

Photo/TV Checklist

STS-130 Flight Supplement

**Mission Operations Directorate
Operations Division**

**Final, Rev A
January 14, 2010**

National Aeronautics and
Space Administration

Lyndon B. Johnson Space Center
Houston, Texas



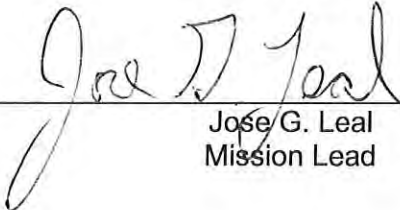
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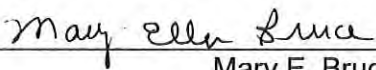
**PHOTO/TV CHECKLIST
STS-130 FLIGHT SUPPLEMENT**

FINAL, REVISION A
January 14, 2010

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PHOTO/TV CHECKLIST
STS-130 FLIGHT SUPPLEMENT

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REV A 01/14/10

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* – Omit from flight book

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FS 2-8	130/FIN A	4-2	† generic
FS 2-9	130/FIN A	4-3	† generic
FS 2-10	130/FIN A	4-4	† generic
FS 2-11	130/FIN A	4-5	†⊗ generic
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FS CC 3-15	130/FIN A	5-1	† generic
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FS CC 3-17	⊗ 130/FIN A	5-3	† generic
FS CC 3-18	⊗ 130/FIN A	5-4	† generic
FS CC 3-19	⊗ 130/FIN A	5-5	† generic
FS CC 3-20	⊗ 130/FIN A	5-6	† generic
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FS CC 3-22	⊗ 130/FIN A	5-8	†⊗ generic
FS CC 3-23	⊗ 130/FIN A	5-9	†⊗ generic
FS CC 3-24	130/FIN A	5-10	† generic
FS CC 3-25	130/FIN A	5-11	† generic
FS CC 3-26	⊗ 130/FIN A	5-12	† generic
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4-i	generic	5-17	† generic
4-ii	generic	5-18	† generic

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† – May be replaced with CD in flight book only

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

† – May be replaced with CD in flight book only

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

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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/130/O/A
	(Back).....	FS CC 3-4	P/TV-1b/130/O/A
ANALOG PLAYBACK			
	(Front).....	FS CC 3-5	P/TV-2a/130/O/B
	(Back).....	FS CC 3-6	P/TV-2b/130/O/B
ET PHOTO			
	(Front).....	FS CC 3-7	P/TV-3a/130/O/B
	(Back).....	FS CC 3-7	P/TV-3b/130/O/B
MEDIA ALLOCATIONS			
	(Front).....	FS CC 3-8	P/TV-4a/130/O/B
	(Back).....	FS CC 3-9	P/TV-4b/130/O/A
WVS			
	(Front).....	FS CC 3-10	P/TV-5a/130/O/A
	(Back).....	FS CC 3-11	P/TV-5b/130/O/A
PLBD VTR RECORDING			
	(Front).....	FS CC 3-12	P/TV-6a/130/O/A
	(Back).....	FS CC 3-13	P/TV-6b/130/O/A
LDRI/ITVC			
	(Front).....	FS CC 3-14	P/TV-7a/130/O/C
	(Back).....	FS CC 3-15	P/TV-7b/130/O/A
LCS			
	(Front).....	FS CC 3-16	P/TV-8a/130/O/B
	(Back).....	FS CC 3-17	P/TV-8b/130/O/A
IDC			
	(Front).....	FS CC 3-18	P/TV-9a/130/O/B
	(Back).....	FS CC 3-19	P/TV-9b/130/O/A
VIDEO SETUP			
	(Front).....	FS CC 3-20	P/TV-10a/130/O/C
	(Back).....	FS CC 3-21	P/TV-10b/130/O/A
D2Xs SETUP			
	(Front).....	FS CC 3-22	P/TV-11a/130/O/B
	(Back).....	FS CC 3-23	P/TV-11b/130/O/A
LDRI/ITVC A7 PLACARD			
	(Front).....	FS CC 3-24	P/TV-12a/130/O/A
	(Back).....	FS CC 3-24	P/TV-12b/130/O/A
DIGITAL PLAYBACK			
	(Front).....	FS CC 3-25	P/TV-13a/130/O/C
	(Back).....	FS CC 3-26	P/TV-13b/130/O/B
G1 SETUP CUE CARD			
	(Front).....	FS CC 3-27	P/TV-17a/130/O/A
	(Back).....	FS CC 3-28	P/TV-17b/130/O/A

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SCENES

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P/TV01 VIDEO SETUP (Continued)

SETUP

NOTE

Steps 1-7 minimum rqmt for FD2 OBSS RCC 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
ASC/HUD Mini-Cam Cable from J5
Mini-Cam BNC Video Cable from J1

F1 Temp stow AVIU and attached Digital CC Vid/Pwr Cable for FD CC
A15 Disconnect Mini-Cam; stow body, Brkt, 3.5mm Lens in A17/DTV Bag
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 1 Config Video
MON 2 SOURCE – DNLK
L9 SOURCE – C
Config PS ATU per Comm Plan

P/TV01 VIDEO SETUP (Continued)

SETUP (Continued)

3. Perform MON 1,2 V10 Setup

MA16J 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

Connect:

Retrieve MON 1 V10 from MS1 Bag
Retrieve MON 2 V10 from Seat 6 FDF Bag
Eject, mark, and write-protect tapes
Stow tapes for playback
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

O19 TV PWR – ON
V10 (MON 1,2) PWR – ON
DISPLAY pb – toggle to display tape counter

√Tape installed
R12 (VPU) VPU PWR – ON (LED on)

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

P/TV01 VIDEO SETUP (Continued)

SETUP (Continued)

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

O19,MO58F TV PWR – OFF
Disconnect ASC Win 4 Mini-Cam Cable from MO58F J3 pigmy port
Retrieve:
ASC/ENT/FD AVIU from temp stow for FD CC
MD AVIU from Stow-n-Go CTB

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

O19 TV PWR – ON

G1 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

A17 Unstow MD CC
Repeat step 5 for CC config

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

MO58F TV PWR – OFF

If MD Camcorder not set up, unstow MD AVIU from Stow-n-Go CTB

AVIU (MD)
Flt Deck Connect MD TV Pwr Cable to MD AVIU J2
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

MF710

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

SSV input video controlled by MCC

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

MO58F V10 (two)
V10 (WVS 1,2) TV PWR – ON
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'

WIRELESS VID PWR – OFF

HTR – OFF

A7

MF710

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

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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
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/TV02 DOCK (Continued)

SETUP (Continued)

3. Perform D2Xs MANUAL for docking/external imagery

Remove ovhd window shields

SB-800 Flash Settings:

ON/OFF pb – OFF

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

P/TV02 DOCK (Continued)

SETUP (Continued)

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

G1 For in-cabin views:
 √Wide Conversion lens installed
 √ND FILTER – OFF
 √OUTPUT – CAM
 √ .. -
 √STANDBY/LOCK – STANDBY
 PWR dial – “green”
 √Tape installed
 Open LCD
 √“green” •|| displayed
 Install Audio Muting Plug (optional)

P/TV02 DOCK (Continued)

SETUP (Concluded)

4. Perform Hardware Verification for V10s, FD CC, DTV (Concluded)

For sunlit ISS views:

- Remove Wide Conversion Lens
- Install fresh Batt as reqd
- √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 ∞- (adjust as reqd)
 - Install Audio Muting Plug (optional)

MON 1,2
L10 (MUX)

(VIP)
(VTR)

- SOURCE – PNL
- √VTR/CC PWR – on (LED on)
- If dnlk, MUX/VTR/CC PWR – on (LED on)
- PWR – on (LED on)
- ON/STANDBY LED – green
- √Tape installed

A31p

- √MON 1 Repeater Cable connected to WLES A31p video in port
- 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

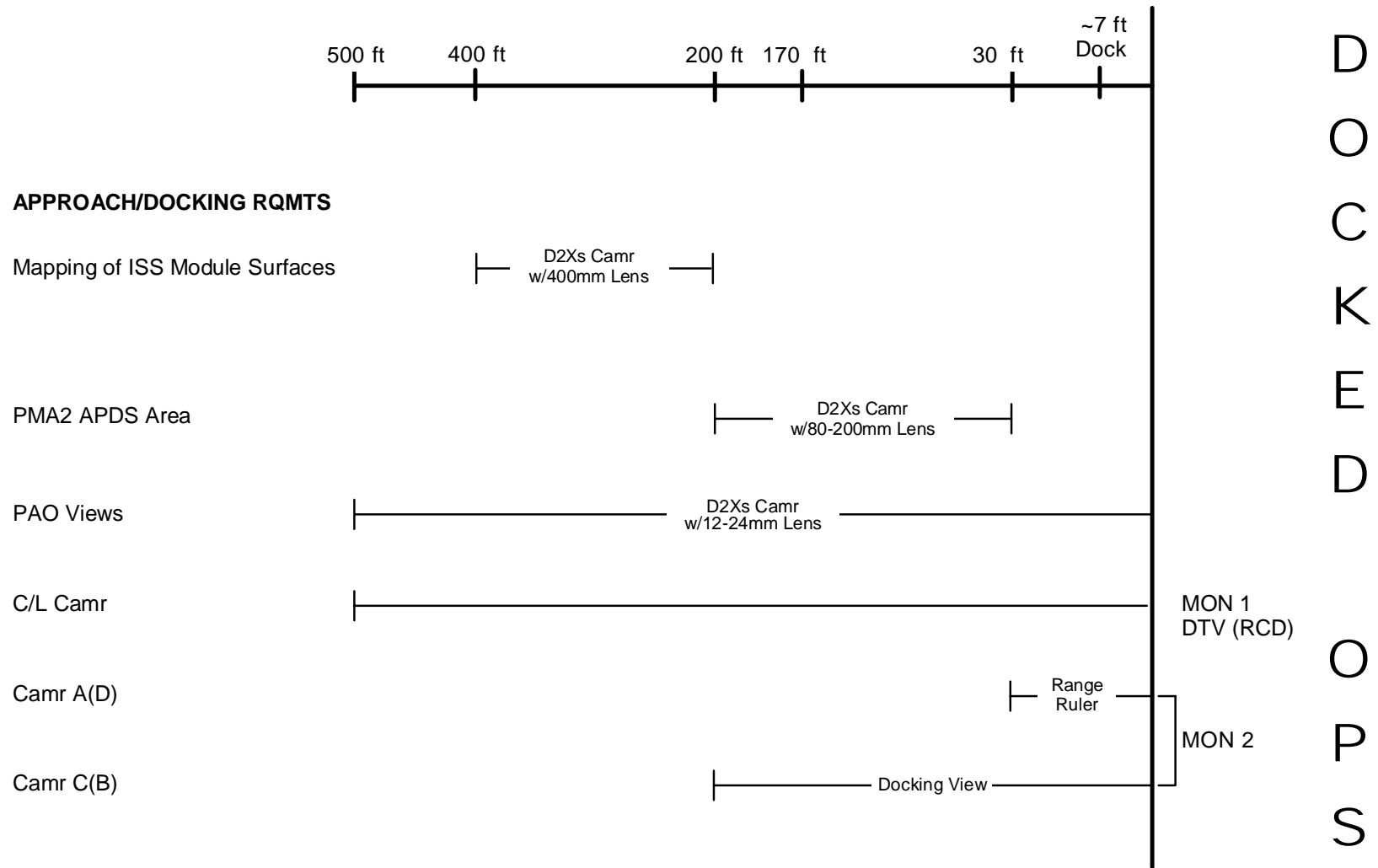
P/TV02 DOCK (Continued)

OPS

√	Item # Track #	Rqmts	Still Imagery	Video			Notes
				PLB	CC	Dnlk	
	1. 20A-9	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. 20A-3 20A-10	Rendezvous <ul style="list-style-type: none"> • Map ISS surface • Closeup • Damage • Deterioration Approach <ul style="list-style-type: none"> • PMA-2 Docking Target Alignment • PMA-2 Mating Surfaces • PMA-2 Hemispherical and Planar Retroreflectors • MISSE • SOLAR 	<u>D2Xs</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 Rcd C/L Camr video thru hard dock on DTV

P/TV02 DOCK (Continued)

OPS (Continued)



jsc48038_130_003r2.cvx

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

3. G1
 - PWR dial – “green”
 - Install Wide Conversion Lens

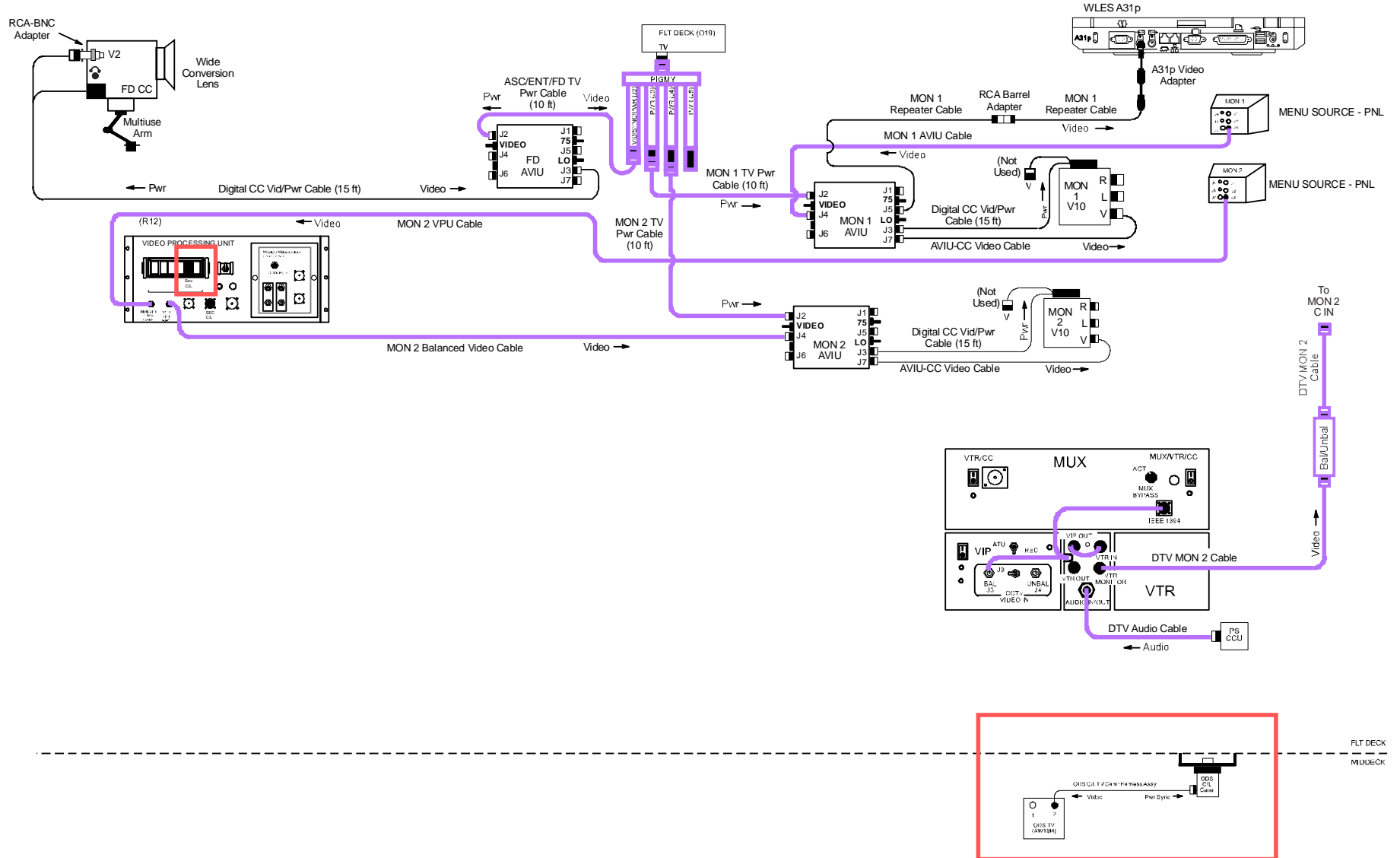
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P/TV03 UNDOCK

