



Industrial PC

# CS86-BOX-5500U



PN: CS86-BOX-5500U

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# CS86-BOX-5500U

## Front View



## Rear View



## Side View 1



## Side View 2



## Product Overview

The CS86-BOX-5500U is a rugged, high-quality mountable multifunctional industrial PC without a display. Thanks to the integrated brackets and its light-weight construction, this single board computer can be firmly attached to any flat surface, such as industrial cabinets or walls.

CS86-BOX-5500U is powered by the high-performance Intel® Core™ i7 5500U CPU. The CS86-BOX-5500U Industrial Box PC also features a broad range of connectivity options, allowing it to meet even the most demanding requirements in harsh industrial or outdoor environments.

### Key Applications

- Industrial Automation
- Process Control
- Smart Grid Management
- CNC Manufacturing
- Environmental Monitoring
- Machine Vision Inspection
- Predictive Maintenance

Despite the performances, the offered CPU consumes very little power. From the ground-up, the CPU is built for low power consumption.

A specially designed aluminum alloy housing with fins for increased heat dissipation serves as a passive cooler, eliminating the need for built-in fans. The fan-less design reduces noise, as well as the maintenance costs and efforts, increasing reliability at the same time.

#### Caution

Be careful when handling the product while it is operating: it might become hot under heavy CPU load.

## Ordering Options

Most of the Chipsee products can be customized during the ordering process. The product will be shipped with the pre-installed factory defaults if no extra requirements are specified. The table in the [Hardware Features](#) section provides information about the default options bundled with the product.

### Note

You can order [CS86-BOX-5500U](#) from the official [Chipsee Store](#) or from your nearest distributor.

## Operating System

By default, CS86-BOX-5500U comes with the Ubuntu Linux operating system (OS) pre-installed. A different OS can be selected during the ordering process. For operating systems, CS86-BOX-5500U supports Ubuntu 22 and above, CentOS 9 Linux, Windows 8/10 64bit.



## Optional Features

The CS86-BOX-5500U Industrial Box PC offers the highest levels of scalability in the entire product portfolio.

Feel free to contact Chipsee Technical Support at [support@chipsee.com](mailto:support@chipsee.com) for all your customization needs.

CS86-BOX-5500U does not include WiFi/BT module by default. This module is optional and can be selected at the Chipsee store during the ordering process.



### Warning

Installation, repair, and maintenance tasks should be performed by trained personnel only.  
Chipsee does not bear any responsibility for damage caused by inadequate handling of the product.

## Hardware Features

The CS86-BOX-5500U Industrial Box PC offers a broad range of performance and connectivity options for scalable integration, providing expandability according to future needs. Some of the key features are listed in the table below.

| CS86-BOX-5500U         |   |
|------------------------|---|
| <b>CPU</b>             | Intel Core i7 5500U, Dual(2) Core 4 Threads, 2.4GHz Base Frequency, 3.0GHz Turbo Frequency            |
| <b>Mother Board</b>    | H81U Series, AMI BIOS   |
| <b>GPU</b>             | Intel® HD Graphics 5500 iGPU  |
| <b>RAM</b>             | 4GB(1 x 4GB) DDR3L 1600MHz (default), Up to 16GB (dual channel, optional)                             |
| <b>Storage</b>         | Default mSATA 128GB SSD (supports up to 2TB), supports 2.5" SATA HDD (SATA2.0)                        |
| <b>USB</b>             | 4 x USB3.0, 2 x USB2.0 HOST ports (Type A)  |
| <b>PCIe</b>            | 1 x Full Size Mini PCIe   |
| <b>Audio</b>           | 1 x Audio interface, Realtek ALC662 chip, supports dual channel, stereo, Lineout                      |
| <b>LAN</b>             | 2 x RJ45, GbE (Intel® i225), Wake on LAN (WoL) support  |
| <b>UART</b>            | Default 6 x RS232 (COM1 ~ COM4 can be configured to RS485 by using one internal RS232 to RS485 board) |
| <b>3G/4G</b>           | N/A   |
| <b>WiFi/BT</b>         | Optional  |
| <b>HDMI</b>            | 1 x HDMI Out port, up to 2560x1600 60Hz, independent/identical display with VGA                       |
| <b>VGA</b>             | 1 x VGA Out port, up to 1920x1080 60Hz, independent/identical display with HDMI                       |
| <b>SATA</b>            | 1 x Full size mSATA, 1 x SATA   |
| <b>Power IN</b>        | 12V 5A DC   |
| <b>Current</b>         | 2.75A (100% CPU, 12V)   |
| <b>OS</b>              | Ubuntu 22 and above, CentOS 9 Linux, Windows 8/10 64bit   |
| <b>Operating Temp.</b> | From -15°C to +80°C   |
| <b>Dimensions</b>      | 235 * 137 * 51mm  |
| <b>Shell Material</b>  | Aluminum Alloy  |
| <b>Mounting</b>        | VESA, Desktop   |
| <b>Weight</b>          | 1500g   |

