



Fibre Mapping to eFEX

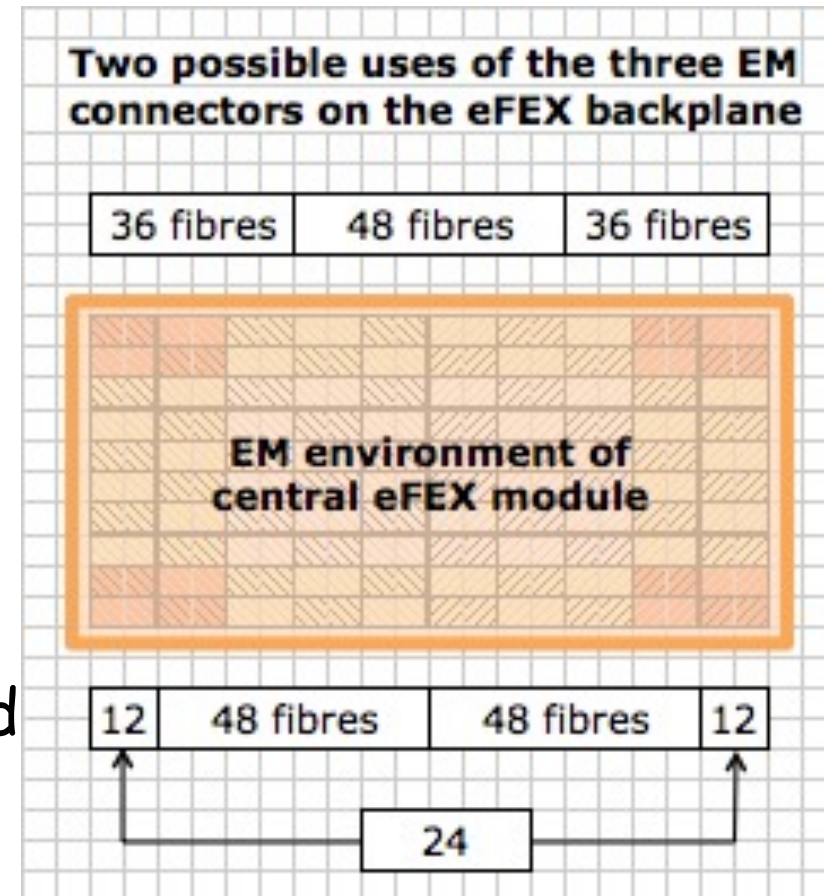
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- eFEX EM inputs
- Example FOX modularity
- FOX demonstrator



