

Core Optics Reference Design

1999 -2003 Pathfinder II - Sapphire

Size 30 Kg - Crucibles and furnaces in place

a-axis

Interferometer Analysis

Coating compatibility

Available Today 30 Kg

1 year to requirements

High Confidence

c-axis

Available Today 15 Kg

1 year to 30 Kg

2-3 year to requirement

Moderate confidence

Optical Homogeneity - λ (typical)

but $\lambda/40$ demonstrated by Highes Danbury

2003 Branch Point Between Silica and Sapphire

Silica requirements already demonstrated

2003-2005 Fabricate Optics

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Core Optics Compensation, Ancillary Optics and Photodiodes

Core Optic Thermal Compensation

X 10 for both Sapphire (20 ppm/cm) and Silica (1ppm/cm)

Laser based actuator of BS, and both input mirrors

Dark fringe sensing

Ancillary Optics

LiNbO₃ PM in low power beams (before power stage or in MZ)

Isolators - point spherical compensation

Active compensation - if ramped laser power required

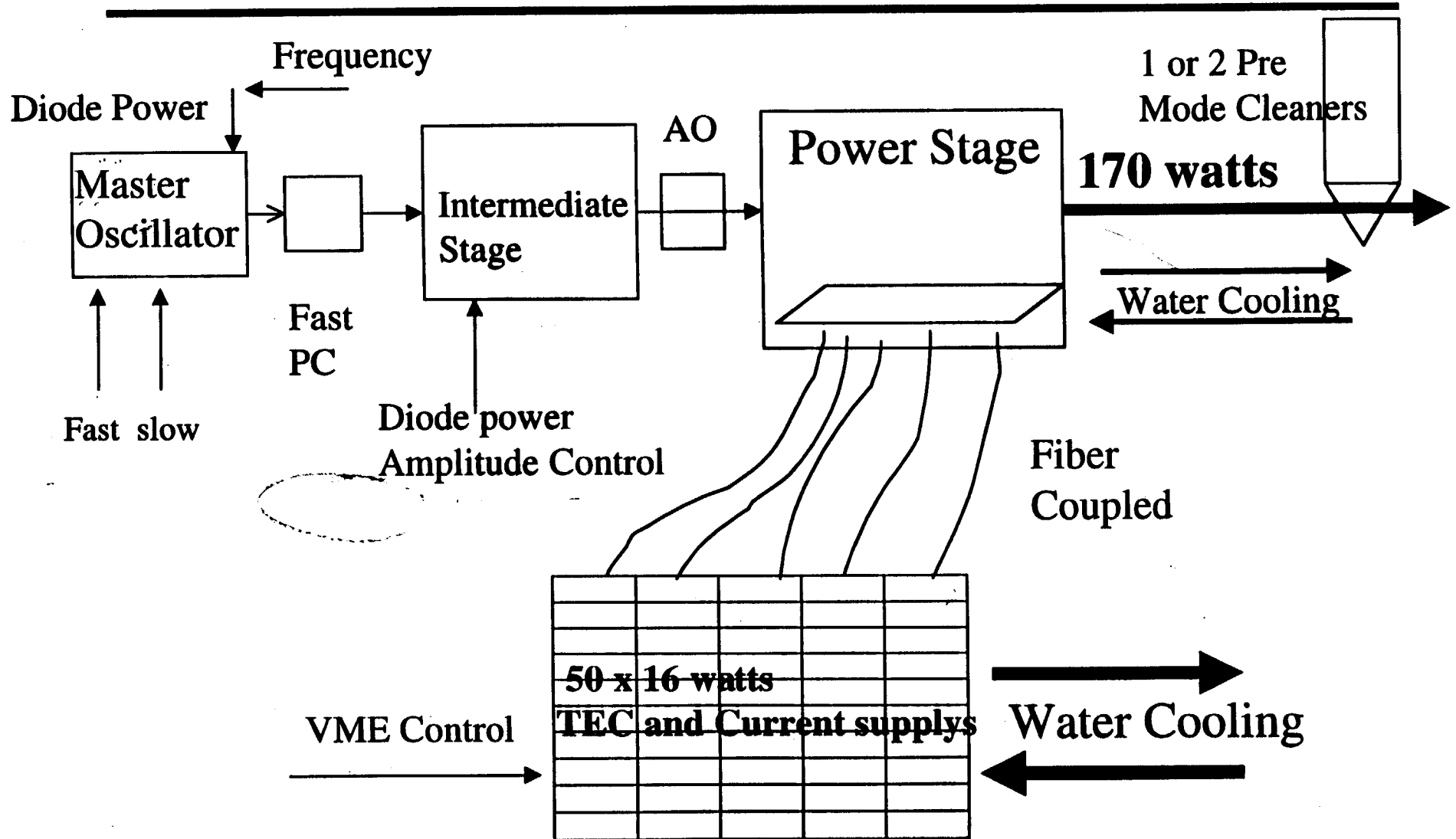
Left to do

Photodiodes ? Thermal Modeling of MC, IFO

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Laser Reference Design



Monday PM Schedule for the L&OWG

Lasers - Savage

Core Optics Compensation, Ancillary Optics
and Photodiodes - Tanner

L&OWG Subgroup Discussions 2:15-4:00

Core and IO Optics and Mode Cleaners - Camp

Subgroup Recommendations to the Full L&OWG
Followed by Discussion 4:00 - 5:30

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Note 1, Linda Turner, 08/17/99 07:53:16 PM
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