

WHT ED DRAWINGS*E. J. Mills 25/5/99*

DRAWING ORDER AS IN GREY BOOK

Drawing No	Description	SECTION/ subsection
ED6006	NASMYTH TT Instrument amplifier connections	WHT/TELE / CRC / SERVO / NAS-TT
W ED6059	NASMYTH TT Clock board PCB UPPER (1 of 4)	WHT/TELE / CRC / SERVO / NAS-TT
W ED6059	NASMYTH TT Clock board PCB UPPER (2 of 4)	WHT/TELE / CRC / SERVO / NAS-TT
W ED6059	NASMYTH TT Clock board PCB LOWER (3 of 4)	WHT/TELE / CRC / SERVO / NAS-TT
W ED6059	NASMYTH TT Clock board PCB LOWER (4 of 4)	WHT/TELE / CRC / SERVO / NAS-TT
W ED6060	NASMYTH TT Drive Side Counter PCB (1 of 4)	WHT/TELE / CRC / SERVO / NAS-TT
W ED6060	NASMYTH TT Drive Side Counter PCB (2 of 4)	WHT/TELE / CRC / SERVO / NAS-TT
W ED6060	NASMYTH TT Drive Side Counter PCB (3 of 4)	WHT/TELE / CRC / SERVO / NAS-TT
W ED6060	NASMYTH TT Drive Side Counter PCB (4 of 4)	WHT/TELE / CRC / SERVO / NAS-TT
W ED6060	NASMYTH TT C.W. Side Counter PCB (1 of 4)	WHT/TELE / CRC / SERVO / NAS-TT
W ED6060	NASMYTH TT C.W. Side Counter PCB (2 of 4)	WHT/TELE / CRC / SERVO / NAS-TT
W ED6060	NASMYTH TT C.W. Side Counter PCB (3 of 4)	WHT/TELE / CRC / SERVO / NAS-TT
W ED6060	NASMYTH TT C.W. Side Counter PCB (4 of 4)	WHT/TELE / CRC / SERVO / NAS-TT
W ED6063	NASMYTH TT Drive Side Process PCB (1 of 4)	WHT/TELE / CRC / SERVO / NAS-TT
W ED6063	NASMYTH TT Drive Side Process PCB (2 of 4)	WHT/TELE / CRC / SERVO / NAS-TT
W ED6063	NASMYTH TT Drive Side Process PCB (3 of 4)	WHT/TELE / CRC / SERVO / NAS-TT
W ED6063	NASMYTH TT Drive Side Process PCB (4 of 4)	WHT/TELE / CRC / SERVO / NAS-TT
W ED6063	NASMYTH TT C.W. Side Process PCB (1 of 4)	WHT/TELE / CRC / SERVO / NAS-TT
W ED6063	NASMYTH TT C.W. Side Process PCB (2 of 4)	WHT/TELE / CRC / SERVO / NAS-TT
W ED6063	NASMYTH TT C.W. Side Process PCB (3 of 4)	WHT/TELE / CRC / SERVO / NAS-TT
W ED6063	NASMYTH TT C.W. Side Process PCB (4 of 4)	WHT/TELE / CRC / SERVO / NAS-TT
W ED6080	NASMYTH TT Crate Back Plane Wiring	WHT/TELE / CRC / SERVO / NAS-TT
W ED6082	NASMYTH TT D.S. Rate Generator PCB (1 of 4)	WHT/TELE / CRC / SERVO / NAS-TT
W ED6082	NASMYTH TT D.S. Rate Generator PCB (2 of 4)	WHT/TELE / CRC / SERVO / NAS-TT
W ED6082	NASMYTH TT D.S. Rate Generator PCB (3 of 4)	WHT/TELE / CRC / SERVO / NAS-TT
W ED6082	NASMYTH TT D.S. Rate Generator PCB (4 of 4)	WHT/TELE / CRC / SERVO / NAS-TT
W ED6082	NASMYTH TT C.W.S Rate Generator PCB (1 of 4)	WHT/TELE / CRC / SERVO / NAS-TT
W ED6082	NASMYTH TT C.W.S Rate Generator PCB (2 of 4)	WHT/TELE / CRC / SERVO / NAS-TT
W ED6082	NASMYTH TT C.W.S Rate Generator PCB (3 of 4)	WHT/TELE / CRC / SERVO / NAS-TT
W ED6082	NASMYTH TT C.W.S Rate Generator PCB (4 of 4)	WHT/TELE / CRC / SERVO / NAS-TT
W ED 014	Azimuth APB (Analogue Processing Board) circuit	WHT/TELE / CRC / SERVO / ALTAZ
W ED 015	Altitude APB (Analogue Processing Board) circuit	WHT/TELE / CRC / SERVO / ALTAZ
W ED 016	Prime Focus Turntable (Analogue Processing Board) circuit	WHT/TELE / CRC / SERVO / PRIME FOCUS
W ED 017	Cassegrain Turntable (Analogue Processing Board) circuit	WHT/TELE / CRC / SERVO / CASS TURNTABLE
W ED 018	Clock Board (replacement for MARCONI CLB 1883)	WHT/TELE / CRC / SERVO / ALTAZ
W ED 301	IPCS Rotary Encoder 4MS Tracking Board (obsolete)	WHT/INST / 4MS
W ED 302	IPCS Rotary Encoder Signal conditioner (obsolete)	WHT/INST / 4MS