P/TV03 UNDOCK

H/W SUMMARY



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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

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/TV03 UNDOCK (Continued)

SETUP (Continued)

3. Perform D2Xs MANUAL for undocking/external imagery

Remove ovhd window shields

SB-800 Flash Settings:

ON/OFF pb – OFF

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

P/TV03 UNDOCK (Continued)

SETUP (Continued)

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
- G1 For in-cabin views:
 √Wide Conversion lens installed
 √ND FILTER – OFF
 √OUTPUT – CAM
 √..-
 √STANDBY/LOCK – STANDBY
 PWR dial – “green”
 √Tape installed
 Open LCD
 √“green” •|| all displayed
 Install Audio Muting Plug (optional)

P/TV03 UNDOCK (Continued)

SETUP (Concluded)

4. Perform Hardware Verification for V10s, FD CC, DTV (Concluded)

For sunlit ISS views:

- Remove Wide Conversion Lens
- Install fresh Batt as reqd
- √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 ∞- (adjust as reqd)
 - Install Audio Muting Plug (optional)

MON 2
L10 (MUX)

(VIP)
(VTR)

SOURCE – C
VTR/CC PWR – on (LED on)
If dnlk, 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

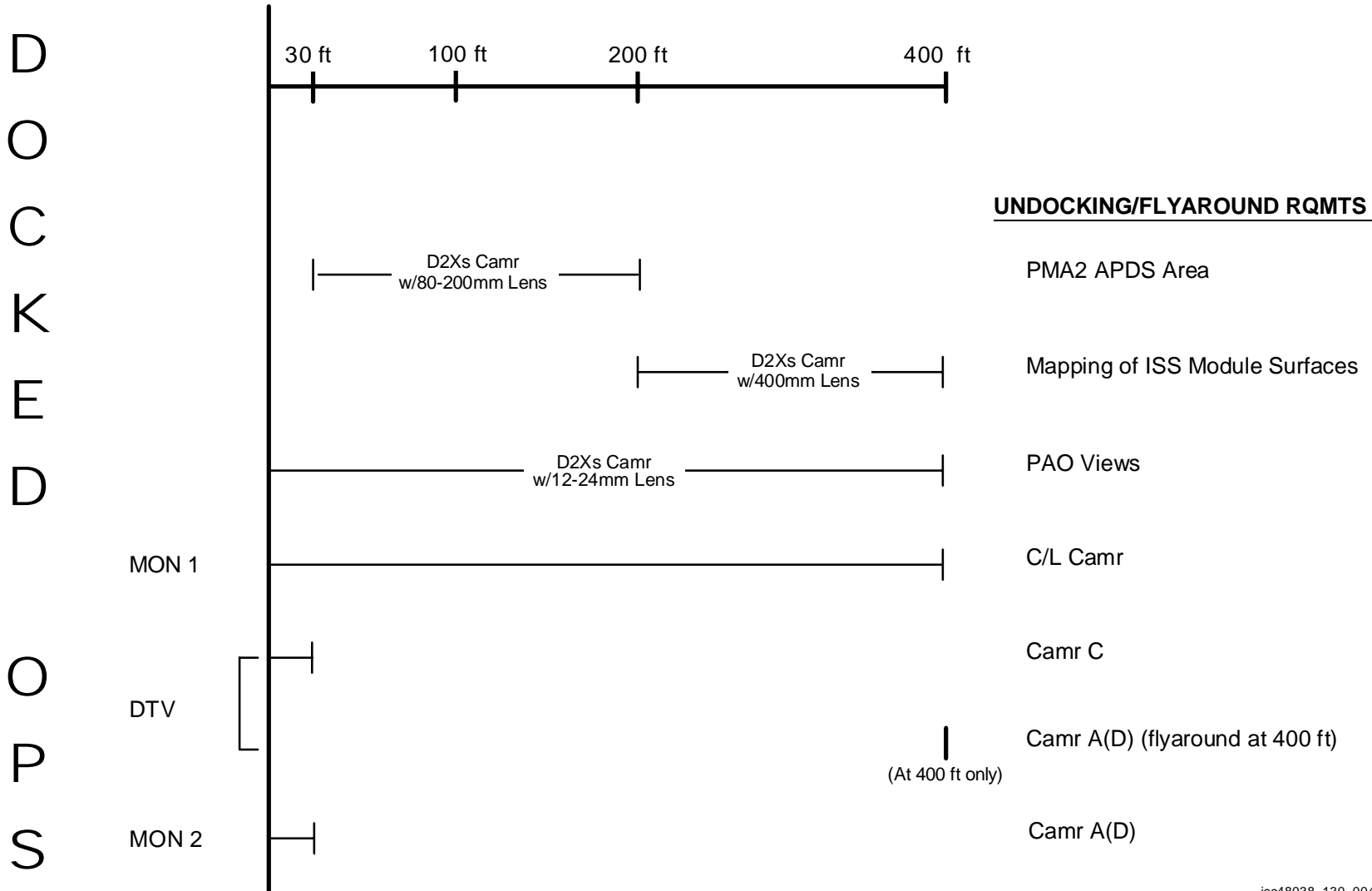
P/TV03 UNDOCK (Continued)

OPS

√	Item # Track #	Rqmts	Still Imagery	Video			Notes
				PLB	CC	Dnlk	
	1. 20A-9	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. 20A-5	Undock <ul style="list-style-type: none"> • PMA-2 Mating Surfaces • PMA-2 Hemispherical and Retro Planar Reflectors • MISSE • SOLAR 	<u>D2Xs</u> 80-200mm(400mm) Flash ON/OFF – OFF	<u>A(D)</u> <u>C/L</u> Docking tgt and PAO view	<u>G1</u> As desired	LIVE (If avail)	Map ISS surfaces w/30% overlap
	3. 20A-2	Flyaround <ul style="list-style-type: none"> • Surfaces • Solar panels • Handrails • SM thrusters (Zenith side near aft end) • Trusses including radiators, baseplates, and saws (especially in/outboard SABB insulation degradation) 	<u>D2Xs</u> 80-200mm(400mm) Flash ON/OFF – OFF	<u>A(D)</u>	<u>G1</u>		IVA stills returned post flight External video returned post flight

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
 - L12 (SSP 2) CAMR CMD IRIS – CL
 - C/L CAM PWR – OFF
 - ODS Remove, stow C/L Camr, Harness Assy
 - Go to DEACTIVATION (Cue Card, TV) as reqd

3. G1
 - √PWR dial – “green”
 - Install Wide Conversion Lens

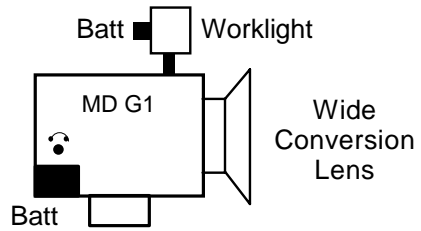
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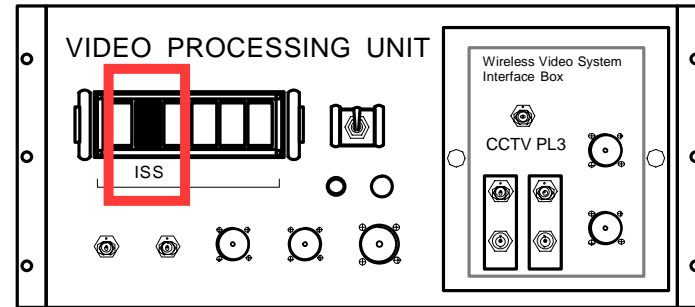
P/TV04 INGRESS/EGRESS

H/W SUMMARY

INGRESS TV CONFIG



(R12)



jsc48038_130_005r4.cvx

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, TV) 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

- G1 Obtain two Batts, one for CC and one spare
 Install Batt
√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)

CAUTION

Due to temp constraints, worklights at full pwr for 60 min; 90% pwr for unlimited time



- Worklights Install fresh Batts
 Mount light on CC
 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 – [[]]
√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/TV04 INGRESS/EGRESS (Concluded)

OPS

√	Item # Track #	Rqmts	Still Imagery	Video			Notes
				PLB	CC	Dnlk	
	1.	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

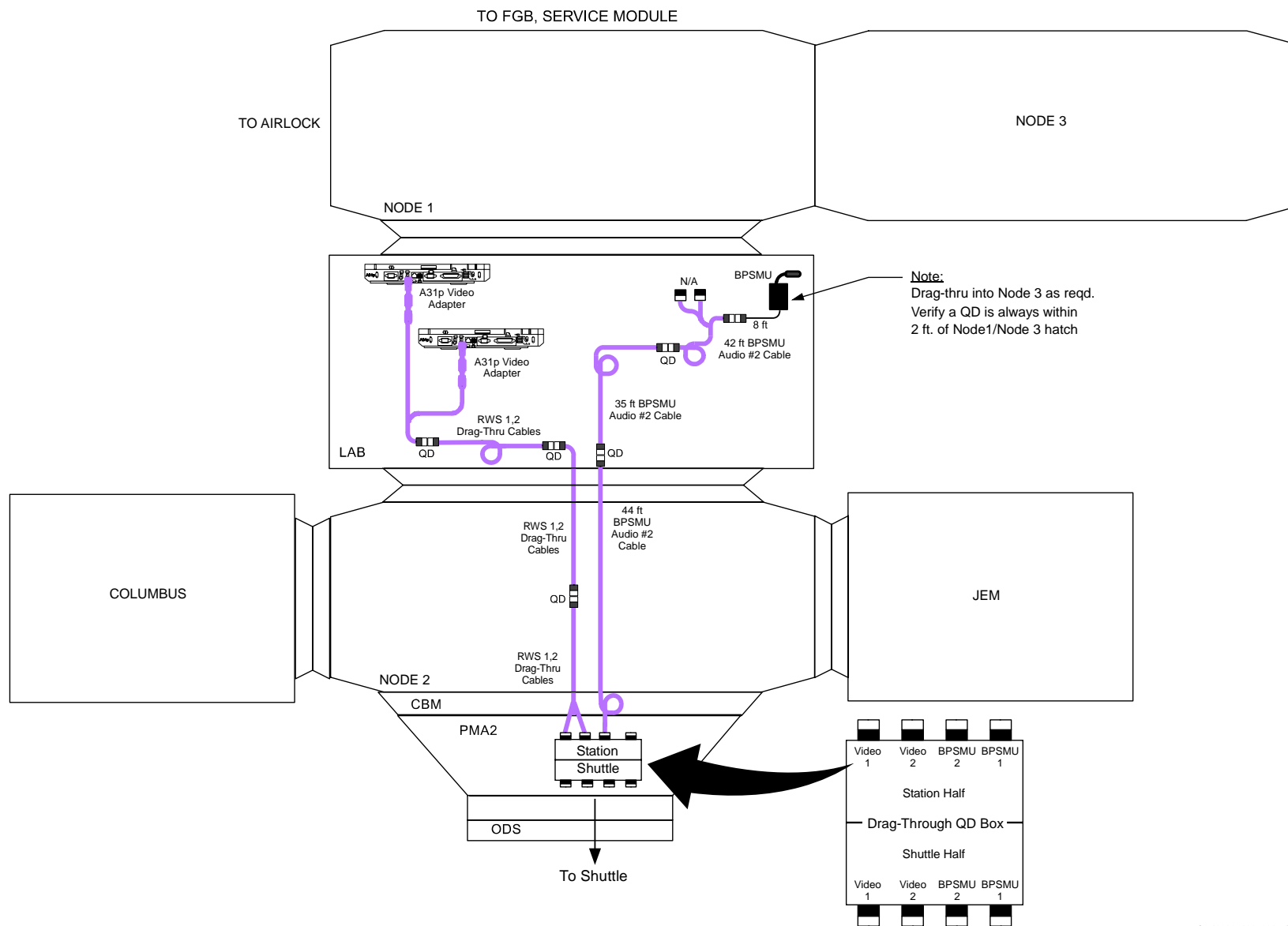
1. D2Xs
Pwr – OFF
2. TV System
Go to DEACTIVATION (Cue Card, TV) as reqd

