

KAUKO XI-M COMPUTER

User manual



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Foreword

Dear customer,

Thank you for choosing a high-quality Kauko Xi-M computer! Our computers are developed and manufactured in accordance with precise quality guidelines. You have purchased a high-quality product with strict quality control and a long life expectancy. All units are carefully burn-in tested at factory before delivery.

We have developed and manufactured your Kauko computer with the best possible components, offering many years of uninterrupted, carefree operation.

To ensure long-term stability, a very efficient passive direct copper cooling system has been developed for the Kauko Xi-M models. Thanks to the closed aluminum housing, no dust or dirt can get into the housing, which means it is no longer necessary to open the housing for maintenance. The computer's simple and stylish design makes it hygienic and easy to clean. Its low maintenance, long life cycle and high performance allow you to concentrate on your day-to-day operations.

We wish you a lot of enjoyment with your Kauko computer, and thank you again for choosing us as your partner!

Your Kauko team

NOTE!

To avoid the risk of electric shock, this unit must only be connected to a mains power supply with a ground connector!

1. Safety Instructions

Read carefully before first start up!

Electrical safety and conformity

The Kauko Xi-M computer must only be installed and brought into operation by qualified personnel. The opening of the housing is also only to be carried out by qualified service personnel. The Kauko Xi-M must only be powered by a 230/240V mains supply with an earth connector. The Off state of a power indicator does not necessarily mean that voltage levels inside the product are zero. Always ensure that all external power sources and communication lines are unplugged before opening the housing. The operation area must comply with the requirements of EN/IEC 60601-1 or EN/IEC 60950-1. Due to direct copper cooling, the housing surface area will reach temperatures of up to 55 degrees Celsius, and the external power supply can warm up to 70 degrees Celsius. The unit must only be operated by using the original power supply with the original mains cable provided. An extension of the power supply cable is not permitted. If the original cable must be replaced with another cable or a longer cable, only a cable validated by Kauko may be used. If any visible damage, corrosion, heat, sparks or smoke is detected in the mains power line, the cable should be replaced immediately with a new one that has been validated by Kauko. With the transfer or resale of the unit, the same procedure must be followed.

If these instructions are not complied with, the unit loses its conformity and there is a potential danger to the lives of the users, patients and third parties!

Initial operation

Read and follow all instructions carefully before connecting the mains cable! First unpack your new computer very carefully and remove the protective foil. Allow the computer to adjust to room temperature for at least 2 hours to ensure that possible condensation caused by temperature fluctuations dissipates. If moisture is detected on the computer housing, wipe this off with a clean, antistatic cloth. If there is visible moisture on the housing, the computer must not be connected to the mains supply.

Intended use and mode of operation

This unit is intended to be used for data storage and processing, such as recording and reading digital patient information in the hospital environment. It must **not** be used in **any** life-supporting systems or connected directly to a patient. This unit is developed for long-term use in intermittent operation.

Connection of peripheral devices

Read the operating instructions of the devices to be connected very carefully and follow the installation instructions of the respective products. The cable lengths of the devices must not exceed 3 meters, otherwise correct operation cannot be guaranteed. Make sure that connectors are sealed properly.

Warning: With devices that provide the Kauko Xi-M with additional power via the connecting plug, the supply must also be tested and certified according to EN60601-1.

Upgrade and installation of components

Remove the mains supply before opening the housing!

Any opening of the housing is permitted only by one of Kauko's authorized service partners and authorized technicians. According to applicable legal requirements, after opening the Kauko Xi-M, a new safety test must be carried out in accordance with EN60601-1. If you open a Kauko Xi-M unit, you must make a new safety test in accordance with EN60950.

Before opening the housing, it is mandatory to remove the mains supply plug, all communication lines and to wait approx. 2 minutes until the electrical charge inside the unit has completely discharged. Otherwise, there is the potential for a serious safety hazard! Any change or modification to the configuration of the unit requires authorization from Kauko's support personnel, and only components that have been tested and validated by Kauko may be used. An unauthorized change to the unit's configuration will result in an immediate loss of conformity and can endanger the health of the user and/or the patients and other people, as electrical safety can no longer be guaranteed!

Ingress of foreign objects and liquids

With any unintended intrusion of foreign objects or liquids or in the event of condensation on the unit, it must immediately be separated from external power sources by removing the mains plug and communication lines. Under no circumstances should the unit be switched on again; instead, contact your authorized Kauko dealer or Kauko support team.

