

Photo/TV Checklist

STS-127 Flight Supplement

**Mission Operations Directorate
Operations Division**

**Final
May 20, 2009**

National Aeronautics and
Space Administration

Lyndon B. Johnson Space Center
Houston, Texas



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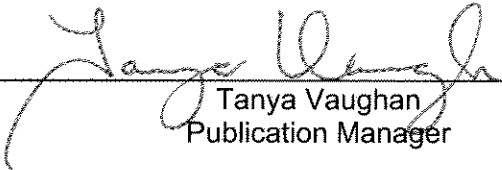
**PHOTO/TV CHECKLIST
STS-127 FLIGHT SUPPLEMENT**

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May 20, 2009

PREPARED BY:

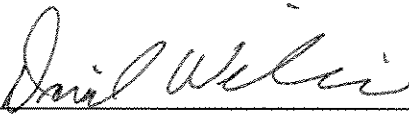


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PHOTO/TV CHECKLIST
STS-127 FLIGHT SUPPLEMENT

LIST OF EFFECTIVE PAGES

FINAL 05/20/09

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FS vii	*	127/FIN	FS 1-45	127/FIN
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FS 1-23		127/FIN	FS 1-73	127/FIN
FS 1-24		127/FIN	FS 1-74	127/FIN
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FS 1-26		127/FIN	FS 1-76	⊗ 127/FIN
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FS 1-30	⊗	127/FIN	FS 1-80	127/FIN
FS 1-31		127/FIN	FS 1-81	⊗ 127/FIN
FS 1-32		127/FIN	FS 1-82	⊗ 127/FIN
FS 1-33		127/FIN	FS 1-83	⊗ 127/FIN
FS 1-34		127/FIN	FS 1-84	⊗ 127/FIN
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FS 1-37	⊗	127/FIN	FS 1-87	127/FIN
FS 1-38		127/FIN	FS 1-88	127/FIN

* – Omit from flight book

⊗ – Flight copies of this page contain color

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FS 1-90	127/FIN	FS CC 3-20	⊗ 127/FIN
FS 1-91	127/FIN	FS CC 3-21	127/FIN
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FS 2-3	127/FIN	4-i	generic
FS 2-4	127/FIN	4-ii	generic
FS 2-5	127/FIN	4-1	† generic
FS 2-6	127/FIN	4-2	† generic
FS 2-7	127/FIN	4-3	† generic
FS 2-8	127/FIN	4-4	† generic
FS 2-9	127/FIN	4-5	†⊗ generic
FS 2-10	127/FIN	4-6	†⊗ generic
FS 2-11	127/FIN	4-7	†⊗ generic
FS 2-12	⊗ 127/FIN	4-8	† generic
FS 2-13	127/FIN	4-9	† generic
FS 2-14	127/FIN	4-10	† generic
FS 2-15	127/FIN	4-11	† generic
FS 2-16	127/FIN	4-12	† generic
FS 2-17	127/FIN	4-13	† generic
FS 2-18	127/FIN	4-14	† generic
FS 2-19	127/FIN	4-15	† generic
FS 2-20	127/FIN	4-16	† generic
FS 2-21	127/FIN	4-17	† generic
FS 2-22	⊗ 127/FIN	4-18	† generic
FS 2-23	127/FIN	4-19	† generic
FS 2-24	127/FIN	4-20	† generic
FS 2-25	127/FIN	4-21	† generic
FS 2-26	⊗ 127/FIN	4-22	†⊗ generic
FS 2-27	127/FIN	4-23	†⊗ generic
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FS CC 3-11	127/FIN	5-3	† generic
FS CC 3-12	127/FIN	5-4	† generic
FS CC 3-13	⊗ 127/FIN	5-5	† generic
FS CC 3-14	127/FIN	5-6	† generic
FS CC 3-15	127/FIN	5-7	†⊗ generic
FS CC 3-16	⊗ 127/FIN	5-8	†⊗ generic
FS CC 3-17	⊗ 127/FIN	5-9	†⊗ generic
FS CC 3-18	⊗ 127/FIN	5-10	† generic

⊗ – Flight copies of this page contain color
Δ – Replace with blue K-10 card stock in flight book only
† – May be replaced with CD in flight book only

5-11	† generic	7-23	†⊗ generic
5-12	† generic	7-24	†⊗ generic
5-13	†⊗ generic	8-1	† generic
5-14	†⊗ generic	8-2	† generic
5-15	†⊗ generic	8-3	† generic
5-16	†⊗ generic	8-4	† generic
5-17	† generic	8-5	† generic
5-18	† generic	8-6	† generic
5-19	† generic	9-1	† generic
5-20	† generic	9-2	† generic
5-21	† generic	9-3	† generic
5-22	† generic	9-4	†⊗ generic
5-23	† generic	9-5	†⊗ generic
5-24	† generic	9-6	† generic
6-1	† generic	10-1	† generic
6-2	† generic	10-2	† generic
6-3	† generic	10-3	† generic
6-4	† generic	10-4	† generic
6-5	†⊗ generic	10-5	† generic
6-6	†⊗ generic	10-6	†⊗ generic
6-7	† generic	10-7	† generic
6-8	† generic	10-8	† generic
6-9	† generic	10-9	† generic
6-10	† generic	10-10	† generic
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6-14	† generic	10-14	† generic
6-15	† generic	10-15	† generic
6-16	† generic	10-16	† generic
6-17	† generic	10-17	† generic
6-18	† generic	10-18	† generic
7-1	† generic	10-19	† generic
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7-4	† generic	10-22	† generic
7-5	† generic	10-23	† generic
7-6	† generic	10-24	† generic
7-7	†⊗ generic	10-25	† generic
7-8	† generic	10-26	† generic
7-9	† generic	11-1	† generic
7-10	† generic	11-2	† generic
7-11	† generic	11-3	† generic
7-12	† generic	11-4	† generic
7-13	† generic	11-5	† generic
7-14	† generic	11-6	† generic
7-15	†⊗ generic	11-7	† generic
7-16	† generic	11-8	† generic
7-17	† generic	11-9	† generic
7-18	† generic	11-10	† generic
7-19	† generic	11-11	†⊗ generic
7-20	† generic	11-12	† generic
7-21	† generic	12-1	† generic
7-22	† generic	12-2	† generic

† – May be replaced with CD in flight book only

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12-3	†	generic	16-3	†	generic
12-4	†	generic	16-4	†	generic
12-5	†	generic	16-5	†	generic
12-6	†	generic	16-6	†	generic
12-7	†	generic	17-1	†	generic
12-8	†	generic	17-2	†	generic
12-9	†	generic	18-1	†	generic
12-10	†	generic	18-2	†	generic
12-11	†	generic	18-3	†	generic
12-12	†	generic	18-4	†	generic
12-12a	†	generic	18-5	†	generic
12-12b	†	generic	18-6	†	generic
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12-14	†⊗	generic	19-2	†	generic
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12-17	†	generic	19-5	†	generic
12-18	†	generic	19-6	†	generic
12-19	†	generic	19-7	†	generic
12-20	†	generic	19-8	†	generic
13-1	†	generic	19-9	†	generic
13-2	†	generic	19-10	†	generic
13-3	†	generic	19-11	†	generic
13-4	†⊗	generic	19-12	†	generic
13-5	†⊗	generic	20-1	†	generic
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15-2	†	generic	20-14	†	generic
15-3	†	generic	20-15	†⊗	generic
15-4	†	generic	20-16	†	generic
15-5	†	generic	20-17	†	generic
15-6	†	generic	20-18	†⊗	generic
15-7	†	generic	20-19	†	generic
15-8	†	generic	20-20	†	generic
15-9	†	generic	20-21	†	generic
15-10	†	generic	20-22	†	generic
15-11	†	generic	21-1	†	generic
15-12	†	generic	21-2	†	generic
15-13	†	generic			
15-14	†	generic			
15-15	†	generic			
15-16	†	generic			
16-1	†	generic			
16-2	†	generic			

† – May be replaced with CD in flight book only

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PHOTO/TV CUE CARDS

	<u>Title</u>	<u>Ref. Page</u>	<u>Card No.</u>
TV			
	(Front).....	FS CC 3-3	P/TV-1a/127/O/A
	(Back).....	FS CC 3-4	P/TV-1b/127/O/B
ANALOG PLAYBACK			
	(Front).....	FS CC 3-5	P/TV-2a/127/O/A
	(Back).....	FS CC 3-6	P/TV-2b/127/O/A
ET PHOTO			
	(Front).....	FS CC 3-7	P/TV-3a/127/O/B
	(Back).....	FS CC 3-7	P/TV-3b/127/O/B
MEDIA ALLOCATIONS			
	(Front).....	FS CC 3-8	P/TV-4a/127/O/B
	(Back).....	FS CC 3-9	P/TV-4b/127/O/A
WVS			
	(Front).....	FS CC 3-10	P/TV-5a/127/O/A
	(Back).....	FS CC 3-11	P/TV-5b/127/O/A
PLBD VTR RECORDING			
	(Front).....	FS CC 3-12	P/TV-6a/127/O/A
	(Back).....	FS CC 3-13	P/TV-6b/127/O/A
LDRI/ITVC			
	(Front).....	FS CC 3-14	P/TV-7a/127/O/A
	(Back).....	FS CC 3-15	P/TV-7b/127/O/A
LCS			
	(Front).....	FS CC 3-16	P/TV-8a/127/O/B
	(Back).....	FS CC 3-17	P/TV-8b/127/O/B
IDC			
	(Front).....	FS CC 3-18	P/TV-9a/127/O/B
	(Back).....	FS CC 3-19	P/TV-9b/127/O/B
VIDEO SETUP			
	(Front).....	FS CC 3-20	P/TV-10a/127/O/C
	(Back).....	FS CC 3-21	P/TV-10b/127/O/A
D2Xs SETUP			
	(Front).....	FS CC 3-22	P/TV-11a/127/O/A
	(Back).....	FS CC 3-23	P/TV-11b/127/O/A
LDRI/ITVC A7 PLACARD			
	(Front).....	FS CC 3-24	P/TV-12a/127/O/A
	(Back).....	FS CC 3-24	P/TV-12b/127/O/A
DIGITAL PLAYBACK			
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	(Back).....	FS CC 3-26	P/TV-13b/127/O/B

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SCENES

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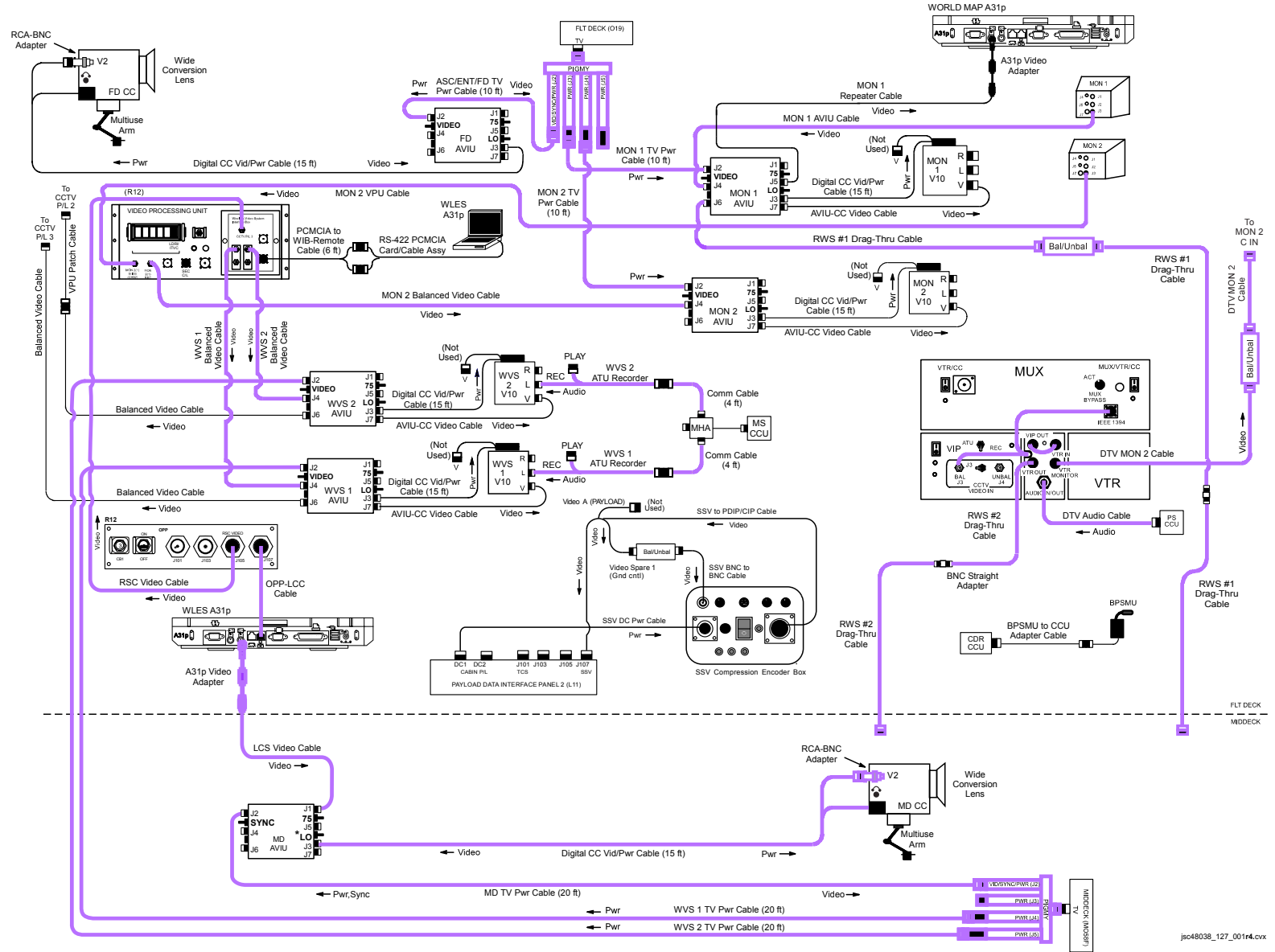
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P/TV01 VIDEO SETUP

P/TV01 VIDEO SETUP

H/W SUMMARY



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P/TV01 VIDEO SETUP (Continued)

SETUP

NOTE

Steps 1-7 minimum rqmt for FD2 OBSS Inspection

1. Perform ACTIVATION, OPERATION (Cue Card, TV) as reqd
2. Perform DTV Setup

O19 TV PWR – OFF

L10:A1 Unstow AVIU and disconnect following cables:
ASC/ENT/FD TV Pwr Cable from J2
AVIU Adapter Cable from J5
ASC/ENT FD V10 Cable from J1
Temp stow AVIU and attached Digital CC Vid/Pwr Cable for FD CC
A15 Connect DTV Audio Cable to PS CCU
Config DTV H/W per H/W SUMMARY, FS 1-4

L10 (MUX) Config Panels
√VTR/CC PWR – on (LED on)
If dnk:
MUX/VTR/CC PWR – on (LED on)
√MUX BYPASS – ACT

(VIP) √ATU – REC
√CCTV VIDEO IN – J3
√PWR – on (LED on)

(VTR) √ON/STANDBY LED – green
√Switches set to White Dot (seven)
√COUNTER SELECT – COUNTER (TC)

MON 2 Config Video
L9 SOURCE – C
Config PS ATU per Comm Plan

P/TV01 VIDEO SETUP (Continued)

SETUP (Continued)

3. Perform MON 1,2 V10 Setup

MA9F Remove MON 1,2 Desk Assy Hardware from Stow-n-Go CTB

O19 TV PWR – OFF

Config MON 1,2 V10s and Cables per H/W SUMMARY, FS 1-4

Retrieve V10s from MS1, Stow-n-Go CTB. Remove, mark, and stow MS1 ASC V10 TAPE

Connect:

MON 1,2 Digital CC Vid/Pwr Cables to MON 1,2 V10s

MON 1,2 AVIU-CC Video Cables to MON 1,2 V10s

Multiuse Brkt to desk

RWS #1 Drag-Thru Cable to MON 1 AVIU J6

MON 1 AVIU Cable to MON 1 AVIU J4

MON 2 Balanced Video Cable to MON 2 AVIU J4

MON 1,2 TV PWR Cable to MON 1,2 AVIU J2

MON 1 Repeater Cable string to MON 1 AVIU J5 and A31p Vid In port

Multiuse Brkt to wall

AVIU (MON 1,2) √SYNC/VIDEO – VIDEO

√HI-Z/75 – 75

√PWR SELECT – LO

R12 (VPU) VPU PWR – ON (LED on)

O19 TV PWR – ON

V10 (MON 1,2) PWR – ON

DISPLAY pb – toggle to display tape counter

√Tape installed

4. √RSC Video Cable connected between R12/OPP-RSC Video (J105) and R12/WIB-CCTV PL3

P/TV01 VIDEO SETUP (Continued)

SETUP (Continued)

5. Perform Analog Camcorder Setup for FD,MD per H/W SUMMARY, FS 1-4, as reqd

O19,MO58F

TV PWR – OFF

Retrieve:

ASC/ENT/FD AVIU from temp stow for FD CC

MD AVIU from Stow-n-Go CTB for MD CC

AVIU (FD,MD)

SYNC/VIDEO – VIDEO

HI-Z/75 – 75

PWR SELECT – LO

O19,MO58F

TV PWR – ON

CC

Install Wide Conversion lens

√ND FILTER – OFF

√OUTPUT – CAM

√..-

√STANDBY/LOCK – STANDBY

PWR dial – “green”

√Tape installed

√Viewfinder (LCD) displays “green” •||

Install Audio Muting Plug (optional)

Install Multiuse Brkt

6. Perform LCS Cable Connections per H/W SUMMARY, FS 1-4

A17

If MD Camcorder setup not performed, unstow AE/MD AVIU from Temp Stow

Middeck
AVIU (MD)
Flt Deck

Connect end of LCS Video Cable to MD AVIU J1

HI-Z/75 – 75

Connect other end of LCS Video Cable (A31p Video Adapter) to A31p Video Out port via PGSC Usage Chart

Connect OPP-LCC Cable to A31p RJ45 Ethernet port via PGSC Usage Chart

P/TV01 VIDEO SETUP (Continued)

SETUP (Continued)

7. Perform SSV Setup

MA9F

Unstow:

SSV Compression Encoder Box
SSV BNC-BNC Cable
SSV to PDIP/CIP Cable
PGSC Pwr Cable
Bal/Unbal Xfmr

Config SSV H/W per H/W SUMMARY, FS 1-4

NOTE

Video Spare 1 controlled by MCC instead of pnl A7

L12 (SSP 2)
L11 (PDIP 2)

√PDIP 2 PWR 1 (CB3) – cl
DC PWR 1 – ON

SSV

Config SSV settings

IN SEL – NTSC

Mode – 3

OUTRATE – 4

SSV Pwr – on

√Pwr LED illum

√ENC DATA LED flickering

√FRM DATA LED flickering

√FILL FRM pulsing

Inform MCC when SSV SETUP complete

P/TV01 VIDEO SETUP (Continued)

SETUP (Continued)

8. Perform WVS Setup

a. Activate WVS System

A7 WIRELESS VID HTR – ON
PWR – ON

MO58F TV PWR – OFF

b. Remove WVS Hardware from Stow-n-Go CTB

Config WVS 1,2 V10s and Cables per H/W SUMMARY, FS 1-4

Connect:

WVS 1,2 Digital CC Vid/Pwr Cables to WVS 1,2 V10s

WVS 1,2 AVIU-CC Vid Cables to WVS 1,2 V10s

Multiuse Brkt to desk

Pre-routed WVS 1,2 Balanced Video Cables from R12/VPU XCVR 1,2 BAL to WVS 1,2 AVIU J4

Pre-routed WVS TV Pwr Cables to WVS 1,2 AVIU J2

Balanced Video Cables stowed on WVS Stow-n-Go desk to WVS 1,2 AVIU J6

ATU Recorder Cables to left (white) port per H/W SUMMARY, FS 1-4

Multiuse Brkt to wall

PCMCIA-to-WIB Remote Cable to R12/WIB J701

RS-422 PCMCIA Card/Cable Assy and PCMCIA-to-WIB Remote Cable to bottom PCMCIA slot on A31p per

PGSC Usage Chart

AVIU (WVS 1,2) ✓SYNC/VIDEO – VIDEO
✓HI-Z/75 – 75
✓PWR SELECT – LO

V10 (two)

MO58F TV PWR – ON

V10 (WVS 1,2) PWR – ON

✓Tape installed

✓WVS Test Pattern displayed (color bars w/“No WVS Video”)

PWR – OFF

R10 Config MS ATU/CCU per Comm Plan

P/TV01 VIDEO SETUP (Continued)

SETUP (Continued)

8. Perform WVS Setup (Continued)

c. WVS PGSC Prep

PGSC

PGSC Pwrup and Application Opening

√Pwr – ON

Sel Shuttle Apps icon

Sel WVS icon

Sel 'No' at 'Restore To Previous Settings:' window

If 'Comm Port Configuration' error displayed:

Remove Quatech RS-422 Card

Sel 'Start' > 'Shut Down' > 'Shut Down' > 'OK'

Reinstall Quatech RS-422 Card in bottom PCMCIA slot

Pwr – ON

Sel Shuttle Apps icon

Sel WVS icon

RF Camera page will appear

Application Setup

If 'Static XCVR' ('Bad Camera ID', 'Temp Alert', 'Temp Caution') alert msg:

| Perform ALERT MSG TROUBLESHOOTING (Cue Card, WVS)

If 'Static RF Camera' alert msg:

Disregard

Sel 'File' → 'Assign Camera ID'

Verify following:

Camr Address	S/N	In Use	Label
16	1010	1	EV1
18	1007	1	EV2

If Camr IDs not correct:

Sel 'Delete Entry' until all deleted

Perform CAMR ID ASSIGNMENT (Cue Card, WVS) as reqd

When complete, sel 'OK'

P/TV01 VIDEO SETUP (Concluded)

SETUP (Concluded)

8. Perform WVS Setup (Concluded)

c. WVS PGSC Prep (Concluded)

Application Setup (Concluded)

Sel 'File' → 'Advanced Controls'

On XVCR tab:

√IF – selected

√Other options not selected

Sel RF Camera tab:

√Power Selections – selected

√Automatic Gain Control – selected

√S-Band Level – selected

√Other options not selected

When complete, sel 'OK'

d. PWRDN

Sel 'File' → 'Exit'

A7

WIRELESS VID PWR – OFF

HTR – OFF

L5

9. Unstow, set up BPSMU w/BPSMU to CCU Adapter Cable at CDR CCU Connect BPSMU Batt

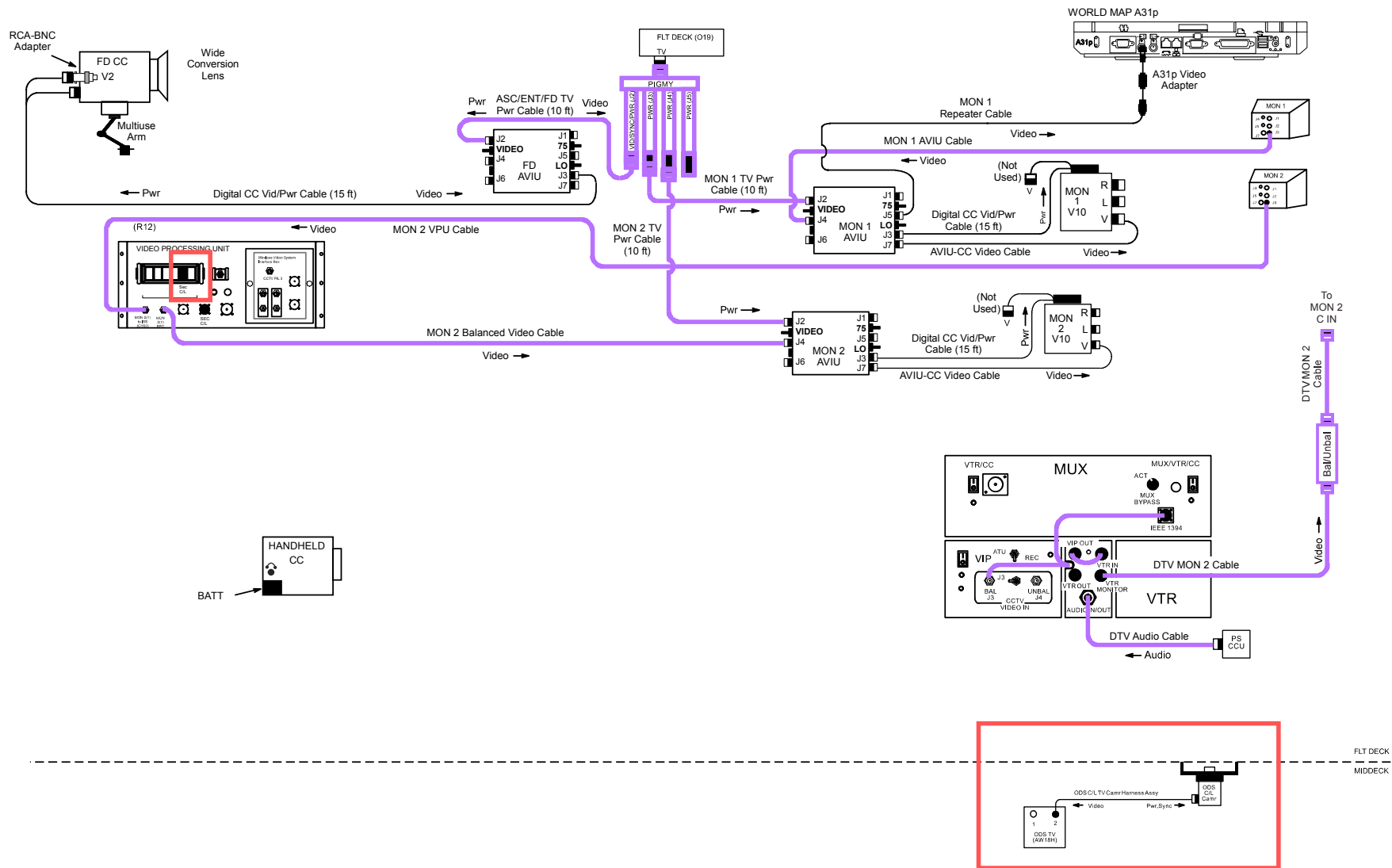
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P/TV02 DOCK

P/TV02 DOCK

H/W SUMMARY



P/TV02 DOCK (Continued)

SCENE SYNOPSIS

Scene contains procedures for obtaining video, still photos of ISS rndz, docking

SETUP

1. Perform ACTIVATION, OPERATION (Cue Card, TV) as reqd
2. Perform D2Xs PROGRAM w/FLASH for in-cabin imagery

Lens – 12-24mm

Lens Focus Mode – M/A

Aperture – Min, locked

Body Focus Mode – S

√Batt installed


√Flash Card installed

Pwr – ON

Top LCD

√Batt

√Frames remaining sufficient

Exp Comp () – 0.0

Exp Mode – P

Meter – Matrix ()

Diopter – Adjust

Frame Rate – S

√BKT disabled – 0 F

Rear LCD

√ISO – 100

√QUAL – RAW

√WB – 0,A

AF Area Mode – [[]]

√Focus Area – Center

√Focus Selector Lock – L

SB-800 Flash Settings

ON/OFF pb – ON

√Diffuser Dome installed

√MODE –  TTL BL

√Exp Comp – 0 EV

Tilt – 45° (Direct)

P/TV02 DOCK (Continued)

SETUP (Continued)

3. Perform D2Xs MANUAL for docking/external imagery

Lens – 400mm(80-200mm)

