Keysight 10GbE Server (E7515AU-S02)

For the E7515A UXM Wireless Test Set

Installation Guide

KEYSIGHT TECHNOLOGIES

Notices

Trademark Acknowledgments

Manual Part Number

E7515-90021

Edition

Edition 1, February 2017

Printed in USA/Malaysia

Published by:
Keysight Technologies
1400 Fountaingrove Parkway
Santa Rosa, CA 95403

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CAUTION

A **CAUTION** notice denotes a hazard. It calls attention to an operating procedure, practice, or the like that, if not correctly performed or adhered to, could result in damage to the product or loss of important data. Do not proceed beyond a CAUTION notice until the indicated conditions are fully understood and met.

WARNING

A **WARNING** notice denotes a hazard. It calls attention to an operating procedure, practice, or the like that, if not correctly performed or adhered to, could result in personal injury or death. Do not proceed beyond a WARNING notice until the indicated conditions are fully understood and met.

Where to Find the Latest Information

Documentation is updated periodically. For the latest information about these products, including instrument software upgrades, application information, and product information, browse to one of the following URLs, according to the name of your product:

http://www.keysight.com/find/uxm

To receive the latest updates by email, subscribe to Keysight Email Updates at the following URL:

http://www.keysight.com/find/MyKeysight

Information on preventing instrument damage can be found at:

www.keysight.com/find/PreventingInstrumentRepair

Is your product software up-to-date?

Periodically, Keysight releases software updates to fix known defects and incorporate product enhancements. To search for software updates for your product, go to the Keysight Technical Support website at:

http://www.keysight.com/find/techsupport

Keysight Wireless Test Set
E7515AU-S02 10GbE Server

Installation Guide

Installation Guide

This document describes how to install the 10GbE (E7515AU-S02) in your E7515A UXM.

Topics covered:

The 10GbE Server (also known as the Server PC or SPC) is an additional personal computer that is easily installed in the rear-panel of the UXM. With this increased processor and disc-space functionality available to you outside the embedded PC of the UXM, you are able to utilize maximum speed and efficiency when performing User Equipment (UE) capability testing via the UXM.

The software application recommendations for installation on the 10 GbE Server are detailed in the UXM Getting Started Guide that you received with the shipment of your UXM and located on the web at:
www.keysight.com/find/UXM-Manuals

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Initial Inspection

Inspect the shipping container and the cushioning material for signs of stress. Retain undamaged shipping materials for future use, as you may wish to ship the test set to another location or to Keysight Technologies for service. Verify the contents of the container against the table below.

Item	Deliverable	Description
10 GbE Server (E7515A-A02)		DESCRIPTION?????
10 GbE Server (E7515A-A02) Installation Guide		This document.
4-port USB Hub unpowered		

CAUTION Do not install a powered USB Hub into the 10 GbE Server, as it may prevent this component from shutting down completely which could lead to data corruption. Use the 4-port USB Hub supplied, as described in the table above.

Shipping Problems?

If the shipping materials are damaged or the contents of the container are incomplete:

- Contact the nearest Keysight Technologies office.
- Keep the shipping materials for the carrier's inspection.
- If you must return a test set to Keysight Technologies, use the undamaged original or comparable shipping materials. See "Returning Components for Service" on page 24.

Installation Procedures

Tools Required

- Flat-head screw driver (to remove the filler panel)
- Torx T10 screwdriver (to install the Server PC).

