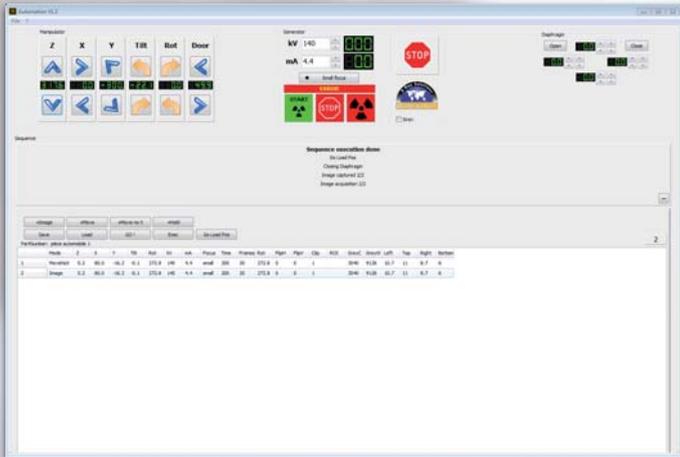
All these software are also now available for **systems integrators** having minimal skills in software configuration and programming but enough capacities in mechanical designs and good contact with field applications. Several versions are available for download in trial or demo versions and much more important Balteau has also started to **publish examples of source code** that are publicly available.

THE INSPECTION SUITE SHOWS ITS FULL STRENGTH WITHIN THE COMBINATION OF ALL MODULES BUT CAN ALSO BE USED SEPARATELY. READ THE BELOW DESCRIPTIONS TO UNDERSTAND HOW THEY CAN EASE THE EVERYDAY INSPECTION PROCESS.



AUTOMATION
Module Integrator

Automation is the top level module that will aggregate all others such as XRRC (X-Ray Remote Control), ARC (Axis Remote Control), DRC (Diaphragm Remote Control), Etc. into one window and offer transparent access to all controllers on only one screen.



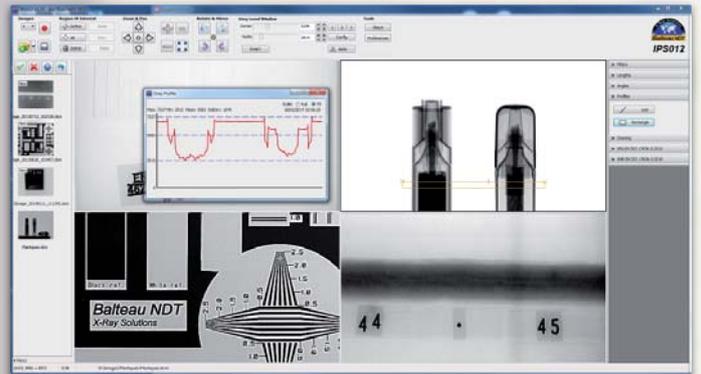
Automation also includes a teaching mode which will record sequence of motions, x-ray settings, time of exposure, etc. Later the recorded sequences can be played back providing an automated inspection of components.

The optional database add-on will use a SQL database to store sequences and index the images metadata (DICONDE only). The same database can then be used from IPS to quickly retrieve images using a search engine.



IPS012
Image Processing System

The Image Processing System (IPS) software enable to process digital radiography to find and display the defects of a component. With the different filters and zoom capabilities, the most difficult and tiniest defect can be quickly located.



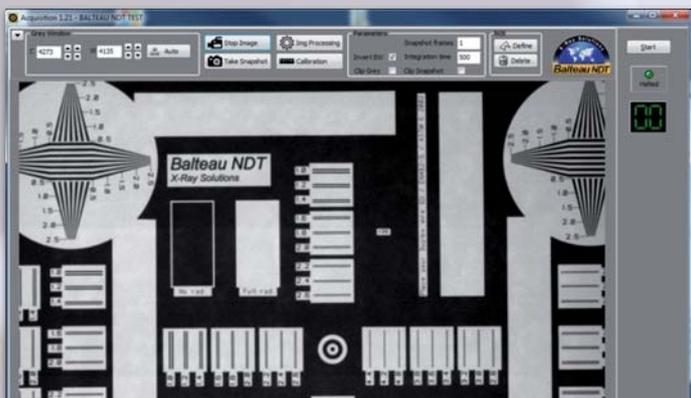
IPS can directly integrate with the acquisition module to receive in real time the images acquired. This can be done on the same computer or using a separate reviewing station. Integration is also accomplished with the automation module, showing the images in real time as well as querying the (optional) database. IPS has an extensible architecture, this means you can expand the features using add-on modules. Balteau provides a number of modules and custom modules can be developed on demand.

Existing add-on: SRb (Basics Spacial Resolution), SNR (Signal to Noise Ratio), DICONDE (Reader & writer), DB (Database), & more on demand.



