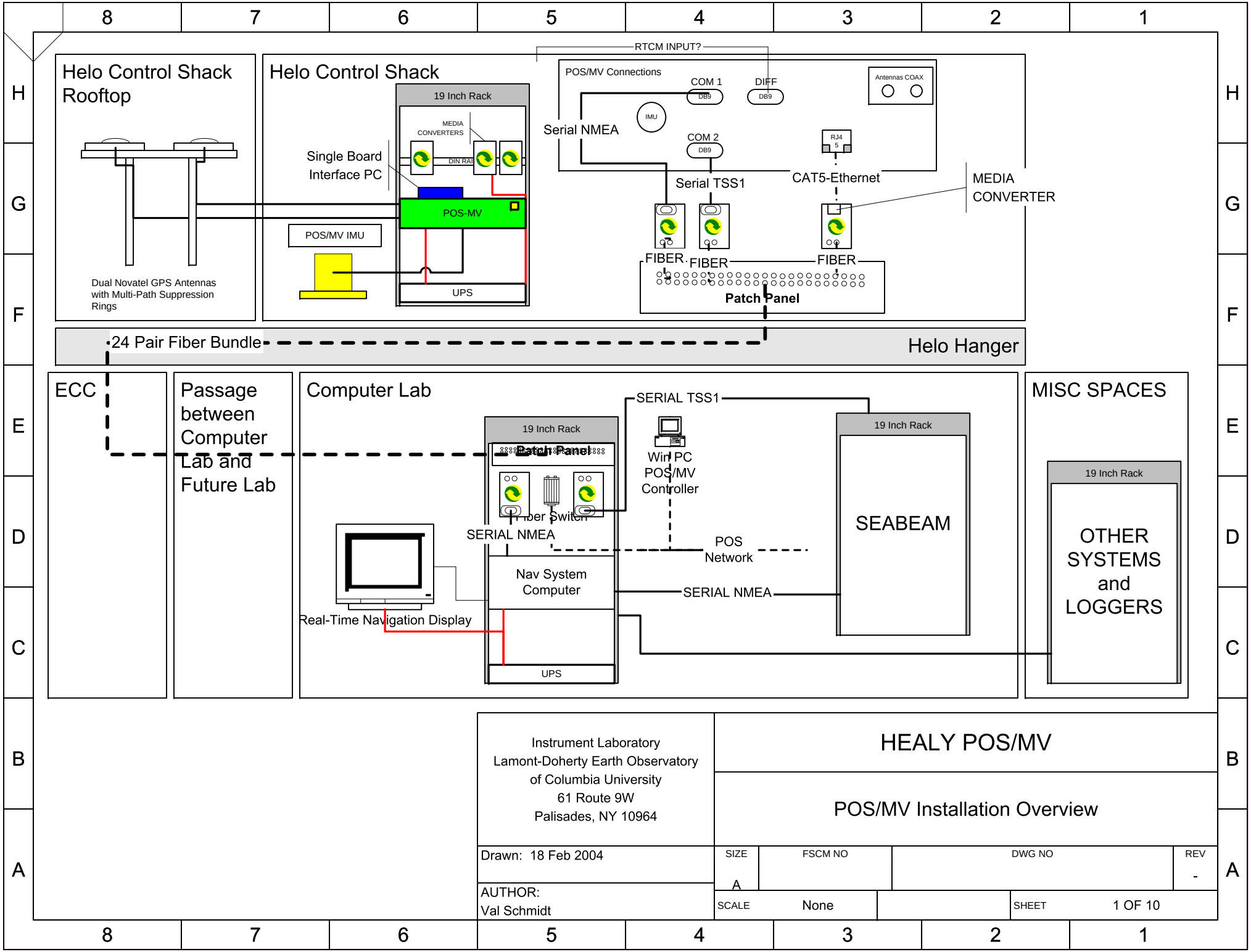

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61 Route 9W
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HEALY POS/MV