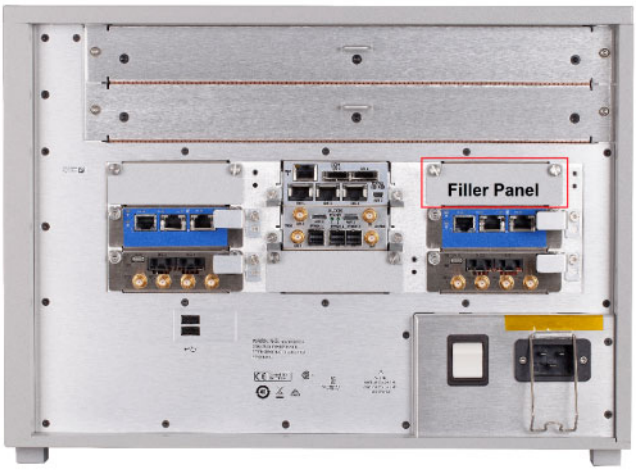
Software Compatibility

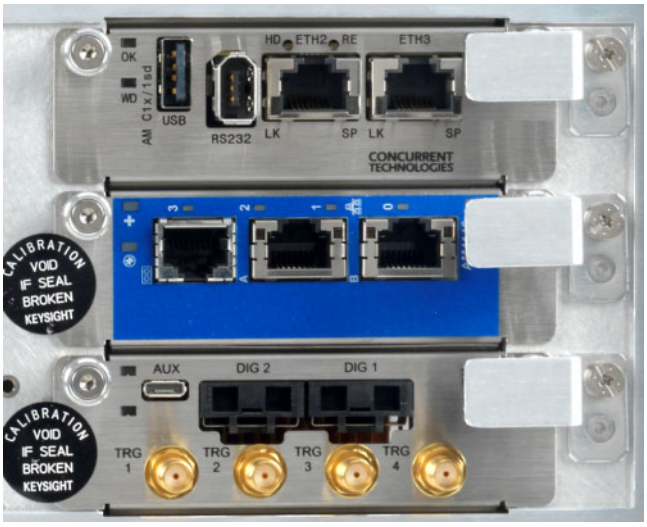
NOTE You must install E7515A software version 1.2.3.0 or above in order to use the 10GbE Server.

ESD Precautions

CAUTION Ensure you are working at a static safe workstation before performing the installation process described below. Review the information presented in "Protecting Against Electrostatic Discharge" on page 23 before beginning the installation process.

Hardware Installation Procedure

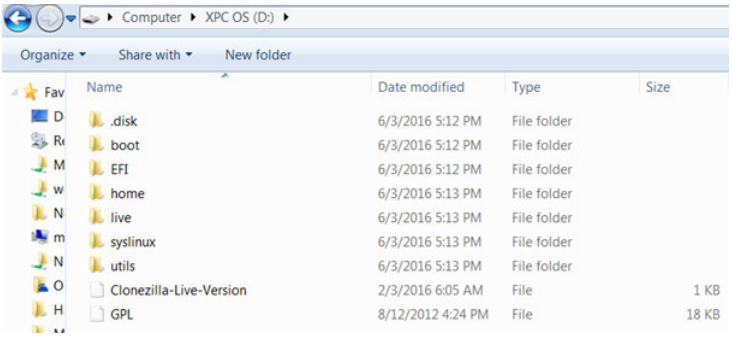
Step	Notes
1. Make sure the instrument is turned off by switching the Mains switch on the rear-panel to Off. Also, ensure there are no Ethernet cables connected to the instrument.	
2. Remove the filler panel from the rear panel of the UXM.	
CAUTION	**Whenever the UXM is powered on, either the 10GbE Server or the filler panel must be in place, to ensure proper airflow within the instrument.**

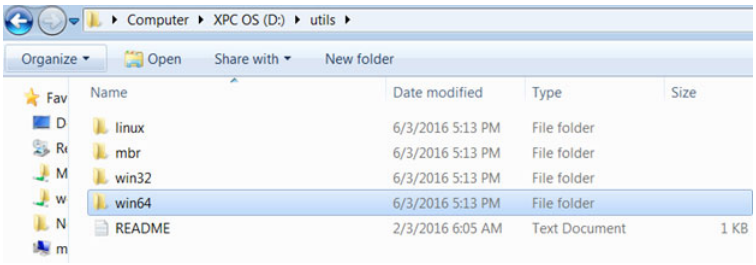
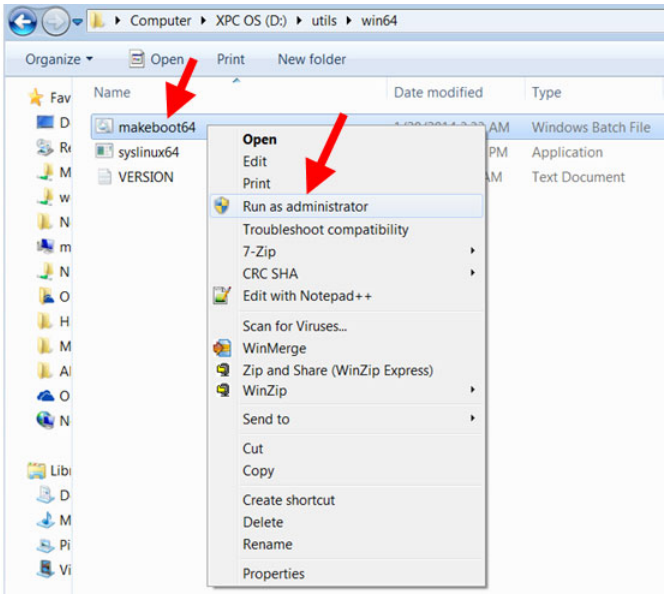
Step	Notes
3. Ensure the retention tab is unlocked (fully extended). Insert the Server PC in position shown.	
4. Insert and tighten captive screws to 4.7 lb-in (~53 N-cm). Lock retention tab. NOTE: View shows retention tab extended, not locked. Push tab in to lock.	
5. Attach retainer bracket in order to secure module in place. Tighten captive screw to 4.7 lb-in (~ 53 N-cm)).	