Drawing No	Description	SECTION/ subsection
V ED 4501	SMDM 6303 Processor Card PCB layout	WHT/INST / 4MS
W ED 4611	SMDM Module Interconnections	WHT/INST / 4MS
W ED 4612	SMDM Front Panel layout and heatsinks	WHT/INST / 4MS
W ED 4631	CCD Autoguider Peltier controller circuit	WHT/INST / CCD AUTOGUIDER
W ED 6003	Drum Fan control test circuit	WHT/TELE / DRUM FANS
W ED 6004	Fan and Safety Light control test circuit	WHT/TELE / DRUM FANS
W ED 6005	P.S.U. for Drum Fan and Safety Light Test Unit	WHT/TELE / DRUM FANS
W ED 6006	NASMYTH TT INLAND instrument amplifier	WHT/TELE / CRC / SERVO / NAS-TT
W ED 6007	NASMYTH TT Power distribution	WHT/TELE / CRC / SERVO / NAS-TT
W ED 6008	NASMYTH TT Power Supply Unit	WHT/TELE / CRC / SERVO / NAS-TT
W ED 6009	NASMYTH TT Encoder interface box connections	WHT/TELE / SERVO / NAS-TT
W ED 6010	NASMYTH TT Encoder interface box PSU circuit	WHT/TELE / SERVO / NAS-TT
W ED 6011	NASMYTH TT Encoder interface box Block Diagram	WHT/TELE / SERVO / NAS-TT
W ED 6012	NASMYTH TT Encoder box details	WHT/TELE / SERVO / NAS-TT
W ED 6013	NASMYTH TT Connector Panel layout and drilling	WHT/TELE / SERVO / NAS-TT
V ED 6014	Clock pulse generator CAMAC module ED 012 (n.b. This drawing has been superseded)	WHT/TELE / CRC / CAMAC
V ED 6015	Encoder interface CAMAC module ED 013	WHT/TELE / CRC / CAMAC
W ED 6016	NASMYTH TT Through connections	WHT/TELE / CONNECTIONS / NAS-TT
W ED 6029-6033	Display support bar (mechanical details)	WHT/TELE / CRC / ENG DESK
W ED 6034-6035	Card Frame rear panel (mechanical details)	WHT/TELE / CRC / ENG DESK
V ED 6036	Turntable and Focus module. Push button anti-bounce card	WHT/TELE / CRC / ENG DESK
W ED 6037	Turntable and Focus. Lamp driver card	WHT/TELE / CRC / ENG DESK
V ED 6038	Display module wiring	WHT/TELE / CRC / ENG DESK
W ED 6039-6040	Card Frame rear panel (mechanical details)	WHT/TELE / CRC / ENG DESK
V ED 6041	Focus and Rotator module wiring	WHT/TELE / CRC / ENG DESK
W ED 6042-6043	Connector plate (mechanical details)	WHT/TELE / CRC / ENG DESK
W ED 6044	Control desk and display unit	WHT/TELE / CRC / ENG DESK
W ED 6045	Focus and Turntable unit (display and front panel layout)	WHT/TELE / CRC / ENG DESK
V ED 6046	Encoder interface CAMAC module ED 010	WHT/TELE / CRC / CAMAC