If 400mm:

Focus Limit – ∞ -6m

Lens Focus Mode – A

If 80-200mm:

Focus Limit – full

Lens Focus Mode – M/A

Aperture – Min, locked

Body Focus Mode – S

√Batt installed


√Flash Card installed

Pwr – ON

Top LCD

√Batt

√Frames remaining sufficient

Exp Comp () – 0.0

Exp Mode – M

SS – 500

f/stop – 8

Meter – Matrix ()

Diopter – Adjust

Frame Rate – S

√BKT disabled – 0 F

Rear LCD

√ISO – 100

√QUAL – RAW

√WB – 0,A

AF Area Mode – [[]]

√Focus Area – Center

√Focus Selector Lock – L

SB-800 Flash Settings

ON/OFF pb – OFF

P/TV02 DOCK (Continued)

SETUP (Concluded)

4. Perform Hardware Verification for V10s, FD CC, DTV

O19,MO58F	√TV PWR – ON
R12 (VPU)	√VPU PWR – ON (LED on) √Green Jumper – SEC C/L √SEC C/L Cap installed
V10 (MON 1,2)	PWR – ON √Tape installed DISPLAY pb – Toggle to display tape counter
CC	√Wide Conversion lens installed √ND FILTER – OFF √OUTPUT – CAM √ <input type="checkbox"/> .. <input type="checkbox"/> - <input type="checkbox"/> √STANDBY/LOCK – STANDBY PWR dial – “green” <input type="checkbox"/> √Tape installed √Viewfinder (LCD) displays “green” • Install Audio Muting Plug (optional) Install Multiuse Brkt
MON 2 L10 (MUX)	SOURCE – C VTR/CC PWR – on (LED on) If dnlk, MUX/VTR/CC PWR – on (LED on)
(VIP)	PWR – on (LED on)
(VTR)	ON/STANDBY LED – green √Tape installed
A31p	Double click ‘Shuttle Apps’ > ‘NASA Video Overlay’ √‘NASA Video Overlay’ window displayed Sel ‘Full Screen’ Press ‘ESC’ or ‘W’ key to minimize display as reqd

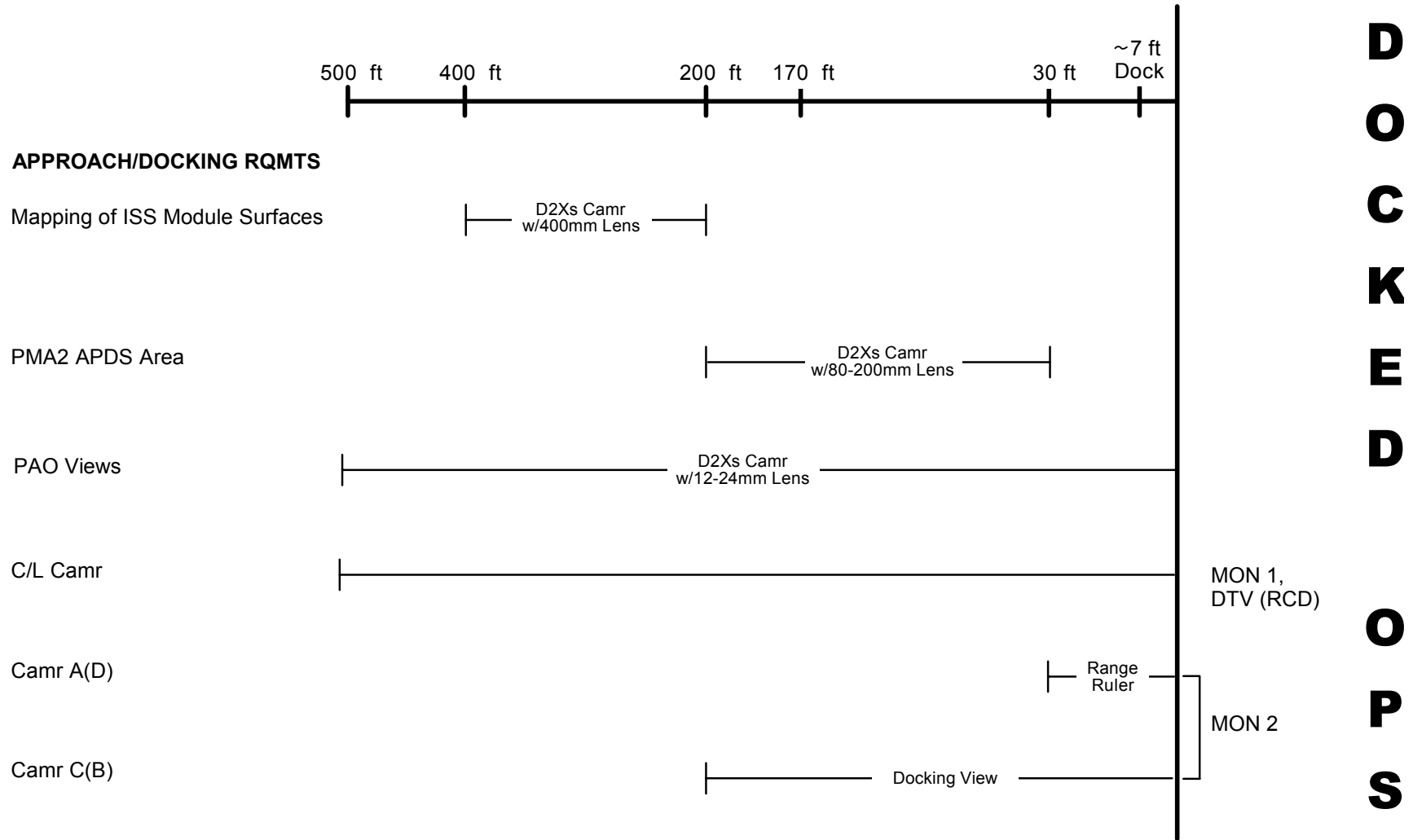
P/TV02 DOCK (Continued)

OPS

√	Item # Track #	Rqmts	Still Imagery	Video			Notes
				PLB	CC	Dnlk	
	1. 2J/A-6	PAO Coverage	<u>D2Xs</u> 12-24mm If exterior: Flash ON/OFF – OFF	As desired	<u>G1</u> Tape installed	LIVE (if avail)	Plan for end of day crew choice video,DCS
	2. 2J/A-31	Rendezvous <ul style="list-style-type: none"> • Overall • Closeup • Damage • Deterioration 	<u>D2Xs (Manual)</u> 400mm(80-200mm) Flash ON/OFF – OFF	<u>A(B,C,D), ELB</u>	<u>G1</u> As desired		Map ISS surfaces w/30% overlap
	3. 2J/A-31	Approach,Dock <ul style="list-style-type: none"> • PMA2 Docking Target • PMA2 Mating Surfaces • PMA2 TCS Planar and Hemispherical Retro Reflectors 	<u>D2Xs (Manual)</u> 400mm(80-200mm) Flash ON/OFF – OFF	<u>C/L</u> Per RNDZ <u>A(D)</u> Per RNDZ <u>C(B)</u> Docking view	<u>G1</u> As desired		Rcd C/L Camr video thru hard dock on DTV Continually √focus sharpness
	4. 2J/A-27	SDTO 13005-U During Docking Video of SAW Tip closest to STS		As desired	<u>G1</u> As desired		IVA video w/replay dnlk

P/TV02 DOCK (Continued)

OPS (Continued)



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P/TV02 DOCK (Concluded)

OPS (Concluded)

If OPS temporarily suspended, perform DEACTIVATION as reqd
If OPS completed, go to DEACTIVATION

DEACTIVATION

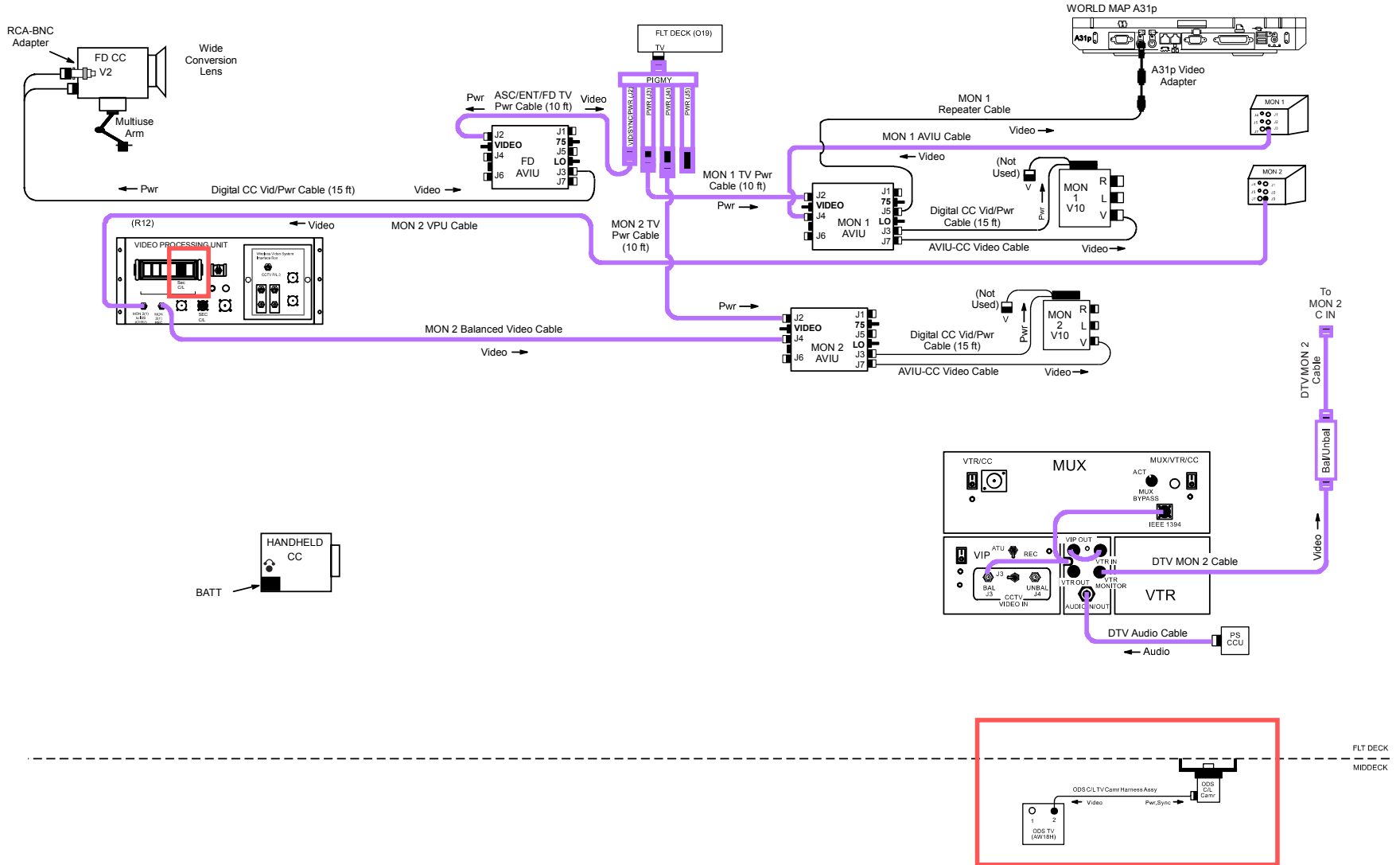
1. D2Xs
 - √Exp Mode – P
 - Pwr – OFF
 - √Flash ON/OFF – ON
2. TV System
 - R12 (VPU) √Green Jumper – SEC C/L
 - √SEC C/L Cap installed
 - √VPU PWR – ON (LED on)
 - A7 VID OUT MON 1 pb – push
 - IN PL2(VPU) pb – push
 - L12 (SSP 2) CAMR CMD IRIS – CL
 - C/L CAM PWR – OFF
 - ODS Remove, stow C/L camr, Harness Assy, Bridge
 - Go to DEACTIVATION (Cue Card, TV) as reqd

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P/TV03 UNDOCK

P/TV03 UNDOCK

H/W SUMMARY



P/TV03 UNDOCK (Continued)

SCENE SYNOPSIS

Scene contains procedures for obtaining video, still photos of ISS undocking, flyaround

SETUP

1. Perform ACTIVATION, OPERATION (Cue Card, TV) as reqd
2. Perform D2Xs PROGRAM w/FLASH for in-cabin imagery

Lens – 12-24mm

Lens Focus Mode – M/A

Aperture – Min, locked

Body Focus Mode – S

√Batt installed


√Flash Card installed

Pwr – ON

Top LCD

√Batt

√Frames remaining sufficient

Exp Comp () – 0.0

Exp Mode – P

Meter – Matrix ()

Diopter – Adjust

Frame Rate – S

√BKT disabled – 0 F

Rear LCD

√ISO – 100

√QUAL – RAW

√WB – 0,A

AF Area Mode – [[]]

√Focus Area – Center

√Focus Selector Lock – L

SB-800 Flash Settings

ON/OFF pb – ON

√Diffuser Dome installed

√MODE –  TTL BL

√Exp Comp – 0 EV

Tilt – 45° (Direct)

P/TV03 UNDOCK (Continued)

SETUP (Continued)

3. Perform D2Xs MANUAL for undocking/external imagery

Lens – 400mm(80-200mm)

If 400mm:

Focus Limit – ∞ -6m

Lens Focus Mode – A

If 80-200mm:

Focus Limit – full

Lens Focus Mode – M/A

Aperture – Min, locked

Body Focus Mode – S

√Batt installed


√Flash Card installed

Pwr – ON

Top LCD

√Batt

√Frames remaining sufficient

Exp Comp () – 0.0

Exp Mode – M

SS – 500

f/stop – 8

Meter – Matrix ()

Diopter – Adjust

Frame Rate – S

√BKT disabled – 0 F

Rear LCD

√ISO – 100

√QUAL – RAW

√WB – 0,A

AF Area Mode – [[]]

√Focus Area – Center

√Focus Selector Lock – L

SB-800 Flash Settings

ON/OFF pb – OFF

P/TV03 UNDOCK (Continued)

SETUP (Concluded)

4. Perform Hardware Verification for V10s, FD CC, DTV

O19	√TV PWR – ON
R12 (VPU)	√VPU PWR – ON (LED on) √Green Jumper – SEC C/L √SEC C/L Cap installed
V10 (MON 1,2)	PWR – ON √Tape installed DISPLAY pb – Toggle to display tape counter
CC	√Wide Conversion lens installed √ND FILTER – OFF √OUTPUT – CAM √ <input type="checkbox"/> .. <input type="checkbox"/> - <input type="checkbox"/> √STANDBY/LOCK – STANDBY PWR dial – “green” <input type="checkbox"/> √Tape installed √Viewfinder (LCD) displays “green” • Install Audio Muting Plug (optional) Install Multiuse Brkt
MON 2 L10 (MUX) (VIP) (VTR)	SOURCE – C VTR/CC PWR – on (LED on) If dnk, MUX/VTR/CC PWR – on (LED on) PWR – on (LED on) ON/STANDBY LED – green √Tape installed
A31p	Double click ‘Shuttle Apps’ > ‘NASA Video Overlay’ √‘NASA Video Overlay’ window displayed Sel ‘Full Screen’ Press ‘ESC’ or ‘W’ key to minimize display as reqd

P/TV03 UNDOCK (Continued)

OPS

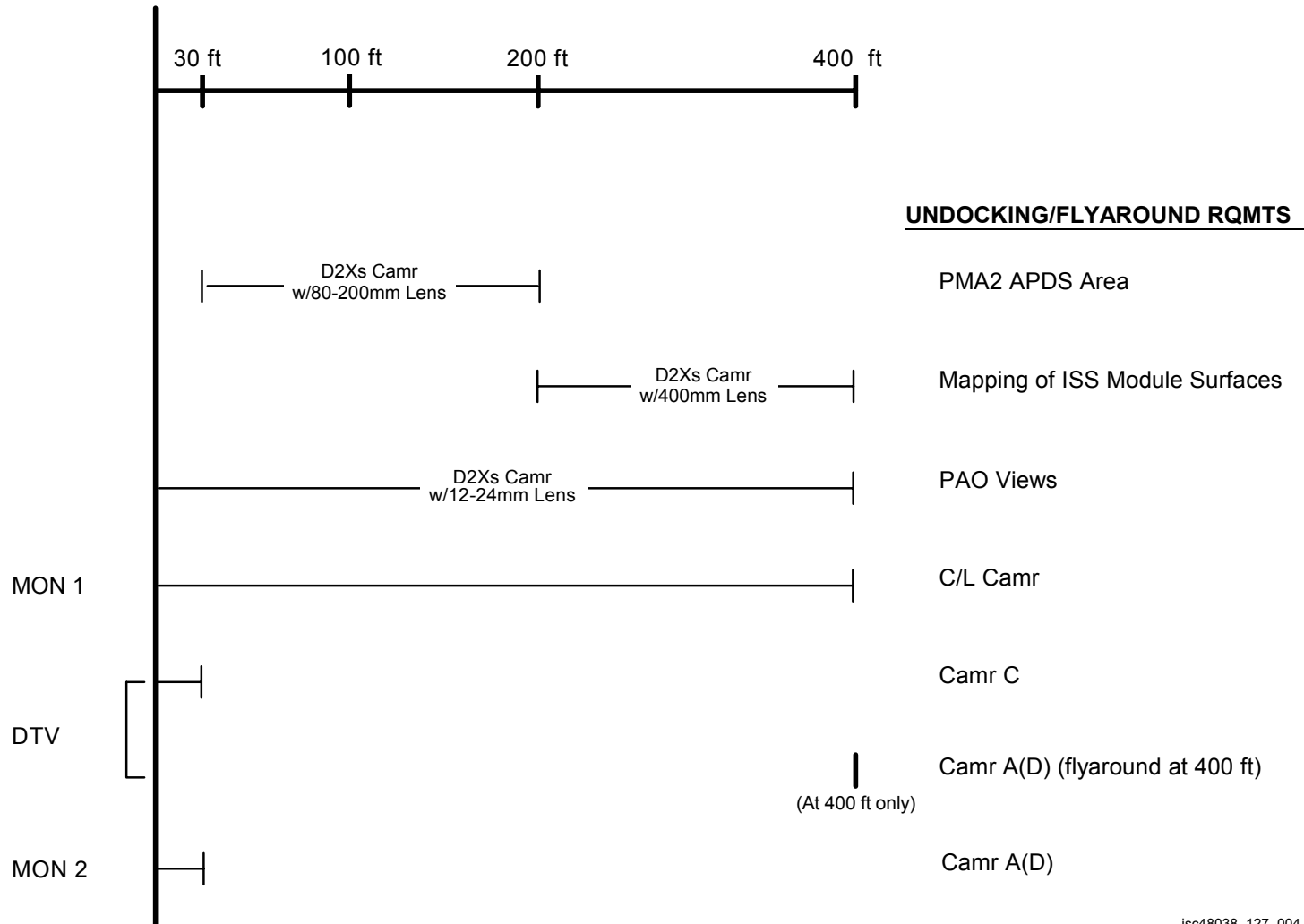
√	Item # Track #	Rqmts	Still Imagery	Video			Notes
				PLB	CC	Dnlk	
	1. 2J/A-6	PAO Coverage	<u>D2Xs</u> 12-24mm If exterior: Flash ON/OFF – OFF	As desired	<u>G1</u> Tape installed	LIVE (if avail)	Plan for end of day crew choice video,DCS
	2. 2J/A-32	Undock <ul style="list-style-type: none"> • PMA-2 mating surfaces • PMA-2 hemispherical planar retroreflector 	<u>D2Xs (Manual)</u> 80-200mm(400mm) Flash ON/OFF – OFF	<u>A(D)</u> Per RNDZ <u>C/L</u> Docking tgt and PAO view		LIVE (if avail)	Map ISS surfaces w/30% overlap
	3. 2J/A-2	Flyaround (External Payloads on Columbus Module) <ul style="list-style-type: none"> • EuTEF • SOLAR • MISSE 6 	<u>D2Xs (Manual)</u> 80-200mm(400mm) Flash ON/OFF – OFF				IVA still imagery returned post

P/TV03 UNDOCK (Continued)

OPS (Continued)

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P/TV03 UNDOCK (Concluded)

OPS (Concluded)

If OPS temporarily suspended, perform DEACTIVATION as reqd
If OPS completed, go to DEACTIVATION

DEACTIVATION

1. D2Xs
 - √Exp Mode – P
 - Pwr – OFF
 - √Flash ON/OFF – ON

2. TV System
 - R12 (VPU) √Green Jumper – SEC C/L
 - √SEC C/L Cap installed
 - √VPU PWR – ON (LED ON)
 - A7U VID OUT MON 1 pb – push
 - IN PL2(VPU) pb – push
 - CAMR CMD IRIS – CL
 - L12 (SSP 2) C/L CAM PWR – OFF

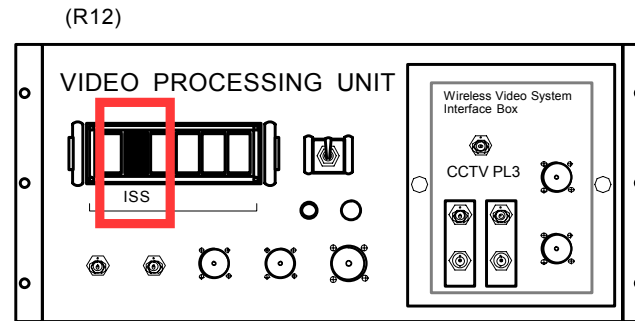
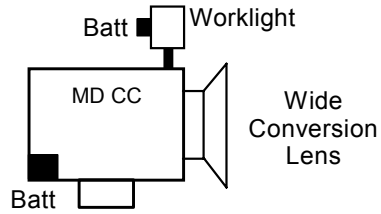
 - ODS Remove, stow C/L Camr, Harness Assy
 - Go to DEACTIVATION (Cue Card, TV) as reqd

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P/TV04 INGRESS/EGRESS

H/W SUMMARY

INGRESS TV CONFIG



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P/TV04 INGRESS/EGRESS (Continued)

SCENE SYNOPSIS

Scene contains procedures for documenting ISS ingress/egress w/video and still photos

SETUP

1. Config ISS Video

R12 (VPU) Perform ACTIVATION (Cue Card, IV) for DNLK OPS of ISS signal as reqd
Green Jumper – ISS
√VPU PWR – ON

A7 VID OUT DNLK pb – push
IN PL2(VPU) pb – push

2. Perform Ingress Camcorder Setup

CC Install:
Wide Conversion lens
CC Batt
√ND FILTER – OFF
√OUTPUT – CAM
√..-
√STANDBY/LOCK – STANDBY
PWR dial – “green”
√Tape installed
√Viewfinder (LCD) displays “green” •||
Install Audio Muting Plug (optional)
Install Multiuse Brkt

<p><u>CAUTION</u> Worklights @ full pwr for 45 min. half pwr for unlimited time</p>

Worklights Install BATTs
Mount light(s) w/Bracket (Velcro/tape)
Pwr – as reqd

P/TV04 INGRESS/EGRESS (Continued)

SETUP (Concluded)

3. Perform D2Xs PROGRAM w/FLASH

Lens – 12-24mm

√Aperture – Min, locked

Body Focus Mode – S

√Batt installed


√Flash Card installed

Pwr – ON

Top LCD

√Batt

√Frames remaining sufficient

Exp Comp () – 0.0

Exp Mode – P

Meter – Matrix ()

Diopter – Adjust

Frame Rate – S

√BKT disabled – 0 F

Rear LCD

√ISO – 100

√QUAL – RAW

√WB – 0,A

AF Area Mode – [1]


√Focus Area – Center

√Focus Selector Lock – L

SB-800 Flash Settings

ON/OFF pb – ON

√Diffuser Dome installed

√MODE –  TTL BL

√Exp Comp – 0 EV

Tilt – 45° (Direct)

P/TV04 INGRESS/EGRESS (Concluded)

OPS

√	Item # Track #	Rqmts	Still Imagery	Video			Notes
				PLB	CC	Dnlk	
	1. 2J/A-6	Hatch Opening, Ingress Hatch Close, Egress	<u>D2Xs</u> 12-24mm		<u>G1</u>	LIVE (if avail)	

If OPS temporarily suspended, perform DEACTIVATION as reqd
If OPS completed, go to DEACTIVATION

DEACTIVATION

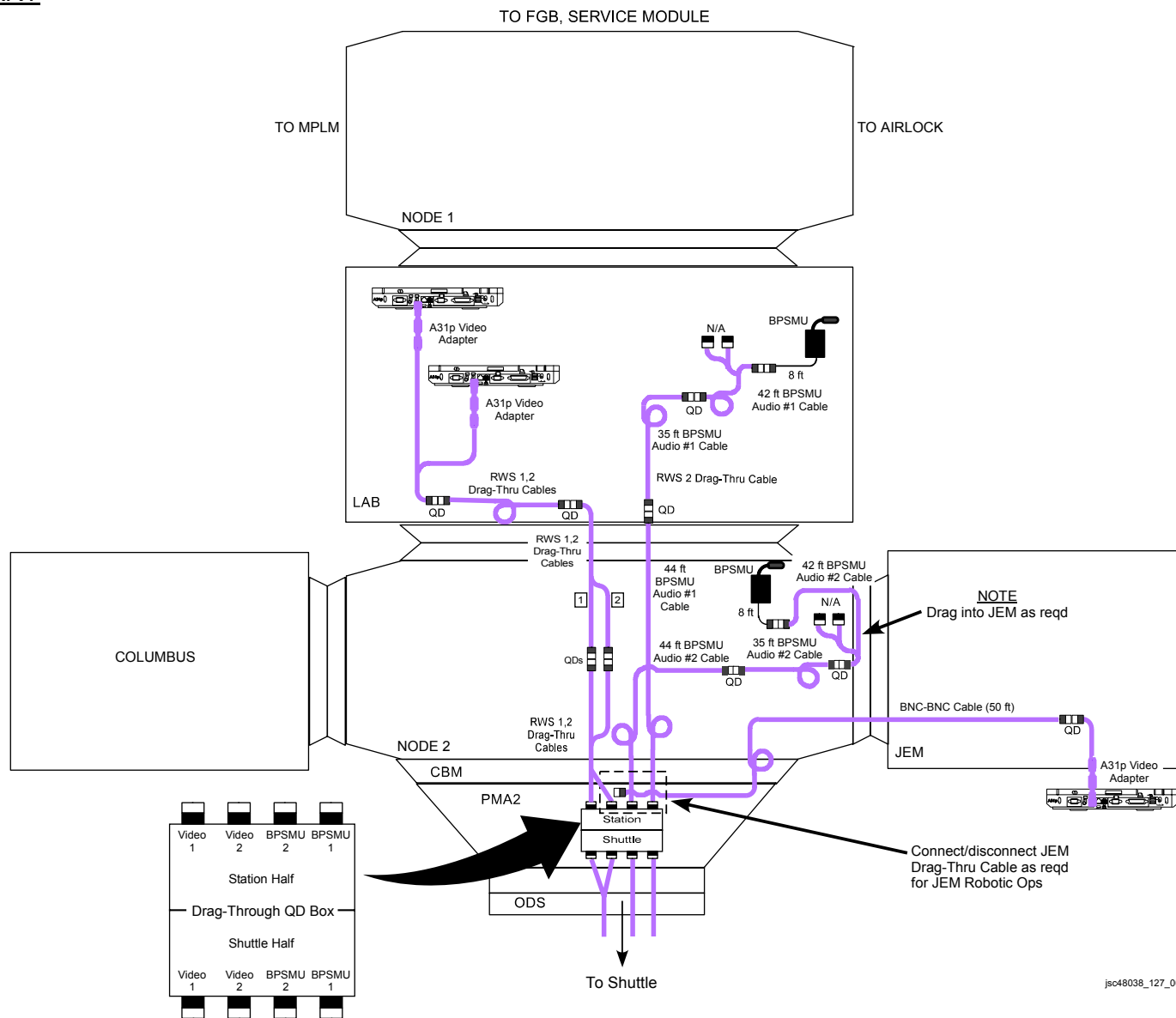
1. D2Xs
Pwr – OFF
2. TV System
Go to DEACTIVATION (Cue Card, TV) as reqd

