

Texas Instruments Vex Online Challenge

by

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of

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Comparison of the
Texas Instruments TI-99
and the
E-Machine T5062

E-Machine T5062



Front View



Side View



Rear View

Texas Instrument TI-99



Front View



Side View



Rear View

Side by Side T5062 & TI-99

Front View



Side by Side T5062 & TI-99



Side View



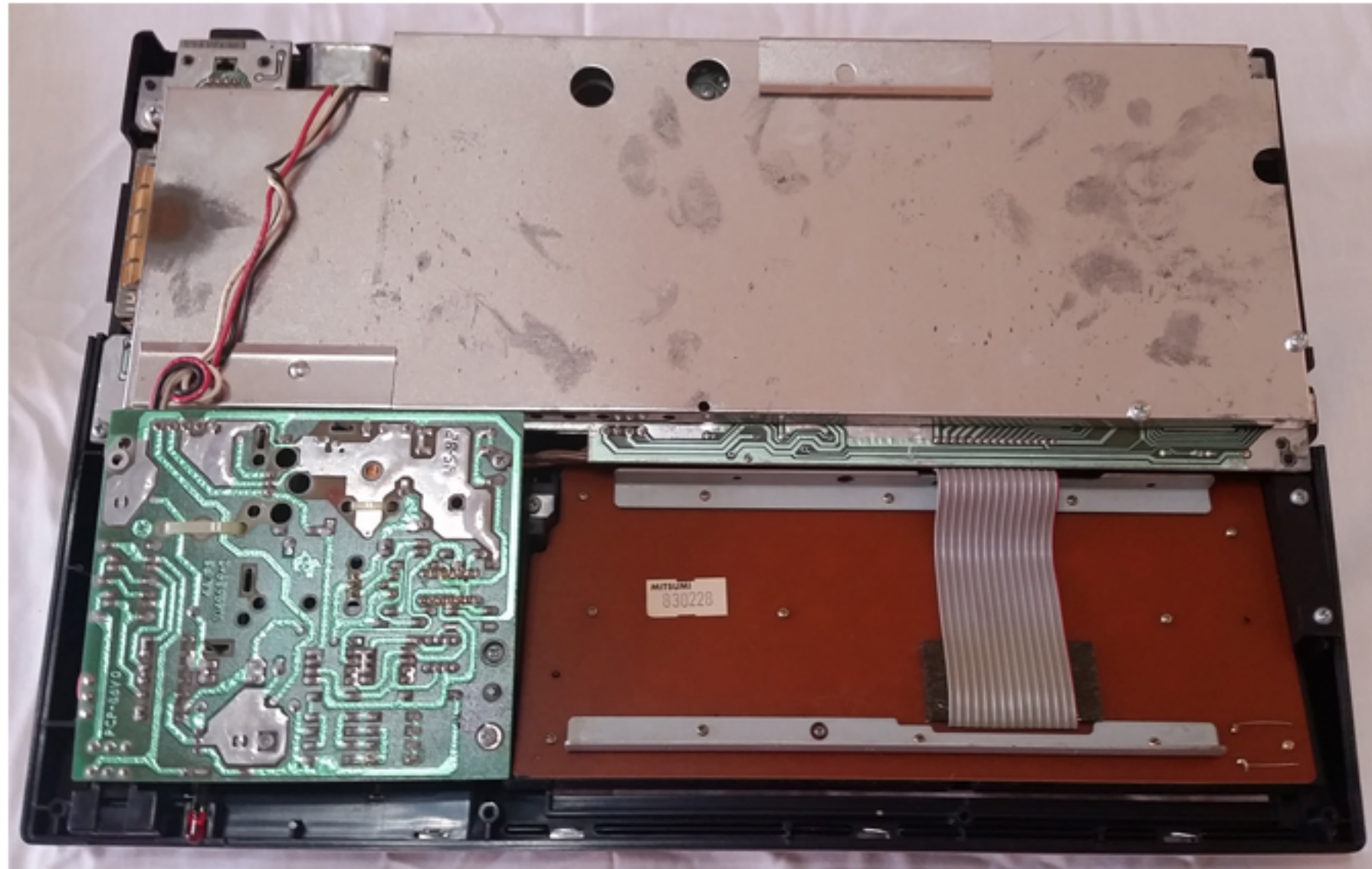
Side by Side T5062 & TI-99



Rear View

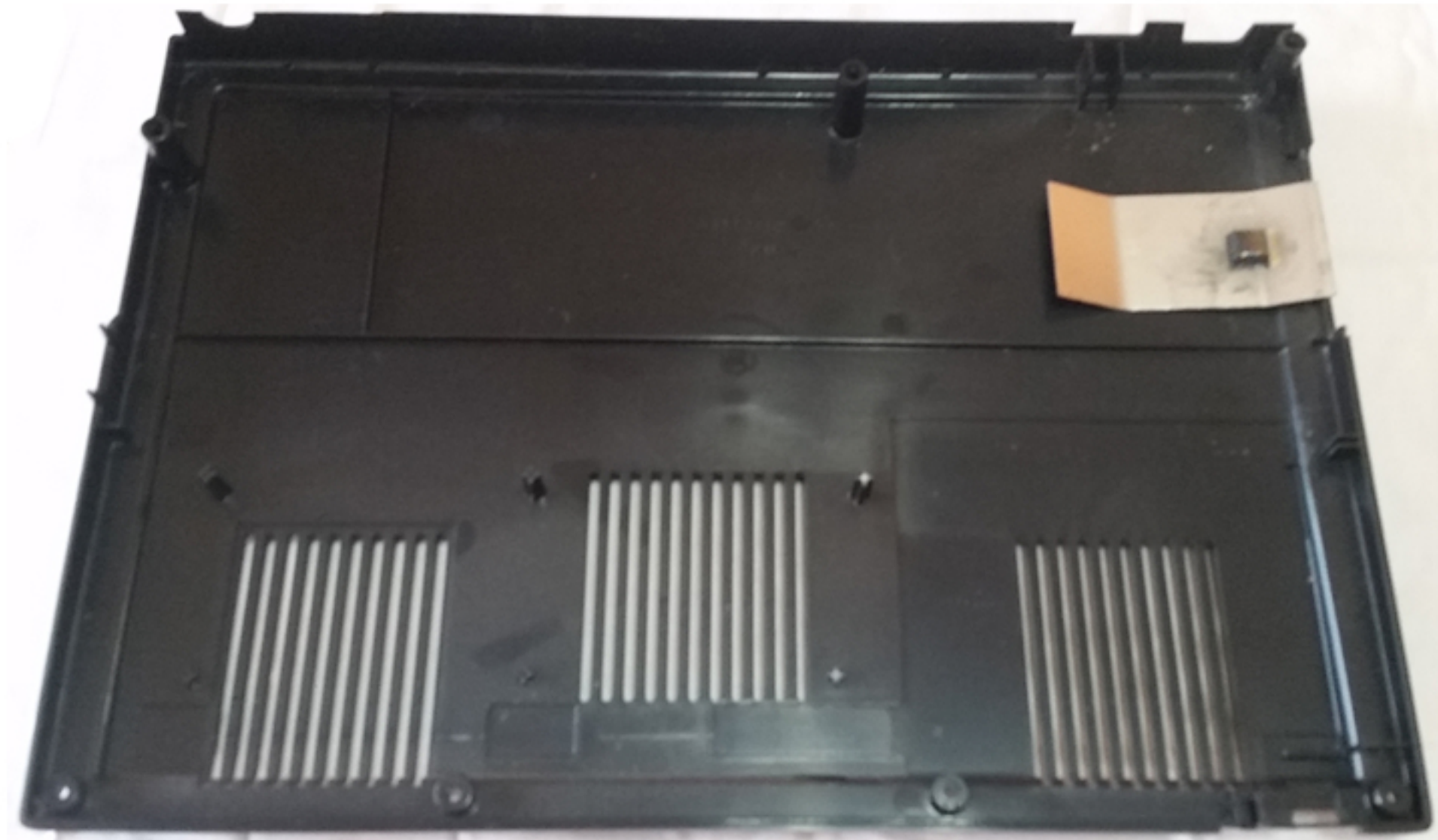


