

NICAL SMART Micro VET

CR system for intraoral dental images



Instruction for Use



Releases history

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1 INTRODUCTION

Dear Customer

Thank you for choosing **Nical**; we feel confident that the performances of this device can meet your requirements and can be fully satisfactory.

The present guide contains a detailed description of all operating instructions and procedures for a correct use of the system, as well as all specifications related to digital image treatment.

We are in any case at your complete disposal for any additional information you may require, as well as for any suggestion aimed at an improvement in the device performance or in the service landed.

1.1 Purpose of the document

The present manual is aimed at supplying the following instructions:

- General knowledge of the system.
- Correct installation.
- Safe, correct and efficient use of the equipment.
- General technical data.
- Maintenance procedures.
- Analysis of possible problems and their solution.

1.2 Symbols used

NOTE



Pay close attention when reading the topics identified by such symbol.

WARNING



Possible danger to overall equipment. Act in accordance with the procedures indicated in the guide, in order to prevent possible damage to materials, equipment and/or properties.

DANGER



**Possible danger to people.
Act in accordance with the procedures indicated in the manual, in order to prevent possible damage to patient and/or operator.**



The device components must be disposed of in compliance with the directive 2012/19/EU

1.3 Applicable EEC regulations

The system described in this manual was designed and manufactured in compliance with the highest safety standards and is not dangerous to the operator when utilized according to the instructions herein described.

1.4 Intended use

Nical Smart Micro VET (NSMVET) is a part of Series **NICAL NPR Systems** and it is exclusively aimed at the acquisition, storage and treatment of intra-oral digital images. The phosphor plates are exposed to X-ray, so the device must be used solely by qualified personnel with the necessary competence in matter of X-ray protection. During the X-ray exposure all safety exposure factors must be observed, and appropriate cautions must be taken during X-ray emission, in order to avoid possible damages to patient and/or operator.

WARNING



The equipment must be used solely by qualified personnel. Unauthorized or untrained people are strictly forbidden to use or handle the system.
The device must not be used for purposes different from the ones indicated in the present manual.

NOTE



All information contained in the present manual is subject to variation without prior notice.
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NOTE



The original version of the present manual has been written in Italian.

2 SAFETY ASPECTS

The device must always be used in accordance with the procedures explained in the present manual and shall never be used for purposes other than those it was designed for.



WARNING

The user is responsible for the fulfillment of the legal requirements regulating the handling of the equipment. In case of incorrect use and/or maintenance, the manufacturer will not take any responsibility for possible breaking, malfunctioning, damage or injury to equipment and/or people.



WARNING

Do not modify this equipment without authorization of the manufacturer

2.1 General warnings

In order to prevent unsafe situations, with possible consequent damage or injury to the equipment or people, the following cautions must be taken:

- Read carefully the procedures described in the present manual.
- To avoid risk of electric shock, this equipment must be connected to an EN 60601-1 approved power supply which must be connected to ground.
- Make preliminary tests on phosphor plate using the device on image phantom before acquiring images on patients (this procedure is mandatory in case of bad quality image or no image after reading).
- Apply the regulations in matter of X-ray protection, as described in par.2.2.
- Do not use the device at a distance less than 3 m from devices offering no protection from electromagnetic fields.
- Do not use flammable liquids near the device.
- Do not pour any kind of liquids onto the device.
- Do not use the device in presence of gas, explosive or inflammable vapours.
- Do not use the system when working with electronic cutters or similar devices nearby.
- Always check, before powering the system on, that all cables are in perfect condition.
- Use and keep the device in places protected by dust and humidity:
 - Humidity within a range from 30% to 75%.
 - For the reader: temperature within a range from 10°C and 40°C.
 - For the phosphor plates: temperature in the range: +15°C and +34°C.
- Any technical intervention on the system must be performed only by qualified personnel authorized by the manufacturer.
- Use only original accessories supplied by the manufacturer: including phosphor plates and power supply.
- Do not connect components incompatible with the system.

WARNING



The manufacturer will not take any responsibility in case of non - fulfillment of the above indicated procedures.

2.2 X-ray cautions

The phosphor plate used NICAL SMART MICRO VET system is used jointly with an intra-oral X-ray system. The operator during exposure must take all the appropriate x-ray precautions and protections to prevent damage to himself and the patient.

DANGER



Protection from x-rays is subjected to government regulation. Only authorized operators having deep specific knowledge of regulations and standards are allowed to use the device. Non-fulfillment of the procedures indicated below may cause damage to the operator's health.

- During the exposure, make sure no one except the patient is present in the X-ray area. The operator must work at a distance of at least 3 m from the x-ray source.
- Use, whenever possible, lead aprons and thyroid guards to protect the patient
- The phosphor plate, with or without support, must be held in the correct position by the patient or by proper support devices.
- The frame plate is only to be used to see the picture and the DICOM is only used to archive the picture not to make diagnosis or change the x-ray dose or focus.

2.3 Electrical safety

WARNING



Only personnel authorized by Nical is allowed to repair the electrical device. The incorrect reassembly of the devices may cause risk of electrical shock or loss of performance of the device.

Nical Smart Micro VET has been designed in compliance with all regulations regarding electrical safety.

While using the system always follow the security precautions here below:

- To reduce risk of electric shock:
 - Do not put containers with liquids near the system.
 - Do not force or open the PC or the equipment connected to it.

- Use only the provided original cables and accessories supplied with the system.
- The use of accessories not supplied by Nical may cause fires, electrical shocks, or accidents. It may also void the warranty.
- Verify that the values shown on the voltage label are the same at the installation site.
- Verify that all the cables are connected correctly. Never pull a connector out while device is being used. Avoid any excessive voltage on the cable.
- Before making the connection to the system verify that the power cable is connected and grounded according to your electrical safety codes.
- Never disconnect cables while the system is working.
- Place the system (and its components) in a way to grant an ergonomic use. If necessary, to optimize the ergonomics, consult Nical qualified personnel.
- The device must be powered with a power supply with following features
 - 1 – Conformity to IEC/EN 60601-1 third edition
 - 2 – Power: minimum 24 W
 - 3 – Output Voltage: 24V DC
 - 4 -- Output current :1 A



WARNING

The Nical Smart Micro VET is supplied by Nical with the parts designed and developed by the manufacturer itself. The support devices to the system, such as PC, developer or others, are at customer's choice, who must check that those devices follow the EN60601-1 standard.

In order to guarantee complete electrical safety, connection of all the system devices through a power strip connected to an isolated transformer is recommended; furthermore, the power strip should not be used to feed any other device different from the **Nical Smart Micro VET**.