Adherence to physical limit values

In accordance with the technical data, maintain the specified permissible operating values for temperature, humidity and air pressure with no exceptions, as the Kauko Xi-M computer would otherwise run outside its specifications, and safe operation can no longer be guaranteed. If the computer is used outside its specified usage limits, the unit must be immediately switched off and the mains supply plug removed.

Temperature fluctuations and condensation

If the unit is exposed to large temperature fluctuations, such as those that can occur in transportation or storage in an unheated location, under no circumstances should the computer be connected straight away, as condensation moisture can accumulate internally. Wipe off visible

external condensation with a clean, antistatic cloth and leave it standing without packaging material for at least 2 hours before connecting the Kauko Xi-M computer to the mains supply. The unit can only be connected when no further condensation forms.

Choice of location

The Kauko ST-M computer system must be placed in a dust-free, vibration-free and dry location, and it must not come into direct contact with liquids and combustible gases. Ensure that the computer has a firm, horizontal and level platform. The Kauko Xi-M computer must be operated in a horizontal position. In a vertical operating position, there is the danger of injury if the unit tips over. If a vertical position is desired, the original VESA mount should be used. Do not place the power supply on the floor, as there is a danger of moisture ingress, for example, when the floor is cleaned. Make sure the computer has enough room on each side to prevent the build-up of heat. Under no circumstances must the power supply or the housing cover be covered up or blocked off, as the unit will no longer be sufficiently cooled. If the unit is operated in a closed container or cabinet, enough air circulation must be ensured. Otherwise there will be a danger of overheating. If other installation options are chosen, it is to be ensured that nobody can be injured due to the improper fixation of the computer. Kauko Xi-M has a unique VESA mounting solution integrated on the housing.

2. Patient environment

To protect your patients from electrical influences, prevent contact between the patients and the computer housing.

The Kauko Xi-M is a computer that was developed and tested for use in the vicinity of patients. It fulfills the requirements of the EN/IEC 60950 and EN/IEC 60601-1-2 standards and the power supply fulfills the requirements of the EN/IEC 60601-1 standard with respect to the electrical limit values.

Electrical safety according to IEC/EN 60601-1

For the manufacture of a system consisting of computers from the Kauko Xi-M series and other electrical devices used in the medical environment, the requirements of the valid version of IEC/EN 60601-1 and EN 60601-1-1 must be considered.

Furthermore, it is the responsibility of the system manufacturer to market the complete system according to the medical product directive 93/42/EEC, as amended by 2007/47/EC, and to bring it into operation in the framework of in-house production according to related national legislation. A computer system without medical software cannot be a medical product as defined by the guidelines of 93/42/EEC. Therefore, a new system is based on medical and non-medical products.

The Kauko Xi-M computer is not a medical device, but it is tested according to IEC/EN 60601-1-2, and its power supply meets the requirements of IEC/EN 60601-1. Compliance with the limits of these standards allows the system manufacturer to carry out the (simplified) conformity assessment procedure according medical product guidelines.

Depending on the medical purpose of the overall system, it may also be necessary to install a galvanic isolator between an active medical product and computer system for the Kauko Xi-M computer to comply with the requirements of IEC/EN 60601-1. A galvanic isolator isolates the wanted signal of the respective PC interface such as network, USB or DVI interfaces. Contact Kauko sales or your authorized Kauko dealer for validated isolators.

Safety instructions for operation in the patient environment

Under national legislation, standards and guidelines are always to be followed. If the Kauko Xi-M computer is used in the patient environment in conjunction with active medical products that were introduced according 94/42/EEC guidelines, a new medical system is created and must be re-evaluated. Peripheral devices within the patient environment, such as printers or cameras, must also comply with the requirements of IEC 60601-1 and IEC 60601-1-2 or be additionally equipped with two-stage protection for the patients. This additional protection can be ensured by using isolation transformers or isolators in the connecting cable. Grossly negligent non-compliance with current regulations places the lives of patients and those of uninvolved third parties in possible danger. When in doubt, contact your Kauko support team to create a safe environment for you and your patients. We will be happy to help you.