POS/MV Installation Overview

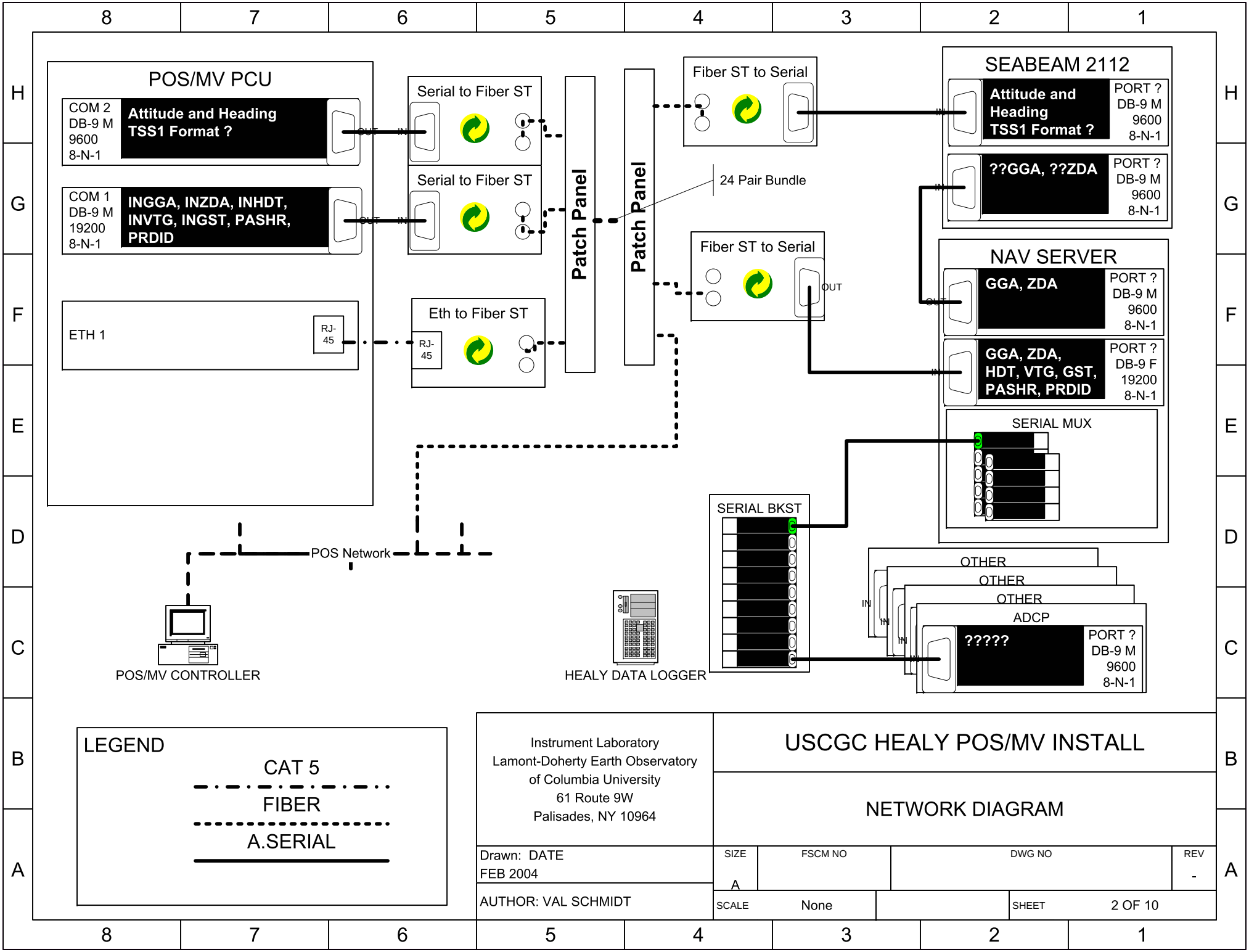
Drawn: 18 Feb 2004

AUTHOR: Val Schmidt

SIZE	FSCM NO	DWG NO	REV
A			-

SCALE None

SHEET 1 OF 10


POS/MV PCU
COM 2
DB-9 M
9600
8-N-1
Attitude and Heading
TSS1 Format ?
COM 1
DB-9 M
19200
8-N-1
INGGA, INZDA, INHDT,
INVTG, INGST, PASHR,
PRDID
ETH 1
RJ-45
OUT
IN
Serial to Fiber ST
Serial to Fiber ST
Eth to Fiber ST
RJ-45
Patch Panel
Patch Panel
24 Pair Bundle
Fiber ST to Serial
Fiber ST to Serial
OUT
SEABEAM 2112
Attitude and Heading
TSS1 Format ?
PORT ?
DB-9 M
9600
8-N-1
??GGA, ??ZDA
PORT ?
DB-9 M
9600
8-N-1
NAV SERVER
GGA, ZDA
PORT ?
DB-9 M
9600
8-N-1
GGA, ZDA,
HDT, VTG, GST,
PASHR, PRDID
PORT ?
DB-9 F
19200
8-N-1
SERIAL MUX
SERIAL BKST
OTHER
OTHER
OTHER
ADCP
?????
PORT ?
DB-9 M
9600
8-N-1
POS Network
POS/MV CONTROLLER
HEALY DATA LOGGER
LEGEND
CAT 5
FIBER
A.SERIAL
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USCGC HEALY POS/MV INSTALL
NETWORK DIAGRAM
Drawn: DATE
FEB 2004
AUTHOR: VAL SCHMIDT
SIZE
A
FSCM NO
DWG NO
REV
-
SCALE
None
SHEET
2 OF 10