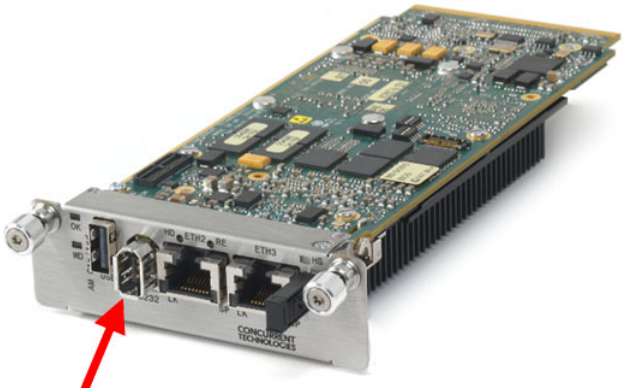
Step	Notes
6. This completes the physical installation of the 10GbE Server. Continue to the next steps which enable its ability to function properly.	

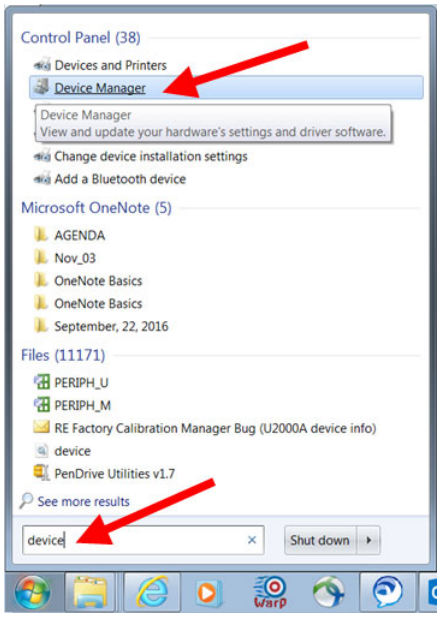
Software Installation Procedure

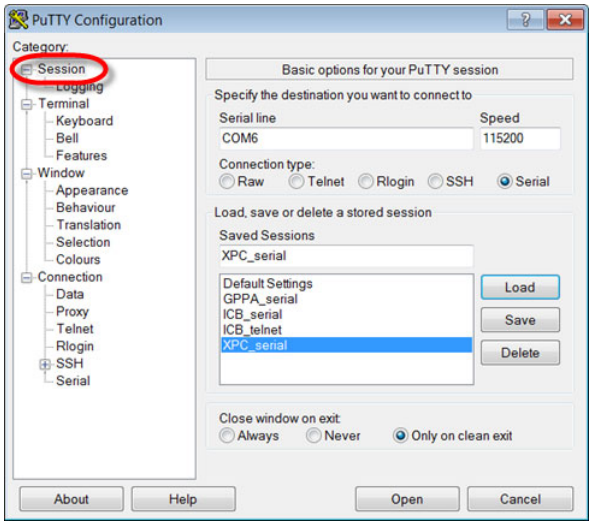
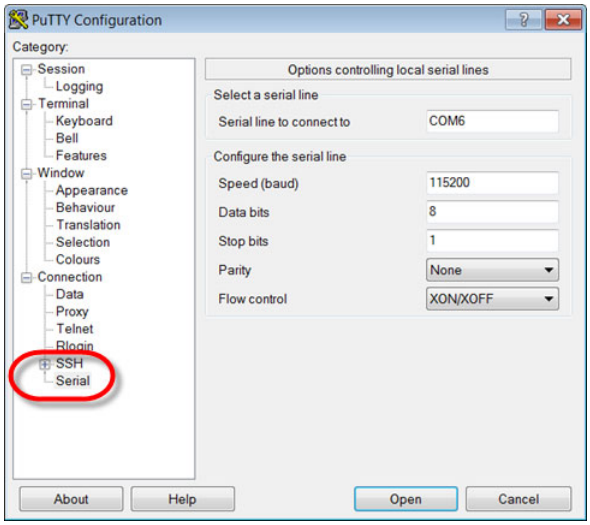
This procedure assumes that “Hardware Installation Procedure” on page 9 has already been done.