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P/TV05 ISS INTERNAL OPS

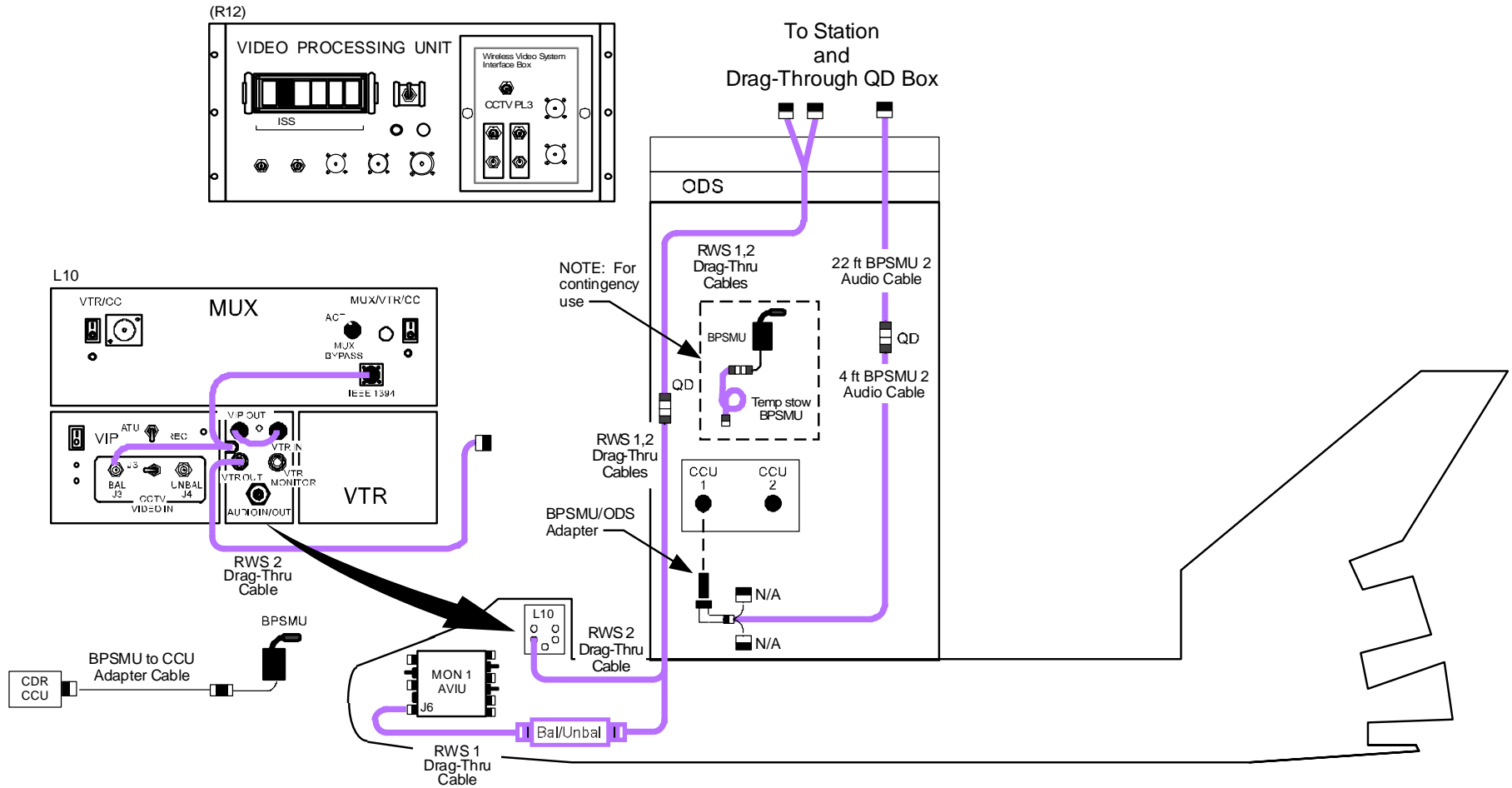
H/W SUMMARY



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P/TV05 ISS INTERNAL OPS (Continued)

H/W SUMMARY (Concluded)



jsc48038_130_006br5.cvx

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

1. Config H/W per H/W SUMMARY, FS 1-40 and FS 1-41

Prior to Docking

Config RWS Vid Cables:

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

√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 battery, temp stow in ODS for contingency use

Post Docking

Config BPSMU and RWS Cables:

ODS/PMA2

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

Connect BPSMU Cable to orbiter A/L CCU 1

Config A/L ATU per Comm Plan

If V10:

ISS
V10 (RWS 1,2)

√Pwr configured per P/TV121 DOCKED OPERATIONS, dwg USOS 120VDC –V10 VTRs (SODF: ISS PTV: SCENES)
PWR – ON

If A31p w/‘NASA Video Monitor’ under Station Apps:

A31p

√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 ‘Set 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

P/TV05 ISS INTERNAL OPS (Continued)

SETUP (Continued)

FOR STATION PAO EVENTS

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
- √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/TV05 ISS INTERNAL OPS (Concluded)

OPS

√	Item # Track #	Rqmts	Still Imagery	Video			Notes
				PLB	CC	Dnlk	
	1. 20A-9	General ISS IVA Activity <ul style="list-style-type: none"> • PAO Scenes of Interest • Crew Photo • Crew Rotation <ul style="list-style-type: none"> – IELK Install – Sokol Suit Check 	<u>D2Xs</u> 12-24mm For Crew Photo: Perform D2Xs CREW PHOTO (Cue Card, <u>D2Xs SETUP</u>)		<u>ISS G1</u>	LIVE (if avail)	Plan for end of day crew choice video, DCS Crewmember rotation IELK install and Sokol suit checkout

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 Cable from orbiter side BPSMU 2 port and ODS CCU port; stow cable on orbiter
Transfer Drag-Thru QD box and remaining attached cables to ISS
3. Temp Stowed BPSMU
Remove temp-stowed BPSMU from ODS location. Stow in TBD

ODS

4. TV System
Go to DEACTIVATION (Cue Card, TV) as reqd

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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

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

G1 √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)

MON 1 SOURCE – DNLK
MON 2 SOURCE – C
L10 (MUX) 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 (Concluded)

SETUP (Concluded)

- RPOP 3. If Video on RPOP A31p needed:
 √VPU repeater cable connected to RPOP A31p video in port
 Double click 'Shuttle Apps'>'NASA Video overlay'
 √'NASA Video overlay' window displayed
 Sel 'Full Screen'

OPS

√	Item # Track #	Rqmts	Still Imagery	Video			Notes
				PLB	CC	Dnlk	
	1. 20A-9	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, stills

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

DEACTIVATION

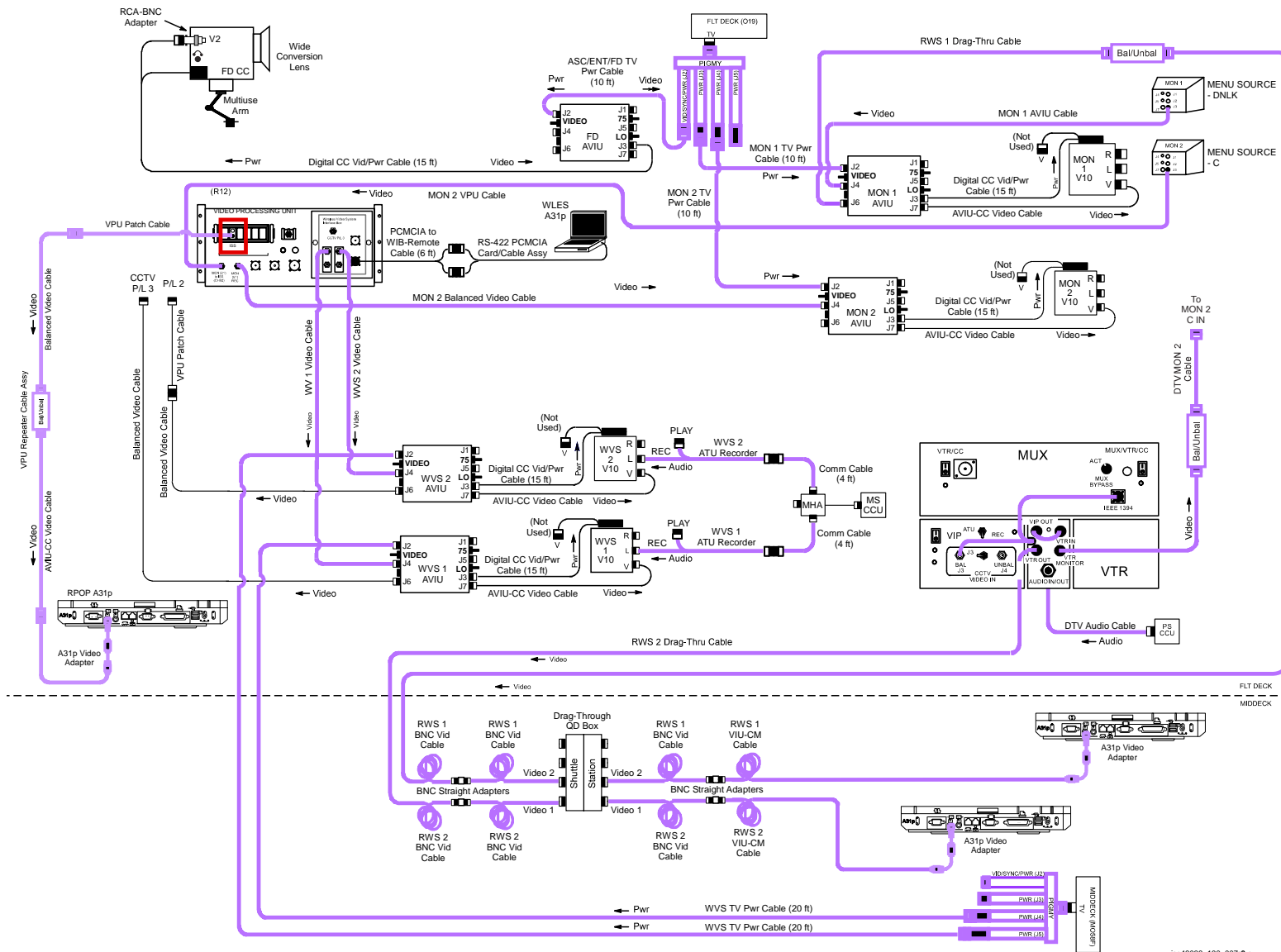
1. TV System
 Go to DEACTIVATION (Cue Card, TV) as reqd

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P/TV07 EVA

P/TV07 EVA

H/W SUMMARY



jsc48038_130_0073.cvx

P/TV07 EVA (Continued)






SCENE SYNOPSIS

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

SETUP

FOR ALL EVAs:

1. Perform ACTIVATION, OPERATION (Cue Card, TV) as reqd
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 –   
√Exp Comp – 0 EV
Tilt – 45° (Direct)

P/TV07 EVA (Continued)

SETUP (Continued)

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

O19,MO58F √TV PWR – ON

R12 (VPU) √VPU PWR – ON (LED on)

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

G1 √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 1 SOURCE – DNLK
MON 2 SOURCE – C
L10 (MUX) 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

4. Config ISS VPU Repeater Video

Config VPU Repeater Cable Assy per H/W SUMMARY, FS 1-52

A31p Double-click ‘Shuttle Apps’> ‘NASA Video Overlay’
 Sel ‘Full Screen’
 Press ‘ESC’ to minimize display as reqd

P/TV07 EVA (Continued)

OPS

√	Item # Track #	Rqmts	Still Imagery	Video			Notes
				PLB	CC	Dnk	
	1. 20A-9	PAO Coverage	<u>IVA D2Xs</u> 12-24mm If exterior: Flash ON/OFF – OFF	As desired <u>WVS</u>	<u>G1</u> As desired	LIVE (if avail)	Plan for end of day crew choice video, stills
	2. 20A-8 20A-12	Thermal Cover Closeouts • For all locations where covers were opened and closed		<u>WVS</u>		LIVE (playback)	
	3. 20A-15	Node 3 EVA Outfitting • Node 3 LTA cable after removal from Node 1 J612 connector, installation of cap to thermal bootie and tie off to Node 1 handrail • Reconnection of the A/L supplementary power (J612) connector • Installation Node 3 ACS non propulsive vent • Installation of Node 3 worksite interfaces (WIFs) (3) and handrails (6-14) • Installation of Gap spanners (up to 8) • Removal of Cupola thermal covers • Release of Cupola shutter launch locks	<u>EVA D2Xs</u> 35mm (per EVA C/L)	<u>WVS</u>			

P/TV07 EVA (Continued)

OPS (Continued)

√	Item # Track #	Rqmts	Still Imagery	Video			Notes
				PLB	CC	Dnk	
	4. 20A-23	Installation and/or routing and connection of Node 3 Ammonia Jumpers and Avionics umbilicals. Image the following Node 3 EVA connections: <ul style="list-style-type: none"> • Avionics umbilicals and Ammonia Jumpers • EVA stills of the routing of the S0 to Node 3 Avionics umbilicals • Mating of each of the 9 avionics umbilical connectors • Installation of the U.S. Lab to Node 3 Ammonia Jumpers (4) and thermal shrouds • Mating of each of the connectors (8) with and without thermal shrouds 	<u>EVA D2Xs</u> 35mm (per EVA C/L)	<u>WVS</u>			
	5. 20A-25	Node 3 Installation to Node 1 Port CBM External video of: <ul style="list-style-type: none"> • Inspection of the Node 3 PCBM following the removal of contamination covers (8) • High level inspection of the Node 1 port CBM • Removal of the Node 3 from Orbiter payload bay and install on Node 1 port CBM External video and/or EVA stills of: <ul style="list-style-type: none"> • Removal of 8 Node 3 PCBM contamination covers • Disconnection of the Node 3 to Orbiter SPDU LTA heater cables (both Orbiter and Node 3 ends) 	<u>EVA D2Xs</u> 35mm (per EVA C/L)	<u>WVS</u> <u>PLB Camrs</u>		LIVE (if avail)	

P/TV07 EVA (Concluded)

OPS (Concluded)

√	Item # Track #	Rqmts	Still Imagery	Video			Notes
				PLB	CC	Dnk	
	5. (Cont) 20A-25	<ul style="list-style-type: none"> • Open Node 1 port CBCS flap • Remove A/L supplementary power (J612) and connect Node 3 LTA heater cables to Node 1 and activate heaters • Install 4 Node trunnion and 1 keel pin cover • Install 8 on-orbit installable Handrails on Node 3 (required to access 1553 bus terminator) • Install 1553 bus terminator (P104) on Node 3 (J104) • Install the P1-FGB and P2-FGB terminators and thermal booties 					

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

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


Install empty Flash Card

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)

- ↑
Remove aft window shields
- 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
 - Install empty Flash Card
 - 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 (Concluded)

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

- Remove window shields
- SB-800 Flash Settings:
 - ON/OFF pb – OFF
- Lens – 28-70mm@50mm(80-200mm@200mm)
- √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

