



# *MONSOON*

Status Review

Dec. 1, 2003

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MONSOON Project Manager

NOAO MI Program

# Status Review Agenda

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- Overview 10 min
- MONSOON for NEWFIRM 30 min
- MONSOON Project as a whole 30 min
- Resources & Schedule 10 min
- MONSOON at CTIO 20 min
- Break 10 min
- Software presentation 30 min
- IR Testing Presentation 30 min
- Lunch
- Visible Presentation 30 min
- Wrap up

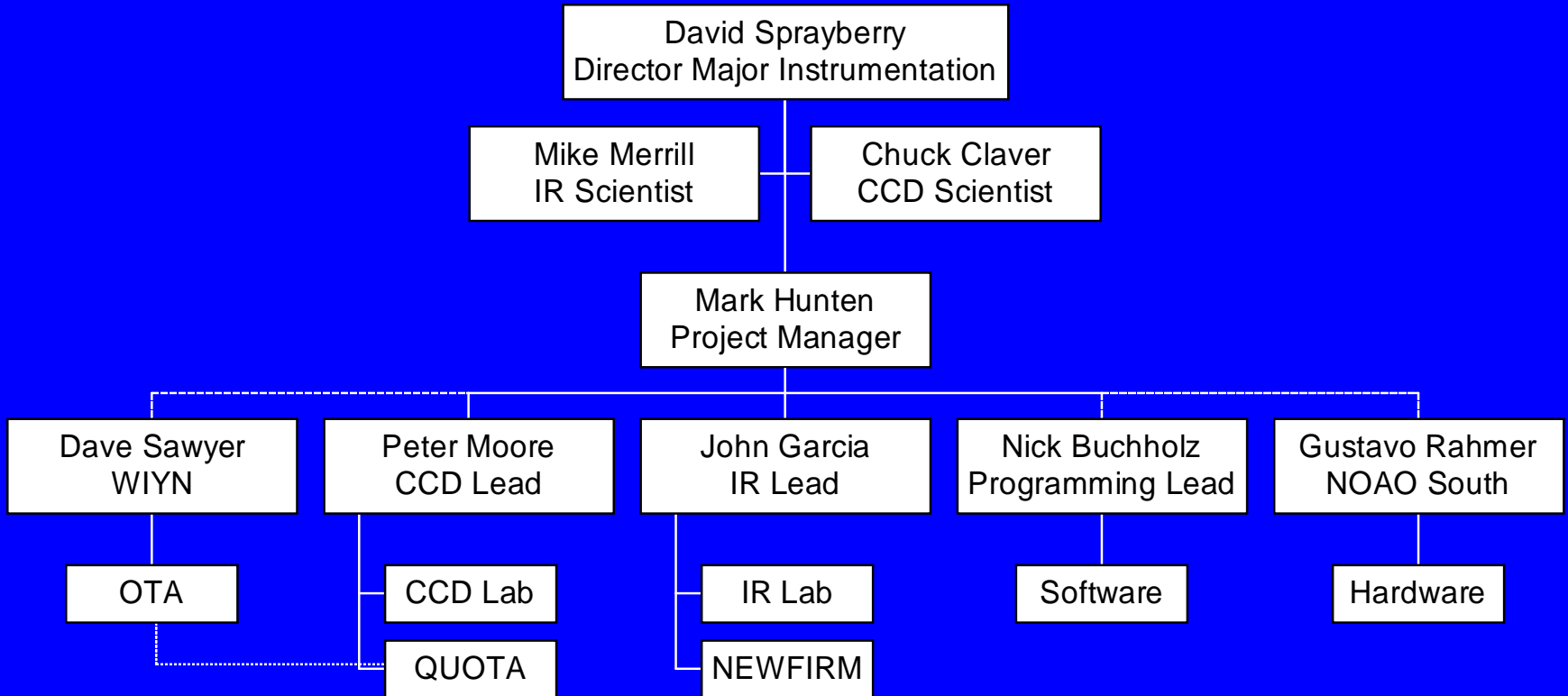
# Status Review Overview

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- In the October IPAC meeting, we asked to have a status review to evaluate:
  - Status of project at this time
  - Resources
  - Direction
  - Marketing &/or production approach
- Combined with NEWFIRM update