POS/MV:

Physical Specifications

Size	IMU	204 x 204 x 168mm
	PCS	441 x 111 x 346mm, 2.5U 19" rack mount
	Antenna	178 ∅ x 77mm (2x)
	Choke Ring	360 ∅ x 61mm (2x)
Weight	IMU	3.5 Kg
	PCS	7 Kg
Power		110/220 VAC, 60/50 Hz, 60W
Operating Temperature	IMU & Antennas	-40û to +60ûC
	PCS	0û to +60ûC
Humidity	IMU & Antennas	0 to 100%
	PCS	5 to 95% RH non-condensing
Cables	IMU	8m standard
	Antennas	15m standard (2x)

Placement:
PCS AND ASSOCIATED ELECTRONICS WILL BE PLACED IN A 22"X36"X24" CABINET TO BE INSTALLED ALONG STBD BULKHEAD OF THE HELO CONTROL SHACK APPROX FRAME: 115
THE IMU WILL BE INSTALLED ON THE DECK IN THE FORWARD STBD CORNER OF THE HELO CONTROL SHACK.

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USCGC HEALY POS/MV INSTALL

System Specifications

Drawn: DATE
FEB 2004

AUTHOR: VAL SCHMIDT

SIZE	FSCM NO	DWG NO	REV
A			-

SCALE None