Table 316 Table 1: Key Features

## Power Input

The CS86-BOX-5500U Industrial Box PC should be powered by 12V DC, the connector is 5.5 x 2.5mm DC input.



*12V DC Power Input*

The POWER button is located to the opposite side of the power input connector and can be used to switch the power ON or OFF.



*Power Button*

## Connectivity

There are many connectivity options available on the CS86-BOX-5500U industrial PC. It has 6 x USB Type A connectors configured as HOSTS, 1 x HDMI port, 1 x VGA, 2 x RJ45 connectors supporting Gigabit Ethernet (GbE), and 6 x RS232 connectors that can be configured in RS485 mode (2 x RS232 + 4 x RS485) as per request.

### RS232/485 Connectors

Product has 6 x 9-pin D-Sub connectors which are configured as RS232 interfaces by default. The 4 ports: COM1~COM4, can be configured as either RS232 or RS485 communication interfaces through an internal convert board. If different configuration is required, please get in touch with Chipsee technical support at [support@chipsee.com](mailto:support@chipsee.com)



COM Ports

## USB HOST Connectors

CS86-BOX-5500U is equipped with 4 x USB 3.0 HOST and 2 x USB 2.0 HOST ports.



*USB 3.0*



*USB 3.0(Left 2) and USB 2.0(Right 2)*

## LAN Connectors

2 x **LAN (RJ45) connectors** provide Ethernet connectivity over standardized Ethernet cables. The integrated two-port Ethernet interface supports 10/100/1000BASE-T/TX specifications with automatic speed negotiation and Wake on LAN (WoL) functionality. Power over Ethernet (PoE) is not supported.



*2 x RJ45 GbE LAN Connectors*

### Note

Use CAT5 or better cables to achieve full data throughput over maximum distance defined by the 1000BASE-T standard (100m).



## HDMI Connector

Although not equipped with the screen on its own, the The CS86-BOX-5500U Industrial Box PC features 1 x **HDMI** port and 1 x **VGA** port.

The HDMI out port, supports video output up to 2560x1600 60Hz; the VGA out port, supports up to 1920x1080 60Hz. These two video output ports support independent/ identical display, which means you can display same video or different video on two external screens.



*HDMI(Left) and VGA(Right) Ports*

## Audio In/Out Connector

The CS86-BOX-5500U has one 3.5mm audio port, the Realtek ALC662 chip, supports dual channel, stereo and lineout.