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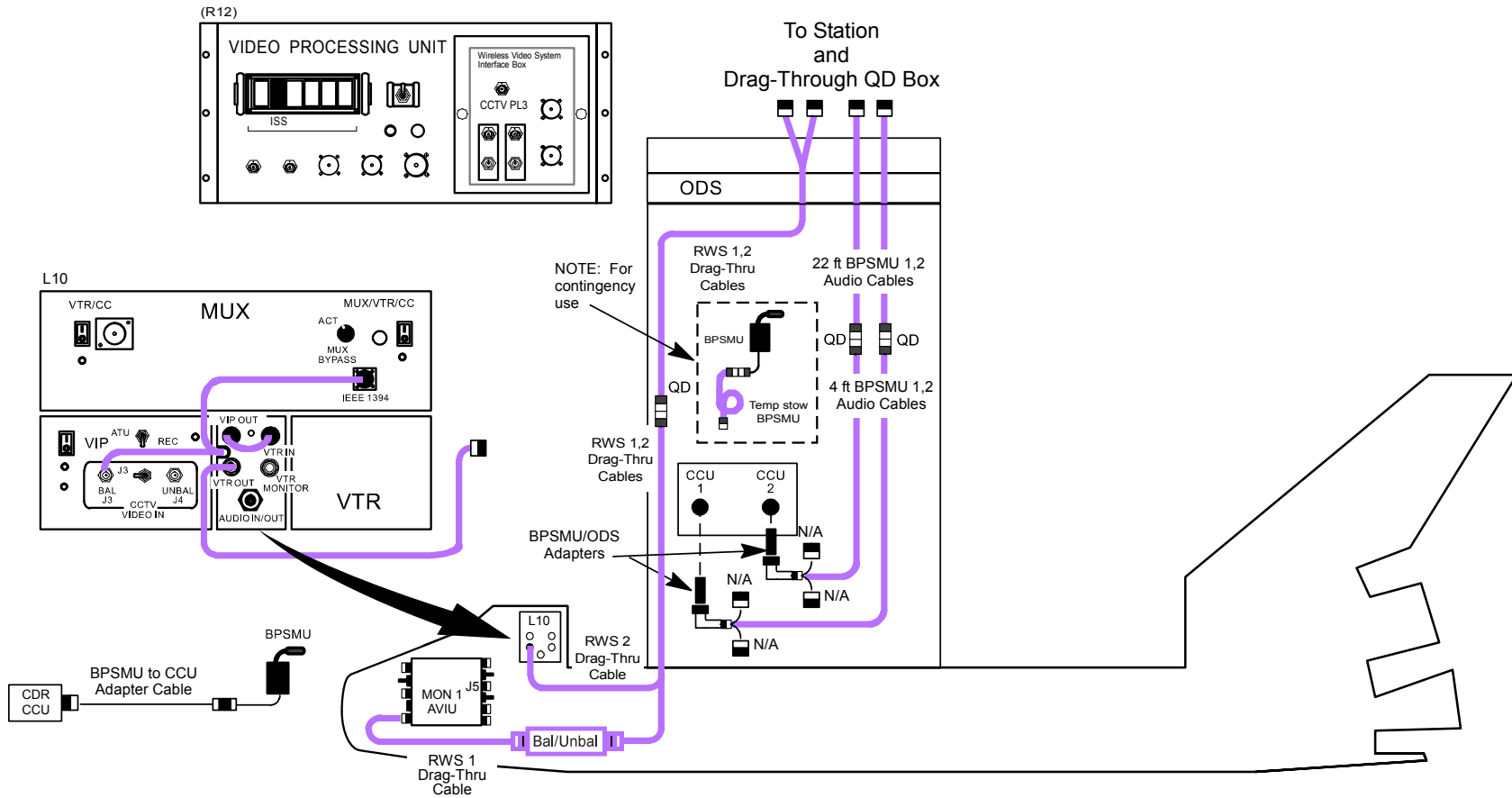
P/TV05 ISS INTERNAL OPS

H/W SUMMARY



P/TV05 ISS INTERNAL OPS (Continued)

H/W SUMMARY (Concluded)



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P/TV05 ISS INTERNAL OPS (Continued)

SCENE SYNOPSIS

Scene contains procedures for setup, documenting ISS internal ops (surveys, PAO events, logistics, transfers, closeouts) w/video,still photos

SETUP

WARNING

Locate QDs at hatches for ease in locating,disconnecting during hatch closure.
Route,restrain cables to prevent loose cable lengths which could entrap crew

BPSMU AND RWS CABLES

1. Config H/W per H/W SUMMARY, FS 1-36 and FS 1-37

Config RWS Vid Cables:

MON 1,2
(Stow-n-Go)
L10:A1
MF71G

√RWS 1 Drag-Thru Cable connected to MON 1 AVIU J6

√RWS 2 Drag-Thru Cable connected to DTV VTR OUT connector

Retrieve second BPSMU; connect internal batt; temp stow in ODS for contingency use

Config BPSMU and RWS Cables:

ODS/PMA2

Connect orbiter RWS 1,2 Cables to Drag-Through QD Box

Connect BPSMU Cables to orbiter A/L CCU 1,2 and Drag-Through QD Box

Config A/L ATU per Comm Plan

ISS

If V10:

√Pwr configured per P/TV121 DOCKED OPERATIONS, dwg USOS 120VDC -V10 VTRs (SODF: ISS

PTV: SCENES)

PWR- ON

V10 (RWS 1,2)
-or-
SSC (JEM)

~

P/TV05 ISS INTERNAL OPS (Continued)

SETUP (Continued)

BPSMU AND RWS CABLES (Concluded)

- ~
|
If A31p:
- A31p If A31p w/'NASA Video Monitor' under Station Apps:
 √Drag-Thru Cable connected to A31p Video Adapter
 √PWR – ON
 Sel 'Station Apps: NASA Video Monitor'
 √'NASA Video Monitor 1.0.0.0' window displayed
 Sel 'Settings'
 √'Configuration' window displayed
 Video Input Standard: – NTSC
 √Video Input – 'Composite (RCA)'
 Video Control – press 'Set to defaults' pb
 Commit Changes – 'OK'
 Sel 'Full Screen'
 Press 'ESC' to minimize display as reqd
- A31p If A31p w/'COSS Apps: Video Converter' under Station Apps:
 √Drag-Thru Cable connected to A31p Video Adapter
 √PWR – ON
 Sel 'Station Apps: COSS Apps: Video Converter'
 √'Video Converter' window displayed
 Sel 'Set Properties'
 √'Video Settings' window displayed
 Format: – NTSC
 Close 'Video Settings' window
 Sel 'Full Screen'
 Press 'ESC' or 'W' to minimize display as reqd

PAO EVENT

1. Config VPU
- R12 (VPU) √Green Jumper – ISS
 √VPU PWR – ON (LED on)
2. Config Shuttle Video
- A7 VID OUT DNLK pb – push
 IN PL2(VPU) pb – push

P/TV05 ISS INTERNAL OPS (Continued)

SETUP (Concluded)

STILL CAMR

1. Perform D2Xs PROGRAM w/FLASH

Lens – 12-24mm

Lens Focus Mode – M/A

√Aperture – Min, locked

Body Focus Mode – S

√Batt installed


√Flash Card installed

Pwr – ON

Top LCD

√Batt

√Frames remaining sufficient

Exp Comp () – 0.0

Exp Mode – P

Meter – Matrix ()

Diopter – Adjust

Frame Rate – S

√BKT disabled – 0 F

Rear LCD

√ISO – 100

√QUAL – RAW

√WB – 0,A

AF Area Mode – [[]]




√Focus Area – Center

√Focus Selector Lock – L

SB-800 Flash Settings

√Diffuser Dome installed

ON/OFF pb – ON

√MODE –   

√Exp Comp – 0 EV

Tilt – 45° (Direct)

P/TV05 ISS INTERNAL OPS (Concluded)

OPS

√	Item # Track #	Rqmts	Still Imagery	Video			Notes
				PLB	CC	Drnk	
	1.	General ISS IVA Activity <ul style="list-style-type: none"> • PAO Scenes of Interest • Crew Photo 	<u>D2Xs</u> 12-24mm For Crew Photo: Perform D2Xs CREW PHOTO (Cue Card, <u>D2Xs</u> <u>SETUP</u>)		<u>ISS G1</u>	LIVE (if avail)	Plan for end of day crew choice video

If OPS temporarily suspended, perform DEACTIVATION as reqd
 If OPS completed, go to DEACTIVATION

DEACTIVATION

1. D2Xs
Pwr – OFF
2. Drag-Through QD Box
Disconnect:
RWS Cables (two) from orbiter side Video 1,2 ports. Stow cables on orbiter
BPSMU Cables from orbiter side BPSMU 1,2 ports and ODS CCU,TV ports; stow cables on orbiter
Transfer Drag-Through QD Box and remaining attached cables to ISS
3. Temp-Stowed BPSMU
Unstow BPSMU; restow in MF71G
4. TV System
Go to DEACTIVATION (Cue Card, TV) as reqd

ODS

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P/TV06 ROBOTICS OPERATIONS (Continued)

SCENE SYNOPSIS

Scene contains procedures for obtaining video of SSRMS activities

SETUP

1. Perform ACTIVATION, OPERATION (Cue Card, TV) as reqd
2. Perform Hardware Verification for V10s, FD CC, DTV, Keel Camr

O19 √TV PWR – ON

R12 (VPU) √VPU PWR – ON (LED on)
 Green Jumper – ISS

 √Drag-Thru Cables configured as reqd

V10
(MON 1,2) PWR – ON
 √Tape installed
 DISPLAY pb – Toggle to display tape counter

CC √Wide Conversion lens installed
 √ND FILTER – OFF
 √OUTPUT – CAM
 √..-

 √STANDBY/LOCK – STANDBY
 PWR dial – “green”

 √Tape installed
 √Viewfinder (LCD) displays “green” •||
 Install Audio Muting Plug (optional)
 Install Multiuse Brkt

MON 2
L10 (MUX) SOURCE – C
 VTR/CC PWR – on (LED on)
 If dnk, MUX/VTR/CC PWR – on (LED on)

 (VIP) PWR – on (LED on)

 (VTR) ON/STANDBY LED – green

 √Tape installed

P/TV06 ROBOTICS OPERATIONS (Continued)

SETUP (Concluded)

- R12 (VPU) If KEEL 1 (ICC) desired:
 3. ✓VPU PWR – ON
 Green Jumper – ISS
 Disconnect RSC Video Cable at P/L3
 Remove, temp stow KEEL 1 Blue Jumper
 Connect Keel 1-P/L3 Video Assy Cable to P/L3 input and KEEL 1 “From” port
- (SSP 2) ✓cb CB2 – cl
- A7U ✓KEEL 1 PWR (ICC) – ON
 VID OUT MON1(2) pb – push
 IN P/L3 pb – push
 Cycle KEEL 1 ILL.PWR (ICC) for desired illum
- MO58F If KEEL 2 (JLE) desired:
 4. ✓KEEL 2 (JLE) Cable connected to J2 MD Pigmy port
- R12 (VPU) ✓KEEL 2 (JLE) Cable connected to VPU KEEL 2 port
 (SSP 2) ✓cb CB1 PDIP 2 PWR 2 – cl
- A7U ✓KEEL 2 PWR (JLE) – ON
 VID OUT MON1(2) pb – push
 IN MIDDECK pb – push
 Cycle KEEL 2 ILL.PWR (JLE) for desired illum

OPS

√	Item # Track #	Rqmts	Still Imagery	Video			Notes	
			DCS	PLB	CC	Dnlk		
	1. 2J/A-6	PAO Coverage	<u>D2Xs</u> 12-24mm If exterior: Flash ON/OFF – OFF	As desired	<u>G1</u> Tape installed		LIVE (if avail)	Plan for end of day crew choice video,DCS
	2. 2J/A-10	JLE Removal From JEF • Obtain video of JLE being removed from JEF during JLE berthing		<u>A(B,C,D),ELB,</u> <u>EE,KEEL 2,</u> <u>P1 LOOB,</u> <u>S1 LOOB</u>			LIVE (if avail)	Live dnlk highly desired Replay or post-flt return reqd
	3. 2J/A-11	JLE Berthing • Obtain video of JLE berthing in PLB during JLE install		<u>A(B,C,D),ELB,</u> <u>EE,KEEL 2,</u> <u>P1 LOOB,</u> <u>S1 LOOB</u>			LIVE (if avail)	Live dnlk highly desired Replay or post-flt return reqd

P/TV06 ROBOTICS OPERATIONS (Continued)

OPS (Concluded)

√	Item # Track #	Rqmts	Still Imagery	Video			Notes
			DCS	PLB	CC	Dnlk	
	4. 2J/A-20	JLE Install Onto JEF <ul style="list-style-type: none"> Obtain video of JLE install onto JEF 		<u>A(B,C,D),ELB,EE,P1 LOOB,S1 LOOB,JEM EE (SRMS RSC)</u>			LIVE (if avail) Live dnlk highly desired Replay or post-flt return reqd
	5. 2J/A-19	JLE Unberth <ul style="list-style-type: none"> Obtain video of JLE unberth from PLB 		<u>A(B,C,D),ELB,KEEL 2</u>			LIVE (if avail) Live dnlk highly desired Replay or post-flt return reqd
	6. 2J/A-15	JEF to JPM EFBM Install <ul style="list-style-type: none"> Obtain video of JEF install to JPM via EFBM 		<u>A(B,C,D),ELB,EE,P1 LOOB,S1 LOOB,JEM EE,EXTA</u>			LIVE (if avail) Live dnlk highly desired Replay or post-flt return reqd
	7. 2J/A-8	JRMS Payload Xfer <ul style="list-style-type: none"> ICS Antenna Install (removal from JLE and install on JEF) MAXI Install (removal from JLE and install on JEF) SEDA AP Install (removal from JLE and install on JEF) SGANT Antenna Transfer (removal from ICC-VLD and install on ESP-3) LDU Transfer (removal from ICC-VLD and install on ESP-3) Pump Module Transfer (removal from ICC-VLD and install on ESP-3) 		<u>ELB,EE, P1 LOOB,S1 LOOB,JEM EE,EXTA</u>			LIVE (if avail) Replay or post-flt return reqd

If OPS temporarily suspended, perform DEACTIVATION as reqd
 If OPS completed, go to DEACTIVATION

P/TV06 ROBOTICS OPERATIONS (Concluded)

DEACTIVATION

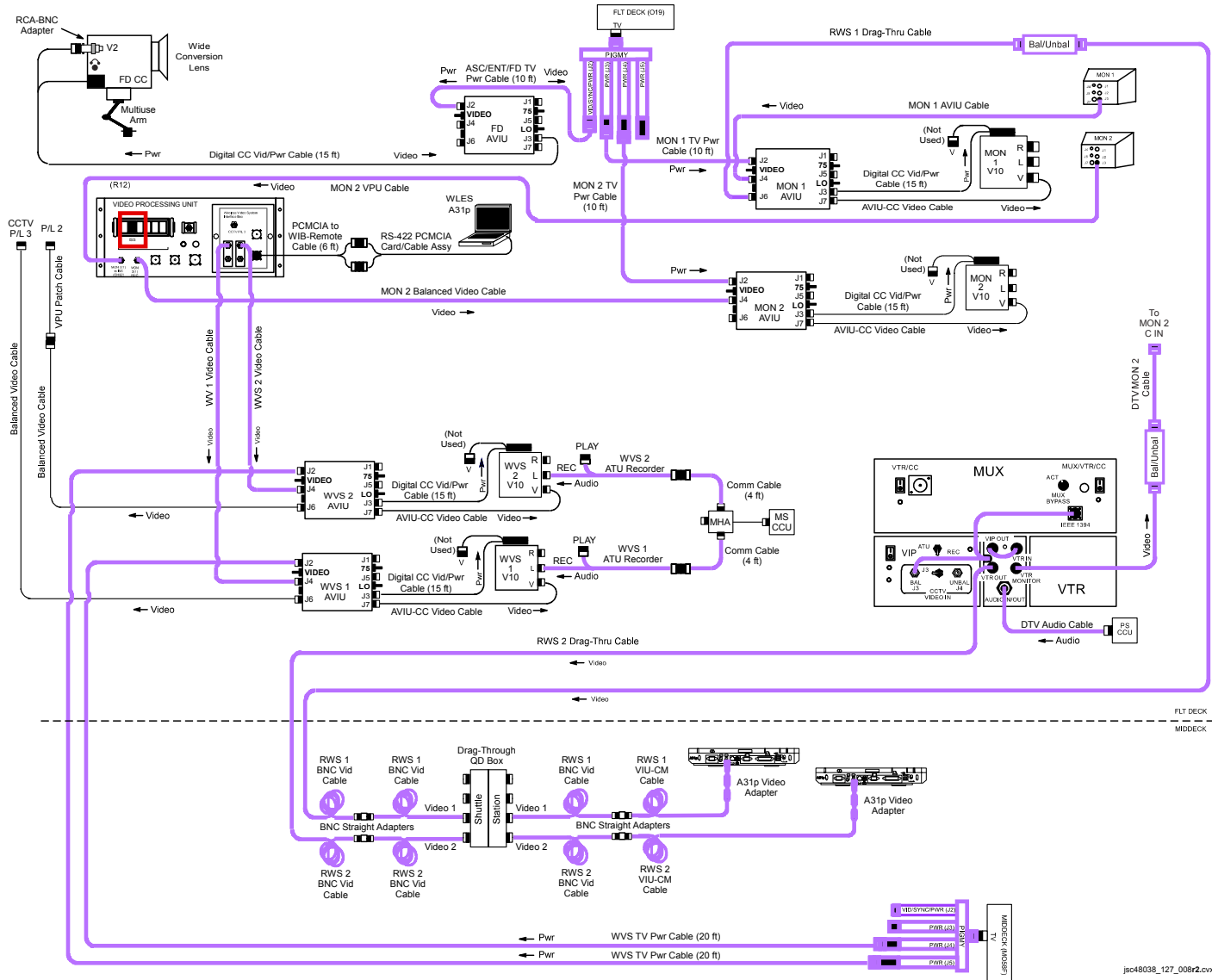
- L12 (SSP 2) 1. TV System
KEEL 1 PWR (ICC) – OFF
 √1 ILL.PWR (ICC) – ON
 2 PWR (JLE) – OFF
 √2 ILL.PWR (JLE) – ON
- Go to DEACTIVATION (Cue Card, TV) as reqd
- MO58F √TV PWR – OFF
Disconnect Keel 2 (JLE) Cable from MD Pigmy J2 port
Reconnect MD TV Pwr Cable to MD Pigmy J2 port
- R12 (VPU) Disconnect Keel 1-P/L3 Video Assy Cable from P/L3
Reconnect RSC Video Cable to P/L3 input

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P/TV07 EVA

P/TV07 EVA

H/W SUMMARY



P/TV07 EVA (Continued)

SCENE SYNOPSIS

Scene contains procedures for documenting ISS EVA and IVA ops w/video, still photos

SETUP

FOR ALL EVAs:

1. Perform ACTIVATION, OPERATION (Cue Card, IV) as reqd

2. Perform D2Xs PROGRAM w/FLASH

Lens – 12-24mm

Lens Focus Mode – M/A

√Aperture – Min, locked

Body Focus Mode – S

√Batt installed


√Flash Card installed

Pwr – ON

Top LCD

√Batt

√Frames remaining sufficient

Exp Comp () – 0.0

Exp Mode – P

Meter – Matrix ()

Diopter – Adjust

Frame Rate – S

√BKT disabled – 0 F

Rear LCD

√ISO – 100

√QUAL – RAW

√WB – 0,A

AF Area Mode – [[]]

√Focus Area – Center

√Focus Selector Lock – L

SB-800 Flash Settings

√Diffuser Dome installed

ON/OFF pb – ON

√MODE –  TTL BL

√Exp Comp – 0 EV

Tilt – 45° (Direct)

P/TV07 EVA (Continued)

SETUP (Continued)

3. Perform Hardware Verification for V10s, FD CC, DTV

O19	√TV PWR – ON
R12 (VPU)	√VPU PWR – ON (LED on) √Green Jumper – ISS
V10 (MON 1,2, WVS 1,2)	PWR – ON √Tape installed DISPLAY pb – Toggle to display tape counter
CC	Install Wide Conversion lens √ND FILTER – OFF √OUTPUT – CAM √ <input type="checkbox"/> .. <input type="checkbox"/> - <input type="checkbox"/> √STANDBY/LOCK – STANDBY PWR dial – “green” <input type="checkbox"/> √Tape installed √Viewfinder (LCD) displays “green” • Install Audio Muting Plug (optional) Install Multiuse Brkt
MON 2 L10 (MUX) (VIP) (VTR)	SOURCE – C VTR/CC PWR – on (LED on) If dnk, MUX/VTR/CC PWR – on (LED on) PWR – on (LED on) ON/STANDBY LED – green √Tape installed

P/TV07 EVA (Continued)

SETUP (Concluded)

4. Config WVS and PGSC

- A7 a. Activate WVS System
√WIRELESS VID HTR – ON
PWR – ON
- PGSC b. WVS PGSC Prep
PGSC Pwrup and Application Opening
Pwr – ON
Sel Shuttle Apps icon
Sel WVS icon
Sel 'No' at 'Restore To Previous Settings' window
If 'Comm Port Configuration' error displayed:
Remove Quatech RS-422 Card
Sel 'Start'> 'Shut Down'> 'Shut Down'> 'OK'
Reinstall Quatech RS-422 Card
Pwr – ON
Sel Shuttle Apps icon
Sel WVS icon
RF Camera page will appear

NOTE

During EVA prep, EMU TV assy will be pwr'd

Application Setup

- Select Page – XCVR
Transceiver 1(2) CMD Power – ON (green CMD PWR:LVL- "ON:Min")
RF Camera 1 – One EVA crewmember (green "ON")
RF Camera 2 – Other EVA crewmember (green "ON")
If alert msg, perform ALERT MSG TROUBLESHOOTING (Cue Card, WVS)
Select Page – RF CAMERA
Near middle of RF Camera page, sel 'Advanced Controls'
For center lens on each RF Camr Assy:
Lens Iris Cntl – op(cl) until good video on V10(MON)

P/TV07 EVA (Continued)

OPS

√	Item # Track #	Rqmts	Still Imagery	Video			Notes
				PLB	CC	Dnlk	
	1. 2J/A-6	PAO Coverage	IVA D2Xs 12-24mm If exterior: Flash ON/OFF – OFF	WVS As desired	G1 As desired	LIVE (if avail)	Plan for end of day crew choice video, DCS stills
	2. 2J/A-5	Closeout Imagery of Thermal Covers <ul style="list-style-type: none"> All Thermal covers that were opened(closed, altered) 		WVS		LIVE (if avail)	
	3. 2J/A-26	ICC Unberth,Install <ul style="list-style-type: none"> ICC-VLD unberth and cable disconnect from ECSH ICC-VLD Install on POA (ICC-VLD translation,install from PLB to POA) ICC-VLD POA Uninstall; SSRMS translation ICC-VLD berthing in PLB 		WVS		LIVE (if avail)	WVS video desired (live or replay)
	4. 2J/A-18	JEF Aft Camr Install and Thermal Cover Removal		WVS		LIVE (if avail)	WVS highly desired
	5. 2J/A-22	SGANT Antenna Xfer During ICC PL Xfer <ul style="list-style-type: none"> Video of SGANT Antenna removal from ICC-VLD and install on ESP-3 		WVS		LIVE (if avail)	Live dnlk highly desired Replay or post-flt return reqd

P/TV07 EVA (Continued)

OPS (Continued)

√	Item # Track #	Rqmts	Still Imagery	Video			Notes
				PLB	CC	Dnlk	
	6. 2J/A-23	JEF Payload Prep <ul style="list-style-type: none"> • JEM RMS arm calibration (video while arm in motion) • MAXI thermal cover removal (video of thermal and contamination covers) • ICS Antenna Prep (video of removal of four ICS thermal covers; release of two ICS antenna hold mechanisms) • SEDA-AP Prep (video of SEDA-AP launch lock mechanism release) 		<u>WVS</u>		LIVE (if avail)	
	7. 2J/A-24	JEF Thermal Cover Removal <ul style="list-style-type: none"> • Robotics-compatible R – ORU MLI (5) for fluid pump pkg -a, -b, EF sys cntlr -a, -b, and video switcher • EVA-compatible E – ORU MLI (4) for htr cntl equip -a, -b, Thermal I/F Unit, and EFU Driver Unit • Small fine arm storage equip MLI (2) for structure latch mechanism, tool fixture • EFU #2,4,8,12 MLI 				LIVE (if avail)	Live dnlk highly desired Replay or post-flt return reqd
	8. 2J/A-25	P6 Batt Removal, Replace Task		<u>WVS</u>		LIVE (if avail)	Live dnlk highly desired Replay or post-flt return reqd

P/TV07 EVA (Concluded)

OPS (Concluded)

√	Item # Track #	Rqmts	Still Imagery	Video			Notes
				PLB	CC	Dnlk	
	9. 2J/A-12	JEF Install on JPM <ul style="list-style-type: none"> • Video of LTA Cable disconnect from JEF during unberth,install 		<u>WVS, JEM IVA, JEM RMS, JPM EXT, JPM AFT, JPM FWD</u>	<u>JPM PORT END CONE</u>	LIVE (if avail)	Live dnlk highly desired Replay or post-flt return reqd
	10. 2J/A-13	JEM EFBM <ul style="list-style-type: none"> • Video of cover removal 		<u>WVS, JEM IVA, JEM RMS, JPM EXT, JPM AFT, JPM FWD</u>	<u>JPM PORT END CONE</u>	LIVE (if avail)	Live dnlk highly desired Replay or post-flt return reqd
	11. 2J/A-14	JEF Passive EFBM <ul style="list-style-type: none"> • Video of cover removal, surface prior to install on JPM 		<u>WVS, JEM IVA, JEM RMS, JPM EXT, JPM AFT, JPM FWD</u>	<u>JPM PORT END CONE</u>	LIVE (if avail)	Live dnlk highly desired Replay or post-flt return reqd

If OPS temporarily suspended, perform DEACTIVATION as reqd
 If OPS completed, go to DEACTIVATION

DEACTIVATION

1. IVA D2Xs
 Pwr – OFF
 √Flash ON/OFF – ON
 Download images
2. TV System
 Perform PWRDN (Cue Card, WVS)
 Go to DEACTIVATION (Cue Card, TV) as reqd

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**P/TV08
EXT SURVEY**

P/TV08 EXTERNAL SURVEY

SCENE SYNOPSIS

Scene contains procedures for documenting STS,ISS external structures w/still photos during general survey activities

SETUP

1. D2Xs Camr Configuration for OMS Pod Survey

Remove aft window shields

If Sunlit OMS Pod, config D2Xs Manual Mode

Lens – 80-200mm at 200mm

Focus Limit – full

Lens Focus Mode – M/A

Aperture – Min,locked

Body Focus Mode – S

√Batt installed


√Flash Card installed

Pwr – ON

Top LCD

√Batt

√Frames remaining sufficient

Exp Comp () – 0.0

Exp Mode– M

SS – 1000

f/stop – F8

Meter – Matrix ()

