

Field Engineering Bulletin  
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# ***JEP-100 Jupiter / Encore Control Panel Release 1.2.0***

This document supercedes FEB 071836301 dated July 21, 2005, which should be discarded.

## **Purpose**

This document describes the upgrade procedure for JEP-100 release 1.2.0. This release provides several software corrections as described below.

Hardware installation, software configuration, and operation of the JEP-100 is described in a separate document (*JEP-100 Installation and Operating Manual*, part number 0718372xx).

## **Equipment Required**

This release generally applies to all JEP-100 panels, the exception being that the joystick override function requires a JEP-100 with a 15-pin D General Purpose Interface connector on the rear panel.

The JEP panels can presently be operated only with a Jupiter CM-4000 Control System.

## **Software Required**

The CM-4000 must be operating with Jupiter / Saturn / AccuSwitch version 7.3.2 to support the JEP-100. Either JupiterXPress or AccuSwitch software may be running in the CM.

NOTE The JEP-100 Salvo function requires Jupiter version 7.4 software.

## **Items Supplied**

Software for this release can be obtained through Grass Valley Technical Support. For more information, please call (800) 547-8949.

## Related Documentation

Engineering Change Order 768N.

*JEP-100 Installation and Operating Manual*, part number 0718372xx.

Field Engineering Bulletin 071827505, Jupiter/Saturn/AccuSwitch Release 7.4.1.

*Jupiter CM-4000 Installation and Operating Manual*, part number 0718261xx.

## Release notes

### 1.2.0 Release

Software problems corrected

1. The panel would lock up when communication with the CM-4000 was lost. This has been corrected. (Ref: 62902)
2. The panel would lose all configuration information when the software was updated. This has been corrected. (Ref: 58090)
3. The default output was no longer valid when a new configuration set was loaded. This has been corrected. (Ref: 62901)

## 1.1.0 Release

### Enhancements summary

#### 1. Joystick Override (panels with GPI connector)

This function provides a total of 14 joystick control lines plus ground. Each line, which essentially operates as a General Purpose Interface port, can be used to trigger a switching event.

In the joystick override application, a joystick such as found on a camera control unit (CCU) is used to select a camera for QC evaluation.

For more information, see page 8.

#### 2. Show Button Assignment

The 96 keys on the left side of the JEP can be assigned to inputs, outputs, levels, and—with the 1.1.0 release—salvos. This release also allows the operator to check button assignments by pressing PRESET and one of the “96 keys”; the name of the in/output, level, or salvo assigned to the key will be displayed in the Preset window. No actual switching takes place during this procedure.

#### 3. Level breakaway (split) switching is now based on CP-300/330 panel operation.

For more information, see page 12.

#### 4. Menu Reset command

To restart the panel’s main application, press MENU, use UP/DOWN to scroll to “Reset ?” and press TAKE. The program will restart and the panel will return to its previous state. All user-defined settings will be retained.

#### 5. Salvo switching (requires CM-4000 with v7.4 software)

The SALVO key can be used to display a list of pre-built Jupiter sequence sets, where a *sequence* is a switch of one or more sources to one or more destinations.

Each sequence set is given an eight-character (max) name and can include up to 25 events (switches). For example, sequence set “MY\_SEQ\_1” could be used to switch Cameras 1 through 4 into Monitors 1 through 4 (a total of four switches) with a single TAKE command.

The number of named sequence sets is limited to 25.

For more information, please see page 14.

Software problems corrected

1. Increased scroll up/down speed. (Ref. 55553)
2. Corrected a problem where some panels get stuck in startup when a redundancy changeover occurs. (Ref. 55433)
3. JEP-100 now indicates when communication is lost with the controller board (CM-4000). (Ref. 54912)
4. Sped up the redundancy changeover detection time, i.e., the panel should not take as long to detect when a changeover is needed. (Ref. 54911)
5. Alternate mode settings are now stored in memory so that Jupiter configuration changes do not affect the panel. (Ref. 53712)
6. Split Takes will now work when Audio Modes (left/right swap, mix, etc. switching) levels are defined. The only time you can do an Audio Mode switch now is when it is explicitly requested on the Audio Mode menu. (Ref. 51456)
7. Corrected a problem where press-and-hold auto-repeat was initiated on inappropriate buttons.

