

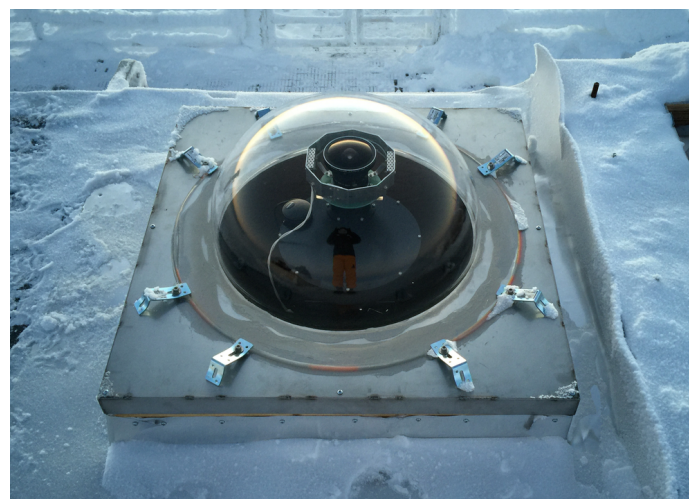
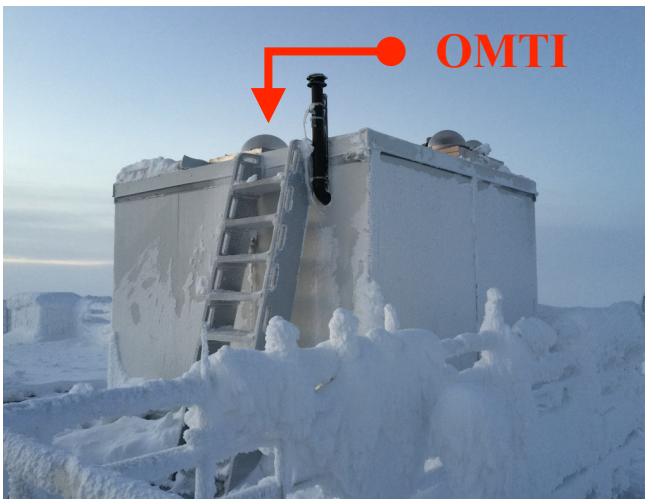
# Instruction for the OMTI All-Sky Camera

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## OVERVIEW

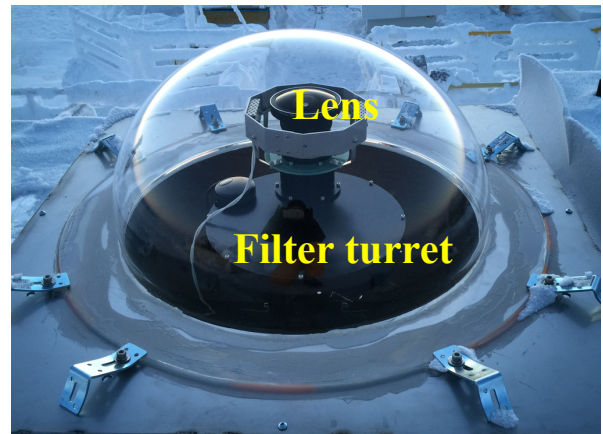
- \* OMTI means Optical Mesosphere Thermosphere Imagers, which is an all-sky imager for observing ionosphere/mesosphere/thermosphere by using several airglow lines.
- \* Filter turret rotates and changes the optical filters sequentially (1 cycle is 2 min). Within the cycle, we can observe the following 3 different kinds of wavelength
  1. 557.7 nm emission from excited oxygen from 100 km altitude
  2. 630.0 nm emission from excited oxygen from 250 km altitude
  3. OH-band emission from 80-90 km altitude
- \* Operation is ON when the sun and moon are well under the horizon (i.e., zenith angle  $< -12^\circ$ ). The control PC automatically starts and finishes operations.
- \* OMTI is operative in the Penthouse:



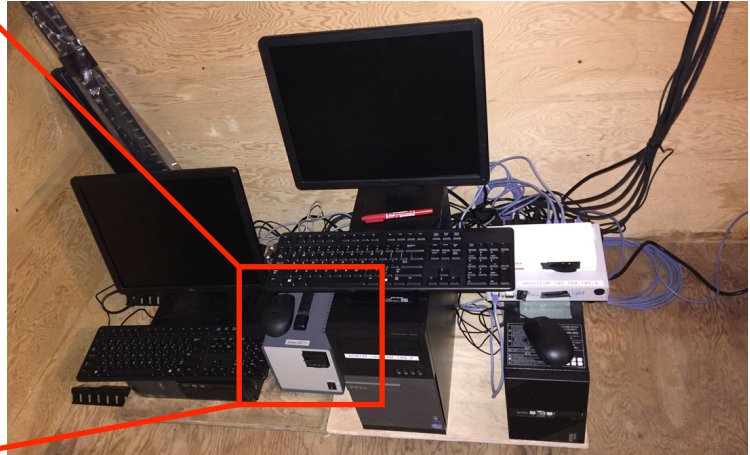
## DETAIL OF THE SYSTEM

Our system is composed of the following 7 parts.

