MISSION OPERATIONS DIRECTORATE

PHOTO/TV CHECKLIST
STS-130 FLIGHT SUPPLEMENT

FINAL, REVISION A
January 14, 2010

PREPARED BY:

Joe V Lead
Jose G. Leal
Mission Lead

Mary E. Bruce
Publication Manager

APPROVED BY:

David L. Williams
Technical Lead, Shuttle Photo/TV Group

Manager, Flight Procedures

ACCEPTED BY:

Michael T. Hurt
FDF Manager

This document is under the configuration control of the Crew Procedures Control Board (CPCB). All proposed changes must be submitted via Change Request Workflow (CRW) to DO3/FDF Manager.

Additional distribution of this book, for official use only, may be requested in writing to DO3/PMO Administrator. The request must include justification and requester's name, organization, position, and phone number. Contractor requests are made through the NASA or DOD organization supported. Deletions, reduction in quantity, or change of address may be submitted to DO3/FDF Management Office, 281-244-1184.
Incorporates the following:

<table>
<thead>
<tr>
<th>482#:</th>
<th>P/TV_FS-0111</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>P/TV_FS-0116</td>
</tr>
</tbody>
</table>

### AREAS OF TECHNICAL RESPONSIBILITY

<table>
<thead>
<tr>
<th>Role</th>
<th>Name</th>
<th>Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Publication Manager</td>
<td>DO35/M. Bruce</td>
<td>281-483-6083</td>
</tr>
<tr>
<td>Alternate Publication Manager</td>
<td>DO35/L. Giles</td>
<td>281-244-9068</td>
</tr>
<tr>
<td>Mission Lead</td>
<td>DX46/J. Leal</td>
<td>281-483-9933</td>
</tr>
<tr>
<td>Backup Mission Lead</td>
<td>DX46/P. Reichert</td>
<td>281-483-1827</td>
</tr>
<tr>
<td>Technical Lead, Shuttle Photo/TV</td>
<td>DX46/D. Williams</td>
<td>281-244-7882</td>
</tr>
</tbody>
</table>
# LIST OF EFFECTIVE PAGES

<table>
<thead>
<tr>
<th>FS ii</th>
<th>130/FIN A</th>
<th>FS 1-37</th>
<th>130/FIN A</th>
</tr>
</thead>
<tbody>
<tr>
<td>FS iii</td>
<td>130/FIN A</td>
<td>FS 1-38</td>
<td>130/FIN A</td>
</tr>
<tr>
<td>FS iv</td>
<td>130/FIN A</td>
<td>FS 1-39</td>
<td>130/FIN A</td>
</tr>
<tr>
<td>FS v</td>
<td>130/FIN A</td>
<td>FS 1-40</td>
<td>130/FIN A</td>
</tr>
<tr>
<td>FS vi</td>
<td>130/FIN A</td>
<td>FS 1-41</td>
<td>130/FIN A</td>
</tr>
<tr>
<td>FS vii</td>
<td>130/FIN A</td>
<td>FS 1-42</td>
<td>130/FIN A</td>
</tr>
<tr>
<td>FS viii</td>
<td>130/FIN A</td>
<td>FS 1-43</td>
<td>130/FIN A</td>
</tr>
<tr>
<td>FS ix</td>
<td>130/FIN A</td>
<td>FS 1-44</td>
<td>130/FIN A</td>
</tr>
<tr>
<td>FS x</td>
<td>130/FIN A</td>
<td>FS 1-45</td>
<td>130/FIN A</td>
</tr>
<tr>
<td>1-1</td>
<td>generic</td>
<td>FS 1-46</td>
<td>130/FIN A</td>
</tr>
<tr>
<td>1-2</td>
<td>generic</td>
<td>FS 1-47</td>
<td>130/FIN A</td>
</tr>
<tr>
<td>FS 1-1</td>
<td>130/FIN A</td>
<td>FS 1-48</td>
<td>130/FIN A</td>
</tr>
<tr>
<td>FS 1-2</td>
<td>130/FIN A</td>
<td>FS 1-49</td>
<td>130/FIN A</td>
</tr>
<tr>
<td>FS 1-3</td>
<td>130/FIN A</td>
<td>FS 1-50</td>
<td>130/FIN A</td>
</tr>
<tr>
<td>FS 1-4</td>
<td>130/FIN A</td>
<td>FS 1-51</td>
<td>130/FIN A</td>
</tr>
<tr>
<td>FS 1-5</td>
<td>130/FIN A</td>
<td>FS 1-52</td>
<td>130/FIN A</td>
</tr>
<tr>
<td>FS 1-6</td>
<td>130/FIN A</td>
<td>FS 1-53</td>
<td>130/FIN A</td>
</tr>
<tr>
<td>FS 1-7</td>
<td>130/FIN A</td>
<td>FS 1-54</td>
<td>130/FIN A</td>
</tr>
<tr>
<td>FS 1-8</td>
<td>130/FIN A</td>
<td>FS 1-55</td>
<td>130/FIN A</td>
</tr>
<tr>
<td>FS 1-9</td>
<td>130/FIN A</td>
<td>FS 1-56</td>
<td>130/FIN A</td>
</tr>
<tr>
<td>FS 1-10</td>
<td>130/FIN A</td>
<td>FS 1-57</td>
<td>130/FIN A</td>
</tr>
<tr>
<td>FS 1-11</td>
<td>130/FIN A</td>
<td>FS 1-58</td>
<td>130/FIN A</td>
</tr>
<tr>
<td>FS 1-12</td>
<td>130/FIN A</td>
<td>FS 1-59</td>
<td>130/FIN A</td>
</tr>
<tr>
<td>FS 1-13</td>
<td>130/FIN A</td>
<td>FS 1-60</td>
<td>130/FIN A</td>
</tr>
<tr>
<td>FS 1-14</td>
<td>130/FIN A</td>
<td>FS 1-61</td>
<td>130/FIN A</td>
</tr>
<tr>
<td>FS 1-15</td>
<td>130/FIN A</td>
<td>FS 1-62</td>
<td>130/FIN A</td>
</tr>
<tr>
<td>FS 1-16</td>
<td>130/FIN A</td>
<td>FS 1-63</td>
<td>130/FIN A</td>
</tr>
<tr>
<td>FS 1-17</td>
<td>130/FIN A</td>
<td>FS 1-64</td>
<td>130/FIN A</td>
</tr>
<tr>
<td>FS 1-18</td>
<td>130/FIN A</td>
<td>FS 1-65</td>
<td>130/FIN A</td>
</tr>
<tr>
<td>FS 1-19</td>
<td>130/FIN A</td>
<td>FS 1-66</td>
<td>130/FIN A</td>
</tr>
<tr>
<td>FS 1-20</td>
<td>130/FIN A</td>
<td>FS 1-67</td>
<td>130/FIN A</td>
</tr>
<tr>
<td>FS 1-21</td>
<td>130/FIN A</td>
<td>FS 1-68</td>
<td>130/FIN A</td>
</tr>
<tr>
<td>FS 1-22</td>
<td>130/FIN A</td>
<td>FS 1-69</td>
<td>130/FIN A</td>
</tr>
<tr>
<td>FS 1-23</td>
<td>130/FIN A</td>
<td>FS 1-70</td>
<td>130/FIN A</td>
</tr>
<tr>
<td>FS 1-24</td>
<td>130/FIN A</td>
<td>FS 1-71</td>
<td>130/FIN A</td>
</tr>
<tr>
<td>FS 1-25</td>
<td>130/FIN A</td>
<td>FS 1-72</td>
<td>130/FIN A</td>
</tr>
<tr>
<td>FS 1-26</td>
<td>130/FIN A</td>
<td>FS 1-73</td>
<td>130/FIN A</td>
</tr>
<tr>
<td>FS 1-27</td>
<td>130/FIN A</td>
<td>FS 1-74</td>
<td>130/FIN A</td>
</tr>
<tr>
<td>FS 1-28</td>
<td>130/FIN A</td>
<td>FS 1-75</td>
<td>130/FIN A</td>
</tr>
<tr>
<td>FS 1-29</td>
<td>130/FIN A</td>
<td>FS 1-76</td>
<td>130/FIN A</td>
</tr>
<tr>
<td>FS 1-30</td>
<td>130/FIN A</td>
<td>FS 1-77</td>
<td>130/FIN A</td>
</tr>
<tr>
<td>FS 1-31</td>
<td>130/FIN A</td>
<td>FS 1-78</td>
<td>130/FIN A</td>
</tr>
<tr>
<td>FS 1-32</td>
<td>130/FIN A</td>
<td>FS 2-1</td>
<td>130/FIN A</td>
</tr>
<tr>
<td>FS 1-33</td>
<td>130/FIN A</td>
<td>FS 2-2</td>
<td>130/FIN A</td>
</tr>
<tr>
<td>FS 1-34</td>
<td>130/FIN A</td>
<td>FS 2-3</td>
<td>130/FIN A</td>
</tr>
<tr>
<td>FS 1-35</td>
<td>130/FIN A</td>
<td>FS 2-4</td>
<td>130/FIN A</td>
</tr>
<tr>
<td>FS 1-36</td>
<td>130/FIN A</td>
<td>FS 2-5</td>
<td>130/FIN A</td>
</tr>
<tr>
<td>FS 2-6</td>
<td>130/FIN A</td>
<td>FS 2-6</td>
<td>130/FIN A</td>
</tr>
</tbody>
</table>