Diopter – Adjust

Frame Rate – S

√BKT disabled – 0 F

Rear LCD

√ISO – 100

√QUAL – RAW

√WB – 0,A

AF Area Mode – [[]]

√Focus Area – Center

√Focus Selector Lock – L


SB-800 Flash Settings

ON/OFF pb – OFF

P/TV08 EXTERNAL SURVEY (Continued)

SETUP (Continued)

1. D2Xs Camr Configuration for OMS Pod Survey (Concluded)

- ┌
If Earthshine OMS Pod, config D2Xs Program Mode
 - Lens – 80-200mm at 200mm
 - Focus Limit – full
 - Lens Focus Mode – M/A
 - √Aperture – Min, locked
 - Body Focus Mode – S
 - √Batt installed
 - √Flash Card installed
 - Pwr – ON
 - Top LCD
 - √Batt
 - √Frames remaining sufficient
 - Exp Comp () – 0.0
 - Exp Mode – P
 - Meter – Matrix ()
 - Diopter – Adjust
 - Frame Rate – S
 - √BKT disabled – 0 F
 - Rear LCD
 - √ISO – 100
 - √QUAL – RAW
 - √WB – 0,A
 - AF Area Mode – [[]]
 - √Focus Area – Center
 - √Focus Selector Lock – L
- SB-800 Flash Settings
 - ON/OFF pb – OFF

P/TV08 EXTERNAL SURVEY (Continued)

SETUP (Continued)

2. D2Xs Camr Config for ISS Still Survey (D2Xs Shutter Priority Mode)

Lens – 50mm(80-200mm @ 200mm)

If 80-200mm:

Focus Limit – full

Lens Focus Mode – M/A

√Aperture – Min, locked

Body Focus Mode – S

√Batt installed

√Flash Card installed

Pwr – ON

Top LCD

√Batt

√Frames remaining sufficient

Exp Comp () – 0.0

Exp Mode – S

SS – 500

Meter – Matrix ()

Diopter – Adjust

Frame Rate – S

√BKT disabled – 0 F

Rear LCD

√ISO – 100

√QUAL – RAW

√WB – 0,A

AF Area Mode – [[]]

√Focus Area – Center


√Focus Selector Lock – L

SB-800 Flash Settings

ON/OFF pb – OFF

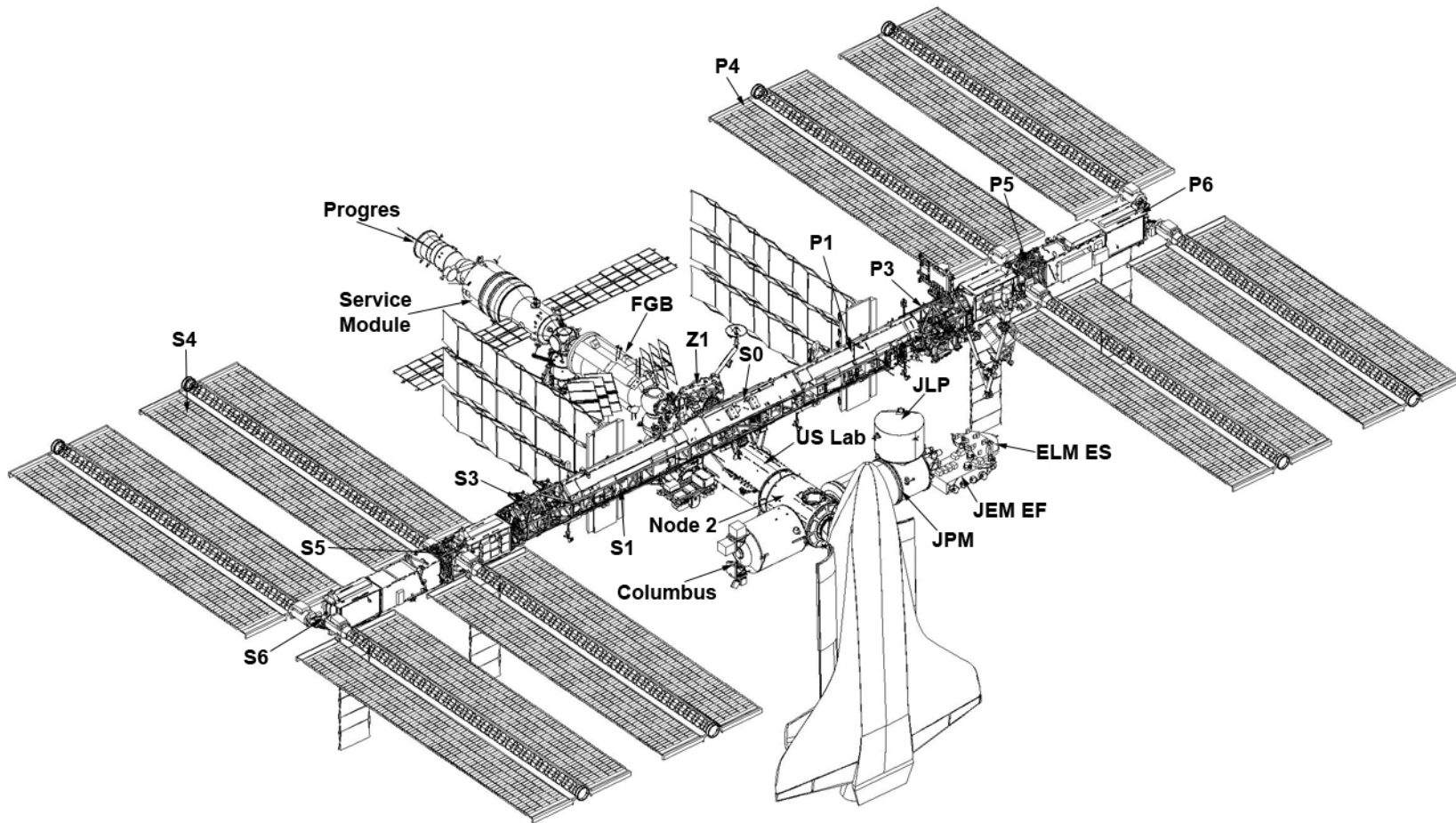
P/TV08 EXTERNAL SURVEY (Continued)

OPS

√	Item # Track #	Rqmts	Still Imagery	Video			Notes
				PLB	CC	Dnlk	
	1.	<u>OMS Pod Survey</u> <ul style="list-style-type: none"> Remove window shields 50 percent overlap mapping of both OMS pods and vertical stabilizer w/emphasis on Black Tile areas Repeat thru other window 	<u>D2Xs</u> 80-200mm @ 200mm (400mm)				Download images to MCC once complete 
	2. 2J/A-21	<u>ISS Still Survey</u> <ul style="list-style-type: none"> Surfaces Solar Panels Handrails MISSE SVS Targets Plasma Arcing S0,S1,S3,S4,S5,P1,P3,P4, P5,P6 Truss Radiators/ Baseplates, SAWs ESP-2 P6 Fwd PVR Base Bubble 	<u>D2Xs</u> 50mm (80-200mm @ 200mm)				Map ISS surfaces w/30% overlap from all Flt Deck windows

P/TV08 EXTERNAL SURVEY (Continued)

OPS (Continued)



Priority of ISS Photographic Targets During Docked Phase:

1. P6, P5, P3/P4, ESP 3, P1, JEM, JLP, Columbus, S1, S3/S4, S5, S6, Solar Arrays – W1, W6
2. Node 2, Columbus, JEM, JLP – W7, W8
3. PMA2 – W9, W10

P/TV08 EXTERNAL SURVEY (Concluded)

OPS (Concluded)

If OPS temporarily suspended, perform DEACTIVATION as reqd
If OPS completed, go to DEACTIVATION

DEACTIVATION

1. D2Xs
√Exp Mode – P
PWR – OFF
Flash ON/OFF – ON

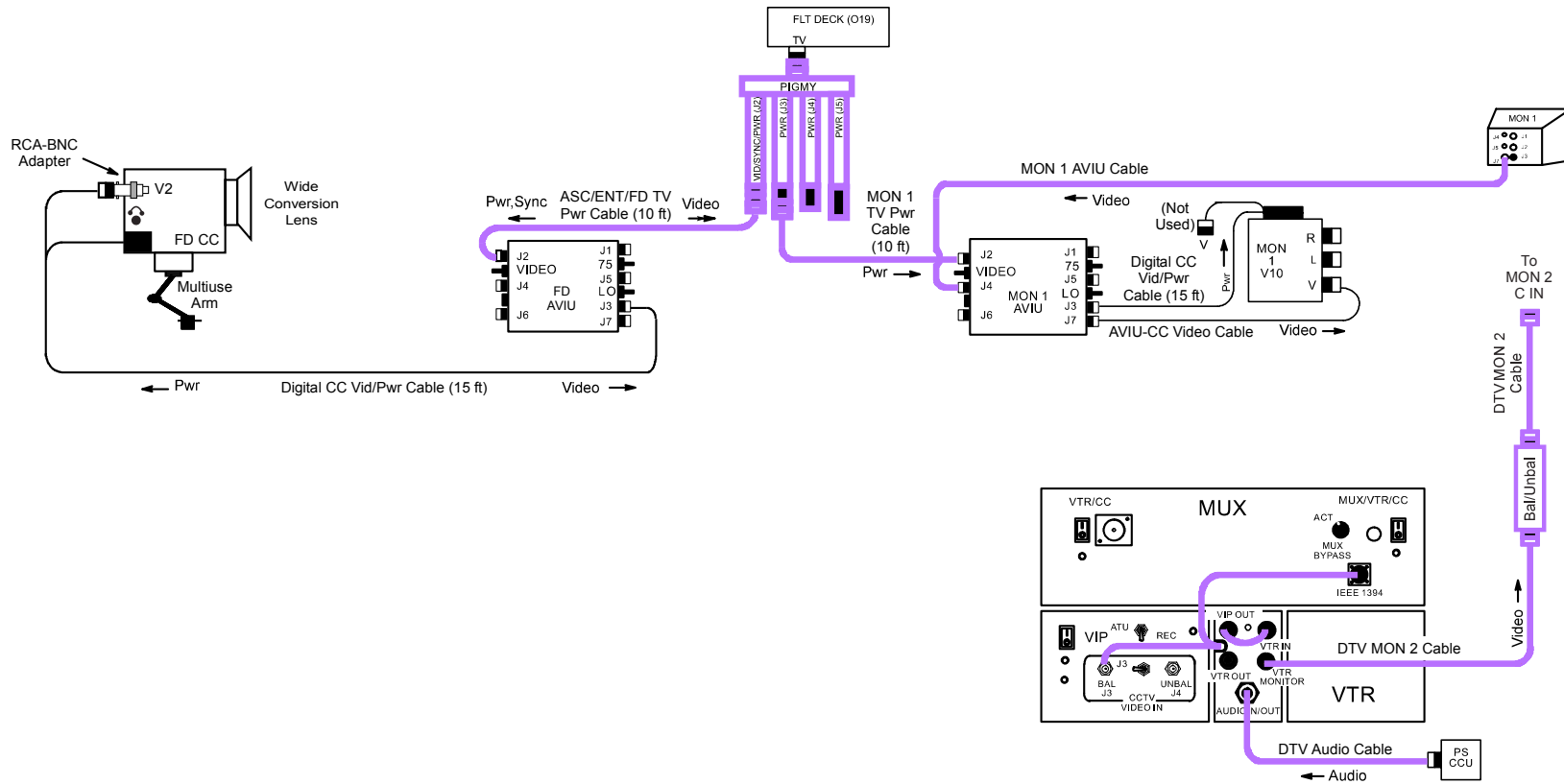
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P/TV09 STRUCT DYN

P/TV09 STRUCTURAL DYNAMICS

H/W SUMMARY



FLT DECK
MIDDECK

jsc48038_127_009r1.cvx

P/TV09 STRUCTURAL DYNAMICS (Continued)

SCENE SYNOPSIS

Scene contains procedures for recording TBD motion during reboost



SETUP

1. Perform ACTIVATION, OPERATION (Cue Card, TV) as reqd
2. Perform Hardware Verification for V10s, FD CC, DTV

O19	√TV PWR – ON
R12 (VPU)	√VPU PWR – ON (LED on) √Green Jumper – ISS
V10 (MON 1)	PWR – ON √Tape installed DISPLAY pb – Toggle to display tape counter
CC	Install Wide Conversion lens √ND FILTER – OFF √OUTPUT – CAM √ <input type="checkbox"/> ... <input type="checkbox"/> - <input type="checkbox"/> √STANDBY/LOCK – STANDBY PWR dial – “green” <input type="checkbox"/> √Tape installed √Viewfinder (LCD) displays “green” • Install Audio Muting Plug (optional) Install Multiuse Brkt PWR dial – OFF
MON 2 L10 (MUX)	SOURCE – C √VTR/CC PWR – on (LED on) If dnk, MUX/VTR/CC PWR – on (LED on)
(VIP)	PWR – on (LED on)
(VTR)	√ON/STANDBY LED – green √Tape installed

P/TV09 STRUCTURAL DYNAMICS (Continued)

OPS

√	Item #	Rqmts	Video	Notes
	1.	REBOOST – SDTO 13005-U • Video of S4 or S6 radiator during shuttle-mated reboost	G1 Tape installed	External video w/replay dnk
	2.	Camr FOV Setup Prior to Test • Frame per values but use pictures for final pan,tilt • Pan/tilt settings approx and assume zeroed, PTU angles •√ TBD Illuminators – on	TBD PAN: TBD TILT: TBD FOV: TBD Actual FOV: _____	Frame as shown. Focus on TBD 
			TBD PAN: -TBD TILT: TBD FOV: TBD Actual FOV: _____	Frame as shown. Focus on TBD 

P/TV09 STRUCTURAL DYNAMICS (Continued)

OPS (Concluded)

√	Item #	Rqmts	Video	Notes
NOTE To maintain Time sync, once video recorders started, do not stop tape until test completed				
	3.	Start Recorders (two)	V10 REC pb (two) – push to begin recording √LCD displays RED DOT L10 (VTR) REC pb – push, hold PLAY pb – push, simo (RED dot displayed)	
	4.	Route FD CC Video to Recorders (two) and Downlink	VID OUT MON 1 pb – push IN FLT DECK pb – push Frame GMT clock in FD CC FOV using MON 1 VID OUT DTV pb – push IN FLT DECK pb – push √GMT clock on DTV V10 VID OUT DNLK pb – push IN FLT DECK pb – push	Rcd at least 10 sec of GMT clock video onto each device Dnlk GMT clock, if comm
	5.	Route Views to Recorders (two) and Downlink	VID OUT MON 1 pb – push IN A pb – push VID OUT DTV pb – push IN C pb – push VID OUT DNLK pb – push IN A pb – push	Rcd views for 35 min or until end of event Dnlk view if comm
	6.	Re-route FD CC Video to Recorders (two) and Downlink Before Tape Ends	VID OUT MON 1 pb – push IN FLT DECK pb – push Frame GMT clock in FD CC FOV using MON 1 VID OUT DTV pb – push IN FLT DECK pb – push √GMT clock on DTV V10 VID OUT DNLK pb – push IN FLT DECK pb – push	Rcd at least 10 sec of GMT clock video onto each device Dnlk GMT clock, if comm

If OPS temporarily suspended, perform DEACTIVATION as reqd
If OPS completed, go to DEACTIVATION

P/TV09 STRUCTURAL DYNAMICS (Concluded)

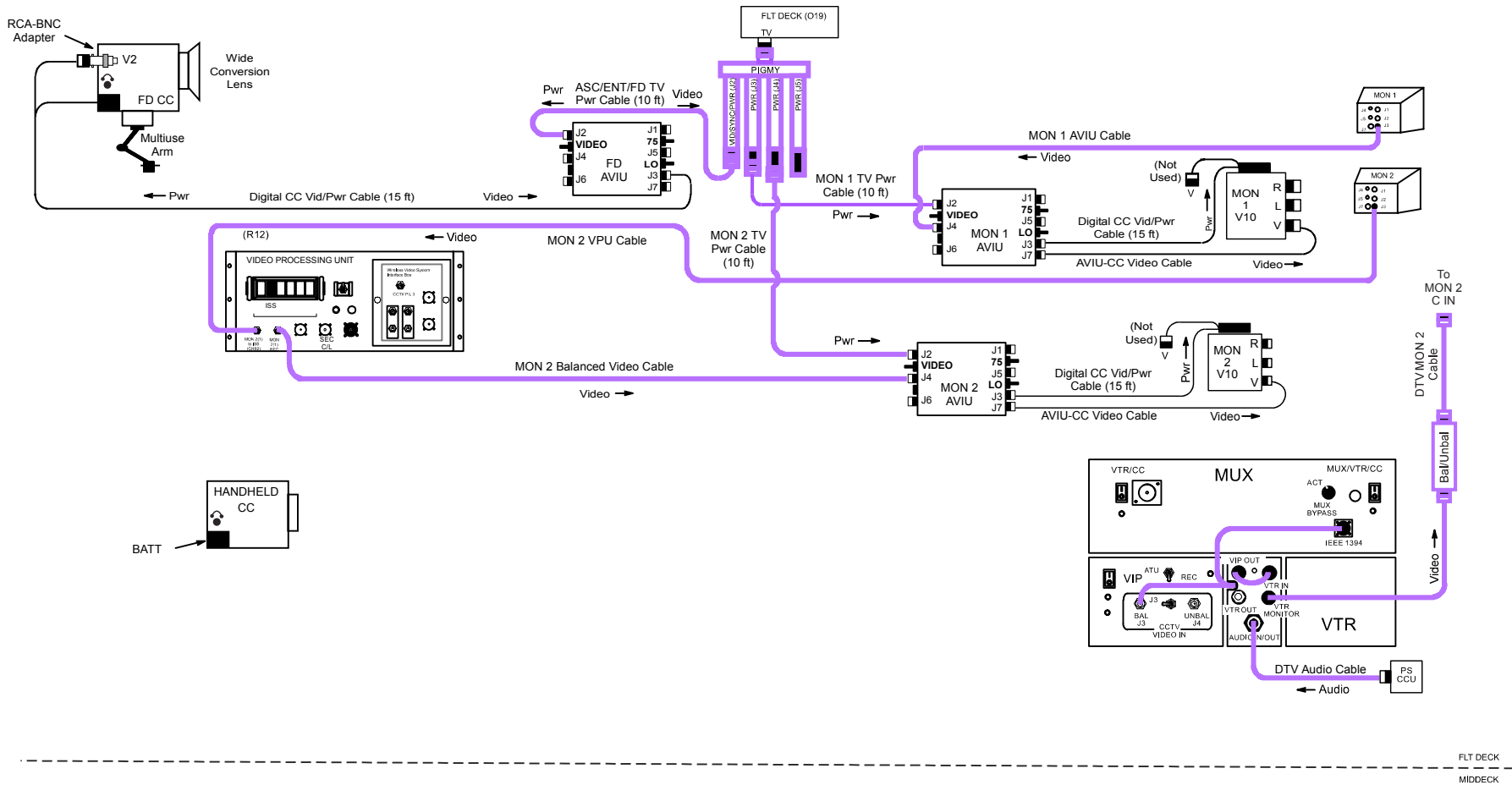
DEACTIVATION

1. TV System
Label tapes as "REBOOST"
Go to DEACTIVATION (Cue Card, IV) as reqd

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P/TV10 DEPLOYABLE PAYLOADS – DRAGONSAT, ANDE2

H/W SUMMARY






jsc48038_127_010r1.cvx

P/TV10 DEPLOYABLE PAYLOADS – DRAGONSAT,ANDE2 (Continued)

SCENE SYNOPSIS

Scene contains procedures for documenting deployable payloads (DRAGONSAT,ANDE2) w/video,still photos

SETUP

1. Perform ACTIVATION,OPERATION (Cue Card, TV) as reqd
 2. Remove Wide Conversion Lens
- Handheld
CC (G1)
- Install Batt
 - √ND FILTER – OFF
 - AF/M – M
 - AGC – OFF
 - GAIN – L
 - √OUTPUT – CAM
 - √AWB – ON
 - √..-
 - √STANDBY/LOCK – STANDBY
 - PWR dial – M
 - √Tape installed
 - √Viewfinder (LCD) displays “green” •||
 - SS – 1/500
 - √GAIN – ±0 dB
 - F/stop – F8.0
 - √FOCUS – M ∞-
 - Install Audio Muting Plug (optional)
- R12 (VPU)
- √VPU PWR – ON

P/TV10 DEPLOYABLE PAYLOADS – DRAGONSAT,ANDE2 (Continued)

SETUP (Continued)

3. Perform Hardware Verification for V10s, FD CC, DTV

O19,MO58F √TV PWR – ON

V10
(MON 1,2) PWR – ON

√Tape installed
DISPLAY pb – Toggle to display tape counter

FD CC

Install Wide Conversion lens
√ND FILTER – OFF
√OUTPUT – CAM
√..-
√STANDBY/LOCK – STANDBY
PWR dial – “green”
√Tape installed
√Viewfinder (LCD) displays “green” •||
Install Audio Muting Plug (optional)
Install Multiuse Brkt

MON 2
L10 (MUX)

SOURCE – C
VTR/CC PWR – on (LED on)
If dnk, MUX/VTR/CC PWR – on (LED on)
(VIP) PWR – on (LED on)
(VTR) ON/STANDBY LED – green
√Tape installed

P/TV10 DEPLOYABLE PAYLOADS – DRAGONSAT,ANDE2 (Continued)

SETUP (Continued)

4. D2Xs Setup in W9

Lens – 28-70mm @ 70mm

Lens Focus Mode – M/A

Aperture – Min, locked

Body Focus Mode – M

√Batt installed


√Flash Card installed

Pwr – ON

Top LCD


√Batt

√Frames remaining sufficient

Exp Comp () – 0.0

Exp Mode – S

SS – 500

Meter – Matrix ()

Diopter – Adjust

Frame Rate – C_L

√BKT disabled – 0 F

Rear LCD

√ISO – 100

√QUAL – FINE

√WB – 0,A

AF Area Mode – [[]]

√Focus Area – Center

√Focus Selector Lock – L

Menu Settings

MENU pb – press

Navigate Pad sel – Shooting Menu () Hi-speed Crop > On

– Custom Settings Menu > d Shooting/Display > d1 Shooting Speed > 5 fps

SB-800 Flash Settings

ON/OFF pb – OFF

Remote Release – install

Multiuse Base Plate – install in W9 sill

Multiuse Brkt

Mount Camr Vertically

Frame and FOCUS on DRAGONSAT(ANDE2)

P/TV10 DEPLOYABLE PAYLOADS – DRAGONSAT,ANDE2 (Continued)

SETUP (Concluded)

5. D2Xs Setup for Post-Deploy Photos in Ovhd Window

Lens – 80-200mm (FOR DRAGONSAT)

Focus Limit – full

Lens Focus Mode – M/A

Lens – 80-200mm (FOR ANDE2)

Focus Limit – full

Lens Focus Mode – M/A

Aperture – Min, locked

Body Focus Mode – S

√Batt installed


√Flash Card installed

Pwr – ON

Top LCD

√Batt

√Frames remaining sufficient

Exp Comp () – 0.0

Exp Mode – M

SS – 500

Aperture – f/8

Meter – Matrix ()

Diopter – Adjust

Frame Rate – S

√BKT disabled – 0 F

Rear LCD

√ISO – 100

√QUAL – RAW

√WB – 0,A

AF Area Mode – [[]]

√Focus Area – Center

√Focus Selector Lock – L

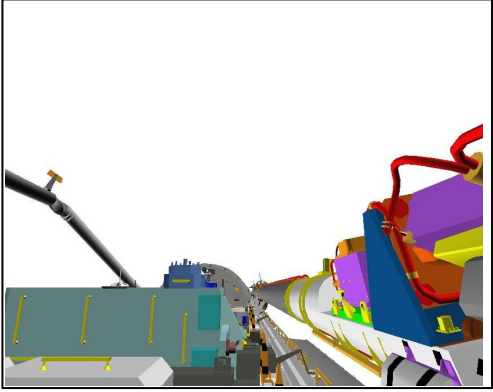
SB-800 Flash Settings

ON/OFF pb – OFF

P/TV10 DEPLOYABLE PAYLOADS – DRAGONSAT,ANDE2 (Continued)

OPS

I

DRAGONSAT							
√	Item # Track #	Rqmts	Still Imagery	Video			Notes
				PLB	CC	Dnlk	
	1.	DRAGONSAT DEPLOY <ul style="list-style-type: none"> Install Fresh Tape in V10s Handheld CC,VTR,FD CC 					
	2.	PLB CAMR SETUP & ROUTING <ul style="list-style-type: none"> D2Xs in W9 Setup 		<u>C</u> VID OUT pb – DTV IN pb – C √View on Recorder		DNLK (if comm avail)	Start wide, then zoom in to track DRAGONSAT Track for 4 min or until out of view DRAGONSAT (Rcd on DTV)  <p>C (Tracking Camr) P = 0; T = -6</p>

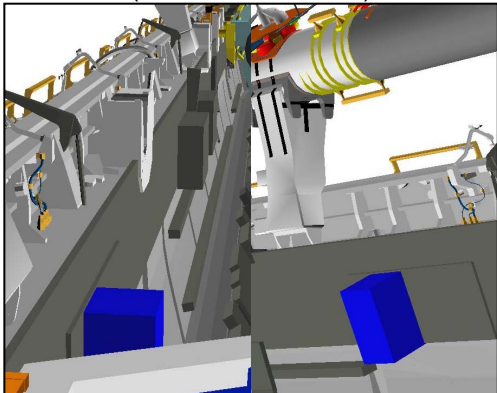
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P/TV/127/FIN

P/TV10 DEPLOYABLE PAYLOADS – DRAGONSAT,ANDE2 (Continued)

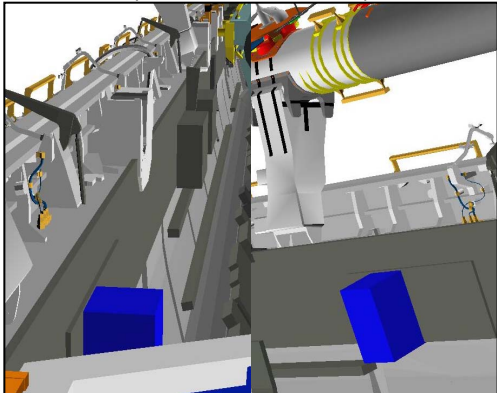
OPS (Continued)

DRAGONSAT (Continued)							
√	Item # Track #	Rqmts	Still Imagery	Video			Notes
				PLB	CC	Dnlk	
	2.	PLB CAMR SETUP & ROUTING (Concluded) <ul style="list-style-type: none"> • D2Xs in W9 Setup 		D,RMS ELB MUX VID OUT pb – MON 1 IN pb – MUX 1 OUT pb – MUX 1L IN pb – D OUT pb – MUX 1R IN pb – RMS ELB √View on MON 1 V10			RMS CRADLED (Rcd on MON1 V10)  D (MUX 1L) P = -8; T = -13 RMS ELB (MUX 1R) P = -141; T = 7

(Continued next page)

P/TV10 DEPLOYABLE PAYLOADS – DRAGONSAT,ANDE2 (Continued)

OPS (Continued)