Known software limitations

1. The maximum number of JEP-100 panels that can be connected to a single CM-4000 port is 16.

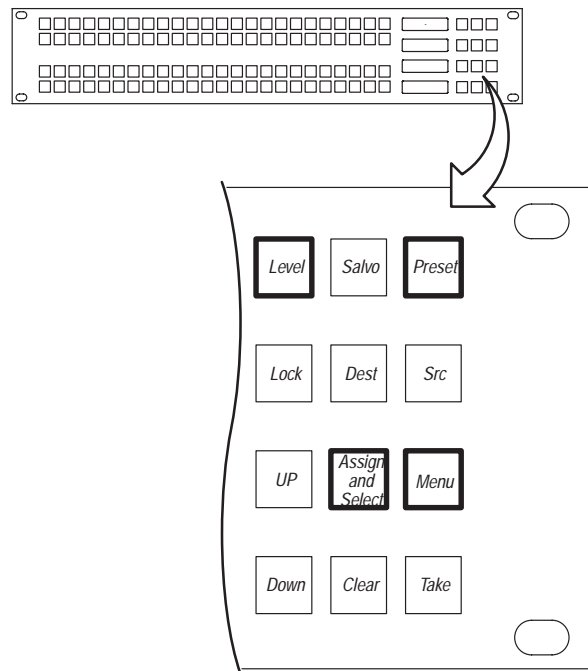
## 1.0.1 Release

### Enhancements summary

#### 1. Function button changes

A MENU button has replaced the PANEL ID button on JEP-100 models with the GPI connector. MENU is used to access a number of new functions (described below) as well as the original Panel ID function. The PRESET button has been moved to the old PANEL ID button position. In addition, the LEVEL and ASSIGN/SELECT buttons have swapped positions. Buttons that have changed are highlighted in Figure 1.

Figure 1. JEP-100 function buttons, showing correct arrangement for version 1.0.1 software



Original JEP-100 panels (non-GPI type) using version 1.0.1 software must be modified accordingly.

A button cap (the lens plus the bezel) is most easily removed by using a screwdriver or similar tool. If you need to access the button *label*, use needle-nose pliers to pull the lens straight away from the button bezel.

#### 2. ESLAN operation

JEP-100 panels can now communicate via Ethernet to the CM 4000 and to the Jupiter file server PC. This allows panel operation through a local facility LAN or through a remote WAN connection.

Software upgrades (including the 1.0.1 upgrade) are now performed exclusively using an Ethernet connection.

**3. Web Page**

The JEP-100 now provides a web (html) page that can be accessed by an IP browser such as Internet Explorer. This page is used to set the IP values (address, subnet, gateway) for each panel.

**4. Download Manager**

This PC application, which typically runs on the Jupiter file server, is used to download software to the JEP-100.

**5. Enhanced button programming**

- Buttons can be assigned to individual levels for simplified break-away switching.
- Buttons can be assigned to individual outputs for “X-Y” style switching.
- “Alternate Mode” allows buttons in the right-hand button cluster to be used temporarily for input/output/level selection.

**6. Source/destination scroll using UP/DOWN buttons**

**7. Special audio switching modes (left, right, mix, swap) can now be selected using the JEP-100 (when supported by the router).**

**8. The Lock function has been implemented.**

**9. Sticky mode allows breakaway operation during which the selected Levels remain selected after a TAKE.**

**10. Diagnostics (lamp test, etc.) are now available.**

**11. Software Version display is provided.**

**12. Brightness adjustment**

**13. Date and Time display**

## 1.0.1d1 Release

### Enhancements

1. Added a security feature to the panel ID edit procedure. After the panel ID has been selected, the operator must now press source button no. 24 (the last button on the top row) and TAKE at the same time to apply the change.