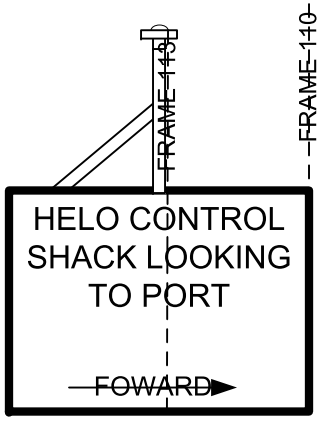
SHEET 3 OF 10

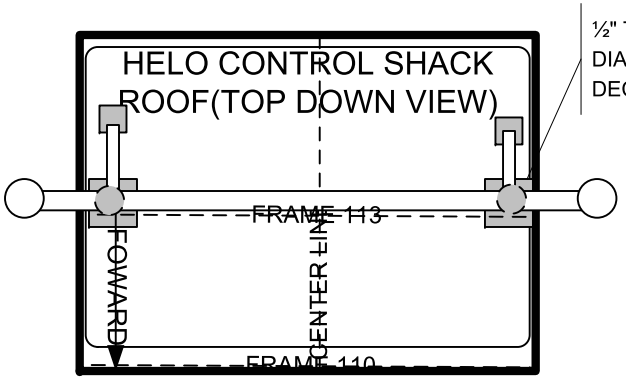
THIS DRAWING IS NOT TO SCALE

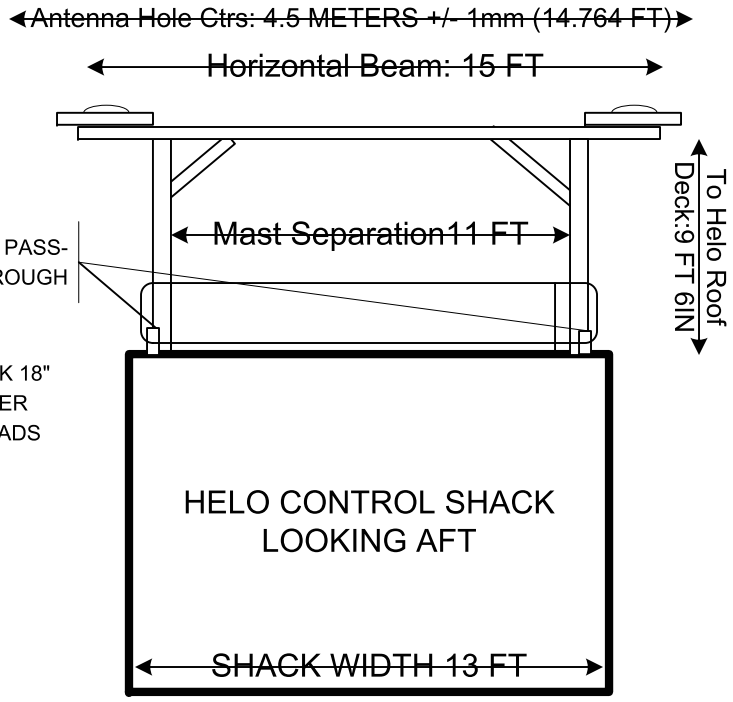
MAST SPECS:
VERTICALS:
SCHEDULE 80 EWR PIPE
DIAMETER: 6"
HEIGHT: 9FT 6 IN
WEIGHT:~400LBS (~20lbs/ft)

STRUTS:
SCHEDULE 80 EWR PIPE
DIAMETER: 4"
LENGTH: 40 FT
WEIGHT: 320lbs (~8lbs/ft)

CROSS PIECE:
8X6X½ STRUCTURAL ANGLE
LENGTH: 15FT
2 PREDRILLED 1" DIAMETER
HOLES 4.5M+/-1MM (14.765 FT)
APART



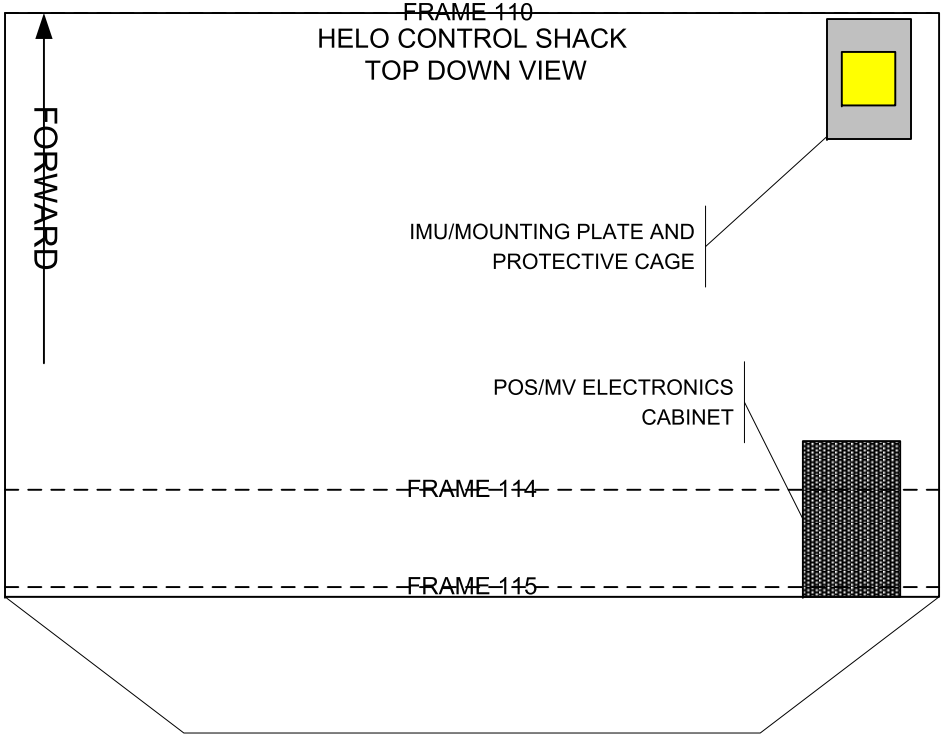




CABLES:
WELDED CABLE CLAMP
MOUNTS TO DECK
NELSON FIRE STOP TYPE
DECK PASS-THRU

Instrument Laboratory Lamont-Doherty Earth Observatory of Columbia University 61 Route 9W Palisades, NY 10964	USCGC HEALY POS/MV INSTALL			
	ANTENNA MAST			
Drawn: DATE FEB 2004	SIZE A	FSCM NO	DWG NO	REV -
AUTHOR: VAL SCHMIDT	SCALE None		SHEET 4 OF 10	