# MONSOON Group

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# ***MONSOON*** for ***NEWFIRM***

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- Control and read out 4 ORION-II IR Arrays
- Mounts on the side of ***NEWFIRM***
- PAN located remotely
- AC power, Fiber Optics and Cooling

# Parts List & Costing estimate

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Quantity	Item	Cost (est.)
1	Chassis & Backplane	\$5k
1 set	Power Supplies	\$1.3k
2 + 1	MCB	\$3.9k
1 + 1	CBB	\$8k
8 + 1	IR Acquisition	\$73.8k
2 + 9	Transition Cards	\$1.6k
2 sets	SL100 (DHE & PAN)	\$10k
1	PAN PC	\$3k
	Total	\$107k

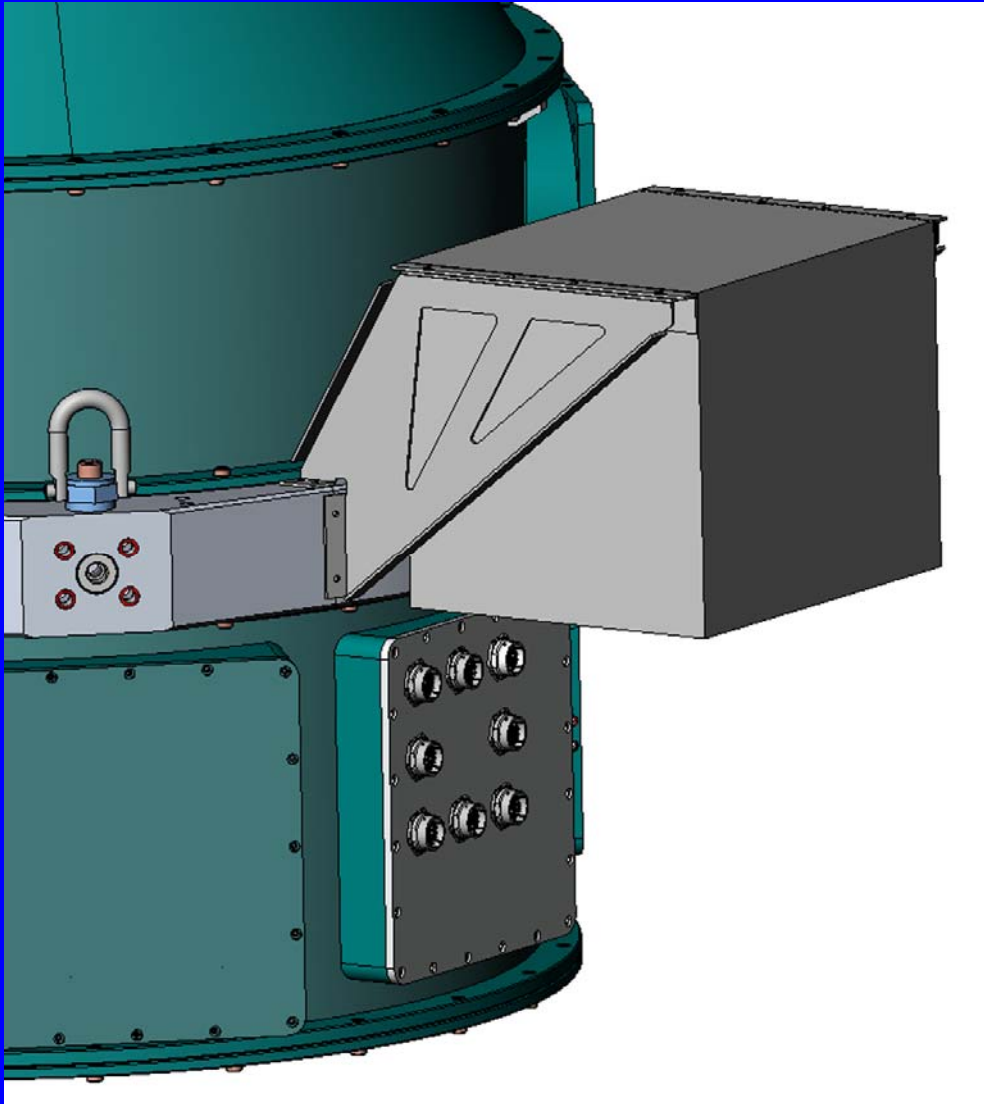
# Power Budget for *NEWFIRM*

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Qty	Board	Watts	Total Watts
2	MCB	7.5	15
1	CBB	8	8