## Joystick Override

Late models of the JEP-100 include a 15-pin D female connector on the rear panel to provide a total of 14 control lines (GPI ports) plus ground. Each port can be used to trigger a switching event when initiated by a contact closure on a customer-provided device.

By default, the contacts connected to Pins 1-14 of the GPI connector are assigned to Entry numbers 0 through 13 listed in the CP Input set assigned to the panel. However, a front-panel menu can be used to manually assign a port to any router input, or to a sequence.

**NOTE** GPI assignments always refer to the Entry number in the CP Input Set table. If the CP Input table is changed such that the Entry number refers to a different Logical Input, the GPI will now select the new Logical Input.

If assigned to a router input, the port can be defined as latching or non-latching:

- In latching mode, the JEP will send a switch command for the source assigned to the triggered control line and not switch away from that source until a different source (i.e., a different contact) is selected by the user. For example, if the operator presses and then releases a joystick push button, the source will remain selected.
- In non-latching mode, the JEP will send a switch command for the selected source but switch back to the previous source when the control line returns to a high state (e.g., when the joystick button is released). This provides a single-button chop or flip-flop style of operation.

Figure 2 shows an example of the joystick override application, where a CCU joystick is used to select a camera for QC evaluation. When a camera is selected (camera 2 in this example) and the joystick button is pressed, the CCU provides a contact closure on relay 2. The closure is sensed by an optocoupler at pin 2 of the JEP GPI connector, which results in a command being issued to the CM-4000 to switch input C2 to the output presently being controlled by the panel.

Wiring between the rear-panel connector and the customer-supplied contact closure device should be at least 22 AWG (American Wire Gauge) and no longer than 30 feet (10 meters).

A circuit diagram for ports 1-8 is shown in Figure 3 (circuitry for ports 8-14 is similar).



Figure 2. Joystick override application.