Drawing No	Description	SECTION/ subsection
W ED 6052	NASMYTH TT 24V Power Supplies and mods for PU 1882	WHT/TELE / CRC / SERVO / NAS-TT
W ED 6058	Encoder Interface and Clock Pulse Fan Out CAMAC module ED 011	WHT/TELE / CRC / CAMAC
V ED 6060	Modification to Counter Board CTB 1881	WHT/TELE / CRC / SERVO / FOCUS
W ED 6061	NASMYTH TT Test control box circuit	WHT/TELE / CRC / SERVO / NAS-TT
W ED 6062	NASMYTH TT Connections for tests at RGO	WHT/TELE / CRC / SERVO / NAS-TT
W ED 6063	Modifications to NASMYTH TT APB circuit (class 2A/2B selection)	WHT/TELE / CRC / SERVO / NAS-TT
V ED 6064	WHT CAMAC schematic diagram	WHT/TELE / CRC / CAMAC
W ED 6065	NASMYTH TT Potentiometer board	WHT/TELE / CRC / SERVO / NAS-TT
W ED 6075	NASMYTH TT Board Interconnections	WHT/TELE/ CRC / SERVO / NAS-TT
V ED 6078	NASMYTH TT General Arrangement	WHT/TELE / SERVO / NAS-TT
W ED 6079	CAMAC crate supports (mechanical)	WHT/TELE / CRC / CAMAC
W ED 6080	NASMYTH Servo rack assembly (mechanical)	WHT/TELE / CRC / SERVO / NAS-TT
V ED 6082	Rate Generator Board. Circuit diagram	WHT/TELE / CRC / SERVO / ALTAZ

GRUBB PARSONS ED DRAWINGS

<u>Drawing No</u>	<u>Description</u>	<u>SECTION/ subsection</u>
ED 120	PRIMARY MIRROR SUPPORT SYSTEM (1 of 2)	WHT/TELE / MIRROR
ED 120	P. M. S. S. PNEUMATIC CONTROL (2 of 2) (These drawings now obsolete)	
ED 121	P. M. S. S. STRAIN GAUGE AMPLIFIER (This drawing now obsolete)	WHT/TELE / MIRROR
ED 123	NASMYTH TURRET CONTROL ARRANGEMENT	WHT/TELE / NAS-TURRET
ED 124	NASMYTH TURRET Control board 1 (1 of 2)	WHT/TELE / NAS-TURRET
ED 124	NASMYTH TURRET Control board 2 (2 of 2)	WHT/TELE / NAS-TURRET
ED 125	ROTATING UPPER END RING CONTROL	WHT/TELE / FLIP RING
ED 150	ON MOUNTING CONTROL EQUIPMENT BLOCK DIAGRAM	WHT/TELE / WHT BLOCK DIAGRAM
ED 151	POWER DISTRIBUTION CIRCUIT (This drawing now obsolete. New power cabinet installed)	WHT/TELE / POWER
ED 152	DOME & TELESCOPE POWER SUPPLIES (This drawing now obsolete. New power cabinet installed)	WHT/TELE / POWER
ED 154	CONTROL DESK POWER DISTRIBUTION	WHT/TELE / POWER / ENG DESK
ED 157	TEMPERATURE MEASUREMENT CIRCUIT	WHT/TELE / FOCUS
ED 158	PRIME FOCUS TURNABLE CONNECTIONS	WHT/TELE / CONNECTIONS / PRIME FOCUS
ED 159	PRIMARY MIRROR COVER CIRCUIT	WHT/TELE / MIRROR / COVER
ED 160	SECONDARY MIRROR COLLIMATION DRIVE	WHT/TELE / MIRROR / COLLIMATION
ED 161	S.K.F. OIL PUMP CONTROL CIRCUIT (1 of 2)	WHT/TELE / OIL PUMP
ED 161	S.K.F. OIL PUMP CONTROL CIRCUIT COOLER (2 of 2)	WHT/TELE / OIL PUMP
ED 161/2	S.K.F. OIL PUMP CONTROL CABINET	WHT/TELE / OIL PUMP
ED 162	RISING FLOOR CONTROL CIRCUIT	WHT/TELE / RISING FLOOR
ED 166	MOTORISED COUNTERWEIGHT CIRCUIT	WHT/TELE / MOT. CNTR. WGTs
ED 167	RELAY BOARD BCI 100	WHT/TELE / CRC / A & I CRATE
ED 168	ALARM RELAY BOARD BC 101 CIRCUIT	WHT/TELE / CRC / A & I CRATE
ED 169	SYSTEM CONTROL PANEL	WHT/TELE / CRC / ENG DESK
ED 170	SYSTEM STATUS & ALARM PANEL	WHT/TELE / CRC / ENG DESK
ED 171	MONITOR PANEL	WHT/TELE / CRC / ENG DESK
ED 172	ILLUMINATION & MONITOR PANEL	WHT/TELE / CRC / ENG DESK
ED 173	DESK FILLER PANELS	WHT/TELE / CRC / ENG DESK
ED 174	SERVICES PANEL	WHT/TELE / CRC / ENG DESK