* – Omit from flight book
⊗ – Flight copies of this page contain color
<table>
<thead>
<tr>
<th>Page</th>
<th>Section</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>FS 2-7</td>
<td>130/FIN A</td>
<td>4-1† generic</td>
</tr>
<tr>
<td>FS 2-8</td>
<td>130/FIN A</td>
<td>4-2† generic</td>
</tr>
<tr>
<td>FS 2-9</td>
<td>130/FIN A</td>
<td>4-3† generic</td>
</tr>
<tr>
<td>FS 2-10</td>
<td>130/FIN A</td>
<td>4-4† generic</td>
</tr>
<tr>
<td>FS 2-11</td>
<td>130/FIN A</td>
<td>4-5† generic</td>
</tr>
<tr>
<td>FS 2-12</td>
<td>130/FIN A</td>
<td>4-6† generic</td>
</tr>
<tr>
<td>FS 2-13</td>
<td>130/FIN A</td>
<td>4-7† generic</td>
</tr>
<tr>
<td>FS 2-14</td>
<td>130/FIN A</td>
<td>4-8† generic</td>
</tr>
<tr>
<td>FS 2-15</td>
<td>130/FIN A</td>
<td>4-9† generic</td>
</tr>
<tr>
<td>FS 2-16</td>
<td>130/FIN A</td>
<td>4-10† generic</td>
</tr>
<tr>
<td>FS 2-17</td>
<td>130/FIN A</td>
<td>4-11† generic</td>
</tr>
<tr>
<td>FS 2-18</td>
<td>130/FIN A</td>
<td>4-12† generic</td>
</tr>
<tr>
<td>FS 2-19</td>
<td>130/FIN A</td>
<td>4-13† generic</td>
</tr>
<tr>
<td>FS 2-20</td>
<td>130/FIN A</td>
<td>4-14† generic</td>
</tr>
<tr>
<td>FS 2-21</td>
<td>130/FIN A</td>
<td>4-15† generic</td>
</tr>
<tr>
<td>FS 2-22</td>
<td>130/FIN A</td>
<td>4-16† generic</td>
</tr>
<tr>
<td>FS 2-23</td>
<td>130/FIN A</td>
<td>4-17† generic</td>
</tr>
<tr>
<td>FS 2-24</td>
<td>130/FIN A</td>
<td>4-18† generic</td>
</tr>
<tr>
<td>FS 2-25</td>
<td>130/FIN A</td>
<td>4-19† generic</td>
</tr>
<tr>
<td>FS 2-26</td>
<td>130/FIN A</td>
<td>4-20† generic</td>
</tr>
<tr>
<td>FS 2-27</td>
<td>130/FIN A</td>
<td>4-21† generic</td>
</tr>
<tr>
<td>FS 2-28</td>
<td>130/FIN A</td>
<td>4-22† generic</td>
</tr>
<tr>
<td>FS 2-29</td>
<td>130/FIN A</td>
<td>4-23† generic</td>
</tr>
<tr>
<td>FS 2-30</td>
<td>130/FIN A</td>
<td>4-24† generic</td>
</tr>
<tr>
<td>FS 3-1</td>
<td>130/FIN A</td>
<td>4-25† generic</td>
</tr>
<tr>
<td>FS 3-2</td>
<td>130/FIN A</td>
<td>4-26† generic</td>
</tr>
<tr>
<td>FS CC 3-3</td>
<td>130/FIN A</td>
<td>4-27† generic</td>
</tr>
<tr>
<td>FS CC 3-4</td>
<td>130/FIN A</td>
<td>4-28† generic</td>
</tr>
<tr>
<td>FS CC 3-5</td>
<td>130/FIN A</td>
<td>4-29† generic</td>
</tr>
<tr>
<td>FS CC 3-6</td>
<td>130/FIN A</td>
<td>4-30† generic</td>
</tr>
<tr>
<td>FS CC 3-7</td>
<td>130/FIN A</td>
<td>4-31† generic</td>
</tr>
<tr>
<td>FS CC 3-8</td>
<td>130/FIN A</td>
<td>4-32† generic</td>
</tr>
<tr>
<td>FS CC 3-9</td>
<td>130/FIN A</td>
<td>4-33† generic</td>
</tr>
<tr>
<td>FS CC 3-10</td>
<td>130/FIN A</td>
<td>4-34† generic</td>
</tr>
<tr>
<td>FS CC 3-11</td>
<td>130/FIN A</td>
<td>4-35† generic</td>
</tr>
<tr>
<td>FS CC 3-12</td>
<td>130/FIN A</td>
<td>4-36† generic</td>
</tr>
<tr>
<td>FS CC 3-13</td>
<td>130/FIN A</td>
<td>4-37† generic</td>
</tr>
<tr>
<td>FS CC 3-14</td>
<td>130/FIN A</td>
<td>4-38† generic</td>
</tr>
<tr>
<td>FS CC 3-15</td>
<td>130/FIN A</td>
<td>5-1† generic</td>
</tr>
<tr>
<td>FS CC 3-16</td>
<td>130/FIN A</td>
<td>5-2† generic</td>
</tr>
<tr>
<td>FS CC 3-17</td>
<td>130/FIN A</td>
<td>5-3† generic</td>
</tr>
<tr>
<td>FS CC 3-18</td>
<td>130/FIN A</td>
<td>5-4† generic</td>
</tr>
<tr>
<td>FS CC 3-19</td>
<td>130/FIN A</td>
<td>5-5† generic</td>
</tr>
<tr>
<td>FS CC 3-20</td>
<td>130/FIN A</td>
<td>5-6† generic</td>
</tr>
<tr>
<td>FS CC 3-21</td>
<td>130/FIN A</td>
<td>5-7† generic</td>
</tr>
<tr>
<td>FS CC 3-22</td>
<td>130/FIN A</td>
<td>5-8† generic</td>
</tr>
<tr>
<td>FS CC 3-23</td>
<td>130/FIN A</td>
<td>5-9† generic</td>
</tr>
<tr>
<td>FS CC 3-24</td>
<td>130/FIN A</td>
<td>5-10† generic</td>
</tr>
<tr>
<td>FS CC 3-25</td>
<td>130/FIN A</td>
<td>5-11† generic</td>
</tr>
<tr>
<td>FS CC 3-26</td>
<td>130/FIN A</td>
<td>5-12† generic</td>
</tr>
<tr>
<td>FS CC 3-27</td>
<td>130/FIN A</td>
<td>5-13† generic</td>
</tr>
<tr>
<td>FS CC 3-28</td>
<td>130/FIN A</td>
<td>5-14† generic</td>
</tr>
<tr>
<td>FS 3-29 (4 pgs)</td>
<td>130/FIN A</td>
<td>5-15† generic</td>
</tr>
<tr>
<td>FS 3-30 (4 pgs)</td>
<td>130/FIN A</td>
<td>5-16† generic</td>
</tr>
<tr>
<td>4-i</td>
<td>generic</td>
<td>5-17† generic</td>
</tr>
<tr>
<td>4-ii</td>
<td>generic</td>
<td>5-18† generic</td>
</tr>
</tbody>
</table>

⊗ – Flight copies of this page contain color
Δ – Replace with blue K-10 card stock in flight book only
† – May be replaced with CD in flight book only
<table>
<thead>
<tr>
<th>Page</th>
<th>Description</th>
<th>Page</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>5-19</td>
<td>† generic</td>
<td>9-1</td>
<td>† generic</td>
</tr>
<tr>
<td>5-20</td>
<td>† generic</td>
<td>9-2</td>
<td>† generic</td>
</tr>
<tr>
<td>5-21</td>
<td>† generic</td>
<td>9-3</td>
<td>† generic</td>
</tr>
<tr>
<td>5-22</td>
<td>† generic</td>
<td>9-4</td>
<td>† generic</td>
</tr>
<tr>
<td>5-23</td>
<td>† generic</td>
<td>10-1</td>
<td>† generic</td>
</tr>
<tr>
<td>5-24</td>
<td>† generic</td>
<td>10-2</td>
<td>† generic</td>
</tr>
<tr>
<td>6-1</td>
<td>† generic</td>
<td>10-3</td>
<td>† generic</td>
</tr>
<tr>
<td>6-2</td>
<td>† generic</td>
<td>10-4</td>
<td>† generic</td>
</tr>
<tr>
<td>6-3</td>
<td>† generic</td>
<td>10-5</td>
<td>† generic</td>
</tr>
<tr>
<td>6-4</td>
<td>† generic</td>
<td>10-6</td>
<td>† generic</td>
</tr>
<tr>
<td>6-5</td>
<td>† generic</td>
<td>10-7</td>
<td>† generic</td>
</tr>
<tr>
<td>6-6</td>
<td>† generic</td>
<td>10-8</td>
<td>† generic</td>
</tr>
<tr>
<td>6-7</td>
<td>† generic</td>
<td>10-9</td>
<td>† generic</td>
</tr>
<tr>
<td>6-8</td>
<td>† generic</td>
<td>10-10</td>
<td>† generic</td>
</tr>
<tr>
<td>6-9</td>
<td>† generic</td>
<td>10-11</td>
<td>† generic</td>
</tr>
<tr>
<td>6-10</td>
<td>† generic</td>
<td>10-12</td>
<td>† generic</td>
</tr>
<tr>
<td>6-11</td>
<td>† generic</td>
<td>10-13</td>
<td>† generic</td>
</tr>
<tr>
<td>6-12</td>
<td>† generic</td>
<td>10-14</td>
<td>† generic</td>
</tr>
<tr>
<td>6-13</td>
<td>† generic</td>
<td>10-15</td>
<td>† generic</td>
</tr>
<tr>
<td>6-14</td>
<td>† generic</td>
<td>10-16</td>
<td>† generic</td>
</tr>
<tr>
<td>6-15</td>
<td>† generic</td>
<td>10-17</td>
<td>† generic</td>
</tr>
<tr>
<td>6-16</td>
<td>† generic</td>
<td>10-18</td>
<td>† generic</td>
</tr>
<tr>
<td>6-17</td>
<td>† generic</td>
<td>10-19</td>
<td>† generic</td>
</tr>
<tr>
<td>6-18</td>
<td>† generic</td>
<td>10-20</td>
<td>† generic</td>
</tr>
<tr>
<td>7-1</td>
<td>† generic</td>
<td>10-21</td>
<td>† generic</td>
</tr>
<tr>
<td>7-2</td>
<td>† generic</td>
<td>10-22</td>
<td>† generic</td>
</tr>
<tr>
<td>7-3</td>
<td>† generic</td>
<td>10-23</td>
<td>† generic</td>
</tr>
<tr>
<td>7-4</td>
<td>† generic</td>
<td>10-24</td>
<td>† generic</td>
</tr>
<tr>
<td>7-5</td>
<td>† generic</td>
<td>10-25</td>
<td>† generic</td>
</tr>
<tr>
<td>7-6</td>
<td>† generic</td>
<td>10-26</td>
<td>† generic</td>
</tr>
<tr>
<td>7-7</td>
<td>† generic</td>
<td>11-1</td>
<td>† generic</td>
</tr>
<tr>
<td>7-8</td>
<td>† generic</td>
<td>11-2</td>
<td>† generic</td>
</tr>
<tr>
<td>7-9</td>
<td>† generic</td>
<td>11-3</td>
<td>† generic</td>
</tr>
<tr>
<td>7-10</td>
<td>† generic</td>
<td>11-4</td>
<td>† generic</td>
</tr>
<tr>
<td>7-11</td>
<td>† generic</td>
<td>11-5</td>
<td>† generic</td>
</tr>
<tr>
<td>7-12</td>
<td>† generic</td>
<td>11-6</td>
<td>† generic</td>
</tr>
<tr>
<td>7-13</td>
<td>† generic</td>
<td>11-7</td>
<td>† generic</td>
</tr>
<tr>
<td>7-14</td>
<td>† generic</td>
<td>11-8</td>
<td>† generic</td>
</tr>
<tr>
<td>7-15</td>
<td>† generic</td>
<td>11-9</td>
<td>† generic</td>
</tr>
<tr>
<td>7-16</td>
<td>† generic</td>
<td>11-10</td>
<td>† generic</td>
</tr>
<tr>
<td>7-17</td>
<td>† generic</td>
<td>11-11</td>
<td>† generic</td>
</tr>
<tr>
<td>7-18</td>
<td>† generic</td>
<td>11-12</td>
<td>† generic</td>
</tr>
<tr>
<td>7-18a</td>
<td>† generic</td>
<td>12-1</td>
<td>† generic</td>
</tr>
<tr>
<td>7-18b</td>
<td>† generic</td>
<td>12-2</td>
<td>† generic</td>
</tr>
<tr>
<td>7-19</td>
<td>† generic</td>
<td>12-3</td>
<td>† generic</td>
</tr>
<tr>
<td>7-20</td>
<td>† generic</td>
<td>12-4</td>
<td>† generic</td>
</tr>
<tr>
<td>7-21</td>
<td>† generic</td>
<td>12-5</td>
<td>† generic</td>
</tr>
<tr>
<td>7-22</td>
<td>† generic</td>
<td>12-6</td>
<td>† generic</td>
</tr>
<tr>
<td>7-23</td>
<td>† generic</td>
<td>12-7</td>
<td>† generic</td>
</tr>
<tr>
<td>7-24</td>
<td>† generic</td>
<td>12-8</td>
<td>† generic</td>
</tr>
<tr>
<td>8-1</td>
<td>† generic</td>
<td>12-9</td>
<td>† generic</td>
</tr>
<tr>
<td>8-2</td>
<td>† generic</td>
<td>12-10</td>
<td>† generic</td>
</tr>
<tr>
<td>8-3</td>
<td>† generic</td>
<td>12-11</td>
<td>† generic</td>
</tr>
<tr>
<td>8-4</td>
<td>† generic</td>
<td>12-12</td>
<td>† generic</td>
</tr>
<tr>
<td>8-5</td>
<td>† generic</td>
<td>12-12a</td>
<td>† generic</td>
</tr>
<tr>
<td>8-6</td>
<td>† generic</td>
<td>12-12b</td>
<td>† generic</td>
</tr>
</tbody>
</table>