3. Integration in a medical system

In the case of integration of the Kauko Xi-M computers in a medical electrical system, the requirements of the valid version of IEC 60601-1 and possibly the requirements of the medical product guidelines 93/42 EEC (2007/47/EC) are to be complied with, and the risk evaluation must be done by the system creator. The Kauko Xi-M computer must only be electrically connected and operated with products and devices that comply with the requirements of the standards EN/IEC 60601-1 and EN/IEC 60950-1. Before the integration of Kauko Xi-M computers in a system, be sure to ask the manufacturer of the medical system if this requirement for the operation with a computer is specified. If operation with the computer is permitted, keep strictly to the system manufacturer's recommended performance values for the computer unit. Connected data cables must be separately isolated, where appropriate, as well as the connecting cable between the Kauko Xi-M computer and other possible connected devices.

4. Operation in a network

The Kauko Xi-M computer may only be operated in a network that complies with the requirements of EN 50173 and ISO/IEC 11801. We, as the manufacturer of Kauko Xi-M computers, will not be liable for transmission failures, data loss or electrical surges and short circuits in your network structure that could occur due to non-standard installation. Only allow the installation on your network to be carried out by the network administrator or a person authorized by them. Do not carry out any changes to your network without the authorization of the network administrator. In addition, in the case of use in the vicinity of patients, the instructions listed under Chapter 2. "Patient environment" are to be taken into account.

5. Safe operation

Data protection

Using high-quality components, we have succeeded in developing a guaranteed, durable and stable platform for you. However, please make sure your data is backed up regularly, because you as the user of the computer are responsible for this. We therefore recommend that you back up your data at regular intervals on an external data carrier. In accordance with current legislation we, as the manufacturer, are not liable for destroyed data and their subsequent costs. Ask your Kauko dealer or Kauko support for an appropriate solution for secure data storage.

Protection from power outages

To prevent data loss due to mains supply failures and so that you can safely close your current application(s) we recommend the use of medical UPS (uninterruptible power supply). Please remember that your monitor should also be connected to the UPS so that the system remains operable in an emergency.

Care and maintenance

Your new Kauko Xi-M computer was developed by us as a low maintenance unit with long service intervals. Because of this, it is no longer necessary to open and clean the unit several times a year. Thanks to a closed and fan-less design, the opening of the housing for maintenance purposes is normally no longer necessary. As a result, dust and germs have no chance of infiltrating the housing and settling on sensitive internal components. In addition, make sure that the cooling areas of the housing are clean and free of dust, as dust can build up and reduce the cooling efficiency of the system. In addition to these unit-related maintenance recommendations, the legal requirements of national accident prevention regulations for electrical installations and equipment must be complied with.

Cleaning the housing

You can clean the housing and power supply of your Kauko Xi-M computer with a clean, lint-free and anti-static cloth. Always ensure that the computer is switched off and the mains supply is unplugged before cleaning the computer. If you use liquids for cleaning, do not, under any circumstances, spray these or pour them directly on the computer or the power supply; instead, slightly moisten the cloth with the cleaning liquid. Use an adequate amount of cleaning liquid in the cleaning cloth to ensure that no drops form when you wipe over the housing. Make sure that no liquid gets into the interior of the unit. As a cleaning agent, an all-purpose cleaner, glass and surface cleaner or a disinfection solution based on quaternary materials may be used. Use of acidic, caustic cleaning agents are not permitted, as these may corrode the housing. If liquids accidentally get inside the unit, do not under any circumstances reconnect the unit; instead, contact your service technician or Kauko dealer.