DRAWING NOT TO SCALE

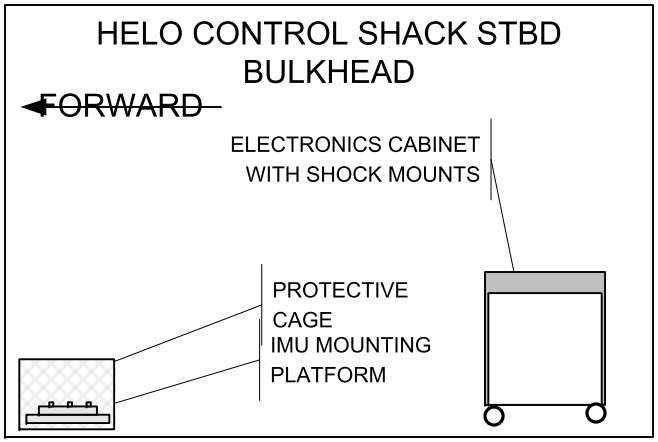


ELECTRONICS

ELECTRONICS CABINET:
SHOCK MOUNTED,
"19 IN COMPUTER RACK" TYPE CABINET
DOOR FACING FWD

IMU MOUNTING PLATFORM:
STEEL MOUNTING PLATE
(SEE TEMPLATE FOR DIMENSIONS)
(SEE ADDITIONAL PAGES FOR EXACT PLACEMENT)
WEIGHT: 40 LBS (EST)

CAGE:
DIMENSIONS: 18" X 12" X 18"
WEIGHT: 10LBS (EST)
CAGE SHOULD SURROUND IMU ALLOWING FOR CABLING ACCESS (TO PT/STBD/AFT?). TOP SHOULD BE HINGED FOR IMU REMOVAL



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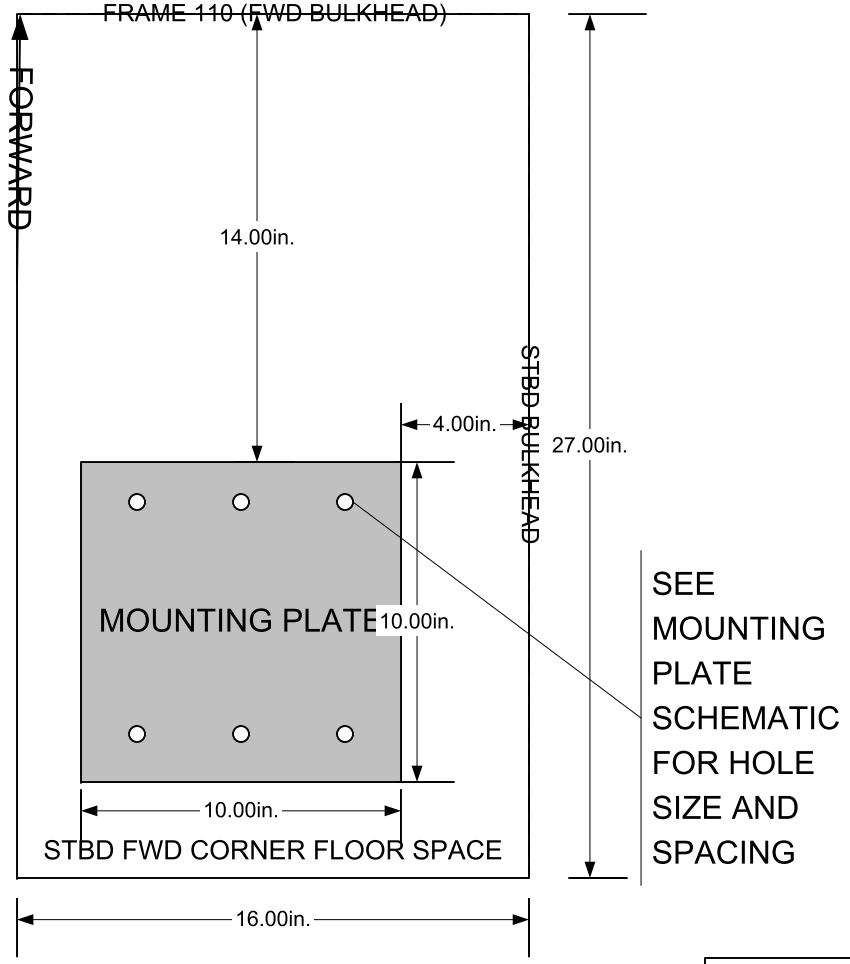
USCGC HEALY POS/MV INSTALL

