Voyance 2017 all rights reserved. Under copyright laws, this manual should not be reproduced, in whole or in part, without the written permission of Voyance. The specifications and related information in this manual may be changed without notice. Refer to Voyance Download System update for the latest version of manuals.
Contents

1. Information 5
   1.1 Cautions 6
   1.2 Documents Guide 7
   1.3 Document Convention 8
   1.4 Patient data security 9
   1.5 High security: HIPAA & Cyber Security 9
   1.6 Revision History 10

2. Instruction 11
   2.1 Overview 12
   2.2 Main Features 12
   2.3 Minimum System Requirement 13

3. Installation 14
   3.1 Installation Guide 15
   3.2 Start Installation 16

4. Browse Around 20
   4.1 Starting up 21
      4.1.1 Running Voyance 21
   4.2 Registering License 23
   4.3 Emergency Room Mode 24
   4.4 Registration Area 25
   4.5 How to Register Patient information 27
      4.5.1 Worklist Tab 27
4.5.2 Tools 28
4.5.3 Tools Buttons of the WL 28

4.6 Voyance Common Tools Bar / popup Menu 29
  4.6.1 Start emergency exposure 29
  4.6.2 Detector Information 31
  4.6.3 Image Thumbnail display 31

4.7 Add Tab 32
4.8 Exposure Mode 35
4.9 Default Layout 36
4.10 Image Tools 37
4.11 Screen Options / Tools 38
4.12 Unexpanded layout 39
4.13 Main Screen Tools 40
4.14 Send to PACS Server 41
4.15 Thumbnail Area Tools 42
4.16 Bodypart / Views Selection 43
4.17 Voyance Popup Menu 44

5. Setting 45

5.1 Setting Access 46
  5.1.1 Main Tab(WL Layout) 46
  5.1.2 Screen / info Labels Tab 46
  5.1.3 Miscellaneous Tab 46
  5.1.4 Export / Import 47
  5.1.6 Database 47
  5.1.7 License Tab 48
  5.1.7 Institution Tab 49
  5.1.8 System information Tab 49
5.1.9 Patient Tab 50
5.1.10 Communication / Dicom Local tab 51
5.1.11 Communication / Dicom/Remote node 51
5.1.12 Communication / Dicom/Study uploading 52
5.1.13 Communication / Dicom /Study Completing 52
5.1.14 Communication / Email 53
5.1.15 Communication / Address book 54
5.1.16 Communication / Hardware 54

6. Glossary 55
7. Terms & Explanations 56
8. Appendix 1 57
1. Information

This section gives basic information of this manual and the product.

Cautions
Document Guide
Document Convention
Version Information Revision History
1.1 Cautions

If the user is not fully acquainted with this manual, the system can be malfunctioned or unsuspected problem can be happened due to carelessness. To prevent any medical accidents, the user should fully understand the instructions of this manual before operating the program.

When the user operates this software, take the following precautions. Otherwise, problems may occur or the product may not function correctly.

1. Roentgenography, image processing, reading of image, and data storage must be performed in accordance with the law of each country where the program is being used. Also, the user is responsible for protecting the privacy of image data.

2. In no event will Voyance llc. be liable for direct or indirect consequential damage arising out of the use of this program. Voyance llc. will not be liable for loss of image data due to any reason.

3. Before using this software, be sure to read this manual thoroughly. Also, read the manuals of relevant instruments in the system. Keep this manual where it is easily accessible.

4. Other systems and product names in this manual are the trademarks from their manufacturer.

- The user is responsible for ensuring whether the detector calibration is performed right after the software installation. Do not try to use the software if the detector calibration has not been performed.
1.2 Document Guide

This section describes about the information of this document.

**Contents** This document is the operation manual for **Voyance** users. You can install **Voyance** and acquire / manage images from the detector. It is also available to improve the image quality by using various image management and adjustment tools.

