**Reference Formats**

<table>
<thead>
<tr>
<th>Format</th>
<th>Video Rate</th>
<th>System Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1080pSF</td>
<td>29.97Hz</td>
<td></td>
</tr>
<tr>
<td>1080pSF</td>
<td>23.98Hz</td>
<td></td>
</tr>
<tr>
<td>1080i</td>
<td>25Hz</td>
<td></td>
</tr>
<tr>
<td>1080i</td>
<td>50Hz</td>
<td></td>
</tr>
<tr>
<td>720p</td>
<td>59.94Hz</td>
<td></td>
</tr>
<tr>
<td>576i</td>
<td>50Hz</td>
<td></td>
</tr>
<tr>
<td>480i</td>
<td>59.94Hz</td>
<td></td>
</tr>
<tr>
<td>1080pSF</td>
<td>25Hz</td>
<td></td>
</tr>
<tr>
<td>1080pSF</td>
<td>23.98Hz</td>
<td></td>
</tr>
</tbody>
</table>

**Input Voltages**

- 100 - 240V ~ (Non-terminating, looping)
- 220 - 240V ~ (Non-terminating, looping)
- 100 - 120V ~ (Non-terminating, looping)

**Default Values**

- NK-IPS: 192.168.20.100
- Panel IP (LAN1): 192.168.0.123
- Frame IP (LAN2): 0.0.0.0
- FTP User name: user
- FTP Password: password

**Frame Ports and Connectors**

- USB Switcher A/B
- Switcher A/B
- Ethernet Ports for Switcher A/B
- Panel (A/B)
- Panel Breakout (A/B)
- Output BNCs

**Breakout Panel Ports and Pinouts**

- **Serial (female RJ-45)**
  - Pins: C10, C11, 2, 3, 4, 5, 6, 7, 8
  - Tx+, Rx+, Tx-, Rx-, n/c, n/c

**Power Switches and Frame Boards**

- USB 1/2
- Switcher A/B
- Controller (A/B)
- Ethernet Interface & GPI/Tally Cards

**Video Input Specifications**

- SMPTE 259M/292M serial digital (non-terminating)
- 10-bit SMPTE-292M serial digital
- SD Mode

**Video Output Specifications**

- SMPTE 259M/292M serial digital
- HD Mode

**Important Safety Instructions**

Before you set up and operate your switcher, see the "Important Safety Instructions" in your Setup manual.

**Note:** The USB 1/2 ports on the back of the frame are an extension of the USB 1/2 ports at the front. You can disable these ports and use the USB connector directly on the switcher board if required.
Caution: Before you set up and operate your switcher, see the "Important Safety Instructions" in your Setup manual.

Frame Installation and Cabling

Power and Cabling

Note: Refer to the documentation that came with the Ross Routing Systems NK-IPS for setup information.

Important: Cable must be CAT5e, or higher, Shielded Twisted Pair to a maximum of 200m.

Important: It is recommended that you always connect the AC Power Adapter to the Control Panel before connecting to Mains Power.

Note: You must terminate the looping Reference connector if you are not using it.

Terminate with 75 ohm BNC if not using

Connect video input sources as needed

Connect external reference or use internal reference

Connect video outputs as needed

Important: Only qualified service personnel are allowed to replace or service system boards and/or cards.

Note: The Dust Filter located inside the frame door should be kept clean and free of dust buildup to ensure proper cooling of the frame. Always ensure that the Dust Filter is covering all the holes in the door.

Remove frame door before cleaning the dust filter.

Network connection to computer running Dashboard Control System

Note: You terminate the looping Reference connector if you are not using it.

Connect video outputs as needed

Carbonite extreme Breakout Panel (front)

Carbonite extreme Breakout Panel (rear)

70-00394 Cable
Maximum 2m cable length

RCP-NK1 (rear)

NK-IPS (rear)

T-Bus Connections
Maximum 100m cable length

Frame Dust Filter

Frame Door Opening

Frame Dust Filter

Note: The Dust Filter located inside the frame door should be kept clean and free of dust buildup to ensure proper cooling of the frame. Always ensure that the Dust Filter is covering all the holes in the door.

Having a problem? Call our free, 24-hour technical support hotline to speak with a live product specialist located right here in our facility.
Tel: (+1) 613 • 652 • 4886
Email: techsupport@rossvideo.com