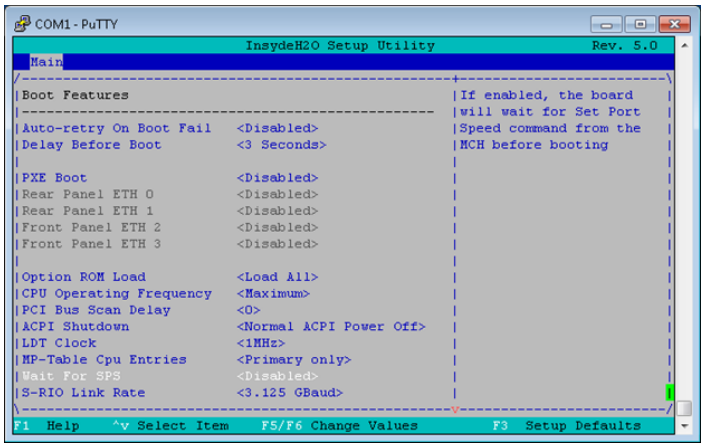
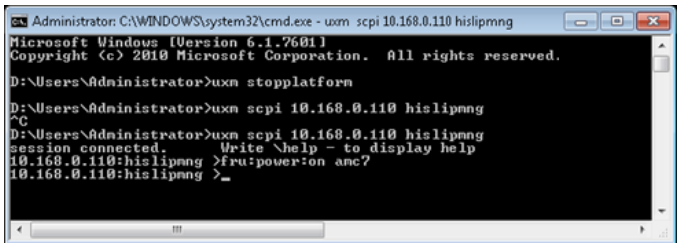
Step	Notes
1. Create a Clonezilla bootable USB.	a. Format USB drive with FAT32 filesystem (minimum size: 4GB) b. Unzip the file “Keysight Xpc CentOS 0.0.0.4.zip”. c. Copy the contents to the USB drive: 