Texas Instruments TI-99



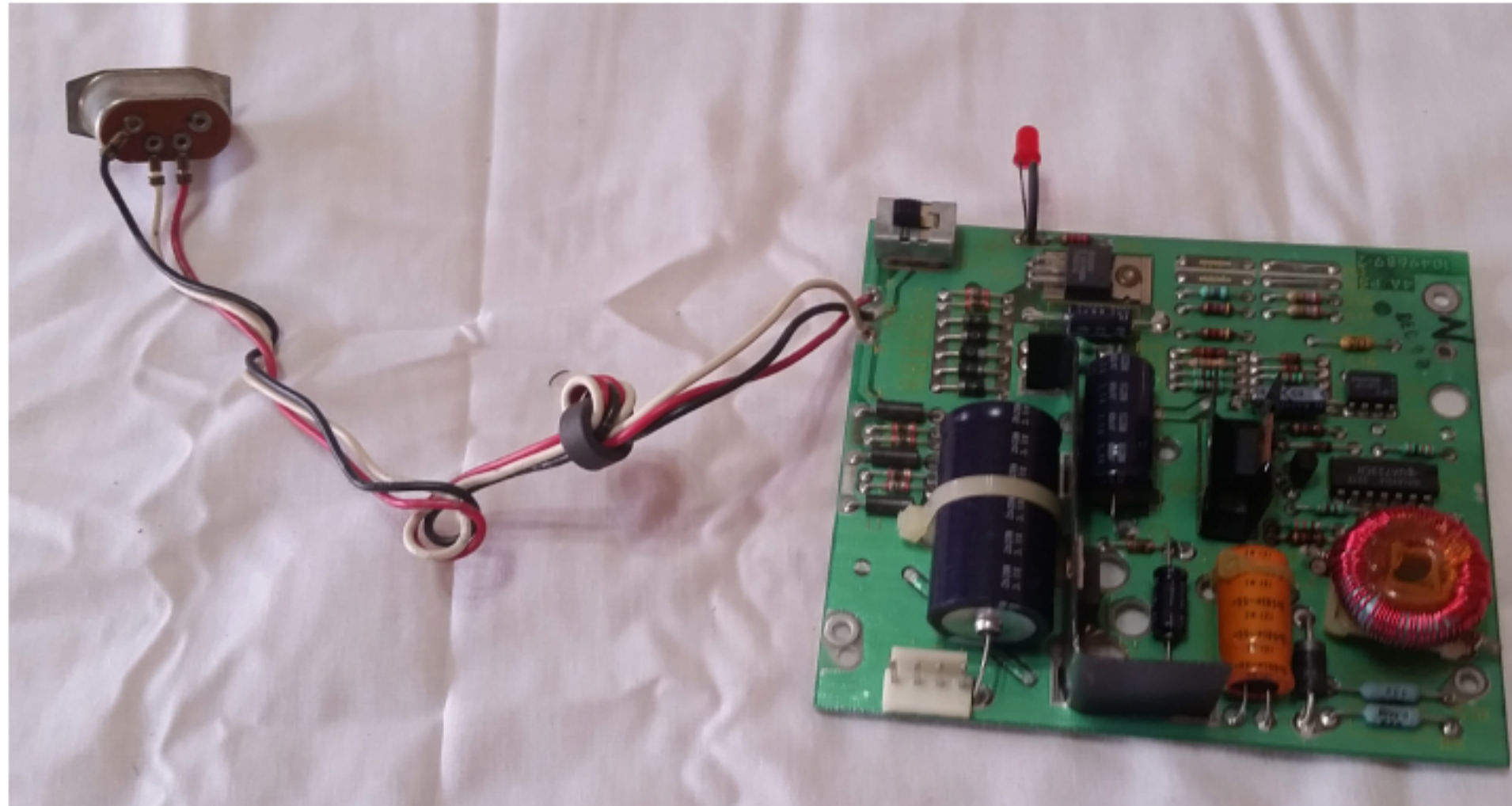
Underneath cover removed

Texas Instruments TI-99



Bottom Cover

Texas Instruments TI-99



Power Supply/Converter

Changes power from AC to DC, which is usable by the computer

Texas Instruments TI-99



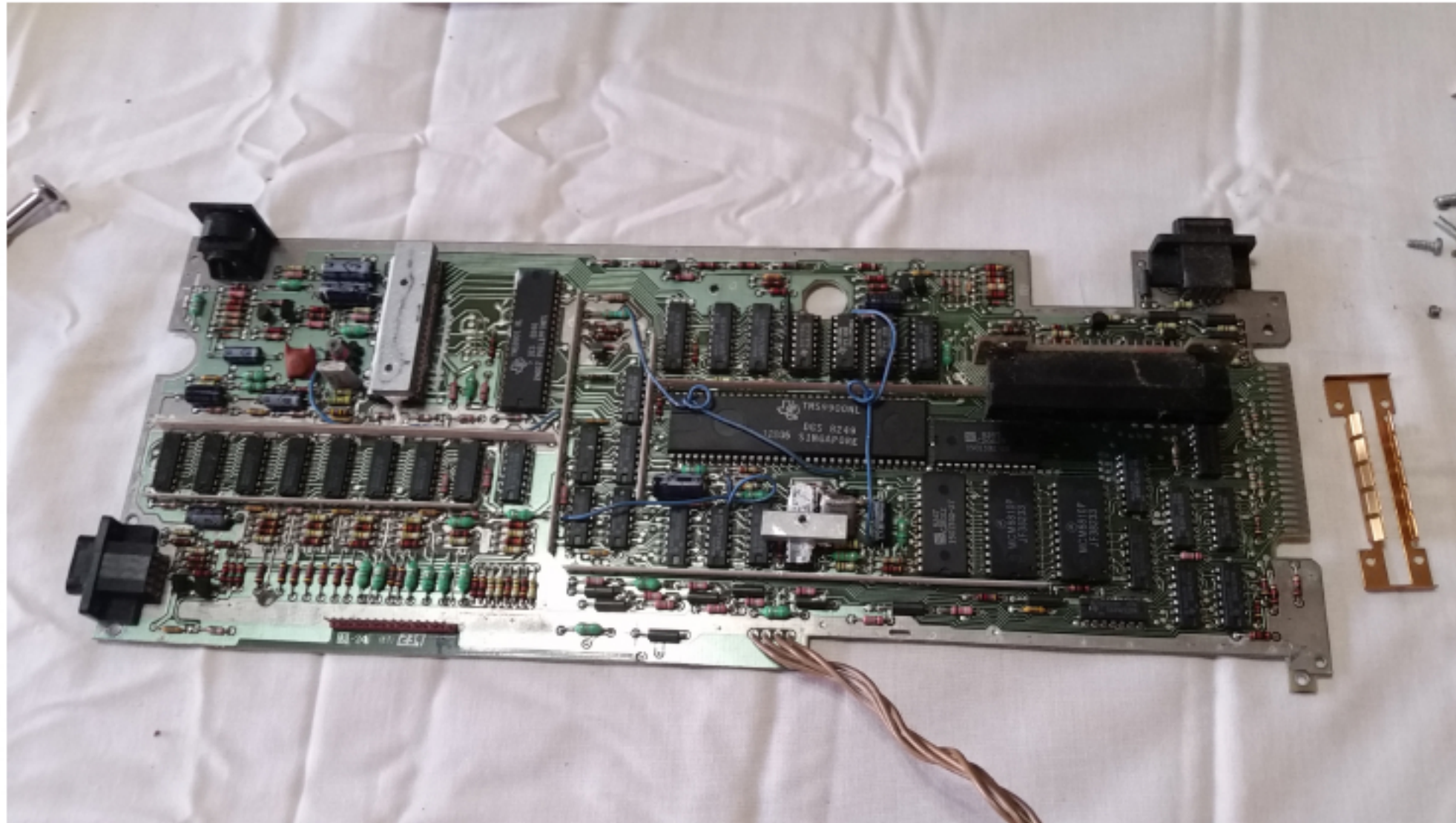
Upper housing with
the motherboard
and keyboard

Texas Instruments TI-99



Motherboard in case

Texas Instruments TI-99



Motherboard

Circuit board containing main components & connections of the computer.