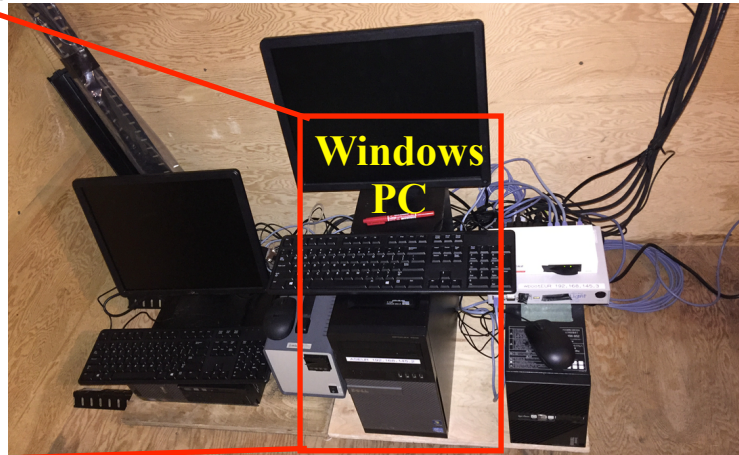
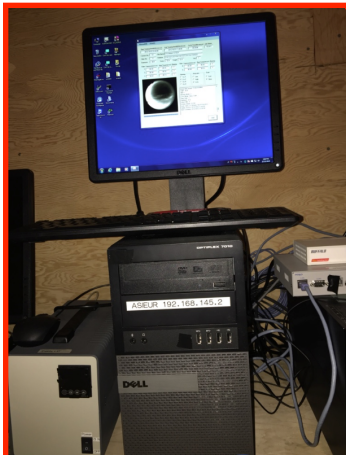
1. Imager: lens, filter turret, optics and CCD camera (from top to bottom)