2.4 EMC compatibility

The **Nical Smart Micro VET** was designed and realized in accordance with the regulation of EN 60601-1-2 standard:

“Electro-medical devices – Part 1: General safety standards – 2 Collateral standards: Electromagnetic compatibility- Regulations and tests”

and is in compliance with it.

Nevertheless, it is not guaranteed that in any particular installation interference may not arise.

The **Nical Smart Micro VET** needs particular precautions as electromagnetic compatibility is concerned and has to be installed and used according to the information given in the technical manual.

WARNING



The Nical Smart Micro VET can be used in an electromagnetic environment as specified below; it is the user's responsibility to observe the specifications.

**Electromagnetic emissions.
Manufacturer's guide and declaration.**

Emission test	Limits	Guide to the electromagnetic environment
Irradiated emission /Conducted CISPR11	Group 1	The system uses RF energy only for its inner function. So, its RF emissions are very low and do not cause any interference near any electrical device.
Irradiated emission /Conducted EN55011 - CISPR11	Class [B]	The system is suitable to be used in every environment, including the domestic ones and the ones directly connected to the public distribution net which gives power supply to environment used for domestic purposes.
Harmonic IEC/EN 61000-3-2	Class [A]	Not applicable
Voltage fluctuation / flicker IEC/EN 61000-3-3	[Fulfill]	Not applicable
Electrostatic discharge (ESD) IEC/EN61000-4-2	±6kV contact ±8kV in air	Pass
Radiated RF electromagnetic Fields IEC/EN 61000-4-3	80 MHz÷2500MHz	Pass
Fast transient/burst IEC/EN61000-4-4	±2kV supply	The power supply should be the one of a commercial or hospital environment.
Surge IEC/EN61000-4-5	±2kV common mode ±1kV differential mode	Not applicable
Conducted immunity IEC/EN61000-4-6	3Vrms 150kHz at 80MHz (for not life-supporting device)	Pass

To make the device work properly and provide the required performances it is necessary to pay maximum attention to the instructions below

- Portable and mobile radio communications equipment (such as mobile phones, cordless units, walkie-talkie, etc.) may influence the functioning of the device. Do not use these units near the system.
- Electrical equipment (such as: TV, loudspeakers, microwaves ovens, etc.) may be source of noise.
- To avoid these risks, it is strongly recommended to use the device at an adequate distance from the other equipment. In the event the system has to be used near other electrical units, verify that no anomalous operations occur.

- Avoid the contact with metallic parts of the USB/RJ-45 connectors with any part of the body.
- Before making any USB/Ethernet connection, perform the ESD precautionary procedures:
 - If needed, discharge the static electricity stored by grounding.
 - Always connect or disconnect the system when device is off.
- Use only the cables supplied by the manufacturer. The use of different cables may cause the increase of emissions or a decrease of immunity.

2.5 Infection risks

As provided by the regulations in force, operators and patients must be protected from infections coming from contact with blood (HIV, hepatitis, etc.).

Maintenance and cleaning instructions described in the present manual must be strictly followed, in order to reduce the aforementioned infection risks. Besides, all the standards of personnel safety, indicated by the officer responsible for the Emergency Medical Service, must be followed. In detail, always protect sensors with dedicated disposable hygienic bags (i.e. Nical* model) before inserting it into the patient mouth.

The hygienic bag is a disposable part and is to be changed from patient to patient. At the end of the exam, throw out the cap that must never be used again.

2.6 Laser Risk

The **NICAL SMART MICRO VET** uses a 30mW laser diode to scan the phosphor image plate exposed to an x-ray.

LASER (Light Amplification by Stimulated Emission of Radiation) is included in the source of non-ionized radiation.

The electromagnetic radiation emitted is coherent, aimed, and very intense.

The directive CEI-EN 60825-1 defines the laser as “any device that produces or amplifies electromagnetic radiation in a coherent manner which includes wavelengths from 180nm to 1mm by means of a stimulated emission”. In reference to this directive, the **NICAL SMART MICRO VET** is part of Laser class 3B.

A laser in class 3B can be potentially dangerous if an unprotected eye is hit by the ray reflected by mirrors, watches, rings, etc.

The warning label below is affixed to the **NICAL SMART MICRO VET** to indicate a laser in class 3B is mounted internally and caution is advised (Fig. 2.7.1.):

CAUTION – CLASS 3B LASER RADIATION WHEN OPEN
- AVOID EXPOSURE TO BEAM

ATTENZIONE – RADIAZIONE LASER DI CLASSE 3B QUANDO APERTO
- EVITARE L'ESPOSIZIONE AL RAGGIO

Fig.2.7.1

2.7 Environmental risks and disposal

Some of **Nical Smart Micro VET** components contain materials that, at the end of the equipment lifecycle, must be disposed of at the recycling centers appointed by the Local Health Units.

In particular, the system contains the following materials and/or components:

- Phosphor plate:

Plastics, phosphor coating.

- NICAL Smart Micro reader:

Plastics, iron, and copper.

WARNING



INFORMATION TO USERS SUBJECT TO EEC REGULATIONS: in compliance with Directives 2012/19/EU (WEEE) and 2011/65/EU (Rohs) about the reduction in use of dangerous materials in electric and electronic devices, as well as about waste material disposal”



The symbol of a crossed waste box printed on a device or on its package indicates that the product, at the end of its life-cycle, must be separately disposed of.

The differentiate collection of the system is being organized and managed by the manufacturer himself. Therefore, the user who intends to get rid of such device must get in touch with the manufacturer and follow the procedure adopted by the same.

A proper differentiate collection and the subsequent destination to recycling, treatment or disposal, prevents any possible environmental impact and promotes at the same time the re-employment and/or recycling of the materials the device is made of.

An abusive disposal of such materials by the user will cause the pursuance of the administrative sanctions provided for by law.

3 **SYSTEM COMPOSITION**

Base system components are:

- NICAL SMART MICRO VET reader.
- Power Supply.
- USB license key.
- CD Installation SW.
- Starter kit with phosphor plates.

After the opening of the box perform following checks:

- The system matches with purchase specification.
- All parts are present and do not present any damage.

WARNING



Do not use the device in case of damaged or missing parts. Danger of cross contamination or loss of performance

3.1 Description of contents

Nical Smart Micro VET is delivered in a case and depending on its configuration the following maybe included:

- CD Case:
 - System introduction with rapid guide for installation.
 - CD with software program for installation of the **NICAL SMART MICRO VET**.
 - SW manual for the installation of the NICAL IMAGE PLUS system.
- License with mini-USB dongle.
- **NICAL SMART MICRO VET reader**
- Power supply for the **Nical Smart Micro VET**.
- Starter kit including phosphor plates.

