

Blue Cable 분리 및 연결 작업 순서

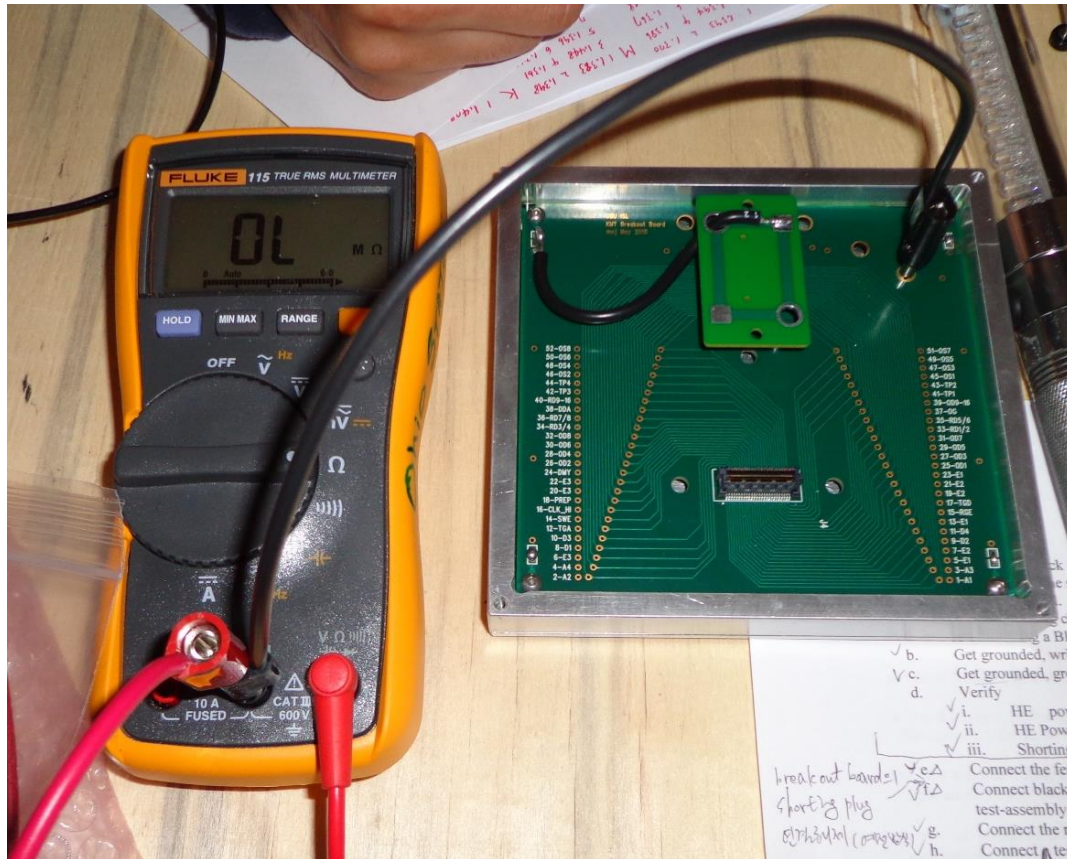
A. Blue cable 분리 작업 순서

1. PDU에 접속해서 HE 전원 off
2. 컴퓨터 실의 HE 전원 버튼을 끄고 PDU의 HE 전원선 분리
3. Lift의 전원 연결(충전이 아닌 전원 extension) 플러그에 extension cord를 연결하고 extension cord는 벽의 플러그에 연결해 lift를 ground에 연결
4. Lift 위에 있는 모든 사람들은 wrist strap을 착용해 접지 완료
5. HE 전원을 끈 후 3분 이상 지난 뒤 작업 시작
6. Scissor lift를 작업하기 편하게 위치 시키고 HE box의 전원 선을 분리
7. Wall board에 연결된 shorting plug를 wall board에 연결 후 blue cable 분리 (K-J8, M-J9, T-J35, N-J78, G-J171)
8. Wall board에서 분리한 blue cable은 정전기가 발생하지 않는 분홍색 form으로 잘 싸서 손상으로부터 보호

