



# The CDF Intermediate Muon System



I will briefly describe the construction and operation of the CDF intermediate angle muon drift tube system.

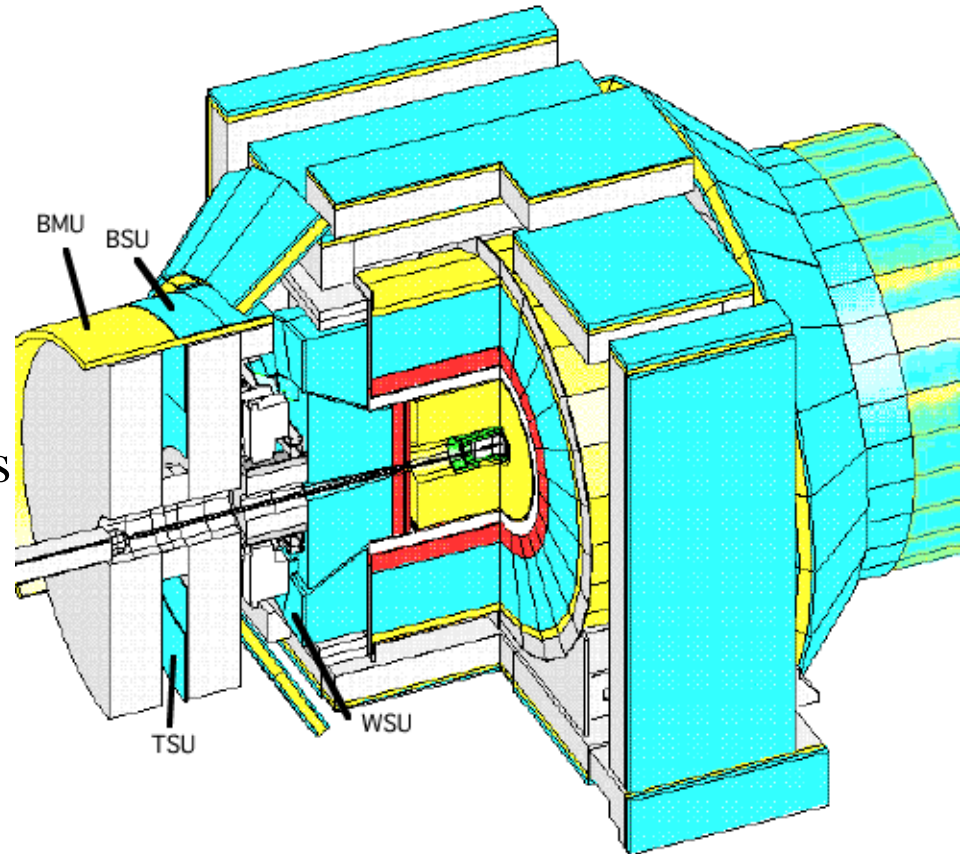




# Intermediate Muon System

BMU-1700 drift tubes made in Madison, WI, arranged in 4 layer barrel around steel absorber to identify muons

BSU /TSU -250 barrel/toroid scintillation counters (Italy, MI State, WI) to tag bunch crossing.





# IMU views



Rear face and quad. magnet



Interface to central detector



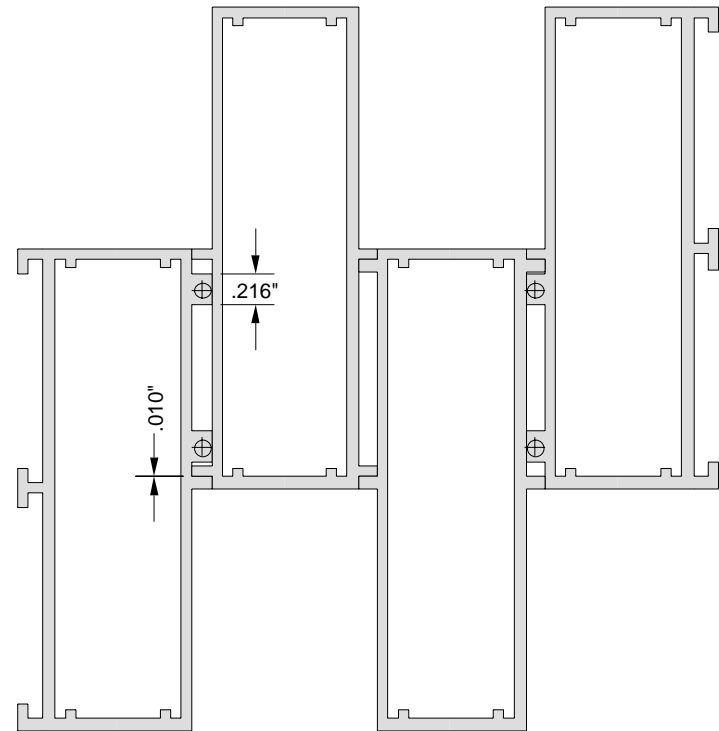


# Extrusions

Title:	BMU Extrusion
Drawn:	D. Carlsmith, U.WI-Madison, Physics Dept., 11 March 1998
Scale:	1/1, inches
Material:	6063-T6 Aluminum
Tolerance:	1/2 Aluminum Association standard for dimensions, twist, and straightness

BMU 3" wide drift tubes are fabricated as four cell stacks made from interlocking aluminum extrusions of two kinds.