Texas Instruments TI-99

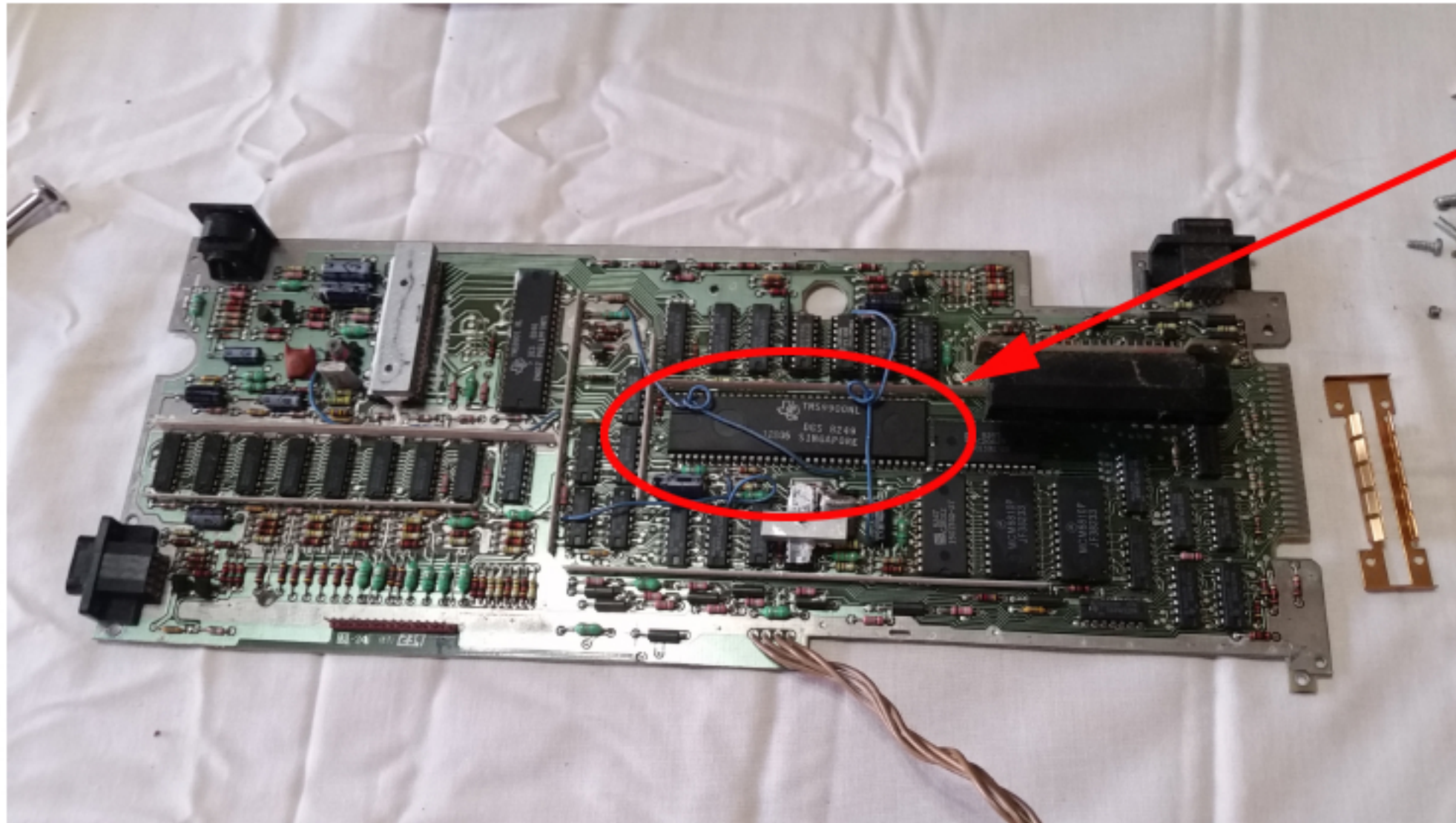


Read Only
Memory reader

Motherboard

Circuit board containing main components & connections of the computer.

Texas Instruments TI-99

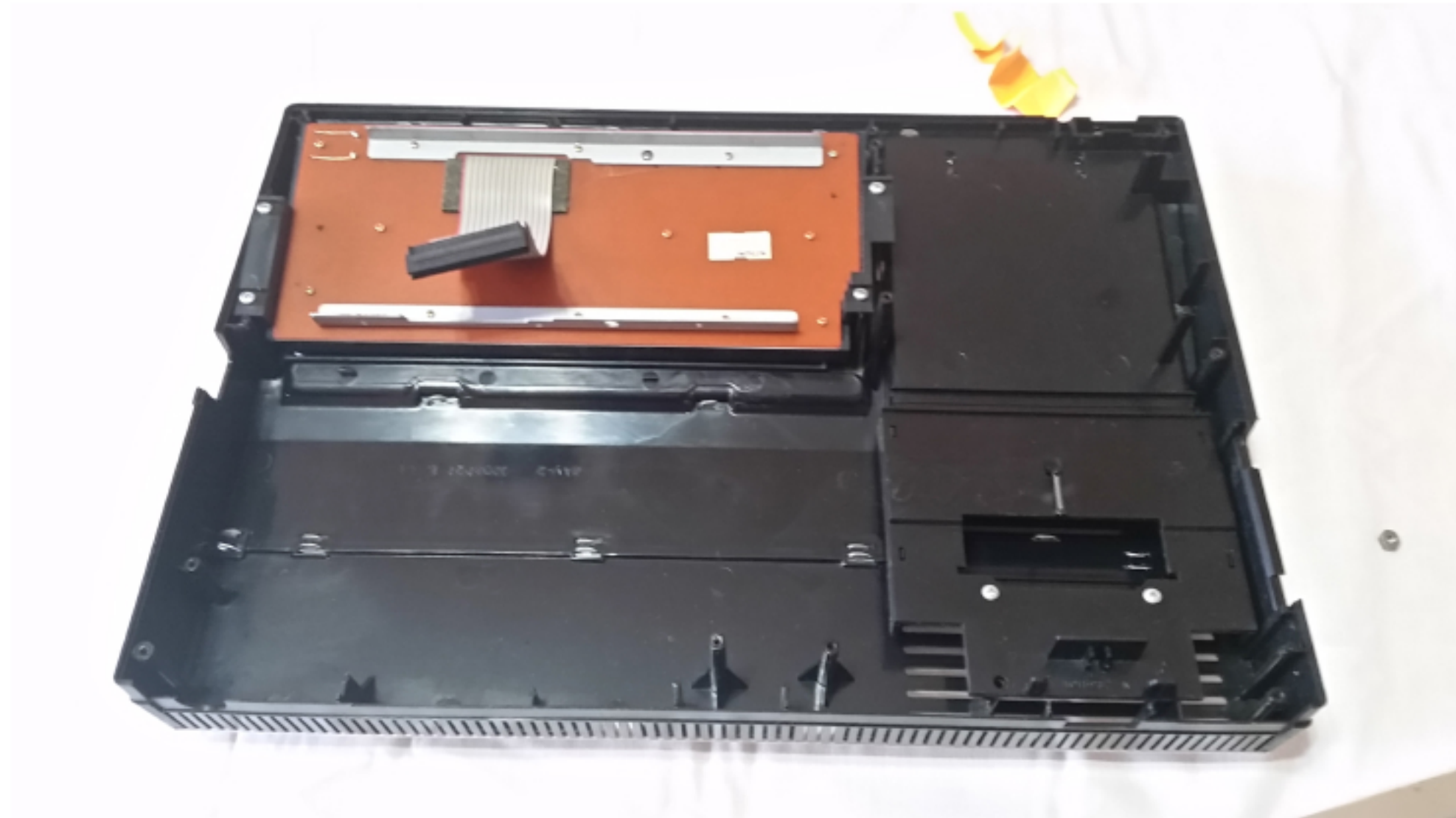


The TI-99 used the first 16-bit CPU microprocessor for a home computer

Motherboard

Circuit board containing main components & connections of the computer.

Texas Instruments TI-99



Underneath upper housing

Texas Instruments TI-99



Keyboard

User interface using buttons to input data

E-Machine T5062



Computer
with side
panel removed

E-Machine T5062



Front panel

E-Machine T5062



Hard drive with data cable

Storage unit for computer memory

E-Machine T5062



Card reader

Allows SD, MMC, CF and various other memory cards to be read

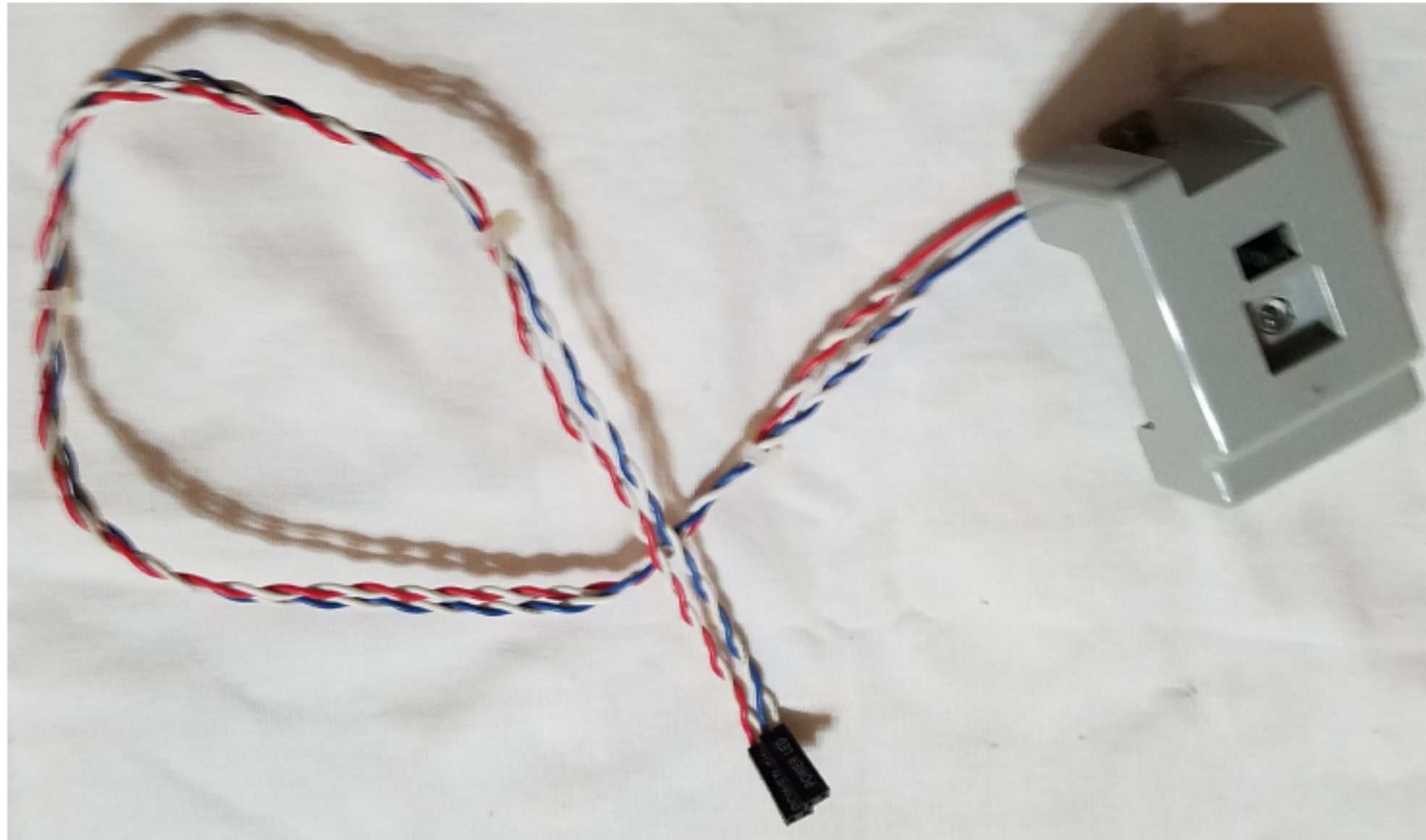
E-Machine T5062



Power Supply

Converts AC power to DC, which is usable by the computer

E-Machine T5062



Power button

E-Machine T5062



Optical disc drives (DVD/CD)

