Field Engineering Bulletin
071827505 June 30, 2006
Reference ECO: 297M

Jupiter / Saturn / AccuSwitch Release 7.4.1

Contents

Applicability

This release applies to Jupiter/Saturn systems with VM/SI-3000 Control Processors. It also applies to systems running JupiterXPress or AccuSwitch deterministic router control software on the CM-4000 Control Module. This release supports English versions of Windows 2000 Professional and XP Professional operating systems only. Servers using Windows 3.1, Windows 95, Windows 98, or Windows NT are not supported.

ESLAN machine control interface to Thomson Broadcast Automation and CP-3200 control panels are not supported on Windows 2000 systems and thus not supported in release 7.1.0 and later releases.

Purpose

7.4.1 Release

AccuSwitch (CM-4000 systems)

- Full ES-LAN support for tying multiple CM-4000s together over a WAN. For more information, see page 9.

JupiterXPress and AccuSwitch (CM-4000 systems)

- Horizon protocol is now supported. See page 19.
- Nexus Star protocol is now supported. See page 20.

Bug Fixes

See page 22.

Known Issues

See page 23.

7.4 Release

JupiterXPress and AccuSwitch (CM-4000 systems)

- JEP-100 Jupiter / Encore Control Panel salvo switching is now supported. For more information, refer to Field Engineering Bulletin 071 8363 01 and the JEP-100 Installation and Operating Manual, part no. 071 8376 xx.
- Alpha Image / Pro-Bel router protocol support. These routers can now be controlled through a CM-4000 serial port. The port is configured for "ALP" protocol on the Serial Protocol table.
- Kalypso production switcher control of Jupiter using GV Native protocol is now supported. For more information, see page 27.
- Control of up to 4096 x 4096 routers using Ultra Crosspoint bus.

AccuSwitch (CM-4000 systems)

- Pathfinding support for AccuSwitch. For details, see page 25.
- Switch forwarding (distributed routing) - allows AccuSwitch to send switch request for levels not directly connected to the AccuSwitch CM-4000. For more information, see page 24.
- Support for Grass Valley 8964OMD OSD (on screen display) module. This device can be used to insert switch status (source names) into video. See page 30.
- Binary Confirm All operation can now be selected.

JNS Console (VM-3000 and CM-4000 systems)

- Auto start of applications (Control Center) based on user configuration

Bug Fixes

See page 34.

7.3.2 Release

JEP-100 Version 1.0.1 Support

This release provides CM-4000/JupiterXPress support for JEP-100 Jupiter/Encore Control Panels with version 1.0.1 software. JEP-100 version 1.0.1 includes:

- ESLAN support, with up to 64 panels per CM-4000 System Controller
- Redundant CM-4000 support
- Audio modes (stereo switching such as mix, reverse, etc.)
- Level button assignments

Bug Fixes

See page 35.

7.3.1 Release

JEP-100 Jupiter/Encore Control Panel Support

With this release, the CM-4000 Control Module running the JupiterXPress application now supports the JEP-100 control panel.

Bug Fixes

See page 35.

7.3 Release

JupiterXPress

With this release, the CM–4000 Control Module running the JupiterXPress application now supports the following:

- TSL under monitor displays
- MI 3040/T tally operation (MI 3040/2 /8 /12 machine control functions are not supported)
- CP 2002B and CP 2002D control panels
- Saturn master control switchers and the AccuSwitch application (running on a separate CM–4000) are now supported, i.e., they can be on the same network as a CM–4000 running JupiterXPress
- The CP-3800 control panel now supports 20 pages of destinations when controlled by JupiterXpress
- Saturn Monitor Follow and Preview

For more information about these features, please refer to the Jupiter CM–4000 Installation and Operating manual. (This manual is supplied on the Documentation CD, part no. 071 8274 xx.)

NOTE Jupiter XPress software cannot be installed on systems containing VM–3000 or SI–3000 processors. Also note that only JupiterXPress or AccuSwitch can be downloaded and executed in a single CM–4000 at one time.

7.2 / 7.2.1 Release

(The following information is provided for reference. Release 7.3 includes all functions of previous releases.)

JupiterPlus and Jupiter LE

With this release, the VM–3000 Control Module running the JupiterPlus or Jupiter LE applications now supports the following new devices and functions:

- CP 3832L and CP 3864L Control Panels
- GVG Native protocol

For more information about these features, please refer to the Jupiter VM-3000 Installation and Operating manual. (This manual is supplied on the Documentation CD, part no. 071 8274 xx.)

JupiterXPress

The CM–4000/JupiterXPress product provides the following set of Jupiter switching and machine control functions using the CM–4000 as the interface between the devices listed below.

With this release, Jupiter Xpress now supports the following devices and functions:

- Configuration Upload Utility
- CP 3800, 3808, 3809, and 3830 Control Panels
- CP 3832 and 3832L; CP 3864 and CP 3864L Control Panels
- CP 300 and 300S; 310 and 310S; 320 and 320S; 328 and 328S; 330 and 330S; and 330/6 Control Panels
- CP 3000 / 3010 Control Panels
- CP 3020 / 3021 Control Panels
- MC 3000 / 3010 Control Panels
- VC 3020 Control Panel
- GVG Native protocol
- Data Tek protocol (option)
- Nexus protocol (option)
- Utah 96 protocol (option)
- Jupiter ESbus Physical protocol
- DD (Diamond) Series protocol
- ASCII, ES-control, and ES-switch protocol
- JNS Control System User Applications (except Party Line Download)

- Configuration Swap (option)

For more information about these features, please refer to the Jupiter CM-4000 Installation and Operating manual. (This manual is supplied on the Documentation CD, part no. 071 8274 xx.)

Corrections

Error corrections are provided by this release, as described in the Release Notes section beginning on page 9. These notes should be reviewed before installing the software.

As with any software package, some limitations remain. Many of these are known and are detailed in this document and other documents referenced. Please note that the description of known limitations is not an agreement to correct them.

During this upgrade:

- All switcher status will be lost. To restore status, make note of the status of all outputs before starting the upgrade and re-Take all switches. Or, you can use Router Save/Restore to restore status.
- All memory on all Jupiter control system boards will be cleared due to a mandatory "pmemclear" subsequent to installation and download.
- All configuration sets will need to be recompiled.

Equipment required

Grass Valley-supplied PC 3000 (F7-029500-121) file server; or, PC with minimums as follows:

- Intel Pentium 700 processor with 256 K L2 cache
- 512 Mbytes RAM memory
- 150 Mb free disk space
- 32x CD-ROM drive
- 1.44 Mb floppy drive
- Intel or 3Com Ethernet LAN card

- Media converter or hub if needed to connect Ethernet LAN card to CM–4000 or to Jupiter VM/SI–3000. (The CM–4000 has a 10/100baseT rear panel connector; the VM/SI–3000 has a 10base2 rear panel connector.)

- Keyboard / mouse

- 15-inch monitor capable of 1024 x 768 x 256 operation

- 1 or 2 serial ports and 1 parallel port

CM–4000 (if present) must meet requirements specified in Engineering Change Order 642J. This ECO specifies replacement of PROM EPC1441 part no. 163 8270 00 with PROM EPC1441 part no. 163 8270 01. (Note: This new PROM is not compatible with previous versions of Jupiter software.) For more information, contact Grass Valley.

Software required

Installation of this release is only supported on the English version of:

- Windows 2000 Professional operating system with Service Pack 2 or later, or

- Windows XP Professional SP2 or later with Windows firewall disabled.

Materials supplied

Kit, Jupiter Software Upgrade 7.4.1 650428007

Qty	Description	Part number
1	Software, CD ROM Jupiter 7.4.1	063809307
1	Documentation CD	0718274xx
1	Field Engineering Bulletin	071827505

Optional materials

Application specific software licenses (refer to Section 1 of the Jupiter Installation and Operating manuals for more information)

- Jupiter VM/SI–3000 Installation and Operating Manual (VM–3000), part no. 0718305xx.
- Jupiter CM–4000 Installation and Operating Manual, part no. 0718261xx.

System files CRCs

ACCUSWCH.SYS	301B
JUPITER.LDR	C14E
JUPITER.SYS	DD7F
MCS3500.SYS	972A
SATURN.LDR	9902
SATURN.SYS	CE7A
SNOWBIRD.SYS	F138

Release notes

7.4.1 Release

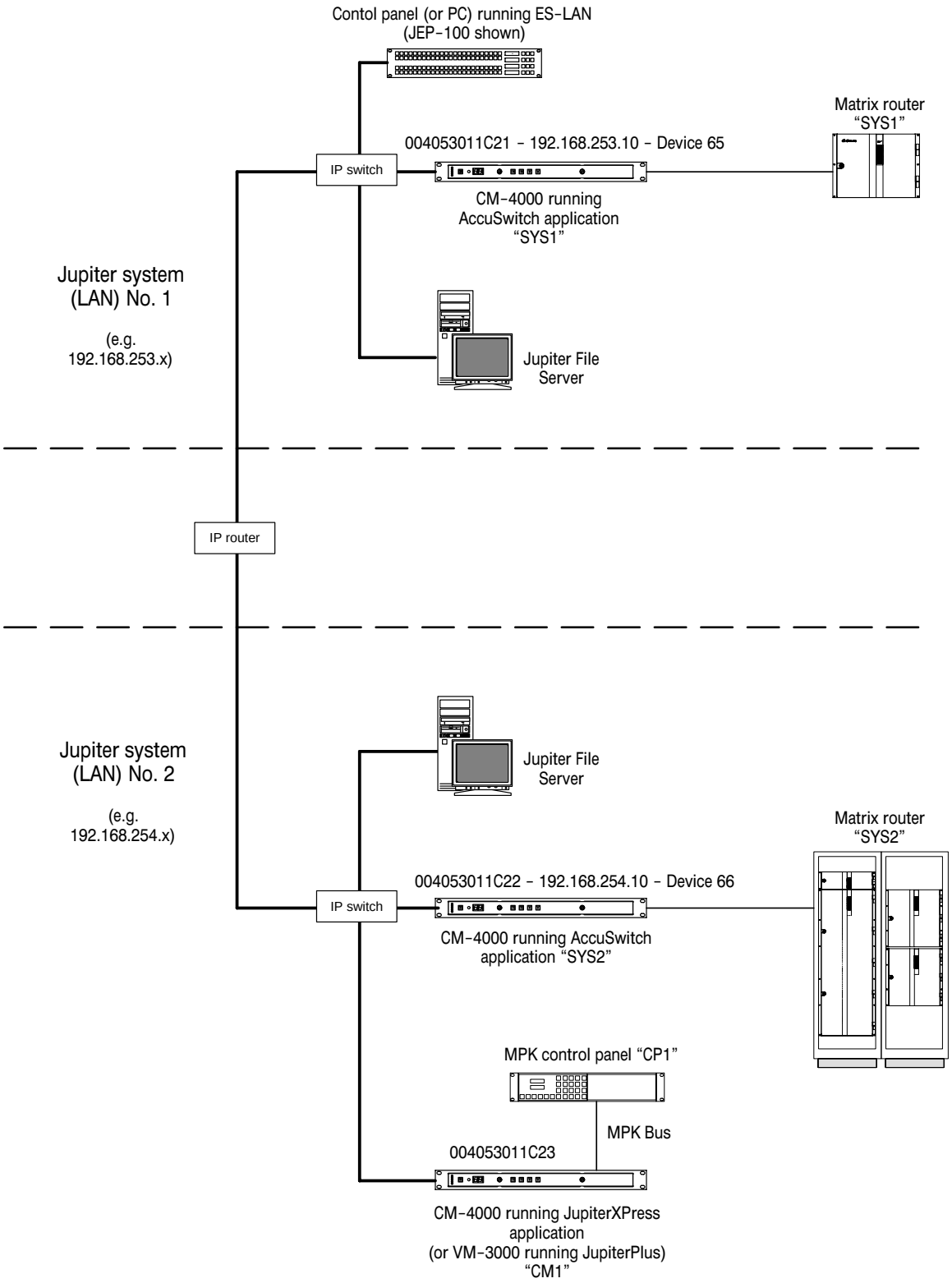
Enhancements

1. WAN operation of multiple Jupiter systems is now supported. This allows multiple Jupiter networks with multiple routers to be controled bi–directionally. See Figure 1.