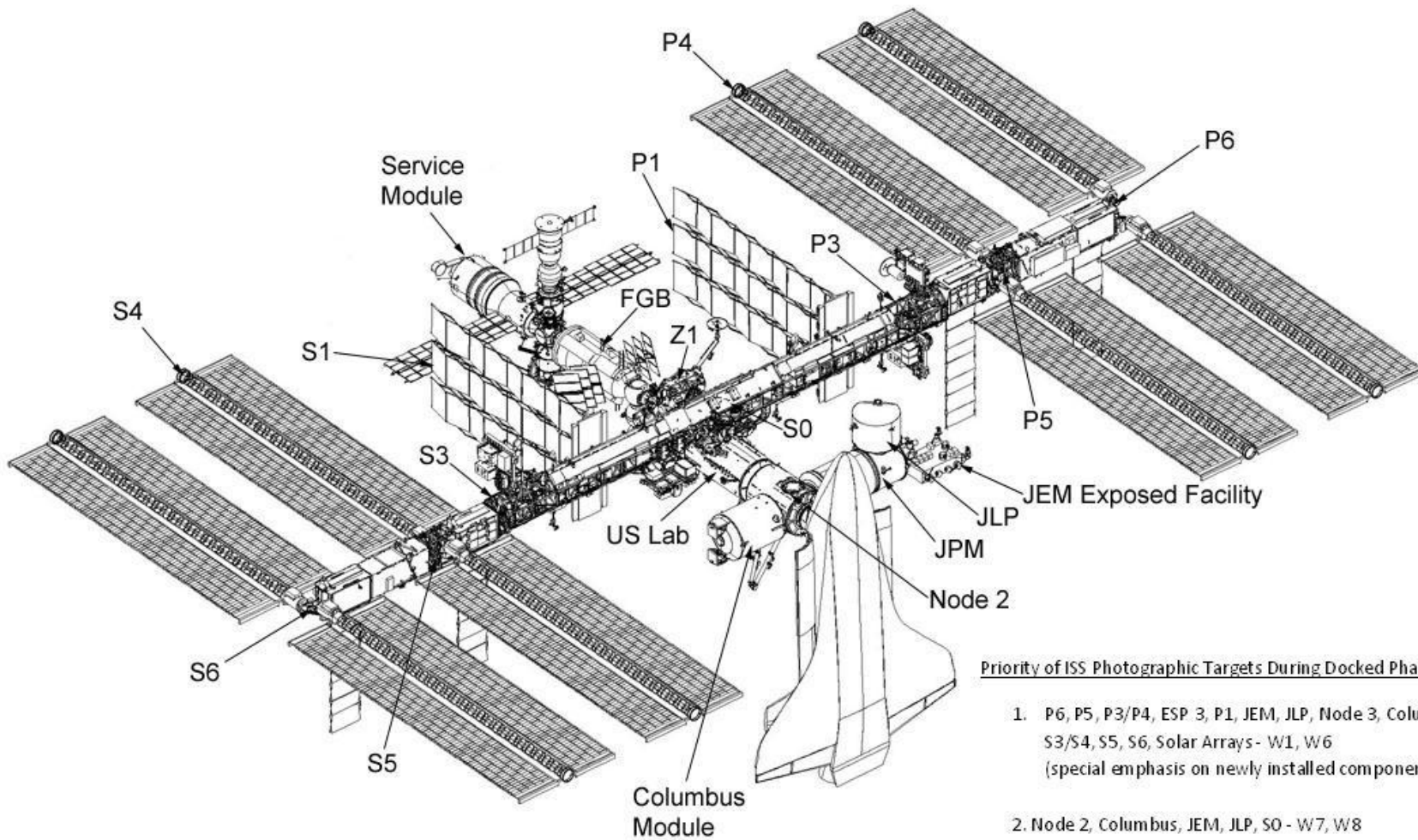
P/TV08 EXTERNAL SURVEY (Continued)

OPS

√	Item # Track #	Rqmts	Still Imagery	Video			Notes
				PLB	CC	Dnlk	
	1.	<p>OMS Pod Survey</p> <ul style="list-style-type: none"> •√No shadows on OMS pod tiles • Remove window shields • 50 percent overlap mapping of both OMS pods and vertical stabilizer w/emphasis on Black Tile areas • Repeat thru other window 	<p><u>D2Xs</u> 80-200mm@200mm</p>				<p>Download images to MCC once complete</p>  <p>MAPPING</p>
	2. 20A-6	<p><u>ISS Still Survey</u></p> <ul style="list-style-type: none"> • Surfaces • Solar Panels • Handrails • MISSE • SVS Targets 	<p><u>D2Xs</u> 28-70mm@50mm (80-200mm@200mm)</p>				<p>Map ISS surfaces w/30% overlap from all Ft Deck windows</p>

P/TV08 EXTERNAL SURVEY (Continued)

OPS (Continued)



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

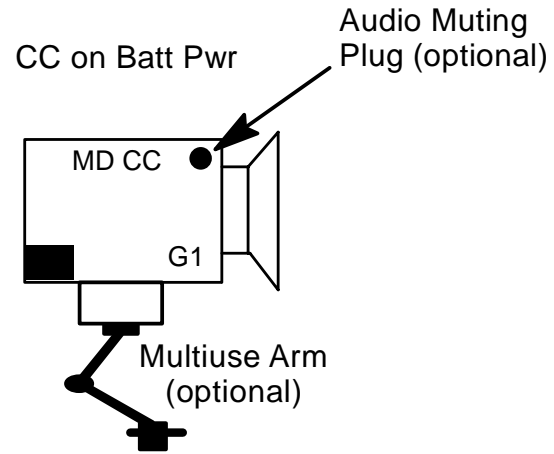
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**P/TV09
GLACIER**

P/TV09 GLACIER

H/W SUMMARY



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P/TV09 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 1-68, as reqd

√Batt installed

G1

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/TV09 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/TV09 GLACIER (Concluded)

OPS

√	Item # Track #	Rqmts	Still Imagery	Video			Notes
			DCS	PLB	CC	Dnlk	
	1.	GLACIER Installation and crew activity Video, Still Photography <ul style="list-style-type: none"> • Still images of GLACIER installed in Middeck (2 images taken of wide view, and close-up of hardware and front panel) • Video of crew performing an activity at the GLACIER in Middeck (hardware prep, sample insertion/removal) • Video of GLACIER front panel configuration after transfer is complete • Video of crew interaction with GLACIER (hardware status check, sample insertion/removal) 	<u>D2Xs</u> 12-24mm		<u>G1</u> LIVE (if avail)	PLAYBACK desired	There are two sample insertion/removal activities; both are to be videoed Playback required within 12 hrs Take 6 images at a minimum <ul style="list-style-type: none"> - 2 @ wide angle - 2 @ medium angle - 2 @ closeup of front panel

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P/TV10 SEITE,SIMPLEX PAYLOADS

I

SCENE SYNOPSIS

Scene contains procedures for documenting the SEITE and SIMPLEX OMS burns

SETUP

1. Remove window shields prior to setup
2. Perform ACTIVATION,OPERATION (Cue Card, TV) as reqd
3. D2Xs Camr Config for SEITE,SIMPLEX (D2Xs Shutter Priority Mode)

SB-800 Flash Settings
ON/OFF pb – OFF

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

P/TV10 SEITE,SIMPLEX PAYLOADS (Continued)

SETUP (Continued)

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

Menu Settings:

MENU pb – press

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

Navigate Pad sel – Custom Settings Menu > d Shooting/Display > d1 Shooting Speed > 4 fps

Accessory Equipment

Shutter Release Cable – install

Multiuse Base – install in W9/10

Multiuse Brkt – install on Base

Technique

Frame image per picture at right

Focus on OMS pod

Body Focus Mode – M



4. Perform Hardware Verification for DTV

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)

P/TV10 SEITE,SIMPLEX PAYLOADS (Continued)

SETUP (Concluded)

4. Perform Hardware Verification for DTV (Concluded)

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

L9 If Audio desired:
 PS AUD PWR – AUD
 Desired Loops – RCV, Vol tw 5
 Other Loops – OFF

A7 VID OUT DTV pb – push
 VID IN pb – A(D)

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

OPS

√	Item # Track #	Rqmts	Still Imagery	Video			Notes
				PLB	CC	Dnlk	
	1.	SEITE,SIMPLEX <ul style="list-style-type: none"> • Initiate photo sequence 1 sec prior to burn • Start recording on DSR-25 5 min prior to burn 	<u>D2Xs</u> 28mm	<u>A(D)</u>		LIVE (if avail)	√Focus set to OMS pod 

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

P/TV10 SEITE,SIMPLEX PAYLOADS (Concluded)

DEACTIVATION

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

Menu Settings
MENU pb – press
Navigate Pad sel – Shooting Menu () Hi-speed Crop > OFF
Navigate Pad sel – Custom Settings Menu > d Shooting/Display > d1 Shooting Speed > 3 fps
2. TV System
Remove,mark tape for SEITE(SIMPLEX)
Go to DEACTIVATION (Cue Card, TV) as reqd

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REFERENCED PROCEDURES

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C/L CAMR INSTALL	FS 2-4
<u>DTV</u>	
VTR CLOCK SET	FS 2-8
<u>D2Xs</u>	
DATE/TIME SET	FS 2-10
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<u>LASER CAMR SYSTEM (LCS)/INTEGRATED SENSOR INSPECTION SYSTEM DIGITAL CAMR (IDC)</u>	
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C/L CAMR

CENTERLINE (C/L) CAMR

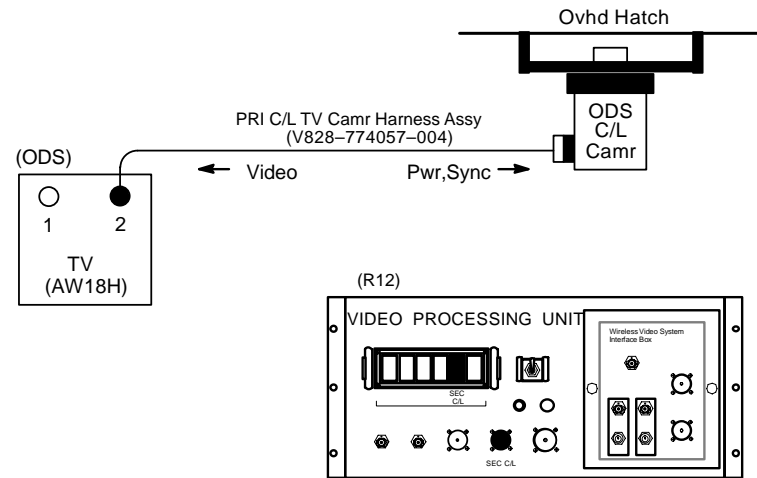
C/L CAMR INSTALL

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, ✓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 SW PWR 1 (CB2) – cl
 (SSP 2) C/L CAM PWR – SEC ON
- A6L LT VEST PORT,STBD – ON as reqd
- 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

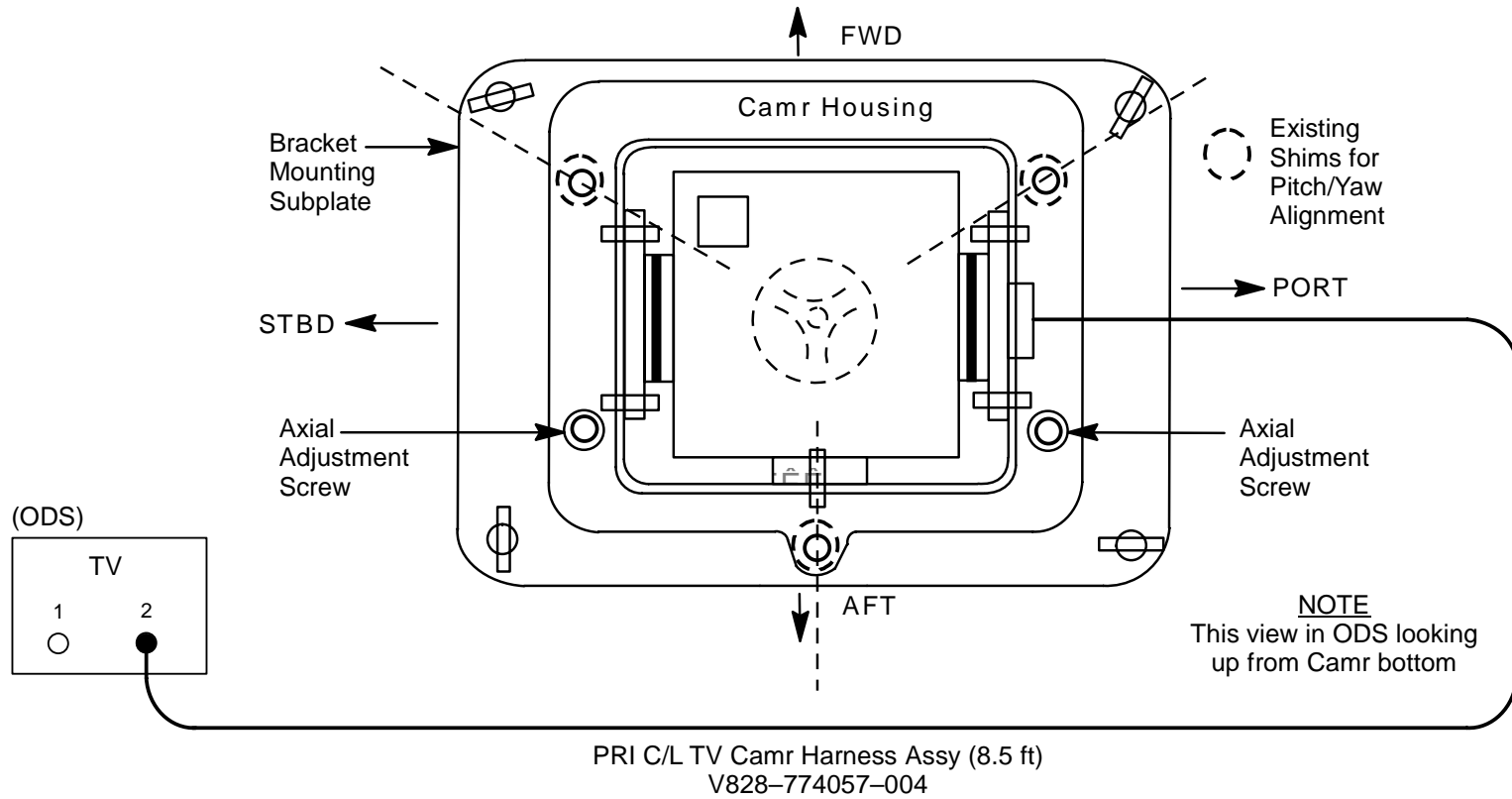


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CENTERLINE (C/L) CAMR (Continued)

C/L CAMR INSTALL (Continued)

2. Camr Position Verification



jsc48038_130_049r1.cvx

CENTERLINE (C/L) CAMR (Concluded)

C/L CAMR INSTALL (Concluded)

MON 1(2) 3. ODS C/L Camr Alignment Check
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

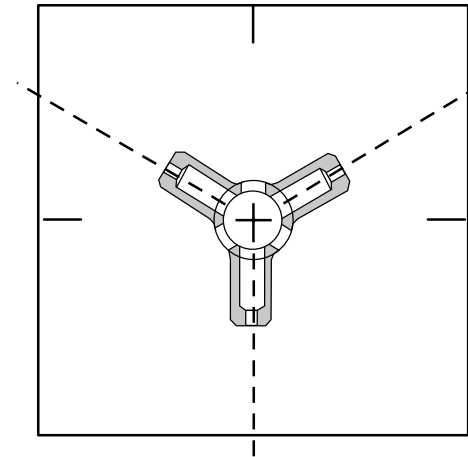
MON 1(2) ✓ Vertical xhairs coincide w/vertical alignment wire and are parallel. If xhair marks overlay each other, no yaw(axial) alignment needed (see dwg above)