3.2 Environmental conditions

The system must be kept in a closed, dry and clean place.

For a proper functioning of the system, the following environmental conditions must be ensured:

Temperature of the scan reader:	from +10° C to +40° C
Temperature of the PSP:	from +15° C to +34° C
Humidity:	from 30% to 75%
Maximum Altitude:	2000 m above sea level.

The system can be moved or stocked within a range of environmental limits as indicated below:

Temperature:	from -20° C to +60° C
Humidity	<= 95% no condensate
Atmospheric Pressure:	from 50 to 106 kPa

4 LABELLING

The **Nical Smart Micro VET** has 1 identification label:

- **NICAL SMART MICRO VET** identification label present on the rear side (see Fig. 4-1)

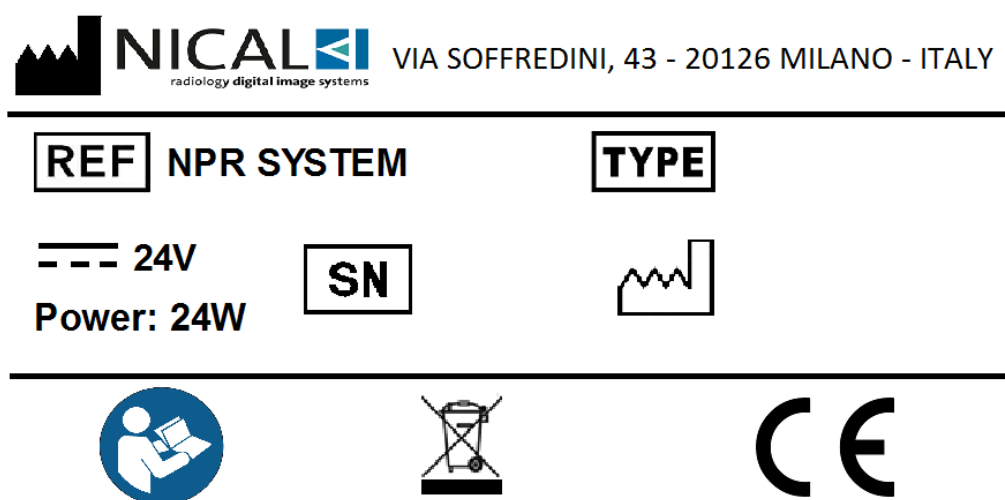
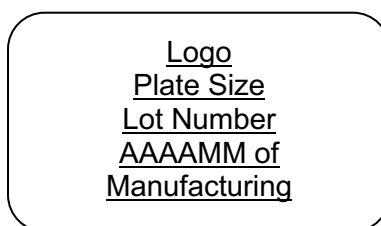


Fig. 4-1

Phosphor plates are labelled as described below



5 INTRODUCTION TO THE SYSTEM

Nical Smart Micro VET is **Nical** latest device used in the acquisition and processing of digital intra-oral images.

It is the newest generation, based on a Windows platform, which present great modularity.

In case the customer uses its own PC, it is necessary to check that its technical features meet or surpass the ones described in the present chapter (see paragraph 5.1.1) to allow the system correct functioning.

Nical Smart Micro VET is designed to offer a large range of options and meet different requirements.

Nical Smart Micro VET is the best system for professionals who demand maximum quality in X- ray digital imaging.

5.1 General features

Nical Smart Micro VET is a digital image acquisition and processing device that can read different phosphor intra-oral plates.

The system can read 6 different sizes of image plates, manufactured with deposition technique;

- size 0 – 726x1024 pixel
- size 1 – 792x1321 pixel
- size 2 – 1024x1352 pixel
- size 3 – 891x1783 pixel
- size 4 – 1650X1980 pixel
- size 5 – 1882X2510 pixel

Alternately, plates manufactured through molecular growth technique can be supplied for each size

5.1.1 System PC features

PC on which **Nical Smart Micro VET** software will be installed and all the relating peripheral devices must match the accessory equipment requisites.

For a correct system functioning, the PC specifications indicated below are required:

Operating system	Windows® (Vista/7/8/10 32-64 bits)
USB port	USB 1.1 o 2.0 or succeeding version
LAN port	Standard
CPU	32/64 bit dual core
RAM	>2 Gbyte
Hard disk	>500 Gb
Display	Starting from 17", 1280 x 1024
Video Display Adapter	1 Gbyte RAM
Keyboard e mouse	standard

5.2 Technical features

Technical Data	
Model	Nical Smart Micro VET
Dimension and weight Central Unit (Rack)	
Weight	4,1 Kg
Height	112 mm
Depth	247 mm
Width	155 mm
Technical characteristics	
Pixel Size	30µm
Spot Size	30 µm
A/D Conversion	16bit input
Electrical characteristics	
Power supply	24 V $\pm 10\%$
Current absorbed	1A
Power absorbed	24 W

Features	Data
Software features	
Operating system	Windows®
Application	Nical Image Plus
Functions available	<ul style="list-style-type: none"> - Single image and/or multi image visualization. - Images magnification with dynamic zoom and scroll. - Image reverse and rotation. - Brightness and contrast adjustment. - Filters applicable type: median, logarithmic, noise reduction, dynamic and spatial. - LUT (look up table) and Gamma (grey scale compression) modification. - Grey scale inversion (positive/negative). - Special filters application: harmonizer to optimize the visualization to all density present on image. - Histograms and density profile visualization. - Anatomic reference insertion based on international numbers. - Linear and angular measurement with dedicated calibration.

	<ul style="list-style-type: none"> - Image print with or without overlays. - Database.
--	--

Features	Units	Data
Phosphor plate		
Model		Nical* plate
Dimensions	Size 0	22 x 31 mm
Dimensions	Size 1	24 x 40 mm
Dimensions	Size 2	31 x 41 mm
Dimensions	Size 3	27 x 54 mm
Dimensions	Size 4	50 x 60 mm
Dimensions	Size 5	57 x 76 mm
Phosphor composition		BaSrFBr:Eu
Luminescence		400nm
Readout		Within 1 h after exposure
Storage temperature		<34°C (93°F)
Operating temperature		15÷34°C (59÷93°F)

6 PRELIMINARY

6.1 Initial check

Remove the system from original package.

To check that the system configuration supplied corresponds to the one specified in your order please refer to as indicated on Chapter 3.