This application, which is also referred to as "Accuswitch ES–LAN remote routing," has several notable characteristics:

- Each Jupiter system can include one or more matrix routers.
- Any control panel can control any matrix router.
- Status of all matrix routers is shown on all control panels.
- Each Jupiter system must include at least one CM–4000 running the AccuSwitch applicaton. This CM–4000 must be connected directly to the matrix router that is to be controlled from remote systems.
- Switching is deterministic (frame accurate) only for matrix routers connected directly to the AccuSwitch CM.
- AccuSwitch does not support MPK control panels. If MPK devices are required, they must be connected to a separate CM–4000 running JupiterXPress or a VM–3000 running JupiterPlus.
- AccuSwitch does not support data routers, follow switching, or logical level mapping.
- Each Jupiter system must include a Jupiter file server.
- Multiple Jupiter systems can be connected through IP routers.
- Each system must be configured to recognize the other(s). This must be done using each system's file server (as described below).

***Figure 1**. Example of WAN operation of multiple Jupiter systems. Each CM has several names/addresses, depending on the table being filled in. Refer to text for details.*



a. Software Configuration

Each system must be configured to recognize the other(s). The following discussion assumes you are familiar with standard Jupiter configuration rules. The term "local" means equipment assocated with the file server being configured at that point in the discussion.

Network Description Tables

The following examples correspond to the two systems shown in Figure 1.

The Network Description table for System 1 is shown in Figure 2. Row 1 has the familar entry for a CM, with "AS" as the Type and the hardware address in the next column. But in this case we also have an entry for the CM in the "remote" system ("SYS2") which has "ES" (ES-LAN) for the Type and the IP address instead of the hardware address.

Figure 2. *Network Description table on System 1 server (example).*

Network Description				
	Board Name	Type	Address	Redundant Address
1	SYS1	AS	004053011C21	
2	SYS2	ES	192.168.254.10	
3				

Over on the other server, the Network Description table also has the usual entries for the "local" CMs (Figure 3). But again, there is a special entry for the "remote" CM back on System 1:

Figure 3. *Network Description table on System 2 server (example).*

Network Description				
	Board Name	Type	Address	Redundant Address
1	SYS2	AS	004053011C22	
2	CM1	SB	004053011C23	
3	SYS1	ES	192.168.253.10	

Notice that in this example the two Jupiter systems are on separate networks: 192.168.253.x and 192.168.254.x. For information about setting Jupiter IP addresses refer to the Field Engineering Bulletin supplied with the Jupiter software.

NOTE Connection through firewalls to the Internet is not supported.

Switcher Description Tables

The Switcher Description tables must describe all available routers, with CP Level Set tables used as mapping devices between the systems. In the example shown here, both matrix router "SYS1" and matrix router "SYS2" have a video level assigned in hardware as physical level "1" and audio levels as 2 (Left) and 6 (Right). The Switcher Description table on the System 1 server is shown in Figure 4.

Figure 4. *Switcher Description table on System 1 server (example).*

Switcher Description

	Switcher	Level	VI	RV	MC	Board	#In	#Out	PLvL	Follow Level	Driver	Option 1	Option 2	Data Options	Audio	DM 400 Off Time
1	SYS1	VIDEO	☑	☐	☑	SYS1	64	64	1		Binary				None	
2	SYS1	LEFT	☐	☐	☐	SYS1	64	64	2		Binary				Left	
3	SYS1	RIGHT	☐	☐	☐	SYS1	64	64	6		Binary				Right	
4	SYS2	VIDEO	☐	☐	☐	SYS2	64	64	100		ES_LAN	66			None	
5	SYS2	LEFT	☐	☐	☐	SYS2	64	64	101		ES_LAN	66			None	
6	SYS2	RIGHT	☐	☐	☐	SYS2	64	64	102		ES_LAN	66			None	

$100_{Mod100} = 0$
$101_{Mod100} = 1$
$102_{Mod100} = 2$

to Figure 7 on page 13

In this example, rows 1 through 3 describe the "local" matrix router. Rows 4 through 6 describe the matrix router associated with the "remote" Jupiter system, with row 4 describing the video level. **Notice that the "Switcher" name and the "Board" name for the CM connected directed to that switcher must be exactly the same.**

Although the "remote" physical level (PLvL) for video is actually "1," the number "1" cannot be entered in the PLvL field because it's already being used in row 1. Instead, a "modulo 100" index is used. For video, the entry is "100;" when divided by 100 the remainder is "index" number "0." Index "0" then points to the first row of System 2's CP Level Set (please refer to Figure 7 on page 13). The **Option 1** column of these tables requires the Address of the CM that controls the remote level. The source of this Address is the MPK Devices table, as explained on page 14.

Figure 5 shows the Switcher Description table for System 2. This is essentially a mirror image of the Switcher Description table for System 1: the top three rows define the local router; the bottom three rows define the remote router.

Figure 5. *Switcher Description table on System 2 server (example).*

Level Name "VIDEO(SYS2)" from Sys 2 CP Level Set (Figure 7) maps to local Physical Level "1"

Switcher Description

	Switcher	Level	VI	RV	MC	Board	#In	#Out	PLvL	Follow Level	Driver	Option 1	Option 2	Data Options	Audio	DM 400 Off Time
1	SYS2	VIDEO	☑	☐	☑	SYS2	64	64	1		Binary				None	
2	SYS2	LEFT	☐	☐	☐	SYS2	64	64	2		Binary				Left	
3	SYS2	RIGHT	☐	☐	☐	SYS2	64	64	6		Binary				Right	
4	SYS1	VIDEO	☐	☐	☐	SYS1	64	64	100		ES_LAN	65			None	
5	SYS1	LEFT	☐	☐	☐	SYS1	64	64	101		ES_LAN	65			None	
6	SYS1	RIGHT	☐	☐	☐	SYS1	64	64	102		ES_LAN	65			None	

CP Level Set Tables

The CP Level sets assigned to the WAN CM (on the MPK Devices table, as described on page 14) must be created as type "CP-3000." Figure 6 shows the table for System 1.

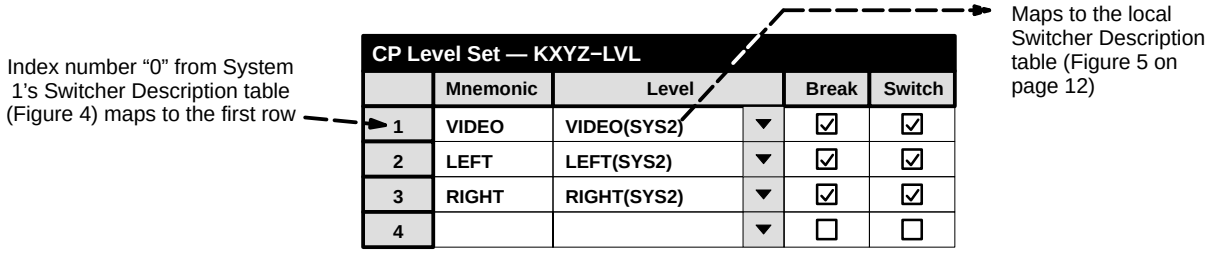
Figure 6. *CP Level Set on System 1 server (example).*

CP Level Set — KXYZ–LVL

	Mnemonic	Level	Break	Switch
1	VIDEO	VIDEO(SYS1)	☑	☑
2	LEFT	LEFT(SYS1)	☑	☑
3	RIGHT	RIGHT(SYS1)	☑	☑
4			☐	☐

Figure 7 shows the table on the System 2 server.

Figure 7. *CP Level Set table on System 2 server (example).*



CP Level Set — KXYZ–LVL

	Mnemonic	Level	Break	Switch
1	VIDEO	VIDEO(SYS2)	☑	☑
2	LEFT	LEFT(SYS2)	☑	☑
3	RIGHT	RIGHT(SYS2)	☑	☑
4			☐	☐

In this example, PLvl number "100" on System 1's Switcher Description table (Figure 4 on page12) converts to modulo "0," which in turn points to row 1 in Figure 7 above. This identifies the name of the target Level, in this case "VIDEO(SYS2)." This name points to the corresponding Level name on System 2's Switcher Description table (Figure 5).

MPK Devices Tables

Although the CM is not an MPK device as such, the MPK table is used to assign the CM with an Address that can be used by a remote system.

The Name entered for the CM is arbitrary but it should suggest the local system. The Device Type is ES–RMTR.

The Board entry is the name of that same CM as determined by the Network Devices table.

For Address, enter a two–digit number from 65 to 75. This number must then be selected in the "Option 1" column of Switcher Description tables that describe levels connected to this CM.

For example, Figure 8 shows the MPK table on the System 1 server. The CM's Address has been set to "65;" this address has been selected on the Option 1 column of the SYS2 Switcher Description table (Figure 5 on page 12).

Figure 8. *MPK table on System 1 server (example).*

MPK Devices

	MPK Devices	Device Type	Expansion	Pass word	Board	Port	Address	Input Sets	In Panel	Output Sets	Out Panel	Level Set	Overide Set	Sequence Set
1	JEP1	ES–LAN	☐		SYS1		01	KXYZ–INP		KXYZ–OUT		KXYZ–LEV		
2	S1	ES–RMTR	☐		SYS1		65	KXYZ–INP		KXYZ–OUT		KXYZ–LEV		

Figure 9 shows the table on the System 2 server.