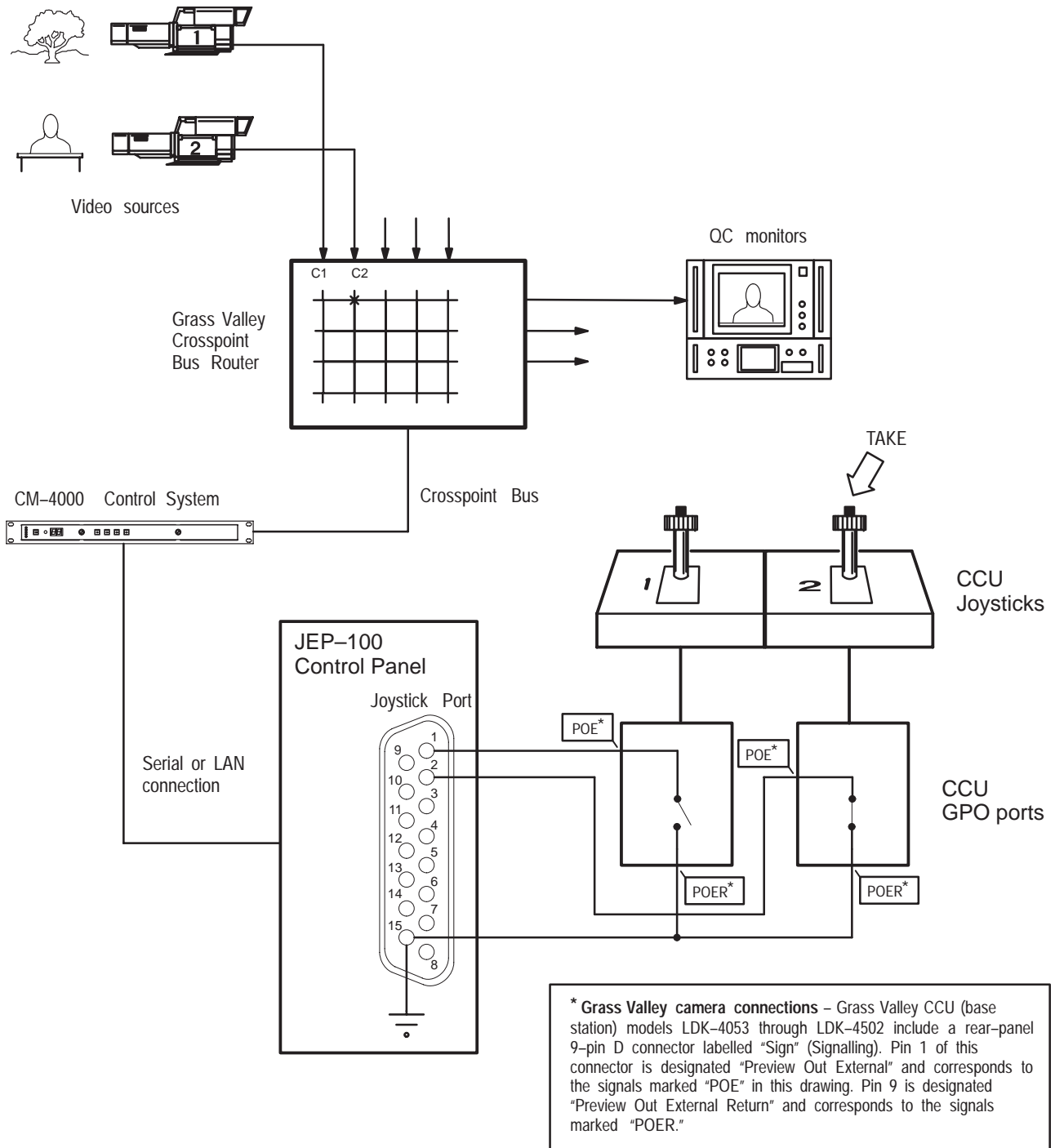
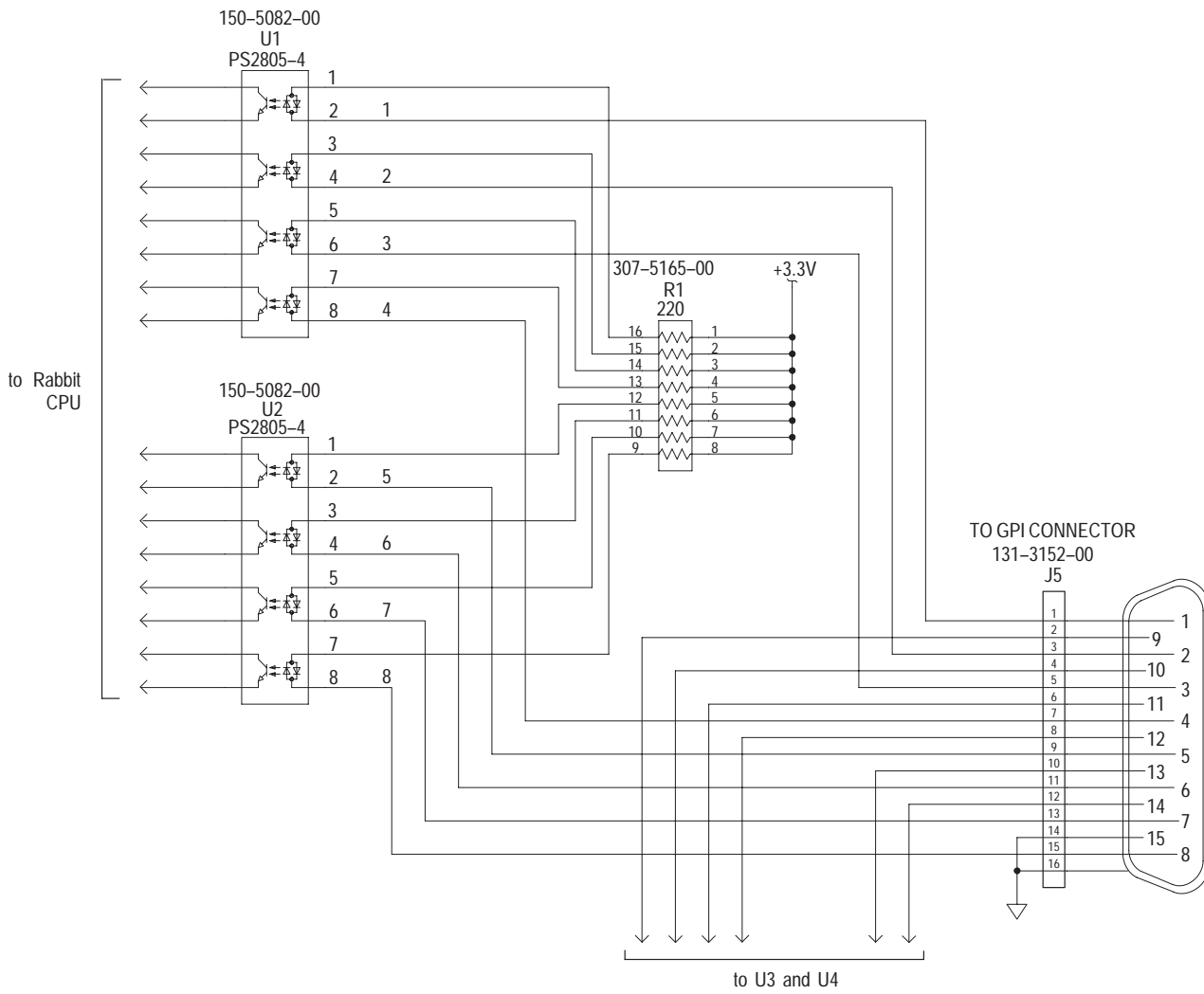