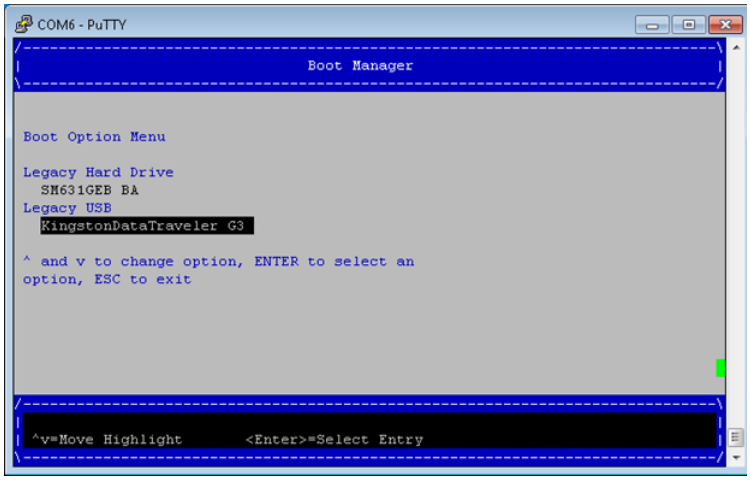
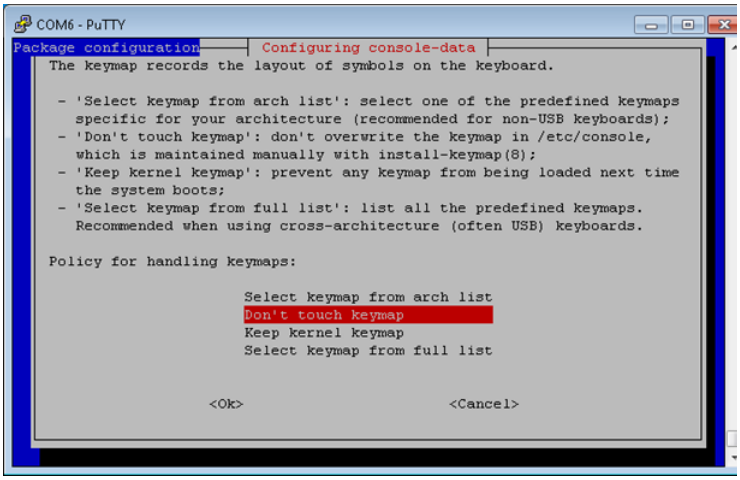
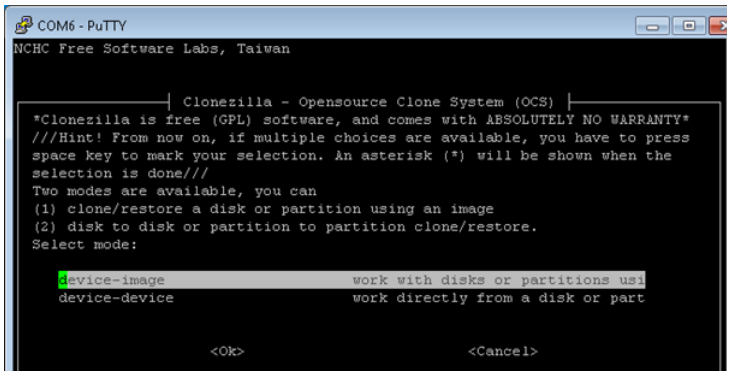
Step	Notes
2. Make the USB bootable.	a. Navigate to “utils” folder.  b. In this location the “makeboot” scripts are located. c. Select the correct folder, it depends on the operating system you’ll run the script. i.e.: If you are creating the bootable USB from a Windows 64-bit select “win64”. d. Right click on the “makeboot” script, and select “Run as administrator”. 
3. Remove USB drive safely	

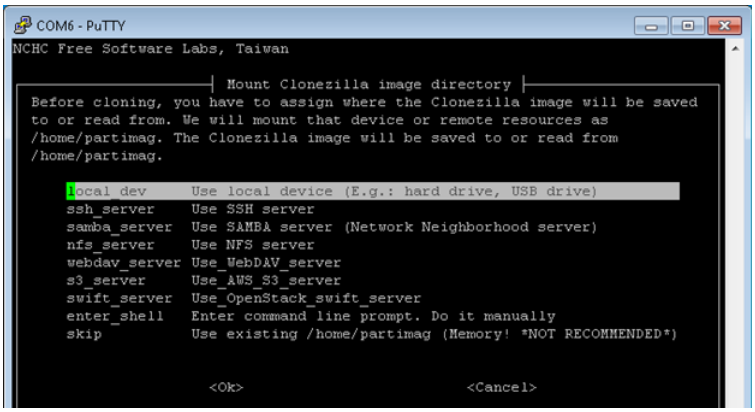
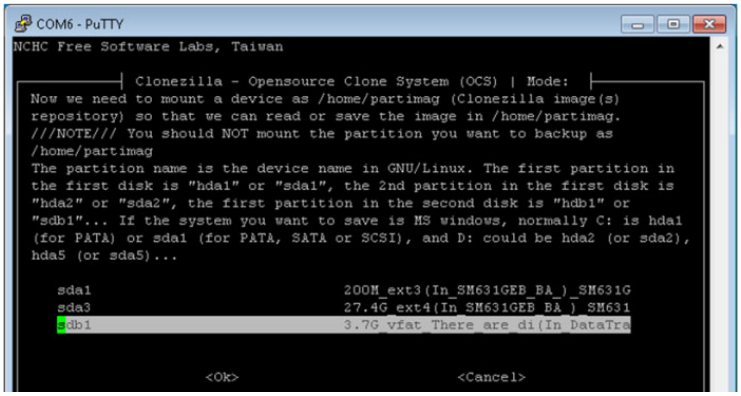
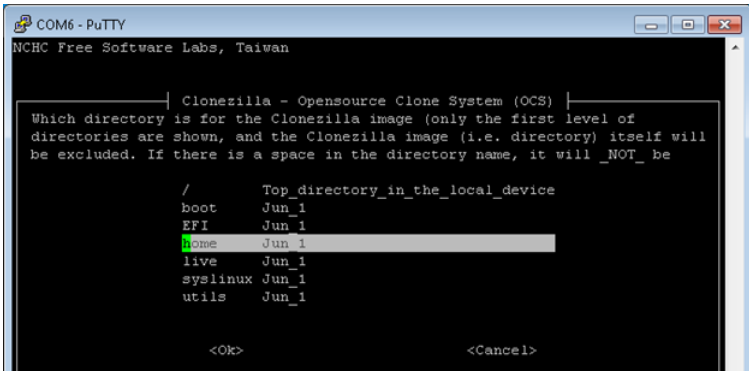
Step	Notes
4. Connect serial cable to the XPC "RS 232" port.	
5. Connect the serial cable to an adaptor.	XPC serial cable is terminated with a DB9 male serial connector:  Therefore, a serial (female) to USB adaptor is needed: 
6. Connect the serial cable to an external PC available USB port.	