Drives allow the computer to read compact discs (CD) and digital video discs (DVD)

E-Machine T5062



Cooling fan

Allows the computer to regulate temperature

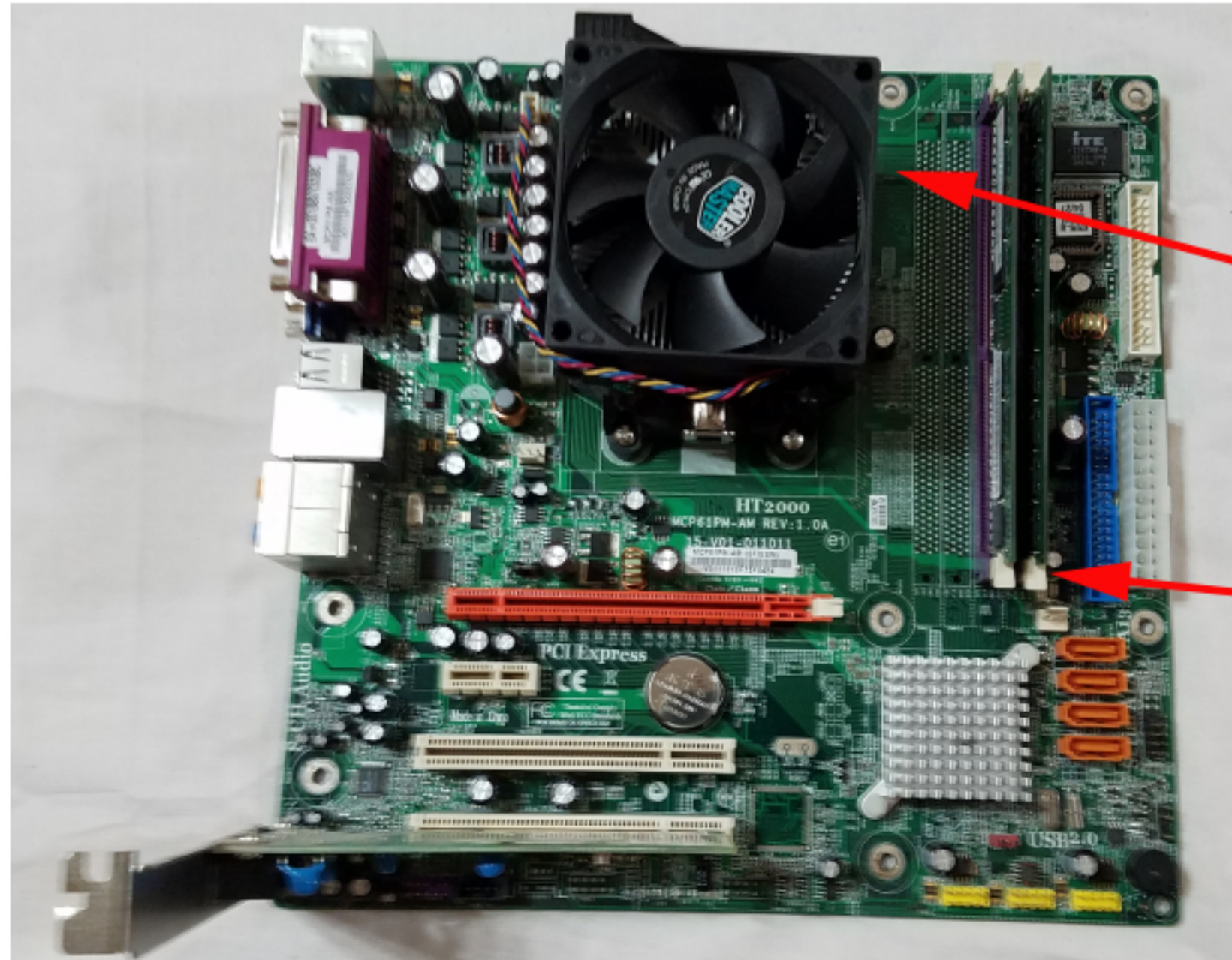
E-Machine T5062



Motherboard

Motherboard

E-Machine T5062

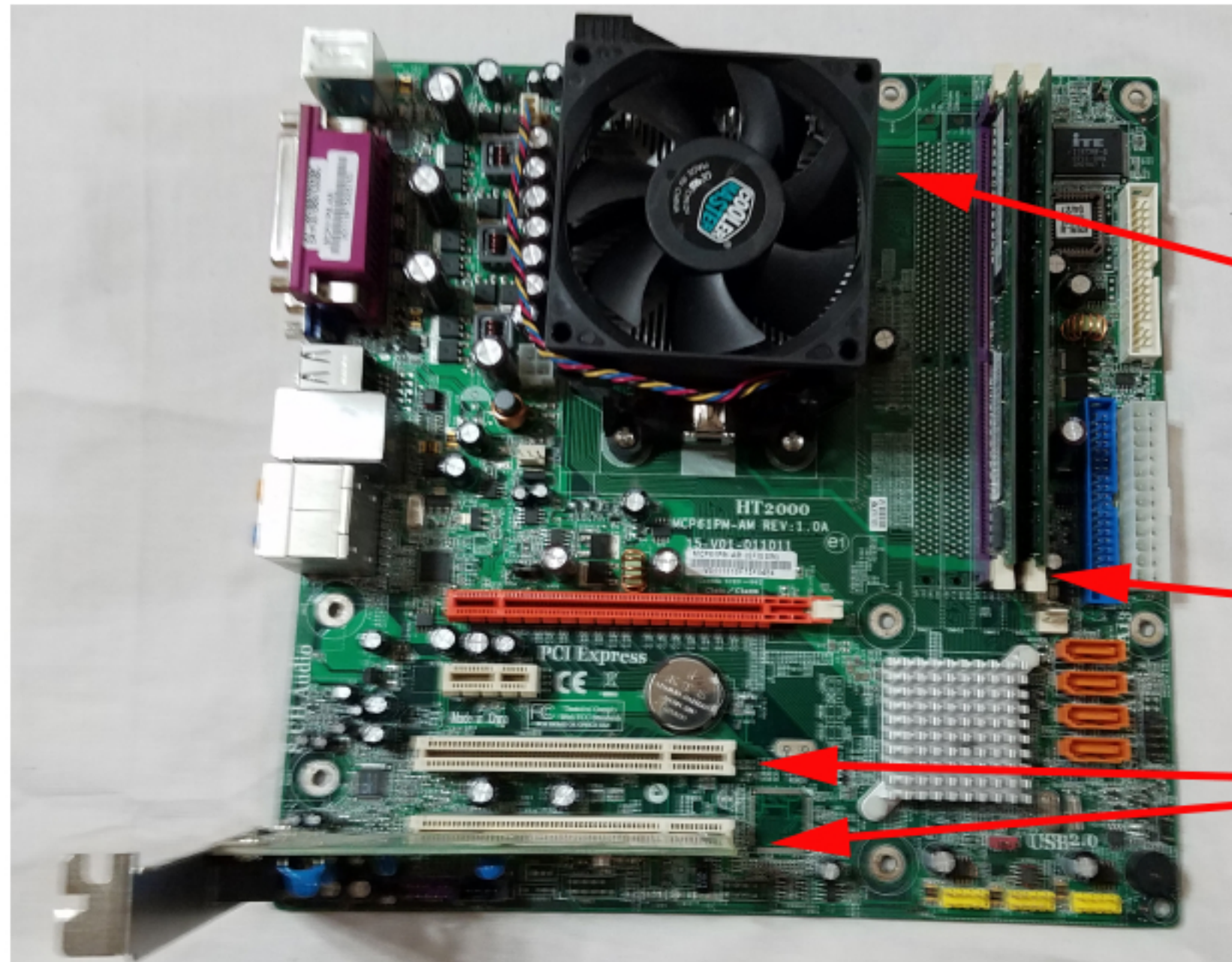


CPU cooling fan

Random Access
Memory (RAM)

