



DA-682A Series Rackmount Computer Quick Installation Guide

Second Edition, October 2013

1. Overview

The DA-682A series of computers are x86 platforms with VGA output, 6 Gigabit Ethernet ports, a CompactFlash socket, USB, and two PCI ports for DA Series expansion modules. The DA-682A comes in a standard 19 inch 2U rack-mountable case.

With their robust design, DA-682A computers are specialized for industrial automation applications like power substations, transportation and shipping, and oil and gas production and supply. The DA-682A computers run either Linux Debian or Windows Embedded Standard 7, providing a friendly environment for developing sophisticated application software, no matter what your preferred platform is. Moxa's ready-to-run software and readily available after-service support makes the programmer's job easier, helping programmers develop bug-free code quickly and at a lower cost.

2. Model Names and Package Checklist

The DA-682A Series includes the following models:

- **DA-682A-C0:** Rackmount computer with Celeron 827E 1.4 GHz single core CPU, without DOM/RAM/OS, VGA, 6 Gigabit LANs, USB x 4, and a CompactFlash socket
- **DA-682A-C0-LX:** Rackmount computer with Celeron 827E 1.4 GHz single core CPU, VGA, 6 Gigabit LANs, USB x 4, CompactFlash socket, 1 GB system memory, 2 GB Linux Debian 7, and a pre-installed DOM
- **DA-682A-C0-W7E:** Rackmount computer with Celeron 827E 1.4 GHz single core CPU, VGA, 6 Gigabit LANs, USB x 4, CompactFlash socket, 2 GB system memory, 8 GB Windows Embedded Standard 7, and a pre-installed DOM
- **DA-682A-C1:** Rackmount computer with Celeron 847E 1.1 GHz dual core CPU, without DOM/RAM/OS, VGA, 6 Gigabit LANs, USB x 4, and a CompactFlash socket
- **DA-682A-C1-LX:** Rackmount computer with Celeron 847E 1.1 GHz dual core CPU, VGA, 6 Gigabit LANs, USB x 4, CompactFlash socket, 1 GB system memory, 2 GB Linux Debian 7, and a pre-installed DOM
- **DA-682A-C1-W7E:** Rackmount computer with Celeron 847E 1.1 GHz dual core CPU, VGA, 6 Gigabit LANs, USB x 4,

CompactFlash socket, 2 GB system memory, 8 GB Windows Embedded Standard 7, and a pre-installed DOM

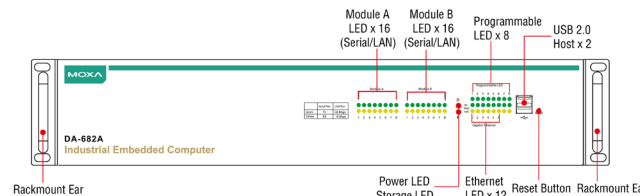
- **DA-682A-C7:** Rackmount computer with Core i7-2610UE 1.5 GHz dual core CPU, without DOM/RAM/OS, VGA, 6 Gigabit LANs, USB x 4, and a CompactFlash socket
- **DA-682A-C7-LX:** Rackmount computer with Core i7-2610UE 1.5 GHz dual core CPU, VGA, 6 Gigabit LANs, USB x 4, CompactFlash socket, 1 GB system memory, 2 GB Linux Debian 7, and a pre-installed DOM
- **DA-682A-C7-W7E:** Rackmount computer with Core i7-2610UE 1.5 GHz dual core CPU, VGA, 6 Gigabit LANs, USB x 4, CompactFlash socket, 2 GB system memory, 8 GB Windows Embedded Standard 7, and a pre-installed DOM

Each basic system model is shipped with following standard items:

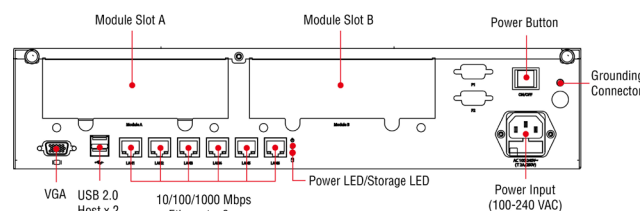
- DA-682A rackmount computer
- Rackmount kit
- Quick Installation Guide
- Document & Software CD
- Product Warranty Statement

3. Hardware Installation

Front View



Rear View



Connecting the Power

To power on the DA-682A embedded computer, connect the power cable to the PSU jack (located on the right side of the rear panel) and then turn on the power switch. If the power is properly supplied, the **Power** LED will light up first, and then when the

BIOS initializes the flash disk module the **Storage** LED will start blinking. It should take about 30 to 60 seconds for the operating system to complete the boot process.

Front Panel LEDs

There are 58 LED indicators on the front panel, and 2 on the rear panel. Information about each LED is given in the following table.

LED	Color	Description
Power	Green	Power is on
	Off	Power supply has been cut or there is a system short
Storage	Yellow/Blinking	Data is being written to or to read from the storage unit
	Off	Storage unit is idle
Gigabit Ethernet LEDs 1-6	Green	100 Mbps Ethernet mode
	Yellow	1000 Mbps (gigabit) Ethernet mode
	Off	No connection or 10 Mbps Ethernet mode
Programmable 1-8	Green	Defined by user
Module A LEDs 1-8	Green	100 Mbps Ethernet mode or TX signal of serial port is active.
	Yellow	10 Mbps Ethernet mode or RX signal of serial port is active.
	Off	Failed connection / no module
Module B LED 1-8	Green	100 Mbps Ethernet mode OR serial port is transmitting
	Yellow	10 Mbps Ethernet mode OR serial port is receiving
	Off	Inactive / no connection

Connecting to a Display

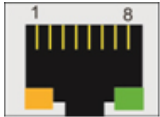
The VGA hardware interface is a D-Sub 15-pin female connector. Be sure to cut off system power before you connect or disconnect the monitor cable.

