CONTENTS

Page 1 - Title Page

Page 2 - RSS-NIR fiber links to control and data computers

Page 3 - National Instruments Compact Reconfigurable I/O (cRIO) embedded computer

Page 4-5 - USB to Serial Converters and Serial to 1-wire Network Converters

Page 6-7 - Digital I/O cable breakout boards

Page 8 - Filter Inserter and Grating Inserter axes motion control electronics

Page 9 - Inserter Latch Rotator and Etalon Inserter axes motion control electronics

Page 10 - Optics Storage Assembly and Grating Rotator axes motion control electronics

Page 11 - Camera Articulation axis motion control electronics

Page 12 - Filter Wheel axis motion control electronics

Page 13 - Camera Focus and Fold Mirror Articulation axes motion control electronics

Page 14-15 - Actuator Interface Boards

Page 16 - Axis Overspeed Stop Boards

Page 17 - E-Stop Distribution and Pendant electronics

Page 18-20 - Power Protection and Monitor Boards

Page 21 - 1-wire Digital I/O

Page 22 - Pneumatic Valves

Page 23 - 1-wire Analog Input electronics

Page 24 - Pneumatic Feedback and 1-wire Temperature Sensors

Page 25 - 1-wire Digital Output electronics and circulation fans

Page 26 - 1-wire Network Distribution and 1-wire Hall Sensors

Page 27 - RFID system

Page 28 - Motion axes Absolute Encoders

Page 29 - Temperature PID Controllers

Page 30 - Dewar Vacuum control electronics and Detector Interface electronics

Page 31-32 - Dewar Temperature Control and Monitoring electronics

Page 33 - Skin Heater system

LEGEND

- Female Connector
- Male Connector
- Jack
- Plug
- Screw Terminal
- Resistor Terminator

University of Wisconsin - Madison
Department of Astronomy
5534 Sterling Hall
1475 North Charter Street, Madison, WI 53706

SALT RSS-NIR SPECTROGRAPH
CONTROL SYSTEM
BLOCK DIAGRAM

REVISIONS

ECN  REV  DESCRIPTION  DATE  APPRVD

PROJECT APPROVAL DATE

DATE

QUALITY ASSURANCE DATE

DOCUMENT

CURRENT SHEET

REV.

ENGINEER

DATE

QUALITY ASSURANCE

DATE

ENGINEER

DATE

QUALITY ASSURANCE

DATE

ENGINEER

DATE

QUALITY ASSURANCE

DATE

ENGINEER

DATE

QUALITY ASSURANCE

DATE

ENGINEER

DATE

QUALITY ASSURANCE
FILTER EXCHANGE AIRLOCK

FILTER HOLDER

HALL SENSOR BOARD

NIR-PD-FLH-PHX-001

1-Wire Network A

FILTER LATCH

HALL SENSOR BOARD

NIR-PD-FLI-PHX-004

1-Wire Network A

GRATING POPULATION

HALL SENSOR BOARD

NIR-PD-OSA-PHX-005

PRE-DEWAR

FILTER EXCHANGE AIRLOCK

NIR-EA-OSA-NET-001

1-WIRE NETWORK HUB

NIR-PD-FLL-CBL-006

NIR-PD-FLH-CBL-001

Page 10

1-WIRE NETWORK HUB

NIR-PD-OSA-CBL-011

NIR-PD-CBL-009

NIR-PD-CBL-012

NIR-PD-OSA-CBL-013

FILTER EXCHANGE AIRLOCK

DOOR

EXCHANGE FILTER POPULATION

HALL SENSOR BOARD

NIR-PD-OSA-PHX-007

EXCHANGE AIRLOCK TEMPERATURE AND HUMIDITY SENSOR

HALL SENSOR BOARD

NIR-PD-ENH-HX-001

NIR-PD-EAB-PHX-001

AMPED CBL-001

Page 25

NIR-PD-EAV-CBL-002

NIR-PD-OSA-CBL-014

1-Wire Network B

FILTER EXCHANGE AIRLOCK

PRE-DEWAR

NIR-PD-OSA-CBL-011

NIR-PD-OSA-CBL-012

NIR-PD-OSA-CBL-013