Motherboard

E-Machine T5062



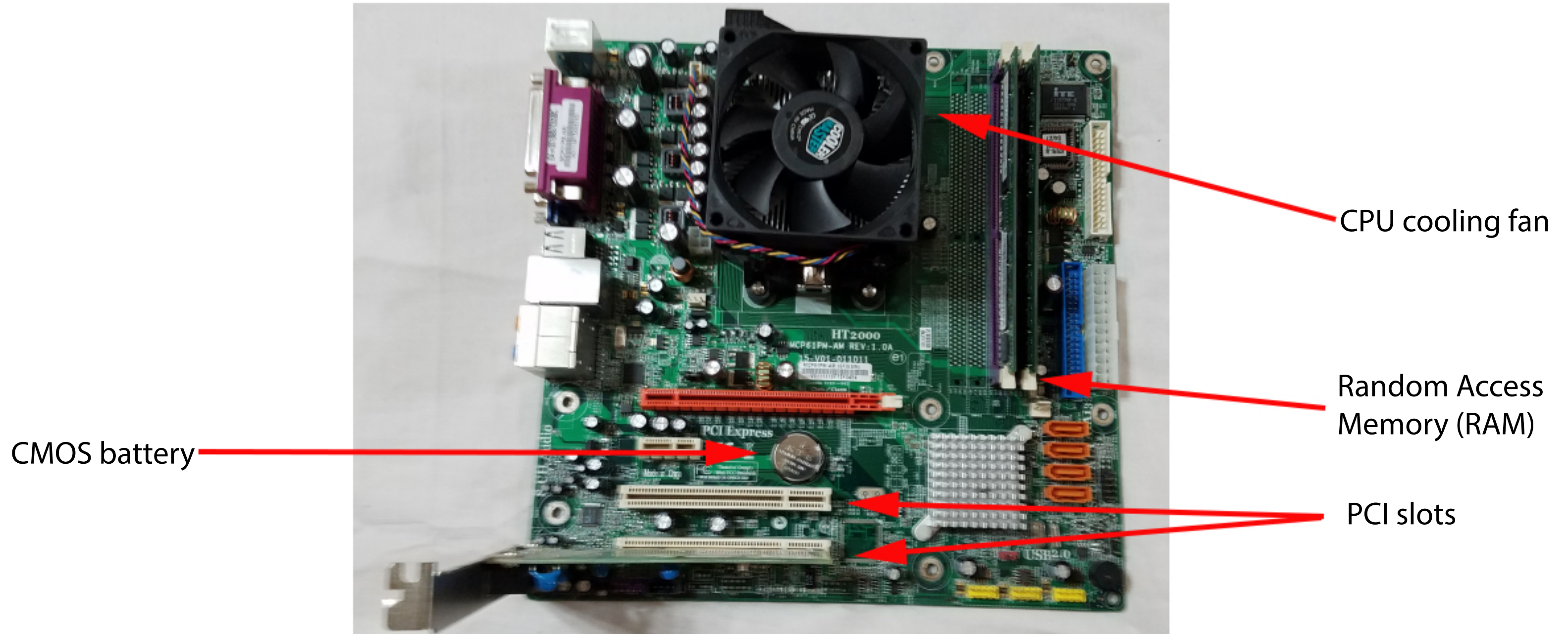
CPU cooling fan

Random Access
Memory (RAM)

PCI slots

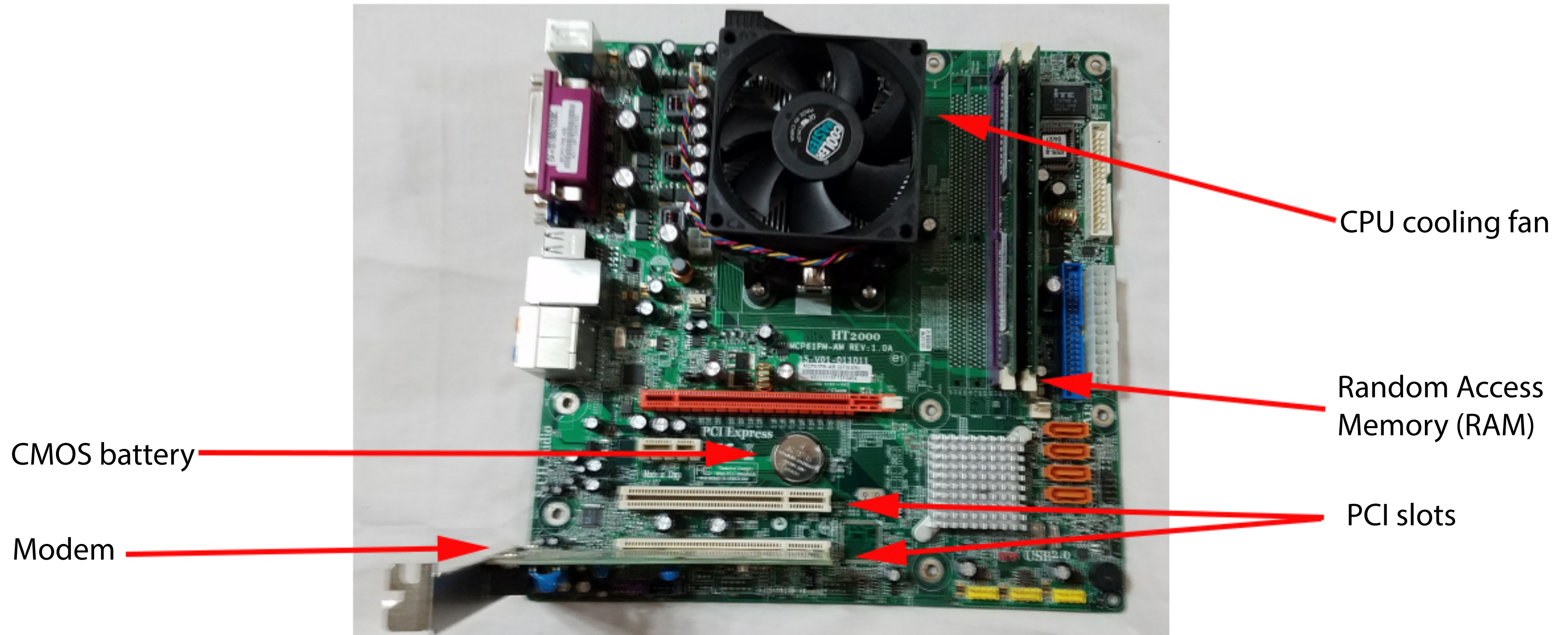
Motherboard

E-Machine T5062



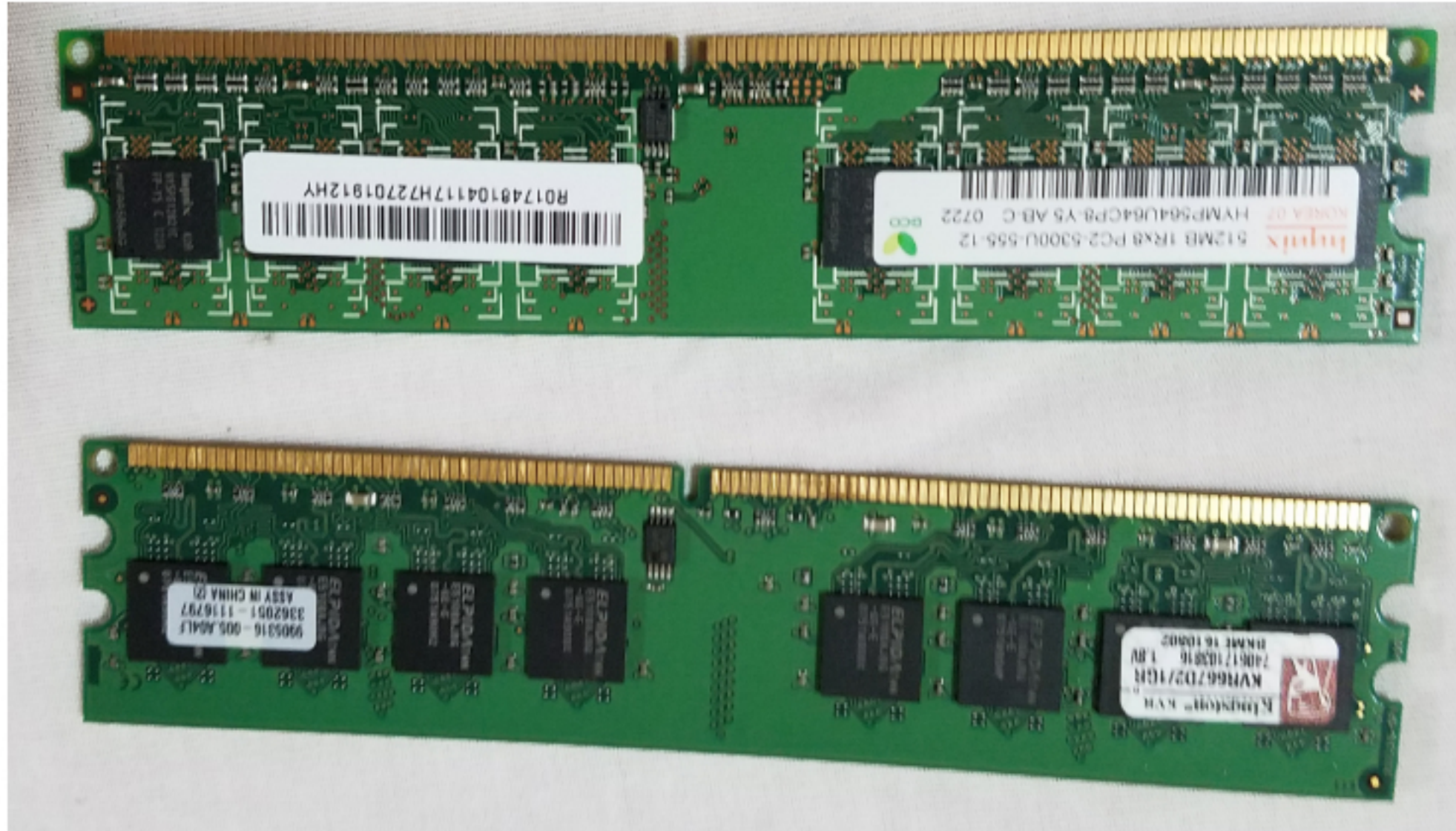
Motherboard

E-Machine T5062



Motherboard

E-Machine T5062



Random Access Memory (RAM)