Figure 3. Internal circuitry for GPI ports 1-8 (ports 9-14 are similar).



### Configuring a GPI Port (Joystick Override Control Line)

1. MENU button – ON.
2. Use UP/DOWN to scroll to “GPI mode.”
3. Press TAKE.

The Status window will indicate “GPI 1” (highlighted). This refers to pin 1 on the rear panel connector.

Highlighting is used to indicate the window that will be scrolled using the UP/DOWN keys.

The Preset window will indicate the port’s present mode.

To exit GPI mode at any time and return to home state without saving any changes, press CLEAR. (Sometimes CLEAR must be pressed twice.)

4. Use UP/DOWN to display the number of the desired port from 1 to 14.
5. Press MENU. This will highlight the mode as shown in the Preset window.
6. Use UP/DOWN to select the desired mode for this port: Latch, No-Latch, Salvo, or GPI off.
7. Press MENU. The number of the GPI port should now be highlighted.
  - If Latch or NoLatch was selected, the name of a router input must now be specified. Press SRC. This will highlight the Level window and enable the UP/DOWN buttons to scroll to the input that will be selected when this port receives a switch command (i.e., is pulled low).
  - If Salvo was selected, a sequence must now be specified. Press SALVO. This will highlight the Level window and enable the UP/DOWN buttons to scroll to the existing sequence that will be executed when this port receives a start command (i.e., is pulled low).
8. To apply the setting, press TAKE.
9. To save the setting, the number of the port (“GPI 1,” etc.) must be highlighted. Press TAKE. The panel will return to home state.

## New Split Switching (Breakaway) Procedure

This function allows different sources to be selected for different levels. For example, switching video without switching audio.

NOTE Breakaway now includes a method similar to that used for the Jupiter CP-300/330 panels. With this method, levels are selected first; when the source is selected with a button-per-source (BPS) key, the switch is executed.