DRAGONSAT (Continued)							
√	Item # Track #	Rqmts	Still Imagery	Video			Notes
				PLB	CC	Dnlk	
							<p>RMS IN PRECRADLE (Rcd on MON1 V10)</p>  <p>D (MUX 1L) P = -8; T = -13 RMS ELB (MUX 1R) P = -129; T = -7</p>
			D2Xs 28-70mm Mounted in W9 sill				

(Continued next page)

P/TV10 DEPLOYABLE PAYLOADS – DRAGONSAT,ANDE2 (Continued)


OPS (Continued)

DRAGONSAT (Concluded)							
√	Item # Track #	Rqmts	Still Imagery	Video			Notes
				PLB	CC	Dnlk	
	3.	5 MIN PRIOR TO DEPLOY • Start V10,VTR,Handheld, FD CCs			FD CC Rcd in- cabin activities		V10 REC pb – press to begin recording √LCD displays RED DOT G1 CCs REC pb – press √LCD displays RED DOT VTR REC pb – press,hold PLAY pb – press simo (red dot displayed)
	4.	~1 SEC PRIOR TO DEPLOY • Start Camr, using remote cable	D2Xs 28-70mm				
	5.	POST DEPLOY	D2Xs 400mm		Handheld CC Rcd DRAGO NSAT in ovhd window		Obtain photos,video of DRAGONSAT as long as it is visible If anomalies observed, continue imaging to capture anomalies

If OPS temporarily suspended, perform DEACTIVATION as reqd
If OPS completed, go to DEACTIVATION

P/TV10 DEPLOYABLE PAYLOADS – DRAGONSAT, ANDE2 (Continued)

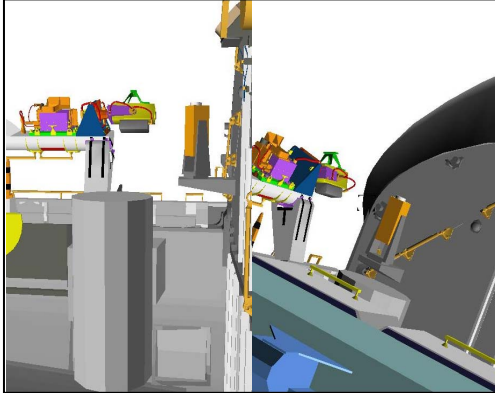
OPS (Continued)

ANDE2							
√	Item # Track #	Rqmts	Still Imagery	Video			Notes
				PLB	CC	Dnlk	
	1.	ANDE2 DEPLOY <ul style="list-style-type: none"> Install Fresh Tapes in V10s (wo) Handheld CC, VTR, FD CC 					
	2.	PLB CAMR SETUP & ROUTING <ul style="list-style-type: none"> D2Xs in W9 Setup 		D VID OUT pb – DTV IN pb – D View on Recorder		DNLK (if comm avail)	Start wide, then zoom in to track ANDE2 Track for 4 min; keep all objects in FOV as Sep 1, Sep 2 occur ANDE2 (Rcd on DTV)  D (Tracking Camr) P = 0; T = 22

(Continued next page)

P/TV10 DEPLOYABLE PAYLOADS – DRAGONSAT,ANDE2 (Continued)

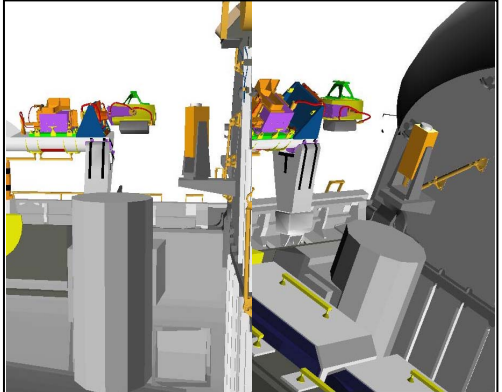
OPS (Continued)

ANDE2 (Continued)							
√	Item # Track #	Rqmts	Still Imagery	Video			Notes
				PLB	CC	Dnlk	
	2.	PLB CAMR SETUP & ROUTING (Concluded) <ul style="list-style-type: none"> D2Xs in W9 Setup 		B/ELB MUX.C VID OUT pb – MON 1 IN pb – MUX 1 OUT pb – MUX 1L IN pb – B OUT pb – MUX 1R IN pb – RMS ELB √Muxed view on MON 1 V10 VID OUT pb – MON 2 IN pb – C PAN: 0° TILT: +90° √View on MON 2 V10			View entire can w/Camr B with ~4 ft viewable above can RMS CRADLED (Rcd on MON1 V10)  B (MUX 1L) P = 82; T = -7 RMS ELB (MUX 1R) P = -29; T = 10

(Continued next page)

P/TV10 DEPLOYABLE PAYLOADS – DRAGONSAT,ANDE2 (Continued)

OPS (Continued)

ANDE2 (Continued)							
√	Item # Track #	Rqmts	Still Imagery	Video			Notes
				PLB	CC	Dnlk	
							RMS IN PRECRADLE (Rcd on MON1 V10)  B (MUX 1L) P = 82; T = -7 RMS ELB (MUX 1R) P = -37; T = -4
			D2Xs TBD Mounted in W9 sill				

(Continued next page)

P/TV10 DEPLOYABLE PAYLOADS – DRAGONSAT,ANDE2 (Continued)

OPS (Concluded)


ANDE2 (Concluded)							
√	Item # Track #	Rqmts	Still Imagery	Video			Notes
				PLB	CC	Dnlk	
	3.	5 MIN PRIOR TO DEPLOY <ul style="list-style-type: none"> Start V10s (MON1,2), VTR, Handheld, FD CCs 			FD CC Rcd in-cabin activities		V10s (MON 1,2) REC pb – press to begin recording √LCD displays RED DOT G1 CCs REC pb – press √LCD displays RED DOT VTR REC pb – press,hold PLAY pb – press simo (red dot displayed)
	4.	~1 SEC PRIOR TO DEPLOY <ul style="list-style-type: none"> Start Camr, using remote cable 	D2Xs 28-70mm				
	5.	POST DEPLOY	D2Xs 80-200mm		Handheld CC Rcd ANDE2 in ovhd window		Obtain photos, video of ANDE2 as long as it is visible Image spheres If anomalies observed, continue imaging to capture anomalies

If OPS temporarily suspended, perform DEACTIVATION as reqd
 If OPS completed, go to DEACTIVATION

P/TV10 DEPLOYABLE PAYLOADS – DRAGONSAT,ANDE2 (Concluded)

DEACTIVATION

1. D2Xs
Body Focus Mode – S
Exp Mode – P
Frame Rate – S

Menu Settings
MENU pb – press
Navigate Pad sel – Shooting Menu () > Reset Shooting Menu > Yes > OK
Custom Settings Menu > Menu Reset > Yes > OK

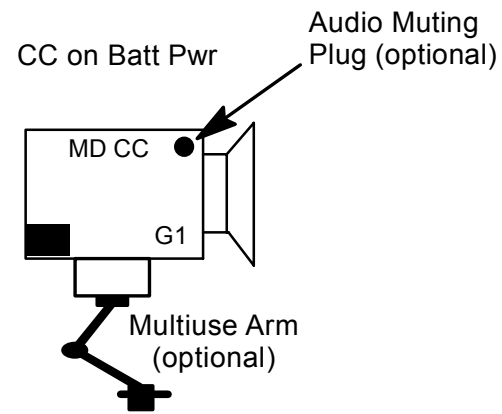
Flash ON/OFF – ON
2. Handheld G1
AF/M – AF
AGC – ON
PWR dial – OFF
3. FD G1
REC pb – press
√Viewfinder (LCD) displays “green” •||
Remove,mark tape for DRAGONSAT(ANDE2)
4. TV System
Remove,mark tapes for DRAGONSAT(ANDE2)
Go to DEACTIVATION (Cue Card, TV) as reqd

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P/TV11 GLACIER

H/W SUMMARY



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P/TV11 GLACIER (Continued)

SCENE SYNOPSIS

Scene contains procedures for obtaining in-cabin video, still images of GLACIER payload

SETUP

1. Perform Camcorder Setup for MD per H/W SUMMARY, FS 1-88, as reqd

√Batt installed

CC

Install Wide Conversion lens

√ND FILTER – OFF

√OUTPUT – CAM

√..-

√STANDBY/LOCK – STANDBY

PWR dial – “green”

√Tape installed

√Viewfinder (LCD) displays “green” •||



Install Audio Muting Plug (optional)


Install Multiuse Brkt (optional)

P/TV11 GLACIER (Continued)

SETUP (Concluded)

2. Perform D2Xs PROGRAM w/FLASH

- Lens – 12-24mm
- Aperture – Min, locked
- Body Focus Mode – S
- √Batt installed
- √Flash Card installed
- Pwr – ON
- Top LCD
 - √Batt
 - √Frames remaining sufficient
- Exp Comp () – 0.0
- Exp Mode – P
- Meter – Matrix ()
- Diopter – Adjust
- Frame Rate – S
- √BKT disabled – 0 F
- Rear LCD
 - √ISO – 100
 - √QUAL – RAW
 - √WB – 0,A
- AF Area Mode – [[]]
- √Focus Area – Center
- √Focus Selector Lock – L

- SB-800 Flash Settings
 - √Diffuser Dome installed
 - ON/OFF pb – ON
 - √MODE –  TTL BL
 - √Exp Comp – 0 EV
 - Tilt – 45° (Direct)

P/TV11 GLACIER (Concluded)

OPS

√	Item # Track #	Rqmts	Still Imagery	Video			Notes
			DCS	PLB	CC	Dnlk	
	1.	GLACIER Video, Still Photography <ul style="list-style-type: none"> • Wide-angle video, photos showing crew interaction • Medium-angle video, photos showing stowage location • Closeup video, photos of front panel after activation for gnd verification 	<u>D2Xs</u> 12-24mm		<u>G1</u>	PLAYBACK desired	

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FS 1-93

P/TV/127/FIN

**P/TV12
SEITE,SIMPLEX**



P/TV12 SEITE,SIMPLEX PAYLOADS

SCENE SYNOPSIS

Scene contains procedures for documenting STS,ISS external structures w/still photos during general survey activities

SETUP

1. D2Xs Camr Config for SEITE,SIMPLEX (D2Xs Shutter Priority Mode)

- Lens – 28mm
- √Aperture – Min, locked
- Body Focus Mode – S
- √Batt installed
- √Flash Card installed
- Pwr – ON
- Top LCD
 - √Batt
 - √Frames remaining sufficient
- Exp Comp () – 0.0
- Exp Mode – S
 - SS – 500
- Meter – Matrix ()
- Diopter – Adjust
- Frame Rate – S
- √BKT disabled – 0 F
- Rear LCD
 - √ISO – 100
 - √QUAL – RAW
 - √WB – 0,A
- AF Area Mode – [[]]
- √Focus Area – Center
- √Focus Selector Lock – L

- Accessory Equipment
 - Shutter Release Cable – install
 - Multiuse Base – install in W9/10
 - Multiuse Brkt – install on Base

- SB-800 Flash Settings
 - ON/OFF pb – OFF

P/TV12 SEITE,SIMPLEX PAYLOADS (Concluded)

OPS

√	Item # Track #	Rqmts	Still Imagery	Video			Notes
				PLB	CC	Dnlk	
	1.	SEITE,SIMPLEX • Obtain minimum of one photo at beginning, middle, end of OMS burn	<u>D2Xs</u> 28mm				Initial photo within 5 sec of burn

If OPS temporarily suspended, perform DEACTIVATION as reqd
 If OPS completed, go to DEACTIVATION

DEACTIVATION

1. D2Xs
Pwr – off

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REFERENCED PROCEDURES

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VTR CLOCK SET	FS 2-8
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DATE/TIME SET	FS 2-10
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C/L CAMR

CENTERLINE (C/L) CAMR

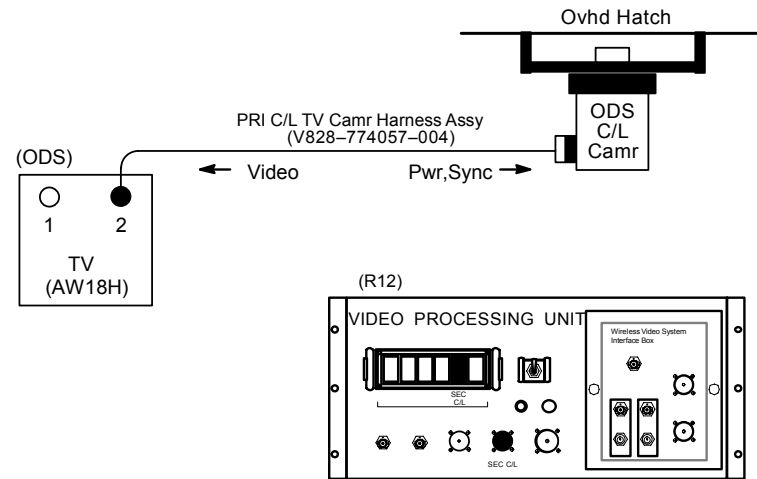
C/L CAMR INSTALL

1. ODS C/L Camr Config
- L12 (SSP 2) ✓C/L CAM PWR – OFF
- R12 (VPU) ✓SEC C/L Cap installed
 ✓Green Jumper – SEC C/L
 ✓VPU PWR – ON (LED on)
- ML60B Unstow PRI C/L Camr, PRI C/L TV Camr Harness Assy

NOTE

When connecting ODS C/L TV Camr Harness Assy, verify pins to socket connection

- ODS ✓ODS C/L Camr Brkt mounted securely
 Mount PRI C/L Camr to ODS C/L Camr Brkt
 ✓Flex Duct attached to Camr brkt
 Config cable per dwg at right
- C/L Camr ✓SSF/STS sw – STS
- L12 (SSP 1) ✓cb SSP2 SEC C/L CAM – cl
 (SSP 2) C/L CAM PWR – SEC ON

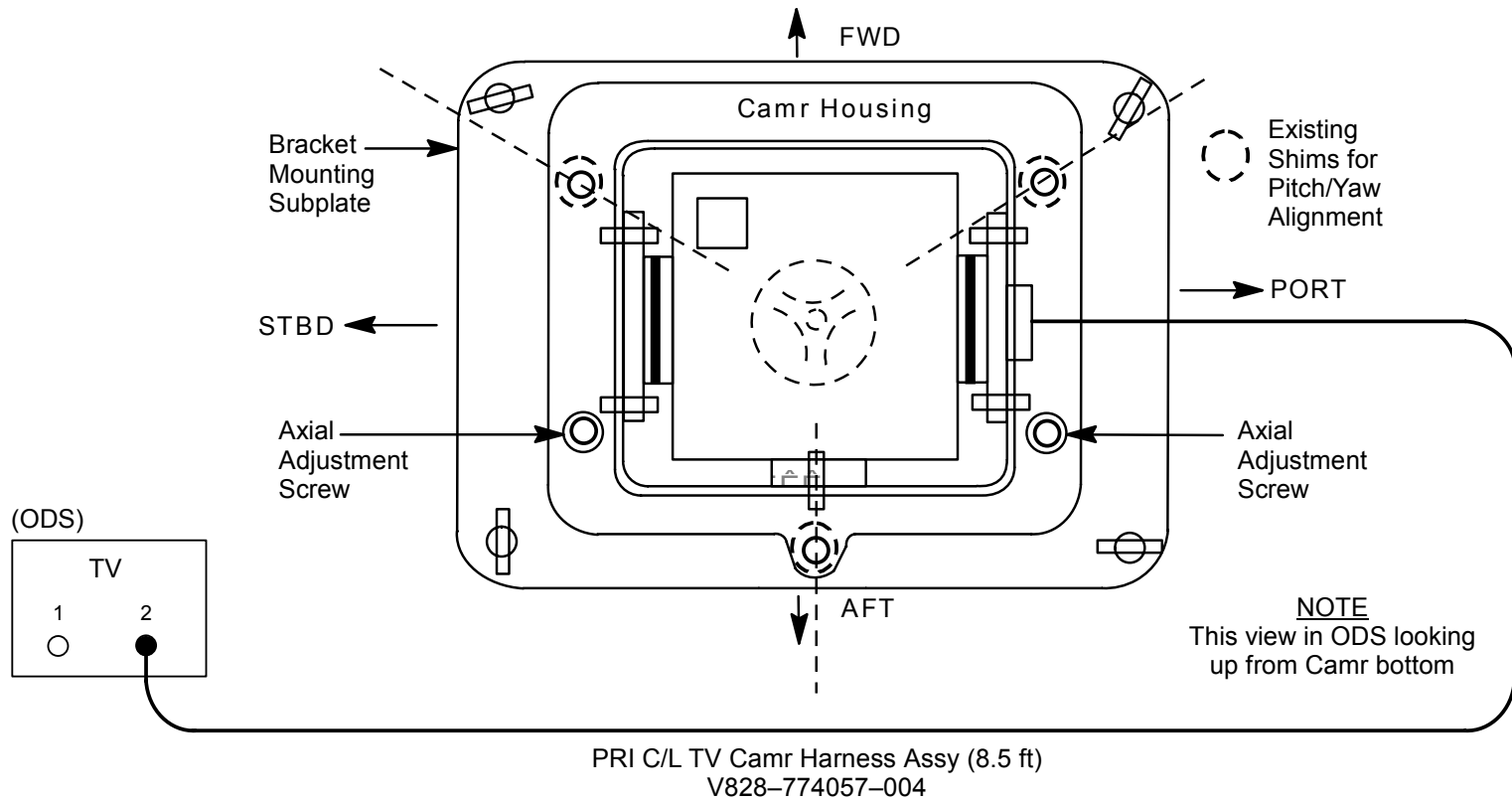


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CENTERLINE (C/L) CAMR (Continued)

C/L CAMR INSTALL (Continued)

2. Camr Position Verification



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CENTERLINE (C/L) CAMR (Concluded)

C/L CAMR INSTALL (Concluded)

3. ODS C/L Camr Alignment Check
Perform ACTIVATION (Cue Card, TV) as reqd

A7 VID OUT MON 1(2) pb – push
IN PL2(VPU) pb – push
ALC pb – push
AVG pb – push

MON 1(2) LDATA – ON
CDATA – GRN
XHAIR – GRN

A7 Zoom to $10^\circ \pm 0.5^\circ$
Focus to see Xhair target

NOTE

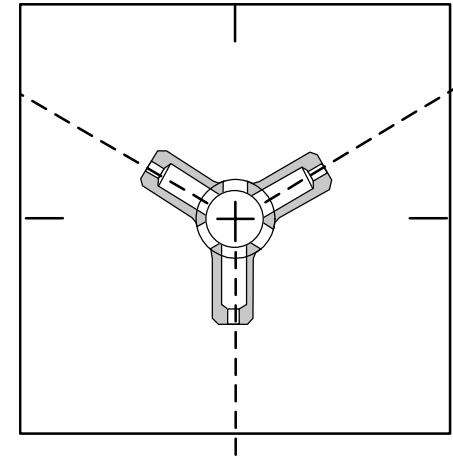
Green xhairs on monitor may move off center in calibration target when zooming in,out. Xhair will be closest to center at full zoom in position

MON 1(2) ✓ Vertical xhairs coincide w/vertical alignment wire and are parallel. If xhair marks overlay each other, no yaw(axial) alignment needed (see dwg above)

✓ Intersection of monitor vertical,horizontal xhair falls within target circular opening from $\sim 10\text{-}40^\circ$ zoom range of Camr

Report results of both alignment verifications (at 10° and 40°) to MCC

4. Deactivation
A7 CAMR CMD IRIS – CL
L12 (SSP 2) C/L CAM PWR – OFF
Go to DEACTIVATION (Cue Card, TV) as reqd



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DTV

DTV

VTR CLOCK SET

1. Activate VTR

R1 √PL AUX – ON

L10 (MUX) VTR/CC PWR – on (LED on)
(VTR) √ON/STANDBY LED – green

2. Set VTR clock to GMT

DISPLAY SELECT – MENU

↓ pb – ETC, EXEC pb – push

↓ pb – CLOCK SET, EXEC pb – push

Use ↑,↓,EXEC to set Y,M,D,hr,min to GMT

DISPLAY SELECT – DATA

3. Deactivate VTR as reqd

(MUX) ON/STANDBY pb – push (red LED on)
 VTR/CC PWR – off (LED off)

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D2Xs

D2Xs

DATE/TIME SET

1. MENU pb – press
2. Navigate pad – sel Menu icon **Y** setup menu
 - press (right)
 - sel WORLD TIME (up,down)
 - press (right)
 - sel DATE (up,down)
 - press (right)
3. Set TIME/DATE to GMT
 - Navigate pad – sel desired field (left,right)
 - sel desired setting (up,down)
4. ENTER pb – press
5. MENU pb – press twice

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CANON G1

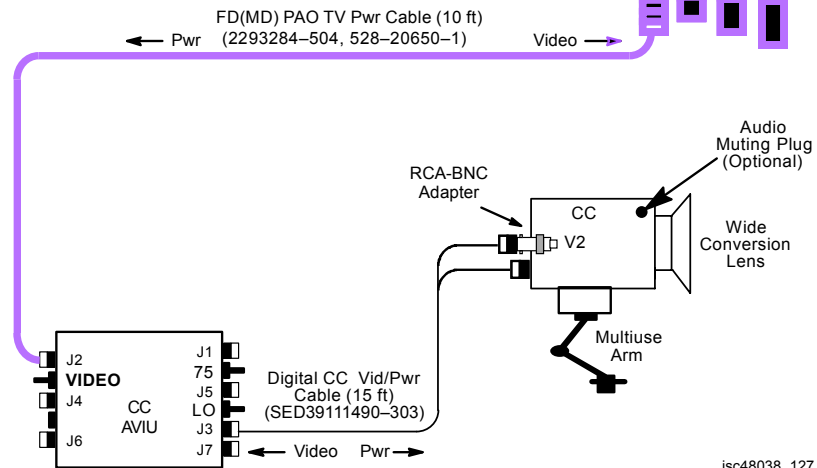
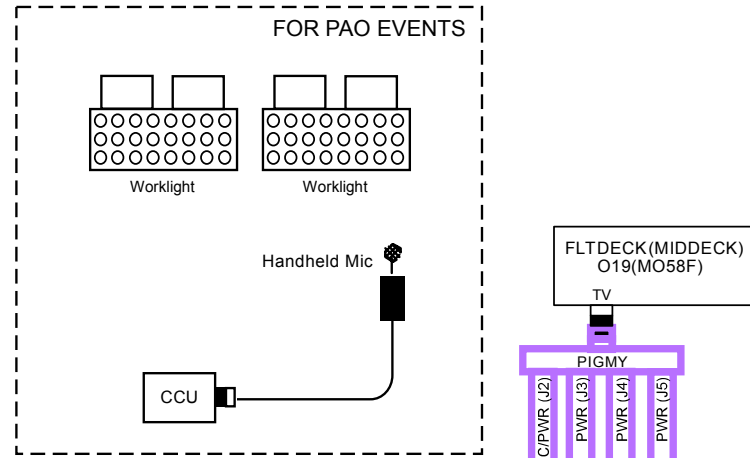
ANALOG CC REC.DNLK

Config H/W per dwg at right

- AVIU SYNC/VIDEO – VIDEO
HI-Z/75 – 75
PWR SELECT – LO
- O19(MO58F) ✓TV PWR – ON
- CC ✓Wide Conversion lens installed
✓ND FILTER – OFF
Install Audio Muting Plug (optional)
✓AF/M – AF
✓AGC – OFF
✓GAIN – L(M)
✓OUTPUT – CAM
✓A/V1/V2 – V2
✓AWB – ON
✓ [].. [] – []
✓STANDBY/LOCK – STANDBY
PWR dial – A
✓CP1(2-9) displayed
If rec to tape:
Tape – Install
✓Viewfinder (LCD) displays “green” •||
Multiuse Brkt, Clamp

CAUTION
Worklights @ full pwr for 45 min.
half pwr for unlimited time

- Worklights Install BATTs
Mount light(s) w/Bracket (Velcro/tape)
Pwr – as reqd
- Cabin Lts Flt Deck – ON
Lts in FOV – OFF as reqd
Lt Shades – install as reqd
Window Shades – install as reqd



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CANON G1 (Continued)

ANALOG CC REC.DNLK (Concluded)

- CC √Scene composition
 Adjust Camr angle for best framing
- CCU CCU PWR – ON
- ATU PWR – AUD
 A/G 1(2) – T/R
 All Other Loops – OFF
 XMIT/ICOM MODE SEL – PTT/PTT
 MSTR SPKR VOL SEL – as reqd
- A7 When ready for dnlk:
 √TV DNLK – ENA
 TV PWR CNTL – PNL
 TV PWR CONTR UNIT – MNA(B)
 TV PWR CNTL – CMD (wait 10 sec for system initialization)
 VID OUT DNLK pb – push
 VID IN FLT DECK(MIDDECK) pb – push

CANON G1 (Continued)

HD DIGITAL CC DNLK

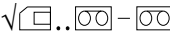

Notify MCC, configuring for HD TV dnlk

Config H/W per dwg at right

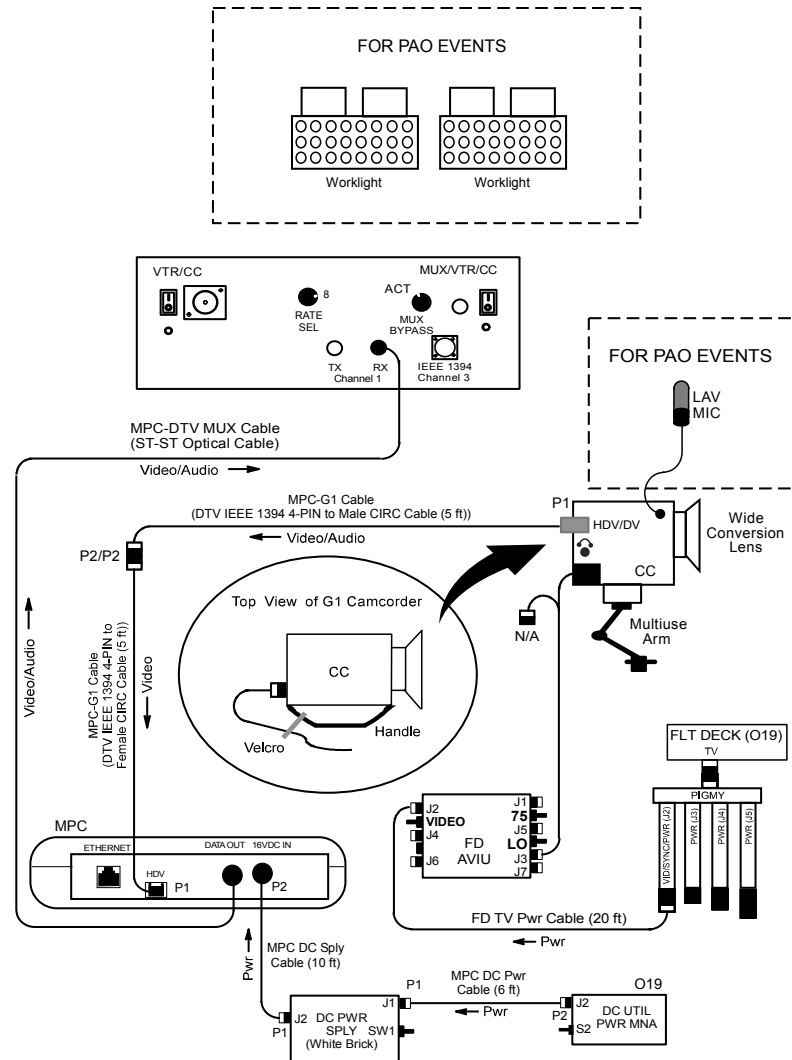
CC For cable strain relief attach MPC-to-G1 Cable Velcro strap to CC strap