† – May be replaced with CD in flight book only
⊗ – Flight copies of this page contain color
<table>
<thead>
<tr>
<th>Page</th>
<th>Description</th>
<th>Page</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>12-13</td>
<td>† generic</td>
<td>19-3</td>
<td>† generic</td>
</tr>
<tr>
<td>12-14</td>
<td>† generic</td>
<td>19-4</td>
<td>† generic</td>
</tr>
<tr>
<td>12-15</td>
<td>† generic</td>
<td>19-5</td>
<td>† generic</td>
</tr>
<tr>
<td>12-16</td>
<td>† generic</td>
<td>19-6</td>
<td>† generic</td>
</tr>
<tr>
<td>12-17</td>
<td>† generic</td>
<td>19-7</td>
<td>† generic</td>
</tr>
<tr>
<td>12-18</td>
<td>† generic</td>
<td>19-8</td>
<td>† generic</td>
</tr>
<tr>
<td>12-19</td>
<td>† generic</td>
<td>19-9</td>
<td>† generic</td>
</tr>
<tr>
<td>12-20</td>
<td>† generic</td>
<td>19-10</td>
<td>† generic</td>
</tr>
<tr>
<td>13-1</td>
<td>† generic</td>
<td>19-11</td>
<td>† generic</td>
</tr>
<tr>
<td>13-2</td>
<td>† generic</td>
<td>19-12</td>
<td>† generic</td>
</tr>
<tr>
<td>13-3</td>
<td>† generic</td>
<td>20-1</td>
<td>† generic</td>
</tr>
<tr>
<td>13-4</td>
<td>† generic</td>
<td>20-2</td>
<td>† generic</td>
</tr>
<tr>
<td>13-5</td>
<td>† generic</td>
<td>20-3</td>
<td>† generic</td>
</tr>
<tr>
<td>13-6</td>
<td>† generic</td>
<td>20-4</td>
<td>† generic</td>
</tr>
<tr>
<td>13-7</td>
<td>† generic</td>
<td>20-5</td>
<td>† generic</td>
</tr>
<tr>
<td>13-8</td>
<td>† generic</td>
<td>20-6</td>
<td>† generic</td>
</tr>
<tr>
<td>13-9</td>
<td>† generic</td>
<td>20-7</td>
<td>† generic</td>
</tr>
<tr>
<td>13-10</td>
<td>† generic</td>
<td>20-8</td>
<td>† generic</td>
</tr>
<tr>
<td>13-11</td>
<td>† generic</td>
<td>20-9</td>
<td>† generic</td>
</tr>
<tr>
<td>13-12</td>
<td>† generic</td>
<td>20-10</td>
<td>† generic</td>
</tr>
<tr>
<td>14-1</td>
<td>† generic</td>
<td>20-11</td>
<td>† generic</td>
</tr>
<tr>
<td>14-2</td>
<td>† generic</td>
<td>20-12</td>
<td>† generic</td>
</tr>
<tr>
<td>14-3</td>
<td>† generic</td>
<td>20-13</td>
<td>† generic</td>
</tr>
<tr>
<td>14-4</td>
<td>† generic</td>
<td>20-14</td>
<td>† generic</td>
</tr>
<tr>
<td>15-1</td>
<td>† generic</td>
<td>20-15</td>
<td>† generic</td>
</tr>
<tr>
<td>15-2</td>
<td>† generic</td>
<td>20-16</td>
<td>† generic</td>
</tr>
<tr>
<td>15-3</td>
<td>† generic</td>
<td>20-17</td>
<td>† generic</td>
</tr>
<tr>
<td>15-4</td>
<td>† generic</td>
<td>20-18</td>
<td>† generic</td>
</tr>
<tr>
<td>15-5</td>
<td>† generic</td>
<td>20-19</td>
<td>† generic</td>
</tr>
<tr>
<td>15-6</td>
<td>† generic</td>
<td>20-20</td>
<td>† generic</td>
</tr>
<tr>
<td>15-7</td>
<td>† generic</td>
<td>20-21</td>
<td>† generic</td>
</tr>
<tr>
<td>15-8</td>
<td>† generic</td>
<td>20-22</td>
<td>† generic</td>
</tr>
<tr>
<td>15-9</td>
<td>† generic</td>
<td>21-1</td>
<td>† generic</td>
</tr>
<tr>
<td>15-10</td>
<td>† generic</td>
<td>21-2</td>
<td>† generic</td>
</tr>
<tr>
<td>15-11</td>
<td>† generic</td>
<td>16-1</td>
<td>† generic</td>
</tr>
<tr>
<td>15-12</td>
<td>† generic</td>
<td>16-2</td>
<td>† generic</td>
</tr>
<tr>
<td>15-13</td>
<td>† generic</td>
<td>16-3</td>
<td>† generic</td>
</tr>
<tr>
<td>15-14</td>
<td>† generic</td>
<td>16-4</td>
<td>† generic</td>
</tr>
<tr>
<td>15-15</td>
<td>† generic</td>
<td>16-5</td>
<td>† generic</td>
</tr>
<tr>
<td>15-16</td>
<td>† generic</td>
<td>16-6</td>
<td>† generic</td>
</tr>
<tr>
<td>16-1</td>
<td>† generic</td>
<td>17-1</td>
<td>† generic</td>
</tr>
<tr>
<td>16-2</td>
<td>† generic</td>
<td>17-2</td>
<td>† generic</td>
</tr>
<tr>
<td>16-3</td>
<td>† generic</td>
<td>18-1</td>
<td>† generic</td>
</tr>
<tr>
<td>16-4</td>
<td>† generic</td>
<td>18-2</td>
<td>† generic</td>
</tr>
<tr>
<td>16-5</td>
<td>† generic</td>
<td>18-3</td>
<td>† generic</td>
</tr>
<tr>
<td>16-6</td>
<td>† generic</td>
<td>18-4</td>
<td>† generic</td>
</tr>
<tr>
<td>16-7</td>
<td>† generic</td>
<td>18-5</td>
<td>† generic</td>
</tr>
<tr>
<td>17-1</td>
<td>† generic</td>
<td>18-6</td>
<td>† generic</td>
</tr>
<tr>
<td>17-2</td>
<td>† generic</td>
<td>19-1</td>
<td>† generic</td>
</tr>
<tr>
<td>18-1</td>
<td>† generic</td>
<td>19-2</td>
<td>† generic</td>
</tr>
<tr>
<td>18-2</td>
<td>† generic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18-3</td>
<td>† generic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18-4</td>
<td>† generic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18-5</td>
<td>† generic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18-6</td>
<td>† generic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19-1</td>
<td>† generic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19-2</td>
<td>† generic</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

† – May be replaced with CD in flight book only
⊗ – Flight copies of this page contain color
<table>
<thead>
<tr>
<th>Title</th>
<th>Ref. Page</th>
<th>Card No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>TV</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Front) ........................................</td>
<td>FS CC 3-3</td>
<td>P/TV-1a/130/O/A</td>
</tr>
<tr>
<td>(Back) .........................................</td>
<td>FS CC 3-4</td>
<td>P/TV-1b/130/O/A</td>
</tr>
<tr>
<td>ANALOG PLAYBACK</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Front) ........................................</td>
<td>FS CC 3-5</td>
<td>P/TV-2a/130/O/B</td>
</tr>
<tr>
<td>(Back) .........................................</td>
<td>FS CC 3-6</td>
<td>P/TV-2b/130/O/B</td>
</tr>
<tr>
<td>ET PHOTO</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Front) ........................................</td>
<td>FS CC 3-7</td>
<td>P/TV-3a/130/O/B</td>
</tr>
<tr>
<td>(Back) .........................................</td>
<td>FS CC 3-7</td>
<td>P/TV-3b/130/O/B</td>
</tr>
<tr>
<td>MEDIA ALLOCATIONS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Front) ........................................</td>
<td>FS CC 3-8</td>
<td>P/TV-4a/130/O/B</td>
</tr>
<tr>
<td>(Back) .........................................</td>
<td>FS CC 3-9</td>
<td>P/TV-4b/130/O/B</td>
</tr>
<tr>
<td>WVS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Front) ........................................</td>
<td>FS CC 3-10</td>
<td>P/TV-5a/130/O/A</td>
</tr>
<tr>
<td>(Back) .........................................</td>
<td>FS CC 3-11</td>
<td>P/TV-5b/130/O/A</td>
</tr>
<tr>
<td>PLBD VTR RECORDING</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Front) ........................................</td>
<td>FS CC 3-12</td>
<td>P/TV-6a/130/O/A</td>
</tr>
<tr>
<td>(Back) .........................................</td>
<td>FS CC 3-13</td>
<td>P/TV-6b/130/O/A</td>
</tr>
<tr>
<td>LDRI/ITVC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Front) ........................................</td>
<td>FS CC 3-14</td>
<td>P/TV-7a/130/O/C</td>
</tr>
<tr>
<td>(Back) .........................................</td>
<td>FS CC 3-15</td>
<td>P/TV-7b/130/O/A</td>
</tr>
<tr>
<td>LCS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Front) ........................................</td>
<td>FS CC 3-16</td>
<td>P/TV-8a/130/O/B</td>
</tr>
<tr>
<td>(Back) .........................................</td>
<td>FS CC 3-17</td>
<td>P/TV-8b/130/O/A</td>
</tr>
<tr>
<td>IDC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Front) ........................................</td>
<td>FS CC 3-18</td>
<td>P/TV-9a/130/O/B</td>
</tr>
<tr>
<td>(Back) .........................................</td>
<td>FS CC 3-19</td>
<td>P/TV-9b/130/O/A</td>
</tr>
<tr>
<td>VIDEO SETUP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Front) ........................................</td>
<td>FS CC 3-20</td>
<td>P/TV-10a/130/O/C</td>
</tr>
<tr>
<td>(Back) .........................................</td>
<td>FS CC 3-21</td>
<td>P/TV-10b/130/O/A</td>
</tr>
<tr>
<td>D2Xs SETUP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Front) ........................................</td>
<td>FS CC 3-22</td>
<td>P/TV-11a/130/O/B</td>
</tr>
<tr>
<td>(Back) .........................................</td>
<td>FS CC 3-23</td>
<td>P/TV-11b/130/O/A</td>
</tr>
<tr>
<td>LDRI/ITVC A7 PLACARD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Front) ........................................</td>
<td>FS CC 3-24</td>
<td>P/TV-12a/130/O/A</td>
</tr>
<tr>
<td>(Back) .........................................</td>
<td>FS CC 3-24</td>
<td>P/TV-12b/130/O/A</td>
</tr>
<tr>
<td>DIGITAL PLAYBACK</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Front) ........................................</td>
<td>FS CC 3-25</td>
<td>P/TV-13a/130/O/C</td>
</tr>
<tr>
<td>(Back) .........................................</td>
<td>FS CC 3-26</td>
<td>P/TV-13b/130/O/B</td>
</tr>
<tr>
<td>G1 SETUP CUE CARD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Front) ........................................</td>
<td>FS CC 3-27</td>
<td>P/TV-17a/130/O/A</td>
</tr>
<tr>
<td>(Back) .........................................</td>
<td>FS CC 3-28</td>
<td>P/TV-17b/130/O/A</td>
</tr>
</tbody>
</table>
This Page Intentionally Blank
# TABLE OF CONTENTS

## FLIGHT SPECIFIC

<table>
<thead>
<tr>
<th>SCENES</th>
<th>FS 1-1</th>
</tr>
</thead>
<tbody>
<tr>
<td>P/TV01 VIDEO SETUP</td>
<td>FS 1-4</td>
</tr>
<tr>
<td>P/TV02 DOCK</td>
<td>FS 1-14</td>
</tr>
<tr>
<td>P/TV03 UNDOCK</td>
<td>FS 1-24</td>
</tr>
<tr>
<td>P/TV04 INGRESS/EGRESS</td>
<td>FS 1-34</td>
</tr>
<tr>
<td>P/TV05 ISS INTERNAL OPS (HC)</td>
<td>FS 1-40</td>
</tr>
<tr>
<td>P/TV06 ROBOTICS OPERATIONS</td>
<td>FS 1-48</td>
</tr>
<tr>
<td>P/TV07 EVA</td>
<td>FS 1-52</td>
</tr>
<tr>
<td>P/TV08 EXTERNAL SURVEY</td>
<td>FS 1-60</td>
</tr>
<tr>
<td>P/TV09 GLACIER</td>
<td>FS 1-68</td>
</tr>
<tr>
<td>P/TV10 SEITE, SIMPLEX PAYLOADS</td>
<td>FS 1-74</td>
</tr>
</tbody>
</table>

## REFERENCED PROCEDURES

<table>
<thead>
<tr>
<th>FS 2-1</th>
</tr>
</thead>
<tbody>
<tr>
<td>CUE CARD CONFIGURATION</td>
</tr>
</tbody>
</table>

## GENERIC

<p>| NIKON D2Xs                                   | 4-1 |
| D2Xs EVA CAMR                               | 5-1 |
| EVA IR CAMR                                 | 6-1 |
| CANON G1                                    | 7-1 |
| SONY V10                                    | 8-1 |
| PORTABLE MONITORS                           | 9-1 |
| CCTV                                        | 10-1 |
| CENTERLINE (C/L) CAMR                       | 11-1 |
| DTV                                         | 12-1 |
| BPSMU                                       | 13-1 |
| MINI-CAM                                    | 14-1 |
| WIRELESS VIDEO SYSTEM (WVS)                  | 15-1 |
| SEQUENTIAL STILL VIDEO (SSV)                | 16-1 |
| BINOCULARS                                  | 17-1 |
| FIBERSCOPE                                  | 18-1 |</p>
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>LASER DYNAMIC RANGE IMAGER (LDRI)</td>
<td>19-1</td>
</tr>
<tr>
<td>LASER CAMR SYSTEM (LCS)/INTEGRATED SENSOR INSPECTION SYSTEM DIGITAL CAMR (IDC)</td>
<td>20-1</td>
</tr>
<tr>
<td>BATTS &amp; FUSES</td>
<td>21-1</td>
</tr>
</tbody>
</table>
SCENES