1	CBB Transition	5	5
8	IR Acq	11.25	90
8	IR Acq Transition	3	24
1	Power supplies (75% eff.)		35
	Total dissipated		177

# Packaging and mounting

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- 19" standard rack
- Height depends on cooling
- Depth: 14 – 16"
- Internal Power supplies
- Cables to hermetics



# Packaging for *NEWFIRM*

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- Cooling decision: (see Ron Probst memo dated 24 Nov 2003)
  - Forced air
  - Chilled water



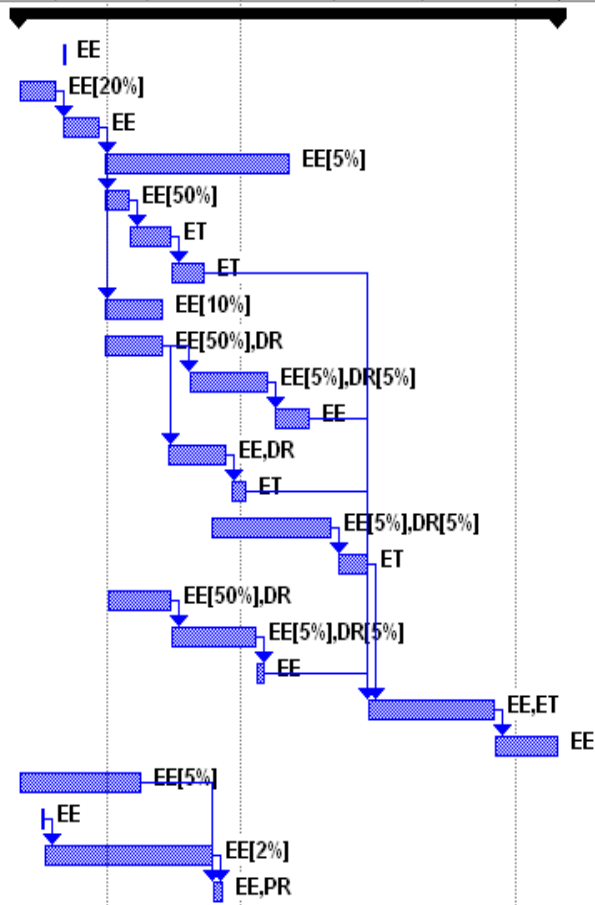
# MONSOON for *NEWFIRM*

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- Software included
  - Standard Pixel Server software
  - Data out in a stream
- Software needed (from *NEWFIRM* team)
  - Top level software to run the controller
  - Data handler