2. Filter (Motor) controller: controlling the temperature and rotation of the filters

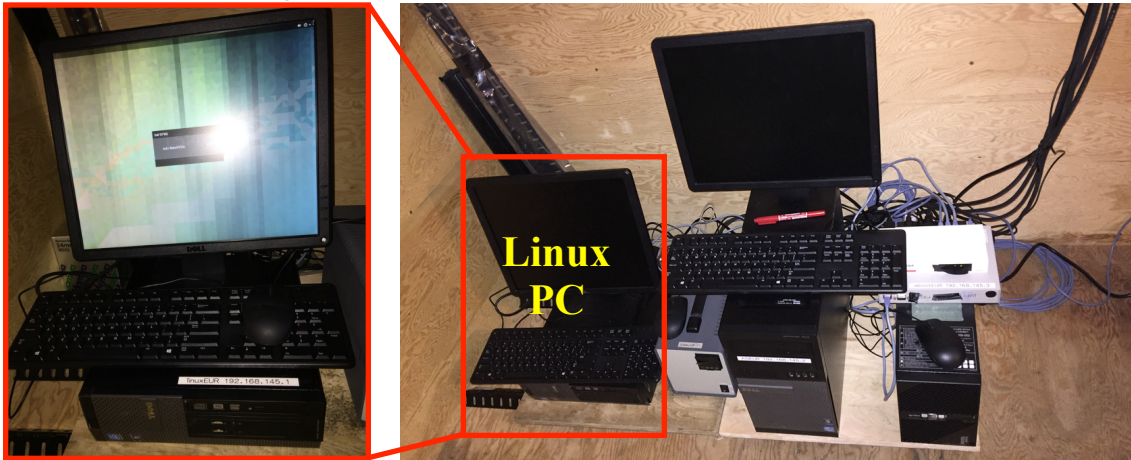


3. Windows PC: controlling the observations (ASIEUR: IP address 192.168.145.2)

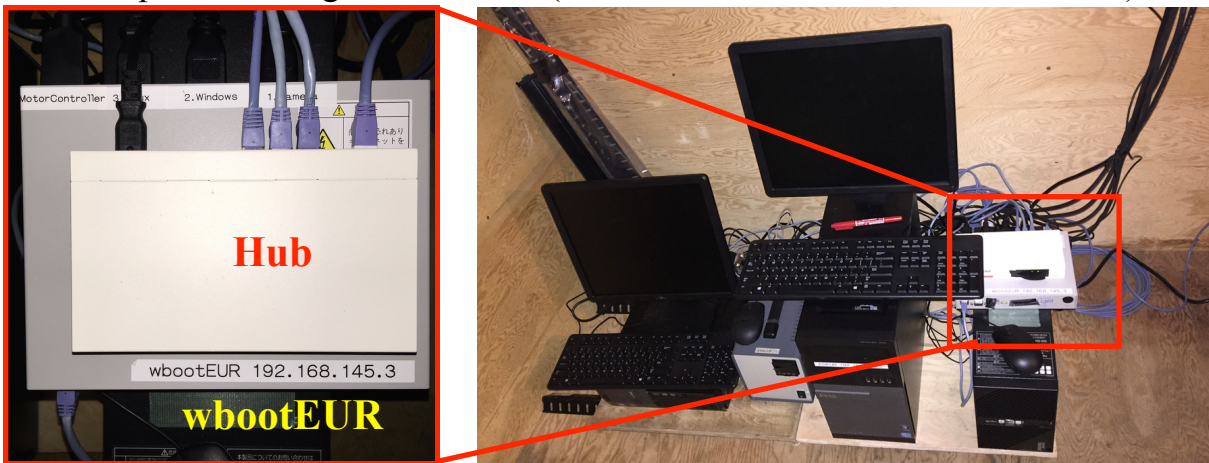




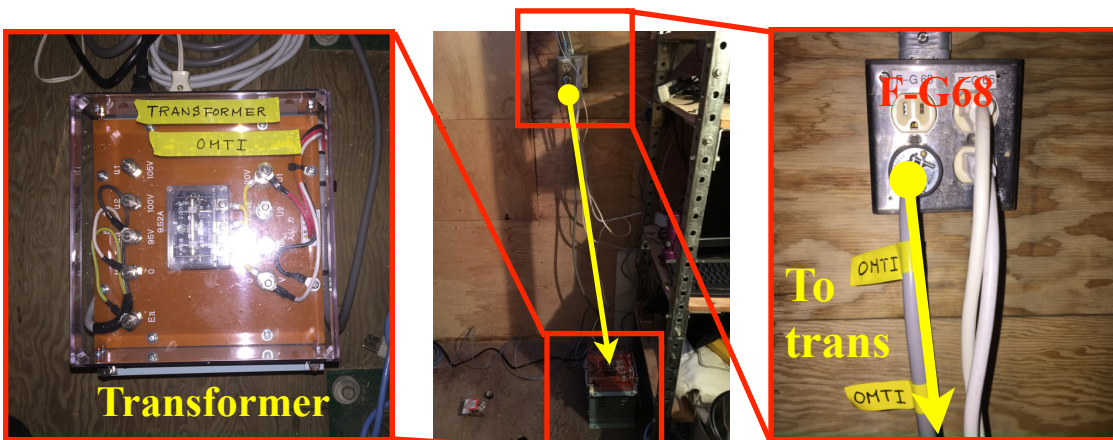
4. Linux PC: handling the data (linuxEUR: IP address 192.168.145.1)



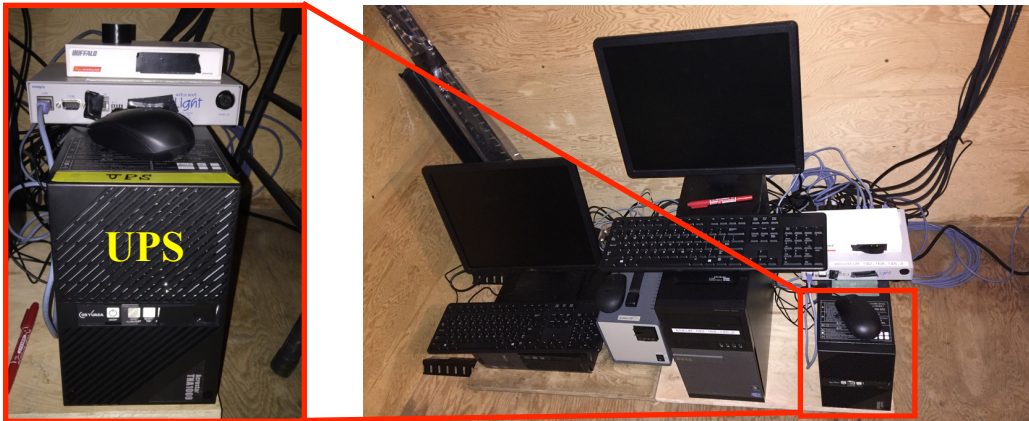
5. Ethernet power management device (wbootEUR: IP address 192.168.145.3)