Figure 9. *MPK table on System 2 server (example).*

MPK Devices

	MPK Devices	Device Type	Expansion	Pass word	Board	Port	Address	Input Sets	In Panel	Output Sets	Out Panel	Level Set	Overide Set	Sequence Set
1	S2	ES–RMTR	☐		SYS2		66	KXYZ–INP		KXYZ–OUT		KXYZ–LEV		
2	CP1	CP–3000	☐		SYS2	1	00000014	KXYZ–INP		KXYZ–OUT		KXYZ–LEV		

Switcher Input Tables – SYS1 Server

These tables are used to assign a logical name to each switcher input. In this example, there is a table for the local router (Figure 10) and another table for the remote router (Figure 11). Notice that the Logical Input Names must be unique across these tables.

Figure 10. *Switcher SYS1 Input table on System 1 server (example). Entries on this table are physical input numbers. Only local input names are entered.*

Switcher Input – SYS1

	Logical Input Name	VIDEO	LEFT	RIGHT
1	1BARS	000	000	000
2	1VT1	001	001	001
3	1VT2	002	002	002
4	1VT3	003	003	003

Figure 11. *Switcher SYS2 Input table on System 1 server (example). Entries on this table are* ***index*** *numbers (****not*** *physical input numbers). Only remote input names are entered.*

from Figure 12

Switcher Input – SYS2

	Logical Input Name	VIDEO	LEFT	RIGHT
1	2BARS	000	000	000
2	2VT4	001	001	001
3	2VT5	002	002	002
4	2VT6	003	003	003

to Figure 17 on page 16

The input numbers in Figure 11 ("000," etc.) are *not* physical input numbers, but *index* numbers used as pointers. They must be unique within each column, but they are otherwise arbitrary. The index numbers point to a special serial–type CP Input Set table on the remote server (as described below).

The Logical Input Names on these tables are selected on a CP 3000–type CP Input Set table, as described next.

CP Input Sets – SYS1 Server

In this example the CP Input Set in Figure 12 is assigned via the MPK Devices table to the JEP 100 panel shown on page 10. Because the table includes Logical Input names for both routers, the JEP is able to select inputs on both systems. The special serial–type CP Input set only contains local input names.

Figure 12 also shows the begin point of an example switching sequence. It may be helpful to study this example sequence to see how a control panel command reaches the desired router.

(BEGIN example sequence) Operator selects "Test 2" on JEP 100 control panel

Figure 12. *CP Input Set table on System 1 server (example).*

Input Set — KXYZ–INP

	Category	Entry	Mnemonic	Logical Input
1	Test	1	1BARS	1BARS
2	Test	2	2BARS	2BARS
3	VTR	1	1VT1	1VT1
4	VTR	2	1VT2	1VT2
5	VTR	3	1VT3	1VT3
6	VTR	4	2VT4	2VT4
7	VTR	5	2VT5	2VT5
8	VTR	6	2VT6	2VT6

to Figure 11

Figure 13. *Serial–type CP Input Set table on System 1 server (example). Only local input names are selected.*

Input Set — SYS1INP (SERIAL)

	Entry	Logical Input
1	0	1BARS
2	1	1VT1
3	2	1VT2
4	3	1VT3

Switcher Input Tables - SYS2 Server

These example tables have been arranged so that control between the two systems is bi-directional.

Figure 14. *Switcher SYS1 Input table on System 2 server (example). Entries on this table are* ***index*** *numbers (****not*** *physical input numbers). Only remote input names are entered on this table.*

Switcher Input – SYS1

	Logical Input Name	VIDEO	LEFT	RIGHT
1	1BARS	000	000	000
2	1VT1	001	001	001
3	1VT2	002	002	002
4	1VT3	003	003	003

Figure 15. *Switcher SYS2 Input table on System 2 server (example). Entries on this table are physical input numbers. Only local input names are entered.*

from Figure 17

Switcher Input – SYS2

	Logical Input Name	VIDEO	LEFT	RIGHT
1	2BARS	000	000	000
2	2VT4	001	001	001
3	2VT5	002	002	002
4	2VT6	003	003	003

Switch command to router:
"Select physical input 000."
(END of example sequence)

CP Input Sets - SYS2 Server

Figure 16. *CP Input Set table on System 2 server (example). The inclusion of inputs to both systems allows bi−directional control.*

Input Set — KXYZ−INP

	Category	Entry	Mnemonic	Logical Input
1	Test	1	1BARS	1BARS
2	Test	2	2BARS	2BARS
3	VTR	1	1VT1	1VT1
4	VTR	2	1VT2	1VT2
5	VTR	3	1VT3	1VT3
6	VTR	4	2VT4	2VT4
7	VTR	5	2VT5	2VT5
8	VTR	6	2VT6	2VT6

Figure 17. *Serial−type CP Input Set on System 2 server (example).Only local input names are entered.*

from Figure 11

Input Set — SYS2INP (SERIAL)

	Entry	Logical Input
1	0	2BARS
2	1	2VT4
3	2	2VT5
4	3	2VT6

to Figure 15

Switcher Output Tables – SYS1 Server

The Switcher Output tables follow the pattern just described for the Switcher Input tables. Each server has the customary Switcher Output table and CP Output set; and in addition each has a special "indexing" Switcher Output table and a special Serial-type CP Output set. See below for example tables.

Figure 18. *SYS1 Switcher Output table on System 1 server (example). Entries on this table are physical output numbers. Only local outputs are entered on this table.*

Switcher Output – SYS1

	Logical Output Name	Security	S–T	Pass word	VIDEO	LEFT	RIGHT
1	1QCMON		–		000	000	000
2	1VT1		–		001	001	001
3	1VT2		–		002	002	002
4	1VT3		–		003	003	003

Figure 19. *SYS2 Switcher Output table on System 1 server (example). Entries on this table are* ***index*** *numbers (****not*** *physical output numbers). Only remote outputs are entered on this table.*

from Figure 20

Switcher Output – SYS2

	Logical Output Name	Security	S–T	Pass word	VIDEO	LEFT	RIGHT
1	2QCMON		–		000	000	000
2	2VT3		–		001	001	001
3	2VT4		–		002	002	002
4	2VT5		–		003	003	003

to Figure 25 on page 18

CP Output Sets – SYS1 Server

The CP Output sets can be

Figure 20. *CP Output Set table on System 1 server (example). The inclusion of outputs to both systems allows bi–directional control (just as exclusion of outputs can be used to restrict control).*

(BEGIN example sequence) Operator selects "MON 2" on JEP 100 control panel

Output Set — KXYZ–OUT

	Category	Entry	Auto Mnem	Mnemnonic	Logical Output	Level Set	Button
1	MON	1	☑	1QCMON	1QCMON		
2	MON	2	☑	2QCMON	2QCMON		
3	VTR	1	☑	1VT1	1VT1		
4	VTR	3	☑	2VT3	2VT3		

to Figure 19

Output Set – SYS1OUT (SERIAL)

	Entry	Logical Output
1	0	1QCMON
2	1	1VT1
3	2	1VT2
4	3	1VT3

Figure 21. *Serial–type CP Output Set table on System 1 server (example). Only local input names are entered on this table.*

Switcher Output Tables – SYS2 Server

Figure 22. *SYS1 Switcher Output table on System 2 server (example). Entries on this table are* ***index*** *numbers (****not*** *physical input numbers). Only remote outputs are entered on this table.*

Switcher Output – SYS1

	Logical Output Name	Security	S–T	Pass word	VIDEO	LEFT	RIGHT
1	1QCMON		–		000	000	000
2	1VT1		–		001	001	001
3	1VT2		–		002	002	002
4	1VT3		–		003	003	003

Figure 23. *SYS2 Switcher Output table on System 2 server (example). Entries on this table are physical output numbers. Only local outputs are entered on this table.*

from Figure 25

Switcher Output – SYS2

	Logical Output Name	Security	S–T	Pass word	VIDEO	LEFT	RIGHT
1	2QCMON		–		000	000	000
2	2VT3		–		001	001	001
3	2VT4		–		002	002	002
4	2VT5		–		003	003	003

Switch command to router:
"Select physical output 000."
(END of example sequence)

CP Output Sets – SYS2 Server

Figure 24. *CP Output Set table on System 2 server (example). The inclusion of outputs to both systems allows bi–directional control (just as exclusion of outputs can be used to restrict control).*

Output Set — KXYZ–OUT

	Category	Entry	Auto Mnem	Mnemnonic	Logical Output	Level Set	Button
1	MON	1	☑	1QCMON	1QCMON		
2	MON	2	☑	2QCMON	2QCMON		
3	VTR	1	☑	1VT1	1VT1		
4	VTR	3	☑	2VT3	2VT3		

from Figure 19

Output Set – SYS2OUT (SERIAL)

	Entry	Logical Output
1	0	2QCMON
2	1	2VT3
3	2	2VT4
4	3	2VT5

to Figure 23

Figure 25. *Serial–type CP Output Set table on System 2 server (example). Only local outputs are entered on this table.*

Pathfinding

Pathfinding is supported for WAN applications. However, when configuring the pathfinding tables, the entries in the Physical Output and Physical Input columns are **not** the actual physical input and output numbers (i.e., they are not the "physical" numbers shown in the Switcher Input and Output tables). Instead, the pathfinding tables use the **Entry** numbers from the CP Input and CP Output set tables assigned to the CM that is controlling the target matrix router.

2. Horizon protocol is now supported.

The CM 4000 can be connected to a Horizon matrix router through the General Purpose Interface with Terminal/Computer Interface software (GPI–T/CI) (see Figure 26). The protocol for the GPI–T/CI RS–422 port must be set at: 38400 baud, 8 data bits, even parity, and 1 stop bit (refer to the Horizon GPI–T/CI Manual for configuration instructions).