There are two breakaway methods available:

- Default mode – level names are scrolled in the Level window and toggled on/off before the switch is made.
- Button-per-level mode – levels are assigned to specific buttons and toggled on/off before the switch is made. A level can be assigned to one of the 96 BPS keys on the left side of the panel or (in Alternate Mode) one of the top six keys on the right side of the panel.

### Default Mode Breakaway

1. LEVEL button – ON.
2. Select the wanted levels:
  - a. Use UP/DOWN to step to the first wanted level.
  - b. Press ASSIGN/SELECT to toggle the level on/off. Dashes in the Level window mean the level is de-selected.
  - c. Repeat as needed for remaining levels.
3. Select the desired input:
  - Press one of the button-per-source (BPS) keys on the left side of the panel (which immediately completes the switch), or
  - Toggle the SOURCE button ON, and use the UP/DOWN buttons to find a source in the Preset window. Press TAKE to complete the switch. Toggling SOURCE to OFF will exit.

As long as LEVEL is ON, the panel will remember the breakaway level(s) previously selected and switch accordingly. When LEVEL is OFF, the panel will revert to All Level switching.

#### Checking Status of Selected Level

Press CLEAR. With the LEVEL button ON, press UP/DOWN to step to the desired level. The status of the selected level will be shown in the Status window.

## Button-per-Level Mode Breakaway

This method assumes that the levels have been assigned to specific buttons; if not see “Defining a Level Button” or “Alternate Mode” in the JEP-100 manual.

### 1. LEVEL – ON.

**NOTE** In this mode, when using a subset of the 96 buttons on the left side of the panel, the LEVEL button must *always* be ON for the Level buttons to be effective.

### 2. Toggle on/off the desired level(s).

### 3. Select the desired input:

— Press one of the button-per-source (BPS) keys on the left side of the panel (which immediately completes the switch), or

— Toggle the SOURCE button ON and use the UP/DOWN buttons to find a source in the Preset window. Press TAKE to complete the switch. Toggling SOURCE to OFF will exit.

As long as LEVEL is ON, the panel will remember the breakaway level(s) previously selected and switch accordingly. When LEVEL is OFF, the panel will revert to All Level switching.

#### Checking Status of Selected Level

Press CLEAR. With the LEVEL button ON, press UP/DOWN to step to the desired level. The status of the selected level will be shown in the Status window.

## Salvo Switching

**NOTE** The JEP-100 Salvo function requires Jupiter version 7.4 software (presently in development) to be operating in the CM-4000.

The JEP-100 SALVO key can be used to execute a list of pre-built Jupiter sequences, where a *sequence* is a switch of one or more sources to one or more destinations.

### Setting Up a Sequence

A Jupiter sequence is built using the Jupiter **Sequence Set** table, an example of which is shown in Figure 4.

Figure 4.

Sequence Set – SETUP						
	Sequence	Logical Input		Logical Output		Levels
1	SETUP1	CAM1	▼	MON1	▼	YYYY ...
2	SETUP1	CAM2	▼	MON2	▼	YYYY ...
3	SETUP1	CAM3	▼	MON3	▼	YYYY ...
4	SETUP2	CAM1	▼	MON3	▼	YYYY ...
5	SETUP2	CAM2	▼	MON2	▼	YYYY ...
6	SETUP2	CAM3	▼	MON1	▼	YYYY ...

The sequence set is given an eight-character (max) name and is of type “3800.”

In this example, sequence set “SETUP” contain two sequences: “SETUP1” and “SETUP2.” “SETUP1” will switch Cameras 1 through 3 into Monitors 1 through 3 (a total of three switches) with a single TAKE command. “SETUP2” will reverse the order of the cameras in the monitors. Each sequence can include up to 25 events (switches).

The number of named sequence sets is limited to 25.

The sequence set must be assigned to the JEP panel on the Jupiter **MPK Devices** table.

For additional information regarding Jupiter sequences and assigning them to control panels, refer to the CM-4000 manual.