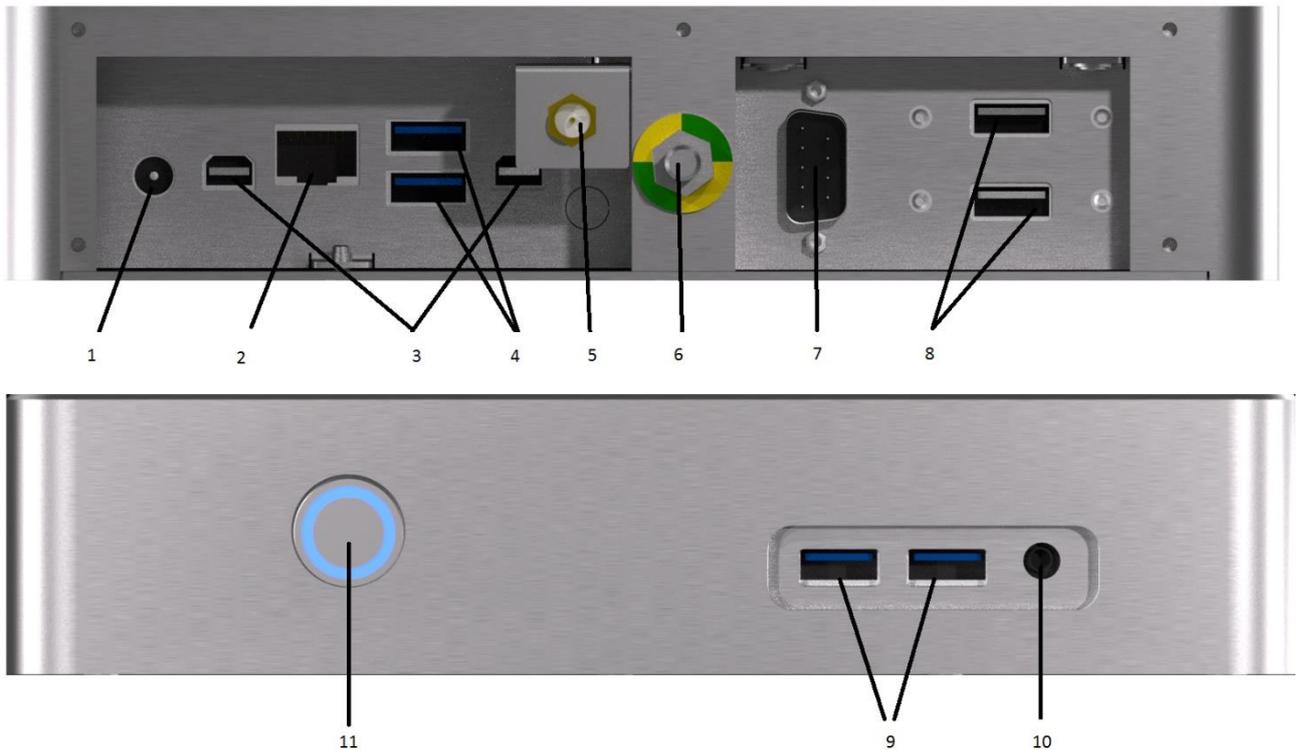
6. Liability and warranty

We will grant a minimum of a 3-year warranty on your Kauko Xi-M computer. This warranty can be extended to a 4-year or 5-year total validity period immediately upon purchase of the computer and against an additional charge. The warranty includes the needed spare parts, work and shipping costs.

You are entitled to this voluntary warranty service only if your unit has been operated in accordance with the instructions in the user manual and the valid legal requirements.