P/TV01 VIDEO SETUP ................................................................................................................................................................................. FS 1-4
P/TV02 DOCK .............................................................................................................................................................................................. FS 1-14
P/TV03 UNDOCK ......................................................................................................................................................................................... FS 1-24
P/TV04 INGRESS/EGRESS .......................................................................................................................................................................... FS 1-34
P/TV05 ISS INTERNAL OPS (HC) ............................................................................................................................................................... FS 1-40
P/TV06 ROBOTICS OPERATIONS ............................................................................................................................................................. FS 1-48
P/TV07 EVA .................................................................................................................................................................................................. FS 1-52
P/TV08 EXTERNAL SURVEY .................................................................................................................................................................... FS 1-60
P/TV09 GLACIER ......................................................................................................................................................................................... FS 1-68
P/TV10 SEITE, SIMPLEX PAYLOADS ......................................................................................................................................................... FS 1-74
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
Temp stow AVIU and attached Digital CC Vid/Pwr Cable for FD CC

F1 Disconnect Mini-Cam; stow body, Brkt, 3.5mm Lens in A17/DTV Bag

A15 Connect DTV Audio Cable to PS CCU
Config DTV H/W per H/W SUMMARY, FS 1-4

Config Panels

L10 (MUX) √VTR/CC PWR – on (LED on)
If dnlk:
- 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)

Config Video

MON 1 SOURCE – DNLK
MON 2 SOURCE – C
L9 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
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)
HI-Z/75 – 75

Fit Deck
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

MF71O

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)  PDIP 2 PWR 1 (CB3) – cl
L11 (PDIP 2)  DC PWR 1 – ON

Config SSV settings
SSID 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
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

Configure WVS 1,2 V10s and Cables per H/W SUMMARY, FS 1-4
Connect:
  WVS 1,2 Digital CC Vid/Pwr Cables to WVS 1,2 V10s
  WVS 1,2 AVIU-CC Vid Cables to WVS 1,2 V10s
  Multiuse Brkt to desk
  Pre-routed WVS 1,2 Balanced Video Cables from R12/VPU XCVR 1,2 BAL to WVS 1,2 AVIU J4
  Pre-routed WVS TV Pwr Cables to WVS 1,2 AVIU J2
  Balanced Video Cables stowed on WVS Stow-n-Go desk to WVS 1,2 AVIU J6
  ATU Recorder Cables to left (white) port per H/W SUMMARY, FS 1-4
  Multiuse Brkt to wall
  PCMCIA-to-WIB Remote Cable to R12/WIB J701
  RS-422 PCMCIA Card/Cable Assy and PCMCIA-to-WIB Remote Cable to bottom PCMCIA slot on A31p per PGSC Usage Chart

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

V10 (two)

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

Tape installed

WVS Test Pattern displayed (color bars w/"No WVS Video")

PWR – OFF

R10  Config MS ATU/CCU per Comm Plan
P/TV01  VIDEO SETUP (Continued)

P/TV01  VIDEO SETUP (Continued)

8. Perform WVS Setup (Continued)

  c. WVS PGSC Prep

     PGSC Powerup and Application Opening

     PGSC

     √ Pwr – ON
     Sel Shuttle Apps icon
     Sel WVS icon

     Sel ‘No’ at ‘Restore To Previous Settings:’ window

     If ‘Comm Port Configuration’ error displayed:
        Remove Quatech RS-422 Card
        Sel ‘Start’ > ‘Shut Down’ > ‘Shut Down’ > ‘OK’
        Reinstall Quatech RS-422 Card in bottom PCMCIA slot
        Pwr – ON
        Sel Shuttle Apps icon
        Sel WVS icon
     RF Camera page will appear

     Application Setup
     If ‘Static XCVR’ (‘Bad Camera ID’, ‘Temp Alert’, ‘Temp Caution’) alert msg:
        Perform ALERT MSG TROUBLESHOOTING (Cue Card, WVS)
     If ‘Static RF Camera’ alert msg:
        Disregard
     Sel ‘File’ → ‘Assign Camera ID’
     Verify following:

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

     If Camr IDs not correct:
        Sel ‘Delete Entry’ until all deleted
     Perform CAMR ID ASSIGNMENT (Cue Card, WVS) as reqd
     When complete, sel ‘OK’
P/TV01 VIDEO SETUP (Concluded)

SETUP (Concluded)

8. Perform WVS Setup (Concluded)
   c. WVS PGSC Prep (Concluded)

   Application Setup (Concluded)

   Sel ‘File’ → ‘Advanced Controls’
   On XVCR tab:
      √ IF – selected
      √ Other options not selected
   Sel RF Camera tab:
      √ Power Selections – selected
      √ Automatic Gain Control – selected
      √ S-Band Level – selected
      √ Other options not selected
   When complete, sel ‘OK’

d. PWRDN

   Sel ‘File’ → ‘Exit’

A7      WIRELESS VID PWR – OFF
       HTR – OFF

MF71O   9. Unstow, set up BPSMU w/BPSMU to CCU Adapter Cable at CDR CCU
        Connect BPSMU Batt
This Page Intentionally Blank
This Page Intentionally Blank
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 –
     - Exp Comp – 0 EV
     - Tilt – 45° (Direct)
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 (ך) – 0.0
- Exp Mode – M
  - SS – 500
  - f/stop – 8
- Meter – Matrix (ן)
- 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)

√Tape installed
DISPLAY pb – Toggle to display tape counter

For in-cabin views:

G1

√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
- SS – 1/500
- GAIN – 0dB
- f/stop – F8.0
- FOCUS – M ∞ (adjust as reqd)
- Tape installed
  - Open LCD
  - “green” •|| displayed
  - ON/STANDBY/LOCK – STANDBY
  - POWER dial – M
  - Tape installed
  - MON 1,2 SOURCE – PNL
  - VTR/CC PWR – on (LED on)
  - If dlnk, MUX/VTR/CC PWR – on (LED on)
  - (VIP) PWR – on (LED on)
  - (VTR) ON/STANDBY LED – green
  - 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
<table>
<thead>
<tr>
<th>√</th>
<th>Item # Track #</th>
<th>Rqmts</th>
<th>Still Imagery</th>
<th>Video</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. 20A-9</td>
<td>PAO Coverage</td>
<td>D2Xs 12-24mm</td>
<td>As desired</td>
<td>G1 Tape installed</td>
<td>Plan for end of day crew choice video, DCS</td>
</tr>
<tr>
<td></td>
<td></td>
<td>If exterior: Flash ON/OFF – OFF</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. 20A-3 20A-10</td>
<td>Rendezvous</td>
<td>D2Xs 400mm(80-200mm) Flash ON/OFF – OFF</td>
<td>A(B,C,D), ELB</td>
<td>G1 As desired</td>
<td>Map ISS surfaces w/30% overlap Rcd C/L Camr video thru hard dock on DTV</td>
</tr>
<tr>
<td></td>
<td>• Map ISS surface</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Closeup</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Damage</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Deterioration Approach</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• PMA-2 Docking Target Alignment</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• PMA-2 Mating Surfaces</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• PMA-2 Hemispherical and Planar Retroreflectors</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• MISSE</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• SOLAR</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
OPSA (Continued)

APPROACH/DOCKING RQMTS

Mapping of ISS Module Surfaces

PMA2 APDS Area

PAO Views

C/L Camr

Cmr A(D)

Cmr C(B)

D2Xs Camr w/12-24mm Lens

D2Xs Camr w/80-200mm Lens

D2Xs Camr w/400mm Lens

Range Ruler

Docking View

MON 1
DTV (RCD)

MON 2
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
   CAMR CMD IRIS – CL
   L12 (SSP 2) C/L CAM PWR – OFF

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

3. G1
   PWR dial – “green”
   Install Wide Conversion Lens
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 – [ TTL ]
     - 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 – $\infty$-6m
       Lens Focus Mode – A
     If 80-200mm:
       Focus Limit – full
       Lens Focus Mode – M/A
   Aperture – Min, locked
   Body Focus Mode – S
   $\sqrt{\text{Batt}}$ installed
   $\sqrt{\text{Flash Card}}$ installed
   Pwr – ON
   Top LCD
     $\sqrt{\text{Batt}}$
     $\sqrt{\text{Frames remaining sufficient}}$
   Exp Comp (ื) – 0.0
   Exp Mode – M
     SS – 500
     f/stop – 8
   Meter – Matrix (直辖市)
   Diopter – Adjust
   Frame Rate – S
   $\sqrt{\text{BKT disabled}}$ – 0 F
   Rear LCD
     $\sqrt{\text{ISO}}$ – 100
     $\sqrt{\text{QUAL}}$ – RAW
     $\sqrt{\text{WB}}$ – 0, A
   AF Area Mode – [1]
   $\sqrt{\text{Focus Area}}$ – Center
   $\sqrt{\text{Focus Selector Lock}}$ – 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
PWR – ON
(MON 1,2)
√ Tape installed
   DISPLAY pb – Toggle to display tape counter

   For in-cabin views:

   G1
   √ 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
- \[\text{LE} \cdot 3.0 \text{ } \text{ MAX}\]
- STANDBY/LOCK – STANDBY
- PWR dial – M
- Tape installed
- Open LCD
  - “green” •|| displayed
  - SS – 1/500
  - GAIN – 0dB
  - f/stop – F8.0
  - FOCUS – M \(\infty\) – (adjust as reqd)
  - Install Audio Muting Plug (optional)

**MON 2**
- SOURCE – C

**L10 (MUX)**
- VTR/CC PWR – on (LED on)
  - If dnlk, MUX/VTR/CC PWR – on (LED on)
- PWR – on (LED on)

**VIP**
- ON/STANDBY LED – green
  - Tape installed

**VTR**
- 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
## OPS

<table>
<thead>
<tr>
<th>Item #</th>
<th>Track #</th>
<th>Rqmts</th>
<th>Still Imagery</th>
<th>Video</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>20A-9</td>
<td>PAO Coverage</td>
<td>D2Xs 12-24mm</td>
<td>G1 Tape installed</td>
<td>Plan for end of day crew choice video, DCS</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>If exterior: Flash ON/OFF – OFF</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>20A-5</td>
<td>Undock</td>
<td>D2Xs 80-200mm (400mm)</td>
<td>G1 As desired</td>
<td>Map ISS surfaces w/30% overlap</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• PMA-2 Mating Surfaces</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• PMA-2 Hemispherical and Retro Planar Reflectors</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• MISSE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• SOLAR</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>20A-2</td>
<td>Flyaround</td>
<td>D2Xs 80-200mm (400mm)</td>
<td>G1</td>
<td>IVA stills returned post flight</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Surfaces</td>
<td></td>
<td></td>
<td>External video returned post flight</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Solar panels</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Handrails</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• SM thrusters (Zenith side near aft end)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Trusses including radiators, baseplates, and saws (especially in/outboard SABB insulation degradation)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
UNDOCKING/FLYAROUND RQMTS

- D2Xs Camr w/80-200mm Lens
- D2Xs Camr w/400mm Lens
- D2Xs Camr w/12-24mm Lens
- MON 1: D2Xs Camr w/80-200mm Lens
- MON 1: D2Xs Camr w/400mm Lens
- MON 1: D2Xs Camr w/12-24mm Lens
- MON 2: DTV
- MON 2: DTV

UNDOCKING/FLYAROUND RQMTS

- PMA2 APDS Area
- Mapping of ISS Module Surfaces
- PAO Views
- C/L Camr
- Camr C
- Camr A(D) (flyaround at 400 ft) (At 400 ft only)
- Camr A(D)
P/TV03 UNDOCK (Concluded)

**OPS** (Concluded)

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

**DEACTIVATION**

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

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

   **L12 (SSP 2)**
   - C/L CAM PWR – OFF

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

3. **G1**
   - PWR dial – “green”
   - Install Wide Conversion Lens
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
   
   Perform ACTIVATION (Cue Card, TV) for DNLK OPS of ISS signal as reqd
   
   R12 (VPU)
   
   Green Jumper – ISS
   
   VPU PWR – ON
   
   A7
   
   VID OUT DNLK pb – push
   
   IN PL2(VPU) pb – push

2. Perform Ingress Camcorder Setup
   
   Obtain two Batts, one for CC and one spare
   
   Install Batt
   
   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)

   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 – [ ]
   √Exp Comp – 0 EV
      Tilt – 45° (Direct)
## P/TV04 INGRESS/EGRESS (Concluded)

### OPS

<table>
<thead>
<tr>
<th>√</th>
<th>Item #</th>
<th>Track #</th>
<th>Rqmts</th>
<th>Still Imagery</th>
<th>Video</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>D2Xs</td>
<td>G1</td>
<td>LIVE</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>12-24mm</td>
<td></td>
<td>(if avail)</td>
</tr>
</tbody>
</table>

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
This Page Intentionally Blank
P/TV05   ISS INTERNAL OPS

H/W SUMMARY

TO FGB, SERVICE MODULE

TO AIRLOCK

NODE 1

LAB

NODE 2

COLUMBUS

NODE 3

JEM

Note:
Drag-thru into Node 3 as reqd.
Verify a QD is always within
2 ft. of Node1/Node 3 hatch