Provides computer with memory to aid in tasks

E-Machine T5062



Modem

Allows the computer to transmit and receive data

E-Machine T5062



CPU cooling fan

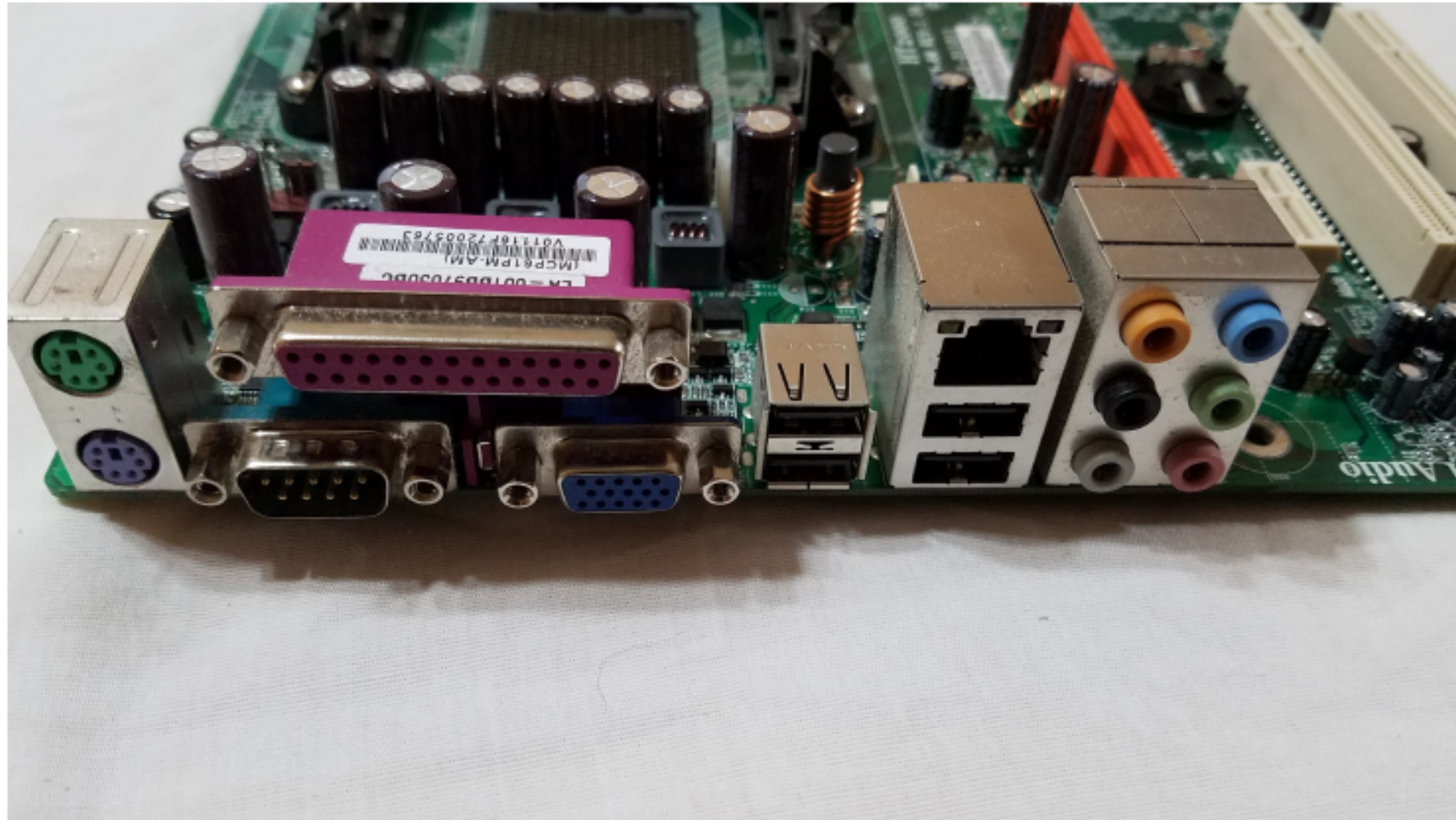
E-Machine T5062



CMOS battery

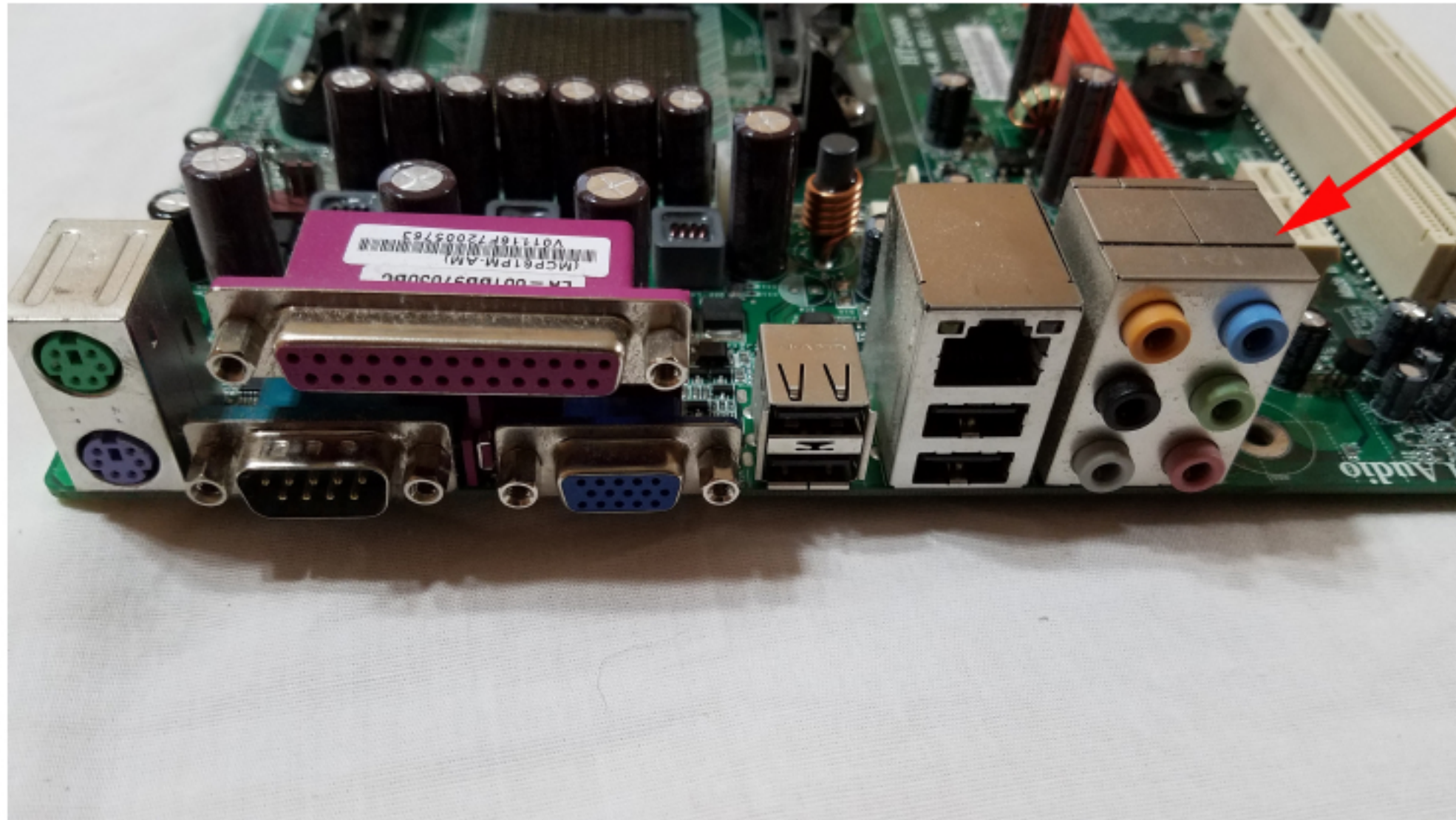
Battery that provides power to keep functions such as the date & time current even when there is no power.