**Target** This manual is intended for the end users who use the **Voyance Software**.

**Contact Department**

For any comments or inquiries regarding this document, contact the customer support team in Voyance.
1.3 Document Convention

This section describes the rules about symbols and notations in this document.

1.3.1 Symbols

Caution and Warning

WARNING: Warnings are directions which, if they are not followed, can cause fatal or serious injuries to a user, engineer, patient or any other person or can lead to a mistreatment.

Information

This symbol is used for indicating the product-related references and complementary information.

1.3.2 Notations

Bold Types

We applied bold font style to the words indicated GUI (Graphic User Interface) of the program or needed to transmit clear meaning to the customers. This helps you to easily distinguish GUI from other technical ones for explaining functions and the emphasis content.
1.4 Patient data security

It is the responsibility of the hospital to ensure that the patients’ legal requirements are met and that the security of the patient records is:

- maintained and tested,
- audited,
- administered locally to cover risks from third party access and
- How the availability of the services is to be maintained in the event of disaster.

1.5 High security: HIPAA & Cyber Security

Within the healthcare industry, several standardization efforts are ongoing as a response to Privacy and Security legislation and regulations. The purpose of this standardization for hospitals and vendors is to enable information sharing, interoperability and to support the workflow of hospitals in a multiple vendor environment.

In order to allow hospitals to comply with HIPAA regulations (Health Insurance Portability and Accountability Act) and meet the IHE standards (Integrated Healthcare Enterprise) security features are included in Voyance:

- User authentication. The administrator can configure different user accounts. Each account consists of a user name and a password. Refer to “Patient data security” in Appendix I the system login is used for user authentication and identification is required.
- Node authentication, using certificates. Working with SSL (Secure Sockets Layer) allows secure communications on an insecure network. SSL is the security layer on top of TCP/IP. Administrator logging. This implies logging to a setting and configurations of specific VOYANCE ‘Areas’, e.g. users privileges, Hardware configuration, Dicom Configurations .....etc.
## 1.6 Revision History

<table>
<thead>
<tr>
<th>Ver.</th>
<th>Date</th>
<th>Revision History</th>
</tr>
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<tr>
<td>1.0.0.1</td>
<td>06-27-2016</td>
<td>Revised newly</td>
</tr>
<tr>
<td>1.0.0.2</td>
<td>08-13-2018</td>
<td>Revised additionally</td>
</tr>
<tr>
<td>1.0.0.3</td>
<td>01-19-2019</td>
<td>(Updated) New features</td>
</tr>
</tbody>
</table>
2. Instruction

This section provides basic concept and recommended specifications of Voyance. Overview Recommended Specifications
2.1 Overview

Voyance is the image Acquisition/Viewer program for Digital Flat panels only that acquiring, adjusting and managing images generated from the detectors. Voyance is organized with several specialized modules. This system provides high quality medical images to users through various advanced functions and quick image processing between the modules.

2.2 Main Features

- Acquire and search images exposed from the DR detector.
- Implement high-quality image by applying Voyance image processing algorithm developed by Voyance.
- Skins for various GUI (Graphic User Interface) suitable for both ordinary and touch screens.
- Store and manage images in the database.
- Adjust images using various processing tools.
- Export images using various media.
- Check the detector condition and change the settings.
- Chase and search the system status.
- Voyance conforms to the standard of DICOM 3.0.
2.3 Minimum System Requirement

- OS: Microsoft Windows 7, 64 bits or Higher
- CPU: Intel core i3
- RAM: 4GB
- HDD: 50 GB free space
- NIC: Ethernet Network Card
- Display: 1280 x 1024 Resolution, 24
3. Installation

This chapter provides information about installing Voyance
3.1 Installation Guide

Follow the instructions for safe and correct installation of Voyance. Failure to comply with the instructions under will result critical errors of its installation or operation.