6.2 Nical Smart Micro VET installation on PC

WARNING



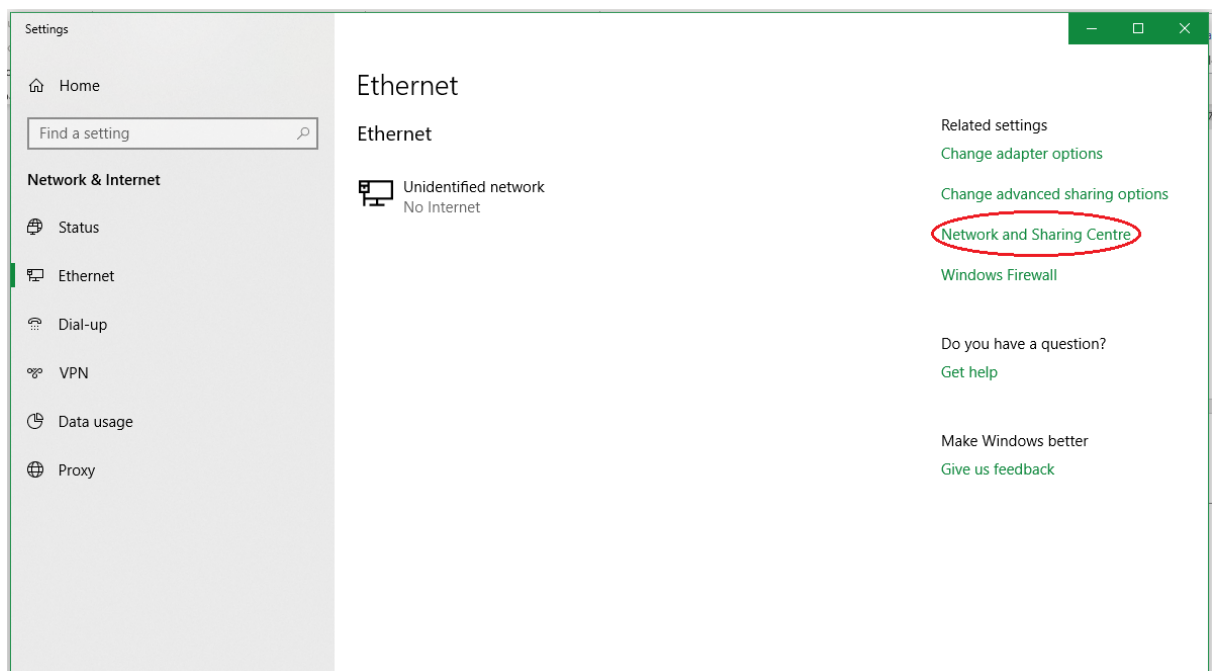
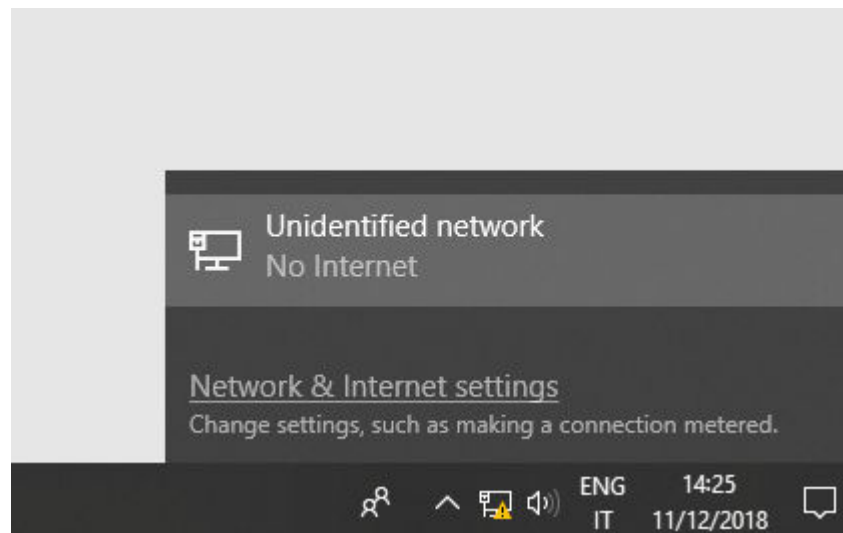
Before installing the system, check that the PC features match with those described in paragraph 5.1.1.
If not, the system might not work or perform incorrect operations, different from the ones described in this manual.
Nical will not be held responsible for malfunctioning due to such reasons.

To install the SW application, please carefully follow the instructions described in the SW manual **NICAL IMAGE PLUS®**.

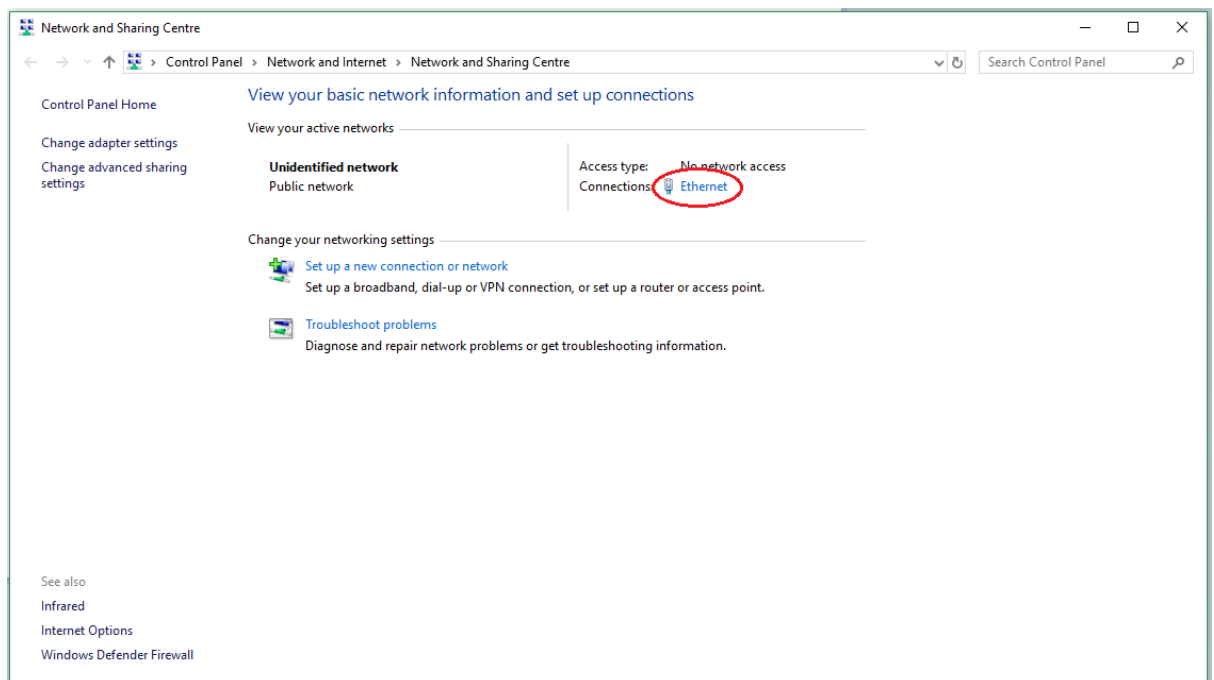
6.2.1 Ethernet connection

In order to allow connection between the **Nical Smart Micro VET** and the acquisition software through ethernet interface, some preliminary steps have to be taken:

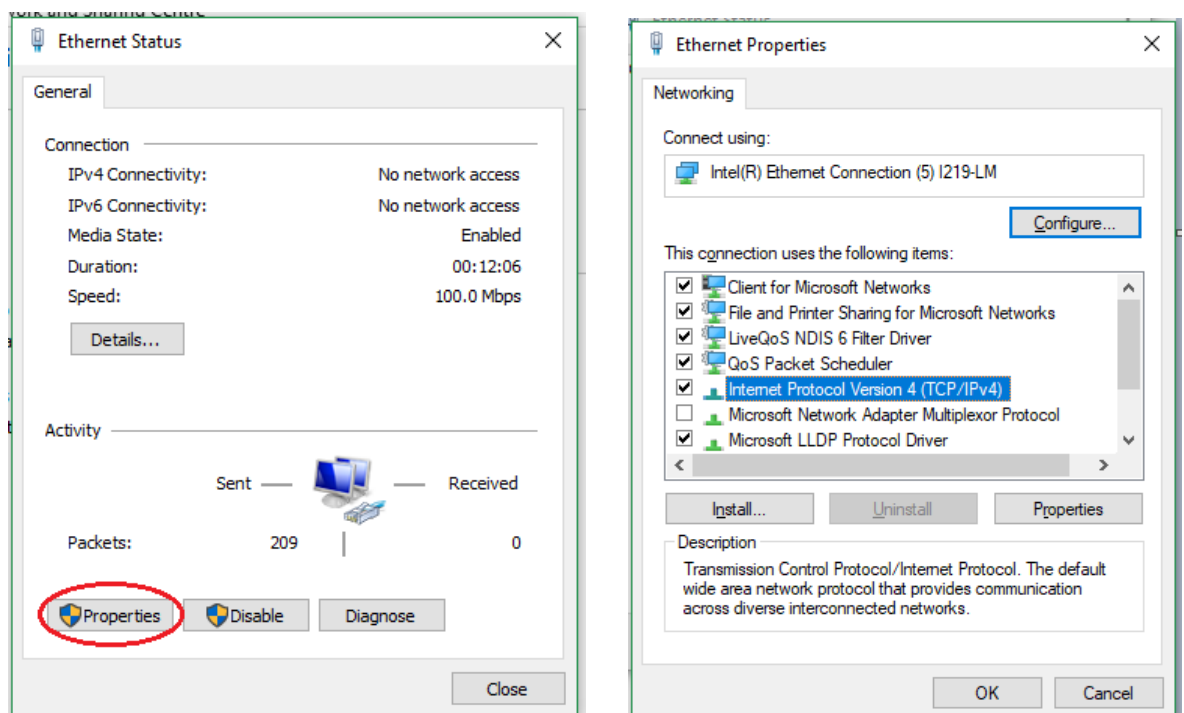
- a) Click on the Ethernet connection ("Unidentified network"); ethernet settings will open. Click on "Network and Sharing Centre" as shown in the figure below.



b) Click on “Ethernet” (as shown in the figure) to open the “Ethernet status” window.



c) Open Ethernet properties window and double click on “Internet Protocol Version 4 (TCP/IPv4)”.



- d) Select the “Use the following IP address” option and enter the value reported in the figure below; eventually, press “OK” button.

Internet Protocol Version 4 (TCP/IPv4) Properties

General

You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.

☐ Obtain an IP address automatically

☒ Use the following IP address:

IP address: 192 . 168 . 0 . 1

Subnet mask: 255 . 255 . 0 . 0

Default gateway: 192 . 168 . 0 . 2

☐ Obtain DNS server address automatically

☒ Use the following DNS server addresses:

Preferred DNS server: . . .

Alternative DNS server: . . .

☐ Validate settings upon exit

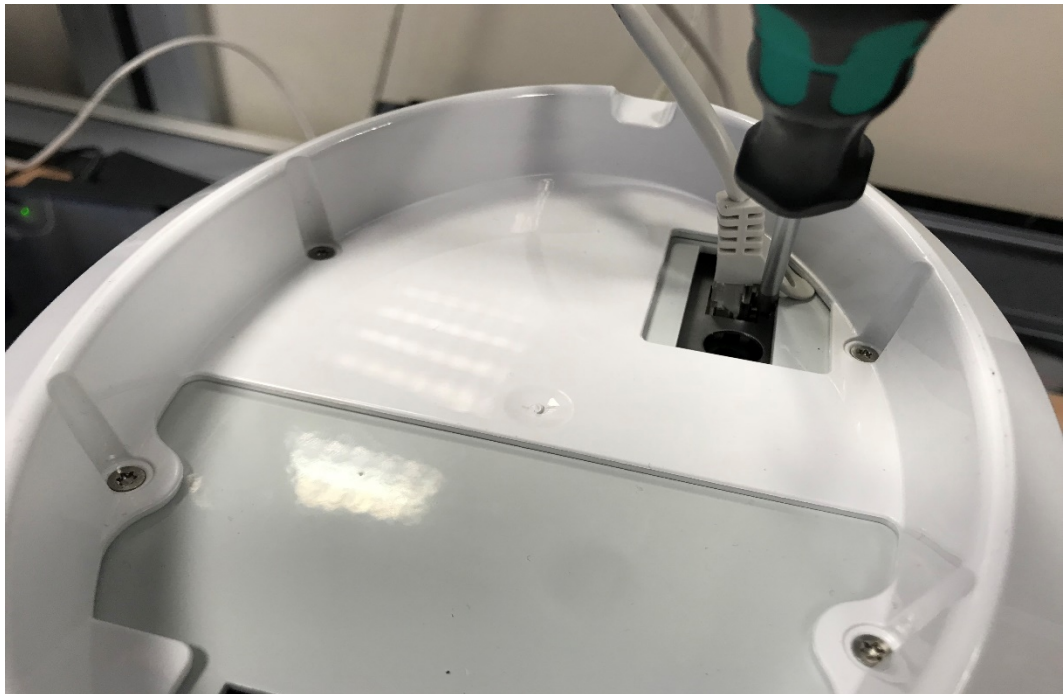
Advanced...