AVIU SYNC/VIDEO – VIDEO
HI-Z/75 – 75
PWR SELECT – LO

O19 √TV PWR – ON

CC √Wide Conversion Lens installed
Install LAV MIC
√ND FILTER – OFF
√AF/M – AF
√AGC – OFF
√GAIN – L(M)
√OUTPUT – CAM
√AWB – ON
√ – 
√STANDBY/LOCK – STANDBY
PWR dial – A
√CP1(2-9) displayed
Mount Camcorder

L10 (MUX) √MUX/VTR/CC PWR – off (LED off)
√VTR/CC/PWR – off (LED off)
Disconnect CHANNEL 3 IEEE 1394 Cable
MUX/VTR/CC PWR – on (LED on)
√MUX BYPASS – ACT
√CHANNEL 0,2 RATE SEL – 1
√1 RATE SEL – 8



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CANON G1 (Concluded)

HD DIGITAL CC DNLK (Concluded)

O19	DC UTIL PWR MNA – ON
MPC PWR SPLY	DC PWR SPLY PWR SW1 – ON
MPC	PWR-ON (HDV, TAXI, 5V, 3V green LEDs on)
L10 (MUX)	√CHANNEL 1 F/O OK, DATA LEDES on
	CAUTION Worklights @ full pwr for 45 min. half pwr for unlimited time
Worklights	Install BATTs Mount light(s) w/Bracket (Velcro/tape) Pwr – as reqd
Cabin Lts	Flt Deck – ON Lts in FOV – OFF as reqd Lt Shades – install as reqd Window Shades – install as reqd
CC	√Scene composition Adjust Camr angle for best framing
LAV MIC	PWR – ON (talk), OFF (listen)
CC	When dnlk complete: PWR dial – OFF
O19	TV PWR – OFF as reqd
MPC	PWR – OFF
PWR SPLY	DC PWR SPLY PWR SW1 – OFF
O19	DC UTIL PWR MNA – OFF
L10 (MUX)	MUX/VTR/CC PWR – off (LED off) Connect CHANNEL 3 IEEE 1394 Cable Notify MCC, returned to SD TV dnlk Go to DEACTIVATION (Cue Card, <u>TV</u>) as reqd

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FCS CHECKOUT CAMR SETUP

SETUP

1. D2Xs

Lens – 400mm

NOTE

If auto focus unachievable:
Lens Focus Mode – M

Aperture – Min, locked

Lens Focus Mode – A

Body Focus Mode – S

√Batt installed

√Flash Card installed

Pwr – ON

Top LCD

√Batt

√Frames remaining sufficient

Exp Comp – 0.0

Exp Mode – M

SS – 500

f/stop – f/8

Meter – Matrix

Diopter – Adjust

Frame Rate – S

√BKT disabled – 0 F

Rear LCD

√ISO – 100

√QUAL – RAW

√WB – 0,A

AF Area Mode – [[]]

√Focus Area – Center

√Focus Selector Lock – L

SB-800 Flash Settings

ON/OFF pb – OFF

FCS CHECKOUT CAMR SETUP (Concluded)

SETUP (Concluded)

2. G1 CC

Remove Wide Conversion Lens

Install Batt

√ND FILTER – OFF

AF/M – M

AGC – OFF

GAIN – L

√OUTPUT – CAM

√AWB – ON

√..-

√STANDBY/LOCK – STANDBY

PWR dial – M

√Tape installed

Open LCD

√'green' ●|| displayed

SS – 1/500

√GAIN – 0dB

f/stop – F8.0

√FOCUS – M ∞-

DEACTIVATION

1. D2Xs

Lens focus mode – A

EXP Mode – P

Pwr – OFF

2. G1

Install Wide Conversion Lens

AF/M – AF

AGC – ON

Pwr dial – OFF

Remove Batt

Connect Dig/CC Vid Pwr Cable

PWR dial – 'green'

Place G1 on brkt

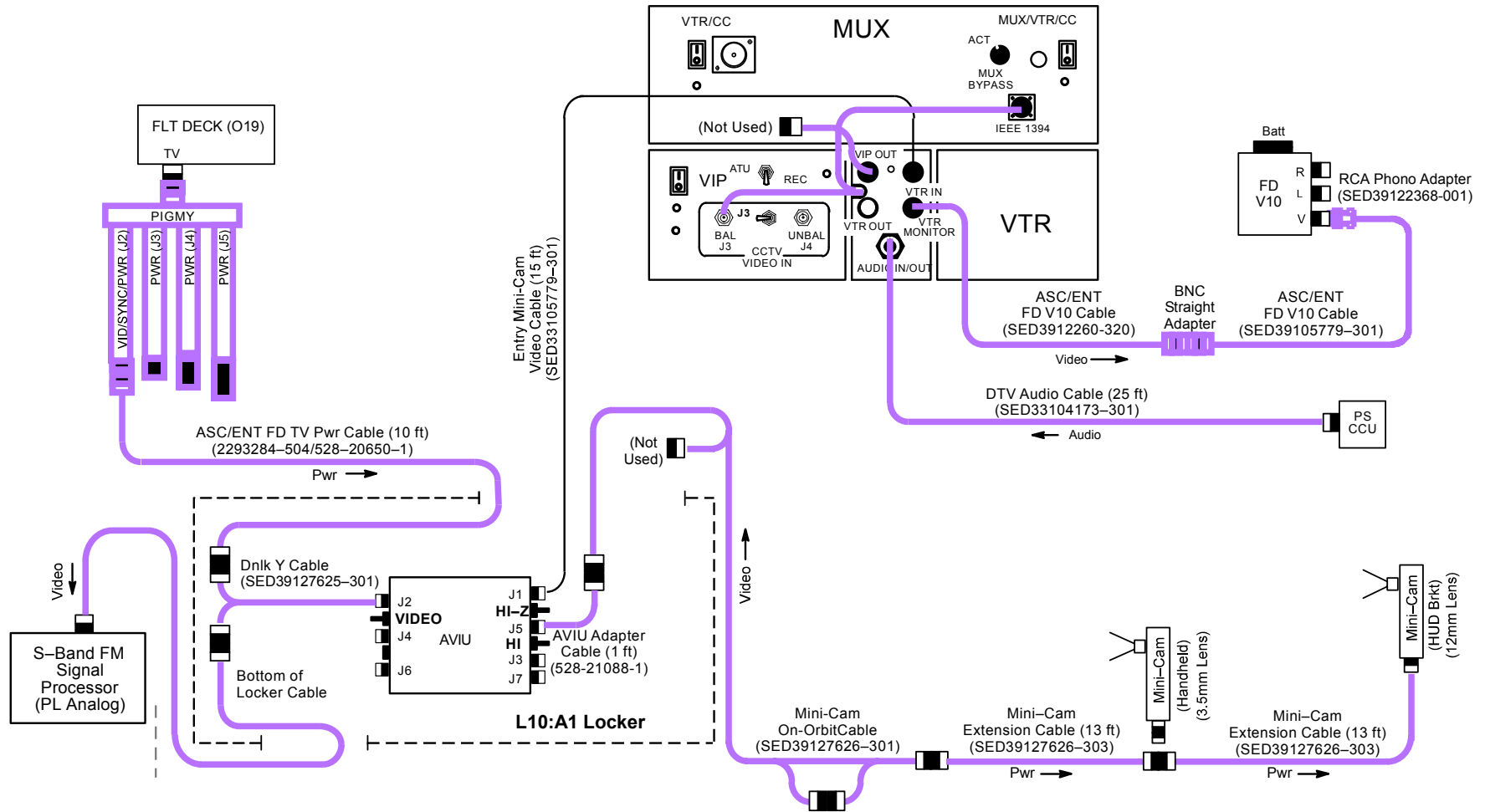
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MINI-CAM

MINI-CAM

ENTRY VIDEO SETUP



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MINI-CAM (Continued)

ENTRY VIDEO SETUP (Continued)

1. Remove "Entry" Ziplock Bag from DTV Bag
2. Config Mini-Cam, VTR for Audio, Video Recording
Config H/W per dwg, FS 2-22
 - a. Config HUD Mini-Cam w/12mm Lens
Using two (2) captive screws, attach HUD Brkt to installation holes for protective cover w/ HUD Brkt tab pointing up

Attach Tie Wrap thru holes on captive screws to prevent screw from coming loose; cut off extra length on Tie Wrap

Attach Mini-Cam Extension Cable to Mini-Cam

12mm Lens Focus – ∞
 Aperture – f/5.6

Velcro Mini-Cam w/12mm Lens to HUD Brkt. (Top of black Velcro on front of Camr should be at top edge of HUD Brkt.
 Only yellow Velcro should be visible above HUD Brkt)
 - b. Config in-cabin Mini-Cam w/3.5mm Lens

3.5mm Lens Aperture – f/1.8
 - c. Config additional Mini-Cam H/W

L10:A1 AVIU
 SYNC/VIDEO – VIDEO
 HI-Z/75 – HI-Z
 PWR SELECT – HI
 - O19 \sqrt TV PWR – ON
 - PS ATU Config audio as reqd for entry audio
 - L10 (MUX)
 (VTR) VTR/CC PWR – on (LED on)
 \sqrt ON/STANDBY LED – green

MINI-CAM (Concluded)

ENTRY VIDEO SETUP (Concluded)

Acquire one V10 Li-ION batt

- V10 (FD) Install fresh Batt
PWR – ON
√HUD 12mm Lens/Mini-Cam producing good video
- Change config to in-cabin 3.5mm Lens/Mini-Cam
√In-cabin 3.5mm Lens/Mini-Cam producing good video
- PWR – OFF
- L10 (VTR)
(MUX) ON/STANDBY pb – push (red LED off)
VTR/CC PWR – off (LED off)
- O19 TV PWR – OFF

NOTE

TV,VTR pwr will be re-enabled per ENT AFT FLT DECK
CONFIG 15 (DEORB, NOMINAL DEORBIT PREP); recording
will be initiated via ENT C/L

Start w/3.5mm Lens/Mini-Cam video in-cabin and reconfig for 12mm Lens/Mini-Cam when exterior scene available

When exterior avail:

Focus – Adjust per V10

Aperture – Adjust per V10

If needed, turn down brightness on HUD display

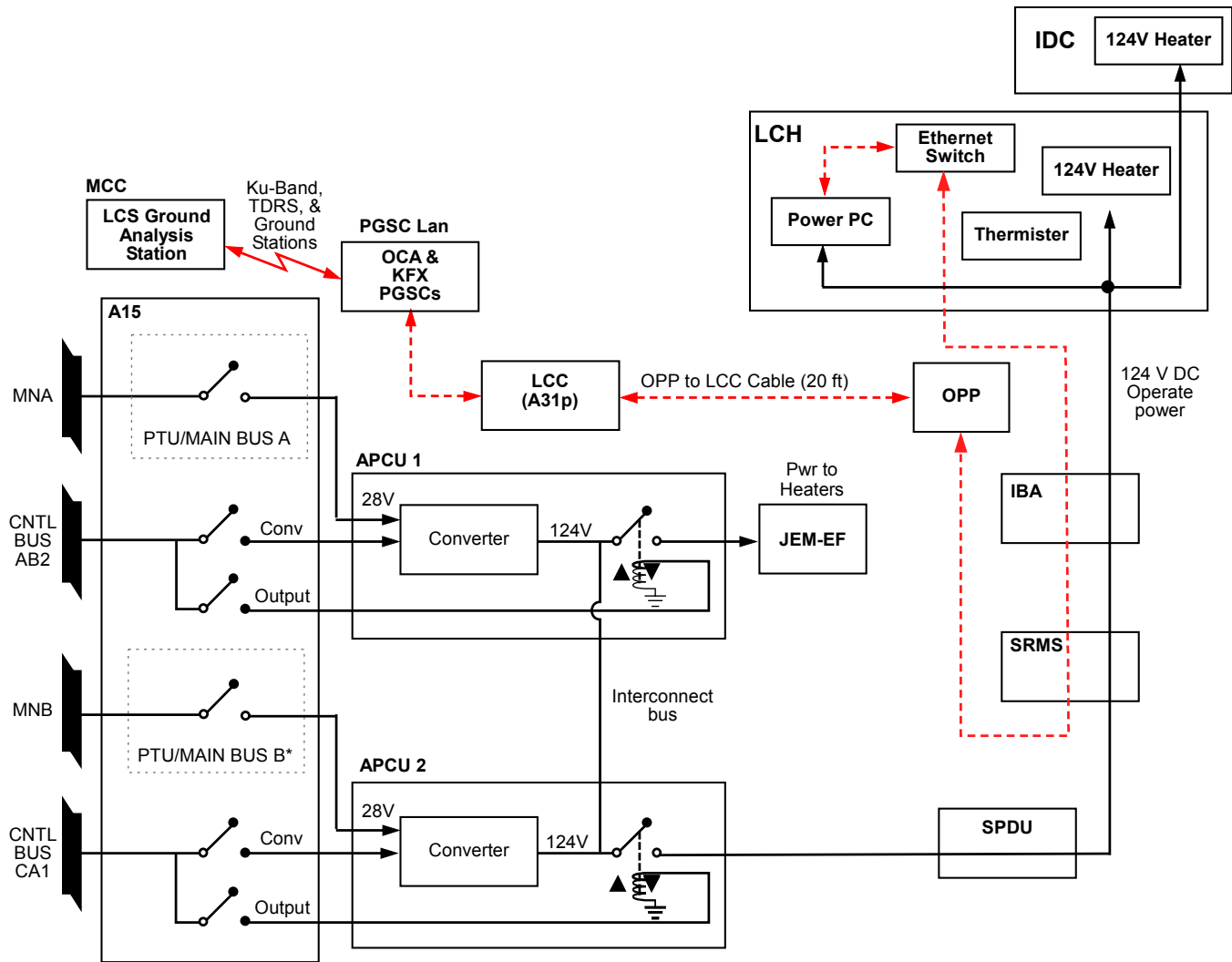
Turn off V10 when not needed

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LCS/IDC

LASER CAMR SYSTEM (LCS)/INTEGRATED SENSOR INSPECTION SYSTEM DIGITAL CAMR (IDC)

LCS/IDC (HEATER ONLY MODE)/(OPERATIONAL PWR MODE) DATA AND PWR INTERFACES

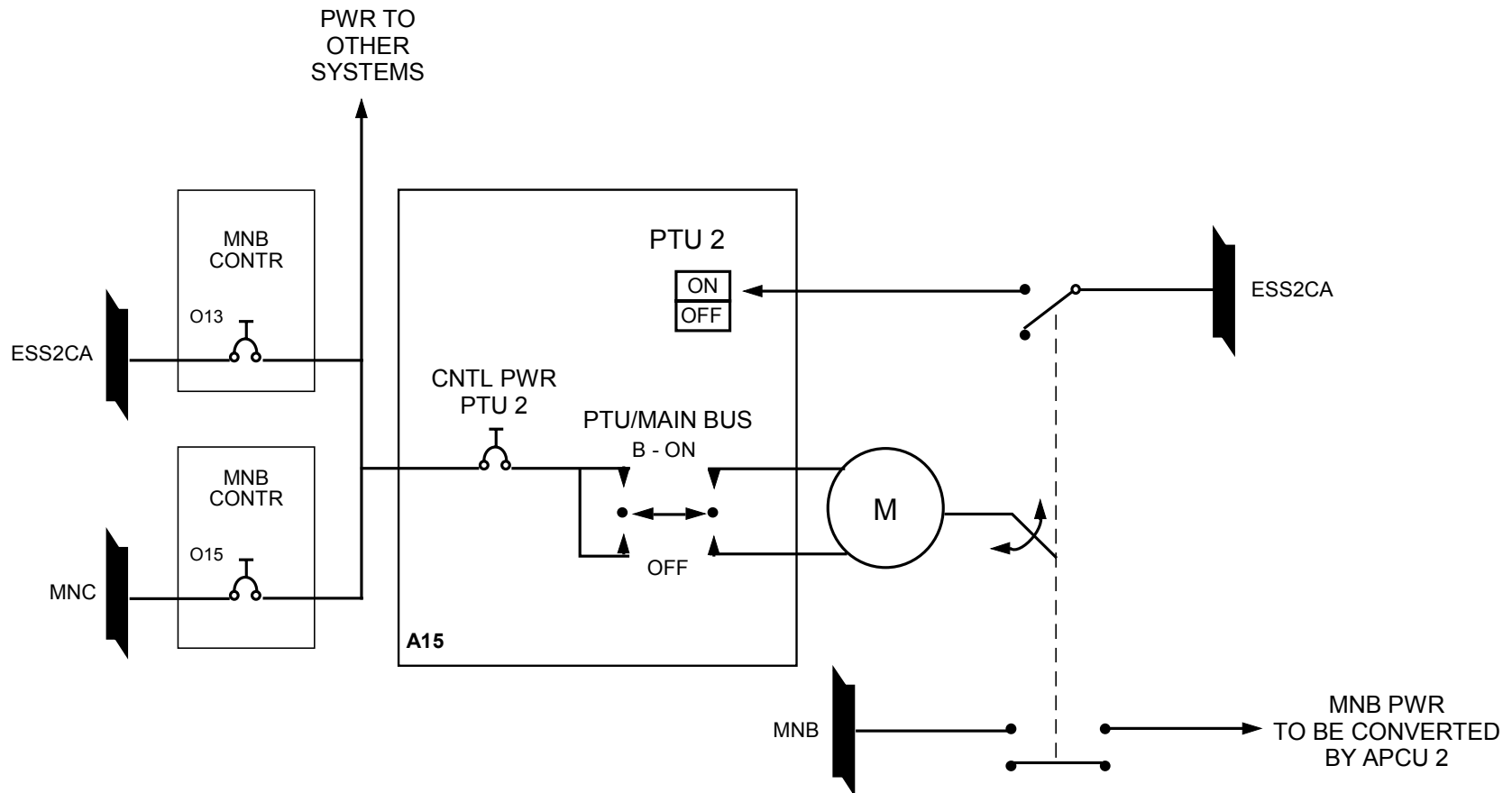


*See PTU 2/MAIN BUS B for detailed system dwg

jsc48038_127_134cr1.cvx

LASER CAMR SYSTEM (LCS)/INTEGRATED SENSOR INSPECTION SYSTEM DIGITAL CAMR (IDC) (Concluded)

PTU 2/MAIN BUS B SYSTEM DETAILS



jsc48037_PTU2_134e.cvx

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CUE CARD CONFIGURATION

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CUE CARDS

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HOOK
VELCRO

TV

ACTIVATION

A3 MON 1(2) PWR – ON (LED ON)
A7 TV DNLC – ENA
PWR CONTR UNIT – MNA(B)
CNTL – PNL, wait 10 sec for system initialization, CMD

OPERATION

Auto Ops (Auto Exposure)

A7 \MCC has commanded sync config
TV CAMR PWR A(B,C,D,RMS) – ON (tb-ON)
VID OUT MON 1(2) pb – push
IN pb – as reqd
If CTVC:
ALC pb – push
AVG pb – push
If ITVC:
If MAN GAIN pb not illuminated:
TV CAMR PWR A(B,C,D,RMS) – OFF, wait 10 sec, ON
Repeat until MAN GAIN pb illuminated
LT LEVEL pb – push
DAY(NIGHT) pb – push
ALC pb – push
AVG pb – push

Dnkc Ops

Coordinate dnkc and sync config w/MCC
Config audio as reqd
If analog, on MCC GO:
VID OUT DNLC pb – push
IN pb – as reqd
If DTV, on MCC GO:
L10 (MUX) \Cables connected
MUX/VTR/CC PWR – on (LED on)
\MUX BYPASS – ACT
(VIP) PWR – on (LED on, DATA FLOW LED flashes twice)
(VTR) \ON/STANDBY LED – green
\INPUT SELECT – VIDEO
A7 VID OUT DTV pb – push
IN pb – as reqd
L10 (VIP) \DATA FLOW LED – on
(MUX) \CHANNEL 3 DATA LED – on

DEACTIVATION

If Illuminator ON:
Refer to Illuminator Ops and perform Illuminator OFF
A7 PORT RMS CAMR – WRIST
TV CAMR PWR A(B,C,D,RMS) – OFF (tb-OFF), wait 10 sec
PORT RMS CAMR – ELBOW
TV CAMR PWR RMS – ON (tb-on), wait 10 sec, OFF (tb-OFF)
If Keel 1 (ICC):
L12 \cb CB2 – cl
(SSP 2) KEEL 1 PWR (ICC) – OFF
\ILL PWR (ICC) – ON
If KEEL 2 (JLE):
MO58F \KEEL 2 (JLE) Cable disconnected from J2 MD Pigmy port
L12 \cb CB1 PDIP 2 PWR 2 – cl
(SSP 2) KEEL 2 PWR (JLE) – OFF
\ILL PWR (JLE) – ON
A7 TV PWR CNTL – PNL
CONTR UNIT – OFF
CNTL – CMD
A3 MON 1,2 PWR – OFF
If DTV:
L10 (VTR) ON/STANDBY pb – push (red LED on)
(VIP) PWR – off (LED off)
(MUX) MUX/VTR/CC PWR – off (LED off)
VTR/CC PWR – off (LED off)

Manual Ops – CTVC/ITVC (Manual Exposure)

CAUTION
DO NOT LEAVE CAMRS UNATTENDED IN MANUAL
MODE. DIRECT SUNLIGHT WILL DAMAGE CAMRS

Manual Exposure ON

A7 MAN GAIN pb – push
0(+12,+24) dB pb – push
CAMR CMD IRIS – OP,CL

Return to Auto Exposure

ALC pb – push
AVG pb – push

MUX Ops

NOTE
Although dnkc/rcd is in color, MON
will display MUX in B&W

A7 VID OUT MON pb – as reqd
IN MUX 1(2) pb – push
OUT MUX 1(2) L pb – push
IN pb – As reqd
OUT MUX 1(2) R pb – push
IN pb – as reqd

For RSC ops:
Go to LDR/ITVC Cue Card

Keel Camr

If KEEL 1 (ICC):
L12 \cb CB2 – cl
(SSP 2) \KEEL 1 PWR (ICC) – ON
R12 Green Jumper – KEEL 1
(VPU)
If KEEL 2 (JLE):
L12 \cb CB1 PDIP 2 PWR 2 – cl
(SSP 2) \KEEL 2 PWR (JLE) – ON
MO58F \KEEL 2 (JLE) Cable connected to J2 MD Pigmy port

P/TV-1a/127/O/A

(reduced copy)

FS CC 3-3

P/TV/127/FIN

TOP
BACK OF 'TV'

HOOK
VELCRO

Illuminator Ops

Illuminator ON

L12 (SSP 2) If Keel 1 (ICC):
 \cb CB2 - cl
 \KEEL 1 PWR (ICC) - ON
 ILL.PWR (ICC-) - OFF, ON for HI (repeat for MED, LOW, OFF)

If KEEL 2 (JLE):
 \cb CB1 PDIP 2 PWR 2 - cl
 \KEEL 2 PWR (JLE) - ON
 ILL.PWR (JLE) - OFF, ON for HI (repeat for MED, LOW, OFF)

R14:D(E) If Wrist Illuminator:
 \cb TV RMS CAMR/PTU - cl
 \WRIST ILLUM/CAMR HTR - cl - op, cl

If Elbow Illuminator:
 \cb TV RMS CAMR/PTU - cl
 \ELB ILLUM/PTU HTR - cl - op, cl

If A(B,C,D,ELB) Illuminator:
 \cb TV A(B,C,D,RMS,ELB) CAMR/PTU - cl
 \ILLUM/PTU HTR - cl - op, cl

Illuminator OFF

L12 (SSP2) If Keel 1 (ICC):
 KEEL 1 ILL.PWR (ICC) - toggle sw 4 OFF, ON until ILL.OFF (leave sw in ON posn)

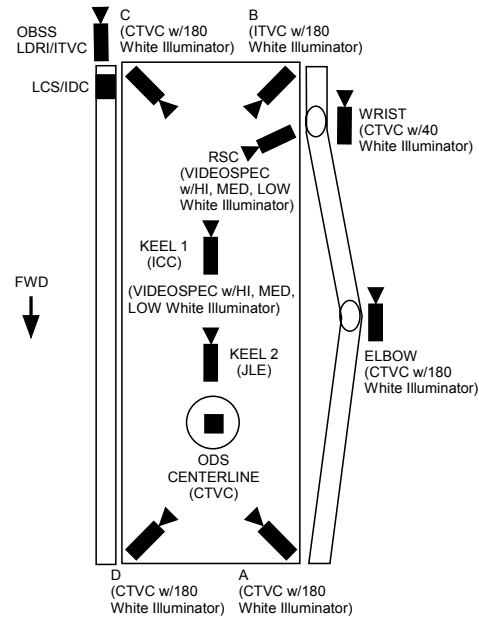
If KEEL 2 (JLE):
 KEEL 2 ILL.PWR (JLE) - toggle sw 7 OFF, ON until ILL.OFF (leave sw in ON posn)

R14:D(E) If Wrist Illuminator:
 cb TV RMS WRIST ILLUM/CAMR HTR - op, cl

If Elbow Illuminator:
 cb TV RMS ELB ILLUM/PTU HTR - op, cl

If A(B,C,D,ELB) Illuminator:
 cb TV A(B,C,D,RMS,ELB) ILLUM/PTU HTR - op, cl

If RSC Illuminator:
 Go to LDR/I/TV (Cue Card)



jsc48038_127_012.cvx

P/TV-1b/127/O/B

(reduced copy)

FS CC 3-4

P/TV/127/FIN

TOP

HOOK
VELCRO

ANALOG PLAYBACK

ANALOG VIA CC

NOTE

Analog Playback from CC only possible for CC Video recordings

ACTIVATION

CC Setup per diagram (back of cue card)
A7 Perform ACTIVATION (Cue Card, TV), as reqd
O19 √TV PWR – ON

AVIU SYNC/VIDEO – VIDEO
HI-Z/75 – 75
PWR SELECT – LO

CC PWR – VTR/PLAY
√AV1/V2 – V2

OPERATIONS

PLBK or DNLK VIDEO

CC Install tape, if reqd

If audio reqd:

CCU If MHA, COMM PWR – ON
ATU PWR – AUD
Desired Loops – T/R
Other Loops – RCV(OFF)
XMIT/ICOM Mode – VOX/VOX
VOX SENS – MAX

CC Speaker Vol Max

A7 VID OUT MON pb – as reqd
IN FLT DECK(MIDDECK) pb – push

CC VTR pb – REW(FF) to cue tape

If Dnlk

√MCC has commanded async config
A7 √TV DNK – ENA
VID OUT DNK pb – push
IN FLT DECK(MIDDECK) pb – push

CC PLAY pb – push (green ► displayed)

If PLBK(DNLK) complete:

STOP pb – push
If CC ops complete, go to DEACTIVATION

DEACTIVATION

CC Remove, mark, stow tape as reqd
PWR – OFF

ATU Reconfig as desired
O19 TV PWR – OFF, as reqd
Go to DEACTIVATION (Cue Card, TV), as reqd

ANALOG VIA VTR

ACTIVATION

Setup per diagram (back of cue card)
Disconnect CC Video input from AVIU J3
Perform ACTIVATION (Cue Card, TV) as reqd
O19 √TV PWR – ON

AVIU SYNC/VIDEO – VIDEO
HI-Z/75 – 75
PWR SELECT – LO

L10 (MUX) √VTR/CC PWR – on (LED on)
(VTR) √ON/STANDBY LED – green

OPERATIONS

PLBK or DNLK VIDEO

L10 (VTR) Install tape if reqd
√DISPLAY SELECT – DATA

(VIP)