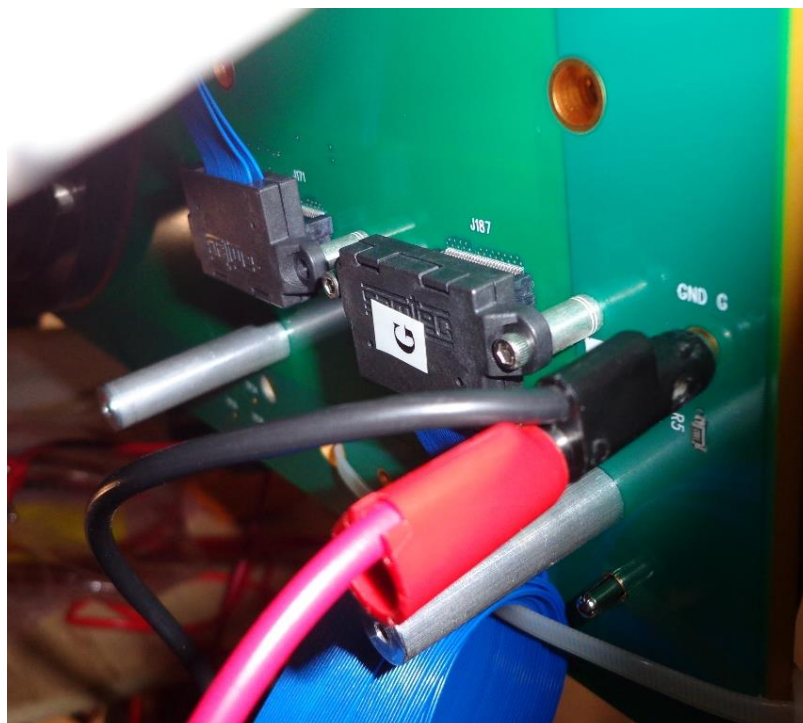
B. Blue cable 연결 작업 순서 (safety check)

1. PDU에 접속해서 HE 전원 off
2. 컴퓨터 실의 HE 전원 버튼을 끄고 PDU의 HE 전원선 분리
3. Lift의 전원 연결(충전이 아닌 전원 extension) 플러그에 extension cord를 연결하고 extension cord는 벽의 플러그에 연결해 lift를 ground에 연결
4. Lift 위에 있는 모든 사람들은 wrist strap을 착용해 접지 완료
5. HE 전원을 끈 후 3분 이상 지난 뒤 작업 시작
6. Scissor lift를 작업하기 편하게 위치 시키고 HE box의 전원 선을 분리
7. Wall board의 shorting plug가 K-J8, M-J9, T-J35, N-J78, G-J171에 연결되어 있는지 확인
8. HE에 연결되어 있는 기존 blue cable의 female connector를 K-J5, M-J6, T-J24, N-J29, G-187에 연결