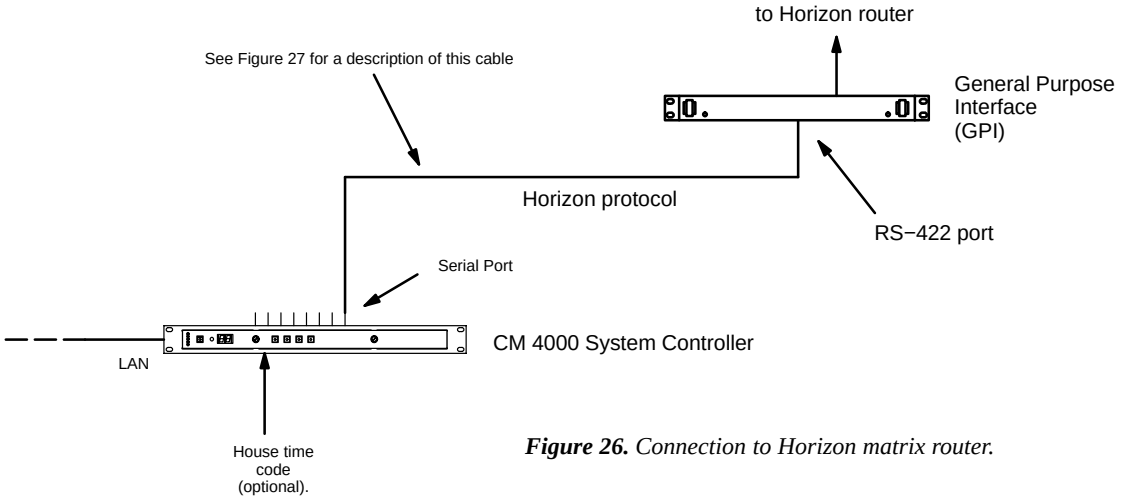


Figure 26. *Connection to Horizon matrix router.*

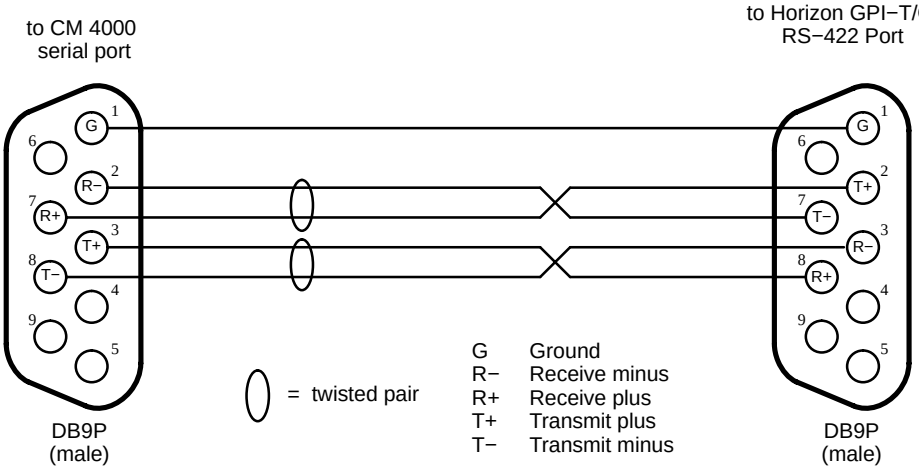


Figure 27. *Cable for connecting CM 4000 to Horizon matrix router.*

3. Nexus Audio Routing System protocol is now supported.

Nexus audio routers can be controlled using the hardware connections shown in Figure 28. The Nexus switcher requires special PROMs for this application (please contact Grass Valley for more information).

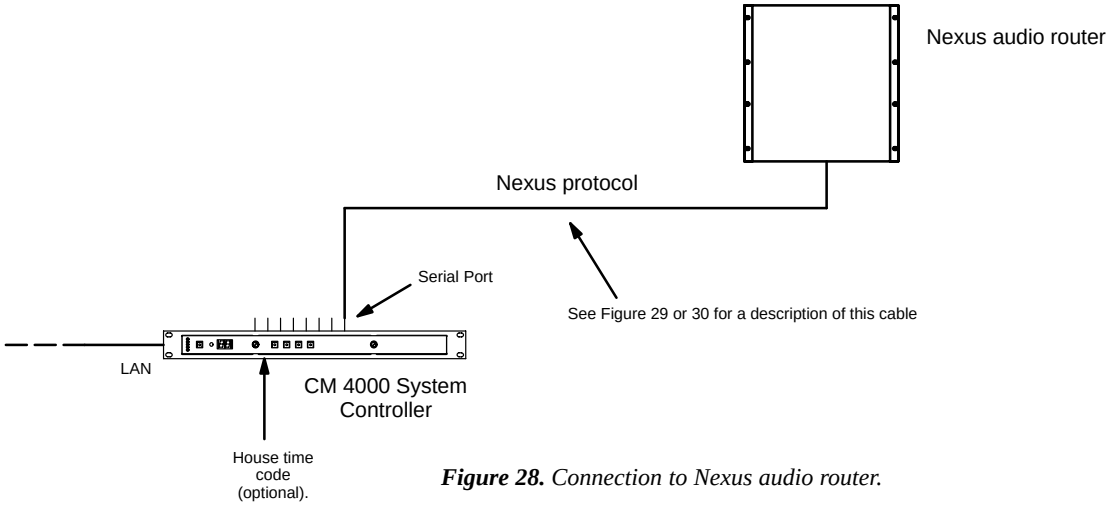


Figure 28. *Connection to Nexus audio router.*

The Nexus router has two ports that can be used for connection to Jupiter: the "XCI" port and the "XCPU" port. Field reports suggest that the XCI port be used if possible. The pinouts for both ports are shown below.

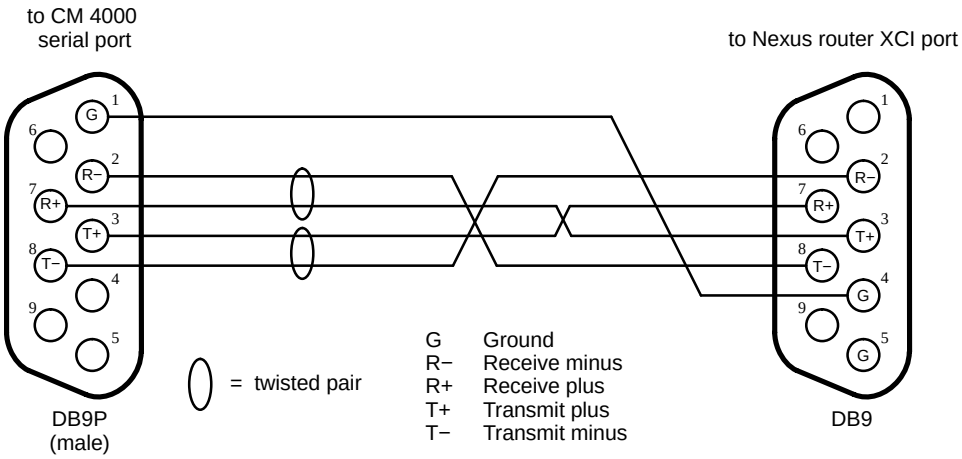


Figure 29. *Cable for connecting CM 4000 to Nexus audio router XCI port.*

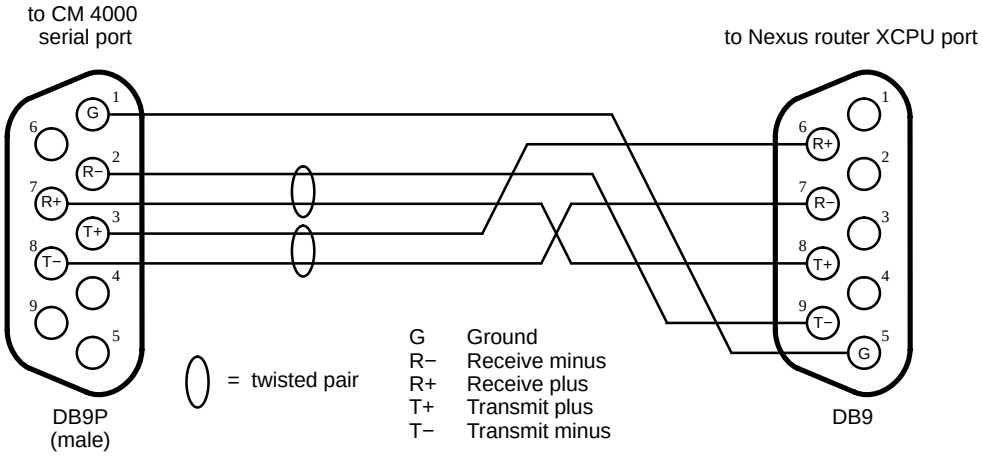


Figure 30. *Cable for connecting CM 4000 to Nexus audio router XCPU port.*

Problems corrected in release 7.4.1

1. CR 50204: Added ES commands to AccuSwitch, Jupiter, and Jupiter Xpress for Maestro interface.

2. CR 59322: Corrected an issue where the CM–4000 would reboot/reset without any notification.

3. CR 59466: Corrected an issue where AccuSwitch did not send all of the router status on startup.

4. CR 59478: Added the ES Command MSTA (0x55 Control System Status) to ESSWITCH in JupiterXPress.

5. CR 60824 – Corrected a problem where CM 4000 went offline, usually indicated by question marks in the control center application plus an "Inactive" red field in Board status instead of "Active Standby." This problem usually affected a redundant CM, most often after downloading a modified configuration set.

6. CR 61424 – The standby board sending out status even when the board was in standby. When a source was taken to the same destination twice in a row multiple status messages appeared in the Jupiter logger. This problem has bee fixed.

7. CR 62088: Corrected a problem where VGA files with length 0 could cause memory corruption.

8. CR 62370: When attempting to uninstall 7.4 (prior to installing 7.4.1) the system reported that the InstallShield application (v.11) was out of date. This has been corrected.

9. CR 62416: Corrected a problem where CM–4000 would not come back on line without numerous hard "RESETS."

10. CR 63366: Corrected an issue where AccuSwitch was changing the mnemonic for physical inputs defined more than once.

11. CR 63604: CM–4000 running JupiterXPress will now control Concerto data routers with certain restrictions. See "Known Issues" below.

12. CR 64305: No status showing on control panel when switching from LAWO side. Mono Lawo Router and a Stereo Jupiter configuration is not working when switches from the LAWO side are sent to Jupiter. This has been fixed.

Known issues

1. VM-3000 running JupiterPlus and CM-4000 running JupiterXPress can both be used to control data routers. However, status reporting behavior for the SAFE crosspoint varies according to router and controller type, as follows:

   Venus DM-400B Data Routers

   VM-3000 and CM-4000 controlling Venus DM-400B data routers will switch and status all crosspoints including SAFE appropriately both when the router is connected and disconnected (Crosspoint Bus control, power is off, cards are removed).

   Concerto Data Routers

   VM-3000 controlling Concerto Data Routers will switch correctly and status will be displayed appropriately for crosspoints other than SAFE. SAFE *will not* be statused at all.

   CM-4000 controlling Concerto Data Routers will switch correctly and status will be displayed appropriately for crosspoints including SAFE with the exception that SAFE *will* be statused even when the router is disconnected (Crosspoint Bus control, power is off, cards are removed).

2. CR 67332 – If a CM-4000 serial port is set for ESCP (ES-Control Panel) protocol (e.g., for use with a JEP-100 Control Panel operating in serial mode) you must connect and configure at least one ESCP panel on that port. Otherwise a configuration verify error causes the CM to continuously reboot. As a workaround, make sure you have at least one panel defined on each ESCP serial port even if it's only a dummy panel. Or don't define ESCP as the protocol unless you actually configure panels for it. All unused ports on a CM-4000 should be set to "undefined."

3. CR 68434 – When controlling an Acapella router, status is only indicated for the levels switched by the Acapella unit that is connected directly to the Jupiter controller. Switching does occur on additional Acapella units (i.e., those connected to each other via LAN), but the status as shown by the Jupiter panels remains limited to two levels.