Drawing No	Description	SECTION/ subsection
ED 175	DOME CONTROL & MIRROR DEFINING FORCES PANEL	WHT/TELE / CRC / ENG DESK
ED 176	TEMP, CTR.WTS & MIRROR COVER POSITION CIRCUITS	WHT/TELE / CRC / ENG DESK
ED 177	TUBE BALANCE & FOCUS CONTROL PANEL	WHT/TELE / CRC / ENG DESK
ED 178	ALARM & S.K.F. STATUS PANEL	WHT/TELE / CRC / ENG DESK
ED 179	MOTOR CURRENT & DRIVE CONTROL PANEL	WHT/TELE / CRC / ENG DESK
ED 180	REVOLVING FLOOR LATCH CONTROL	WHT/TELE / RISING FLOOR
ED 181	NASMYTH TURRET RELAY BOARD CIRCUIT	WHT/TELE / NAS-TURRET
ED 182	CONTROL DESK SCHEMATIC (This drawing now obsolete)	WHT/TELE / ENG DESK
ED 183	TEM-L RECEIVER OUTPUT BUFFER	WHT/TELE / DOME
ED 184	DOME CONTROL PANEL INTERCONNECTIONS	WHT/TELE / CONNECTIONS / DOME
ED 185	FOCUS PANEL THROUGH CONNECTIONS	WHT/TELE / CONNECTIONS / FOCUS
ED 186	FOCUS DISPLAY LINE RECEIVER	WHT/TELE / FOCUS
ED 187	LINE RECEIVER & BUFFER (NASMYTH INDICATORS)	WHT/TELE / CRC / ENG DESK
ED 188	NASMYTH TURRET CONTROL INTERCONNECTIONS	WHT/TELE / CONNECTIONS / NAS TURRET
ED 189	SERVICES PANEL THROUGH CONNECTIONS	WHT/TELE / CONNECTIONS / ENG DESK
ED 190	MET. PANEL TEMP INDICATION CONNECTIONS (The MET section of the drawing is now obsolete)	WHT/TELE / CONNECTIONS / FOCUS
ED 191	MOTOR CURRENT & DRIVE CONTROL CONNECTIONS	WHT/TELE / CONNECTIONS / DRIVE MOTORS
ED 192	MIRROR HANDLING TROLLEY CONTROL BOX	WHT/TELE / MIRROR TROLLEY
ED 193	NASMYTH GALLERY CONTROLS	WHT/TELE / NASMYTH GALLERY
ED 194	ALARM & INTERLOCK CIRCUIT (1 OF 5)	WHT/TELE / CRC / A & I CRATE
ED 194	ALARM & INTERLOCK CIRCUIT (2 OF 5)	WHT/TELE / CRC / A & I CRATE
ED 194	ALARM & INTERLOCK CIRCUIT (3 OF 5)	WHT/TELE / CRC / A & I CRATE
ED 194	AZIMUTH LIMIT SWITCHES (4 OF 5)	WHT/TELE / CRC / A & I CRATE
ED 194	ALTITUDE LIMIT SWITCHES (5 OF 5)	WHT/TELE / CRC / A & I CRATE
ED 196	CABLE DISTRIBUTION THROUGH FIREWALL	WHT/TELE / CABLES
ED 197	FOCUS DRIVE CONNECTIONS	WHT/TELE / CONNECTIONS / FOCUS
ED 198	CASS CABLE WRAP CONNECTIONS	WHT/TELE/ CONNECTIONS / CASS CW
ED 199	CASS TURNTABLE CONNECTIONS	WHT/TELE/ CONNECTIONS / CASS TT
ED 200	DOME POSITION RECEIVER & GATE SIGNAL DRIVER	WHT/TELE/ DOME
ED 202	SHUTTER ENCODER INTERFACE	WHT/TELE/ DOME