HELO CONTROL ELECTRONICS INSTALLATION

Drawn: DATE	SIZE	FSCM NO	DWG NO	REV
FEB 2004	A			-
AUTHOR: VAL SCHMIDT	SCALE None		SHEET 5 OF 10	



IMU INSTALLATION:

Attach the IMU to the mounting location using four 0.25 in (6.35 mm) pan head bolts inserted through the fixing holes in the base plate, isolating the IMU from the hull by way of an electrically non-conductive material if possible. Use flat and shake proof washers under the IMU mounting screws. Make certain that you place the flat washers (not shake proof washers) in direct contact with the IMU base plate.

Tighten the mounting bolts in a uniform manner, exercising care not to over torque. Avoid warping the IMU base plate.

If it is impractical to electrically isolate the IMU completely from the vessel, attach a ground strap between the IMU ground connection screw and the hull of the vessel to ensure adequate electrical noise protection.

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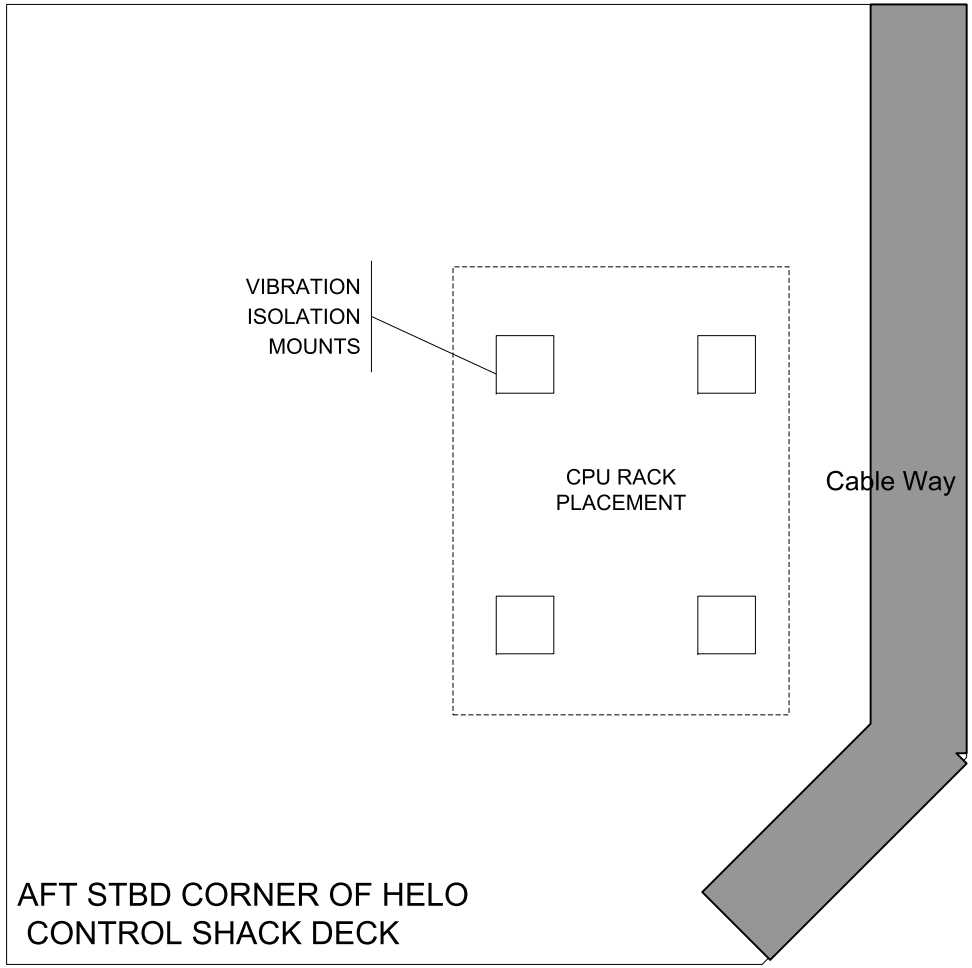
USCGC HEALY POS/MV INSTALL

