



Gas on DT, etc.



CMS
BARREL MUON
DT CHAMBERS

Status of
Gas Manifolds
on DTs,
etc.

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030603



Gas vs. Dressing



Issues from chamber “dressing” exercise 030514-16:

1- Copper pipe: bending somewhat enlarged (for HV cables); will have copper pipe through bottom passage for chamber L and R (with services at left and at right), which requires 2 different types of pipe bending.

2- Cables LV, signal, DCS: passage and length established; at rear side attach to copper pipe; length uncertainty at chamber front (position of front manifold and of LV patch panel). Connector at patch panel t.b.d. (Carlos)

3- Support plates at rear side: shift bulkhead few mm.

4- Position of front manifold: tentatively defined; attach via existing holes in SL frame; drawing plus prototype of proposed support done.

5- Flexible pipe: no problem found on DT. Approval by TIS: no ideal tube found; derogation seems appropriate; request submitted to GLIMOS.

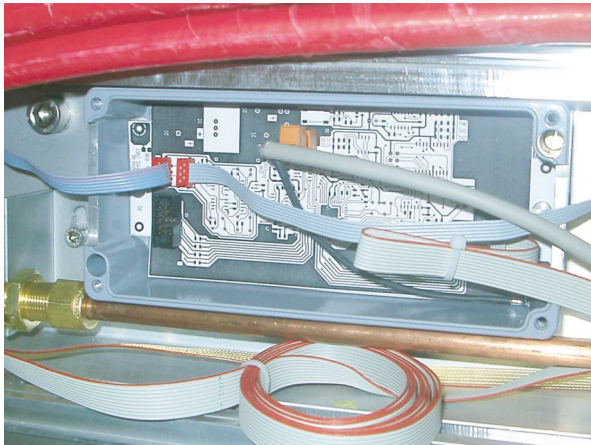


Fig. 1: The PADC box and its cables (cover removed; board is mockup)

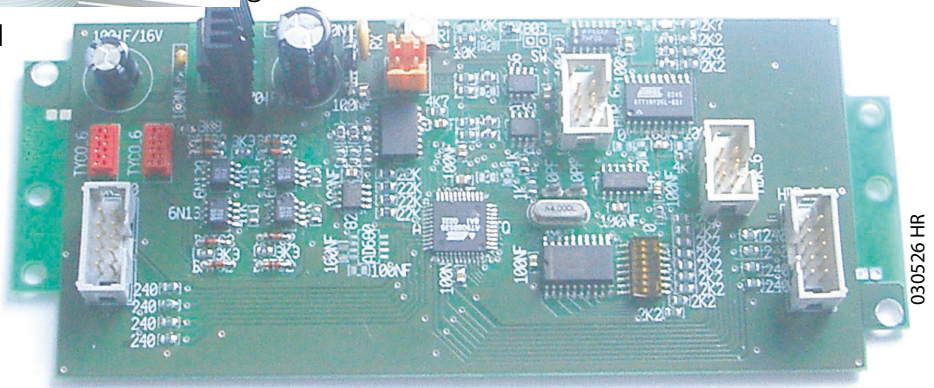


Fig. 1: PADC prototype board.