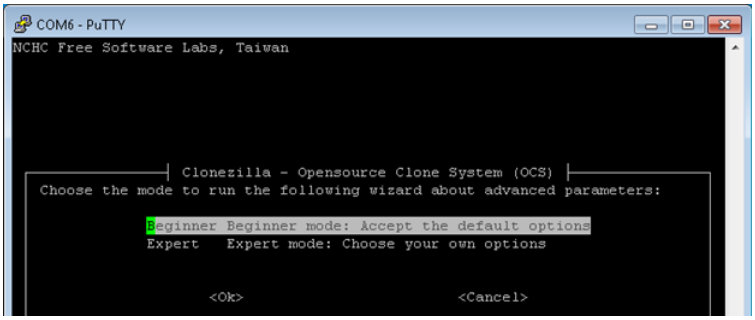
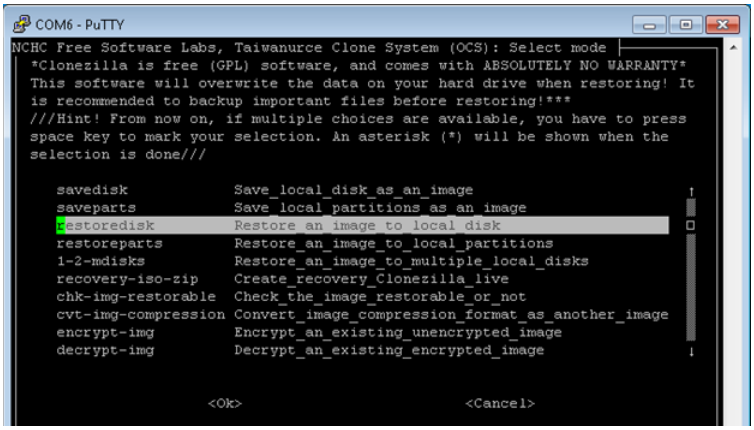
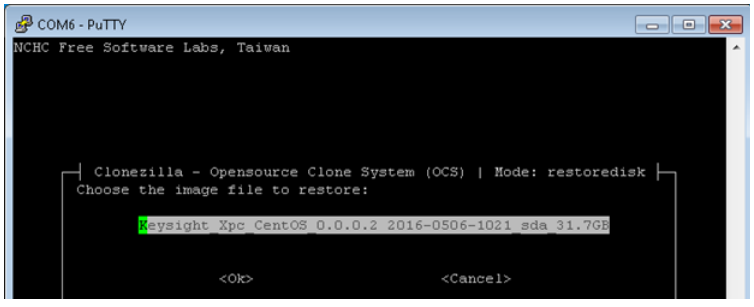
Step	Notes
7. Identify the COM port.	Determine in which COM port Windows maps the serial connection by opening Windows Device Manager and checking COM ports.  In this example, it is mapped in “COM6”.
8. Use a terminal application to start the serial connection.	For example, Putty is a free tool that supports this connection.