# MONSOON for NEWFIRM Schedule

ID	Task Name	Duration	Start	Finish	Predeces	Qtr 4, 2003				Qtr 1, 2004			Qtr 2, 2004
						Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr
1	<b>Monsoon NEWFIRM</b>	<b>128 days</b>	<b>Mon 10/20/03</b>	<b>Wed 4/14/04</b>									
2	Do parts checklist (deliverables)	1 day	Mon 11/3/03	Mon 11/3/03									
3	Design Power Supply	10 days	Mon 10/20/03	Fri 10/31/03									
4	Design Enclosures	10 days	Mon 11/3/03	Fri 11/14/03	3								
5	Purchase Chassis and Power supj	45 days	Mon 11/17/03	Fri 1/16/04	4								
6	Design Cabling	6 days	Mon 11/17/03	Mon 11/24/03	4								
7	A&T Cabling	10 days	Tue 11/25/03	Mon 12/8/03	6								
8	A&T of Chassis and power suppli	9 days	Tue 12/9/03	Fri 12/19/03	7								
9	Identify outside vendor for board a	15 days	Mon 11/17/03	Fri 12/5/03	4								
10	Revise IR CBB	15 days	Mon 11/17/03	Fri 12/5/03									
11	Purchase Assembled IR CBB	20 days	Mon 12/15/03	Fri 1/9/04	10								
12	Test IR CBB	10 days	Mon 1/12/04	Fri 1/23/04	11								
13	Revise Transition card	15 days	Mon 12/8/03	Fri 12/26/03	10								
14	A&T of transition boards	5 days	Mon 12/29/03	Fri 1/2/04	13								
15	Purchase Assembled IR Acq board	30 days	Mon 12/22/03	Fri 1/30/04									
16	Preliminary Test of IR Acq boards	8 days	Mon 2/2/04	Wed 2/11/04	15								
17	Revise MCB	15 days	Tue 11/18/03	Mon 12/8/03									
18	Purchase Assembled MCB	20 days	Tue 12/9/03	Mon 1/5/04	17								
19	Test MCB	3 days	Tue 1/6/04	Thu 1/8/04	18								
20	A&T DHE (System Integration)	30 days	Thu 2/12/04	Wed 3/24/04	8,12,14,1								
21	Documentation	15 days	Thu 3/25/04	Wed 4/14/04	20								
22	Order Systran SL 240 Boards	6 wks	Mon 10/20/03	Fri 11/28/03									
23	Identify NEWFIRM PAN computer	1 day	Mon 10/27/03	Mon 10/27/03									
24	Order NEWFIRM PAN computer	8 wks	Tue 10/28/03	Mon 12/22/03	23								
25	Assemble NEWFIRM PAN Compl	3 days	Tue 12/23/03	Thu 12/25/03	22,24								



# Partial *NEWFIRM* to do list

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- Dec 03
  - Order assembled IR Acq boards
  - Finish mods to MCB
  - Finish research on chassis
- Jan 04
  - Finish mods to CBB
  - Order assembled MCB & CBB boards
  - Order chassis & power supplies
  - Start testing of IR Acq boards

# ***MONSOON*** Status

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- Operational Systems
  - Aladdin IR system (Tucson)
  - Hawaii IR System (La Serena)
  - CCD Prototype (Tucson)
- Systems in progress
  - Orion Lab System
  - *NEWFIRM* IR System
  - CCD OTA Lab System
  - (CCD Lab System for La Serena)

# Board revisions

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- IR Acquisition:
  - no change needed for *NEWFIRM*
- Revisions needed:
  - CBB
  - CBB Transition
  - MCB
  - IR Acq Transition

# Board revisions

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- CCD Acq – now in PC layout
- CBB – Gustavo Rahmer
- MCB – Peter Moore
- CBB Transition for IR Lab – John Garcia

# FPGA & CPLD Firmware

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## Revisions needed:

- Sequencer
- CCD Acq
- OTA
- IR Acq



# Total Board Quantities

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	NEWFIRM	OTA CCD Lab	QUOTA	Mountain CCD	Total
MCB	2 + 1 spare	1	1	1	5 + 1 spare
CBB	1 + 1 spare	1	1	1	4 + 1 spare
IR Acq	8 + 1 spare	-	-	-	8 + 1 spare
CCD Acq	-	1	1	1	3
CBB Transition	1 + 1 spare	1	1	1	4 + 1 spare
IR Acq Transition	8 + 1 spare	-	-	-	8 + 1 spare
CCD Acq Transition	-	1	1	1	3



# Group Resources

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- NOAO North
  - Engineering – 2 engineers @ 100%
  - Technician support – 2 techs @ 50%, 2 @ 25 – 50%
  - Software support – 1 programmer @ 100%, 1 @ 50%, 2 @ 10 - 20%
  - IR Lab – Bill Ball for detector testing
  - CCD Lab – ?
- NOAO South
  - Engineering – 1 engineer @ 100%
  - Technician support – 50% as needed

# *MONSOON* Future Directions



- Future Instruments
  - QUOTA
  - ODI
  - Kitt Peak system
  - FhiRE Spectrograph
- Future directions
  - Small systems
  - Scalable systems

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