Drawing No	Description	SECTION/ subsection
ED 203	FOCUS ENCODER- CAMAC CONNECTIONS	WHT/TELE / CONNECTIONS / CAMAC / FOCUS
ED 204	CASS ENCODER-CAMAC CONNECTIONS	WHT/TELE / CONNECTIONS / CAMAC / CASS
ED 205	PRIME FOCUS ENCODER - CAMAC CONNECTIONS	WHT/TELE / CONNECTIONS / CAMAC / P. FOCUS
ED 206	AZIMUTH COURSE ENCODER – CAMAC CONNECTIONS	WHT/TELE / CONNECTIONS / CAMAC / ALTAZ
ED 207	ALTITUDE COARSE ENCODER – CAMAC CONNECTIONS	WHT/TELE / CONNECTIONS / CAMAC / ALTAZ
ED 208	ALT & AZ FINE ENCODER – CAMAC CONNECTIONS	WHT/TELE / CONNECTIONS / CAMAC / ALTAZ
ED 209	TURNTABLE & GEAR INC ENCODER CONNECTIONS	WHT/TELE / CONNECTIONS / CAMAC / ALTAZ
ED 210	ROLLER DRIVEN INC. ENCODER CONNECTIONS	WHT/TELE / CONNECTIONS / CAMAC / ALTAZ
ED 211	SHUTTER ENCODER TO TEM-L CONNECTIONS	WHT/TELE / CONNECTIONS / TEM-L / DOME
ED 212	MIRROR COVER COMPUTER CONTROL RELAY CARD	WHT/TELE / MIRROR
ED 213	CONTROL DESK BUILDING LIGHT SWITCHING	WHT/TELE / CRC / ENG DESK
ED 214	DOME ENCODER BOX CONNECTIONS	WHT/TELE / CONNECTIONS / CAMAC / DOME
ED 215	NASMYTH TT ENCODERS – CAMAC CONNECTIONS	WHT/TELE / CONNECTIONS / CAMAC / NAS-TT
ED 216	POWER SUPPLIES TO GHRIL ENCLOSURE	WHT/TELE / POWER
ED 217	EMERGENCY STOP & FINAL LIMITS 1	WHT/TELE / EMER. STOPS & LIMITS
ED 218	EMERGENCY STOP & FINAL LIMITS 2	WHT/TELE / EMER. STOPS & LIMITS

BREAK DOWN OF WHT ED DRAWINGS

The WHT ED drawings I have broken down under 4 headings:

1. WHT / Instruments : WHT Instrument ED drawings.
2. WHT / Telescope : ED drawings refer to equipment mounted on the telescope, dome or drum.
3. WHT / Telescope / Control Room Cabinets : ED drawings related to equipment within the control room equipment bays (blue cabinets) or the Engineering Desk
4. WHT /Telescope/ Cables & Connections : These ED drawings are specific to cabling and through connections.