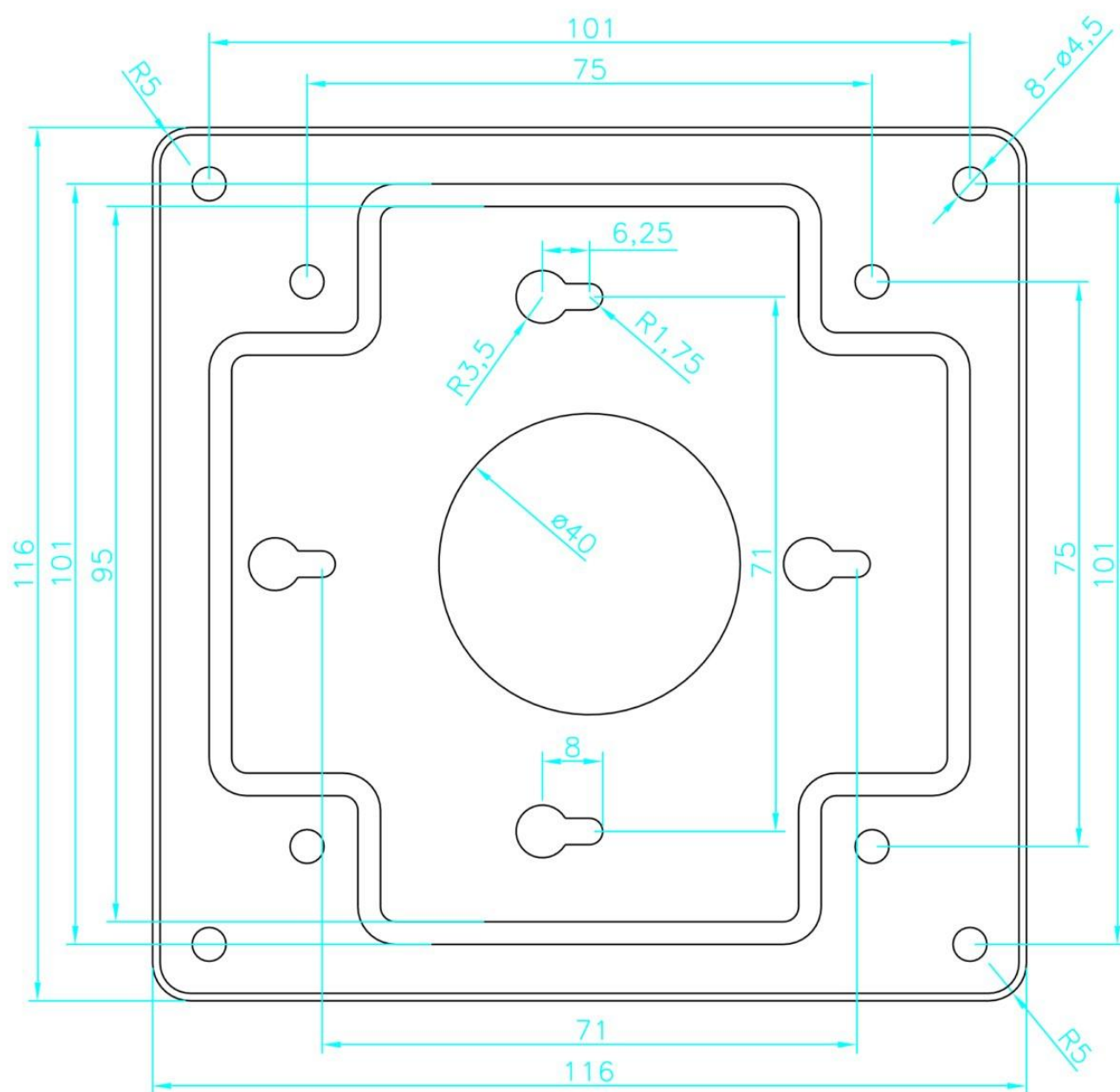
*Audio Port*



## Mounting Procedure

The CS86-BOX-5500U Industrial Box PC supports VESA mounting pattern with M3 screws, enabling simplified installation onto any standard VESA mounting rack.

A VESA mount adapter is sold *separately*, if you need it you can contact us when placing an order.