USB Ports

The DA-682A comes with four USB 2.0 ports, two on the rear panel, and two on the front. Users may use these USB ports to connect keyboard, mouse, or other peripherals such as flash drives, for expanding the system's storage capacity.

Ethernet Ports

The DA-682A provides 6 100/1000 Mbps Ethernet RJ45 ports. The pin assignments are shown in the table at the top of the next fold:



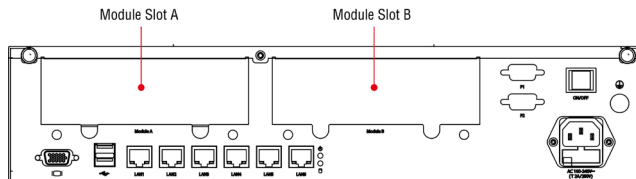
Pin	100 Mbps	1000 Mbps
1	Tx+	TRD(0)+
2	Tx-	TRD(0)-
3	Rx+	TRD(1)+
4	-	TRD(2)+
5	-	TRD(2)-
6	Rx-	TRD(1)-
7	-	TRD(3)+
8	-	TRD(3)-

The default IP addresses and netmasks of the Ethernet ports are as follows. Please note that W7E models default to DHCP.

LAN	Default IP Address	Netmask
LAN 1	192.168.3.127	255.255.255.0
LAN 2	192.168.4.127	255.255.255.0
LAN 3	192.168.5.127	255.255.255.0
LAN 4	192.168.6.127	255.255.255.0
LAN 5	192.168.7.127	255.255.255.0
LAN 6	192.168.8.127	255.255.255.0

Installing Expansion Modules

The DA-682A comes with two slots that accept Moxa's **DA Series expansion modules**. These modules provide serial ports, additional Ethernet LAN interfaces, network switches, fiber interfaces, and also may serve a PCI development module for custom features. Expansion modules are loaded using the slots on the rear panel of the DA-682A computer.



4. Configuring the Ethernet Interface

Linux users should follow these steps:

If you use the console cable to configure network settings for the first time, use the following commands to edit the interfaces file. First, take all network interfaces offline, before you reconfigure the LAN settings:

```
MOXA:~# ifdown -a
```

Next, edit the network interfaces file; you may use the text editor of your choice, but VI is the default editor on the DA-682A-LX:

```
MOXA:~# vi /etc/network/interfaces
```

You may set the DA-682A for either dynamic IP addressing or static addressing. To set it for dynamic IP addressing, enter the following lines (top of the next fold) into the network interfaces file:

```
# The primary network interface
auto eth0
iface eth0 inet dhcp
```

If you wish to set an interface for static IP addressing, then use the following configuration. Each interface must be configured with separate entries in the network/interfaces file; LAN1 corresponds to eth0, LAN 2 corresponds to eth1, and so forth for the remaining interfaces.

```
# The loopback network interface
auto lo
iface lo inet loopback
```

```
# The first LAN interface, LAN 1
auto eth0
iface eth0 inet static
    address 192.168.3.127
    netmask 255.255.255.0
    broadcast 192.168.3.255
```

```
# The second LAN interface, LAN 2
auto eth1
iface eth1 inet static
    address 192.168.4.127
    netmask 255.255.255.0
    broadcast 192.168.4.255
```

Exit VI by typing:

```
:wq
```

Then, after the interfaces file has been configured, use the following commands to reinitialize the network interfaces and activate the new settings immediately:

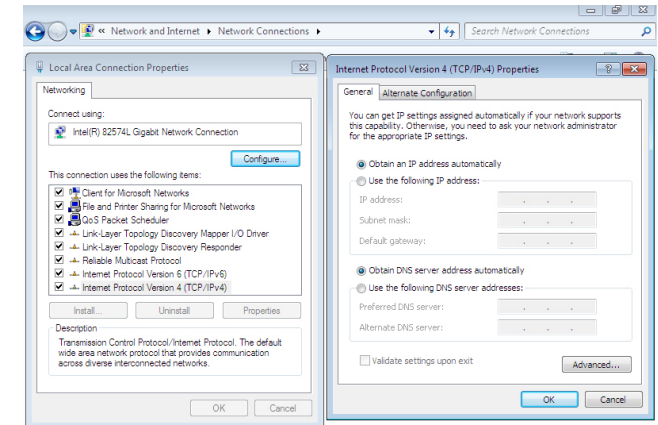
```
MOXA:~#sync; ifup -a
```

Win7 users should follow these steps:

Step 1: Go to **Start=>Control Panel=>Network and Internet=> Network Connections**.

Step 2: In the screen of **Local Area Connection Properties**, click **Internet Protocol (TCP/IP)** and then select **Properties**.

Step 3: Click **OK** after inputting the preferred IP address and netmask.



NOTE Refer to the DA-682A software manual for your machine's OS to find additional configuration information.

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