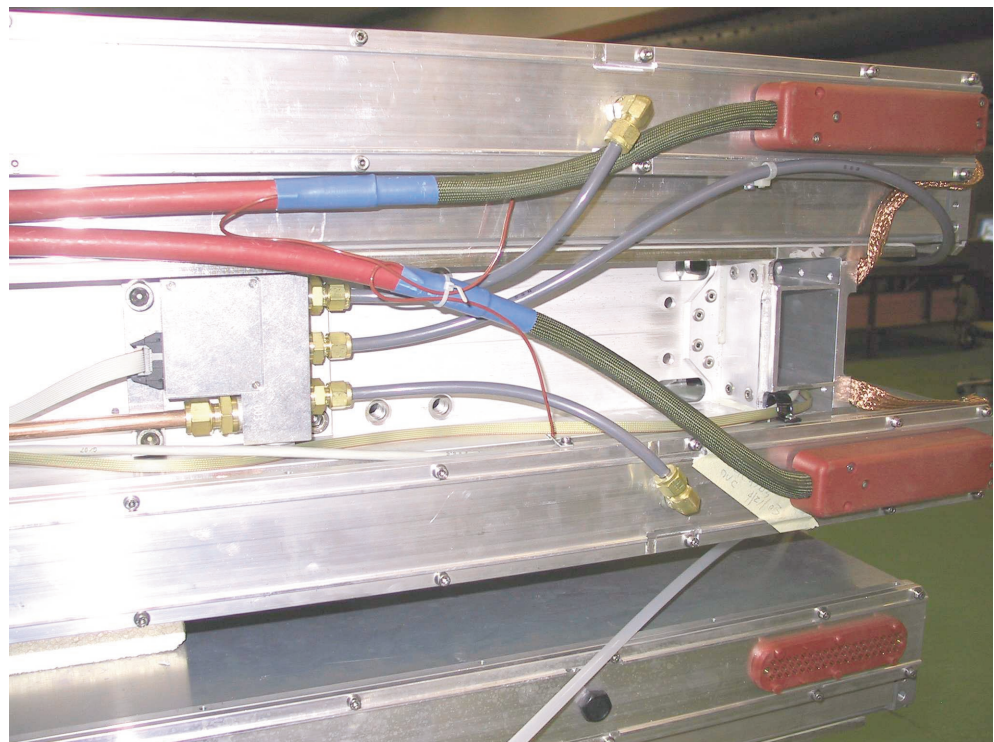
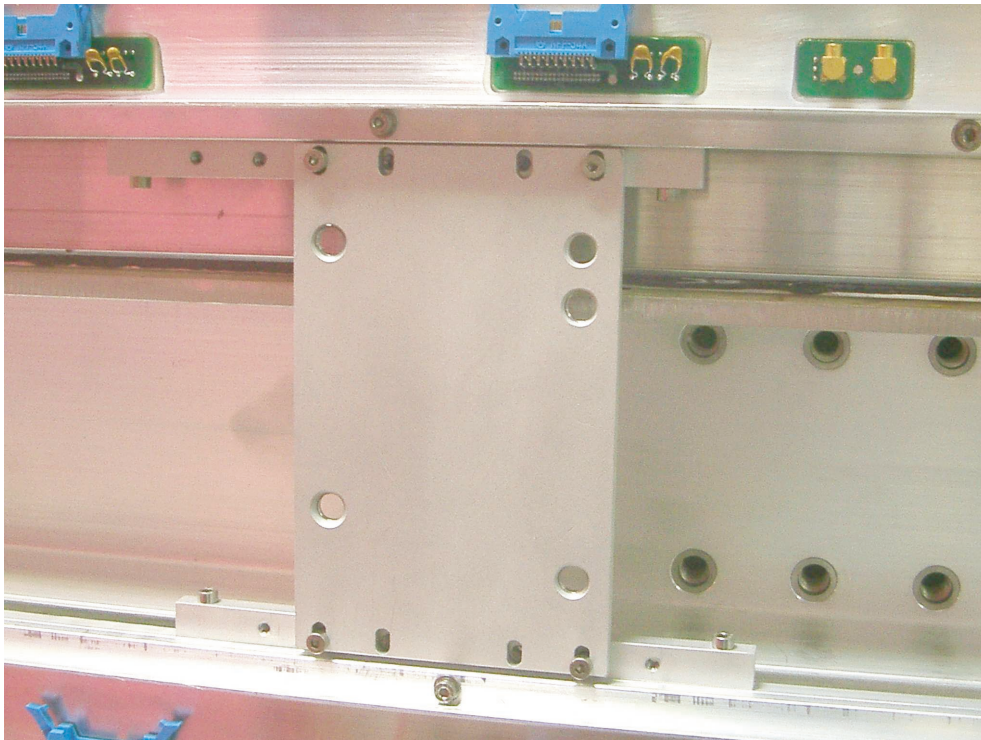
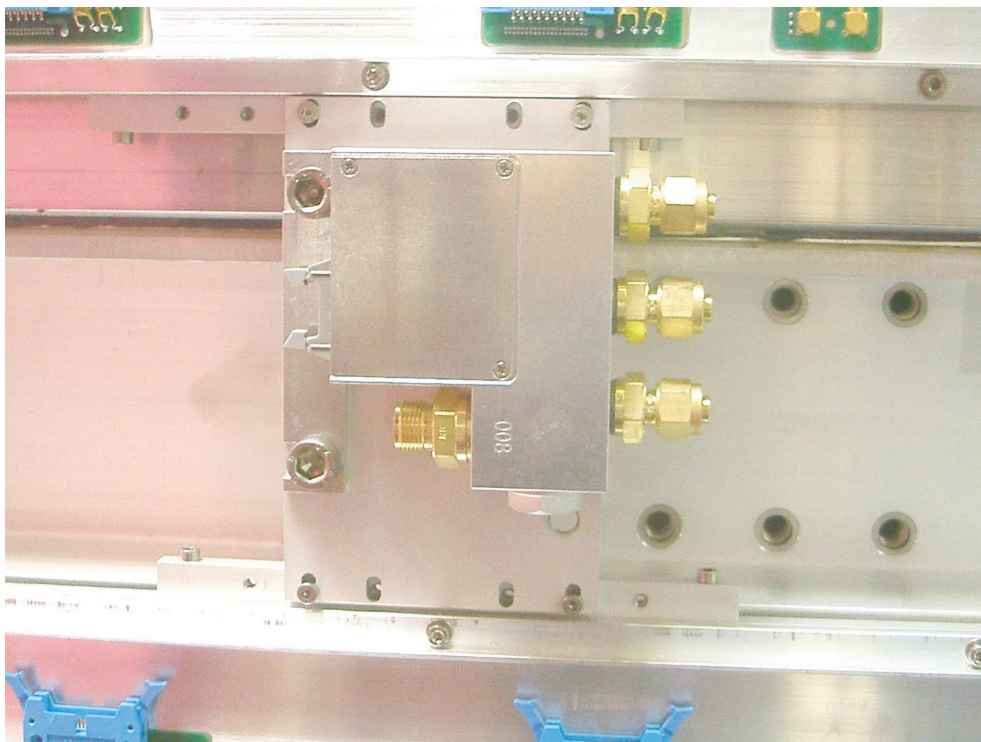