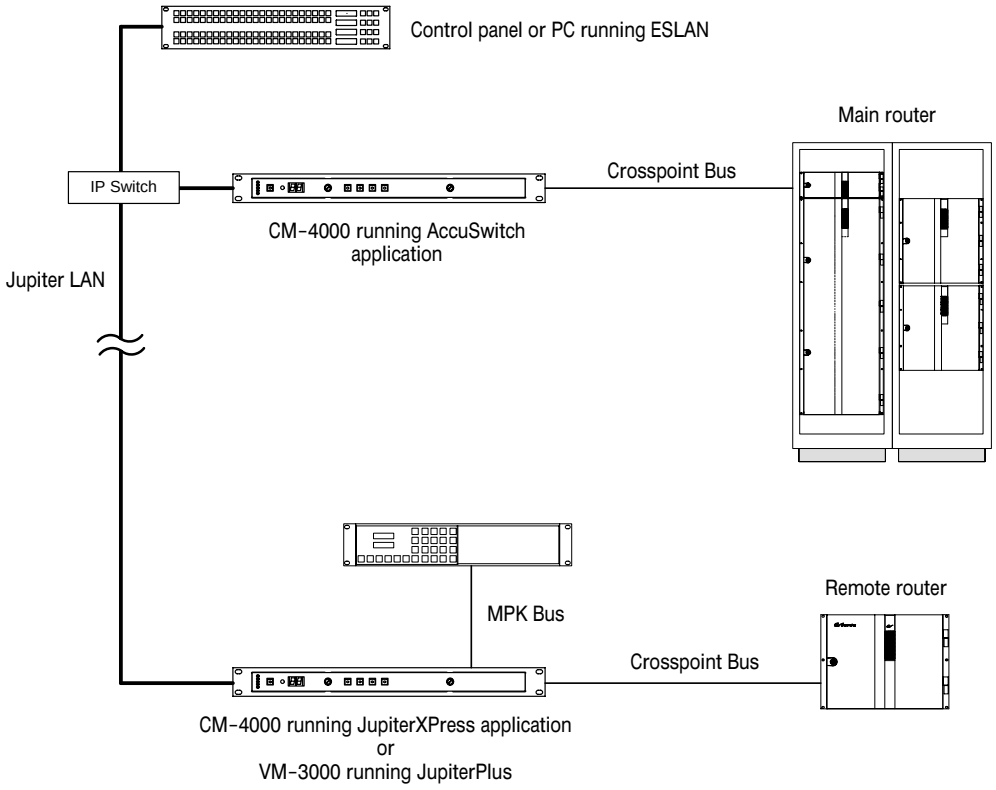
7.4 Release

Enhancements

(The following discussion provides details about some of the new functions supported by this release. For a complete list of enhancements, see page 9.)

1. CM–4000/AccuSwitch switch forwarding (distributed routing) is now supported.

Figure 31. Switch forwarding (AccuSwitch).



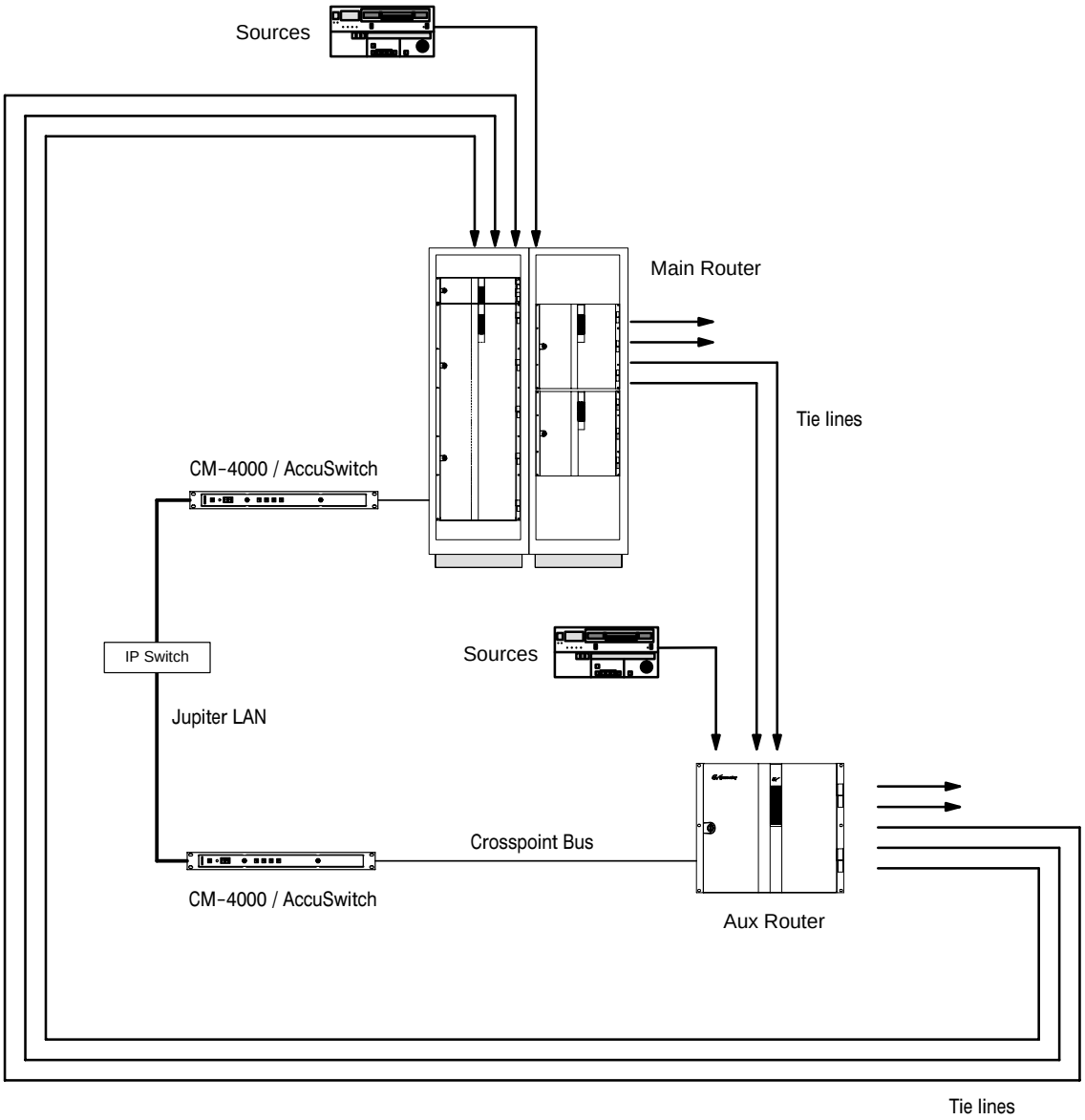
In the past the AccuSwitch application could only control a router connected directly to the CM–4000 running AccuSwitch. With this release the software determines if the router is not located on this board and will send (forward) the switch request on the LAN to the controller (VM–3000 or CM–4000) that is connected to the router. All panels in the system will status the switch.

However, the determinism (frame accuracy) of such switches is not assured. Only switches on routers directly connected to the CM running AccuSwitch can be guaranteed to be frame accurate.

2. CM–4000/AccuSwitch Path Finding is now supported.

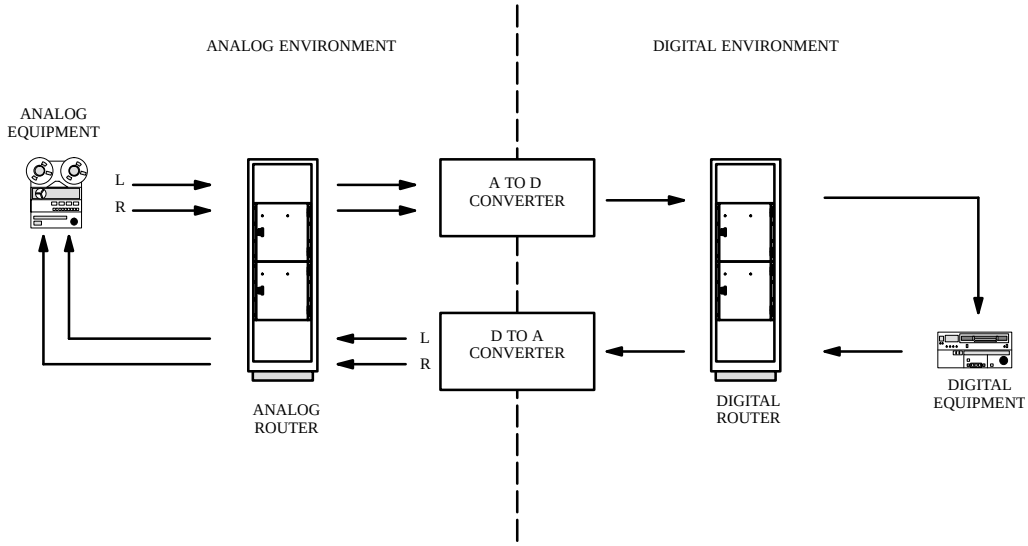
Path finding allows two or more routing switchers to operate as a system, where one switcher can access the other's inputs through a number of *tie lines*. With this release, the routers can be controlled by separate CM–4000s if they are both running AccuSwitch.

Figure 32. Example of path finding connections between video levels of two routers. With v7.4, CM–4000s can now control path finding if both are running AccuSwitch..



Path finding can also be used with customer-supplied ADCs and DACs to provide automatic conversion between analog equipment and digital equipment (such as VTRs). See Figure 33.

Figure 33.



For example, this technique can be used for conversion of analog audio signals, which are carried on two levels of an analog routing switcher, to a single digital audio (AES) signal. Each pair is "locked" together, meaning that selection of one result in selection of both.

The same concept can be applied in an embedded audio environment, where a single digital video stream can be split into an analog video signal and up to four analog audio signals.

For more information about path finding, including wiring and Jupiter configuration details, please refer to the CM-4000 Installation and Operating Manual.

3. Ethernet control using GV Native Protocol

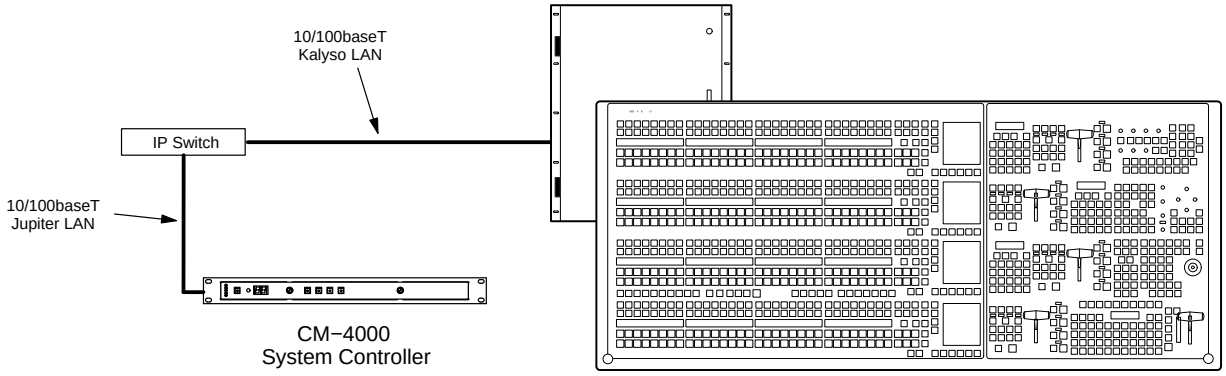
This enhancement allows the Jupiter system and associated router to be controlled by a Kalypso production switcher.