ACQUISITION
Detectors module (Image & video acquisition)

Drives detectors such as flat panel, digital camera or image intensifier. Showing images in real time, the user can take snapshot or record videos whenever he's satisfied and it will be automatically stored on the selected disk. This module can support Diconde, Dicom, Tiff, Jpeg, Png, Bmp and raw images.



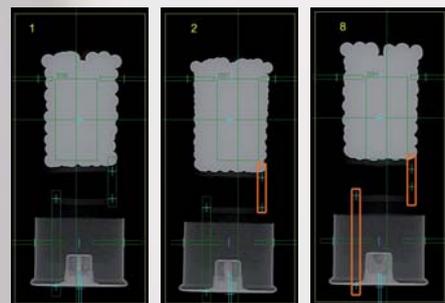
The Acquisition module works as a standalone module or can be integrated with IPS and Automation. It can also be integrated with an external application using a simple communication protocol based on «sockets».



ADR
Assisted Defect Recognition

ADR is a software module that has been created to finalize the Automation process by identifying automatically the parts that have default or not to then inform the end user which one is « accepted », « rejected », « to be verified », etc. This will lead to a much faster flow of inspection as very strict rules will have been defined within the software, reducing mistakes and costs but increase reliability.

ACCEPTED REJECTED REJECTED



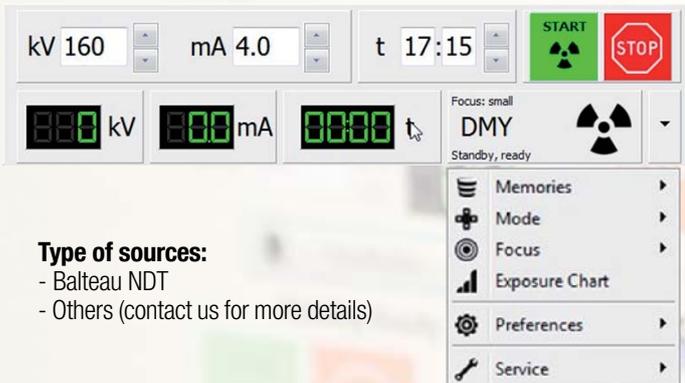
Depending on the part that will be inspected, a lot of different criteria can be looked for in terms of default and be recognized by the ADR module such as: Dimensions, foreign substances/objects, position/location, quantity, distance/gap, nature/density, angles, profiles/deviations, and much more.



XRRC

X-Ray Remote Control

Connects to the X-ray source using a serial link and is able to control all operations remotely, directly on the computer screen. Allowing you to interact with the mA, kV, start and stop the X-ray from running, view of the tube characteristics and state, start and stop preheating, choose tube focus, load exposure charts, etc.



Type of sources:

- Balteau NDT
- Others (contact us for more details)



ARC

Axis Remote Control

This module will control the motors of the equipment, such as manipulators, doors, etc. It works with the latest technology and allows up to 9 axes. This module can also be driven by remote control when used for teaching inspection process.



Type of motion objects:

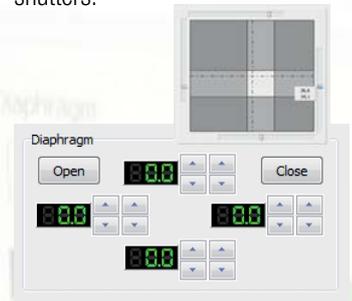
- Motor drive
- Low torque
- High torque