OK Cancel

WARNING



N.B In order to avoid unwanted unplugging of the Ethernet cable, the connector has been put deep inside; therefore, it is not possible to unplug the cable by pressing the flap manually. So, using a screwdriver in vertical position to press the flap is suggested (as in the figure below), **AFTER** unplugging power supply cable.



6.3 *Preparing the Phosphor Plate*

Warning



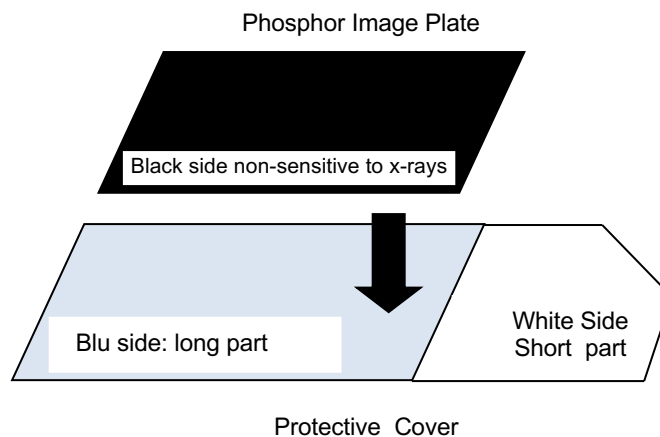
Before inserting the phosphor plate into the cover inspect the plate for any scratches or visual defects. The plate must also be correctly cancelled and freed of previous images.

WARNING

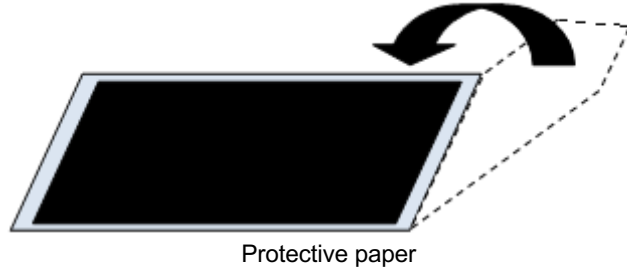


Use always protective covers of the same size of Phosphor Plate. If different size is used the Plate can remain stuck into the equipment.
If the Plate is stuck into the System, refer to §9 for the resolution of the problem.

Place the image plate on the long portion of the protective cover. The blue side of the plate must be placed on the blue part of the plate cover as shown below in the diagram



When in place, fold the short end over the phosphor plate as shown below.



CROSS CONTAMINATION RISK



Place the phosphor inside the protective paper and place them all into the hygienic bag, as showed in the picture.
The Hygienic bag is a disposable device and must be changed from patient to patient.

WARNING !



It is not necessary to disinfect the hygienic cover before use.

Make sure the backside of the hygienic cover displays “TUBE SIDE”, shown, too, on the black side of the protective plate cover. It should appear through the transparent hygienic cover.

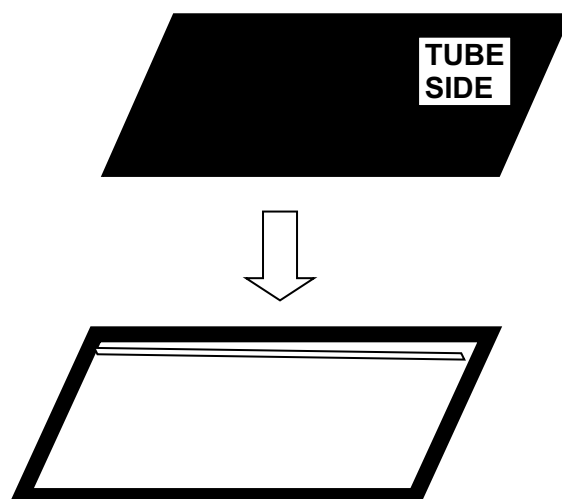
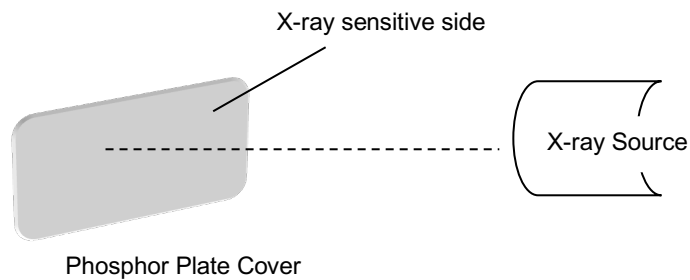


Image Plate inserted correctly into the Hygienic Bag

Peel off the sealing tape and close the hygienic cover. It is now airtight and ready for use.

6.4 *Phosphor Plate Exposure*

Place the image plate into the patients mouth in the desired position to obtain the required image. REMEMBER: the back side of the hygienic cover with the sealed flap must be the furthest away from the x-ray source.