Kalypso Application

a. Hardware Connections

An example of hardware connections is shown in Figure 34.

Figure 34. Connections to Kalypso switcher (example).



b. Jupiter Configuration

Network Description Table

This table must be used to create a name that Jupiter will use for the Kalypso system. See Figure 35.

Figure 35. *Network description (example).*

Network Description				
	Board Name	Type	Address	Redundant Address
1	KALYPSO	NP ▼	192.168.0.20	
2		▼		
3		▼		

Board Type is NP (Native Protocol). The IP address of the Kalypso may vary from that shown.

The Redundant Address field is not used. In the case of redundant Encore controllers, the second controller and its address would be entered on a new row of the table.

MPK Devices Table

Although the Kalypso does not operate with MPK protocol, this table must be used to identify the Kalypso as a controlling device.

Figure 36. *MPK table (example).*

MPK Devices

	MPK Devices	Device Type	Expansion	Pass word	Board	Port	Address	Input Sets	In Panel	Output Sets	Out Panel	Level Set	Overide Set	Sequence Set
1	KALYPSO	NP–LAN	☐		CM1			KAL–IMP		KAL–OUT		KAL–LEV		
2			☐											

The "MPK Device" name for the Kalypso must be exactly the same as the Kalypso's Board Name on the Network Description table.

The Device Type is "NP-LAN."

The connecting CM-4000 is identified, but the Port and Address fields are left blank.

The Input, Output, and Level Sets named on this table should include all inputs, outputs, and levels that will be controlled by the Kalypso. As a precaution, you may wish to restrict control to selected outputs.

CP Input and CP Output Sets

For device type "**NP-LAN**," the Input and Output Sets must be created specifically for use by Serial devices. The Input Set is the source of the **mnemonics** that will appear on the Kalypso console.

Figure 37. *Serial−type CP Input Set (example).*

Input Set — KAL–INP

	Entry	Logical Input
1	0	BARS
2	1	TONE
3	2	TC
4	3	VT01
5	4	VT02
6	5	VT03

The Input Set describes which router inputs can be selected by the Kalypso (and an "Entry" number that the switcher will use to refer to that input); the Output Set describes which router outputs are wired to the Kalypso (and an "Entry" number that the switcher will use to refer to that output). The first row of these tables must show "0" as the Entry number, the next row must show "1," the next "2," etc. The entry numbers must be contiguous.

CP Level Set Table

The CP Level Set table must be type “CP 3000.” The “Level” fields must show the names of the router levels to be controlled by the Kalypso. The source of these names is the Switcher Description table.

Figure 38. *CP Level Set table (example).*

CP Level Set — KAL–LVL

	Mnemonic	Level	Break	Switch
1	aaaa	VIDEO	☑	☑
2	bbbb	LEFT	☑	☑
3	cccc	RIGHT	☑	☑
4			☐	☐

NOTE The “Mnemonic” fields are not used, but must have unique entries to satisfy the compiler.

NOTE The names in the “Level” column, which originate on the Switcher Description table, are automatically used as level mnemonics on the Kalypso. The names in the “Mnemonic” column are placeholders only.

c. Switcher configuration and operation.

The controlling device (such as Kalypso or Encore) must be configured to send the appropriate switching commands to the Jupiter. For more information, refer to the Kalypso or Encore manual.

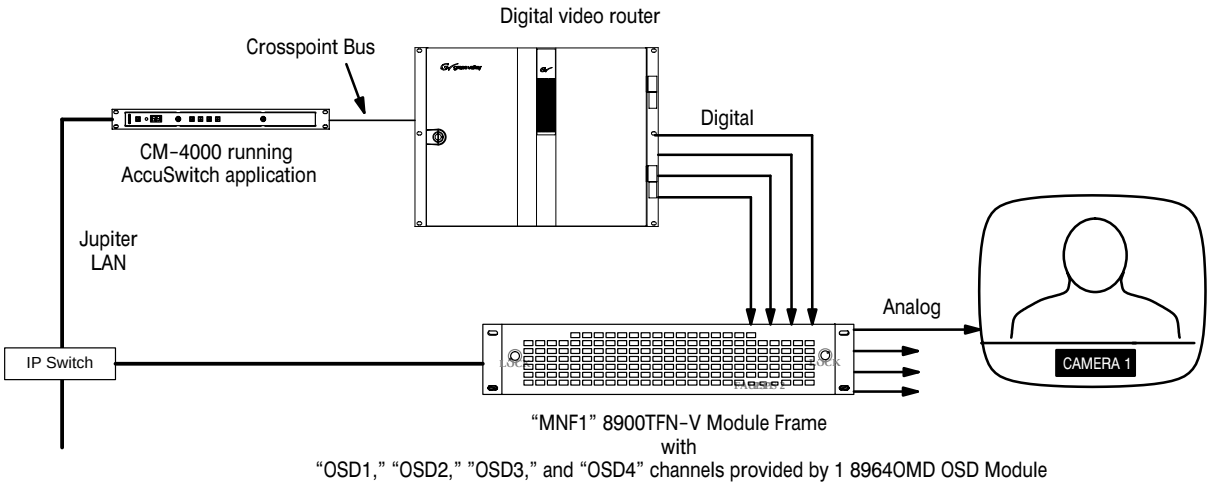
For a discussion of the GV Native Protocol as it pertains to Jupiter, see “Grass Valley Native Protocol” on page 55.

4. CM-4000 / AccuSwitch now supports the Grass Valley 8964OMD (On Monitor Display) module.

The 4-channel GV 8964OMD (or on-screen display) board, which is based on the 8964ENC SDI to NTSC/PAL Encoder Module, mounts in the 8900TFN-V Module Frame. In this application, each of the four channels can insert an 8-character status mnemonic into a digital video stream and display the result on the analog output. Figure 39 shows the status mnemonic "CAMERA 1" inserted into one of the OSD board's four video channels.

Each module frame can contain 10 modules for a total of 40 outputs per frame.

Figure 39. Example of OSD application. The device names shown correspond to those used in the Jupiter Configuration Procedure discussion below .



Each 8964 channel is associated with a particular Logical Output of the router. The source mnemonic is displayed as white characters over a black background in the lower part of the screen.

The CM-4000 / AccuSwitch communicates to each Module Frame via the Jupiter LAN and a TCP connection.

The OSD also has the ability to display the current time on a separate line.

Jupiter Configuration Procedure

a. Network Description table: Each module frame requires a separate row on this table. The board Type is "MN" (Modular Network board). In the Address field enter the IP address of the frame's network card.

b. MPK Devices table and CP sets.

The MPK Devices table requires an entry for the module frame, and a separate entry for each video channel of each OSD board.

Module frame entry

The module frame entry consists of an MPK Device name, a Device Type, and the names of three sets. See Figure 40.

Figure 40. *Module frame entry on MPK table (example).*

MPK Devices

	MPK Devices	Device Type	Expansion	Pass word	Board	Port	Address	Input Sets	In Panel	Output Sets	Out Panel	Level Set	Overide Set	Sequence Set
1	MNF1	MNF	☐					MNF−IN		MNF−OUT		MNF−LEV		
2			☐											

The MPK Device name must be exactly the same as the Board Name for the module frame on the Network Description table. The Device Type is “MNF” (Modular Network Frame). Of the three sets, only the Output set is used; the Input Set and Level Sets are placeholders needed to satisfy the compiler.

Input Set. This placeholder set, type Serial, must be created with at least one Entry number and one Logical Input. See Figure 41.

Figure 41. *Placeholder Serial−type CP Input Set (example).*

Input Set — MNF−IN

	Entry	Logical Input
1	0	BARS
2		

Output Set. This set, type Serial, is used to assign a router output to each OSD channel.

Figure 42. *Serial−type CP Input Set (example).*

Output Set − MNF−Out		
	Entry	Logical Output
1	0	STU1
2	1	SVR1
3	2	SVR2
4	3	VT01
5		
6		

The Entry number is used to identify an OSD board and channel number, which is then associated with a Logical Output number of the router. For example: Entry “0” = module 0, channel 0; this channel will monitor the status of router output “STU1.” “3” would be module 0, channel 3; it will monitor router output “VT01.” If there is another module, then the next row would show Entry “4” for module 1, channel 0, etc.

NOTE Module 0 is the module furthest from the power supply.

Level Set. This placeholder set, type CP 3000, must be created with at least one Level entry. See Figure 43. The entries are not used.

Figure 43. *Placeholder CP Level Set table (example).*

CP Level Set — MNF−LEV				
	Mnemonic	Level	Break	Switch
1	aaaa	VIDEO	☑	☑
2			☐	☐

OSD Module channel entries

Each OSD channel also requires an entry on the MPK Devices table consisting of an MPK Device name, a Device Type, and the names of three sets. See Figure 44.

Figure 44. *MPK table (example).*

MPK Devices

	MPK Devices	Device Type	Expansion	Pass word	Board	Port	Address	Input Sets	In Panel	Output Sets	Out Panel	Level Set	Overide Set	Sequence Set
1	MNF1	MNF	☐					MNF−IN		MNF−OUT		MNF−LEV		
2	OSD0	OSD	☐					OSD−IN		OSD−OUT		OSD−LEV		
3	OSD1	OSD	☐					OSD−IN		OSD−OUT		OSD−LEV		
4	OSD2	OSD	☐					OSD−IN		OSD−OUT		OSD−LEV		
5	OSD3	OSD	☐					OSD−IN		OSD−OUT		OSD−LEV		

A device name is created here for each OSD channel. The Device Type is "OSD." Three CP sets must also be specified.

Input Set. This set, type UMD3A, is the source of the mnemonics that will be inserted into the video. It must include all router inputs that need to be available to the monitored output. See Figure 45.

Figure 45. *UMD3A−type CP Input Set (example).*

Input Set — OSD−IN

	Category	Entry	Auto Mnem	Mnemonic	Logical Input
	Test	1	☑	BARS	BARS
2	Test	2	☑	TONE	TONE
3	Test	3	☐	CODE	TC
4	VTR	1	☑	VT01	VT01
5	VTR	2	☑	VT02	VT02
6	CAM	1	☑	CAMERA 1	CAM1

•
•
•

Output Set. This set, type UMD3A, is only used to enable a clock display on a selected channel. If this is desired, enter "@@Time@@" as the Mnemonic and select the router output.

Figure 46. *Clock−enable entry on CP Output Set (example).*

Output Set — OSD−OUT

	Category	Entry	Auto Mnem	Mnemnonic	Logical Output	Level Set	Button
1	TEST	1	☑	@@Time@@	STU1		
2			☐				

(The Category and Entry fields are not used, but they must have entries to satisfy the compiler.)