✓ Intersection of monitor vertical,horizontal xhair falls within target circular opening from ~10-40° zoom range of Camr

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

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

A6L LT VEST PORT,STBD – OFF 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,VIP as reqd

(VIP) ON/STANDBY pb – push (red LED on)
 PWR – off (LED off)

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D2Xs

D2Xs

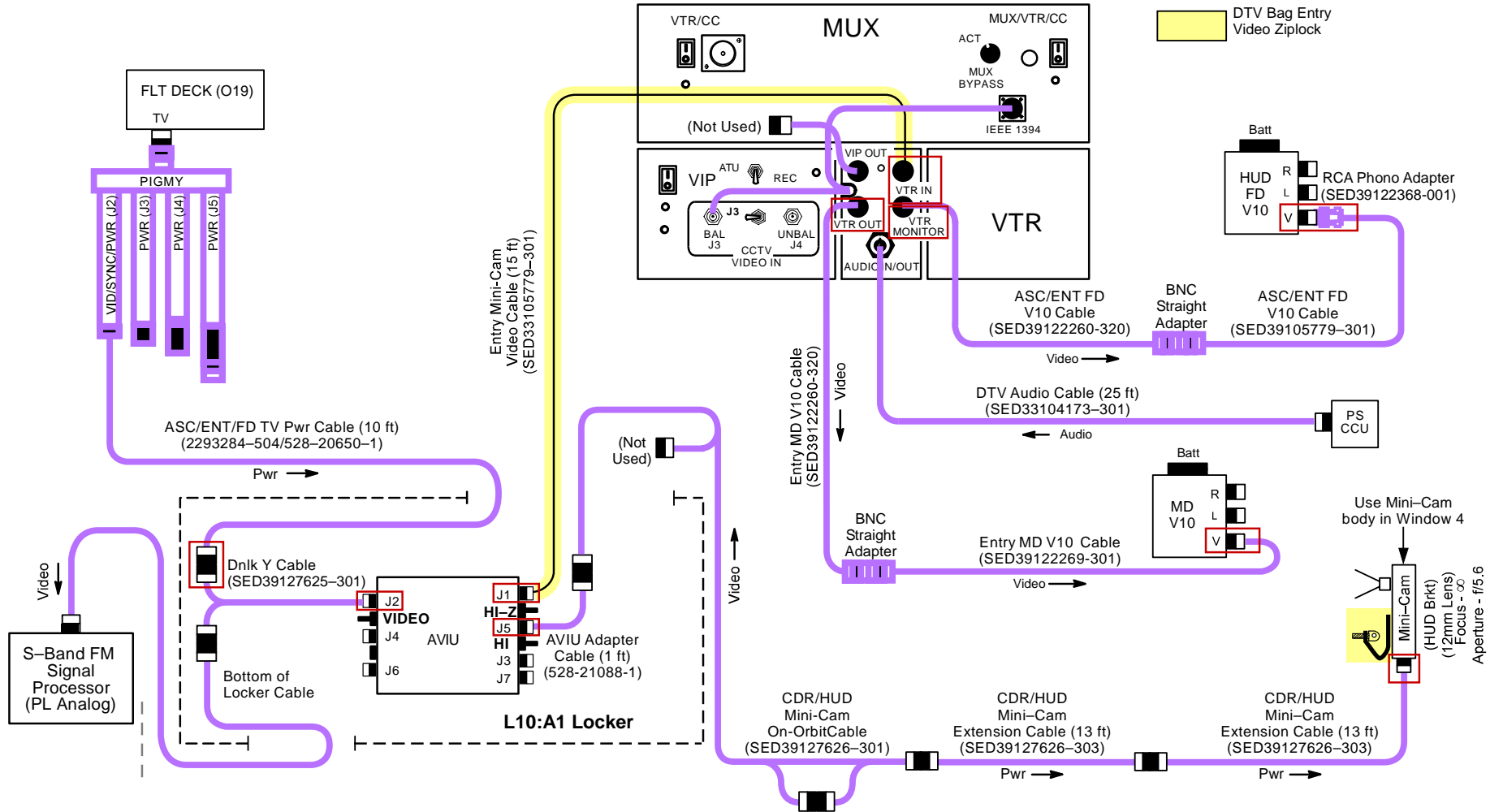
DATE/TIME SET

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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MINI-CAM

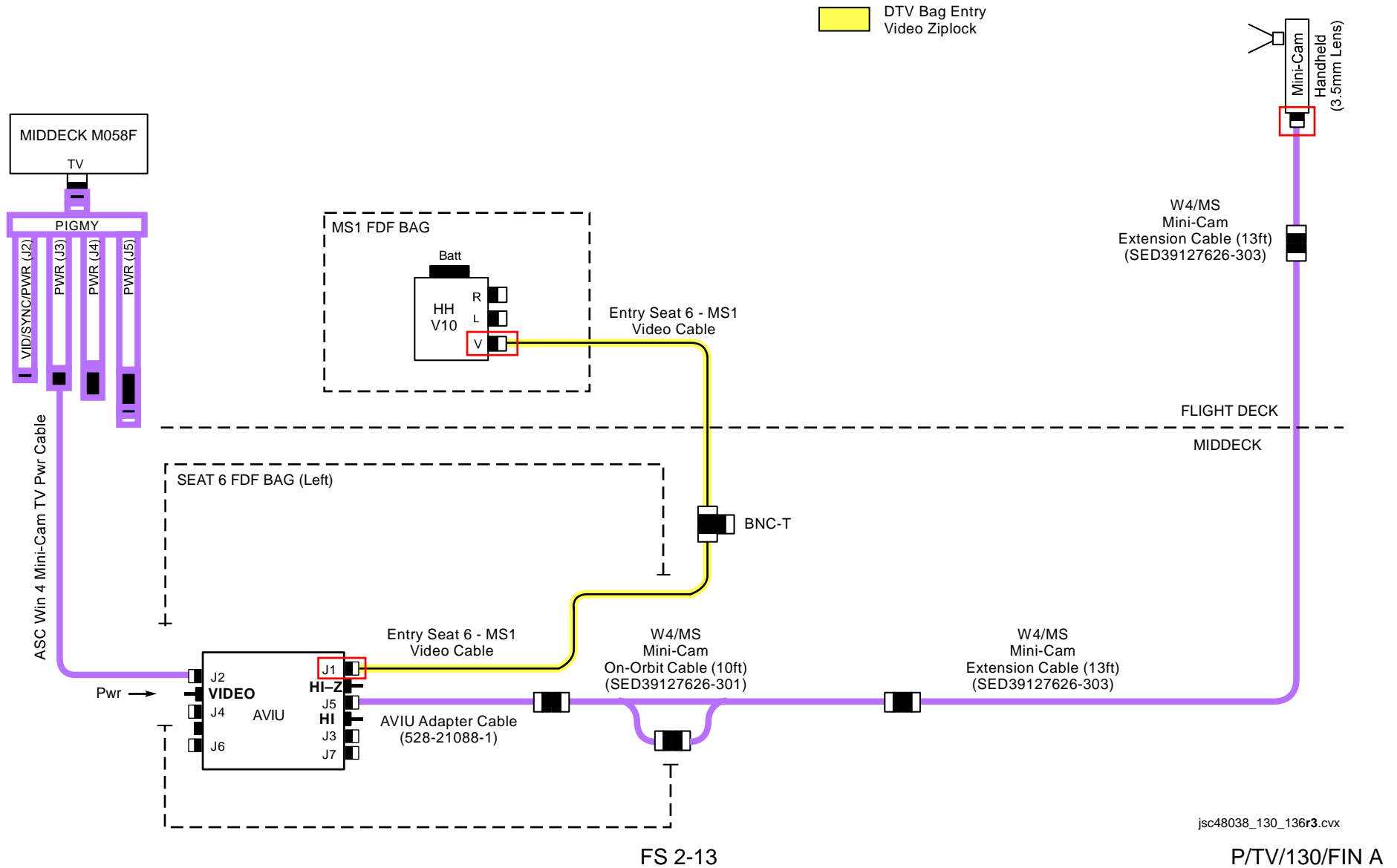
ENTRY VIDEO SETUP



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MINI-CAM

ENTRY VIDEO SETUP (Continued)



MINI-CAM (Continued)

ENTRY VIDEO SETUP (Continued)

- | | | |
|--------------------|--|--|
| A17 | 1. Remove "Entry Video" Ziploc Bag from DTV Bag | |
| | 2. <u>Config Mini-Cams,V10,VTR for Audio,Video Recording</u>
Config H/W per dwg, FS 2-12 and FS 2-13 | |
| HUD Brkt/Cam | a. Config HUD Mini-Cam w/12mm Lens (use Mini-Cam body with 12mm lens in Window 4)
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 CDR/HUD Mini-Cam Extension Cable to HUD 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 additional Mini-Cam H/W | |
| L10:A1 | <u>AVIU</u>
SYNC/VIDEO – VIDEO
HI-Z/75 – HI-Z
PWR SELECT – HI | |
| O19,MO58F | √TV PWR – ON | |
| PS ATU | Config audio as reqd for entry audio | |
| L10 (MUX)
(VTR) | VTR/CC PWR – on (LED on)
√ON/STANDBY LED – green | |

MINI-CAM (Continued)

ENTRY VIDEO SETUP (Continued)

- b. Config additional Mini-Cam H/W (Concluded)

Acquire six (6) V10 Li-ION batts

NOTE

One Batt will be used on V10s for system c/o. Second Batt is spare. Batt will be removed after c/o and used for Entry

NOTE

TV, V10 pwr will be re-enabled per ENT AFT FLT DECK CONFIG 15 (DEORB, NOMINAL DEORBIT PREP); recording will be initiated via ENTRY C/L

For HUD Mini-Cam:

Focus – Adjust per MS1 V10

Aperture – Adjust per MS1 V10

If needed, turn down brightness on HUD display

MINI-CAM (Concluded)

ENTRY VIDEO SETUP (Concluded)

MS1 HH Mini-Cam Attach W4/MS Mini-Cam Extension Cable to Handheld (HH) Mini-Cam

3.5mm Lens c. Config MS1 Handheld w/3.5mm lens
Aperture:
 If night landing: f/1.8
 If daylight landing: f/5.6 (dot between 8 and 4)

SEAT 6 FDF Bag d. AVIU
 SYNC/VIDEO – VIDEO
 HI-Z/75 – HI-Z
 Pwr SELECT – HI

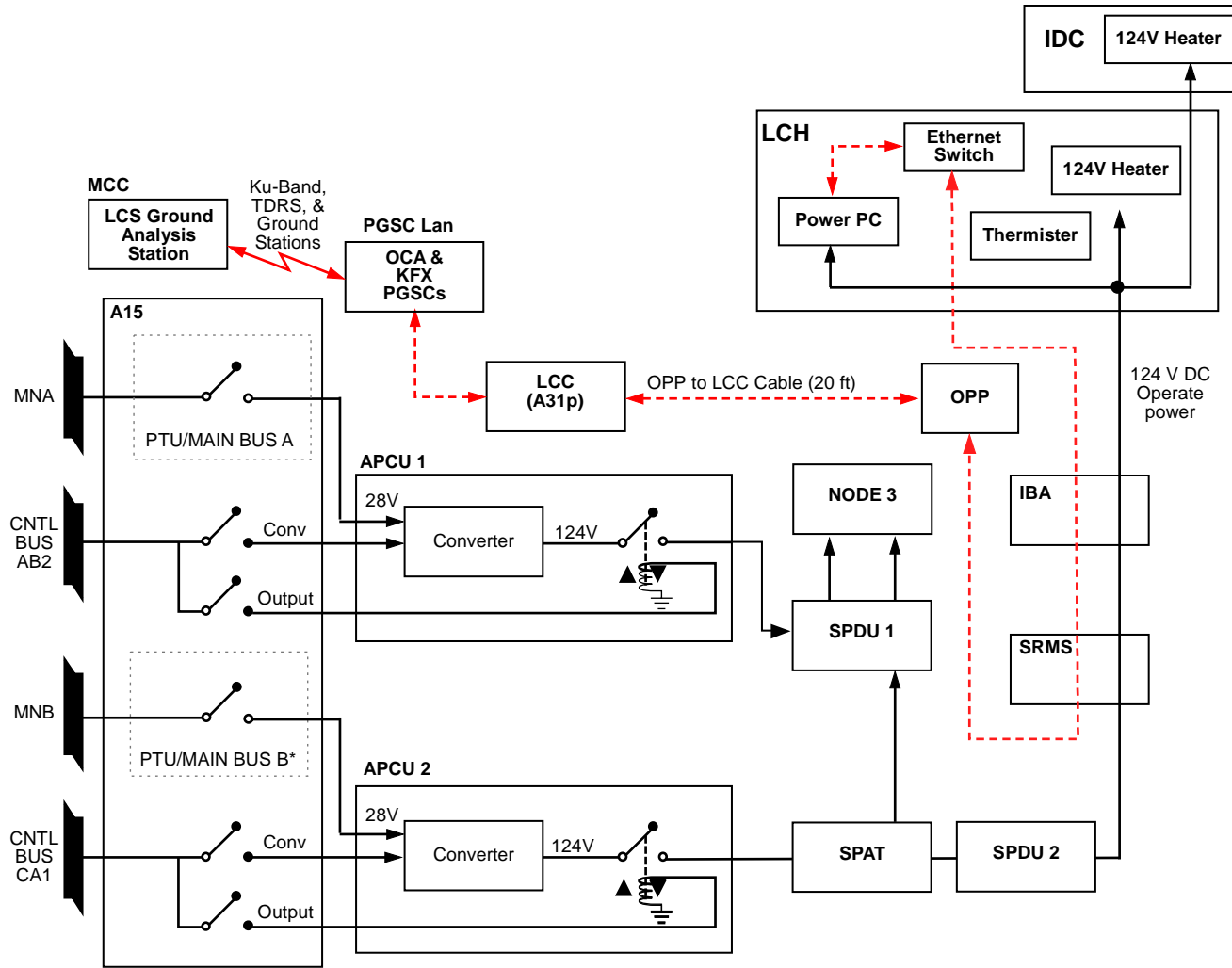
V10s (MS1 HH & HUD) Install fresh BATTs
 √Handheld video displayed on V10
 √HUD video displayed on second V10
 PWR – off

MO58F,O19 Remove, temp stow BATTs
 TV PWR – OFF (when L-1 comm checks complete)