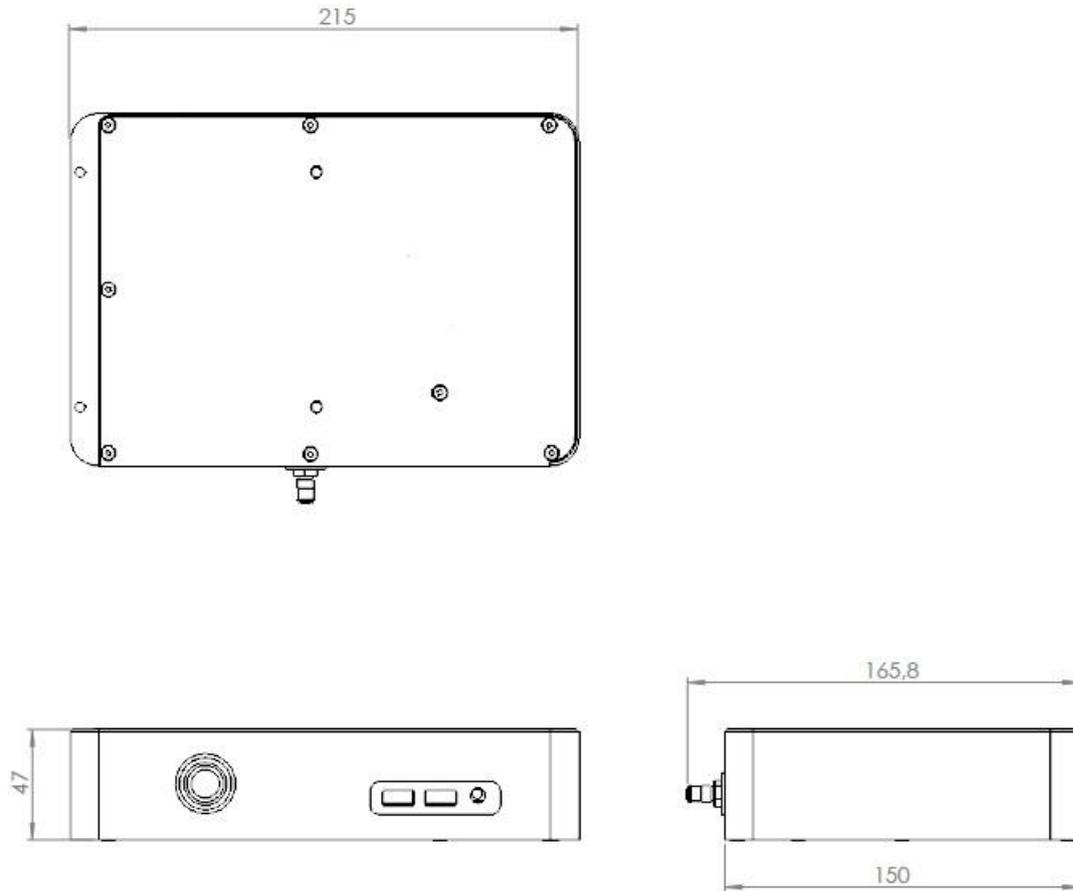
7. Technical data

Connection diagram

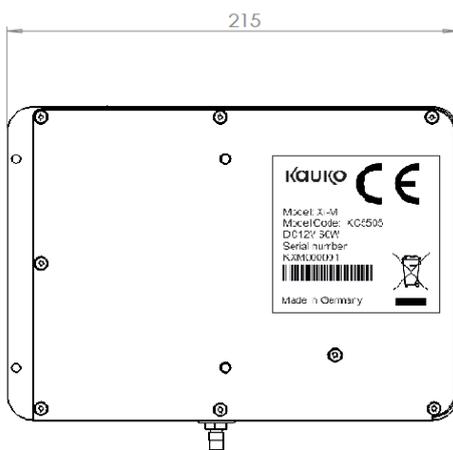


1. 12V power supply connector
2. RJ45 Ethernet connector
3. Mini Display Port connectors
4. USB 3 connectors
5. WiFi antenna connector
6. Ground connector
7. Serial port
8. USB 2 connectors
9. Front panel USB 3 connectors
10. Front panel audio connector 3.5mm
11. Power button

Dimensional drawing



Identification



Marking plate can be found on the bottom plate of the computer

Specifications

Processor	5th Generation Intel® Core™ i5 Broadwell Processor i5-5300U
Clock speed	2.3 GHz
Processor cores	Dual-core
Memory expansion	Max 16 GB
Memory type	DDR3L 1600/1333MHz SO-DIMM
RAM slots	2x SO DIMM
Supported operating systems	Windows 7, 8.1, 10, embedded
Hard drives	M.2 SSD
Intel trusted platform module	Yes, TPM2.0
Multiple displays	Yes, 2 displays
Intel V-PRO	Yes
Intel hyper threading	Yes
Cooling system	DCC direct copper cooling
IP classification	IP43
Operation mode	Continuous operation
Ports	2 x front USB 3.0, 2 x USB 3.0, 2 x USB 2.0, 1 x RS-232. LAN Gb, 2 x mini display port
WLAN	Intel AC WLAN optional
Housing	Anodized aluminum unibody
Power supply	VESA100 mount-through
Graphic	External 12V medical PSU
Sound system	Integrated graphics support for processors with Intel® Graphics Technology Intel®High Definition(Intel®HD) Audio via the Mini Display Port 1.2 interfaces through the processor. Realtek HD Audio via a stereo microphone/headphone 3.5 mm jack on the front panel
LAN	Gigabit (10/100/1000 Mb/s) LAN subsystem using the Intel® I218LM Gigabit Ethernet Controller
Dimensions (WHL)	216 x 53 x 150
Weight	2.3kg
Temperature(operational)	+5C to +40C
Temperature(storage)	-10C to +60C
Humidity(operational)	5%-90% (non-condensating)
Humidity(storage)	5%-90% (non-condensating)
Standards / Guidelines	EN60601-1, EN60601-1-2, CE, RoHs
Country of production	Germany
Warranty	3 years standard, 4 or 5 years optional



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