Level Set. This set, type CP 3800, determines which level will be statused. In the example shown in Figure 47, the video level will be statused. The Mnemonic field is not used (but must include text as a placeholder).

Figure 47. *CP Level Set table (example).*

CP Level Set — OSD−LEV

	Mnemonic	Level	Break	Switch
1	aaaa	VIDEO	☑	☑
2			☐	☐

Problems corrected in release 7.4

1. Corrected a problem in systems with a large number of JEP−100 panels operating on a LAN where the CM would occasionally reboot.

2. Corrected a problem in the network driver where console command "ping -l 65500" would cause the network to hang.

3. 58943: Corrected a problem where after PMEM or flash are cleared on the CM−4000, EScontrol startup commands were not acknowledged through its EScontrol port.

4. 49711: JupiterXPress ESLAN now uses BCD time value format.

5. 50496: CM−4000 time standard now defaults to NTSC.

6. 50775: Corrected a problem in AccuSwitch where 10 minutes before the top of the hour status messages would not be sent.

7. 51618: Corrected a problem with the JNS Machine Control server improperly handled the linkage table when sent in multiple packets.

8. 59467: Corrected a problem in JupiterXPress where a LAN deadlock could occur.

9. 51934: Corrected a problem where Jupiter would loose communication when a Nexus Star Base station is turned off.

10. 54645: JNS Logger now prompts when logging is stopped.

11. 56621: AccuSwitch now supports Binary Confirm All driver.

12. 57078: Corrected a problem on AccuSwitch where the ESswitch protocol was improperly processing the Preset command.

13. 57191: Corrected a problem with the AccuSwitch scheduler not properly removing events from the schedule.

14. 57189: Corrected a problem on the CM–4000 where the gateway and subnet settings were not being used.

15. 57531: Corrected a problem in JupiterXPress where the SNOP command was improperly processed for ESLAN.

16. 53267: Corrected a problem where CM–4000 serial card did not handle full duplex for ESswitch.

7.3.2 Release

Problems corrected

1. Corrected a problem with Lawo (Dune) routers where an initial switch from the router resulted in incorrect status.

2. Corrected a problem with AccuSwitch where a tasks stack was being overrun.

7.3.1 Release

Problems corrected

1. Fixed a problem where software would not fully install on a new Jupiter file server PC (i.e., a PC on which Jupiter had not been installed previously).

7.3 Release

Problems corrected

1. Corrected a memory leak when ES-Control is defined and switches have been executed. Refresh messages for ES-Control would allocate memory, but it was not being released.

2. Corrected a memory leak with ES-Switch and ASCII where memory for status messages was not being released.

3. CR 43715: ES-Switch will now send a STARTUP message upon activation from a redundancy failover.

4. CR 43718: Corrected a problem with ES-Switch and ASCII where status update messages may not be sent to all ports requesting status and status may be intermittent.

5. CR 41791: Corrected a problem in Jupiter and JupiterXPress with the CP-3800 control panel where user defined sequences would not actually switch the correct levels.

6. CR 41792: Corrected problem in Jupiter and JupiterXPress with the CP-3800 where unlocking/unprotecting an output assigned to button nine or higher could cause a reboot.

7. CR 41785: Corrected a problem in Saturn with MI-3040/T where the internal and external tally may not tally correctly.

7.2.1 Release

JupiterXPress - Logged problems corrected

1. PRN 228: Corrected a problem where a global variable was being used by more than one object at a time.

2. PRN 229, PRN 230: Corrected a problem where serial protocols were using data before it was initialized.

3. PRN 231: Physical Remap now works with JupiterXPress.

Jupiter Configuration Editor - Logged problems corrected

1. PRN 2515: The Jupiter Network Suite board order now matches the order in the JNS Board Status and JNS Board Info tables.

Jupiter - Known issues

1. PRN 1983: Jupiter does not support follow levels and physical switching.

   Follow levels were designed to work only with logical levels, inputs, and outputs. Currently all follow switches happen as logical switches, therefore you get input 9 on the follow levels since with this customer configuration, input 9 is logical input 10. If the SAFE input is moved to the bottom, then the follow switches would work because the rest of the follow levels are 1 to 1 between logical and physical inputs and outputs. If Jupiter did physical switches for the follow switches when physical switches were requested, the following problem occurs: If a source was defined as vtr1 green 5, blue 6, red 7, and a physical switch request of input 5 was requested, the end result would be green 5, blue 5, and red 5 to the selected destination.

7.2.0 Release

Jupiter - additional enhancements

Because redundant boards could not be differentiated from the main board, a ″-R″ was added to the board name in the VGA screen. This change requires that all VGA files will need to accommodate two more characters to the Board column in order to allow for "-R" to be appended to the redundant board. VGA Gen will account for this change, but will overwrite existing VGA files when ran. If a custom VGA page is being used, then the VGA file will have to be manually edited to accommodate this change.

Jupiter - logged problems corrected

1. PRN 1887: Corrected a problem where a machine assigned to Saturn Mix1 or Mix 2 under automation control would not operate correctly.

2. PRN 1929: Corrected a problem during the Jupiter installation process, if TCP/IP is not correctly configured (TCP/IP address is not configured or it is set for DHCP) for Jupiter, then a warning message is displayed and the user must correctly configure TCP/IP.

3. PRN 1938: Corrected a problem with path finding where locked tie lines could get out of sync.

4. PRN 1957: Corrected a problem with JNS Control Center changing sets and issuing a "run time 380" error message. Limited what buttons can be pressed during a set change.

5. PRN 1966: Corrected a problem with SAFE OFF TIME and data routers, where the SAFE switch was not happening correctly.

JupiterXPress - logged problems corrected

1. PRN 181: Corrected a problem with the CP-3800 where levels displayed do not coincide with the page number.

2. PRN 193: Corrected a problem in VGA where an array was being indexed improperly and was causing a page fault.

3. PRN 198: Corrected a problem where after a reboot, VGA and control panel status was slow.

4. PRN 203: Corrected a problem where the CP-3000 would display "MPK Display Error" when selecting a sequence.

5. PRN 204: Corrected a problem in ES-Switch when sending status requests for 500 outputs, one at a time, without a pause in between requests, the CM stops sending status messages, and the console port fills up with "(upmx) PPH4 queue is full" messages.

6. PRN 209: Corrected a problem with the CP-330 where a page fault was being caused by indexing an array improperly.

Jupiter Configuration Editor - logged problems corrected

1. PRN 2493: Corrected a problem where the configuration editor would allow Physical Level entries of 0-999 for Binary and TVS levels which are limited to 1-127.

2. PRN 2494: Corrected a problem where the compiler would not accept a CP Output set for the CP-3020.

3. PRN 2497: Corrected a problem where the GMT Offset for CM-4000 boards was not be compiled properly. GMT Offset was always "000".

4. PRN 2498: Corrected a problem where the redundant boards address was deleted if the type was changed.

5. PRN 2504: Corrected a problem with the compiler hanging when board names in the Network Description Table have spaces in them. Spaces are no longer allowed in board names.

6. PRN 2505: Corrected a problem where path finding groups from one level could be selected on another level. Path finding groups only apply to the level they are configured for.

CM-4000 (Jupiter XPress and AccuSwitch) - logged problems corrected

1. PRN 123: Corrected a problem where the subnet mask was incorrectly set for CM-4000 boards.

2. PRN 124: CM-4000 boards now have TTL (Time To Live) of 64 instead of 1.

3. PRN 2496: In the Time Standard Table, the help for the GMT Offset field said that if the time zone is west of Greenwich the entered value should have been positive. The help message has been corrected to say that time zones west of Greenwich should be negative.

AccuSwitch - logged problems corrected

1. PRN 127: Corrected a problem where the switch logger file could be corrupted.

2. PRN 130: Corrected a problem with the ASCII protocol where a "ZJ" response would not be returned for protected outputs.

   PRN 132: Corrected a problem with the ASCII protocol where "ZV000" will protect the output, but "ZU000" would not unprotect the output.

7.1.0 Release notes

See FEB 075-0695-00 (27 pages).*

7.0.0 Release notes

See FEB 04-047604-109 (31 pages)*

6.2.1 Release notes

See FEB 04-047604-11 (20 pages).*

* This bulletin may be found on the Technical Publications CD-ROM included in this release package. Point your browser to the "index.htm" file on the CD or open the "MNC" directory. For more information, click on Help.

6.2, 6.1, and 6.0 Release notes

See FEB 04-047604-107 (64 pages).*

5.1.5 Release notes

See FEB 04-047604-089 (66 pages)*

5.1.1 Release notes

See FEB 04-047604-090 (2 pages)*

5.1.0 Release notes

See FEB 04-047604-086 (62 pages)*

5.0.6 Release notes

See FEB 04-047604-100 (53 pages)*

5.0.5 Release notes

See FEB 04-047604-082 (50 pages)*

* This bulletin may be found on the Technical Publications CD-ROM included in this release package. Point your browser to the "index.htm" file on the CD or open the "MNC" directory. For more information, click on Help.

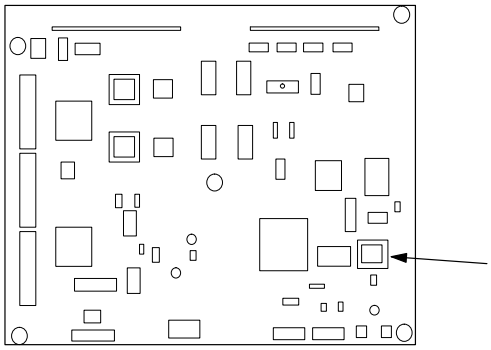
Installation/Upgrade

Like all software programs, Jupiter requires specific files to be in specific directories. Do not attempt to modify or add to the contents of the Jupiter directory (usually C:\Program Files\Thomson\Jupiter) by using tools such as Windows Explorer unless you are qualified to do so.

The file server computer must be equipped as described on page 6.

NOTE (Saturn users only.) During the install process, the installer will ask for a version letter on the Meter LAN PROM U7 in your Saturn MCC 3500 control panel (see Figure 1). The version letter is found at the end of the part number, e.g., "45-046878-01B." You may want to make a note of this number before you begin.

Figure 48.



CAUTION You must have administrator privileges in order to load Jupiter software, launch Jupiter applications, and configure the system. And, the same login should be used for all tasks performed on the Jupiter file server, including uninstalling software.

NOTE (Windows XP systems.) When logging on as the Administrator, you may notice that the welcome screen does not always show an Administrator icon. Press Ctrl-Alt-Del twice, and then type "Administrator" as the username in the dialog box to log on as the Administrator.

1. (New system only.) Set the IP address for the NIC (Network Interface Card) connected to the Jupiter network:

   a. Go to "Start > Settings > Network and Dial-up Connections > Local Area Connection > Internet Protocol (TCP/IP) > Properties."

   b. Enter the IP address. The recommended address for the Jupiter File Server NIC is 192.168.253.1. Make a note of the address for use later during this installation.