E-Machine T5062



Peripherals on motherboard

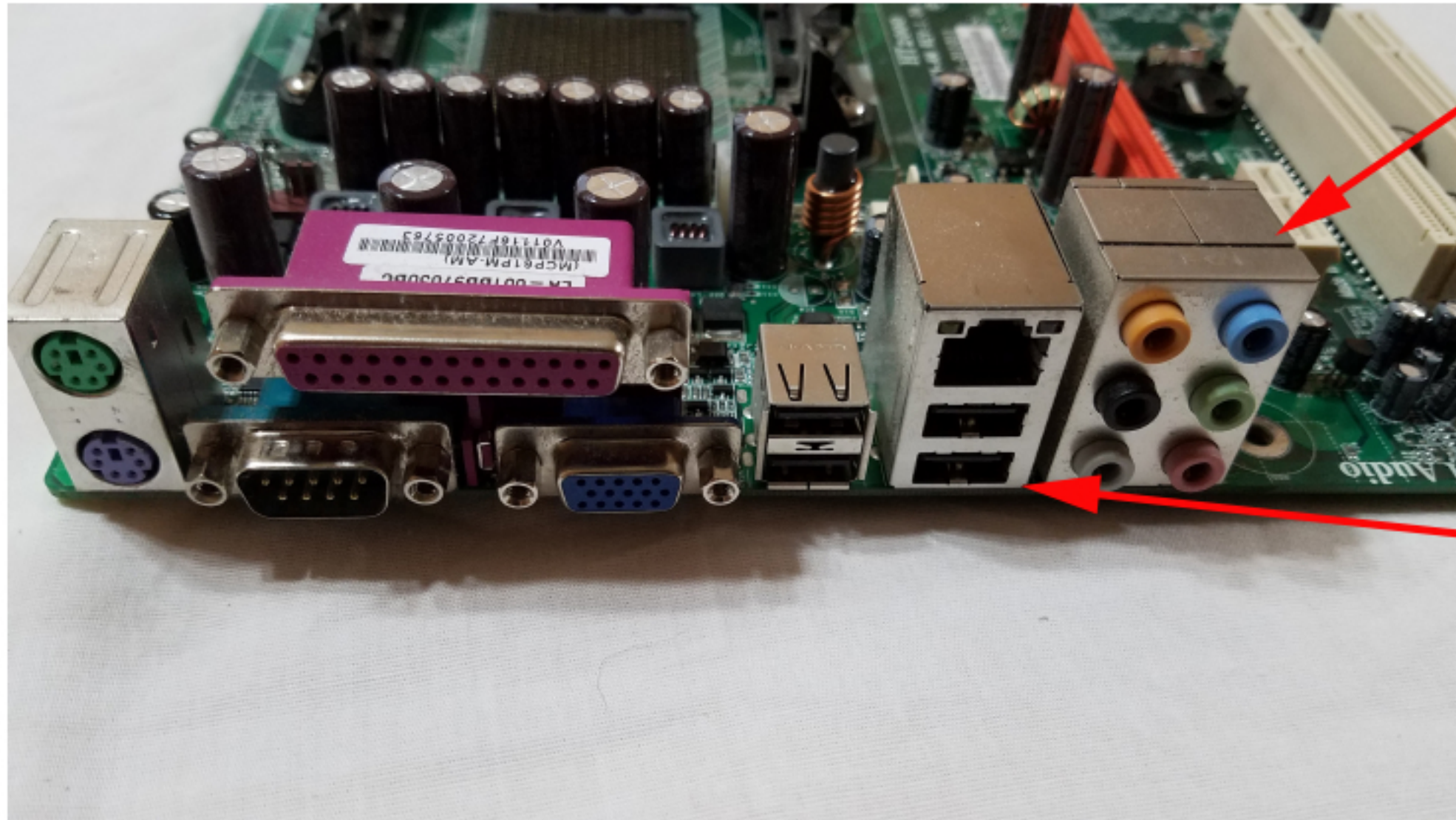
E-Machine T5062



Audio input &
output

Peripherals on motherboard

E-Machine T5062

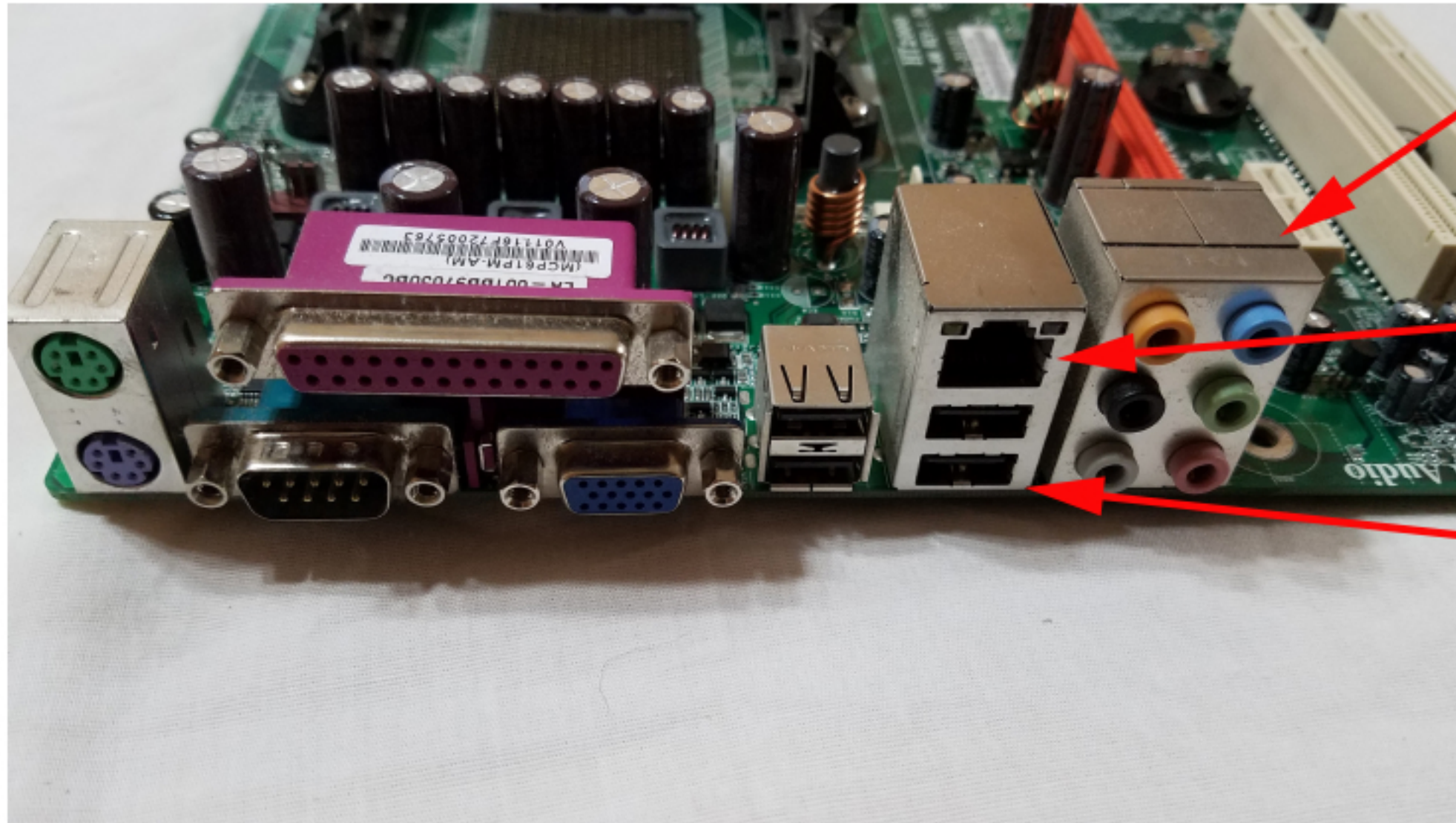


Audio input &
output

USB ports

Peripherals on motherboard

E-Machine T5062



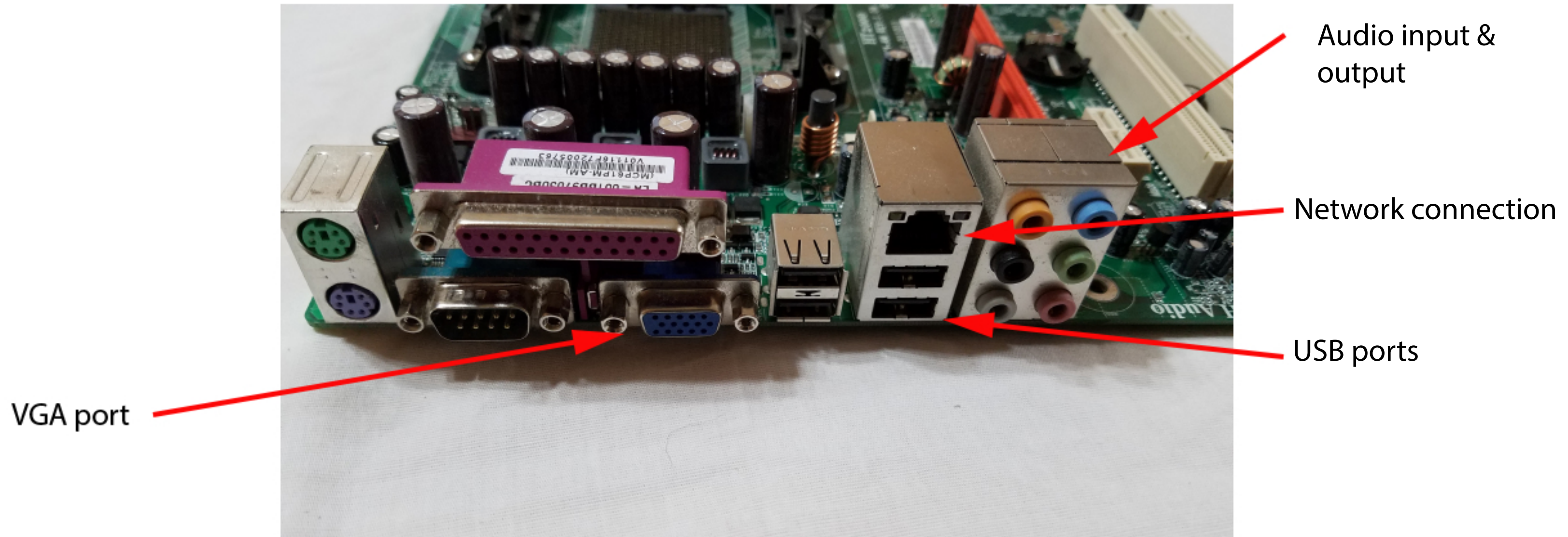
Audio input & output

Network connection

USB ports

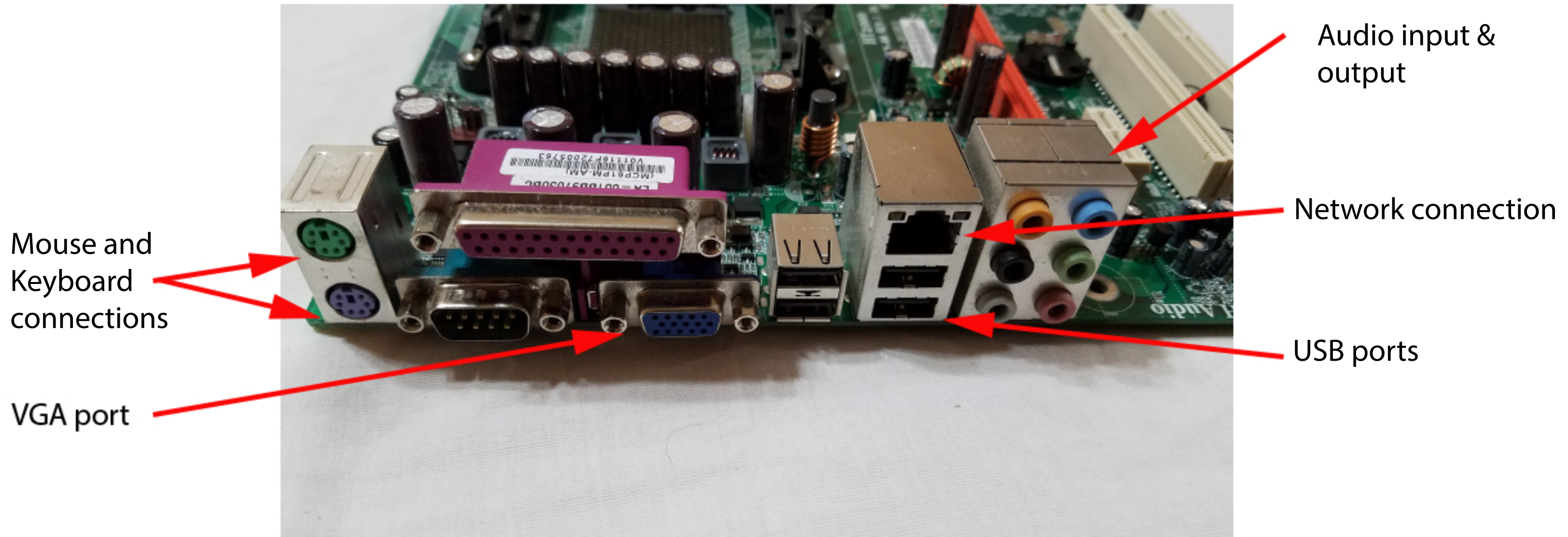
Peripherals on motherboard

E-Machine T5062



Peripherals on motherboard

E-Machine T5062



Peripherals on motherboard

E-Machine T5062

Printer port

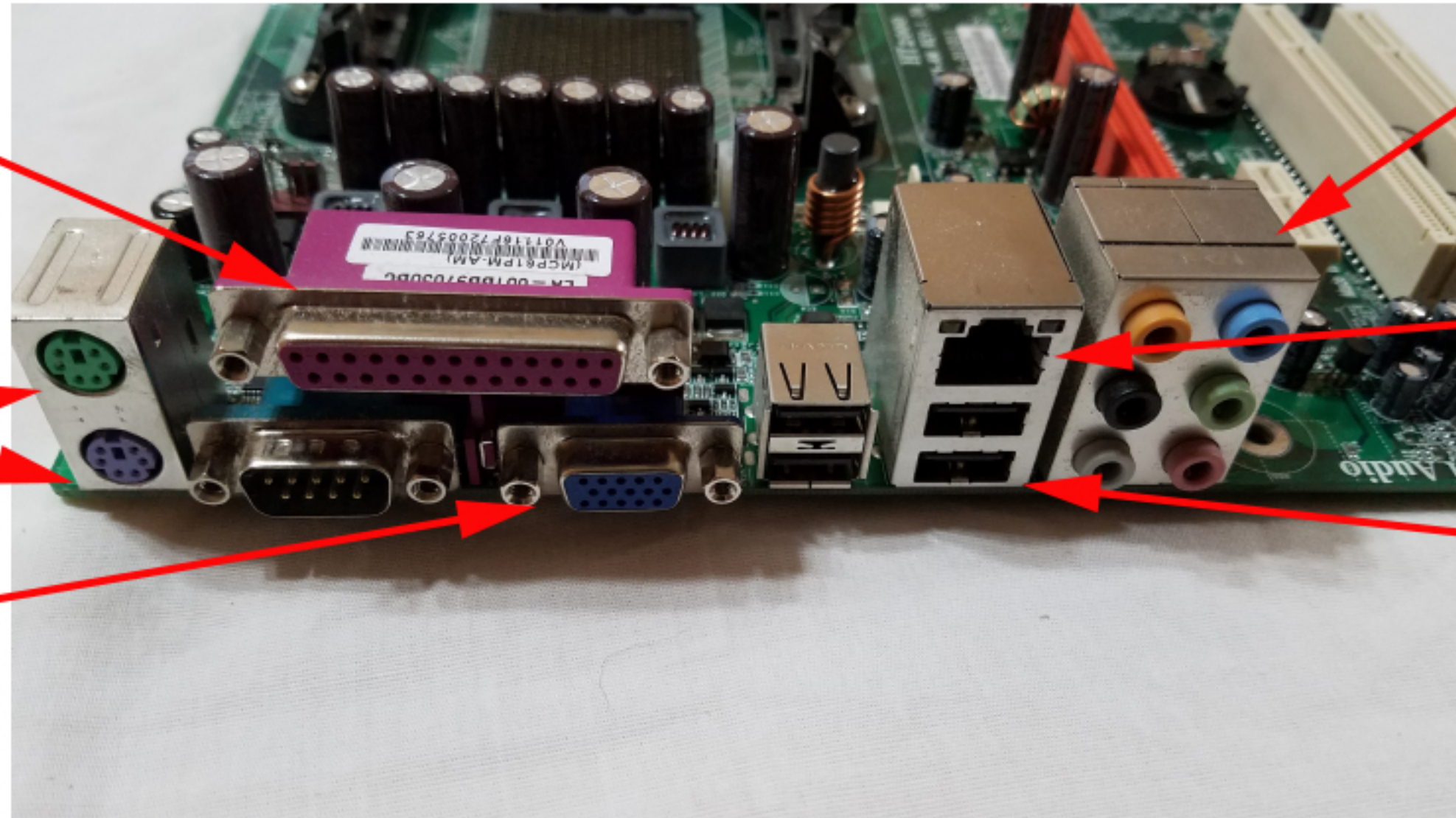
Mouse and
Keyboard
connections

VGA port

Audio input &
output

Network connection

USB ports



Peripherals on motherboard

E-Machine T5062



Central Processing Unit (CPU)

CPU performs instructions required by programs

The two electronic devices I selected were an E-Machine, and a Texas Instruments TI-99/4A home computer. I choose these two because I believed that they would give me insight into the evolution of how computers have changed over the period of over two decades. One thing I did find after looking through both computers was the fact that as time passed, there was a rising complexity in not only the parts used, but in the number of parts put into each machine.

While I found Texas Instruments parts in every part of the older TI-99, I could not find any in the E-Machine after looking through the parts. What I did find, however, was that both computers shared a similar set of base components, the power converter and motherboard. The TI-99 did not have any form of a CPU or storage because they were solid-state cartridges inserted into the machine, yet the newer machine had internal versions of both. Even more interesting was how it appeared that the TI-99 had its RAM built into the motherboard whilst the newer E-Machine had its in interchangeable slots.

After looking through both of these machines and their various components, I have found one major difference: the newer machine appeared to be built to be more user friendly. The E-Machine gives one the ability to more easily change, upgrade, or repair while with the older one almost everything was built directly onto the motherboard, making changes difficult if not impossible.