If audio reqd:
PWR – on (LED on, DATA FLOW LED
flashes twice)

ATU – PBK/KEY MIC (Amber LED on)
CCU If MHA, COMM PWR – ON
ATU PWR – AUD
Desired Loops – T/R
Other Loops – OFF
XMIT/ICOM Mode – VOX/VOX
VOX SENS – MAX

A7 VID OUT Desired MON pb – push
IN FLT DECK pb – push

L10 (VTR) REW(FF),PLAY,PAUSE pb – push as reqd to
cue tape

If Dnlk

√MCC has commanded async config
A7 √TV DNK – ENA
VID OUT DNK pb – push
IN FLT DECK pb – push

L10 (VTR) PLAY pb – push (green • displayed)

If PLBK(DNLK) complete:

STOP pb – push
If VTR ops complete, go to DEACTIVATION

DEACTIVATION

Connect CC video input to AVIU J3
L10 (VTR) Remove, mark, stow tape as reqd
ATU Reconfig as desired
O19 TV PWR – OFF, as reqd
Go to DEACTIVATION (Cue Card, TV) as reqd

P/TV-2a/127/O/A

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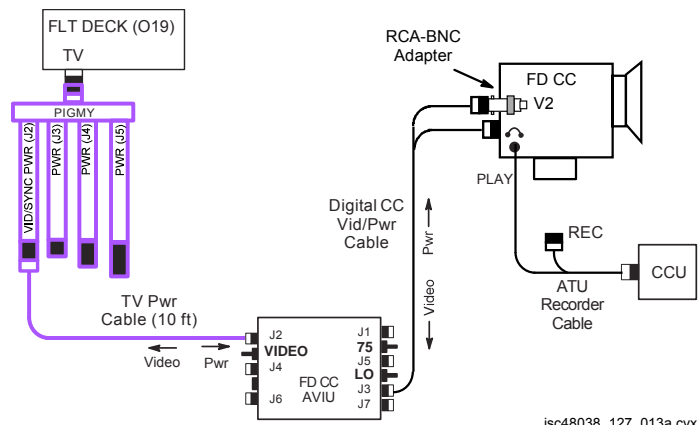
FS CC 3-5

P/TV/127/FIN

TOP
BACK OF 'ANALOG PLAYBACK'

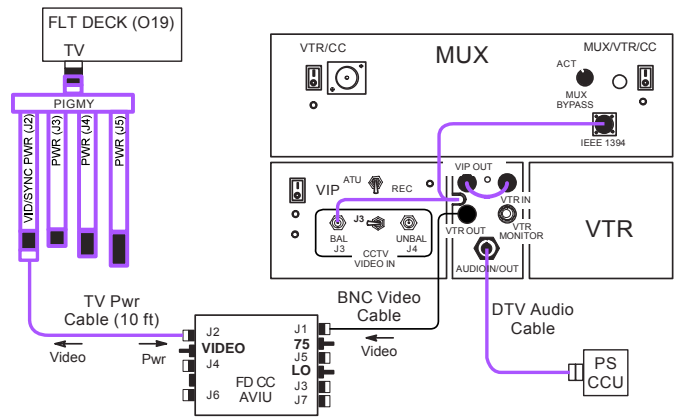
HOOK
VELCRO

ANALOG VIA CC PLAYBACK



jsc48038_127_013a.cvx

ANALOG VIA VTR PLAYBACK



jsc48038_127_013b.cvx

P/TV-2b/127/O/A

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FS CC 3-6

P/TV/127/FIN

TOP

HOOK
VELCRO

ET PHOTO

D2Xs D2Xs

LENS SETTINGS

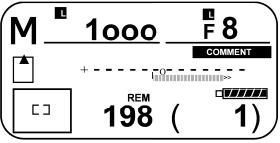
- √APERTURE – MIN, LOCKED
- √LENS FOCUS MODE – A

CAMR SETTINGS

PWR – ON

TOP LCD

- √BATT
- √EXP MODE – M
- √SS – 1000
- √F/STOP – 8



DIOPTR – ADJUST

- √FRAME RATE – S
- √BODY FOCUS MODE – S

REAR LCD

- √ISO – 100
- √QUAL – RAW

CRITICAL FOCUS REQD EACH FRAME

P/TV-3a/127/O/B

FS CC 3-7

TOP
BACK OF 'ET PHOTO'

HOOK
VELCRO

ET PHOTO

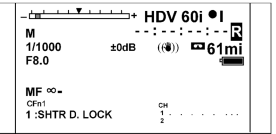
G1 CC G1 CC

LENS CAP – REMOVE

- √ND FILTER – OFF
- √AF/M – M
- √AGC – OFF
- √GAIN – L
- √OUTPUT – CAM
- √AWB – ON
- √POWER dial – M
- √LOCK (handle) – off (aft)
- STANDBY/LOCK – STANDBY

OPEN LCD

- √BATT SUFFICIENT
- √EXP MODE – M
- √SS – 1/1000
- √GAIN – ±0dB
- √F/STOP – F8.0
- √FOCUS MODE – MF ∞_



ZOOM – WIDE TO FIND TANK, THEN TIGHT

START RECORDING

- √LCD DISPLAYS RED DOT

P/TV-3b/127/O/B

P/TV/127/FIN

TOP

MEDIA ALLOCATIONS									
DVCAM					3 hr/tape				
					15	14	13	12	11
10	9	8	7	6	5	4	3	2	1
MINI DVCAM					40 min/tape				
					239	238	237	236	235
					234	233	232	231	
230	229	228	227	226	225	224	223	222	221
220	219	218	217	216	215	214	213	212	211
210	209	208	207	206	205	204	203	202	201
200	199	198	197	196	195	194	193	192	191
190	189	188	187	186	185	184	183	182	181
180	179	178	177	176	175	174	173	172	171
170	169	168	167	166	165	164	163	162	161
160	159	158	157	156	155	154	153	152	151
150	149	148	147	146	145	144	143	142	141
140	139	138	137	136	135	134	133	132	131
130	129	128	127	126	125	124	123	122	121
120	119	118	117	116	115	114	113	112	111
110	109	108	107	106	105	104	103	102	101
100	99	98	97	96	95	94	93	92	91
90	89	88	87	86	85	84	83	82	81
80	79	78	77	76	75	74	73	72	71
70	69	68	67	66	65	64	63	62	61
60	59	58	57	56	55	54	53	52	51
50	49	48	47	46	45	44	43	42	41
40	39	38	37	36	35	34	33	32	31
30	29	28	27	26	25	24	23	22	21
20	19	18	17	16	15	14	13	12	11
10	9	8	7	6	5	4	3	2	1

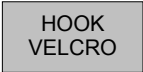
P/TV-4a/127/O/B

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FS CC 3-8

P/TV/127/FIN

TOP
BACK OF 'MEDIA ALLOCATIONS'



HOOK
VELCRO

P/TV-4b/127/O/A

(reduced copy)

FS CC 3-9

P/TV/127/FIN

TOP

HOOK
VELCRO

HOOK
VELCRO

WVS

CAMR ADJUSTMENTS

ADJUST BRIGHTNESS

Course Adjustment

PGSC Select Page – RF Camera
Lens Iris Control – cl(op)

Fine Adjustment

PGSC Select Page – RF Camera
Electronic Shutter – Manual
Brightness – Dec(Inc)
(# to right: 100 = brightest; 0 = darkest)

DARK SUBJECT

PGSC Select Page – RF Camera
√Advanced Controls displayed
Automatic Gain Control – Enabled
(Disabled preferred)

PWRDN

PGSC For all lens (three) on each RF Camera Assy:
Lens Iris Control – Close until view black

V10 Sel RF Camr 1,2 – None (black "OFF")
√Test Pattern displayed (color bars w/"No WVS
Video")

PGSC Select Page – XCVR
Transceiver 1(2) CMD Pwr – Off
(black CMD PWR:LVL-"OFF:Min")
Sel File → Exit

V10 STOP pb – push
Mark, stow tapes
PWR – OFF

A7 WIRELESS VID PWR – OFF
HTR – OFF

VIDEO SIGNAL PROBLEMS

For problem EMU TV:
EMU EMU TV Pwr pb – push (no LED), wait 10 sec, push
(green LED)

If no joy:
PGSC √Select Page – XCVR
√Advanced Controls displayed
For XCVR w/Video problem: IF – Narrow

If still no joy:
A7 WIRELESS VID PWR – OFF, wait 10 sec, ON

If still no joy:
PGSC For XCVR w/video problem: IF – Wide
For XCVR w/good video: Sel RF Camr – None (black 'OFF')
If video acceptable, other EMU TV interfering w/signal
Alternately sel EMU TVs to acquire video

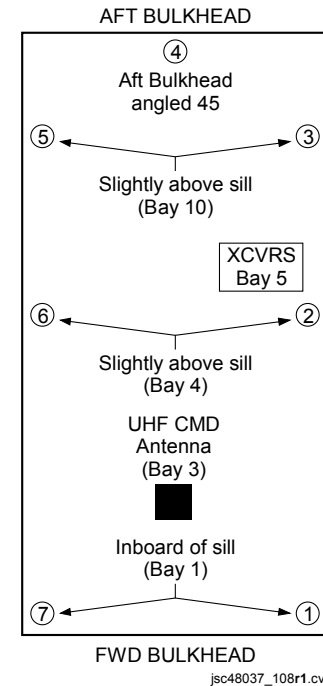
If still no joy:
For XCVR with good video:
Sel RF Camr – reselect original EVA crewmember
For XCVR w/video problem: Antenna – Manual
Sel desired antenna

If still no joy:
For XCVR w/video problem: Antenna – Auto
√MCC

COMMANDING PROBLEM (UHF)

If commanding of WVS not visually seen:
PGSC Select Page – XCVR
Sel Transceiver 2(1) CMD Pwr – On
(green CMD PWR:LVL-"ON:Min")

ANTENNA LOCATIONS



P/TV-5a/127/O/A

(reduced copy)

FS CC 3-10

P/TV/127/FIN

HOOK
VELCRO

HOOK
VELCRO

ALERT MSG TROUBLESHOOTING

STATIC XCVR

Condition: No comm between PGSC & PLB XCVR

- PGSC 1. √Cable connections between WIB and PGSC
A7 2. WIRELESS VID PWR – OFF, wait 10 sec, ON

If no joy:

- PGSC 3. Sel 'Start' > 'Shut Down' > 'Restart' > 'OK'
When reboot complete:
Sel Shuttle Apps icon > WVS icon
Sel 'Yes' at 'Restore To Previous Settings' window
RF Camera page will appear

If still no joy:

4. √MCC

STATIC RF CAMERA

Condition: No telemetry and video received by PLB XCVR from EMU TV

- EMU 1. √EMU TV Pwr pb pushed (green LED)

If no joy:

- PGSC 2. √Correct RF Camera selected via pulldown menu
√RF Camera (two) – ON (green "ON")
If not ON:
RF Camera (of static EMU TV) – sel "None" via
pulldown menu, then sel original EMU TV

If still no joy:

3. RF Camera 1(2) – sel 'None'
Perform CAMR ID ASSIGNMENT
Reattempt RF Camr selections

If still no joy:

4. √CMD PWR:LVL - green "ON:Min" for XCVR 1(2)
If not ON,
Select Page – XCVR
Transceiver 1(2) CMD Power – On
(green CMD PWR:LVL - "ON:Min")

If still no joy:

- EMU 5. EMU TV Pwr pb (of static EMU TV) – push (no LED),
wait 10 sec, push (green LED)

If still no joy:

6. √MCC

BAD CAMERA ID

Condition: Mismatch between EMU TV Camera ID and software camera ID

- PGSC 1. Select Page – XCVR
Transceiver 1(2) CMD Power – On (green CMD PWR:LVL - "ON:Min")
Sel RF Camera 1,2 – None
Sel File > Assign Camera ID
√Camera IDs match data under CAMR ID ASSIGNMENT
If not a match,
Highlight entry, then sel 'Delete Entry' option
Perform CAMR ID ASSIGNMENT
Sel RF Camera 1,2 – EVA crewmembers

If still no joy:

2. √MCC

TEMP ALERT (blue text)

**Condition: EMU TV -35 °C to -30 °C OR 80 °C to 85 °C range
PLB XCVR -40 °C to -35 °C OR 80 °C to 85 °C range**

- Select Page – Telemetry
Identify component w/temperature alert (blue text)
√MCC

TEMP CAUTION (yellow text)

**Condition: EMU TV < -35 °C OR > 85 °C
PLB XCVR < -40 °C OR > 85 °C**

- Select Page – Telemetry
Identify component w/temperature alert (yellow text)
√MCC

CAMR ID ASSIGNMENT

- Sel File → Assign Camr ID
√All EV crewmembers listed as options on pulldown 'Label' menu under CAMERA ID SETUP

If label entry reqd:

- Type label into space next to "Add Label" icon
Sel "Add Label" icon to add to listing

Camr ID Data		
Camr Address	16	18
Serial Number	1010	1007
Label	EV1	EV2

Under CAMERA ID SETUP:

- Camera Address – As reqd via left/right arrows
Serial Number – As reqd via left/right arrows
Label – As reqd via pulldown menu
"In Use" Box – Check via single click
Sel "Save Entry" icon to right of Camr ID table (top)
√Data entry visible in Camr ID table

Sel OK

P/TV-5b/127/O/A

(reduced copy)

TOP

HOOK
VELCRO

PLBD VTR RECORDING

- L10 √VIP, VTR covers removed
- R1 √PL AUX – ON
- MA73C:E cb AC2 PL3Φ – cl
- √Cables config'd per dwg (back of cue card)
- L10
(MUX) VTR/CC PWR – on (LED on)
- (VIP) √ATU – REC
 √CCTV VIDEO IN – J3
 PWR – on (LED on, DATA FLOW flashes twice)
- (VTR) √ON/STANDBY LED – green
- √Switches set to white dot (seven)
- √COUNTER SELECT – COUNTER (TC)
- √Tape installed (tape icon LED on)
- Set GMT:
 DISPLAY SELECT – MENU
 ↓ pb – ETC, EXEC pb – push
 ↓ pb – CLOCK SET, EXEC pb – push
 Use ↓, ↑, EXEC to set Y, M, D, hr, min to GMT
 DISPLAY SELECT – DATA
- A15 If Audio desired:
 Connect DTV Audio Cable
- L9 PS AUD PWR – AUD
 Desired Loops – RCV, Vol tw 5
 Other Loops – OFF
- A7 VID OUT DTV pb – push
 IN pb – as reqd
- L10
(VTR) REC pb – push, hold
 PLAY pb – push, simo (red dot displayed)

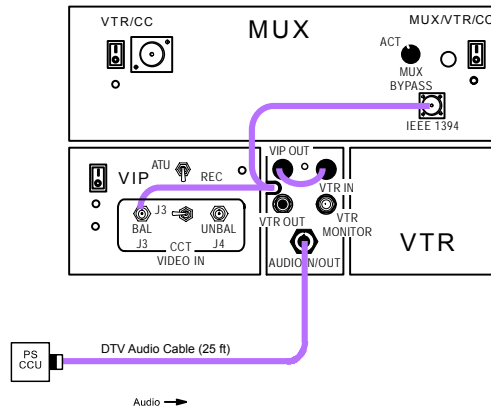
P/TV-6a/127/O/A

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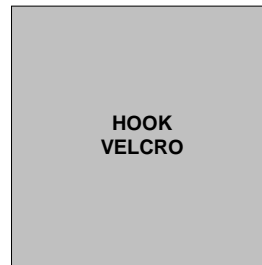
FS CC 3-12

P/TV/127/FIN

TOP
BACK OF 'PLBD VTR RECORDING'



jsc48037_127_014.cvx



P/TV-6b/127/O/A

(reduced copy)
FS CC 3-13

P/TV/127/FIN

HOOK
VELCRO

LDRI/ITVC

HOOK
VELCRO

ACTIVATION

- Config CCTV Sys
 - A7 √ACTIVATION (Cue Card, TV) performed
 - L10 (MUX) √MUX/VTR/CC PWR – on (LED on)
 - √Cabling from VTR MON port to MON 2 C-IN
 - R12 (VPU) √VPU PWR – ON (LED on)
 - √Green Jumper – LDRI/ITVC
 - MON 1,2 L-DATA – ON
 - C-DATA – GRN
 - X-HAIR – GRN
 - MON 2 SOURCE – C
- Apply SPEE Pwr
 - A8L √STBD RMS HTR (two) – OFF
 - R12 (OPP) √cb OBSS SW PWR – cl
 - √OBSS SW PWR – ON
 - (OBSS) SPEE PWR – ON
 - A6U EVENT TIMER CNTL – STOP
 - RESET
 - CNTL – START
 - (15 min LDRI calibration warmup)
- Config RSC Illum to HI
 - A7 VID OUT MON 1 pb – push
 - IN C pb – push
 - PAN/TILT – Adjust to see RSC Camr
 - R12 (OBSS) SPEE PWR – OFF, wait 10 sec, ON
 - MON 1 √RSC illum on HI (three rings)
- Enable ITVC
 - √MCC has commanded sync config
 - R12 (OBSS) ITVC ENA – ON
 - A7 VID OUT DTV pb – push
 - IN PL 2(VPU) pb – push
 - If MAN GAIN pb not illuminated:
 - R12 (OBSS) ITVC ENA – OFF, wait 10 sec, ON
 - Repeat until MAN GAIN pb illuminated
 - A7 LT LEVEL pb – push
 - DAY (NIGHT) pb – push
 - ALC pb – push
 - AVG pb – push
 - MON 2 √ITVC video displayed
- Turn LDRI Laser On
 - A7 VID OUT MUX 1 L pb – push
 - IN MIDDECK pb – push
 - LDRI MODE 2 pb – push
 - VID OUT DTV pb – push, to return to ITVC control

GENERAL LDRI CONTROL

A7 VID OUT MUX 1 L pb – push
IN MIDDECK pb – push

Mode 1 (default at pwrap)

A7 LDRI MODE 1 pb – push
MON 2 √ITVC video displayed

Mode 2

A7 LDRI MODE 2 pb – push
MON 2 √ITVC video w/illum displayed

Modes 3 (4,5,6)

A7 LDRI MODE 3(4,5,6) pb – push
MON 2 √LDRI w/rounded corners displayed

To adjust brightness:
CAMR CMD IRIS – OP,CL, as reqd

PAN/TILT OPS WITH LDRI ACTIVE

NOTE

When adjusting pan/tilt in Modes 3(4,5,6), ITVC FOCUS (ZOOM, IRIS) cntls functional

A7 VID OUT MON 1 pb – push
IN PL2(VPU) pb – push
CAMR CMD PAN, TILT – as reqd
VID OUT MUX 1 L pb – push, to return to LDRI cntl

DEACTIVATION

A7 VID OUT MUX 1 L pb – push
√IN MIDDECK pb – It on
LDRI MODE 1 pb – push

R12 (OBSS) ITVC ENA – OFF, pause 10 sec
SPEE PWR – OFF

A6U EVENT TIMER MODE – UP
CNTL – START

LDRI MODE SUMMARY

Mode 1 – Standby

- ITVC video
- LDRI in standby

Mode 2 – Illuminator

- ITVC video w/illum
- LDRI laser active, LDRI camera inactive

Mode 3 – 2D

- LDRI 2D video
- Similar to ITVC video

Mode 4 – 2D Gamma

- LDRI 2D video w/Gamma Black Stretch
- Similar to ITVC video

Mode 5 – 3D

- LDRI 3D video
- Flicker on MON

Mode 6 – 3D Gamma

- LDRI 3D video w/Gamma Black Stretch
- Flicker on MON

TOP
BACK OF 'LDRI/ITVC'

HOOK
VELCRO

HOOK
VELCRO

RSC CAMR OPS

NOTE
Camr nominally pwr'd in Block 3 of POST INSERT

R12 (OPP) cb OBSS SW PWR CB1 – cl
OBSS SW PWR – ON
(OBSS) RSC PWR – ON

RSC ILLUMINATOR OPS

NOTE
RSC illuminator OFF when SPEE PWR sw initially taken to ON. A cycle of the SPEE PWR sw takes RSC illuminator to HIGH. Subsequent pwr cycles take illuminator to MED, LOW, OFF and then back to HIGH. Config may req alt Camr view of RSC

R12 (OBSS) √SPEE PWR – ON
√RSC PWR – ON
ITVC ENA – OFF
A7 VID OUT MON 1 pb – push
IN A(B,C,D) pb – push
PAN,TILT – Adjust to see RSC Camr

NOTE
SPEE pwr cycle will reset LDRI/ITVC to Mode 1 and reset the PTU angles

R12 (OBSS) SPEE PWR – OFF, wait 10 sec, ON
MON 1 √RSC illum on

To cycle thru illuminator modes:
R12 (OBSS) SPEE PWR – OFF, wait 10 sec, ON

Perform LDRI/ITVC ACTIVATION, step 4

Return to original LDRI/ITVC Mode, continue OPS

CONTINGENCY LDRI CLEARANCE VIEW

NOTE
Do not apply RMS brakes

A8U AUTO SEQ – STOP (READY It on)

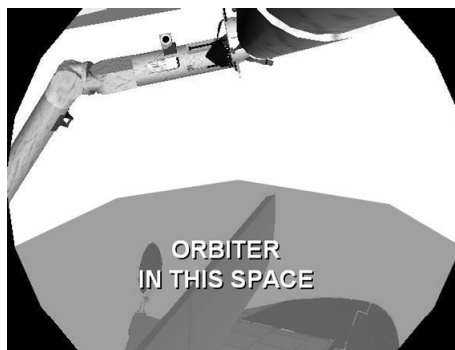
L10(VTR) STOP pb – push (no red •)

A7 VID OUT MUX 1 L pb – push (MIDDECK It on)
LDRI MODE 3(4) pb – push (steady LDRI video)

VID OUT MON 1 pb – push
IN PL2(VPU) pb – push

Record PTU Pan _____ and Tilt _____

CAMR CMD PAN/TILT – HI RATE
PAN: 0 (left, to hard stop)
TILT: 0 (up, to hard stop)



Note clearance thru LDRI FOV

Return PTU to Pan and Tilt values recorded above

VID OUT MUX 1 L pb – push (MIDDECK It on)
LDRI MODE 6 pb – push (flickering LDRI video)

VID OUT MON 1 pb – push
IN pb – as desired (not PL2)

L10(VTR) REC pb – push, hold
PLAY pb – push, simo (red dot)

A8U AUTO SEQ – PROCEED (IN PROG It on)

LDRI PAN/TILT RESET

Reset PTU

A7 VID OUT MON 1 pb – push
IN PL2(VPU) pb – push

CAMR CMD PAN/TILT – HI RATE
PAN – L (to hard stop)
TILT – UP (to hard stop)
PAN/TILT – RESET

SPEE PWR DEACT CLEANUP ACTIONS

Config RSC Illum to HI
R12 (OBSS) √SPEE PWR – OFF
ITVC ENA – OFF
RSC PWR – OFF, wait 10 sec, ON
SPEE PWR – ON, OFF, wait 10 sec, ON

Config ITVC

A7 ITVC ENA – ON
VID OUT DTV pb – push
IN PL2(VPU) pb – push
If MAN GAIN pb not illuminated:
R12 (OBSS) ITVC ENA – OFF, wait 10 sec, ON
Repeat until MAN GAIN pb illuminated
A7 LT LEVEL pb – push
DAY (NIGHT) pb – push
ALC pb – push
AVG pb – push

Reset PTU

A7 CAMR CMD PAN/TILT – HI RATE
PAN – L (to hard stop)
TILT – UP (to hard stop)
PAN/TILT – RESET
PAN and TILT ITVC to values needed for Survey

Return LDRI to Mode 6

A7 VID OUT MUX 1 L pb – push
IN MIDDECK pb – push
LDRI MODE 6 pb – push
VID OUT DTV pb – push, to return to ITVC control

P/TV-7b/127/O/A

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FS CC 3-15

P/TV/127/FIN

HOOK
VELCRO

TOP

LCS

HOOK
VELCRO

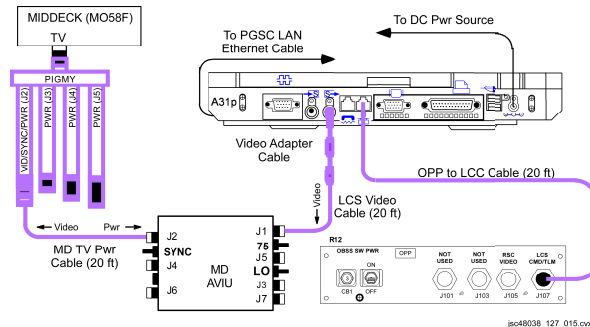
LCH ACTIVATION

- Activate SSPTS APCU(s)**
- If JEF in PLB:
- √PTU 1,2 tb (two) – ON
 - APCU 2 OUTPUT – ON
 - 1,2 CONV (two) – ON
- SM 179 POWER TRANSFER**
- √PTU 1,2 APCU OUT VOLTS: 123V to 126V
 - √OUTPUT – ON
- If JEF not in PLB:
- √PTU 2 tb – ON
 - APCU 2 OUTPUT – ON
 - CONV – ON
- SM 179 POWER TRANSFER**
- √PTU 2 APCU OUT VOLTS: 123V to 126V
 - √OUTPUT – ON

LCC ACTIVATION

1. LCC Setup

√Hardware and cables configured per diagram below:



2. LCC Startup

- A31p PGSC Pwr – ON
- √Yellow 'RJ-45 Port Configured for LCS Ops' displayed on desktop crew patch
 - If yellow text not displayed, perform **TROUBLESHOOTING, Yellow 'RJ-45 Port Configured for LCS Ops' Not Displayed on Desktop Crew Patch**
 - Sel 'Shuttle Apps' > 'LCC' (wait 2-3 min from APCU CONV – ON for GUI Status)
 - √Laser off – blue
 - √Comm – green
 - If Laser off and Comm status not correct: √MCC

3. Verify LCC Desktop Video

- MO58F √TV PWR – ON
- AVIU √HI-Z/75 – 75
- CC PWR SELECT – LO
- PWR – OFF

(For SSPTS APCU 2 flights only)

3. Verify LCC Desktop Video (Concluded)

- A31p Minimize all programs
- Right click on ATI icon on system tray
 - Sel 'Schemes'
 - Sel 'ENABLE DESKTOP DOWNLINK', 'ATI Property Page' displayed
 - Sel 'Yes'
 - Maximize program windows as desired
- A7 VID OUT MON1(2) pb – push
- A3 IN MIDDECK pb – push
- √LCC desktop displayed on MON1(2)
- * If LCC Desktop not displayed *
 - * √MCC *

4. Verify GMT

- A31p √GMT on GUI lower right-hand side within 3 sec of SM-GPC GMT
- * If GMT not within 3 sec of SM GPC: *
 - * Sel 'Tools' > 'Set GMT' *
 - * Adjust GMT as reqd *
 - * Sel 'Apply' > 'OK' *

OPERATION

NOTE

PDRS OPS will call for appropriate scan steps on LCC.
MCC may have limited insight if desktop drnk avail

1. Load Database (if reqd)

- √MCC for desired LCS database
- √'DB Name': Field on upper left-hand side of LCS GUI
- * If 'DB Name' incorrect: *
- * Sel 'Load Database...' from File menu *
- * Sel MCC desired database file *
- * Sel 'OK' *