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

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

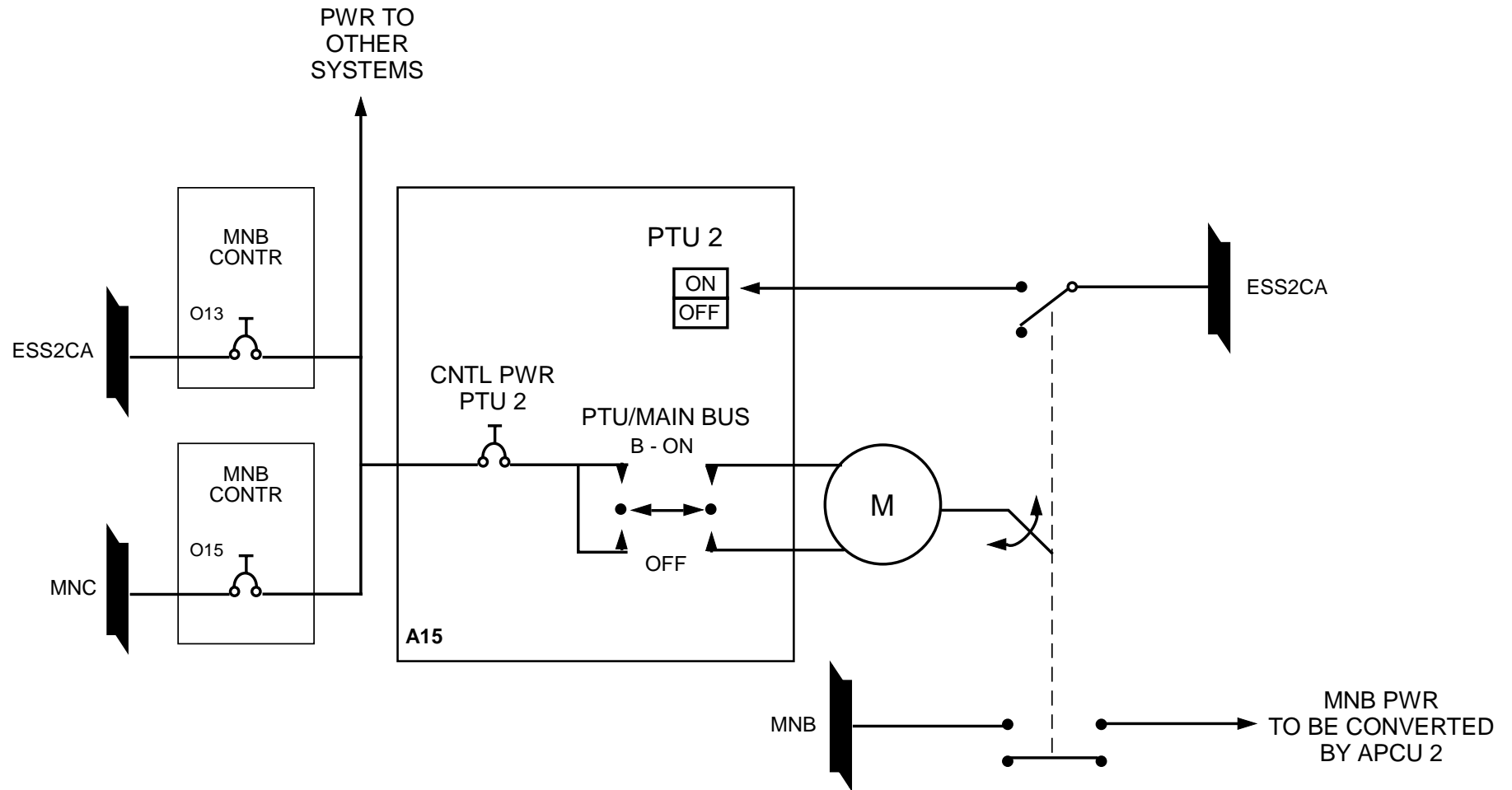


*See PTU 2/MAIN BUS B for detailed system dwg

jsc48038_130_134cr1.cvx

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

PTU 2/MAIN BUS B SYSTEM DETAILS



jsc48038_130_PTU2_134er1.cvx

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CANON G1

CANON G1

ANALOG (DTV SD) G1 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

G1

√Wide Conversion lens installed
√ND FILTER – OFF
Install Audio Muting Plug (optional)
√OUTPUT – CAM
√A/V1/V2 – V2
√  – 
√STANDBY/LOCK – STANDBY
Install Audio Muting Plug (optional)
PWR dial – “green”
If rec to tape:
Tape – Install
√Viewfinder (LCD) displays “green” •||
Multiuse Brkt, Clamp as reqd

CAUTION
Due to temp constraints, worklights at full pwr for 60 min; 90% pwr for unlimited time

Worklights

Install fresh Batts
Mount light(s) w/brkts (Velcro/tape)
PWR – as reqd

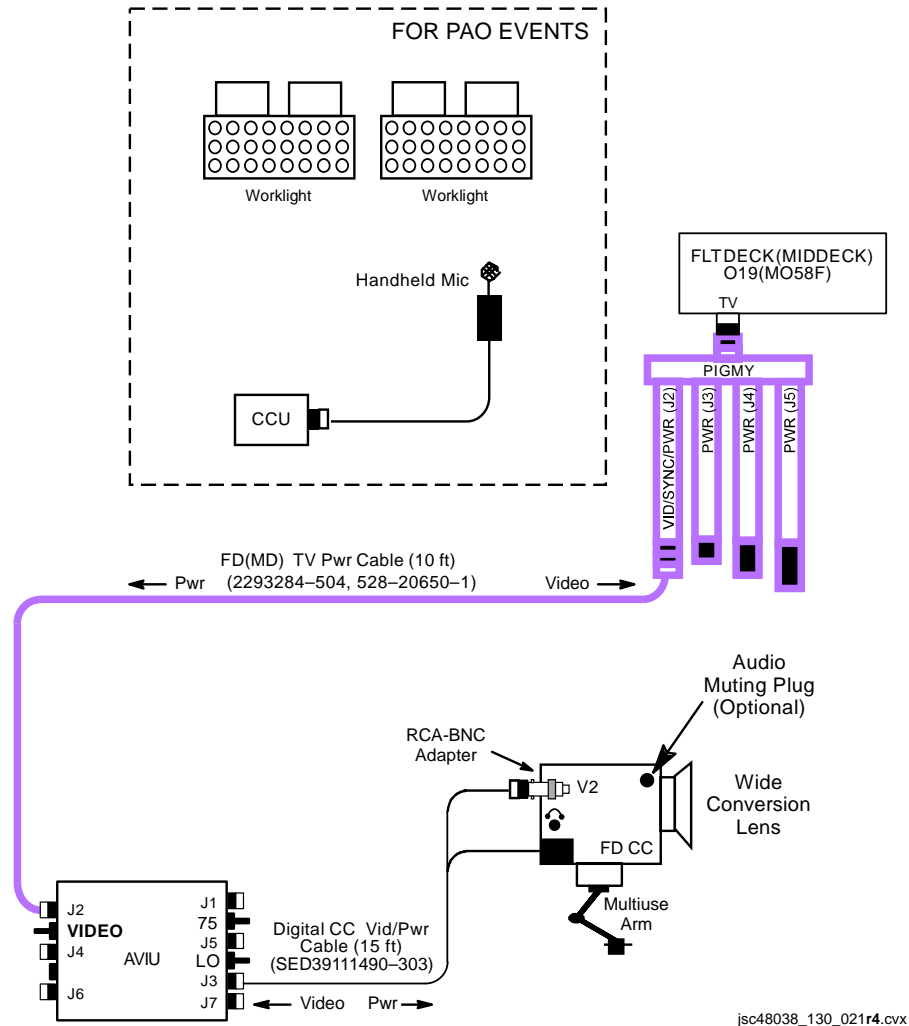
Cabin Lts

Flt Deck – ON
Lts in FOV – OFF as reqd
Lt Shades – install as reqd
Window Shades – install as reqd

G1

√Scene composition

Adjust Camr angle for best framing



CANON G1 (Continued)

ANALOG (DTV SD) G1 REC,DNLK (Concluded)

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 PWR CNTL – PNL CONTR UNIT – MNA(B) CNTL – CMD (wait 10 sec for system initialization)
	If Analog, on MCC GO: VID OUT DNLK pb – push IN FLT DECK(MIDDECK) pb – push
	If DTV SD, on MCC GO:
L10 (MUX)	√Cables connected MUX/VTR/CC PWR – on (LED on)
(VIP)	√MUX BYPASS – ACT
(VTR)	PWR – on (LED on, DATA FLOW LED flashes twice) √ON/STANDBY LED – green
A7	√INPUT SELECT – VIDEO VID OUT DTV pb – push
L10 (MUX)	IN FLT DECK(MIDDECK) pb – push √CH 3 DATA LED – on
G1 Worklights L10 (MUX)	When dnlk complete: PWR dial – OFF PWR – off MUX/VTR/CC PWR – off (LED off)
	Go to DEACTIVATION (Cue Card, <u>IV</u>) as reqd

CANON G1 (Continued)

HD G1 DNLK

Notify MCC, configuring for HD TV dnlk

Config H/W per dwg at right

G1 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

G1 ✓Wide Conversion Lens installed
Install LAV MIC
✓ND FILTER – OFF
✓OUTPUT – CAM
✓...-
✓STANDBY/LOCK – STANDBY
PWR dial – “green”
If rec to tape:
TAPE – INSTALL
✓Viewfinder (LED) displays green •||
Mount Camcorder

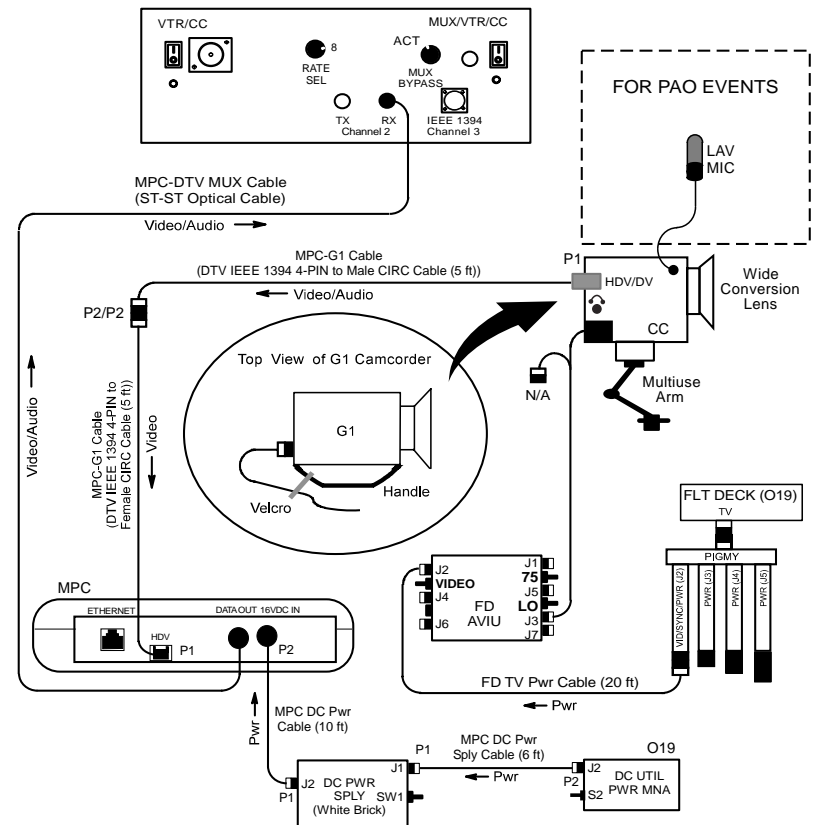
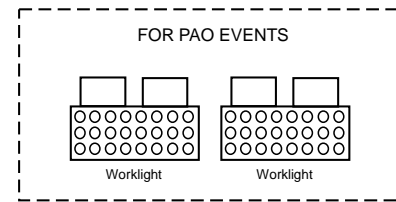
L10 (MUX) ✓MUX/VTR/CC PWR – on (LED on)
✓MUX BYPASS – ACT
✓CH 0,1 RATE SEL – 1
✓2 RATE SEL – 8

(VTR) ON/STANDBY pb – push (LED red)
(VIP) PWR – OFF (PWR LED-off)

O19 DC UTIL PWR MNA – ON
MPC PWR SPLY PWR SW1 – ON

MPC PWR – ON (HDV, TAXI, 5V, 3V green LEDs on)

L10 (MUX) ✓CH 2 F/O OK, DATA LEDs on



jsc48038_130_020r3.cvx

CANON G1 (Continued)

HD G1 DNLK (Continued)

CAUTION

Due to temp constraints, worklights at full
pwr for 60 min; 90% pwr for unlimited time

Worklights	Install fresh Batts Mount light(s) w/brkts (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
G1	√Scene composition Adjust Camr angle for best framing
LAV MIC	PWR – ON (talk), OFF (listen) √MCC if Black video and color bars reqd If reqd: PWR dial – Av Aperture – close √Av CLOSE displayed on top left of LCD AGC – OFF √GAIN sw – L √±0dB displayed on LCD OUTPUT – BARS When MCC says done w/bars: OUTPUT – CAM When MCC says done w/black screen test: PWR dial – “green” <input type="checkbox"/>

CANON G1 (Concluded)

HD G1 DNLK (Concluded)

G1	When dnlk complete: PWR dial – OFF
Worklights	PWR – off
O19	TV PWR – OFF as reqd
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)
(VIP)	PWR – ON (LED on, DATA FLOW LED flashes twice)
(VTR)	ON/STANDBY pb – push (LED green)

Notify MCC, returned to SD TV dnlk

Go to DEACTIVATION (Cue Card, TV) as reqd

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FCS

FCS CHECKOUT CAMR SETUP

SCENE SYNOPSIS

The following camera and camcorder settings will be used to photodocument items or debris that may become liberated from the Orbiter during FCS C/O. Images and video should be downlinked if time and/or assets are available

SETUP

1. D2Xs

Lens – 400mm

NOTE

If auto focus unachievable:

Lens Focus Mode – M

Aperture – Min, locked

Lens Focus Limit – ∞ -6m

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

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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CUE CARD CONFIGURATION

	<u>PAGE</u>
TV	FS CC 3-3
ANALOG PLAYBACK.....	FS CC 3-5
ET PHOTO	FS CC 3-7
MEDIA ALLOCATIONS	FS CC 3-8
WVS.....	FS CC 3-10
PLBD VTR RECORDING	FS CC 3-12
LDRI/ITVC	FS CC 3-14
LCS.....	FS CC 3-16
IDC.....	FS CC 3-18
VIDEO SETUP.....	FS CC 3-20
D2Xs SETUP	FS CC 3-22
LDRI/ITVC A7 PLACARD.....	FS CC 3-24
DIGITAL PLAYBACK.....	FS CC 3-25
G1 SETUP CUE CARD	FS CC 3-27