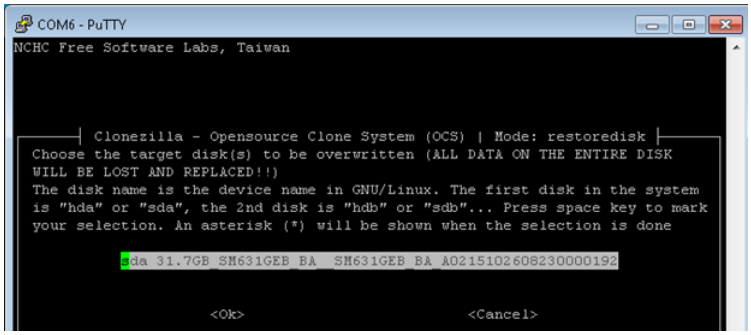
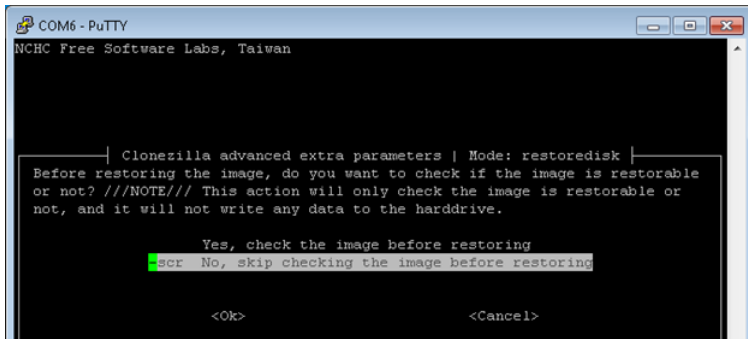
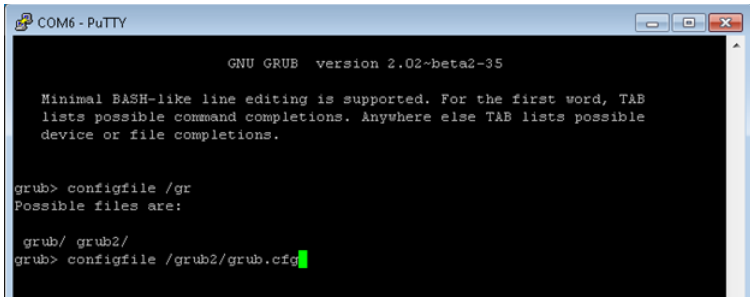
Step	Notes
9. Configure speed 115200 and no hardware control.	 

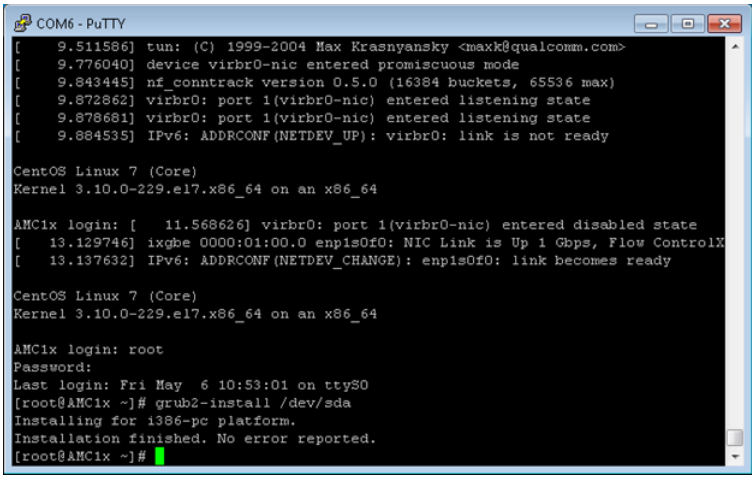
Step	Notes
10. BIOS Configuration	BIOS Configuration utility automatically pops up at boot up. Configure BIOS parameter “Wait For SPS” to value “Disabled”, as shown in the following screenshot: 
11. Flash the XPC. From UXM desktop, launch a command window (click on “Start”, then type “cmd” and select it).	Type “uxm stopplatform”. It is then possible to control the XPC power state by opening a session with ICM, and using the ICM commands: FRU:POWER:OFF AMC7, FRU:POWER:ON AMC7 (see example below) a. Type “uxm scpi 10.168.0110 hislipmng” to open the session with ICM b. 0.168.0.110:hislipmng> prompt will be shown c. Type “fru:power:on amc7” (to power on XPC) or “fru:power:off amc7” (to power off XPC) 
12. Power on the XPC board.	
13. Connect the bootable USB drive.	