IMU BASEPLATE INSTALLATION

Drawn: DATE	SIZE	FSCM NO	DWG NO	REV
FEB 2004	A			-
AUTHOR: VAL SCHMIDT	SCALE None		SHEET 6 OF 10	



Instrument Laboratory Lamont-Doherty Earth Observatory of Columbia University 61 Route 9W Palisades, NY 10964	USCGC HEALY POS/MV INSTALL IMU BASEPLATE
Drawn: DATE FEB 2004	SIZE: A; FSCM NO: ; DWG NO: ; REV: -
AUTHOR: VAL SCHMIDT	SCALE: None; SHEET: 7 OF 10

UPS (2)
WEIGHT: 100LBS
PLACEMENT:
1) ONE HELO CONTROL SHACK ELECTRONICS SUPPORT STRUCTURE
2) ONE IN MAIN LAB
DIMENSIONS: 19" X 2U (~4")
PWR: 120 V 60 Hz 660 WATTS

MEDIA CONVERTERS (6)
(SERIAL-ETHERNET-FIBER)
WEIGHT: 0.5 LBS
PLACEMENT:
1) THREE IN HELO CONTROL SHACK ELECTRONICS SUPPORT STRUCTURE
2) ONE IN MAIN LAB, EXACT LOCATION TBD
3) TWO IN COMPUTER LAB, EXACT LOCATION TBD
PWR: POWERED INLINE FROM SERIAL

SERIAL BROADCAST UNITS (3)
WEIGHT: 1LB
PLACEMENT: COMPUTER LAB, EXACT LOCATION TBD.
PWR: 120V 1W

SINGLE BOARD INTERFACE PC (1)
WEIGHT: .5LBS
PLACEMENT: HELO CONTROL SHACK ELECTRONICS SUPPORT STRUCTURE
DIMENSIONS: 5"X8"X1"
PWR: 120V 100W

PENDING SHIP CHECK WILL ESTABLISH EXACT INSTALLATION LOCATIONS

NAVIGATION SYSTEM PC (1)
WEIGHT: 30LBS
PLACEMENT: COMPUTER LAB, W/IN ALREADY INSTALLED RACK AT FWD END.
PWR: 120V, 300W

VIDEO MONITOR (1)
WEIGHT: 25 LBS
DIMENSIONS: 22"X17"X8"
POWER: 120V 150W
PLACEMENT:
1) COMPUTER LAB, PORT SIDE BULKHEAD BETWEEN SEABEAM AND ADCP RACKS

FIBER OPTIC CABLE
WEIGHT: 35LBS/1000FT
PLACEMENT:
12 PAIRS OF FIBER (SOME FOR LATER EXPANSION) WILL BE ROUTED FROM THE HELO CONTROL SHACK TO THE MAIN LAB. THESE WILL PASS VIA EXISTING CABLE WAYS AND PASS-THROUGHS ACROSS THE HELO HANGER CEILING TO SBTD, DOWN THE STBD SIDE TO THE MAIN LAB BELOW. TWO OF THESE FIBER PAIRS WILL CONTINUE ON TO THE COMPUTER LAB.