eFEX EM Inputs

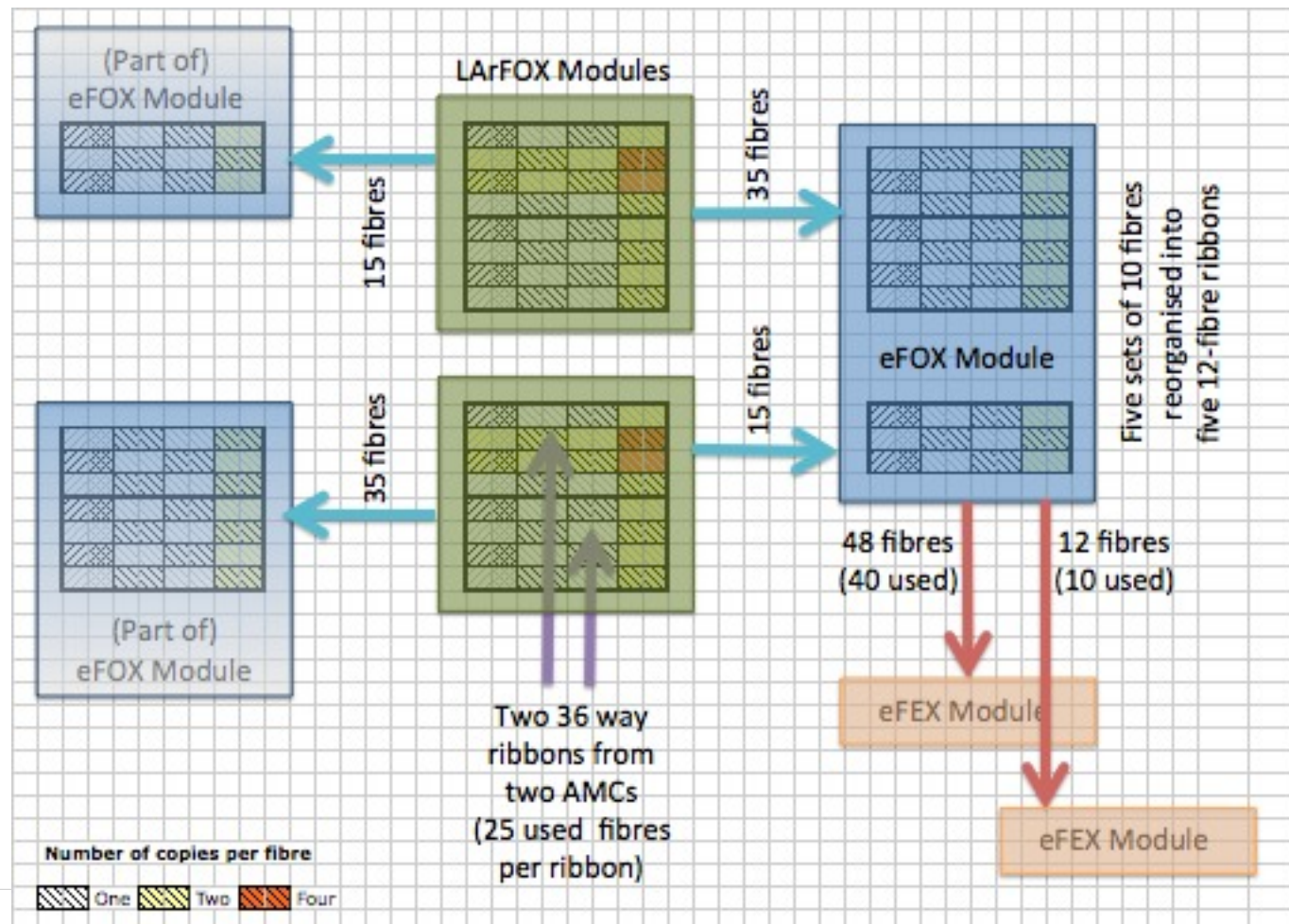
- Spec suggests use of 48-way fibre inputs to eFEX
 - 10 * 12-fibre ribbons grouped as 48, 48, 24 (10 fibres used per ribbon)
 - Expected with increasing eta
- Preliminary thoughts on FOX modularity suggests:
 - Either 36, 48, 36 (more symmetry)
 - Or (better?) keep 48, 48, 24 but with the 48s being in the centre and the 24 comprising two 12 fibre ribbons at each end