It was very difficult to breakdown some ED drawings to specific areas. In these cases, I have put them under WHT / Telescope. It should be noted that many of these drawings are **obsolete**. Where I know definitely that this is the case, I have marked them as such. In time, I hope to be able to revise the drawings and update the changes and database.

EJM 24/5/99

WHT / INSTRUMENTS /

4MS SYSTEMS
ED 301 / 302 / 4501 / 4611 / 4612
 AUTOGUIDER
ED 4631

WHT / TELESCOPE /

ALT-AZ DRIVE
ED 206 / 207 / 208 / 209 / 210
 CASSEGRAIN TURNTABLE AND CABLE WRAP
ED 198 / 199 / 204
 DOME & SHUTTERS
ED 183 / 184 / 200 / 202 / 211 / 214
 DRUM FANS
ED 6003 / 6004 / 6005
 EMERGENCY STOPS & FINAL LIMITS
ED 217 / 218
 FOCUS DRIVE & TEMPERATURE TRACKING
ED 157 / 185 / 186 / 190 / 197 / 203
 MOTORISED COUNTER-WEIGHTS
ED 166
 MIRROR HANDLING TROLLY
ED 192
 MIRROR SUPPORT, COLLIMATION DRIVE AND COVERS
ED 120 (2) / 121 / 159 / 160 / 212
 NASMYTH GALLERY CONTROLS
ED 193
 NASMYTH TURRET
ED 123 / 124 (2) / 181 / 188
 NASMYTH TURNTABLES
ED 215
 OIL PUMP
ED 161 (3)
 POWER DISTRIBUTION
ED 151 / 152 / 154 / 216
 PRIME FOCUS AND TURNTABLE
ED 158 / 205
 RISING FLOOR
ED 162 / 180
 TOP END RING
ED 125
 WHT BLOCK DIAGRAM (MOUNTING)
ED 150

WHT / TELESCOPE / CONTROL ROOM CABINETS (CRC) /

ALARM & INTERLOCK CRATE (A & I)
ED 167 / 168 / 194 (5)

CAMAC
ED 6014 / 6015 / 6046 / 6058 / 6064 / 6079

ENGINEERING DESK
ED 169 / 170 / 171 / 172 / 173 / 174 / 175 / 176 / 177 / 178 / 179 / 182 / 187 / 189 / 213
ED 6029-6033 / 6034-6035 / 6036 / 6037 / 6038 / 6039-6040 / 6041 / 6042-6043 / 6044 / 6045

SERVO CONTROL SYSTEM /
 ALT-AZ AXIS
ED 014 / 015 / 018 / 6060 / 6082

CASSEGRAIN TURNTABLE
ED 017

FOCUS
ED 6060

NASMYTH TURNTABLES (NAS-TT)
ED 6006 / 6007 / 6008 / 6009 / 6010 / 6011 / 6012 / 6013 / 6016 / 6052 / 6059 (4) / 6060 (8)
ED 6061 / 6062 / 6063 (8) / 6063 (?) / 6065 / 6075 / 6078 / 6080
ED 6080 / 6082 (8)

PRIME FOCUS
ED 016

WHT / TELESCOPE / CABLES AND THROUGH CONNECTIONS /

CABLE DISTRIBUTION THROUGH FIREWALL
ED 196

CAMAC & ENCODERS
ED 206 / 207 / 208 / 209 / 210

CASS TURNTABLE, ENCODERS & CABLE WRAP
ED 198 / 199 / 204

DOME, SHUTTER & ENCODERS
ED 184 / 211 / 214

FOCUS DRIVE & ENCODER
ED 185 / 190 / 197 / 203

MOTOR CURRENT AND DRIVE CONTROL CONNECTIONS
ED191

NASMYTH TURNTABLES & ENCODERS
ED 215 / 6016

NASMYTH TURRET
ED 188

PRIME FOCUS TURNTABLE & ENCODERS
ED 158 / 205