Step	Notes
14. Boot from USB (Configure BIOS or press F12 when requested) by selecting the USB device.	
15. When offered the choice, select Don't touch Keymap.	
16. Start Clonezilla.	Choose device-image: 

Step	Notes
17. Select local-dev and press ENTER.	
18. Select sbd1.	
19. Select home and press ENTER.	

Step	Notes
20. Select Beginner.	
21. Select restoredisk.	
22. Select version (Normally, only one is stored in the USB key).	

Step	Notes
23. Select target SSD (Only one option for XPC).	
24. Skip check image.	 Press Enter. Two warnings will be shown informing the user that the hard disk information will be list. Select 'y' in both questions. The program will start flashing the SSD card.
25. Reboot XPC board.	The grub console is shown, it is necessary to configure the boot location grub> configfile /grub2/grub.cfg 
26. Log in as: user= root pass=root	

Step	Notes
27. Execute “grub2-install /dev/sda”.	
28. Reboot.	Check that the board boots properly. (no stuck in grub> cmd) Platform must then show green status (there is no specific status icon for the XPC). A remote access icon in UXM desktop after installation should be shown (similar to SPC icons). XPC module internal LAN interface is 10.168.0.40 (listed under arp –a in command window)

Protecting Against Electrostatic Discharge

Electrostatic discharge (ESD) can damage or destroy electronic components (the possibility of unseen damage caused by ESD is present whenever components are transported, stored, or used).

Test equipment and ESD

- Before connecting any coaxial cable to a test set connector for the first time each day, momentarily short the center and outer conductors of the cable together.
- Personnel should be grounded with a 1 MΩ resistor-isolated wrist-strap before touching the center pin of any connector and before removing any assembly from the test set.
- Be sure that all instruments are properly earth-grounded to prevent build-up of static charge.

Additional information about ESD

For more information about ESD and how to prevent ESD damage, contact the Electrostatic Discharge Association:
http://www.www.esda.org

The ESD standards developed by this agency are sanctioned by the American National Standards Institute (ANSI).

Service

WARNING No operator serviceable parts inside. Refer servicing to qualified personnel. To prevent electrical shock do not remove covers. The only cover that can be removed is the plate covering the SPC slot.

Returning Components for Service

Calling Keysight Technologies

Keysight Technologies has offices around the world to provide you with complete support for your wireless test set. To obtain servicing information, or to order replacement parts, contact the nearest Keysight Technologies office listed under "Locations for Keysight Technologies" on page 25. In any correspondence or telephone conversations, refer to the part number and serial number of the 10 GbE Server.

For the 10 GbE Server referenced in this document, the following information is provided on the serial number label attached to its faceplate:

- Part number: E7515-XXXXX
- Serial Number: The serial number will be in the format: AB12345678.

Locations for Keysight Technologies

For online assistance: http://www.keysight.com/find/assist

To contact Keysight Technologies: http://www.keysight.com/find/contactus

Alternately, contact the nearest Keysight sales office:

Americas		
Canada (877) 894 4414	Brazil 55 11 3351 7010	Mexico 001 800 254 2440
United States (800) 829 4444		

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Australia 1 800 629 485	China 800 810 0189	Hong Kong 800 938 693
India 1 800 112 929	Japan 0120 (421) 345	Korea 080 769 0800
Malaysia 1 800 888 848	Singapore 1 800 375 8100	Taiwan 0800 047 866
Other Asia-Pacific countries: (65) 6375 8100		

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Austria 0800 001122	Belgium 0800 58580	Finland 0800 523252
France 0805 980333	Germany 0800 6270999	Ireland 1800 832700
Israel 1 809 343051	Italy 800 599100	Luxembourg +32 800 58580
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Edition 1, February 2017

E7515-90021

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