- You should be fully aware of this manual before / after installing Voyance.
- Do not install Voyance to USB HDD, USB memory or a network drive.
- Be sure to install Voyance to the local drive. (C or D drive)
- Do not install Voyance to the root folder of C drive. It is recommended to install the program to the setup path guided by Voyance.
- Check the free space of storage media before installing Voyance. If the Storage space is limited, the software cannot be operated normally.
- You should secure enough space of the drive for storing the images and Data.
- Log on to Voyance by the Windows account with administrative rights when installing or removing Voyance.
- Set the Windows date and time precisely in advance.
- Check the virus infection of your PC by using virus test software before / after installing Voyance.
  - Voyance complies with the UAC (User Account Control) policy of Microsoft Windows. Therefore, the user should install and log on to Voyance by Windows account with the administrative rights. You can use Voyance with the general user account after the installation.
  - The computer name and the user account name should be set differently to install the database in Windows normally.
- Before you install the Voyance program, make sure to change the computer name if it is same as that of the user account. If not, the program cannot be installed properly.
- Check the computer name as follows.
- Check the user account name as follows.
3.2 Start installation

a) Double-Click on Voyance setup file to start the installation.

Note: The installation wizard will guide you through the installation.

b) Click “Next” to continue the installation, Change the Voyance installation destination if needed.

c) Click “Next” to continue the installation.
f) Click “Next” to continue the installation, check create desktop shortcut option if you want to have Voyance shortcut on the desktop.

d) Confirm the installation destination folders and Click “Next” to continue the installation.

e) Wait for installation to be completed.
i) Click “Finish” to complete the installation

Computer reboot required after finishing installation

h) Double Click on “Voyance “shortcut on the Desktop to lunch the software for the first time.

g) Confirmation on what applications will be used will requested.

Select Human or Vet
- Get a license by using the **Hardware ID** indicated on the License window. This window is not displayed again after the license is registered successfully.

- A new license window can be displayed if you change specifications of the PC where **Voyance** is installed. Contact Voyance Support for providing a software license for activation of the software.
4. Browse Around

This section gives instruction on how to start and close Voyance and its basic components.

Starting Up
Basic Composition
Registration Area
Exposure Mode
Layout
Viewer Area
Tools
Pop up menu
4.1 Starting Up

4.1.1 Running Voyance

Start

- Login

Start the program.
1. Double click **Voyance** icon on desktop to start.

2. Wait until **Voyance** loads completely.

While running **Voyance**, the following points are processed:

- Connecting to database.
- Checking license registration status
- Checking detector connection status
- Checking detector calibration status
- Checking resolution.
- Initializing UI (User Interface)
1. Use the provided user name and password to login then click login.

4.2 Registering License

- Get a license by using the **Hardware ID** indicated on the License window. This window is not displayed again after the license is registered successfully.

- A new license window can be displayed if you change specifications of the PC where **Voyance** is installed.
- Contact the Voyance Support for the license issue and input.
4.3 Log on to (Emergency Room) Mode

Click on the EMERGENCY button to log on to the EMERGENCY mode.

- This mode can be used for the emergency circumstances such as emergency exposure without entering ID and Password.
4.4 Registration Area

The Registration Area provides functions for registering and managing the patient information.

1 Searched list area

You can check the searched result on the list after searching patient information.

2 Tool button area

The bottom area show active device information plus some more menu including setting through Voyance pop-up menu.
3 Search tool area

You can use the search tools for searching the patient information.

4 Patient Information Area divided into three Tabs (Worklist, Add and Completed) according to the registration method of patient information. You can choose the desired tab and register patient information.
4.5 How to Register Patient Information

This section provides information about registering the patient information.

Retrieve Patient information through the Worklist in the Worklist Tab and Input patient information through Add Tab.

4.5.1 Worklist Tab

You can retrieve the scheduled patient information in the Worklist tab using DICOM Worklist configuration.

1. Input or choose the search conditions to start searching for patients.
2. Check the searched Worklist and choose the desired item.
3. Double click on the requested patient to start study.