PMA2

P/TV/130/FIN A
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:
  - RWS 1 Drag-Thru Cable connected to MON 1 AVIU J6
  - RWS 2 Drag-Thru Cable connected to DTV VTR OUT connector

TBD

- Retrieve second BPSMU, connect internal battery, temp stow in ODS for contingency use

Post Docking

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

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

- Drag-Thru Cable connected to A31p Video Adapter

A31p

- 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 – [ ]
   - Exp Comp – 0 EV
   - Tilt – 45° (Direct)
P/TV05  ISS INTERNAL OPS (Concluded)

OPS

<table>
<thead>
<tr>
<th>√</th>
<th>Item #</th>
<th>Rqmts</th>
<th>Still Imagery</th>
<th>Video</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Track #</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>20A-9</td>
<td>General ISS IVA Activity</td>
<td>D2Xs 12-24mm</td>
<td>ISS G1</td>
<td>Plan for end of day crew choice video, DCS</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• PAO Scenes of Interest</td>
<td>For Crew Photo: Perform D2Xs CREW PHOTO (Cue Card, D2Xs SETUP)</td>
<td>LIVE (if avail)</td>
<td>Crewmember rotation IELK install and Sokol suit checkout</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Crew Photo</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Crew Rotation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>– IELK Install</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>– Sokol Suit Check</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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**
   ODS
   Remove temp-stowed BPSMU from ODS location. Stow in TBD

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

<table>
<thead>
<tr>
<th>O19</th>
<th>TV PWR – ON</th>
</tr>
</thead>
<tbody>
<tr>
<td>R12 (VPU)</td>
<td>VPU PWR – ON (LED on)</td>
</tr>
<tr>
<td></td>
<td>Green Jumper – ISS</td>
</tr>
<tr>
<td></td>
<td>Drag-Thru Cables configured as reqd</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>V10 (MON 1,2)</th>
<th>PWR – ON</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Tape installed</td>
</tr>
<tr>
<td></td>
<td>DISPLAY pb – Toggle to display tape counter</td>
</tr>
</tbody>
</table>

| 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) |

<table>
<thead>
<tr>
<th>MON 1</th>
<th>SOURCE – DNLK</th>
</tr>
</thead>
<tbody>
<tr>
<td>MON 2</td>
<td>SOURCE – C</td>
</tr>
<tr>
<td>L10 (MUX)</td>
<td>VTR/CC PWR – on (LED on)</td>
</tr>
<tr>
<td></td>
<td>If dnlk, MUX/VTR/CC PWR – on (LED on)</td>
</tr>
<tr>
<td>(VIP)</td>
<td>PWR – on (LED on)</td>
</tr>
<tr>
<td>(VTR)</td>
<td>ON/STANDBY LED – green</td>
</tr>
<tr>
<td></td>
<td>Tape installed</td>
</tr>
</tbody>
</table>
P/TV06  ROBOTICS OPERATIONS (Concluded)

SETUP (Concluded)

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

<table>
<thead>
<tr>
<th>√</th>
<th>Item #</th>
<th>Track #</th>
<th>Rqmts</th>
<th>Still Imagery</th>
<th>Video</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1.</td>
<td>20A-9</td>
<td>PAO Coverage</td>
<td>D2xs 12-24mm</td>
<td>As desired</td>
<td>PLB</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>If exterior:</td>
<td>G1 Tape installed</td>
<td>LIVE (If avail)</td>
</tr>
</tbody>
</table>

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
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,  √Tape installed
   WVS 1,2)  DISPLAY pb – Toggle to display tape counter
G1  √Wide Conversion lens installed
   √ND FILTER – OFF
   √OUTPUT – CAM
   √ L10 (MUX) PWR – on (LED on)
   √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)

SETUP (Concluded)

5. Config WVS and PGSC

a. Activate WVS System

A7

\ Wired VID HTR – ON
\ Wired PWR – ON

b. WVS PGSC Prep

PGSC Pwrup and Application Opening

PGSC Pwr – ON
Sel Shuttle Apps icon
Sel WVS icon
Sel ‘No’ at ‘Restore To Previous Settings’ window

If ‘Comm Port Configuration’ error displayed:
Remove Quatech RS-422 Card
Sel ‘Start’ > ‘Shut Down’ > ‘Shut Down’ > ‘OK’
Reinstall Quatech RS-422 Card
Pwr – ON
Sel Shuttle Apps icon
Sel WVS icon
RF Camera page will appear

NOTE
During EVA prep, EMU TV assy will be pwrd

Application Setup
Select Page – XCVR
Transceiver 1(2) CMD Power – ON (green CMD PWR:LVL – “ON:Min”)
RF Camera 1 – One EVA crewmember (green “ON”)
RF Camera 2 – Other EVA crewmember (green “ON”)

If alert msg, perform ALERT MSG TROUBLESHOOTING (Cue Card, WVS)
Select Page – RF CAMERA
Near middle of RF Camera page, sel ‘Advanced Controls’

When Post-A/L Depress:
For center lens on each RF Camr Assy:
Lens Iris Cntl – op(cl) until good video on V10(MON)
## P/TV07  EVA (Continued)

### OPS

<table>
<thead>
<tr>
<th>Item #</th>
<th>Track #</th>
<th>Rqmts</th>
<th>Still Imagery</th>
<th>Video</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>PLB</td>
<td>CC</td>
</tr>
<tr>
<td>1.</td>
<td>20A-9</td>
<td>PAO Coverage</td>
<td>IVA D2Xs 12-24mm If exterior: Flash ON/OFF – OFF</td>
<td>As desired</td>
<td>G1  As desired</td>
</tr>
<tr>
<td>2.</td>
<td>20A-8</td>
<td>Theral Cover Closeouts</td>
<td>For all locations where covers were opened and closed</td>
<td>WVS</td>
<td></td>
</tr>
<tr>
<td>20A-12</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>20A-15</td>
<td>Node 3 EVA Outfitting</td>
<td>EVA D2Xs 35mm (per EVA C/L)</td>
<td>WVS</td>
<td></td>
</tr>
<tr>
<td>Item #</td>
<td>Track #</td>
<td>Rqmts</td>
<td>Still Imagery</td>
<td>Video</td>
<td></td>
</tr>
<tr>
<td>--------</td>
<td>---------</td>
<td>-------</td>
<td>---------------</td>
<td>-------</td>
<td></td>
</tr>
</tbody>
</table>
| 4.     | 20A-23  | Installation and/or routing and connection of Node 3 Ammonia Jumpers and Avionics umbilicals. Image the following Node 3 EVA connections:  
* 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 | EVA D2Xs 35mm (per EVA C/L) | WVS |
| 5.     | 20A-25  | Node 3 Installation to Node 1 Port CBM External video of:  
* 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:  
* 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) | EVA D2Xs 35mm (per EVA C/L) | WVS  
PLB Camrs |

Notes:  
LIVE (if avail)
## P/TV07  EVA (Concluded)

### OPS (Concluded)

<table>
<thead>
<tr>
<th>√</th>
<th>Item # Track #</th>
<th>Rqmts</th>
<th>Still Imagery</th>
<th>Video</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>5. (Cont) 20A-25</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. (Cont) 20A-25</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
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
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
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

<table>
<thead>
<tr>
<th>√</th>
<th>Item #</th>
<th>Track #</th>
<th>Rqmts</th>
<th>Still Imagery</th>
<th>Video</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>PLB</td>
<td>CC</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>OMS Pod Survey</td>
<td></td>
<td>• No shadows on OMS pod tiles</td>
<td>D2Xs 80-200mm@200mm</td>
<td></td>
<td>Download images to MCC once complete</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Remove window shields</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• 50 percent overlap mapping of both OMS pods and vertical stabilizer w/emphasis on Black Tile areas</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Repeat thru other window</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>ISS Still Survey</td>
<td>20A-6</td>
<td></td>
<td>D2Xs 28-70mm@50mm (80-200mm@200mm)</td>
<td></td>
<td>Map ISS surfaces w/30% overlap from all Flt Deck windows</td>
</tr>
</tbody>
</table>
P/TV08  EXTERNAL SURVEY (Continued)

OPS (Continued)

Priority of ISS Photographic Targets During Docked Phase:

1. P6, P5, P3/P4, ESP 3, P1, JEM, JLP, Node 3, Columbus, S1, S3/S4, S5, S6, Solar Arrays - W1, W6
   (special emphasis on newly installed components)

2. Node 2, Columbus, JEM, JLP, S0 - W7, W8

3. PMA2 - W9, W10
P/TV08  EXTERNAL SURVEY (Concluded)

**OPS** (Concluded)

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

**DEACTIVATION**

1. D2Xs
   
   $\sqrt{\text{Exp Mode}}$ – P
   PWR – OFF
   Flash ON/OFF – ON
Audio Muting Plug (optional)

CC on Batt Pwr

Multiuse Arm (optional)

MD CC

G1

jsc48038_130_019r1.cvx
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
       √ (CAM, TAP) – (STANDBY, LOCK)
       √ STANDBY/LOCK – STANDBY
       PWR dial – “green”
       √ Tape installed
       √ Viewfinder (LCD) displays “green”
       Install Audio Muting Plug (optional)
       Install Multiuse Brkt (optional)
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
- √ Exp Comp – 0 EV
  - Tilt – 45° (Direct)
## P/TV09  GLACIER (Concluded)

### OPS

<table>
<thead>
<tr>
<th>√</th>
<th>Item #</th>
<th>Track #</th>
<th>Rqmts</th>
<th>Still Imagery</th>
<th>Video</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>DCS</td>
<td>PLB</td>
<td>CC</td>
</tr>
</tbody>
</table>
| 1 |        |         |       | D2Xs 12-24mm | G1 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
- 2 @ wide angle
- 2 @ medium angle
- 2 @ closeup of front panel |

- 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)
**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)

<table>
<thead>
<tr>
<th>SB-800 Flash Settings</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>ON/OFF pb – OFF</td>
<td></td>
</tr>
</tbody>
</table>

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 (   )
Dioptr – 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
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)
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

If Audio desired:
L9
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

<table>
<thead>
<tr>
<th>√</th>
<th>Item # Track #</th>
<th>Rqmts</th>
<th>Still Imagery</th>
<th>Video PLB</th>
<th>CC</th>
<th>Dnlk</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1.</td>
<td>SEITE, SIMPLEX</td>
<td>Initiate photo sequence 1 sec prior to burn • Start recording on DSR-25 5 min prior to burn</td>
<td>D2Xs 28mm</td>
<td>A(D)</td>
<td>LIVE (if avail)</td>
<td>Focus set to OMS pod</td>
</tr>
</tbody>
</table>

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
# REFERENCED PROCEDURES

<table>
<thead>
<tr>
<th>CENTERLINE (C/L) CAMR</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>C/L CAMR INSTALL</td>
<td>FS 2-4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DTV</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>VTR CLOCK SET</td>
<td>FS 2-8</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>D2Xs</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>DATE/TIME SET</td>
<td>FS 2-10</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MINI-CAM</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>ENTRY VIDEO SETUP</td>
<td>FS 2-12</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LASER CAMR SYSTEM (LCS)/INTEGRATED SENSOR INSPECTION SYSTEM DIGITAL CAMR (IDC)</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>LCS/IDC (HEATER ONLY MODE)/(OPERATIONAL PWR MODE) DATA AND PWR INTERFACES</td>
<td>FS 2-18</td>
</tr>
<tr>
<td>PTU 2/MAIN BUS B SYSTEM DETAILS</td>
<td>FS 2-19</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CANON G1</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>ANALOG (DTV SD) G1 REC,DNLK</td>
<td>FS 2-22</td>
</tr>
<tr>
<td>HD G1 DNLK</td>
<td>FS 2-24</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FCS CHECKOUT CAMR SETUP</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>SCENE SYNOPSIS</td>
<td>FS 2-28</td>
</tr>
<tr>
<td>SETUP</td>
<td>FS 2-28</td>
</tr>
<tr>
<td>DEACTIVATION</td>
<td>FS 2-29</td>
</tr>
</tbody>
</table>
This Page Intentionally Blank
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
   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
2. Camr Position Verification

NOTE
This view in ODS looking up from Camr bottom

PRI C/L TV Camr Harness Assy (8.5 ft)
V828–774057–004
C/L CAMR INSTALL (Concluded)

3. ODS C/L Camr Alignment Check

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

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

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

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

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

Report results of both alignment verifications (at $10^\circ$ and $40^\circ$) to MCC