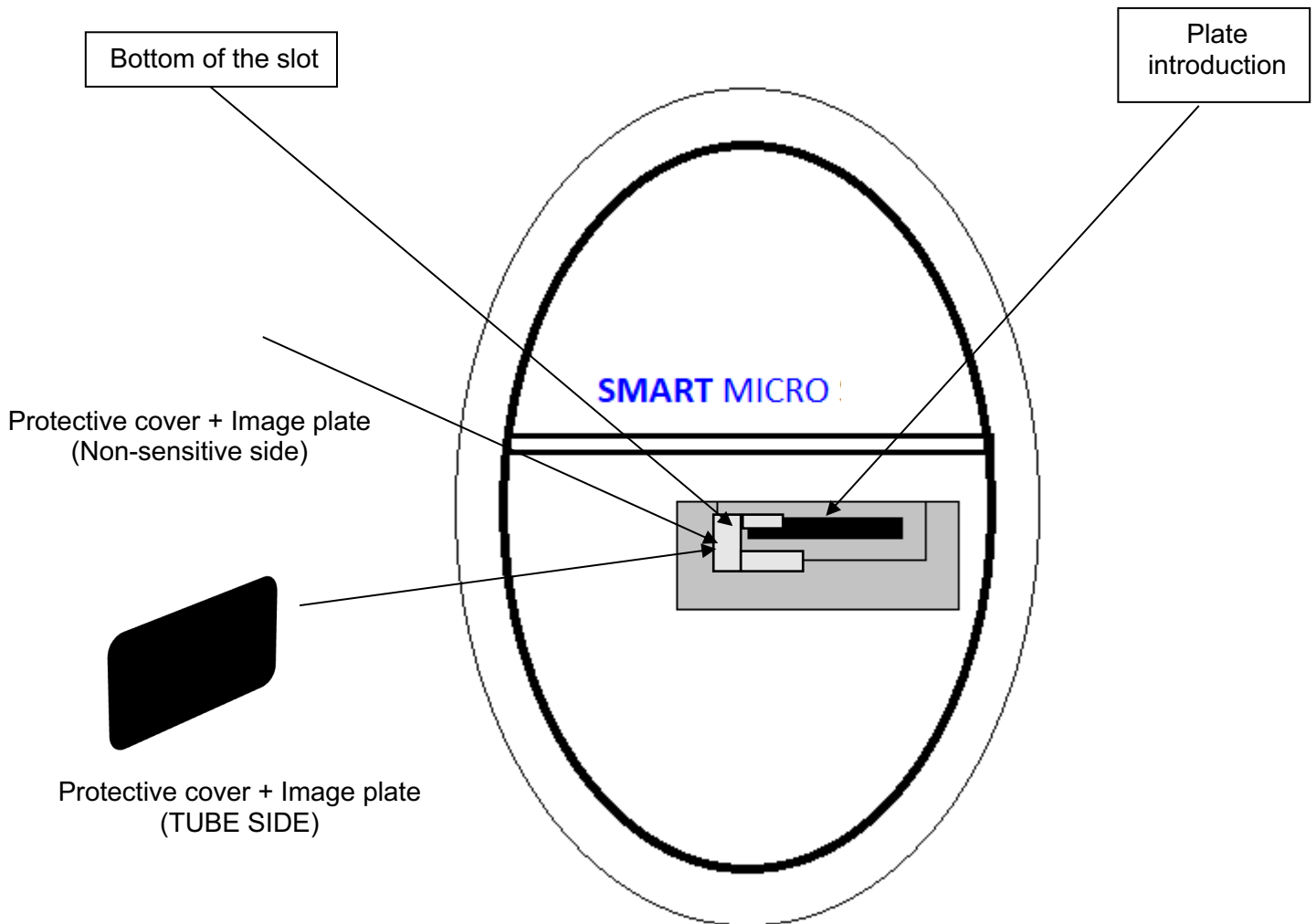


Select the appropriate dose and take an x-ray scan.

Remove the hygienic cover from the patient's mouth cleaning any saliva residue. Before opening the hygienic cover disinfect it with an approved solution (i.e. disinfecting soap or similar).

6.5 *Reading the phosphor plate*

Open the hygienic cover and remove the protective plate cover containing the phosphor plate just before inserting it into the device. Do not expose the phosphor plate to the light.



Insert the image plate protective cover.

Place the light cover and plate on the bottom of the slot. Make sure of the correct horizontal alignment of light cover and plate. Do not insert the plate not aligned with the slot.

Push the plate into the slot of the reader until it stops.

When it stops, ease the pressure of the fingers on the light cover and remove it from the plate.



WARNING

Missing the procedure above will lead the reader not to recognize the plate and the inability to scan

In this moment the phosphor plate is engaged by the magnetic drive system and automatically dragged inside the reader for scanning.
The blue led will start to blink signaling automatic reading of the plate as described in §6.6.

6.6 NICAL SMART MICRO VET led sequence

The **NICAL Smart Micro** can advise the operator about all the different system status (errors, functions, etc.).

The different system status modes can be obtained by the external LEDs mounted on the front of the system; the following table explains their meaning.

Standard Working Sequence ID Sequenza di lavoro standard		LED Colour / Colori LED			
		Blue Blu	White Bianco	Red Rosso	Green Verde
1	device powered and not connected to the SW	C		F*	
2	device powered and connected to the SW	C			C
3	Plate insertion				F
4	Light cover removal for scanning start				C
5	reading				F*
6	Start of the return of the plate				F*
8	Erasing		C		
9	Authorization to plate removal.		F		

C: Continuous light.

F: Flickering light.

F*: Flickering and moving light.

Blank space or Off: Light off.

In case of other combinations of light, extract the plate and wait for the auto reset of the device until the continuous blue light appears again.

The most frequent errors of use are highlighted by the following combination of LEDs:

Common errors in use		LED Colour / Colori LED			
		Blue	White	Red	Green
1	The device does not start when plate is inserted: the plate is inserted with the reader disconnected			C	
2	The device does not start when plate is inserted: the plate is inserted without protective light cover with tube-side facing the reading side of the reader				F

3	The device does not start when plate is inserted: Inversion of plate / light cover + insertion side error. Insertion of the plate without light cover with the blue side facing the reading side of the reader.				F
4	The device does not start when plate is inserted: In the extraction phase of the light cover (phase 4 to phase 5 of the normal operation) the plate was held improperly.			C	

The **Nical Smart Micro VET** system automatically enters the standby mode ("SAVE POWER STATUS") when switched on and ready for use.
To get out of the "SAVE POWER STATUS" simply introduce into **Nical Smart Micro VET** system a new plate to read.

6.7 Plate removal

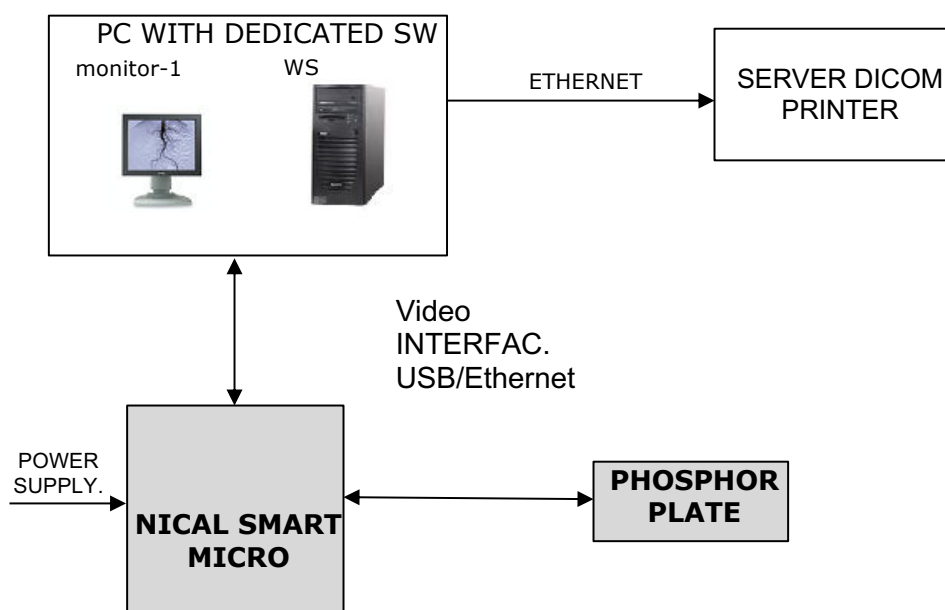
After the scan, the plate will be released automatically by the reader.
The plate must be held with the light cover. Be sure to observe the relative positioning described in § 6.3.