### Executing a Sequence

After a sequence is created and downloaded, it can be executed as follows:

1. SALVO button – On.

The name of the first sequence (e.g., "SETUP1") will be shown in the Status window.

2. Use UP/DOWN to scroll to the desired sequence.
3. Press TAKE to execute the sequence.

### **Assigning a Sequence to a Button**

The 96 keys on the left side of the JEP can be assigned to individual sequences. Pressing the assigned button will then execute the sequence.

1. ASSIGN button – On.
2. SALVO button – On.

The name of the first sequence (e.g., "SETUP1") will be shown in the Status window.

3. Use UP/DOWN to scroll to the desired sequence.
4. Press one of the desired 96 keys on the left side of the panel.

## Software Update Procedure

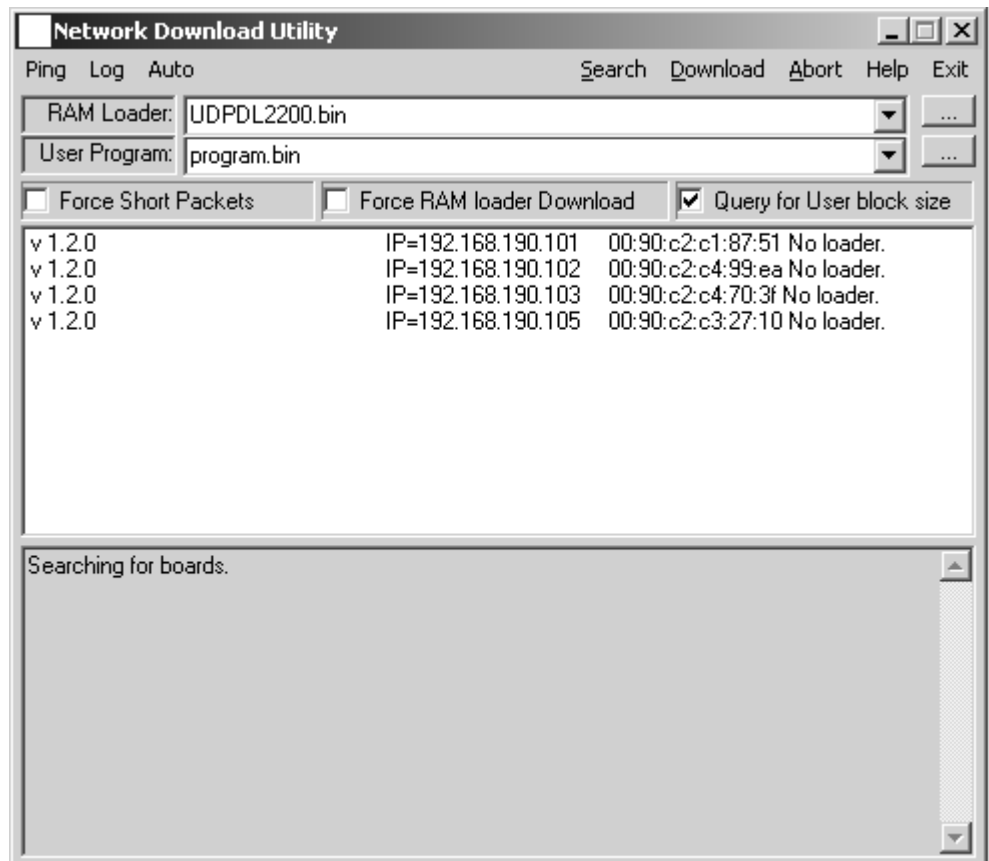
The following procedure assumes that all panels are already in use and configured with unique IP addresses and ID numbers. (If a new panel is being added at this time, first install and configure the panel as described in the manual.)

