

Procedure of the final check and mounting:

1. Put the tested chamber on the table, remove the screen box. Find the corresponding assembly log sheet of that chamber. Check that the FEB numbers on the chamber are correct, and the chamber has positive Cosmic-Ray test results. Combine the CR test with the assembly log sheet in one folder.
2. Check if the FEB address is set (A1,A2 solder points in each board).
3. Connect the 20 bar inner pressure test system to the cooling pipes, record the time. Wait 20 minutes and record the change in pressure. If the drop in pressure is larger than 0.2 bar, the cooling system should be checked and repaired. (It is verified that about 0.2 bar drop comes from the test system.)
4. Perform again a quick over pressure test for gas-gaps: connect two layers of gas-gaps together, apply 20mb over pressure for 5 minutes. If there is significant drop of pressure, the gas connections need to be checked and repaired. (In one case a soft gas-pipe block was found inside chambers which cause a significant pressure drop)
5. Meanwhile,
 - draw two rows of holes along the edge of the screen box in the workshop (if not done yet);
 - check the ground wires are correctly connected, replace the black wires with different colored wires (for the first 40 chambers);
 - check that every connector of flat cables and co-ax wires are firmly inserted in position;
 - check and make sure that the 4 corner brackets are flatly mounted, otherwise the edge of the honeycomb box need to be modified flat.
6. For RE1/2, cover the middle and large end slots for extracting signal wires with the 0.5mm thick Al sheets, fixed them by the small screws (M2.9*4.5mm). Cover the small end slot by Al conductive tape. (Note, an insulation tape should be put on the exposing copper or co-ax wire ground before attach the Al tape). For the RE1/3, cover all slots with the Al sheets.
7. After the cleaning of the screen box, fix it on the chamber with the original M6 screws and two rows of small M2.9*4.5mm screws.
8. Cover the slot for extracting the HV cables by Al tape, also cover the slot on the edge of screen box for HV cables by Al tape. Using Al tape to attach between patch panel and screen box, to press the screen box lower down in order to eliminate the slot between them.
9. If the chamber passes the cooling pipe test, disconnect the pressure test system. Close the four gas inlet, outlet pipes using short pipes. Using foam and scotch tape to protect the connectors in patch panel.
10. Record the results on the log sheet. Move the chamber back onto the rack, now the chamber is ready to be transported to SX5.

Final Check List:

Detector No: _____

Box No: _____

Date: _____

Operator: _____

Item	Check	Status and remarks			
1	FEB numbers (Mark any change)	A: B: C:			
2	FEB address				
3	Cosmic test results				
4	20 bar inner pressure test for the cooling system		time	pressure	Accept?
		start			
		end			
5	Quick 20mb over pressure test of gas-gaps				
6	4 ground wires				
7	Connectors, cables and co-ax wires				
8	4 corner brackets				
9	Cover co-ax wire slots and HV slot				
10	Close the gas outlets				
11	Mount screen box, tape it down to the patch panel				
12	Protect the patch panel				

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