6.8 HW Connection

The assembling of **Nical Smart Micro VET** is very easy and could be made in a few steps.

The system must be connected to the external power supply and the PC after the operating software has already been installed.

The following blocks diagram shows all the connections:



7 MAINTENANCE

NICAL Smart Micro must be properly used in order to ensure safety and prevent damage to the system.

Besides, the operators will have to periodically control all the system safety standards, in order to ensure its perfect working.

The following table indicates all maintenance and prevention actions to be performed, as well as periodicity and personnel in charge of such actions.

Action	Frequency	Responsibility
Check that connection cable are in good conditions	Daily	Operator
Check the phosphor plates and Nical Smart Micro VET	Daily	Operator
PC functionality	Daily	Operator
Check image quality	Yearly	Authorized service technician

NOTE



In case the operator may notice any fault in the course of the aforementioned checking operations, he will have to contact the authorized Technical Assistance service immediately.

8 CLEANING AND DISINFECTION

Nical Smart Micro VET does not require daily cleaning and disinfection, but the phosphor plate used by the patient must be protected by a dedicated disposable protective cover before positioning into the mouth of the patient.

When the exam is finished dispose of the protective cover as it must NEVER be used again.

Particular care must be devoted to the phosphor plates which, even if it is protected by the dedicated mono-use envelope, is positioned into the patients' mouth.

Anyway, no sterilizing operation is needed, as the contact with patient and operator is superficial and occurs only through minimal contact. Moreover, the phosphor plate must not be put in autoclave in order to avoid damage.

In case of plate cleaning, it is suggested the use of the specific CR Cleaner fluid Cawo branded or alternatively ethanol-based cleaner.

WARNING



Alcohol, alkaloid and abrasive liquids must never be used to clean and disinfect the Nical Smart Micro VET and phosphor plate.

Don't plunge any of the device parts into liquids.

Don't use autoclave.

Carefully comply with the instructions described in Par.2.

9 TROUBLESHOOTING

Nical Smart Micro VET might present problems during its use and their solution might require the assistance of a qualified technician.

The following guide indicates checks and actions you can perform if the system does not operate correctly.

WARNING



In order to prevent any possible damage or injury to the operator or to the system, do not attempt to solve problems by yourselves when it is clearly indicated the authorized Service Agent assistance is needed.

WARNING



In order to limit the dose administered, in case of poor-quality image or no image, before proceeding to a further x-ray on the patient, the user is required to perform a test image using the phantom or the specific test items for intraoral radiology.

Problem	Possible cause	Solution for the End User	If the problem is not fixed contact:
The application does not install	PC not compatible.	Check the features of the PC again in §5.1.1	Authorized technician
The application does not perform all the functions	PC not compatible.	Check the features of the PC again in §5.1.1	Authorized technician
The application does not start	License not present.	Install the license via USB and PC reboot.	Authorized technician
The plate is not recognized	Connection error. Driver installation not correct. System configuration not correct.	Verify the condition of the plate. Repeat driver installation. Check system configuration.	Authorized technician
Bad image visualization	Rx System settings.	Check parameter setting of x-ray source.	Authorized technician
	Pre and post processing settings.	Check parameter setting for the x-ray exam.	Authorized technician

Problem	Possible cause	Solution for the End User	If the problem is not fixed contact:
No Rx image	Poor Rx emission. Plate not exposed.	Check the correct functioning of x-ray generator. Check the connections of the whole system.	Authorized technician
		Possible fault of the system.	Authorized technician
Image not on focus	Wrong system settings. Wrong positioning of the plate. Patient moving during exposition.	Check the correct system parameter settings.	Authorized technician
		Check that the positioning of the plate inside the oral cavity is good.	Authorized technician
		Check the patient does not move during exposition.	
Software operation stopped.	Electrostatic discharge. Processor fault.	Check if any wrong operation was performed.	Authorized technician
	System in Blocco del sistema	Switch off and reboot the PC Riavvio dell'applicazione o del PC Reboot the SW or the PC, when necessary.	

10 TECHNICAL ASSISTANCE

Any technical actions on **Nical Smart Micro VET** accessories and on system configuration can be done exclusively by qualified and authorized technicians.

Non-fulfillment of the above instructions may cause damage to equipment and/or people, besides the device warranty expiration.

**IN CASE ANY TECHNICAL ASSISTANCE IS NEEDED,
BOTH WITHIN THE WARRANTY PERIOD OR IN
PERIODS NOT COVERED BY WARRANTY, PLEASE
CONTACT DIRECTLY THE TECHNICAL ASSISTANCE
AUTHORIZED SERVICE OF THE FIRM OR THE AGENT
WHICH HAS SUPPLIED THE PRODUCT.**

Nical is at complete disposal to meet any customer's request for technical information on the product, and to provide any suggestions in matter of digital image acquisition procedures.

Nical will provide on request the electrical circuit diagrams, the list of components, descriptions, calibration instructions or other information to assist the Authorized Technician in the repair of parts of the NSM.

11 SPARE PARTS

In case you need to order any spare part, please contact **Nical** Technical Assistance Service indicating:

- Device serial number.
- Detailed description of component.
- Desired quantity.

Nical assures all spare parts will be supplied in the shortest time possible, depending on stock availability.

WARNING



**Use exclusively original spare parts.
Non-fulfillment of the above instructions may affect the device
correct working and causes the warranty to expire.**

NOTE:

_ *Assembled and certified by Nical S.p.A.



Nical S.p.A.

Via Soffredini, 43
20126 Milano (MI)
ITALIA

Tel.: (+39) 02-2571110
Fax: (+39) 02-2572207
E-mail: nical@nical.com
Website: www.nical.com

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