DRC

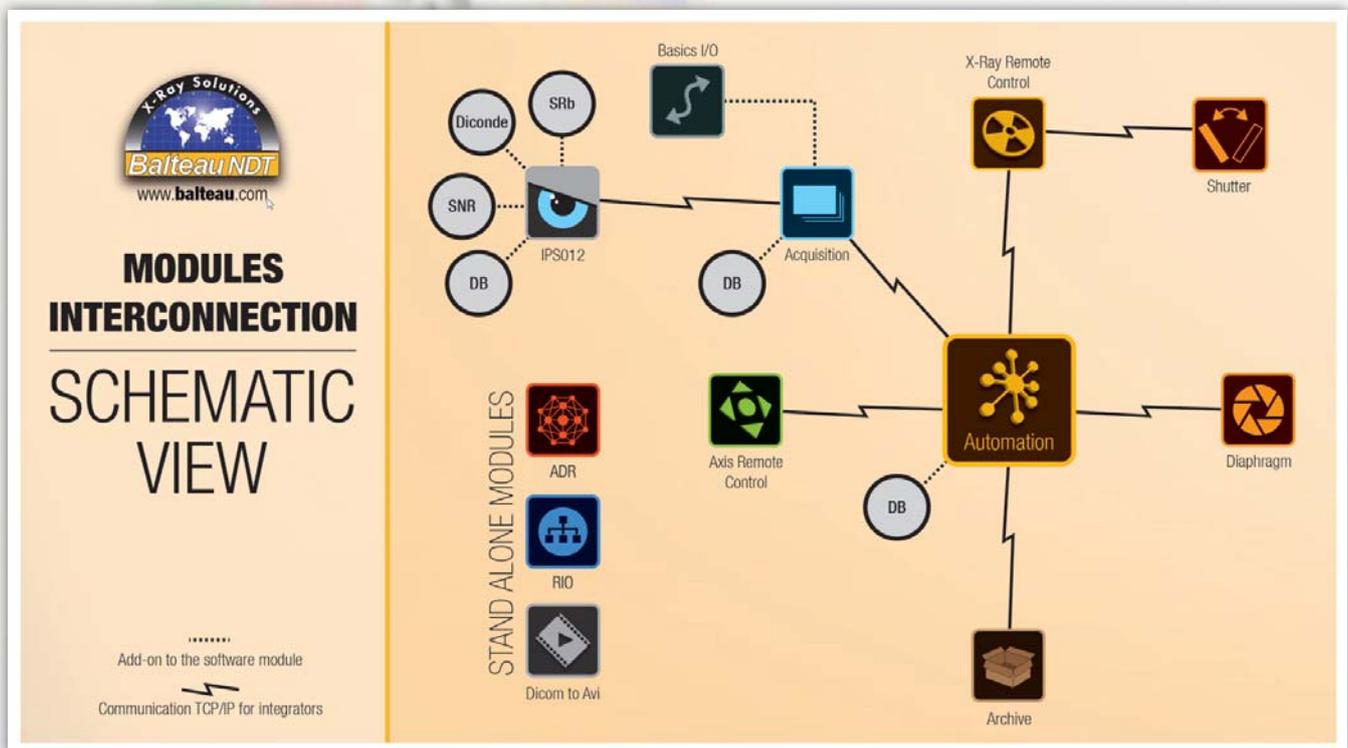
Diaphragm Remote Control

Controls the motors of the different shutters of the collimator. It works with the latest technology regarding motors control and allows up to 4 shutters.



Type of collimators:

- Balteau NDT CLMT
- Others



RIO

Reference Image Organiser

RIO is a stand alone module designed to organize, recall and display Reference Images such as ASTM. Radiographers can now load reference images within their Image Processing Software and compare with their own radiographies using all available tools. Balteau NDT has also developed an ASTM extractor that will extract all selected images from the ASTM dvd to store in your database and use with RIO module



DICOM TO AVI

Image converter

DICOMtoAVI is a stand alone software and also an add-on to IPS012. It will convert high quality DCM images into a more compact and portable AVI file for sharing with customers or third parties. It uses native Windows Media Player or any other basic video player for sequence playing. AVI generated in high compression will lead to approximately 1,5 MB for 40 DCM images.



BASIC I/O

Peripherals module

Basic I/O is the link between the computed system and all accessories such as radiation alert, contacts & switches. The driver will send impulsion to the system to inform of the accessory statut and allow or not to start an inspection.

Type of peripherals:

- Safety & emergency switches
- Avara
- Etc.



SRC

Shutter Remote control

Linked to XRRC, SRC will control and seal the x-ray beam when required by the user.



ARCHIVE

Storage module

Old images will be stored in archive in case an old design need repairs, maintenance or inspections.



Balteau in words...

Balteau is a company based and established in Belgium since 1906. The activity of the power transformers successfully turned into the X-ray business in 1932. Years after years Balteau has affirmed its leadership leading the technology and setting the foundation of modern X-ray technologies. The first company ever to reach 200, 300 and 400 kV in the past, Balteau has today brought to the industry new standards that are consciously safety oriented to allow users to operate equipment safer and easier. Balteau is also greatly caring about environment and always uses top grade and specification materials to ensure that the efficiency of the equipment will be at the top of what is technologically achievable.

On the service and spares side, Balteau is providing the buyer with an exceptional and unequalled commitment of continuous service all through the life cycle of the product.

Qualified engineers and an extensive worldwide network dedicated to serve our customers is actively participating to the success of our brand and to your possibility of always getting, from the selection of your equipment to its follow up in service, a qualified and professional support.

Balteau in numbers...

Balteau has a very long established network in more than 40 countries, some of our agencies are of second generation proving they rely on the quality of our products and that they are totally committed to their business in NDT.

Balteau has produced more than 15.000 generators spread in more than 60 countries. We have 4 ranges of products and are the only manufacturer in the world to provide from Crawlers to Systems built into the same factory.

Balteau in names...

Patented names and commercial brandings are:

BALTOSPOT (Portable and Crawlers X-ray equipment)

- LLX (Constant potential portable equipment)
- GFC (Panoramic portable equipment)
- CERAM (Pulsed frequency portable equipment)
- HAND X (Radio remote control for portable X-ray)

BALTOGRAPH (Stationary X-ray equipment)

- XSD (HF CP X mobile and stationary X-ray equipment – High power)
- CLD (HF CP X mobile and stationary X-ray equipment – Low power)

BALTOSCOPE (Digital imaging & NDT Software)

AIS & Systems (Standard & custom made)

Produced by

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