- Ask DICOM compatibility guide (DICOM Conformance Statement) to the DICOM server company for checking the operation of the SCP server and for its correct connection.
4.5.2 Tools

**Worklist search tools** you can get the patient information list by using the search tools in **Worklist tab**.

![Worklist search tool](image)

4.5.3 Tool buttons of Worklist

![Search](image)

**Search**

Patient information search area

![Start Date and End Date](image)

**Start Date** and **End Date**

Date Search period

![Reset All](image)

**Reset All**

Reset all to reset all search

**D** search for one day

**M** search for one month

**Y** search for one year
**Worklist Item** Search field for scheduled patient’s studies, Search Studies by dates, Reset All and Also Search for a period of time by Press the period selection buttons (Today, Week, Month).

### 4.6 Voyance common Tools bar / Pops-up Setting Menu

![Tools bar and Setting Menu](image)

#### 4.6.1 Start emergency exposure

Click on the Emergency button to start the emergency exposure irrespective of the Scheduled item.
The screen is switched to the Exposure mode automatically.

The ID and name of the emergency patient is input automatically based on the present date and time. The ID form is Emergency Number.

- You can update the patient information after completing the exposure.

Click on the Main button to access the Registration Tabs any time during using the Voyance software.

Click on the Voyance button to access the pops-up menu any time during using the Voyance software.
4.6.2 Detector information

- Wi-Fi Strength
- Temperature
- Battery level
- Virtual Keyboard

4.6.3 Images

Thumbnail display

It shows thumbnails for images included in the selected study.

Display deleted images
Thumbnails when Deleted box checked
4.7 Add Tab

You can manually input the patient information from the add tab.

- The patient information can be stored to the local database.
- You can make an exposure after inputting the patient information.
- You can start an emergency exposure without inputting the patient information.
- You can start exposure mode once you input the required information.

* Required fields
- Input the required patient information
- Select the body part on the showing Skelton
- Add the requested views
Click Reset All to reset all patient information fields.

Click Save to the save patient information to the local database. Click Start to start study in exposure mode.
4.8 Exposure Mode

The displaying layout of Exposure mode is changed automatically depending on the screen choice (Fold / unfold).

1 Exposure Area (Acquired Image Area)
2 Screen Options / Tools
3 Image Tools
4 Status Bar
5 Body Parts
6 Active Sensors
7 Views Thumbnails
8 Study Tools
4.9 Default Layout (Unexpanded)

Image Processing Tab

- Soft Preset Image Processing Algorithm Showing soft tissues.
- Hard Preset Image Processing Algorithm showing more bone details and less Soft tissues.
- Sharpness / Contrast and Brightness Manual Adjustment for the Acquired images.
- Invert: if checked the image will be inverted.
4.10 Image Tools:

- Full Screen View
- Select
- Image Advanced Tools
- 90 Degree Clock wise rotation
- 90 Degree counter clock wise rotation
- fit to Screen
- Image Mirror
- Image Horizontal Flip
- Window / Level Control
- Cropping
- Angel Measurement
- Distance Measurement
- Right Annotation
- Left Annotation
- Free Text Annotation
- Hide Annotation
- Reset Image
- Delete
Screen Options /Tools:

- Collapse Window
- Import Images from files *
- Past Copied Images
- Multi-Selection Mode
- Write PDF Report
- Compare 2 Studies
- Lock Window

*Imported file formats could be all image file formats (Bmp, Tiff, Jpeg,.........etc.) or Dicom format
4.12 Unexpanded Layout

- The minimum display resolution is 600 x 800 however we recommend 1280x800 or higher.
- The Exam area is switched to the expanded area when you make an exposure after setting the study.
- After making the exposure you can go back to unexpanded screen by clicking or touching collapse window arrows.
- You can keep the current view by selecting the lock icon.
4.13 Main Screen Tools