4. Deactivation

A7
CAMR CMD IRIS – CL

L12 (SSP 2)
C/L CAM PWR – OFF
Go to DEACTIVATION (Cue Card, TV) as reqd

A6L
LT VEST PORT,STBD – OFF as reqd
This Page Intentionally Blank
DTV

**VTR CLOCK SET**

1. Activate VTR

R1

√PL AUX – ON

L10 (MUX) VTR/CC PWR – on (LED on)

√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)
D2Xs

DATE/TIME SET

1. MENU pb – press
2. Navigate pad – sel Menu icon 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
MINI-CAM (Continued)

ENTRY VIDEO SETUP (Continued)

A17  1. Remove "Entry Video" Ziploc Bag from DTV Bag

2. Config Mini-Cams, V10, VTR for Audio, Video Recording
   Config H/W per dwg, FS 2-12 and FS 2-13
   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  AVIU
       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/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 [T5] (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 Attach W4/MS Mini-Cam Extension Cable to Handheld (HH) Mini-Cam
Mini-Cam

c. Config MS1 Handheld w/3.5mm lens

3.5mm Lens

Aperture:
If night landing:  f/1.8
If daylight landing:  f/5.6 (dot between 8 and 4)

SEAT 6 d. AVIU
FDF Bag SYNC/VIDEO – VIDEO

HI-Z/75 – HI-Z
Pwr SELECT – HI

V10s Install fresh BATTs
(MS1 HH & HUD)
Handheld video displayed on V10
HUD video displayed on second V10
PWR – off
Remove, temp stow BATTs

MO58F,O19 TV PWR – OFF (when L-1 comm checks complete)
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
√   P
√ 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 Batt
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 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

When ready for dnlk:
A7
√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
√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
INPUT SELECT – VIDEO
A7 VID OUT DTV pb – push
IN FLT DECK(MIDDECK) pb – push
L10 (MUX) CH 3 DATA LED – on

When dnlk complete:
G1 PWR dial – OFF
Worklights PWR – off
L10 (MUX) MUX/VTR/CC PWR – off (LED off)

Go to DEACTIVATION (Cue Card, TV) 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
MPC
PWR – ON (HDV, TAXI, 5V, 3V green LEDs on)
L10 (MUX)
√CH 2 F/O OK, DATA LEDs on
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 Batt
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”
CANON G1 (Concluded)

HD G1 DNLK (Concluded)

When dnlk complete:

G1
PWR dial – OFF

Worklights
PWR - off

O19
TV PWR – OFF as reqd

MPC
PWR – OFF

MPC PWR
DC PWR SPLY PWR SW1 – OFF

SPLY
DC UTIL PWR MNA – OFF

O19
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
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
This Page Intentionally Blank
# CUE CARD CONFIGURATION

<table>
<thead>
<tr>
<th>CUE CARD CONFIGURATION</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>TV</td>
<td>FS CC 3-3</td>
</tr>
<tr>
<td>ANALOG PLAYBACK</td>
<td>FS CC 3-5</td>
</tr>
<tr>
<td>ET PHOTO</td>
<td>FS CC 3-7</td>
</tr>
<tr>
<td>MEDIA ALLOCATIONS</td>
<td>FS CC 3-8</td>
</tr>
<tr>
<td>WVS</td>
<td>FS CC 3-10</td>
</tr>
<tr>
<td>PLBD VTR RECORDING</td>
<td>FS CC 3-12</td>
</tr>
<tr>
<td>LDRI/ITVC</td>
<td>FS CC 3-14</td>
</tr>
<tr>
<td>LCS</td>
<td>FS CC 3-16</td>
</tr>
<tr>
<td>IDC</td>
<td>FS CC 3-18</td>
</tr>
<tr>
<td>VIDEO SETUP</td>
<td>FS CC 3-20</td>
</tr>
<tr>
<td>D2Xs SETUP</td>
<td>FS CC 3-22</td>
</tr>
<tr>
<td>LDRI/ITVC A7 PLACARD</td>
<td>FS CC 3-24</td>
</tr>
<tr>
<td>DIGITAL PLAYBACK</td>
<td>FS CC 3-25</td>
</tr>
<tr>
<td>G1 SETUP CUE CARD</td>
<td>FS CC 3-27</td>
</tr>
</tbody>
</table>
ACTIVATION
A3 MON 1/2 PWR – ON (LED ON)
A7 TV DNLX – SHA
PWR CONTR UNIT – MNA(A/B)
CNTL – PNL, wait 10 sec for system initialization, CMD

OPERATION

Auto Ops (Auto Exposure)
MCC has commanded sync config
A7 TV CAMR PWR A(B,C,D,RMS) – ON (b-on)
VID OUT MON 1/2 pb – push
IN pb – as req’d

CTVC:
ALC pb – push
AVG pb – push

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

Dnlk Ops
Coordinate dnlk and sync config w/MCC
Config auto as req’d

if analog, on MCC GO:
A7 VID OUT DNLK pb – push
IN pb – as req’d
if DTV, on MCC GO:
L10 Cables connected
(MUX) MUX/VTRCC PWR – on (LED on)
MUX BYPASS – ACT
(VIP) PWR – on (LED on, DATA FLOW LED flashes twice)
(VTR) ONSTANDBY LED – green
INPUT SELECT – VIDEO
A7 VID OUT DTV pb – push
IN pb – as req’d
L10
(VIP) DATA FLOW LED – on
(MUX) VHCANNEL 3 DATA LED – on

DEACTIVATION
If Illuminator ON:
Refer to Illuminator Ops and perform Illuminator OFF
A7 PORT RMS CAMR – XWST
TV CAMR PWR A(B,C,D,RMS) – OFF (b-Off), wait 10 sec
PORT RMS CAMR – ELBOW
TV CAMR PWR RMS – ON (b-on), wait 10 sec, OFF (b-Off)
TV PWR CNTL – PNL
PWR CONTR UNIT – OFF
CNTL – CMD
A3 MON 1,2 PWR – OFF

if DTV:
L10
(VTR) ONSTANDBY pb – push (red LED on)
PWR – OFF (LED off)
(VIP) MAX/VTRCC PWR – OFF (LED off)
(VTRCC) PWR – OFF (LED off)

Manual Ops – CTVC/ITVC (Manual Exposure)

Manual Exposure ON
A7 MAN GAIN pb – push
MAN GAIN pb – push
CAMR CMD RTS – OP/CL

Return to Auto Exposure
ALC pb – push
AVG pb – push

MUX Ops

NOTE
Although dnlk/rcd is in color, MON will display MON in B&W
A7 VID OUT MON pb – as req’d
IN MIX 1/2 pb – push
OUT MIX 1/2 pb – push
IN pb – As req’d
OUT MIX 1/2 pb – push
IN pb – as req’d
For RSC ops:
Go to LDRI/ITVC Cue Card

DEACTIVATION
If Illuminator ON:
Refer to Illuminator Ops and perform Illuminator OFF
A7 PORT RMS CAMR – XWST
TV CAMR PWR A(B,C,D,RMS) – OFF (b-Off), wait 10 sec
PORT RMS CAMR – ELBOW
TV CAMR PWR RMS – ON (b-on), wait 10 sec, OFF (b-Off)
TV PWR CNTL – PNL
PWR CONTR UNIT – OFF
CNTL – CMD
A3 MON 1,2 PWR – OFF

if DTV:
L10
(VTR) ONSTANDBY pb – push (red LED on)
PWR – OFF (LED off)
(VIP) MAX/VTRCC PWR – OFF (LED off)
(VTRCC) PWR – OFF (LED off)
Illuminator Ops

Illuminator ON

Wrist Illuminator:
- cb TV RMS CAMR/PTU – cl
- WRIST ILLUM/CAMR HTR – cl

Elbow Illuminator:
- cb TV RMS CAMR/PTU – cl
- ELB ILLUM/PTU HTR – cl

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

If RSC Illuminator:
- Go to LDRI/ITVC
- (Cue Card)

Illuminator OFF

Wrist Illuminator:
- cb TV RMS WRIST ILLUM/CAMR HTR – cl

Elbow Illuminator:
- cb TV RMS ELB ILLUM/PTU HTR – cl

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

If RSC Illuminator:
- Go to LDRI/ITVC
- (Cue Card)
**ANALOG PLAYBACK**

**ANALOG VIA G1**

**ACTIVATION**

G1 Setup per diagram (back of cue card)
A7 Perform ACTIVATION ( Cue Card, TV ) as reqd
G19 \( \sqrt{TV\ PWR} – ON \)
AVIU SYNC/VIDEO – VIDEO
HI/Z75 – 75
PWR SELECT – LO
G1 PWR – VTR/PLAY
\( \sqrt{AVI1/V2 – V2} \)

**OPERATIONS**

**PLBK or DNLK 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)
XMT/COM 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(FP) to cue tape

**DEACTIVATION**

G1 Remove, write protect, mark, stow tape as reqd
PWR – OFF
ATU Reconfig as desired
G19 \( \sqrt{TV\ PWR} – OFF \)
G1 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
\( \sqrt{TV\ PWR} – ON \)
AVIU SYNC/VIDEO – VIDEO
HI/Z75 – 75
PWR SELECT – LO
L10 (MUX) \( \sqrt{VTR/CC\ PWR} – ON \)
\( \sqrt{ON/STANDBY\ LED} – green \)

**OPERATIONS**

**PLBK or DNLK VIDEO**

L10 ( VTR ) Install tape if reqd
\( \sqrt{DISPLAY\ SELECT} – DATA \)

If audio reqd:
(VIP) 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
XMT/COM 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

**DEACTIVATION**

L10 ( VTR ) PLAY pb – push ( green • displayed )
If PLBK(DNLK) complete:
\( \sqrt{STOP\ pb} – push \)
If VTR ops complete, go to DEACTIVATION

Connect CC video input to AVIU J3
L10 ( VTR ) Remove, mark, stow tape as reqd
ATU Reconfig as desired
G19 \( \sqrt{TV\ PWR} – OFF \)
G1 Go to DEACTIVATION ( Cue Card, TV ) as reqd

(reduced copy)
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

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

START RECORDING

CRITICAL FOCUS REQD EACH FRAME

---

BOT PHOTO

D2Xs ET PHOTO

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

---

G1 CC ET PHOTO

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
<table>
<thead>
<tr>
<th>MEDIA ALLOCATIONS</th>
<th>3 hr/tape</th>
</tr>
</thead>
<tbody>
<tr>
<td>DVCAM</td>
<td>15 14 13 12 11</td>
</tr>
<tr>
<td></td>
<td>10 9 8 7 6 5 4 3 2 1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MINI DVCAM</th>
<th>40 min/tape</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>225 224 223 222 221</td>
</tr>
<tr>
<td></td>
<td>220 219 218 217 216 215 214 213 212 211</td>
</tr>
<tr>
<td></td>
<td>210 209 208 207 206 205 204 203 202 201</td>
</tr>
<tr>
<td></td>
<td>200 199 198 197 196 195 194 193 192 191</td>
</tr>
<tr>
<td></td>
<td>190 189 188 187 186 185 184 183 182 181</td>
</tr>
<tr>
<td></td>
<td>180 179 178 177 176 175 174 173 172 171</td>
</tr>
<tr>
<td></td>
<td>170 169 168 167 166 165 164 163 162 161</td>
</tr>
<tr>
<td></td>
<td>160 159 158 157 156 155 154 153 152 151</td>
</tr>
<tr>
<td></td>
<td>150 149 148 147 146 145 144 143 142 141</td>
</tr>
<tr>
<td></td>
<td>140 139 138 137 136 135 134 133 132 131</td>
</tr>
<tr>
<td></td>
<td>130 129 128 127 126 125 124 123 122 121</td>
</tr>
<tr>
<td></td>
<td>120 119 118 117 116 115 114 113 112 111</td>
</tr>
<tr>
<td></td>
<td>110 109 108 107 106 105 104 103 102 101</td>
</tr>
<tr>
<td></td>
<td>100 99 98 97 96 95 94 93 92 91</td>
</tr>
<tr>
<td></td>
<td>80 79 78 77 76 75 74 73 72 71</td>
</tr>
<tr>
<td></td>
<td>70 69 68 67 66 65 64 63 62 61</td>
</tr>
<tr>
<td></td>
<td>50 49 48 47 46 45 44 43 42 41</td>
</tr>
<tr>
<td></td>
<td>40 39 38 37 36 35 34 33 32 31</td>
</tr>
<tr>
<td></td>
<td>30 29 28 27 26 25 24 23 22 21</td>
</tr>
<tr>
<td></td>
<td>20 19 18 17 16 15 14 13 12 11</td>
</tr>
<tr>
<td></td>
<td>10 9 8 7 6 5 4 3 2 1</td>
</tr>
</tbody>
</table>
**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 – Decl(nc)
  (# to right: 100 = brightest; 0 = darkest)

