

Connecting Power to SBC 5000 Series and Powering On

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SBC Power Requirements

After installing the SBC 5000 series chassis to a rack and attaching necessary cables, you are now ready to install power and ground cables and apply power to the SBC. The SBC 5000 series is capable of dual redundant AC or DC power.

The standard SBC 5000 series platform is shipped with one power supply. A second power supply may be added for redundancy at any time. Please contact your sales representative for more information.

⚠ Before connecting to power, you must connect the chassis ground lug to the SBC chassis.

Table 1: SBC 5100 Power Requirements

AC Low Line		AC High Line		DC	
Minimum: 90 Vrms Nominal: 100-120 Vrms Maximum: 140 Vrms		Minimum: 180 Vrms Nominal: 200-240 Vrms Maximum: 264 Vrms		Minimum: 40 Vdc Nominal: 48 Vdc Maximum: 60 Vdc	
Amps	Watts	Amps	Watts	Amps	Watts
4.5	402	2.2	393	10.0	403
5.5	485	2.4	468	11.7	472
6.3	562	3.1	546	13.2	560
7.1	633	3.4	619	14.5	617

Table 2: SBC 5200 Power Requirements


AC Low Line		AC High Line		DC	
Minimum: 90 Vrms Nominal: 100-120 Vrms Maximum: 140 Vrms		Minimum: 180 Vrms Nominal: 200-240 Vrms Maximum: 264 Vrms		Minimum: 40 Vdc Nominal: 48 Vdc Maximum: 60 Vdc	
Amps	Watts	Amps	Watts	Amps	Watts
5.8	515	2.8	502	12.4	519
6.7	604	3.3	595	14.8	589
7.6	676	3.7	656	16.8	672
8.5	755	4.1	731	18.8	751

Table 3: SBC 5210 Power Requirements

Config	AC Input (W)				DC	
	Low Line		High Line			
	Minimum: 90 Vrms Nominal: 100-120 Vrms Maximum: 140 Vrms		Minimum: 180 Vrms Nominal: 200-240 Vrms Maximum: 264 Vrms		Minimum: 40 Vdc Nominal: 48 Vdc Maximum: 60 Vdc	
	Amps	Watts	Amps	Watts	Amps	Watts
SBC 5210 without DSP Card	5.7	512	2.9	516	12.6	502
SBC 5210+1*DSP Card	6.4	576	3.2	582	14.0	559
SBC 5210+2*DSP Cards	7.2	644	3.6	647	14.9	594
SBC 5210+3*DSP Cards	7.8	702	3.9	702	17.0	678
SBC 5210+4*DSP Cards	8.5	761	4.2	763	17.3	692

Table 4: SBC 5110 Power Requirements

Config	AC Input (W)				DC	
	Low Line		High Line			
	Minimum: 90 Vrms Nominal: 100-120 Vrms Maximum: 140 Vrms		Minimum: 180 Vrms Nominal: 200-240 Vrms Maximum: 264 Vrms		Minimum: 40 Vdc Nominal: 48 Vdc Maximum: 60 Vdc	
	Amps	Watts	Amps	Watts	Amps	Watts
SBC 5110 without DSP Card	4.5	408	2.3	407	9.8	390
SBC 5110+1*DSP Card	5.2	472	2.6	465	11.4	454
SBC 5110+2*DSP Cards	5.9	530	2.9	525	12.8	512
SBC 5110+3*DSP Cards	6.6	597	3.3	591	15.1	604
SBC 5110+4*DSP Cards	7.4	667	3.6	654	16.8	673

 All power ratings in the table reflect fans running at high speed.

Grounding SBC 5000 Series Chassis


The following procedure explains how to ground the SBC 5000 series platform to local earth using a 7/16 inch wrench:

1. Locate the chassis grounding studs on the back of the chassis.
2. Attach the two hole chassis ground lug PN 300-30016 to the SBC 5100 using two flat washers PN 510-00057, two split lock washers PN 510-00056, and two hex nuts PN 511-00046 as shown in the following figure.