Send to the PACS server

Email Selected Images *

Export selected images to files

Burn Cd /DVD

Create a PDF report

Print Selected Images

Run a pre customized process

Edit patient information

Open completed study in the exposure mode

Close / Complete Study

*emailed studies will be sent with anonymous information
4.14 Send to the PACS server

For Manual send to the PACS

- Click To Server Icon
- Make sure to select the requested PACS destination
- Select all images or selected images
- Click ok

信息安全

PACS Destination must be previously configured through setting
4.15 Thumbnail Area Tools

- Multi images select when using touch Screen
- Group selected images
- Moving Image View Selection up/down
- Show Deleted Images when checked
4.16 Body part / Views Selection

Failing on selecting the active Sensor might lead to failure in the image acquisition.
4.17 Voyance Pop up Menu

Access Help page
Access Interactive Help website
Request Remote Support
Studies Statistics
Check for Software update
About the Software version
Logout the Current User
Exit the Software
Restart the Workstation
Shutdown the Workstation
Access the Setting page
5. Setting

This chapter provides information on how to configure the different features in Voyance.
5.1 Setting Access

Select setting tab form pop up menu to access the system setting

Only Admin users can access this menu

5.1.1 Main tab (Worklist layout): used to customize the main worklist layout in the software

Export / import is used to export or import setting

5.1.2 Screen /info labels tab: use to customize What information to show in the different 4 corners of the image Screen. Labels font size and information order Could be customized as well.

5.1.3 Miscellaneous tab: used to control - Image thumbnail size - Image thumbnail resolution - Image post processing preview size - Image delay - Max. image zoom - Setup the software measurement unit - Window/level sensitivity
5.1.4 Export / Import:
- use the export icon to Export Setting of the software
- use the import icon to import Setting form a setting file

5.1.5 Database:
- Use Database tab to change the Storage images location.
- Connect with a new database

Make sure to click ok to save new setting.
Rest all will discard all changes set back software default setting.

5.1.6 License Tab: provide information on The Hardware ID as well as changing the Software license.

Changing the software license might lead to failure lunching Voyance
5.1.7 **Institution Tab:** used to add institution name as well as the physician names

5.1.8 **System information Tab:** used to provide the workstation information as well as the voyance software version
5.1.9 **Patient Tab**: used to add patient body part and different views

Image processing of the desired body part / view will be assigned automatically.
5.1.10 Communication / Dicom / Local Tab:
used to configure the local AE Title and Port number
of the Acquisition workstation

![Local Tab](image)

5.1.11 Communication / Dicom /
Remote node Tab: used to add the
different Dicom destination nodes

![Remote Tab](image)

AE Title, IP address and
Port number of the
Dicom node are required
To be added

Multiple Dicom Node destination could be added
5.1.12 Communication / Dicom / Study

Uploading Tab: used to configure the Auto send to the Dicom Destination And image overlay information for suspended studies

5.1.13 Communication / Dicom / Study

Completing Tab: used to configure the Auto send to the Dicom Destination And image overlay information for Completed studies
5.1.14 Communication / Dicom Email

**Tab:** used to configure sending through emails.

!”

Emailed studies will be sent with anonymous information
5.1.15 Communication / Dicom

Address Book Tab: used to setup your email sending list

5.1.16 Communication / Hardware Tab:
used to add a new image acquisition sensors

Use the Hardware manual for hardware configuration

Failing on setting up the hardware sensor may lead to system malfunctioned
## 6. Glossary