Fig. 3: Rear gas manifold mounted. The Cu gas pipe and the three flexible tubes are visible.



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Fig. 1: Support for manifold at front side of DT (B. Philipps).
It is attached to the threaded holes present in the SL frame profiles. With the help of the additional holes, the same support can be mounted on any chamber type and services side (Left/Right, here MB2; right).



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Fig. 2: Same, with manifold mounted.



Components for first phase of “dressing”

(for start 030616)

Batch for 30-40 chambers in preparation:

1- DCS cable: components available, length known; prepare at CERN (G. Bencze); will have a piggy tail on the minicrate.

2- PADC LV cable: components available; connector mounted on one end, spare length on other.

3- PADC signal cable: components all available?; connector at both ends; spare length for front manifold. Make 10 MB1, 10 MB2, 10 MB3.

4- Copper tube: drawings new/updated; material ordered; expect arrival before 030610; bending tool then ready to start. Bend 20 left, 20 right. Straight sections for 20 MB1, 20 MB2, 20 MB3.

5- Bulkhead: 40 arriving this week.

6- Support plates for rear manifold, PADC, bulkhead: drawings updated; 40 + 40 nearly finished.

7- Support fixture for front manifold: drawing and prototype done; to be checked / approved this week.

8- Manifold: not really needed at start; prefer to ship after validation with PADC.



Honeycomb



Ready at Hexcel:

9 MB2 for Madrid (ship to Madrid or CERN?)

5 MB4 for Torino (await MB4/8,12 for shipping)

Propose to produce next:

8 MB4/4 for Legnaro

5 MB4/8,12 for Torino

...



Integration



CMS integration:

- 1- Obstruction of DT Alignment passages cured.
- 2- Location of LV patch panels. Needed urgently now, for length of LV cable to PADC, at least to ~50 cm precision.
- 3- Cable chain fall-back solution
- 4- Cooling of cable tray along periphery of wheel - proposal to be checked by experts and approved.
- 5- Radial tray cooling - ready to freeze now?