### Upgrade procedure

1. At a PC that is on (or has access to) the Jupiter LAN, load the software provided by Technical Support and copy update file "JEP100.zip" to c:\Program Files\Thomson\JEP.
2. Unzip (extract) JEP100.zip. This will create the following files:
  - JEP100.bin – JEP application
  - PDL-RCM3200.bin –RAM downloader
  - UDPDownload.exe – SHD Network Download Utility
3. Run UDPDownload.exe.

This will display a menu similar to the following:

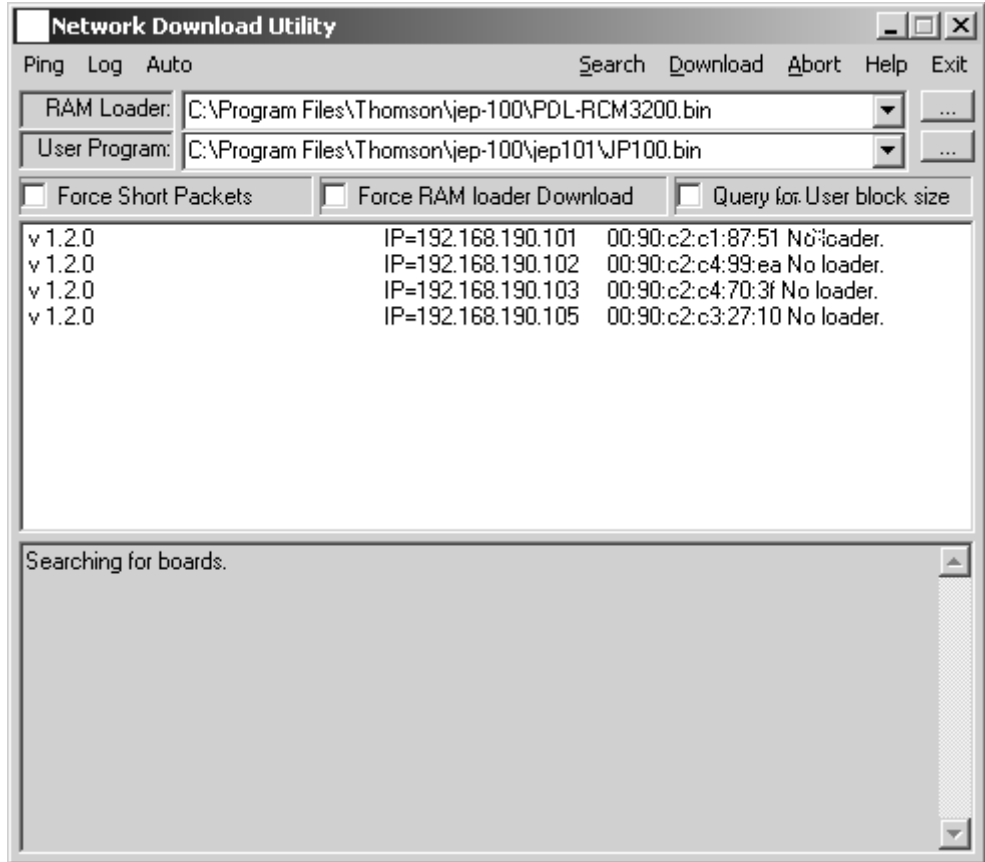
Figure 5. Network Download Utility main menu (example).





- The “RAM Loader” field must be updated to show the full path of the “PDL-RCM3200.bin” file, and the “User Program” field must be updated to show the full path of the “JEP100.bin” file. Use the browse button (...) to locate the files. Select the file and click on Open. See Figure 6.

Figure 6. Example of source file locations for upgrade and panel discovery information.



- “Force Short Packets,” “Force RAM loader Download,” and “Query for User block size” should be unchecked.
- The center portion of the menu shows the current software version number, IP address, and MAC address of each panel.

**7.** Select the first panel to receive the upgrade.

**a.** Select “Download.”

The panel will be upgraded and the new version number indicated.

**8.** Return to Step 7 above and select the next panel to receive the upgrade.