<table>
<thead>
<tr>
<th>Term</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>AEC</td>
<td>Automatic Exposure Control</td>
</tr>
<tr>
<td>CR</td>
<td>Computed Radiography, using a phosphor plate to capture the X-Ray image and a digitizer to read it and send it to the workstation.</td>
</tr>
<tr>
<td>Collimation</td>
<td>Collimation is performed during exposure using the tube collimator, to expose only part of the full exposure field. The collimation area is used by the software to apply black borders. DR images are automatically cropped at the collimation borders.</td>
</tr>
<tr>
<td>Cropping</td>
<td>Selecting a rectangular area on an image and displaying only the contents of this area.</td>
</tr>
<tr>
<td>Dicom Destination</td>
<td>A destination is a device to which the studies are routed after they have been digitized.</td>
</tr>
<tr>
<td>DICOM</td>
<td>Digital Imaging and Communication in Medicine.</td>
</tr>
<tr>
<td>DR</td>
<td>Direct Radiography, using a digital image sensor to capture the X-Ray image and send it directly to the workstation.</td>
</tr>
<tr>
<td>EI</td>
<td>Exposure Index: measure of the detector response (on a linear scale) in a relevant image region of an image.</td>
</tr>
</tbody>
</table>
## 7. Terms & Explanations

<table>
<thead>
<tr>
<th>Term</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exposure type</td>
<td>An Exposure type is a set of parameters (concerning image processing, exposure options such as view position and cassette orientation, and collimation) which are by default used for a defined type of exposure. A number of Exposure types make up an Exam group.</td>
</tr>
<tr>
<td>HIPAA</td>
<td>Acronym for the Health Insurance Portability and Accountability Act of 1996. It is a set of rules to be followed by health plans, doctors, hospitals and other health care providers. It took effect on April 14, 2003.</td>
</tr>
<tr>
<td>License</td>
<td>A digital permit containing descriptions of rights that can be applied to one or more pieces of content.</td>
</tr>
<tr>
<td>Local database</td>
<td>Database stored on the hard disk of a workstation.</td>
</tr>
<tr>
<td>Marker</td>
<td>A marker behaves differently as compared to an annotation. It is always burnt onto the image when it is sent out by DICOM, even when GSPS is used.</td>
</tr>
<tr>
<td>Protocol code</td>
<td>A code that completely defines and identifies a specific exposure type. Protocol codes are imported from the RIS, and can be linked to exposure groups, exposures and exams that are displayed in the user interface. This way, an incoming protocol code can be “resolved” and the operator receives immediate feedback on the examination he needs to perform.</td>
</tr>
<tr>
<td>RIS</td>
<td>Radiology Information System.</td>
</tr>
</tbody>
</table>
APPENDIX 1
Patient data security

- It is the responsibility of the hospital to ensure that the patients’ legal requirements are met and that the security of the patient records is:
  - maintained and tested,
  - audited,
  - Administered locally to cover risks from third party access and how the availability of the services is to be maintained in the event of disaster.

- Voyance software provided with different ways of access and privileges control in the software.
  - User authentication. The administrator can configure different user accounts. Each account consists of a user name and a password to access the system, login is used for user authentication and identification is required.
  - Node authentication, using certificates. Working with SSL (Secure Sockets Layer) allows secure communications on an insecure network. SSL is the security layer on top of TCP/IP.
  - Administrator logging. This implies logging to a setting and configurations of specific VOYANCE ‘Areas’, e.g. users privileges, Hardware configuration, Dicom Configurations …..etc.
  - Software will log off automatically to the log in page if not used for few minutes (configured through the setting).
  - It is recommended to you use recommended Antivirus / Malware software using the workstation in a network environment (please contact voyance support for a list of recommended antivirus software)
Compliance

Voyance has been designed in accordance with the MEDDEV Guidelines relating to the application of Medical Devices and has been tested as part of the conformity assessment procedures required by 93/42/EEC MDD (European Council Directive 93/42/EEC on Medical Devices).

Voyance has been designed in accordance with the IEC 60601-1, The workstation console is comply with the following safety standards:

- CAN/CSA 22.2 No. 950-95, Third Edition (cUL).

Voyance fully complies with the CE Directive 89/336/EEC and with the federal code of the United States, bearing on:

- Emission and immunity according to EN 60601-1-2, for emissions the equipment complies with EN 55011 class A (CISPR 11). This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.
- Emissions according to 47 CFR part 15 subpart B, Class A. This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.