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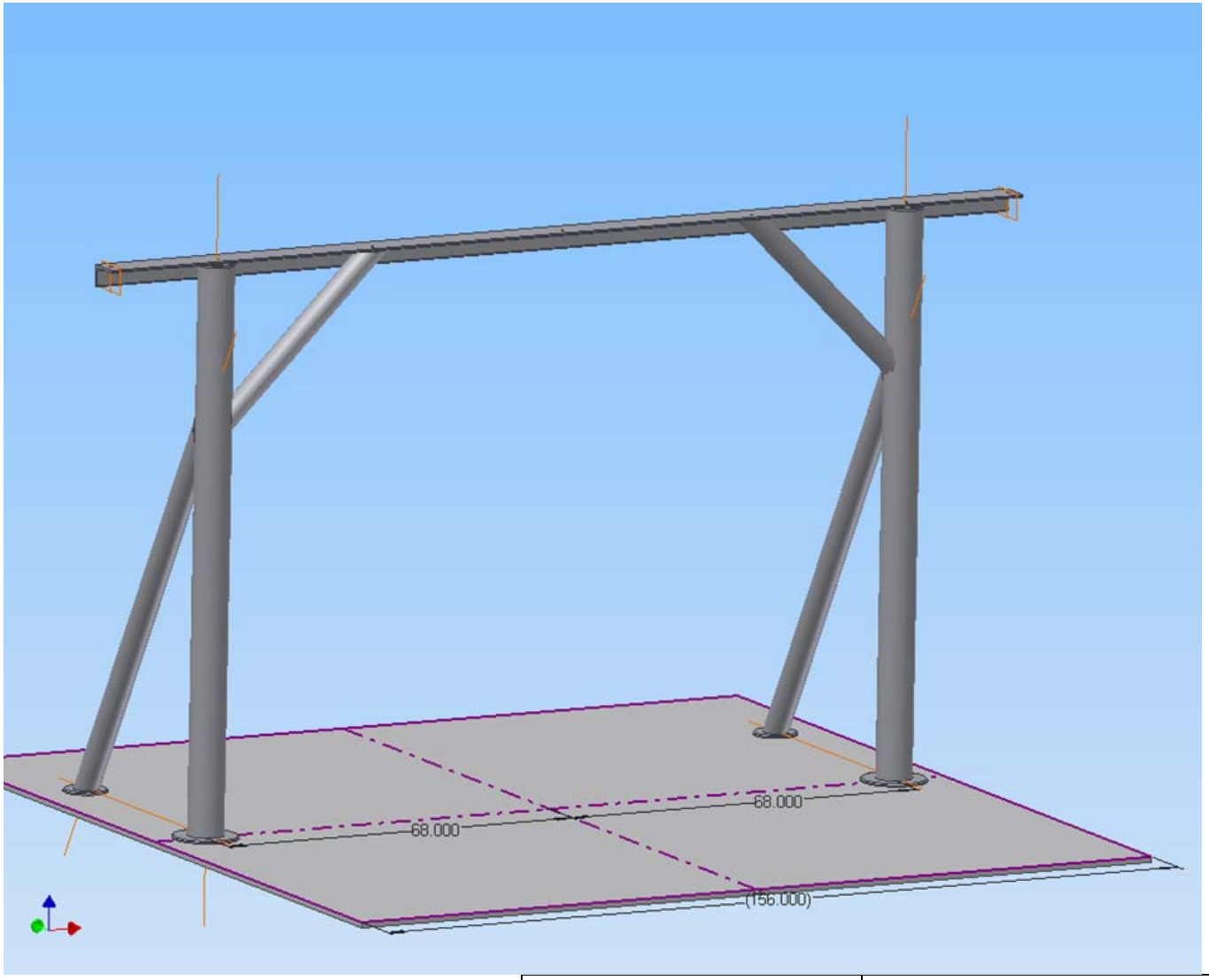
USCGC HEALY POS/MV INSTALL

ANCILLARY EQUIPMENT DETAILS

Drawn: DATE	SIZE	FSCM NO	DWG NO	REV
FEB 2004	A			-
AUTHOR: VAL SCHMIDT	SCALE None		SHEET 8 OF 10	



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USCGC HEALY POS/MV INSTALL

POS/MV GPS Antenna Mount

Drawn: DATE FEB 2004	SIZE A	FSCM NO	DWG NO	REV Draft-
Author - Richard Perry	SCALE None		SHEET 9 OF 10	

R/V Healy - General Installation Notes for POS/MV GPS Antenna.

1. Proposed General Location for this assembly is atop the Helicopter Control Shack as designated on update of sheet 4 of CG Dwg. 420-WAGB 405-001, General Arrangement of Antennas.
2. As noted on sheet 4 of this document the proposed athwart ships location is centered at frame 113.
3. If installation requires that antenna be moved from proposed location the, size and location of Up right Deck pads to be adjusted such that deck plate lies atop a frame or spans across two frames in the fore & aft direction.
4. Movement of Port and Starboard Allied Cranes shall be limited either by alterations to controls or by operator placard to prevent cranes from passing within a 1 M distance of the ends of the cross bars.
5. Fabrication and installation shall be performed on site such that the cross bar is not deformed or stressed during installation.
6. Climbing rungs of an approved type shall be furnished for both mast up rights.
7. Approved cable clamps suitable for TBD cable shall be provided.
8. See Specifications for the Drydock and Repair of USCGC Healy for appropriate list of Applicable documents. Also on page TBD of this document.
9. Nelson Fire stop(s) Part number(s) TBD.
10 Mounting locations for Nelson Fire Stops to be indicated on CG Dwg # TBD

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USCGC HEALY POS/MV INSTALL

POS/MV GPS Antenna Mount Installation Notes

Drawn: DATE May 19, 2004	SIZE A	FSCM NO	DWG NO	REV Draft-
Author - Richard Perry	SCALE None		SHEET 10 OF 10	