2. LCS System Status

LCS SYSTEM STATUS

Laser On/Off	Comm	LCS State
Laser ? (gray)	No Comm (yellow)	Unknown or Keep Alive Heater Only Mode (No LCC to LCH Network Connection)
Laser Off (blue)	Comm (green)	Configuration (Waiting for user command)
Laser On (green)	Comm (green)	Operational (Scan in progress)

While Scan in progress ('Scan Status' counter incrementing):

- √Laser On – green
- √Comm – green
- √Scan Display – updating
- √Temp – green
- √Elec – green

Scan complete when 'Scan Status: Complete' displayed

If LCS system status out of config, perform appropriate TROUBLESHOOTING section of this cue card

P/TV-8a/127/O/B

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FS CC 3-16

P/TV/127/FIN

HOOK
VELCRO

HOOK
VELCRO

LCC DEACTIVATION

NOTE

Shutting down LCC software also puts LCH in keep-alive heater mode. No LCH scans/insight or IDC ops available. APCU Converter pwr cycle reqd to reinitialize LCH for scanning and IDC ops

1. LCC Software Shutdown

- A31p Sel 'File' > 'Exit'
When 'Shutdown' dialog box opens:
√Shutdown LCH and Exit LCC Software' selected
Sel 'OK'
When 'Shutdown?' dialog box opens:
Sel 'OK'

2. A31p Screen Resolution Reset

- A31p Right click on ATI icon on system tray
Sel 'Schemes'
Sel 'DISABLE DESKTOP DOWNLINK, ATI Property Settings'
Sel 'Yes'
Arrange program windows as desired

LCH DEACTIVATION

CAUTION

Deactivating SSPTS APCU 1,2 will remove critical keep-alive pwr to LCH and IDC. Pwr must be reapplied with 105 min

1. Deactivate SSPTS APCU(s)/LCH

- A15 If JEF in PLB:
√PTU 1,2 tb (two) – ON
APCU 1,2 CONV (two) – OFF
2 OUTPUT – OFF
SM 179 POWER TRANSFER
√PTU 1,2 APCU OUT VOLTS (two): <10V
If JEF not in PLB:
APCU 2 CONV – OFF
OUTPUT – OFF
SM 179 POWER TRANSFER
√PTU 2 APCU OUT VOLTS: <10 V

TROUBLESHOOTING

Temp or Elec Status Yellow

- A31p Sel 'System' page
Report 'Elec' or 'Temp' values backlit in yellow to MCC

Comm Status Yellow and LAN2 Network cable unplugged (red X on A31p system tray)

NOTE

LCC GUI Comm status will be yellow and A31p Local Area Network status (w/red X on A31p system tray) cable unplugged tool tip will appear if LCH is in keep-alive heater mode

- A31p If unexpected red X w/Local Area Network Connection tool tip shown on A31p system tray:



- R12 √OPP to LCC Cable connected to LCS CMD/TLM(J107) port
A31p √OPP to LCC Cable connected to LCC RJ45 port
Exit LCC software and shut down Windows

- A15 If JEF in PLB:
APCU 1,2 CONV (two) – OFF, wait 10 sec
√2 OUTPUT – ON
APCU 1,2 CONV (two) – ON
SM 179 POWER TRANSFER
√PTU 2 APCU OUT VOLTS: 123V to 126V

- A15 If JEF not in PLB:
APCU 2 CONV – OFF, wait 10 sec, ON
SM 179 POWER TRANSFER
√PTU 2 APCU OUT VOLTS: 123V to 126V

- A31p LCC PGSC Pwr – ON
√A31p internal RJ45 Network Interface Card LED green
Perform LCC ACTIVATION, step 2
√Local Area Network Connection status icon (with red X) in Windows system tray not displayed
√MCC if LCC GUI Comm status still yellow

Message Area Entry

Report LCC GUI message area log entry(ies) to MCC

Yellow 'RJ-45 Port Configured for LCS Ops' Not Displayed on Desktop Crew Patch

- A31p Sel 'Shuttle Apps' > 'Network Configuration' > 'LCS RJ-45 Network Setup'
Enter '1' in network window
Sel 'OK'
Sel 'OK' in LCS window
Allow 20 sec for program to execute
√Yellow text displayed on desktop
Resume LCS Ops

P/TV-8b/127/O/B

(For SSPTS APCU 2 flights only)

(reduced copy)

HOOK
VELCRO

TOP

IDC

HOOK
VELCRO

IDC ACTIVATION

- LCC Setup
 - √Hardware configured per LCC ACTIVATION steps 1,2 (Cue Card, LCS)

A31p PGSC Pwr – ON
- IDC connectivity Check

A31p √A31p internal RJ45 Network Interface Card LED green
 If JEF in PLB and RJ45 Network Interface Card LED not green:

A15 APCU 1,2 CONV (two) – OFF, wait 10 sec
 √2 OUTPUT – ON
 1,2 CONV (two) – ON

SM 179 POWER TRANSFER

√PTU 1,2 APCU OUT VOLTS: 123V to 126V
 If JEF not in PLB and RJ45 Network Interface Card LED not green:

A15 APCU 2 CONV – OFF, wait 10 sec, ON

SM 179 POWER TRANSFER

√PTU 2 APCU OUT VOLTS: 123V to 126V

IDC SOFTWARE ACTIVATION

- IDC Software Startup

A31p Sel 'Shuttle Apps' > 'IDC'
- Verify GMT

A31p √GMT within 3 sec of SM-GPC GMT

 - * If GMT not within 3 sec: *
 - * Double click on GMT box on GUI *
 - * Adjust GMT as reqd *
 - * Sel 'OK' on MTU Time dialogue box *
- IDC Pwr on and self test

CAUTION

Pwr off IDC when not imaging. Pointing IDC at Sun when pwr on will damage Camr

A31p Sel 'Power On'

√Black and White self-test image displayed
 √'Waiting for User Command' displayed

 - * If red backlit error msg displayed: *
 - * Perform appropriate TROUBLESHOOTING *
 - * steps on this cue card *

OPERATION

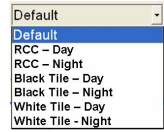
- NOTE
 PDRS OPS will call for IDC image steps on LCC A31p. Limited MCC real-time insight avail if configured for desktop drnk
- Configure LDRI Illumination

R12 (VPU) √Green Jumper – LDRI/ITVC
 A7 VID OUT MUX 1L pb – push
 IN MIDDECK pb – push
 LDRI MODE 2 pb – push
 VID OUT MON 1(2) pb – push
 IN PL2 (VPU) pb – push
 CAMR CMD PAN/TILT – HI RATE
 PAN – L (to hard stop)
 TILT – UP (to hard stop)
 PAN/TILT – RESET
 – LO RATE within 10°
 PAN: +85 (right)
 TILT: -57 (down)

NOTE
 If IDC GUI GMT does not update during Ops, an attempt to shut down/restart A31p should be made
 - Auto Exposure (AE) Ops

A31p √'Use AE' checked
 Sel 'Scan Lo-Res'
 Resize and posn AE box as reqd (pause 2 sec)
 √MCC for AOI FOV
 Sel 'Scan Hi-Res'
 If Scanning w/no RMS Motion:
 | Sel 'Stop Scan' after 30 sec
 If scanning w/RMS motion:
 Move box to maintain RCC in AE box (using keyboard arrows)
 Sel 'Stop Scan' at pause point
 √'Waiting for User Command' displayed
 - Scenario File Ops

A31p From Scenario File drop-list, sel appropriate lighting condition



Sel 'Acquire Set'
 √'Acquiring Set' displayed
 √'Waiting for User Command' displayed after set
 √MCC content w/data take

(For SSPTS APCU 2 flights only)

(reduced copy)

FS CC 3-18

P/TV-9a/127/O/B

P/TV/127/FIN

HOOK
VELCRO

HOOK
VELCRO

IDC DEACTIVATION

- IDC and Software Shutdown
A31p Sel 'Power off' on IDC GUI
IDC software > 'YES'
Close (X) IDC software > 'YES'
- A31p Screen Resolution Reset
A31p Right click on ATI icon on system tray
Sel 'Schemes'
Sel 'DISABLE DESKTOP DOWNLINK, ATI Property Settings'
Sel 'Yes'
Arrange program windows as desired

IDC HOT KEY COMMANDS

- | | |
|------------------------------------|-------------------------------|
| F5 – Toggle Summary View | F6 – Toggle Image Mode |
| F7 – Zoom In | F8 – Zoom Out |
| F9 – Reset Brightness and Contrast | F10 – Reset AE Box to Default |
| F11 – Toggle AE Box Visibility | F12 – Find AE Box |

IDC SOFTWARE ERROR MESSAGES

Can't connect to LCH: Perform TROUBLESHOOTING, steps 1,2
Condition: Possible heater only mode or Network failure

Iport probe failed: Perform TROUBLESHOOTING, step 2
Condition: Iport startup check failed. Expected during first pwr on attempt-resend pwr on

Iport not responding: Perform TROUBLESHOOTING, step 2
Condition: Iport connection lost

Camera not responding: Perform TROUBLESHOOTING, step 2
Condition: Camera connectivity lost

Image acquisition failed: Perform TROUBLESHOOTING, steps 1,2
Condition: Camera connectivity lost during imaging

Network recovery failed: Perform TROUBLESHOOTING, steps 1,2
Condition: LCH network switch connection lost

Bad initialization file: Perform TROUBLESHOOTING, step 3
Condition: Software will not launch due to severe ini file corruption

TROUBLESHOOTING

- LCC to LCH Connectivity Check
A31p If Local Area Network Connection (with red X) tool tip on system tray:



Reseat OPP to LCC Cable (20 ft) to LCC RJ45 port
√Local Area Network Connection Speed 10 mps
If no connection:
Perform LCH, LCC, and IDC Reset, step 2
Continue nominal ops

- LCH, LCC, and IDC Reset
A31p Exit IDC software and shut down Windows
√OPP to LCC Cable (20 ft) connected to LCC RJ45 port and LCS
CMD/TLM port

If JEF in PLB:
A15 APCU 1,2 CONV (two) – OFF, wait 10 sec
√2 OUTPUT – ON
1,2 CONV (two) – ON

SM 179 POWER TRANSFER
√PTU 2 APCU OUT VOLTS: 123V to 126V

If JEF not in PLB:
A15 APCU 2 CONV – OFF, wait 10 sec, ON
SM 179 POWER TRANSFER
√PTU 2 APCU OUT VOLTS: 123V to 126V

A31p LCC PGSC Pwr – ON
√A31p internal RJ45 Network Interface Card LED green

Perform IDC SOFTWARE ACTIVATION
Continue nominal ops

- LCC Swap
A31p Exit IDC software and shut down Windows
Swap LCC with other A31p
Perform IDC Activation
Perform IDC Software Activation
Continue nominal ops

P/TV-9b/127/O/B

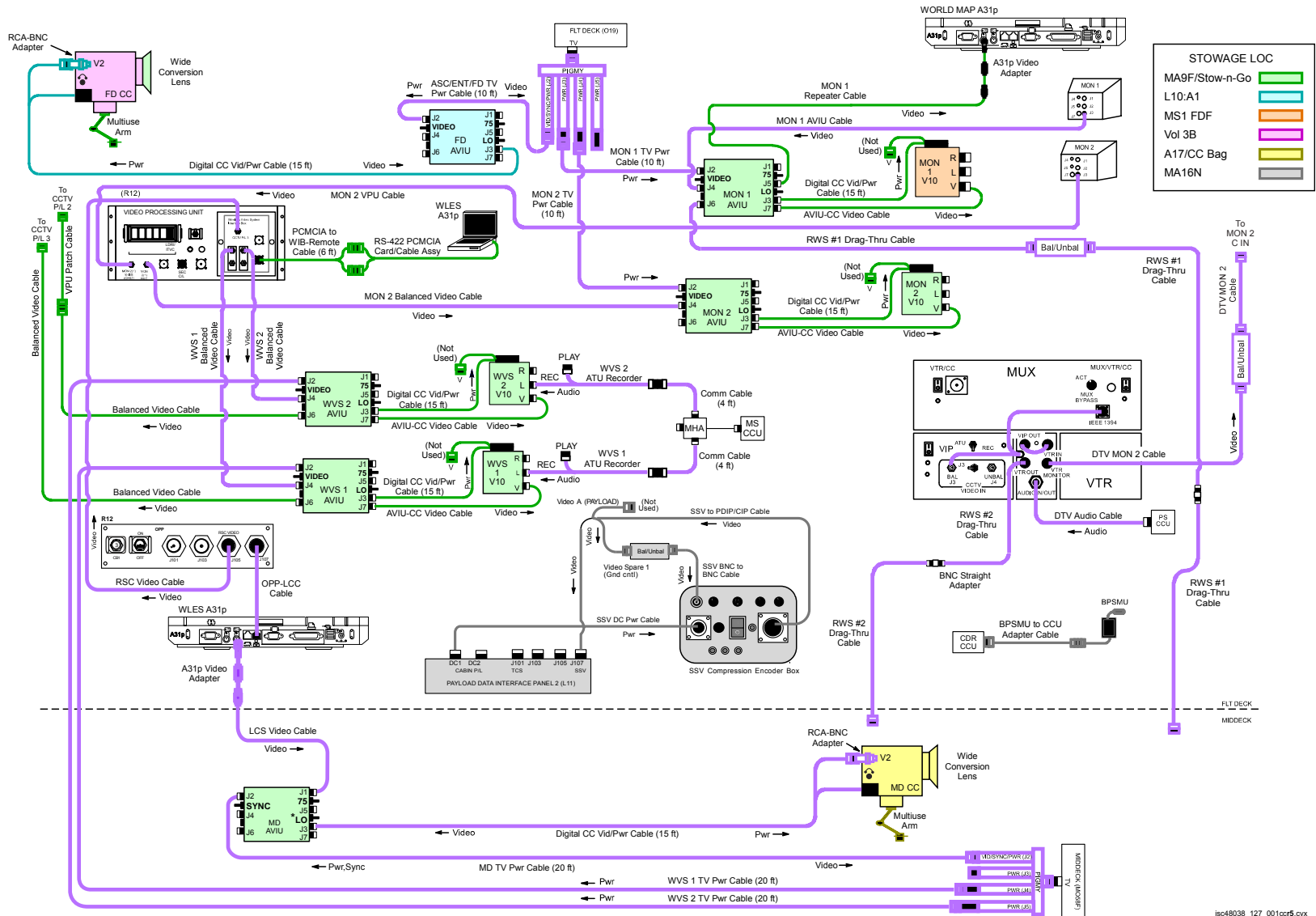
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FS CC 3-19

P/TV/127/FIN

TOP

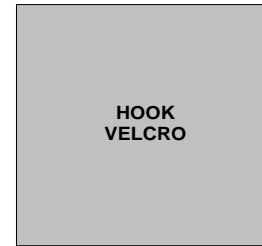
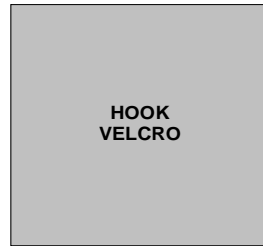
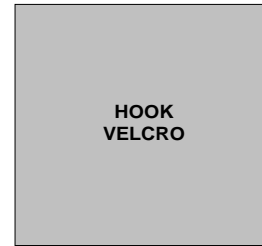
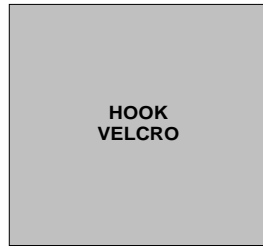


js48038_127_001ocr5.cvx
P/TV-10a/127/O/C

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FS CC 3-20

P/TV/127/FIN

TOP
BACK OF 'VIDEO SETUP'



(reduced copy)
FS CC 3-21









P/TV-10b/127/O/A



P/TV/127/FIN













D2Xs SETUP

HOOK
VELCRO

D2Xs PROGRAM In Cabin	D2Xs Aperture Priority	D2Xs Shutter Priority "Earth Obs, RNDZ and flyaround"
<p>Lens – as reqd Aperture – Min, locked Body Focus Mode – S √Batt installed √Flash Card installed Pwr – ON Top LCD √Batt √Frames remaining sufficient Exp Comp () – 0.0 Exp Mode – P Meter – Matrix () Diopter – Adjust Frame Rate – S √BKT disabled – 0 F Rear LCD √ISO – 100 √QUAL – RAW √WB – 0,A √Focus Area – Center √Focus Selector Lock – L AF Area Mode – [[]]</p> <p>SB-800 Flash Settings √Diffuser Dome installed ON/OFF pb – ON √MODE –  TTL BL √Exp Comp – 0 EV Tilt – 45° (Direct)</p>	<p>Lens – as reqd Aperture – Min, locked Body Focus Mode – S √Batt installed √Flash Card installed Pwr – ON Top LCD √Batt √Frames remaining sufficient Exp Comp () – 0.0 Exp Mode – A f/stop – as reqd Meter – Matrix () Diopter – Adjust Frame Rate – S √BKT disabled – 0 F Rear LCD √ISO – 100 √QUAL – RAW √WB – 0,A AF Area Mode – [[]] √Focus Area – Center √Focus Selector Lock – L</p> <p>SB-800 Flash Settings √Diffuser Dome installed ON/OFF pb – ON √MODE –  TTL BL √Exp Comp – 0 EV Tilt – 45° (Direct)</p>	<p>Lens – as reqd Aperture – Min, locked Body Focus Mode – S √Batt installed √Flash Card installed Pwr – ON Top LCD √Batt √Frames remaining sufficient Exp Comp () – 0.0 Exp Mode – S SS – 500 Meter – Matrix () Diopter – Adjust Frame Rate – S √BKT disabled – 0 F Rear LCD √ISO – 100 √QUAL – RAW √WB – 0,A AF Area Mode – [[]] √Focus Area – Center √Focus Selector Lock – L</p> <p>SB-800 Flash Settings ON/OFF pb – OFF</p>

TOP
BACK OF 'D2Xs'

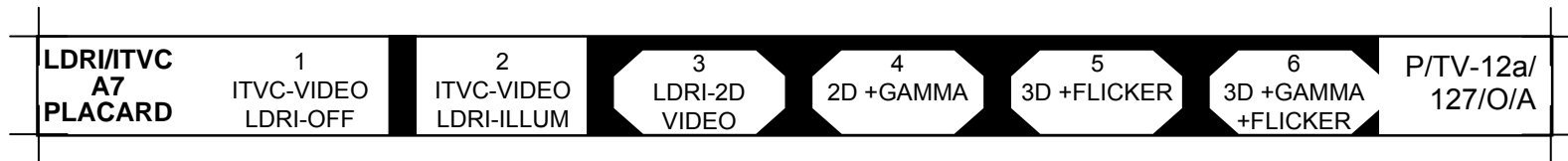
HOOK
VELCRO

D2Xs MANUAL "SUNLIT OBJECTS"	D2Xs EXPOSURE MATCH "HERO SHOT"	D2Xs CREW PHOTO
<p>Lens – as reqd</p> <p>NOTE If auto focus unachievable: Lens Focus Mode – M</p> <p>Lens Focus Mode – A Aperture – Min, locked Body Focus Mode – S √Batt installed √Flash Card installed Pwr – ON Top LCD √Batt √Frames remaining sufficient</p> <p>Exp Comp () – 0.0 Exp Mode – M SS – 500 f/stop – f/8 Meter – Matrix () Diopter – Adjust Frame Rate – S √BKT disabled – 0 F Rear LCD √ISO – 100 √QUAL – RAW √WB – 0,A AF Area Mode – [[]] √Focus Area – Center √Focus Selector Lock – L</p> <p>SB-800 Flash Settings ON/OFF pb – OFF</p>	<p>Lens – 12-24mm @ 18mm Aperture – Min, locked Body Focus Mode – S √Batt installed √Flash Card installed Pwr – ON Top LCD √Batt √Frames remaining sufficient</p> <p>Exp Comp () – 0.0 Exp Mode – P Meter – Matrix () Diopter – Adjust Frame Rate – S √BKT disabled – 0 F Rear LCD √ISO – 100 √QUAL – RAW √WB – 0,A AF Area Mode – [[]] √Focus Area – Center √Focus Selector Lock – L</p> <p>SB-800 Flash Settings √Diffuser Dome installed ON/OFF pb – ON √MODE –    √Exp Comp – 0 EV Tilt – 45° (Direct)</p> <p><u>Technique</u> 1. Fill FOV w/sunlit subject 2. Activate D2Xs Camr 3. Auto Exp Lock – Depress,hold Expect values such as 250,f/11 4. Focus, Frame, Fire</p>	<p>Lens – 17-35mm @ 17mm Aperture – Min, locked Body Focus Mode – S √Batt installed √Flash Card installed Pwr – ON Top LCD √Batt √Frames remaining sufficient</p> <p>Exp Comp () – 0.0 Exp Mode – A f/stop – f/8 Meter – Matrix () Diopter – Adjust Frame Rate – Selftimer √BKT disabled – 0 F Rear LCD √ISO – 100 √QUAL – RAW √WB – 0,A AF Area Mode – [[]] √Focus Area – Center √Focus Selector Lock – L</p> <p>SB-800 Flash Settings √Diffuser Dome installed ON/OFF pb – ON √MODE –    √Exp Comp – 0 EV Tilt – 45° (Direct)</p> <p>Accessory Equipment Shutter Release Cable – Install Multiuse Brkt – Install Multiuse Brkt Clamp – Install as reqd</p> <p><u>Technique</u> 1. Focus on crewmember 2. Body Focus Mode – M 3. Frame, Fire</p>

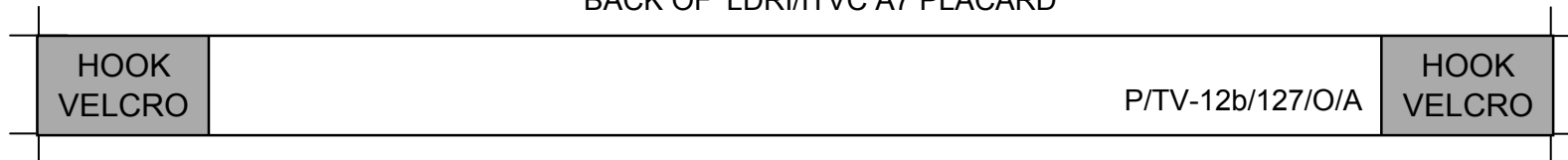
P/TV-11b/127/O/A

(reduced copy)

TOP



TOP
BACK OF 'LDRI/ITVC A7 PLACARD'



TOP

DIGITAL PLAYBACK

HOOK
VELCRO

DIGITAL VIA VTR

HD DIGITAL VIA CC

NOTE

Digital Playback from CC only possible for CC Video recordings

ACTIVATION

CC Setup per diagram (back of cue card)
For cable strain relief, attach MPC-to-G1 Cable Velcro strap to CC strap

AVIU SYNC/VIDEO – VIDEO
HI-Z/75 – 75
PWR SELECT – LO

O19 √TV PWR – ON

CC PWR dial – VTR/PLAY

If Dnlk
Notify MCC, configuring for HD TV dnlk

L10 (MUX) √MUX/VTR/CC PWR – off (LED off)
√VTR/CC/PWR – off (LED off)
Disconnect CHANNEL 3 IEEE 1394 Cable
MUX/VTR/CC PWR – on (LED on)
√MUX BYPASS – ACT
√CHANNEL 0,2 RATE SEL – 1
√1 RATE SEL – 8

O19 DC UTIL PWR MNA – ON

MPC PWR SPLY DC PWR SPLY PWR SW1 – ON
MPC PWR – ON (5V,3V green LEDs on)

L10 (MUX) √CHANNEL 1 F/O OK LED on

OPERATIONS

PLBK or DNLK VIDEO

CC Install tape, if reqd
VTR pb – REW(FF),PLAY,PAUSE to cue tape

If Dnlk
MPC √HDV, TAXI LEDs – on
L10 (MUX) √CHANNEL 1 DATA LED – on

CC PLAY pb – push (green ► displayed)
If PLBK(DNLK) complete:
| STOP pb – push
If CC ops complete, go to DEACTIVATION

DEACTIVATION

CC Remove, mark, stow tape as reqd
PWR dial – OFF
O19 TV PWR – OFF, as reqd

If Dnlk
MPC PWR – OFF
MPC PWR SPLY DC PWR SPLY PWR SW1 – OFF
O19 DC UTIL PWR MNA – OFF
L10 (MUX) MUX/VTR/CC PWR – off (LED off)
Connect CHANNEL 3 IEEE 1394 cable
Notify MCC, returned to SD TV dnlk
Go to DEACTIVATION (Cue Card, TV), as reqd

ACTIVATION

L10 (MUX) Setup per diagram (back of cue card)
(VTR) √VTR/CC PWR – on (LED on)
√ON/STANDBY LED – green

OPERATIONS

PLBK or DNLK VIDEO

L10 (VTR) Install tape if reqd
√DISPLAY SELECT – DATA

Remote If Index Search reqd:
√ID – VTR4
SEARCH MODE pb – push (INDEX SEARCH mode displayed)
| ◀▶ (▶▶) | pb – push to move highlight bar to desired GMT start
When VTR auto-cue complete, green • displayed.
PAUSE pb – push
If playback time not displayed on DSR-25 LCD cycle "DATA CODE" repeatedly until time displayed

L10 (VTR) REW(FF),PLAY,PAUSE pb – push as reqd to cue tape

If Dnlk
L10 (MUX) MUX/VTR/CC PWR – on (LED on)
√MUX BYPASS – ACT
√CHANNEL 3 DATA LED – on

L10 (VTR) PLAY pb – push (green • displayed)

If PLBK(DNLK) complete:
| STOP pb – push
If VTR ops complete, go to DEACTIVATION

DEACTIVATION

L10 (VTR) Remove, mark, stow tape as reqd
Go to DEACTIVATION (Cue Card, TV) as reqd

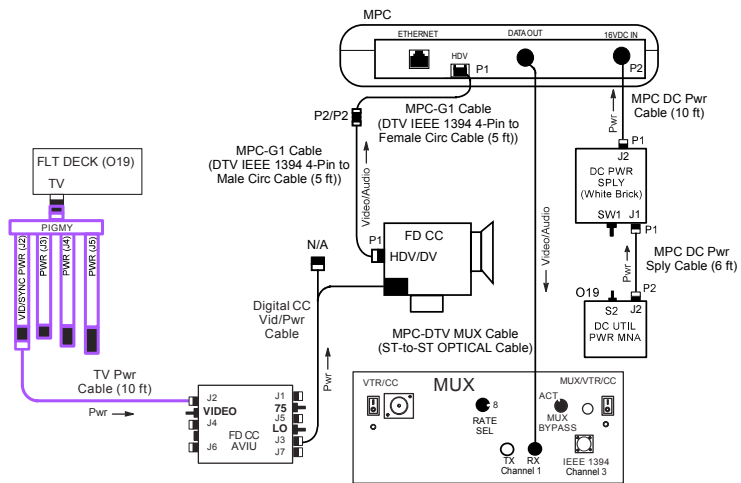
P/TV-13a/127/O/B

(reduced copy)

TOP
BACK OF 'DIGITAL PLAYBACK'

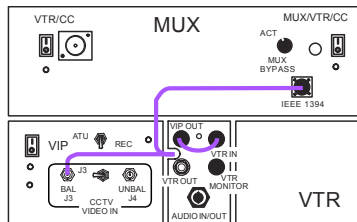
HOOK
VELCRO

HD DIGITAL VIA CC PLAYBACK



jsc48038_127_013cr2.cvx

DIGITAL VIA VTR PLAYBACK



jsc48038_127_013d.cvx

P/TV-13b/127/O/B

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FS CC 3-26

P/TV/127/FIN

NOTE

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NOTE

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**PHOTO/TV
CHECKLIST**

**STS
127**