**DARK SUBJECT**
- PGSC Select Page – RF Camera
  - Advanced Controls displayed
  - Automatic Gain Control – Enabled
  - (Disabled preferred)

**PWRDN**
- For all lens (three) on each RF Camera Assy:
  - PGSC Lens Iris Control – Close until view black
  - Sel RF Camr 1,2 – None (black ‘OFF’)
- V10 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

**CAMR ADJUSTMENTS**

**VIDEO SIGNAL PROBLEMS**
- For problem EMU TV:
  - EMU EMU TV Pwr pb – push (no LED), wait 10 sec, push (green LED)
  - If no joy:
    - PGSC Select Page – XCVR
    - Advanced Controls displayed
    - For XCVR w/Video problem: IF – Narrow
  - If still no joy:
    - A7 WIRELESS VID PWR – OFF, wait 10 sec, ON

- If still no joy:
  - PGSC For XCVR w/video problem: IF – Wide
  - For XCVR w/good video: Sel RF Camr – None (black ‘OFF’)
  - If video acceptable, other EMU TV interfering w/signal
    - Alternately sel EMU TVs to acquire video
  - If still no joy:
    - For XCVR with good video:
      - Sel RF Camr – reselect original EVA crewmember
      - For XCVR w/video problem: Antenna – Manual
        - Sel desired antenna
  - If still no joy:
    - For XCVR w/video problem: Antenna – Auto
      - MCC

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

**ANTENNA LOCATIONS**

- **AFT BULKHEAD**
  - ① Aft Bulkhead angled 45
  - ② Slightly above sill (Bay 4)
  - ③ Inboard of sill (Bay 5)

- **FWD BULKHEAD**
  - ④ UHF CMD Antenna (Bay 3)
  - ⑤ Slightly above sill (Bay 10)
  - ⑥ Inboard of sill (Bay 1)

(reduced copy)
ALERT MSG TROUBLESHOOTING

**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

**STATIC. RF CAMERA**

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

**EMU**
1. EMU TV Pwr pb pushed (green LED)

If no joy:

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

If still no joy:
3. RF Camera 1(2) – sel “None”
   - Perform CAMR ID ASSIGNMENT
   - Reattempt RF Camr selections

If still no joy:
4. CMD PWR:LVL – green “ON:Min” for XCVR 1(2)
   - If not ON,
     - Select Page – XCVR
     - Transceiver 1(2) CMD Power – On (green CMD PWR:LVL – "ON:Min")

If still no joy:

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

If still no joy:
6. √ MCC

**TEMP ALERT**

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**

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

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

**CAMR ID ASSIGNMENT**

Sel File → Assign Camr ID
√ All EV crewmembers listed as options on pulldown ‘Label’ menu under CAMERA ID SETUP
If label entry reqd:
- Type label into space next to “Add Label” icon
- Sel “Add Label” icon to add to listing

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

Sel OK
PLBD VTR RECORDING

L10
√ VIP, VTR covers removed

R1
√ PL AUX – ON

MA73C:E
cb AC2 PL3φ – cl
√ Cables config'd per dwg (back of cue card)

L10
(MUX)
√ VTR/CC PWR – on (LED on)

(VIP)
√ ATU – REC
√ CCTV VIDEO IN – J3
PWR – on (LED on, DATA FLOW flashes twice)

(VTR)
√ ON/STANDBY LED – green
√ Switches set to white dot (seven)
√ COUNTER SELECT – COUNTER (TC)
√ Tape installed (tape icon LED on)

Set GMT:
DISPLAY SELECT – MENU
↓ pb – ETC, EXEC pb – push
↓ pb – CLOCK SET, EXEC pb – push
Use ↓, ↑, EXEC to set Y, M, D, hr, min to GMT
DISPLAY SELECT – DATA

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

A7
VID OUT DTV pb – push
IN pb – as req’d

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

1. Config CCTV Sys
   - Config CCTV Sys
   - Config VTR/MUX from VTR MON port to MON 2
   - CABL, VTR/CCTV, MUX, VTR/CCTV
   - CABL, VTR/CCTV, MON 1, MON 2

2. Apply SPEE Pwr
   - R12 (OPP) SPEE PWR – ON
   - R12 (OPP) SPEE PWR – OFF, wait 10 sec
   - A6U EVENT TIMER CNTL – UP

3. Config RSC Illum to HI
   - A7 CAMR CMD IRIS – OP, CL as reqd

4. Enable ITVC
   - A7 VID OUT MUX 1 L pb – push
   - IN C pb – push
   - DAY/NIGHT pb – push
   - ALC pb – push
   - AVG pb – push
   - VID OUT MUX 1 L pb – push, to return to LDRI cntl

5. Turn LDRI Laser On
   - A7 VID OUT MUX 1 L pb – push
   - IN MUX port – push
   - LDRI MODE 2 pb – push
   - VID OUT DTV pb – push, to return to ITVC control

GENERAL LDRI CONTROL

Mode 1 (default at pwrup)
- A7 VID OUT MUX 1 L pb – push
- IN MUX port – push

Mode 2
- A7 LDRI MODE 2 pb – push
- MON 2 ITVC video displayed
- 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/TLT OPS WITH LDRI ACTIVE

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

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

DEACTIVATION

- A7 VID OUT MUX 1 L pb – push
- IN MUX port – push
- LDRI MODE 1 pb – push

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

- A6U EVENT TIMER CNTL – UP
- CNTL – START

(reduced copy)
CONTINGENCY LDRI CLEARANCE VIEW

**RSC CAMR OPS**

NOTE
Camr nominally pwrd 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 pwrs 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 pw cycle will reset LDRI/ITVC to Mode 1 and reset the PTU angles

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

To cycle thru illuminator modes:

R12 (OBSS)
MON 1
SPEE PWR – OFF, wait 10 sec, ON

Perform LDRI/ITVC ACTIVATION, step 4

Return to original LDRI/ITVC Mode, continue OPS

**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 Iltm 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 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
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

Return PTU to Pan and Tilt values recorded above

Return to original LDRI/ITVC Mode, continue OPS

**(reduced copy)**
TOP

**LCH ACTIVATION**

Activate SSPTS APCU 2

A15

PTU 2 lb – ON
If NODE 3 not in PLB:
APCU 2 OUTPUT – ON
APCU 2 CONVERT – 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:

   ![Diagram of LCC Setup](image1)

2. **LCC Startup**
   - 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
   - Select ‘Shuttle Apps’ > ‘LCC’ (wait 2-3 min from APCU CONVERT–ON for GUI Status)
   - Laser off – blue
   - Comm – green
   - Scan Display – updating
   - Temp – green
   - Elec – green

3. **Verify LCC Desktop Video**
   - MO58F TV PWR – ON
   - AVIU HI-Z/75 – TS
   - MD G1 PWR SELECT – LO
   - MD G1 PWR – OFF

   ![Diagram of LCC Desktop Video](image2)

   *If LCC Desktop not displayed*
   - MCC

4. **Verify GMT**
   - GMT on GUI lower right-hand side within 3 sec of SM-GPC GMT
   - If GMT not within 3 sec of SM GPC:
   - Select ‘Tools’ > ‘Set GMT’
   - Adjust GMT as required
   - Select ‘Apply’ > ‘OK’

**OPERATION**

**NOTE**

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

1. **Load Database (if reqd)**
   - MCC for desired LCS database
   - 'DB Name': Field on upper left-hand side of LCS GUI
   - Select 'DB Name' – correct
   - Select 'Load Database…' from File menu
   - Select MCC desired database file
   - Set 'OK'

2. **LCS System Status**

<table>
<thead>
<tr>
<th>LCS SYSTEM STATUS</th>
<th>Laser On/Off</th>
<th>Comm</th>
<th>LCS State</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laser ? (gray)</td>
<td>No Comm (yellow)</td>
<td>Unknown or Keep Alive Heater Only Mode (No LCS to LCH Network Connection)</td>
<td></td>
</tr>
<tr>
<td>Laser Off (blue)</td>
<td>Comm (green)</td>
<td>Configuration (Waiting for user command)</td>
<td></td>
</tr>
<tr>
<td>Laser On (green)</td>
<td>Comm (green)</td>
<td>Operational (Scan in progress)</td>
<td></td>
</tr>
</tbody>
</table>

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

(For SSPTS APCU 2 flights only)
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 Set ‘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 ALCU OUT VOLS: <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 (wired 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 ALCU OUT VOLS: 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 Set ‘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)
IDC ACTIVATION

1. LCC Setup
   - Hardware configured per LCC ACTIVATION steps 1,2 (Cue Card: LCS)
     1. LCC A31pPGSC Pwr – ON

2. IDC connectivity Check
   - A31p internal RJ45 Network Interface Card LED green
     - If RJ45 Network Interface Card LED not green:
       1. APCU 2 CONV – OFF, wait 10 sec
       2. OUTPUT – ON
       2. CONV – ON
       3. SM 179 POWER TRANSFER
       4. PTU 2 APCU OUT VOLTS: 123V to 126V

IDC SOFTWARE ACTIVATION

1. IDC Software Startup
   1. IDC A31p
      - Sel ‘Shuttle Apps’ > ‘IDC’

2. Verify GMT
   1. 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 dialog box

3. IDC Pwr on and self test
   - CAUTION
     Pwr off IDC when not imaging. Pointing IDC at Sun when pwr on will damage Camr
   1. A31p
      - Sel ‘Power On’
        1. Black and White self-test image displayed
        2. ‘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 dnlk

1. Configure LDRI Illumination
   - A7
     - VID OUT MUX 1L pb – push
     - IN MID DECK 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
     - Sel ‘Use AE’ checked
       1. Sel ‘Scan Lo-Res’  Resize and posn AE box as reqd (pause 2 sec)
       2. MCC for AOI FOV
       3. Sel ‘Scan Hi-Res’
          - If scanning with no RMS Motion:
            - Move box to maintain RCC in AE box (using keyboard arrows)
            - Sel ‘Stop Scan’ at pause point
            - Sel ‘Waiting for User Command’ displayed

3. Scenario File Ops
   - A31p
      1. From Scenario File drop-list, sel appropriate lighting condition
         - Sel ‘Acquire Set’
           - ‘Acquiring Set’ displayed
           - Sel ‘Waiting for User Command’ displayed after set
           - MCC content w/data take
IDC DEACTIVATION

1. IDC and Software Shutdown
   A31p Sel ‘Power off’ on IDC GUI > ‘YES’
   Close (X) IDC software > ‘YES’

2. A31p Screen Resolution Reset
   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

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

1. 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

2. 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
   NM 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

3. 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

(For SSPTS APCU 2 flights only)