Figure 1: Chassis Grounding Lug Location



3. Secure the other end of the grounding cable to the earth ground in the building. You can secure the grounding cable to a proper grounding point on the rack, as long as the rack is properly grounded to the earth ground in the building.

 Connect the chassis to local earth ground such that any possible charge is carried off to the earth thus eliminating the risk of shock.

Routing the Power Cables

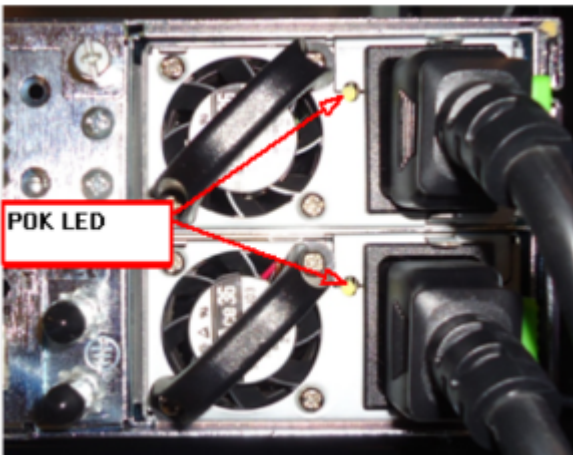
Sonus recommends to route the power cables so that the top power supply cables connect from above and the bottom power supply cables connect from below. This prevents one power supply cable from getting in the way of the other one in case it needs to be removed individually.

Connecting to AC Power Source and Powering On

The following procedure explains how to connect to the AC power and powering on the switch:

1. For each AC power supply, insert the supplied AC power cord's female connector to the power supply AC receptacle at the rear of the chassis (shown in the following figure).

Figure 2: SBC Chassis AC Power Location



2. Connect the supplied power cords to the local AC power source.
3. Turn on your local AC power source.

In a dual-redundant power supply configuration, the power supplies are hot-swappable meaning that it may be replaced without removing the power supply of SBC platform (provided that the redundant power supply is operational).

 **Important**

Before replacing a power supply in a redundant power supply configuration, verify the status of the redundant power supply. The “POK” LED status must be “solid green”. Removing the power supply when the redundant supply does not show a solid green status, may cause the system to power down. Contact Sonus customer support if required.

The following table describes the status of AC power supply.

Table 5: AC power supply LED states

Condition	LED Status (Green/Amber)
Standby ON, Main Output OFF, AC Present	Blinking Green
Standby ON, Main Output ON	Solid Green
Main Output OCP, UVP, OVP	Blinking Amber
FAN Fail, OTP, Standby OCP/UVP	Amber


Disconnecting from AC Power Source

The following procedure explains how to disconnect from your local AC power source:

1. Perform a graceful shutdown of the SBC 5000 series system through BMC.
2. Turn off your local AC power source.
3. Remove the power cord.

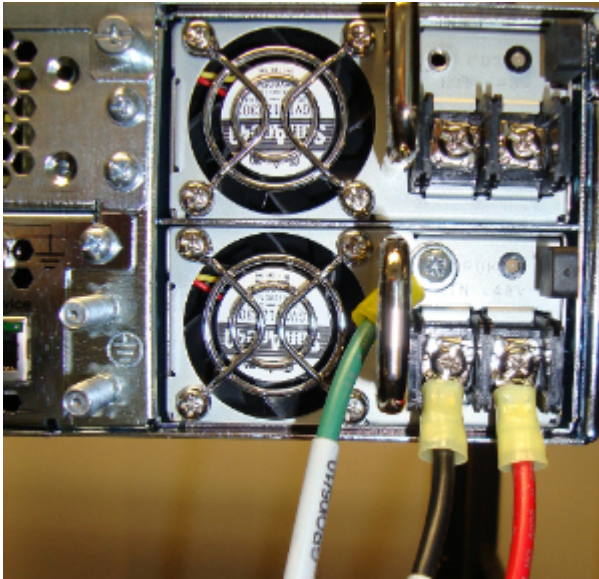
Connecting to DC Power Source and Powering On

The following procedure explains connecting an SBC 5000 series power supply to the DC Power and power on the switch. If two power supplies are installed, both need to be connected to power before powering up the switch.

