



DTS FO Hardware Design

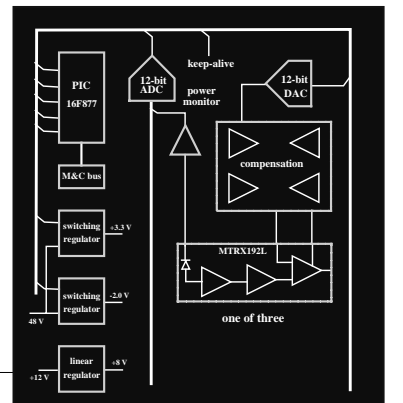
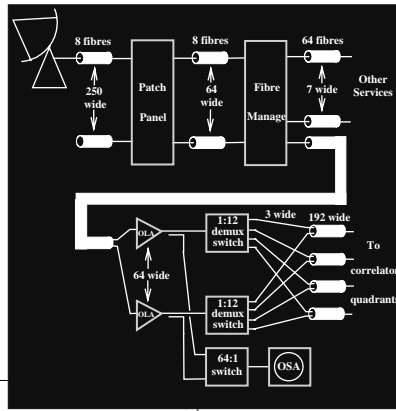
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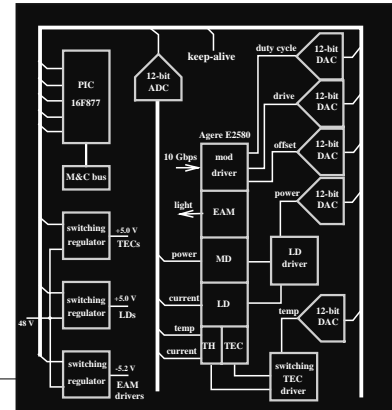
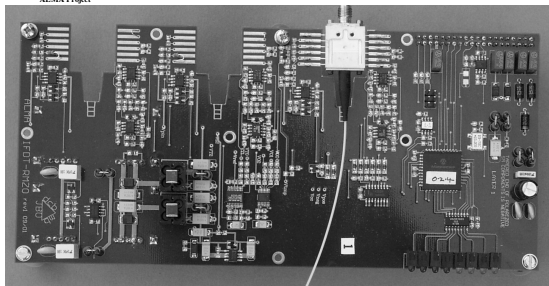


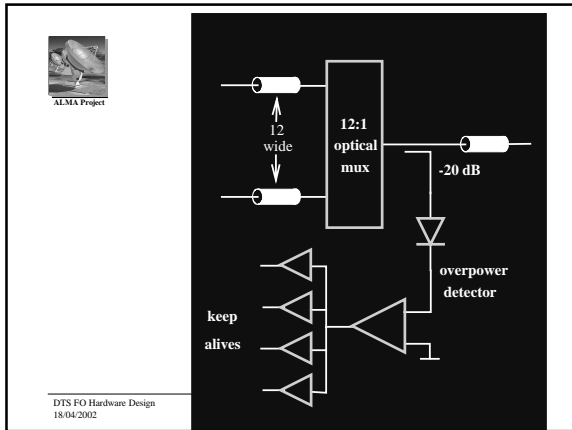
Contents of Talk

- Fibre Interconnects (everywhere)
- Optical Receiver (correlator, AOS or OSF)
- Optical Transmitter (antenna)
- Optical Multiplexer-Monitor Module (antenna)
- Optical-Fibre Amplifier Module (AOS)
- Optical Demultiplexer-Switch Module (AOS/OSF)
- Monitor, Control and Safety



Optical Receiver



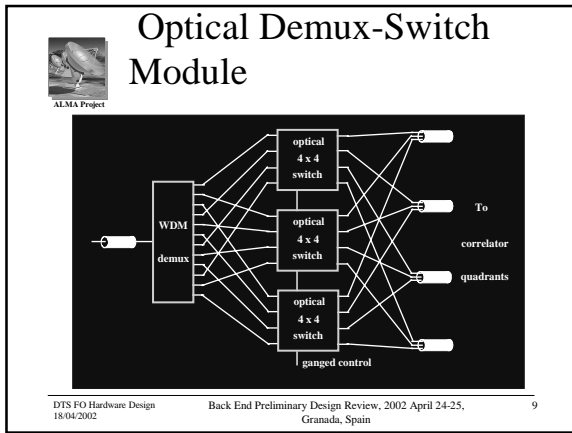


Optical-Fibre Amplifier Module

- Uses an oem EDFA module
 - 20 dB gain, +17 dBm output power
 - Size: 100 x 100 x 15 mm
 - Interface: RS232, 25-pin connector, +5V @ 6 - 8W off 48V bus
- Plug-in with PIC controller, 8 per crate, 64 OFAM in 2 racks
- Keep-alive feedback from 4 sets of receivers

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Optical Demux-Switch Module

- Integrate demux-switch functions: hide 12 interconnects
- Make as plug-ins with PIC controller and power supply off 48V bus
- 4 ODSMs per crate
- 4 - 6 crates per rack
- Requires total of 3 - 4 racks

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Monitor and Control

- Slaves: answer only
- Report the truth
- Remember calibrations and exceptions
- Parameters in non-volatile memory
- Monitor and control everything: no potentiometers
- Set/trip out philosophy for safety

ALMA Project

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Safety

- By design
 - Physical access restricted
 - Switch on under software control
 - Switch off via hardware or software
 - Soft switching for transmitters?
 - Hardware keep-alives:
 - OMMM to transmitters
 - Receivers to optical amplifiers (256 twisted pairs!)

ALMA Project

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