1/2 industry standard tolerance extrusions were produced by Bower Manufacturing (MI).





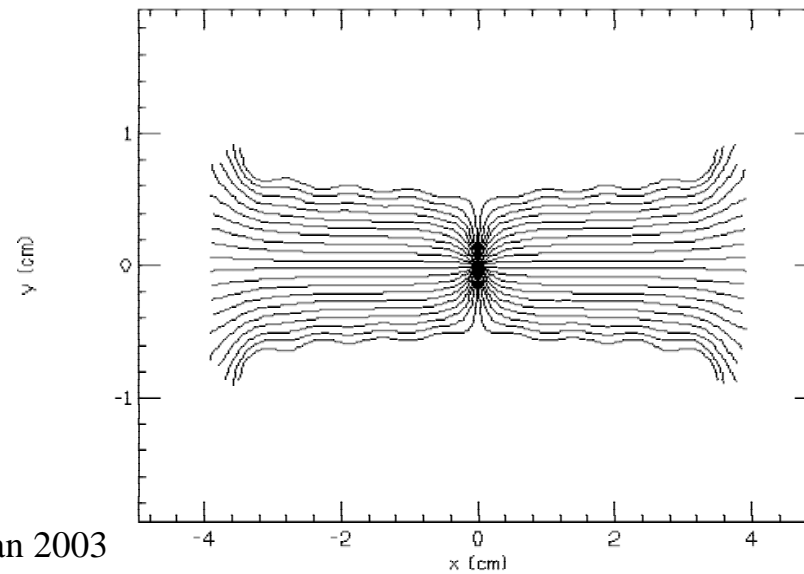
# Electrodes



Cu strip electrodes shape the drift field.

Two electrode boards (10') slip into each tube.

$V_w = 5555$ .  $V_c = 3955$ .  $Q_w = 23218$ .



Duncan L. Carlsmith

25 Jan 2003



# Field shaping board production

12' x 12' Cu covered circuit board sheared to width and length

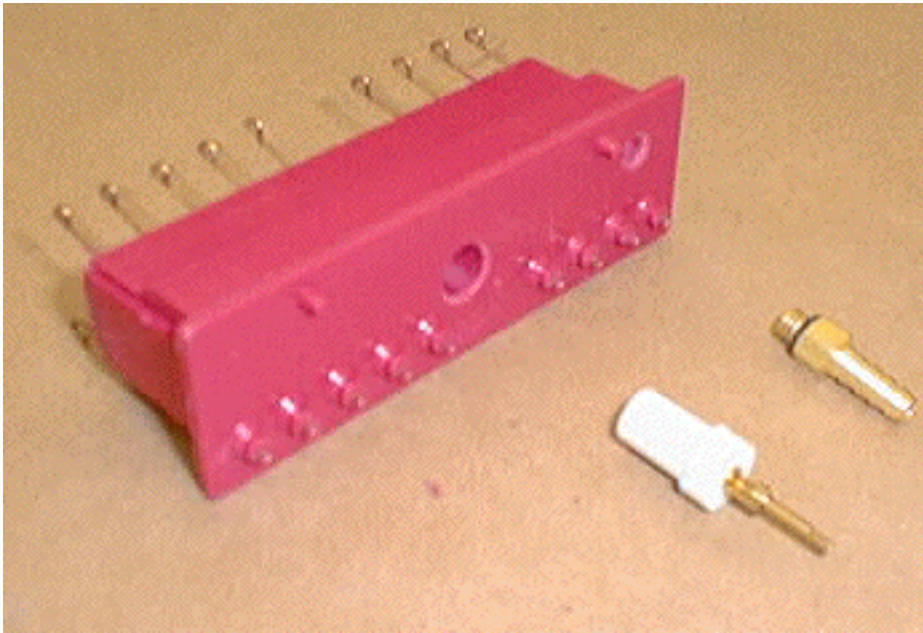
Custom machine to remove Cu forming strips and clean

Ends finished.

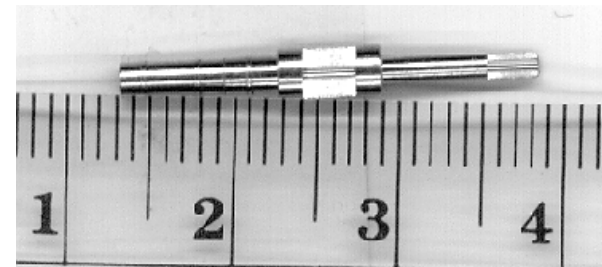




# End cap assemblies



Plastic molded end cap assemblies provide connections to electrodes, the gas seal, and wire support.





# End cap installation



Hardened steel jigs position endcaps and wires relative to external fiducial pins.