6. Transformer: 127 V to 100 V. Our system is running with 100 V input.

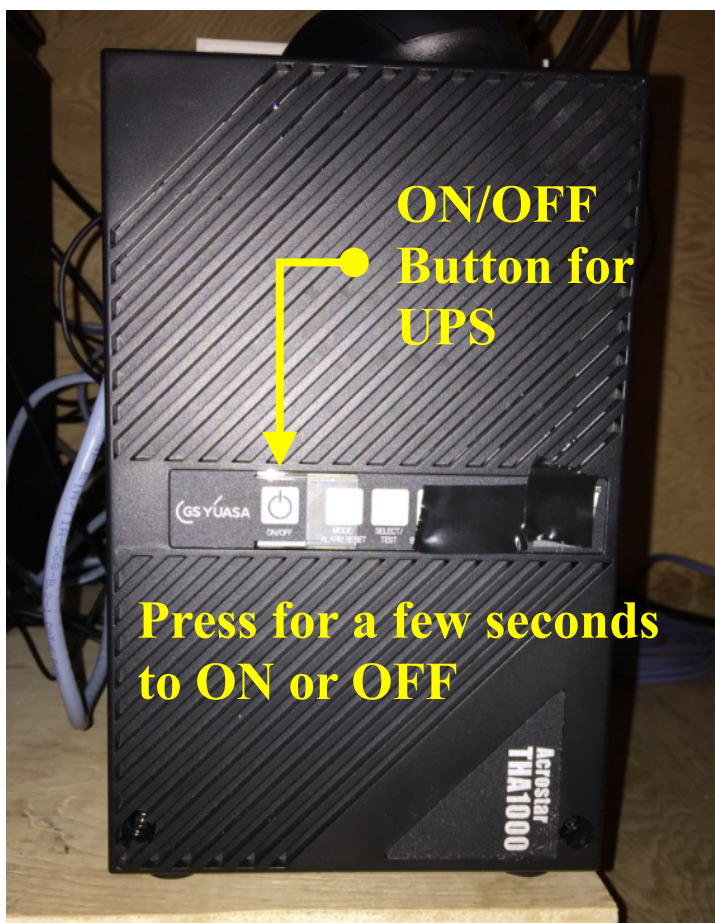


7. UPS: for distributing continuous power to all the devices



Note:

ON/OFF of UPS should be done by pressing the ON/OFF button for a few seconds.





## **SCHEDULE:**

### **■ 2015-2016 Winter Season:**

2015/10/23 Observation started manually

2016/03/11 Last day of measurement → Camera and PCs will be turned off remotely

2016/03/31 Please do the following:

1. Turn off UPS - Press the ON/OFF button for a few seconds
2. Remove the power cable of transformer from outlet F-G68

### **■ 2016-2017 Winter Season:**

2016/09/20 Please do the following:

1. Put the power cable of the transformer to outlet F-G68
2. Turn on UPS - Press the ON/OFF button for a few seconds  
→ System will be starting up automatically

2016/09/28 Observation starts automatically

2017/03/02 Last day of measurement → Camera and PCs will be turned off remotely

2017/03/31 Please do the following:

1. Turn off UPS - Press the ON/OFF button for a few seconds
2. Remove the power cable of transformer from outlet F-G68

### **■ 2017-2018 Winter Season:**

2017/09/20 Please do the following:

1. Put the power cable of the transformer to outlet F-G68
2. Turn on UPS - Press the ON/OFF button for a few seconds  
→ System will be starting up automatically

2017/09/28 Observation starts automatically

2018/03/15 Last day of measurement → Camera and PCs will be turned off remotely

2018/03/31 Please do the following:

1. Turn off UPS - Press the ON/OFF button for a few seconds
2. Remove the power cable of transformer from outlet F-G68

### **■ 2018-2019 Winter Season:**

2018/09/20 Please do the following:

1. Put the power cable of the transformer to outlet F-G68
2. Turn on UPS - Press the ON/OFF button for a few seconds  
→ System will be starting up automatically

2018/10/07 Observation starts automatically

2019/03/10 Last day of measurement

2019/03/?? The system will be stopped manually (on-site) by Keisuke Hosokawa and probably removed from Ridge Lab  
(extension maybe possible depending on funding situation)