CUE CARDS

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HOOK
VELCRO

TV

ACTIVATION

A3 MON 1(2) PWR – ON (LED ON)
A7 \TV DNK – 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

Dnk Ops

Coordinate dnk and sync config w/MCC
Config audio as reqd
If analog, on MCC GO:
A7 VID OUT DNK pb – push
IN pb – as reqd
If DTV, on MCC GO:
L10 \Cables connected
(MUX) 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
A7 \INPUT SELECT – VIDEO
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)
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 dnk/rod 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

P/TV-1a/130/O/A

(reduced copy)

FS CC 3-3

P/TV/130/FIN A

TOP

HOOK
VELCRO

ANALOG PLAYBACK

ANALOG VIA G1

NOTE

Analog Playback from G1 only possible for G1 Video recordings

ACTIVATION

G1 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

G1 PWR – VTR/PLAY
 √A/V1/V2 – V2

OPERATIONS

PLBK or DNK VIDEO

G1 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

G1 Speaker Vol Max

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

G1 VTR pb – REW(FF) to cue tape

If Dnkl

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

G1 PLAY pb – push (green ► displayed)

If PLBK(DNK) complete:
 | STOP pb – push
 If G1 ops complete, go to DEACTIVATION

DEACTIVATION

G1 Remove, write protect, 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 DNK 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 Dnkl

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

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

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

DEACTIVATION

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

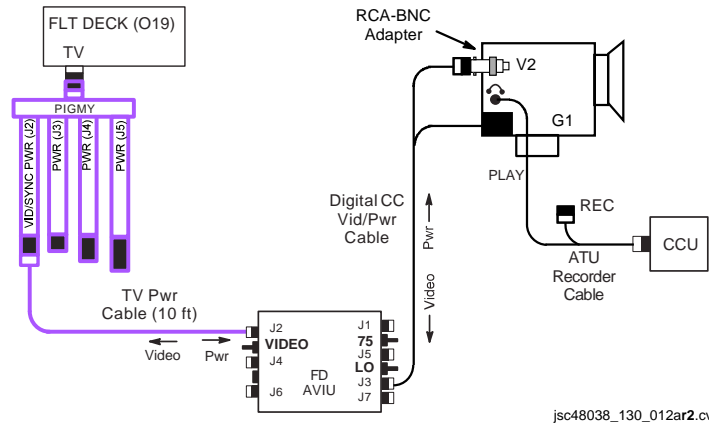
P/TV-2a/130/O/B

(reduced copy)

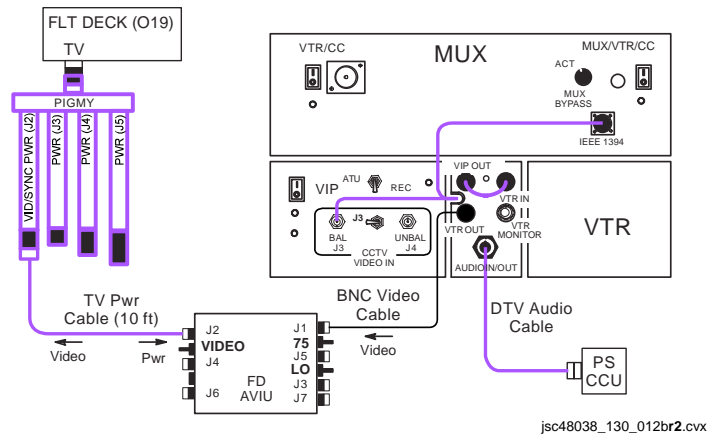
TOP
BACK OF 'ANALOG PLAYBACK'

HOOK
VELCRO

ANALOG VIA G1 PLAYBACK



ANALOG VIA VTR PLAYBACK



P/TV-2b/130/O/B

(reduced copy)
FS CC 3-6

P/TV/130/FIN A

TOP

HOOK
VELCRO

ET PHOTO

D2Xs

D2Xs

LENS SETTINGS

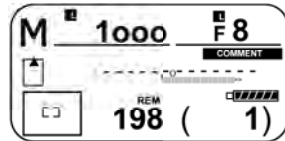
- √APERTURE – MIN, LOCKED
- √LENS FOCUS MODE – A

CAMR SETTINGS

PWR – ON

TOP LCD

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



DIOPTER – ADJUST

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

REAR LCD

- √ISO – 100
- √QUAL – RAW

CRITICAL FOCUS REQD EACH FRAME

P/TV-3a/130/O/B

FS CC 3-7

TOP
BACK OF 'ET PHOTO'

HOOK
VELCRO

ET PHOTO

G1 CC

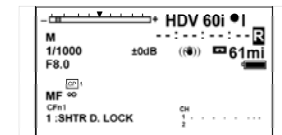
G1 CC

LENS CAP – REMOVE
INSTALL MUTING PLUG

- √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 REC

P/TV-3b/130/O/B

P/TV/130/FIN A

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				
						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/130/O/B

(reduced copy)

FS CC 3-8

P/TV/130/FIN A

TOP
BACK OF 'MEDIA ALLOCATIONS'



HOOK
VELCRO

P/TV-4b/130/O/A



(reduced copy)
FS CC 3-9

P/TV/130/FIN A

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
√SAdvanced 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

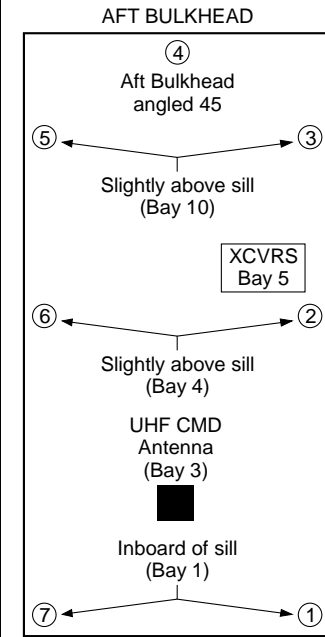
If still no joy:
For XCVR with good video:
Sel RF Camr – reselect original EVA crewmember
For XCVR w/video problem: Antenna – Manual
Sel desired antenna

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



jsc48038_130_108r1.cvx

P/TV-5a/130/O/A

(reduced copy)

FS CC 3-10

P/TV/130/FIN A

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 pull-down menu
✓RF Camera (two) – ON (green "ON")
If not ON:
RF Camera (of static EMU TV) – sel "None" via
pull-down 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 pull-down '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 pull-down 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/130/O/A

(reduced copy)

TOP

HOOK
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PLBD VTR RECORDING

- L10 √VIP, VTR covers removed
- R1 √PL AUX – ON
- MA73C:E cb AC2 PL3Φ – cl

- L10 √Cables config'd per dwg (back of cue card)
(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
- L9 If Audio desired:
 PS AUD PWR – AUD
 Desired Loops – RCV, Vol tw 5
 Other Loops – OFF
- A7 VID OUT DTV pb – push
 IN pb – as reqd

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

P/TV-6a/130/O/A

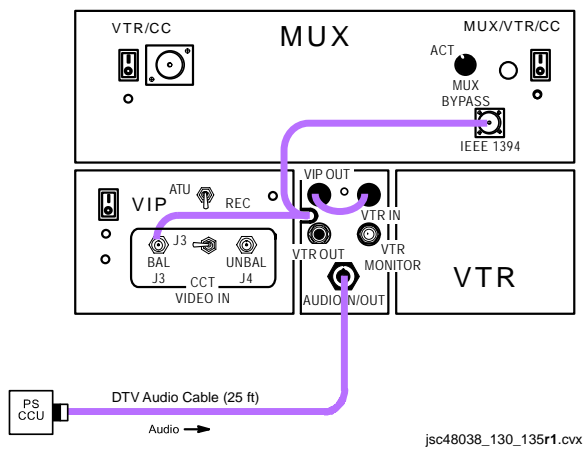
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FS CC 3-12

P/TV/130/FIN A

TOP
BACK OF 'PLBD VTR RECORDING'

HOOK
VELCRO



HOOK
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P/TV-6b/130/O/A

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FS CC 3-13

P/TV/130/FIN A

TOP

HOOK
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LDRI/ITVC

HOOK
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ACTIVATION

- Config CCTV Sys
 - A7 √ACTIVATION (Cue Card, TV) performed
 - L10 (VTR) √DTV VTR Clock is set
 - (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
 - √RSC Vid Cable connected to WIB CCTV PL/3
 - MON 1,2 L-DATA – ON
 - C-DATA – GRN
 - X-HAIR – GRN
 - MON 2 SOURCE – C
- Apply SPEE Pwr
 - 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 pwrup)

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:
A7 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

P/TV-7a/130/O/C

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TOP
BACK OF 'LDRI/ITVC'

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RSC CAMR OPS

NOTE

Camr nominally pwr'd in [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 lt on)

L10(VTR) STOP pb – push (no red •)

A7 VID OUT MUX 1 L pb – push (MIDDECK lt 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 lt 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 lt 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/130/O/A

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FS CC 3-15

P/TV/130/FIN A

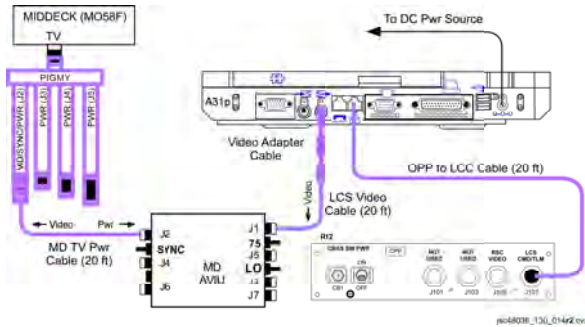
HOOK
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LCH ACTIVATION

- A15 Activate SSPTS APCU 2
 √PTU 2 tb – ON
 If NODE 3 not in PLB:
 APCU 2 OUTPUT – ON
 APCU 2 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
 MD G1 PWR SELECT – LO
 PWR – OFF

(For SSPTS APCU 2 flights only)

TOP

LCS

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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
 IN MIDDECK pb – push
- A3 √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 dnk 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/130/O/B

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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 2 will remove critical keep-alive pwr to LCH and IDC. Pwr must be reapplied within 105 min

1. Deactivate SSPTS APCU 2/LCH

- A15 APCU 2 CONV – OFF

SM 179 POWER TRANSFER
√PTU 2 APCU OUT VOLTS: <10V

If NODE 3 not in PLB:
APCU 2 OUTPUT – OFF

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

(For SSPTS APCU 2 flights only)

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P/TV-8b/130/O/A

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IDC ACTIVATION

1. LCC Setup
 A31p √Hardware configured per LCC ACTIVATION steps 1,2 (Cue Card, LCS)
 A31p PGSC Pwr – ON
2. IDC connectivity Check
 A31p √A31p internal RJ45 Network Interface Card LED green

 A15 If RJ45 Network Interface Card LED not green:
 APCU 2 CONV – OFF, wait 10 sec
 √2 OUTPUT – ON
 2 CONV – ON
 SM 179 POWER TRANSFER
 √PTU 2 APCU OUT VOLTS: 123V to 126V

IDC SOFTWARE ACTIVATION

1. IDC Software Startup
 A31p Sel 'Shuttle Apps' > 'IDC'
2. 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 *

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

3. IDC Pwr on and self test
 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 *

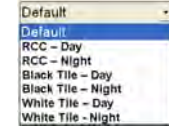
OPERATION

- NOTE
 PDRS OPS will call for IDC image steps on LCC A31p. Limited MCC real-time insight avail if configured for desktop drnk
1. Configure LDRI Illumination
 R 12 (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

2. 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 with no RMS Motion:
 | Sel 'Stop Scan' after 30 sec
 If scanning with RMS motion:
 Move box to maintain RCC in AE box (using keyboard arrows)
 Sel 'Stop Scan' at pause point
 √'Waiting for User Command' displayed

3. 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)

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P/TV-9a/130/O/B

HOOK
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IDC DEACTIVATION

- IDC and Software Shutdown
A31p Sel 'Power off' on IDC GUI > '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

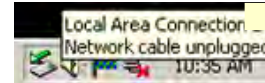
- | | |
|------------------------------------|-------------------------------|
| F5 – Toggle Summary View | F6 – Toggle Image Mode |
| F7 – Zoom In | F8 – Zoom Out |
| F9 – Reset Brightness and Contrast | F10 – Reset AE Box to Default |
| F11 – Toggle AE Box Visibility | F12 – Find AE Box |

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
- 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:

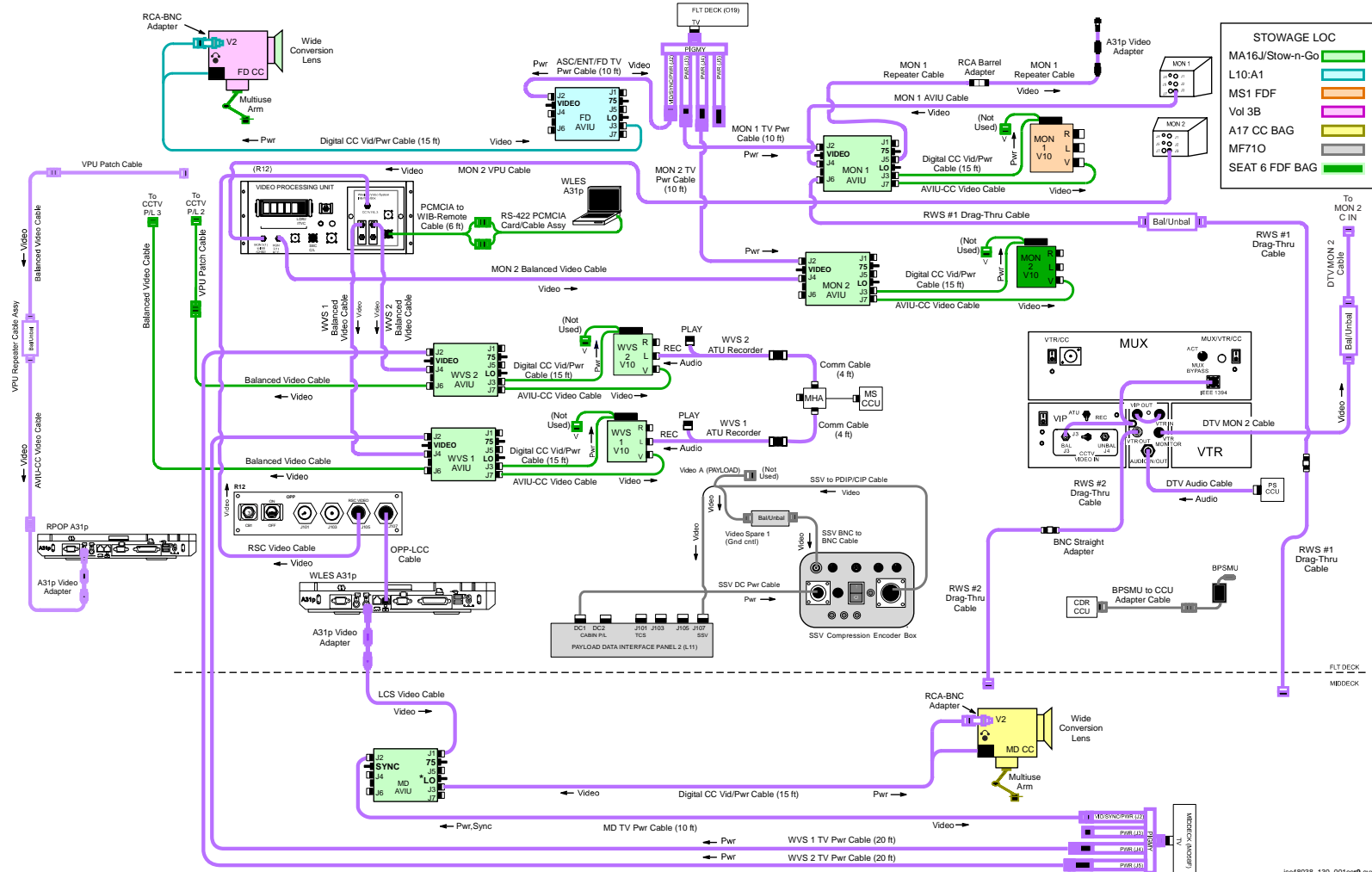


Reseat OPP to LCC Cable (20 ft) to LCC RJ45 port
√Local Area Network Connection Speed 10 mps
If no connection:
Perform LCH, LCC, and IDC Reset, step 2
Continue nominal ops