9. 검정 바나나 플러그를 break-out-board의 ground와 멀티미터의 COM에 연결

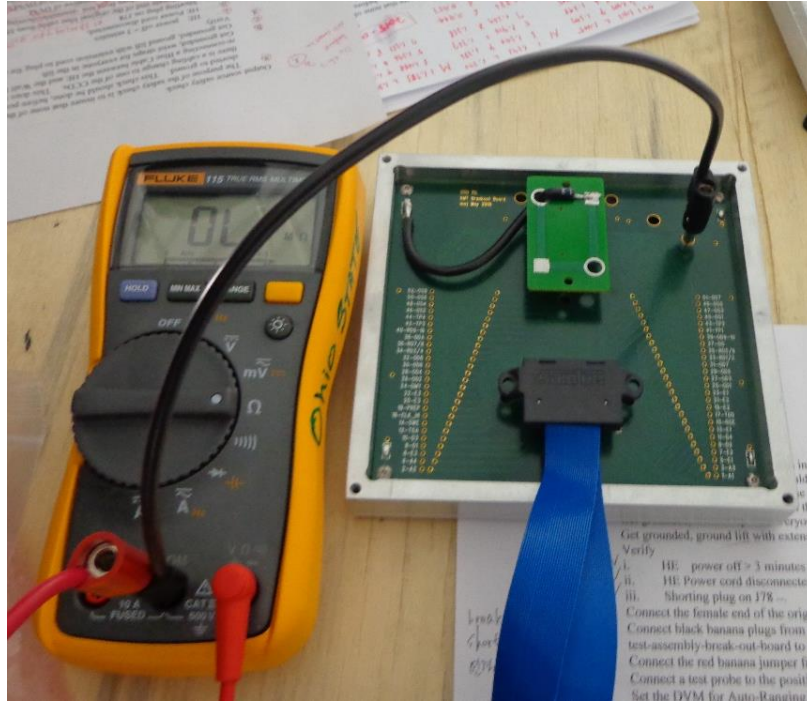


10. 빨간색 바나나 점퍼를 멀티미터의 COM과 wall board의 shorting plug에 연결

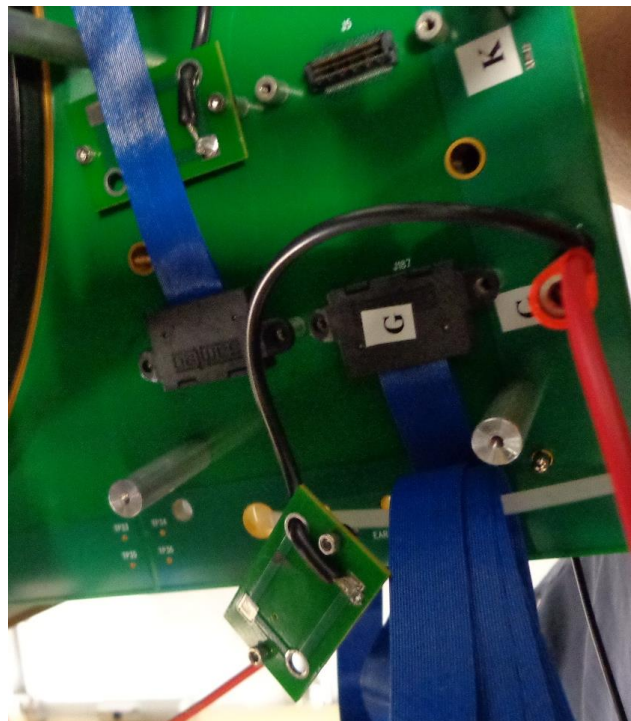


11. 멀티미터를 Auto-ranging Ohms에 맞춰 놓을 것

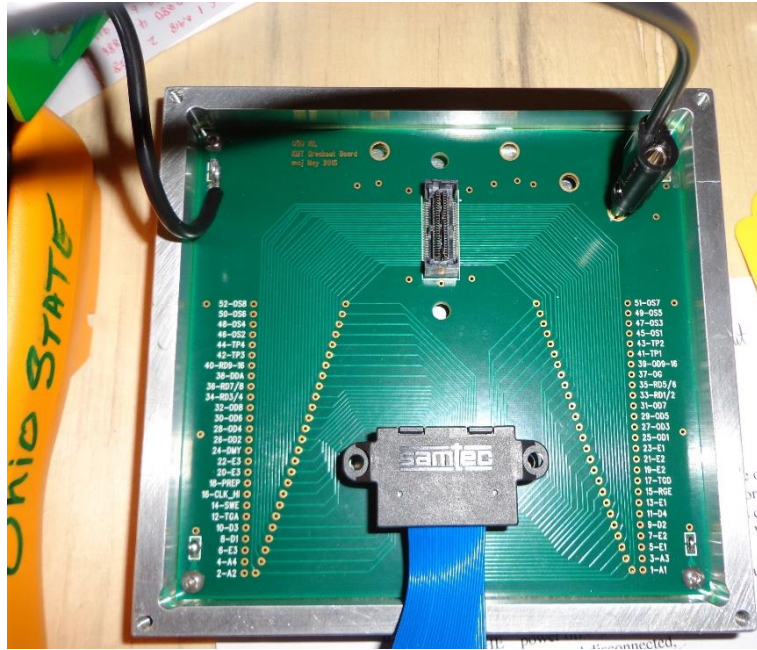
12. Test blue cable의 female connector를 break-out board의 male connector에 연결
(break-out-board의 shorting plug는 반드시 break-out-board에 연결되어 있어야 함)