Example FOX Modularity

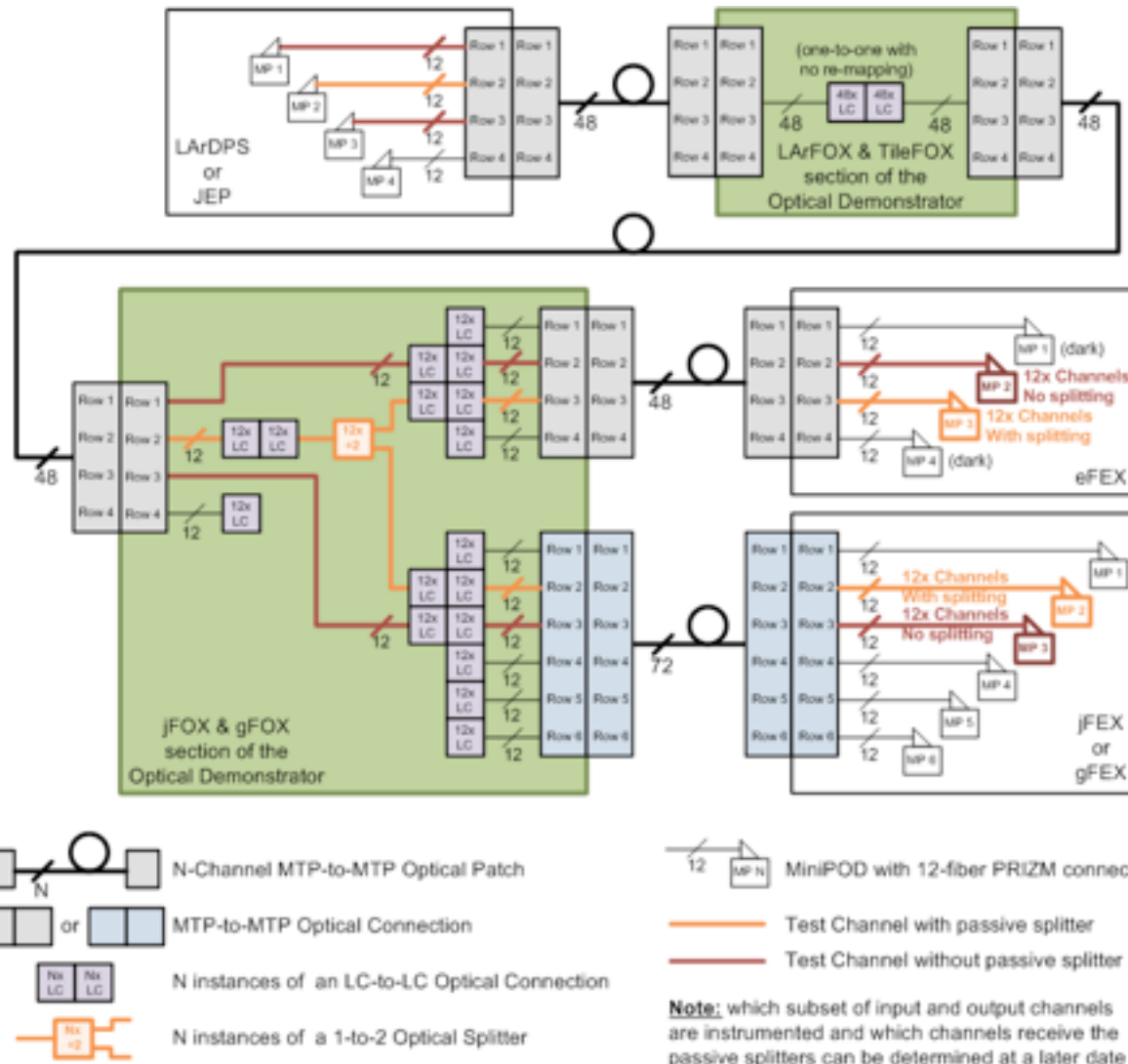
- LArFOX and eFOX modules
 - Each covering 0.8×0.8 in $\eta \times \phi$ but shifted by 0.4 in ϕ





FOX Demonstrator

- Lots of optical connections...





Translation vs Rotation?

- Check the mapping strategy
 - Calorimeters generally have a rotational mapping, ie C side looks like A side rotated by 180 degrees (or perhaps reflected) rather than translated in η
 - Existing run 1 system was remapped to a uniform η ϕ space with translational symmetry
 - Originally assumed we wanted the same for the FEXes
 - However it might be simpler to just follow the calorimeters?
 - Except for possible issues for the central FEX modules covering $\eta=0$? But that's "just" firmware...
 - I asked a few engineers: so far no negative feedback
 - Not yet sure what will really be the best solution