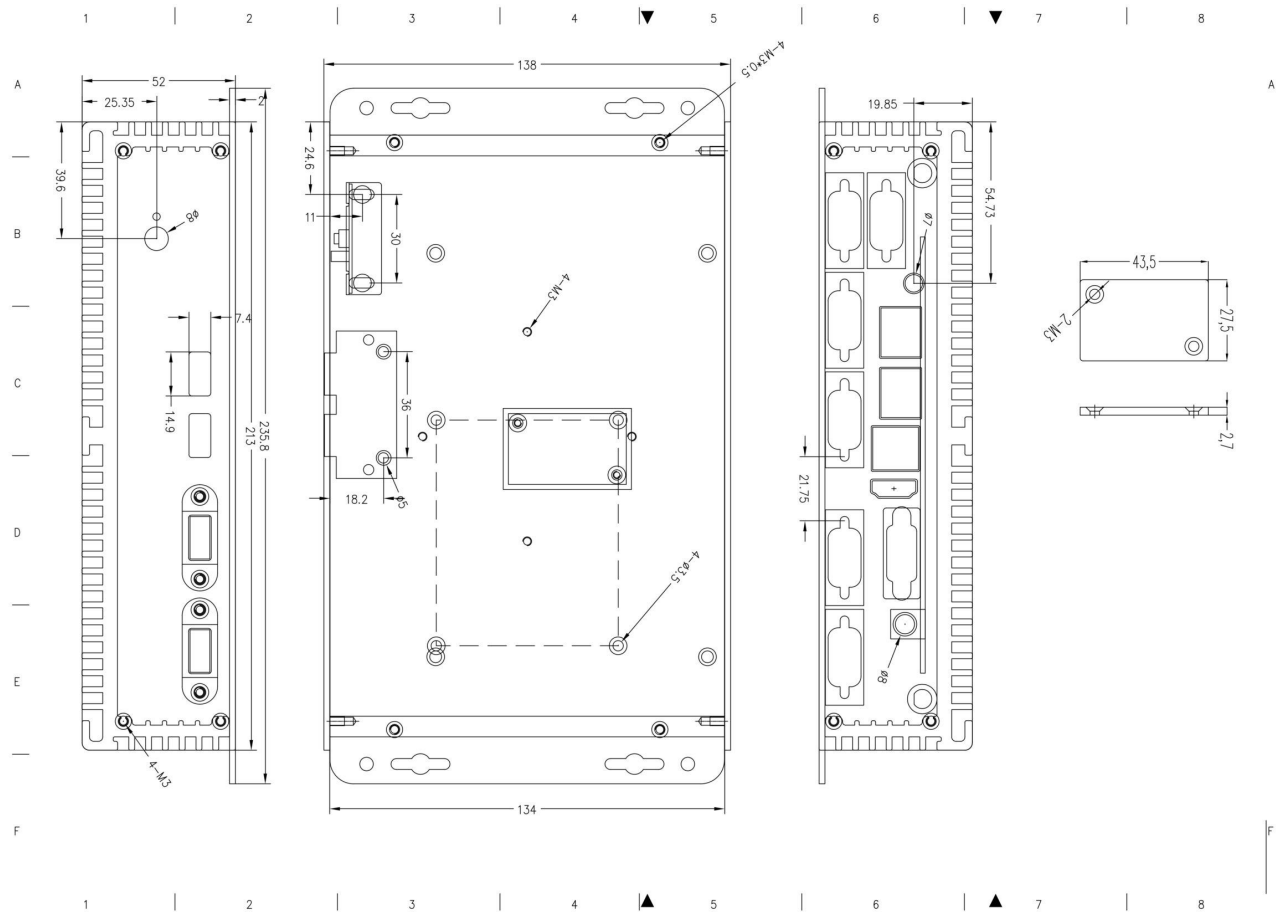
*VESA Adapter (sold separately)*

The CS86-BOX-5500U Industrial Box PC also supports desktop mount.

You can find detailed information about mounting in the [Mount IPC Guide](#).

# Mechanical Specifications

The outer mechanical dimensions of The CS86-BOX-5500U Industrial Box PC are 235 \* 137 \* 51mm (W x L x H). Please refer to the technical drawing in the figure below for details related to the specific product measurements.



CS86-BOX-5500U Technical Drawing

## Disclaimer

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## Technical Support

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