(For SSPTS APCU 2 flights only)
### D2Xs SETUP

#### D2Xs PROGRAM

<table>
<thead>
<tr>
<th>In Cabin</th>
<th>D2Xs Aperture Priority</th>
<th>D2Xs Shutter Priority</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Lens</strong> – as reqd</td>
<td><strong>Lens</strong> – as reqd</td>
<td><strong>SB-800 Flash Settings</strong></td>
</tr>
<tr>
<td><strong>Aperture</strong> – Min, locked</td>
<td><strong>Aperture</strong> – Min, locked</td>
<td><strong>ON/OFF pb – OFF</strong></td>
</tr>
<tr>
<td><strong>Body Focus Mode</strong> – S</td>
<td><strong>Body Focus Mode</strong> – S</td>
<td><strong>Lens</strong> – as reqd</td>
</tr>
<tr>
<td><strong>√Batt installed</strong></td>
<td><strong>√Batt installed</strong></td>
<td><strong>Aperture</strong> – Min, locked</td>
</tr>
<tr>
<td><strong>√Flash Card installed</strong></td>
<td><strong>√Flash Card installed</strong></td>
<td><strong>Body Focus Mode</strong> – S</td>
</tr>
<tr>
<td><strong>Pwr – ON</strong></td>
<td><strong>Pwr – ON</strong></td>
<td><strong>√Batt installed</strong></td>
</tr>
<tr>
<td><strong>Top LCD</strong></td>
<td><strong>Top LCD</strong></td>
<td><strong>√Flash Card installed</strong></td>
</tr>
<tr>
<td><strong>√Batt</strong></td>
<td><strong>√Batt</strong></td>
<td><strong>Pwr – ON</strong></td>
</tr>
<tr>
<td><strong>Frames remaining sufficient</strong></td>
<td><strong>Frames remaining sufficient</strong></td>
<td><strong>Top LCD</strong></td>
</tr>
<tr>
<td><em><em>Exp Comp (=</em> ) – 0.0</em>*</td>
<td><em><em>Exp Comp (=</em> ) – 0.0</em>*</td>
<td><strong>√Batt</strong></td>
</tr>
<tr>
<td>**Exp Mode – <strong>P</strong></td>
<td><strong>Exp Mode – A</strong></td>
<td><strong>√Frames remaining sufficient</strong></td>
</tr>
<tr>
<td><strong>Meter – Matrix ( ≠ )</strong></td>
<td><strong>Meter – Matrix ( ≠ )</strong></td>
<td><em><em>Exp Comp (=</em> ) – 0.0</em>*</td>
</tr>
<tr>
<td><strong>Dioptr – Adjust</strong></td>
<td><strong>Dioptr – Adjust</strong></td>
<td><strong>Exp Mode – S</strong></td>
</tr>
<tr>
<td><strong>Frame Rate – S</strong></td>
<td><strong>Frame Rate – S</strong></td>
<td><strong>SS – 500</strong></td>
</tr>
<tr>
<td><strong>√BKT disabled – 0 F</strong></td>
<td><strong>√BKT disabled – 0 F</strong></td>
<td><strong>Vis ISO – 100</strong></td>
</tr>
<tr>
<td><strong>Rear LCD</strong></td>
<td><strong>Rear LCD</strong></td>
<td><strong>√QUAL – RAW</strong></td>
</tr>
<tr>
<td><strong>√ISO – 100</strong></td>
<td><strong>√ISO – 100</strong></td>
<td><strong>√WB – 0, A</strong></td>
</tr>
<tr>
<td><strong>√QUAL – RAW</strong></td>
<td><strong>√QUAL – RAW</strong></td>
<td><strong>√AF Area Mode – [ ]</strong></td>
</tr>
<tr>
<td><strong>√WB – 0, A</strong></td>
<td><strong>√WB – 0, A</strong></td>
<td><strong>√Focus Area – Center</strong></td>
</tr>
<tr>
<td><strong>AF Area Mode – [ ]</strong></td>
<td><strong>AF Area Mode – [ ]</strong></td>
<td><strong>√Focus Selector Lock – L</strong></td>
</tr>
<tr>
<td><strong>√Focus Area – Center</strong></td>
<td><strong>√Focus Area – Center</strong></td>
<td><strong>SB-800 Flash Settings</strong></td>
</tr>
<tr>
<td><strong>√Focus Selector Lock – L</strong></td>
<td><strong>√Focus Selector Lock – L</strong></td>
<td><strong>Diffuser Dome installed</strong></td>
</tr>
<tr>
<td><strong>SB-800 Flash Settings</strong></td>
<td><strong>SB-800 Flash Settings</strong></td>
<td><strong>ON/OFF pb – ON</strong></td>
</tr>
<tr>
<td><strong>√Diffuser Dome installed</strong></td>
<td><strong>√Diffuser Dome installed</strong></td>
<td><strong>MODE – [ ] [ ]</strong></td>
</tr>
<tr>
<td><strong>ON/OFF pb – ON</strong></td>
<td><strong>ON/OFF pb – ON</strong></td>
<td><strong>Exp Comp = [ ] [ ]</strong></td>
</tr>
<tr>
<td><strong>√Exp Comp = 0 EV</strong></td>
<td><strong>√Exp Comp = 0 EV</strong></td>
<td><strong>Exp Mode = [ ] [ ]</strong></td>
</tr>
<tr>
<td><strong>Tilt – 45° (Direct)</strong></td>
<td><strong>Tilt – 45° (Direct)</strong></td>
<td><strong>SB-800 Flash Settings</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Diffuser Dome installed</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>ON/OFF pb – ON</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>MODE – [ ] [ ]</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Exp Comp = [ ] [ ]</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Exp Mode = [ ] [ ]</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>SB-800 Flash Settings</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Diffuser Dome installed</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>ON/OFF pb – ON</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>MODE – [ ] [ ]</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Exp Comp = [ ] [ ]</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Exp Mode = [ ] [ ]</strong></td>
</tr>
</tbody>
</table>

(reduced copy)
<table>
<thead>
<tr>
<th><strong>D2Xs MANUAL</strong></th>
<th><strong>D2Xs EXPOSURE MATCH</strong></th>
<th><strong>D2Xs CREW PHOTO</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>“SUNLIT OBJECTS”</strong></td>
<td><strong>“HERO SHOT”</strong></td>
<td></td>
</tr>
<tr>
<td>Lens – as reqd</td>
<td>Lens – 12-24mm @18mm</td>
<td>Lens – 17-35mm @17mm</td>
</tr>
<tr>
<td><strong>NOTE</strong></td>
<td>Aperture – Min, locked</td>
<td>Aperture – Min, locked</td>
</tr>
<tr>
<td>If auto focus unachievable:</td>
<td>Body Focus Mode – S</td>
<td>Body Focus Mode – S</td>
</tr>
<tr>
<td></td>
<td>Batt installed</td>
<td>Batt installed</td>
</tr>
<tr>
<td>Lens Focus Mode – A</td>
<td>Flash Card installed</td>
<td>Flash Card installed</td>
</tr>
<tr>
<td>Aperture – Min, locked</td>
<td>Pwr – ON</td>
<td>Pwr – ON</td>
</tr>
<tr>
<td>Body Focus Mode – S</td>
<td>Top LCD</td>
<td>Top LCD</td>
</tr>
<tr>
<td>Batt installed</td>
<td>□ Batt</td>
<td>□ Batt</td>
</tr>
<tr>
<td>Flash Card installed</td>
<td>□ Frames remaining sufficient</td>
<td>□ Frames remaining sufficient</td>
</tr>
<tr>
<td>□ Frames remaining sufficient</td>
<td>Exp Comp ( courthouse) – 0.0</td>
<td>Exp Comp ( courthouse) – 0.0</td>
</tr>
<tr>
<td>□ Frames remaining sufficient</td>
<td>Exp Mode – P</td>
<td>Exp Mode – A</td>
</tr>
<tr>
<td>□ Frames remaining sufficient</td>
<td>Meter – Matrix ( courthouse)</td>
<td>f/stop – 8</td>
</tr>
<tr>
<td>□ Frames remaining sufficient</td>
<td>Diopter – Adjust</td>
<td>□ Focus Area – Center</td>
</tr>
<tr>
<td>□ Frames remaining sufficient</td>
<td>Frame Rate – S</td>
<td>□ Focus Selector Lock – L</td>
</tr>
<tr>
<td>□ Frames remaining sufficient</td>
<td>□ BKT disabled – 0 F</td>
<td>□ BKT disabled – 0 F</td>
</tr>
<tr>
<td>□ Frames remaining sufficient</td>
<td>Rear LCD</td>
<td>Rear LCD</td>
</tr>
<tr>
<td>□ Frames remaining sufficient</td>
<td>□ ISO – 100</td>
<td>□ ISO – 100</td>
</tr>
<tr>
<td>□ Frames remaining sufficient</td>
<td>□ QUAL – RAW</td>
<td>□ QUAL – RAW</td>
</tr>
<tr>
<td>□ Frames remaining sufficient</td>
<td>□ WB – 0.A</td>
<td>□ WB – 0.A</td>
</tr>
<tr>
<td>□ Frames remaining sufficient</td>
<td>□ AF Area Mode – [[] ]</td>
<td>□ AF Area Mode – [[] ]</td>
</tr>
<tr>
<td>□ Frames remaining sufficient</td>
<td>□ Focus Area – Center</td>
<td>□ Focus Area – Center</td>
</tr>
<tr>
<td>□ Frames remaining sufficient</td>
<td>□ Focus Selector Lock – L</td>
<td>□ Focus Selector Lock – L</td>
</tr>
</tbody>
</table>

**SB-800 Flash Settings**

- Diffuser Dome installed
- ON/OFF pb – ON
- MODE – TTL IN
- Exp Comp – 0 EV
- Tilt – 45° (Direct)

**Technique**

1. Fill FOV w/sunlit subject
2. Activate D2Xs Camr
3. Auto Exp Lock – Depress,hold
4. Focus, Frame, Fire

**Technique**

1. Focus on crewmember
2. Body Focus Mode – M
3. Frame, Fire

**Accessory Equipment**

- Shutter Release Cable – Install
- Multiuse Brkt – Install
- Multiuse Brkt Clamp – Install as reqd

(reduced copy)
**DIGITAL PLAYBACK**

**HD DIGITAL VIA G1**

<table>
<thead>
<tr>
<th>NOTE</th>
<th>Digital Playback from G1 only possible for G1 Video recordings</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ACTIVATION</strong></td>
<td>Setup per diagram (back of cue card)</td>
</tr>
<tr>
<td>G1</td>
<td>For cable strain relief, attach MPC-to-G1 Cable</td>
</tr>
<tr>
<td>AV/U</td>
<td>Velcro strap to CC strap</td>
</tr>
<tr>
<td>O19</td>
<td>TV PWR – ON</td>
</tr>
<tr>
<td>G1</td>
<td>PWR dial – PLAY</td>
</tr>
</tbody>
</table>

**AVIU**

- HD DIGITAL VIA G1
- VCR/DIGITAL PLAYBACK

**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**

- HD DIGITAL VIA G1
- VCR/DIGITAL PLAYBACK

**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**

- HD DIGITAL VIA G1
- VCR/DIGITAL PLAYBACK

**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**

- HD DIGITAL VIA G1
- VCR/DIGITAL PLAYBACK

**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**

- HD DIGITAL VIA G1
- VCR/DIGITAL PLAYBACK

**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**

- HD DIGITAL VIA G1
- VCR/DIGITAL PLAYBACK

**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**

- HD DIGITAL VIA G1
- VCR/DIGITAL PLAYBACK

**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**

- HD DIGITAL VIA G1
- VCR/DIGITAL PLAYBACK

**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**

- HD DIGITAL VIA G1
- VCR/DIGITAL PLAYBACK

**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**

- HD DIGITAL VIA G1
- VCR/DIGITAL PLAYBACK

**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**

- HD DIGITAL VIA G1
- VCR/DIGITAL PLAYBACK

**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**

- HD DIGITAL VIA G1
- VCR/DIGITAL PLAYBACK

**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**

- HD DIGITAL VIA G1
- VCR/DIGITAL PLAYBACK

**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**

- HD DIGITAL VIA G1
- VCR/DIGITAL PLAYBACK

**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**

- HD DIGITAL VIA G1
- VCR/DIGITAL PLAYBACK

**NOTE**

Digital Playback from G1 only possible for G1 Video recordings.
## G1 SETUP CUE CARD

**ASSUMPTION:** G1 is powered by either direct or battery power

<table>
<thead>
<tr>
<th>WELL LIT SCENE (&quot;green&quot;)</th>
<th>SUN-LIT SCENE (M)</th>
<th>DIM-LIT SCENE (A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Install Wide Conversion Lens as reqd</td>
<td>Install Wide Conversion Lens as reqd</td>
<td>Install Wide Conversion Lens as reqd</td>
</tr>
<tr>
<td>ND FILTER – OFF (per CC prompt)</td>
<td>ND FILTER – OFF</td>
<td>ND FILTER – OFF</td>
</tr>
<tr>
<td>OUTPUT – CAM</td>
<td>AF/M – AF(M)</td>
<td>AF/M – AF</td>
</tr>
<tr>
<td>A/V1/V2 – V2</td>
<td>AGC – OFF</td>
<td>AGC – OFF</td>
</tr>
<tr>
<td>Open LCD</td>
<td>GAIN – L</td>
<td>GAIN – L</td>
</tr>
<tr>
<td>Tape installed</td>
<td>OUTPUT – CAM</td>
<td>OUTPUT – CAM</td>
</tr>
<tr>
<td></td>
<td>AWB – ON</td>
<td>AWB – ON</td>
</tr>
<tr>
<td></td>
<td>AUDIO LEVEL – A</td>
<td>AUDIO LEVEL – A</td>
</tr>
<tr>
<td></td>
<td>A/V1/V2 – V2</td>
<td>A/V1/V2 – V2</td>
</tr>
<tr>
<td></td>
<td>GAIN – 0dB</td>
<td>Tape installed</td>
</tr>
<tr>
<td></td>
<td>SS – 1/500 (Small Wheel)</td>
<td>Tape installed</td>
</tr>
<tr>
<td></td>
<td>f/stop – F8.0 (Aft Ring)</td>
<td>GAIN – L (M,H) per Scene</td>
</tr>
<tr>
<td></td>
<td>Adjust focus if AF/M – M (Fwd Ring)</td>
<td></td>
</tr>
</tbody>
</table>

(reduced copy)
NOTE
Replace this page with four (4) sheets of blue
K-10 stock in crew copies only
NOTE
Replace this page with four (4) sheets of blue K-10 stock in crew copies only