 Identify the correct size fuse(s) for your configuration and wire gauge before applying DC power to a switch. Also, ensure to switch off the power supply before installing the cables.

1. Remove the clear plastic terminal cover and set it aside.
2. Check the chassis ground is connected to the 2-post terminal lug next to the power supply bay. Refer to [Grounding SBC 5000 Series Chassis](#) topic above.
3. Connect ground cable (green) to the screw located above the DC power terminal posts as shown in the below figure:

Figure 3: SBC DC Terminal Connections



4. Use a voltmeter to verify that no voltage is present on DC input power cables.
5. Attach the DC return cable (black) to the Return terminal.
6. Attach the -48V cable (red) to the -48V terminal.
7. Reattach the clear plastic terminal cover.
8. If applicable, attach the other end of the supplied DC power cables to DC power source.

⚠ Do not apply DC power to the DC Power supply prior to hot-inserting the supply into the chassis.

9. Turn on DC power source.

In a dual-redundant power supply configuration, the power supplies are hot-swappable meaning that it may be replaced without powering down the SBC platform (provided that the redundant Power Supply is operational).

⚠ Important
 Before replacing a power Supply in a redundant power supply configuration, verify the status of the redundant power supply. The “POK” LED status must be “solid green”. Removing the power supply when the redundant supply does not show a solid green status, may cause the system to power down. Contact Sonus Customer Support if required.

The following table describes the status of DC power supply.

Table 6: DC power supply LED states

Condition	LED States (Green/Amber)
No DC Power to all PSU	OFF
DC present/Standby Outputs ON, Main Output OFF	Blinking Green
Power Supply DC Outputs ON and OK	Solid Green
Main Output Failure (OCP, OVP, UVP)	Blinking Amber
Fan Fail, OTP, Standby Output OCP/UVP	Solid Amber

Disconnecting from DC Power Source

The following procedure explains how to disconnect DC power from SBC 5000 series chassis :

1. Perform a graceful shutdown of the SBC 5000 series system through BMC.
2. Turn off the local DC power source.
3. Remove the clear plastic terminal cover and set it aside.
4. Remove the DC power cables from the terminals, and re-attach the screws.
5. Remove the ground cable from the power supply, and re-attach the screw.

⚠ Do not remove the DC Power supply without first turning off the power to the power supply being removed from the chassis.

Removing the Power Supply

⚠ Remove DC power from the power supply and remove the power cables from power supply before attempting this procedure.

To remove the AC or DC power supply from the chassis, perform the following steps:

1. Push the green or black integrated lever towards your left to disengage the power supply module.
2. Pull the power supply out of the power supply slot.

Refer to the following figures for integrated lever locations:

Figure 4: DC Power Supply Integrated Lever

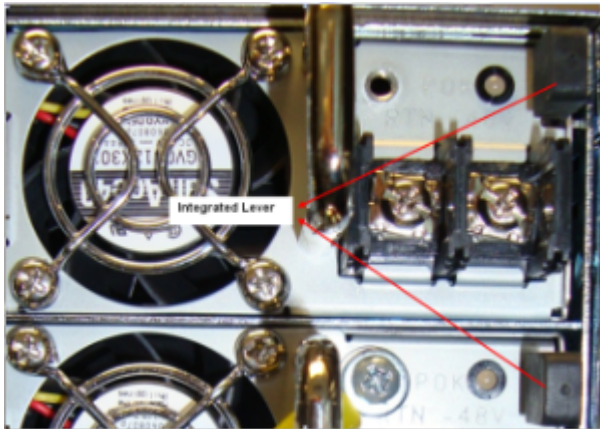


Figure 5: AC Power Supply Integrated Lever