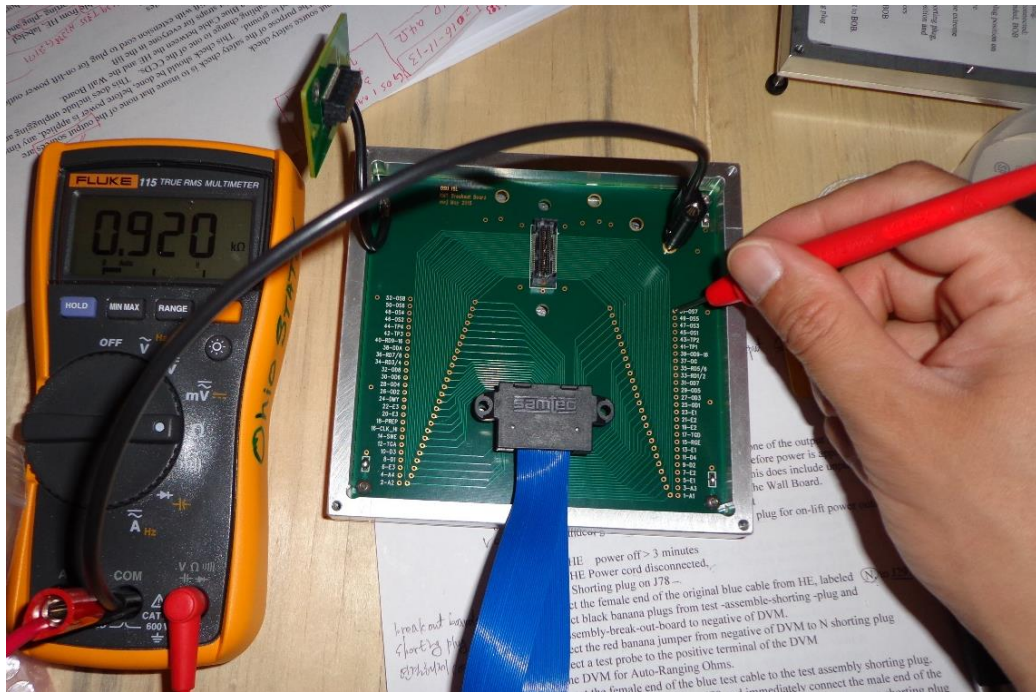
13. Wall board의 shorting plug를 연결해제 하는 즉시 test blue cable의 male connector를 wall board에 연결



14. Break-out-board의 shorting plug 연결 해제



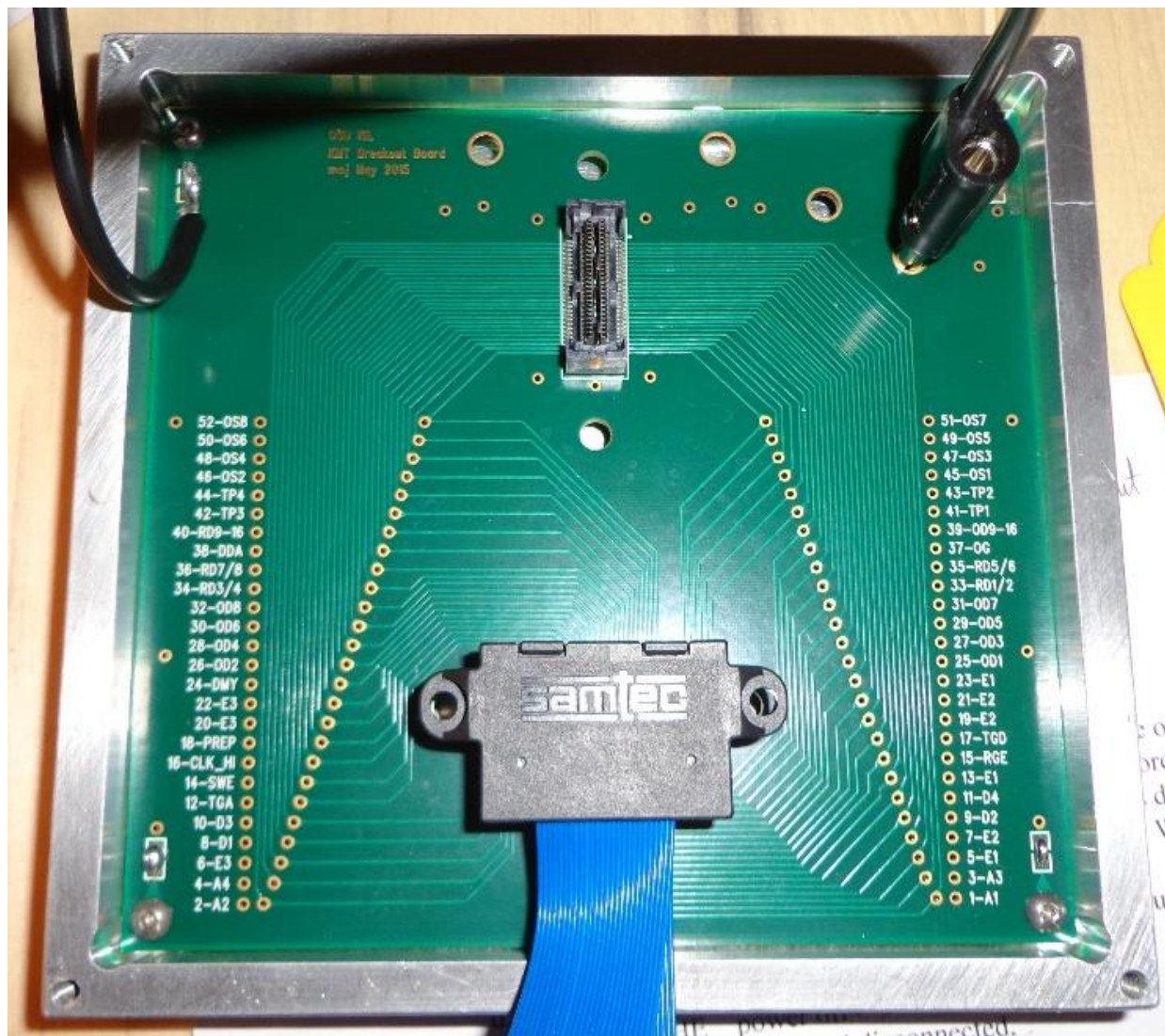
15. 8곳의 output source(OS1-OS8) 저항 측정 및 기록 (정상범위: 1.2 ~ 1.4 kΩ)