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

TOP

VIDEO SETUP



STOWAGE LOC

MA16J/Stow-n-Go	Green
L10:A1	Blue
MS1 FDF	Orange
Vol 3B	Purple
A17 CC BAG	Yellow
MFT10	Grey
SEAT 6 FDF BAG	Light Green

P/TV-10a/130/O/C

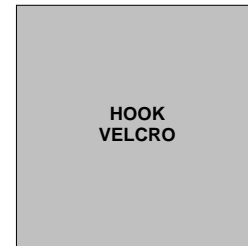
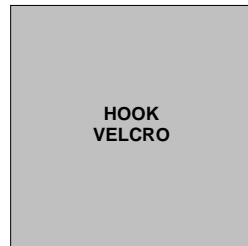
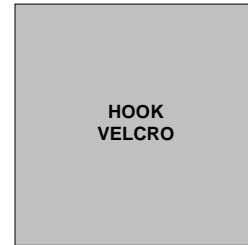
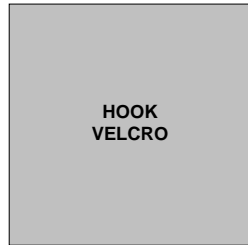
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FS CC 3-20

P/TV/130/FIN A

js048038_130_0010cr9.cvx



TOP
BACK OF 'VIDEO SETUP'



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FS CC 3-21









P/TV-10b/130/O/A



P/TV/130/FIN A
















D2Xs SETUP

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

TOP
BACK OF 'D2Xs SETUP'

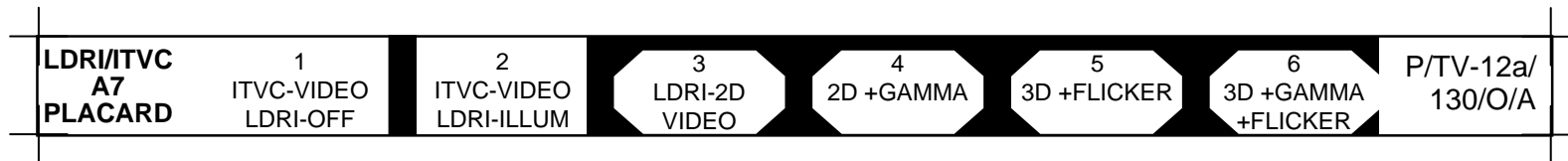
HOOK
VELCRO

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</p> <p>Exp Mode – M SS – 500 f/stop – 8</p> <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>Technique 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 – 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>Technique 1. Focus on crewmember 2. Body Focus Mode – M 3. 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>Technique 1. Focus on crewmember 2. Body Focus Mode – M 3. Frame, Fire</p>

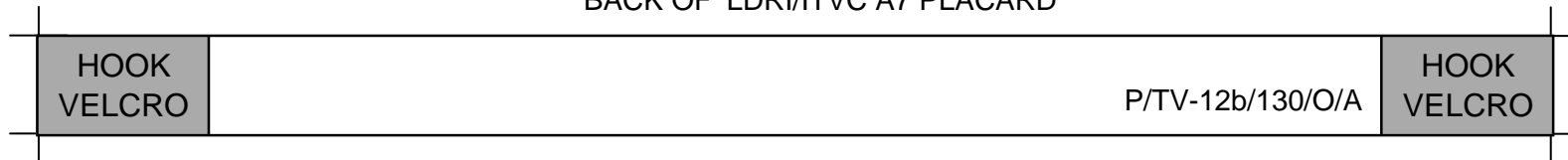
P/TV-11b/130/O/A

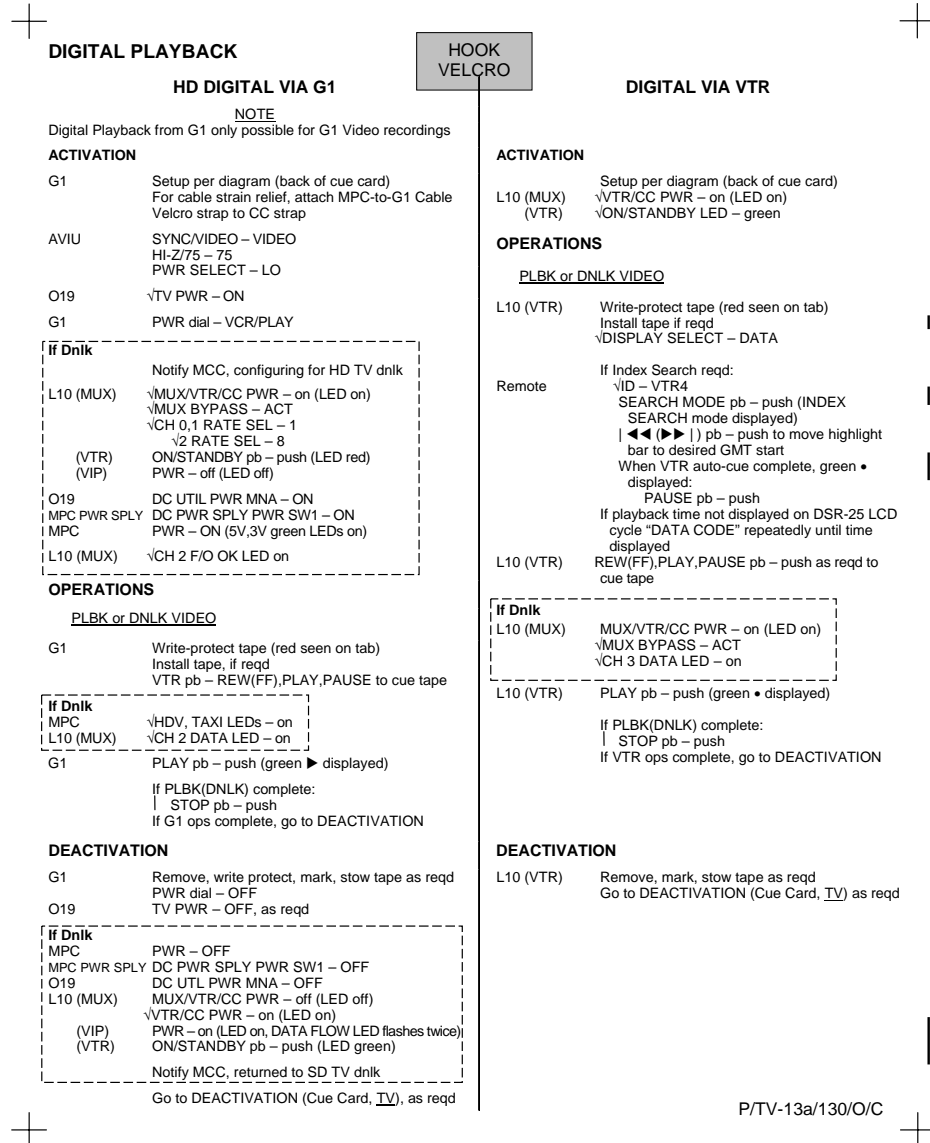
(reduced copy)

TOP



TOP
BACK OF 'LDRI/ITVC A7 PLACARD'





DIGITAL PLAYBACK

HD DIGITAL VIA G1

NOTE

Digital Playback from G1 only possible for G1 Video recordings

ACTIVATION

- G1 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
- G1 PWR dial – VCR/PLAY

- If Dnkl**
Notify MCC, configuring for HD TV dnkl
- L10 (MUX) √MUX/VTR/CC PWR – on (LED on)
√MUX BYPASS – ACT
√CH 0,1 RATE SEL – 1
√2 RATE SEL – 8
 - (VTR) ON/STANDBY pb – push (LED red)
 - (VIP) PWR – off (LED off)
 - 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) √CH 2 F/O OK LED on

OPERATIONS

PLBK or DNKL VIDEO

- G1 Write-protect tape (red seen on tab)
Install tape, if reqd
VTR pb – REW(FF),PLAY,PAUSE to cue tape

- If Dnkl**
- MPC √HDV, TAXI LEDs – on
 - L10 (MUX) √CH 2 DATA LED – on
 - G1 PLAY pb – push (green ► displayed)
- If PLBK(DNKL) complete:
| STOP pb – push
If G1 ops complete, go to DEACTIVATION

DEACTIVATION

- G1 Remove, write protect, mark, stow tape as reqd
PWR dial – OFF
- O19 TV PWR – OFF, as reqd

- If Dnkl**
- 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)
√VTR/CC PWR – on (LED on)
 - (VIP) PWR – on (LED on, DATA FLOW LED flashes twice)
 - (VTR) ON/STANDBY pb – push (LED green)
- Notify MCC, returned to SD TV dnkl
Go to DEACTIVATION (Cue Card, TV), as reqd

DIGITAL VIA VTR

ACTIVATION

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

OPERATIONS

PLBK or DNKL VIDEO

- L10 (VTR) Write-protect tape (red seen on tab)
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 Dnkl**
- L10 (MUX) MUX/VTR/CC PWR – on (LED on)
√MUX BYPASS – ACT
√CH 3 DATA LED – on

- L10 (VTR) PLAY pb – push (green • displayed)
- If PLBK(DNKL) complete:
| STOP pb – push
If VTR ops complete, go to DEACTIVATION

DEACTIVATION

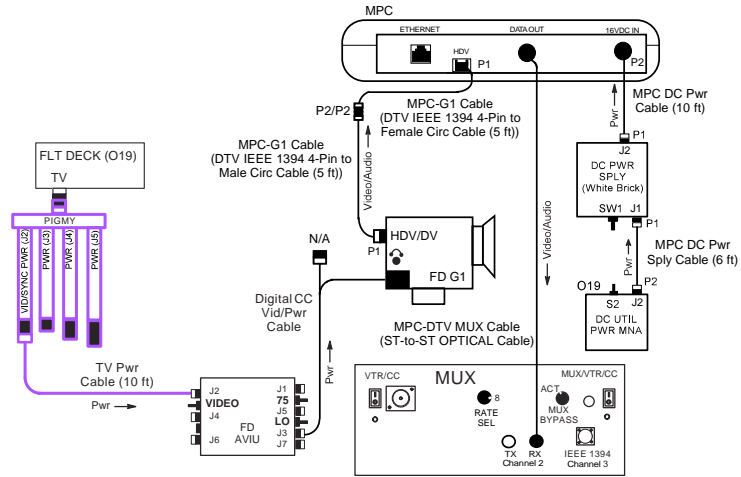
- L10 (VTR) Remove, mark, stow tape as reqd
Go to DEACTIVATION (Cue Card, TV) as reqd

P/TV-13a/130/O/C

TOP
BACK OF 'DIGITAL PLAYBACK'

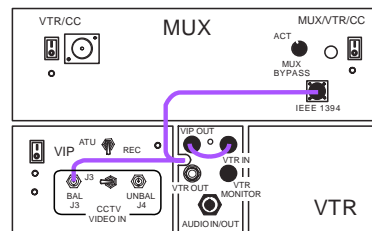
HOOK
VELCRO

HD DIGITAL VIA G1 PLAYBACK



jsc48038_130_012cr2.cvx

DIGITAL VIA VTR PLAYBACK



jsc48038_130_012dr1.cvx

P/TV-13b/130/O/B

(reduced copy)
FS CC 3-26

P/TV/130/FIN A

TOP

G1 SETUP CUE CARD

HOOK
VELCRO

ASSUMPTION: G1 is powered by either direct or battery power

WELL LIT SCENE ("green" <input type="checkbox"/>)	SUN-LIT SCENE (M)	DIM-LIT SCENE (A)
Install Wide Conversion Lens as reqd ND FILTER – OFF (per CC prompt) ✓OUTPUT – CAM ✓A/V1/V2 – V2 ✓ <input type="checkbox"/> .. <input type="checkbox"/> - <input type="checkbox"/> ✓STANDBY/LOCK – STANDBY PWR dial – "green" <input type="checkbox"/> Open LCD ✓Tape installed	Install Wide Conversion Lens as reqd ✓ND FILTER – OFF AF/M – AF(M) AGC – OFF GAIN – L ✓OUTPUT – CAM ✓AWB – ON ✓AUDIO LEVEL – A ✓A/V1/V2 – V2 ✓ <input type="checkbox"/> .. <input type="checkbox"/> - <input type="checkbox"/> ✓STANDBY/LOCK – STANDBY PWR dial – M Open LCD ✓Tape installed ✓GAIN – 0dB SS – 1/500 (Small Wheel) f/stop – F8.0 (Aft Ring) Adjust focus if AF/M – M (Fwd Ring)	Install Wide Conversion Lens as reqd ✓ND FILTER – OFF AF/M – AF AGC – OFF ✓OUTPUT – CAM ✓AWB – ON ✓AUDIO LEVEL – A ✓A/V1/V2 – V2 ✓ <input type="checkbox"/> .. <input type="checkbox"/> - <input type="checkbox"/> ✓STANDBY/LOCK – STANDBY PWR dial – A Open LCD ✓Tape installed ✓GAIN – L (M,H) per Scene

TOP
BACK OF 'G1 SETUP CUE CARD'

HOOK
VELCRO



(reduced copy)
FS CC 3-28

P/TV-17b/130/O/A



P/TV/130/FIN A

NOTE

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NOTE

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PHOTO/TV CHECKLIST

STS
130