16. Break-out-board의 shorting plug를 break-out-board에 연결

17. Blue test cable을 wall board의 connector로부터 분리

(주의) ※ OS1~OS8 중 하나라도 정상범위를 벗어난 경우에는 HE 전원을 켜면 안됨.



< Break-out-board >

Revised on 2016-08-27 by YSLee
Revised on 2019-06-04 by Chasm

< Output source safety check (for N) >

- a. The purpose of the safety check is to insure that none of the output sources are shorted to ground. This check should be done, before power is applied, any time there is a cabling change to one of the CCDs. This does include unplugging and re-connecting a Blue Cable between the HE and the Wall Board (WB).
- b. Get grounded, wrist straps for everyone in the lift
- c. Get grounded, ground lift with extension cord to plug for on-lift power outlet
- d. Verify
 - i. HE power off > 3 minutes
 - ii. HE Power cord disconnected,
 - iii. Shorting plug on J78
- e. Connect the female end of the original blue cable from HE, labeled N, to J29.
- f. Connect black banana plugs from Breakout-board to negative of DVM.
- g. Connect the red banana jumper from negative of DVM to N shorting plug on WB.
- h. Connect a test probe to the positive terminal of the DVM
- i. Set the DVM for Auto-Ranging Ohms.
- j. Connect the shorting plug of the Breakout-board to the Breakout-board.
- k. Connect the female end of the blue test cable to the Breakout-board.
- l. Remove the shorting plug from J78 and immediately connect the male end of the blue test cable to J78. Note that this is equivalent to removing one shorting plug and installing another and is safe because the CCD is connected to the CBB while the change is made.
- m. Remove the shorting plug from the Breakout-board.
- n. Measure and record the resistance to ground of the eight output source connections(OS1-OS8). All output sources should measure between 1,200 Ohms and 1,400 Ohms (1.2k Ω and 1.4k Ω).
- o. Assuming the results are the same as found in the previous attempt, remove the stack of banana plugs from the negative of the DVM, insert a test probe in the negative input to the DVM, measure the resistance between the two output sources that have the low resistance to ground, remove the second probe, restore the stack of banana plugs to the negative terminal of the DVM, proceed with the following steps.
- p. Connect the shorting plug to the Breakout-board.
- q. Remove the blue test cable from J78 and immediately install the shorting plug.
- r. Do NOT restore power to the HE (Power should NEVER be on with a CCD connected to the CBB and the shorting plug in place.)
- s. Confer with the operation team in KASI/OSU about the next step

Output source safety check (for N),

extracted from the document below and revised by Chasm 2019-06-04,

ZA step by step rev 3.doc, atwood, January 29, 2015, page 2 of NUMPAGES * ARABIC