CAUTION Do *not* use "Obtain an IP Address Automatically." This selection invokes DHCP (Dynamic Host Configuration Protocol) and may result in system corruption.

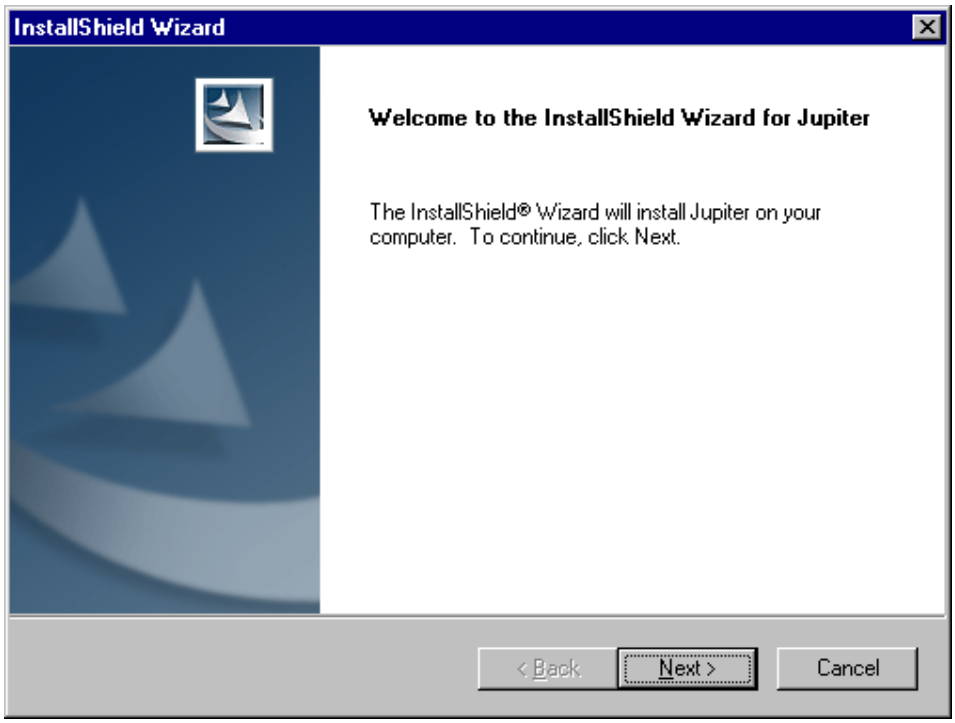
2. If configuration sets exist on this server you may wish to back up your current configuration directory (C:\Program Files\Thomson\Jupiter\ config) and save it on another disk drive.

3. If previous versions of Jupiter software were installed on this server, they must be uninstalled at this time. See page 52.

4. With Windows running, and logged in as the administrator, insert the Jupiter installation CD-ROM. Allow a few seconds for the CD-ROM to auto start and the InstallShield Wizard welcome screen to appear:

NOTE If during the course of the following procedure you see the message "Error 1605:-This action is only valid for products that are currently installed" or the message "Error 1628 Failed to complete script based install" it may indicate that more than one login has been used for Jupiter. Contact Grass Valley Technical Support for assistance.

Figure 49.



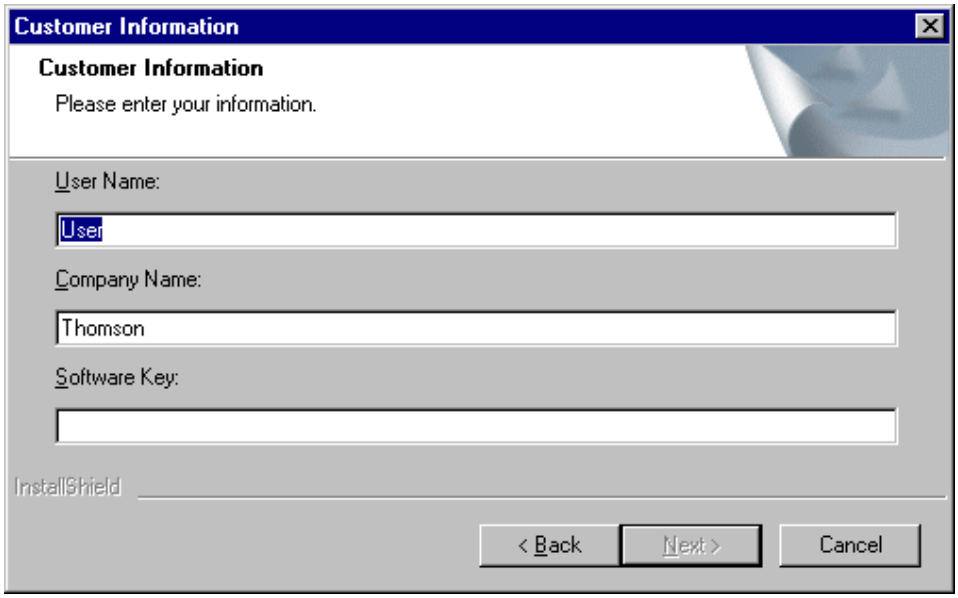
If your PC requires configuration of the Windows Installer, this will be done automatically. Some systems may require a restart following this configuration. If the following dialog box appears, click "Restart".

Figure 50.

You can also start the installation by browsing to the CD-ROM and running "setup.exe."

5. Click on "Next."

Figure 51.



6. Enter a User Name and a Company Name.

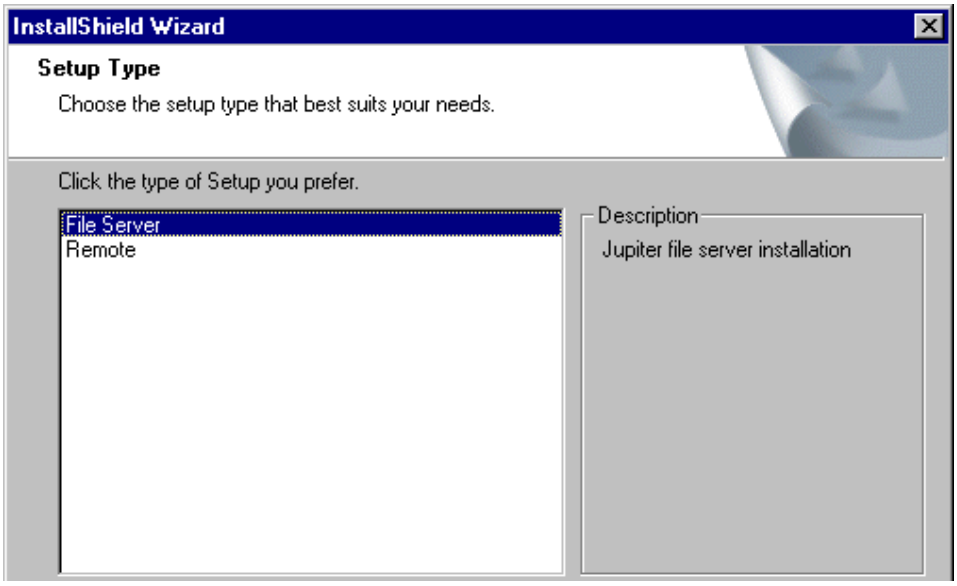
7. Enter the Software Key Number printed on the CD-ROM case. This will be three groups of non-case-sensitive characters separated by dashes.

   This password will indicate which if any options should be installed (such as GUI control panels or third-party router control software). For a list of available options, refer to Section 1 of the Jupiter Installation and Operating manual.

8. Verify that you accept the software license agreement.

9. Choose the Setup Type, either “File Server” or “Remote:”

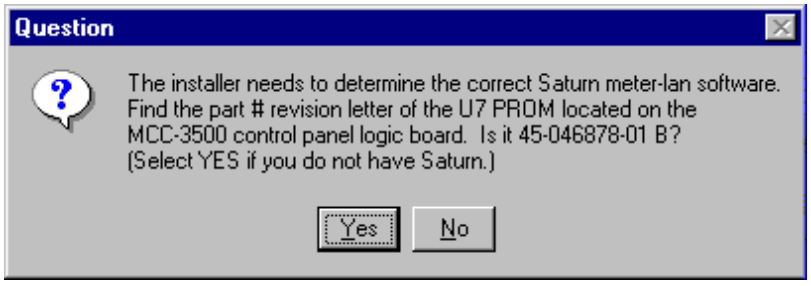
Figure 52.



For more information about Remote Jupiter PCs, see page 53.

10. If you selected File Server as the installation type, the installer will ask for a version letter on the Meter LAN PROM U7 in your Saturn console (for details see Note on page 41).

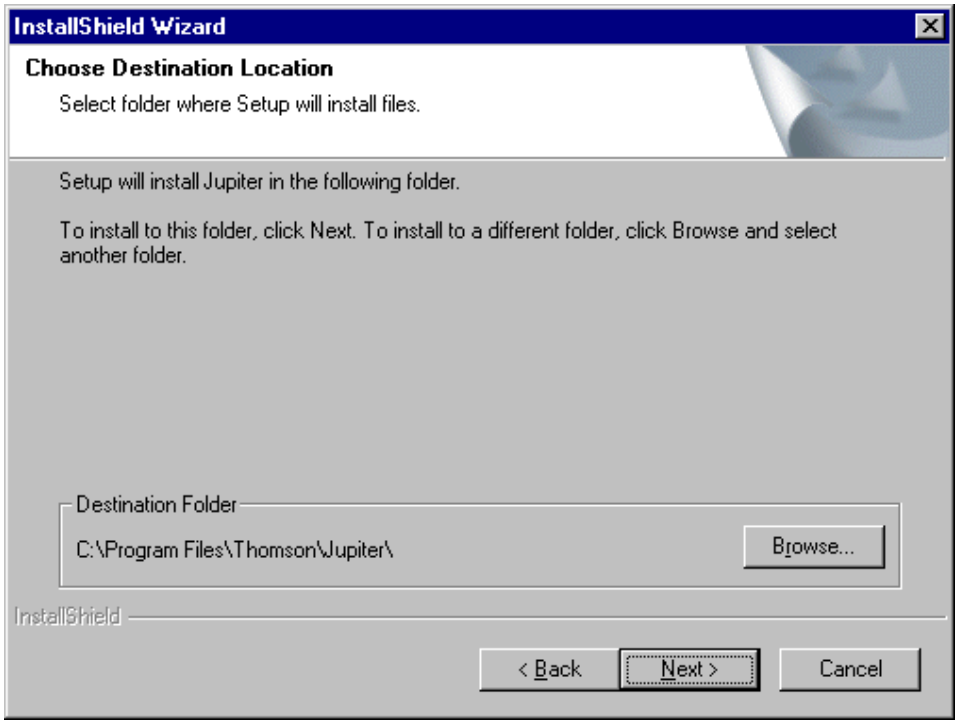
Figure 53.



If you do not have a Saturn in the system select “Yes.”

11. Select the directory where the Jupiter application will be installed.

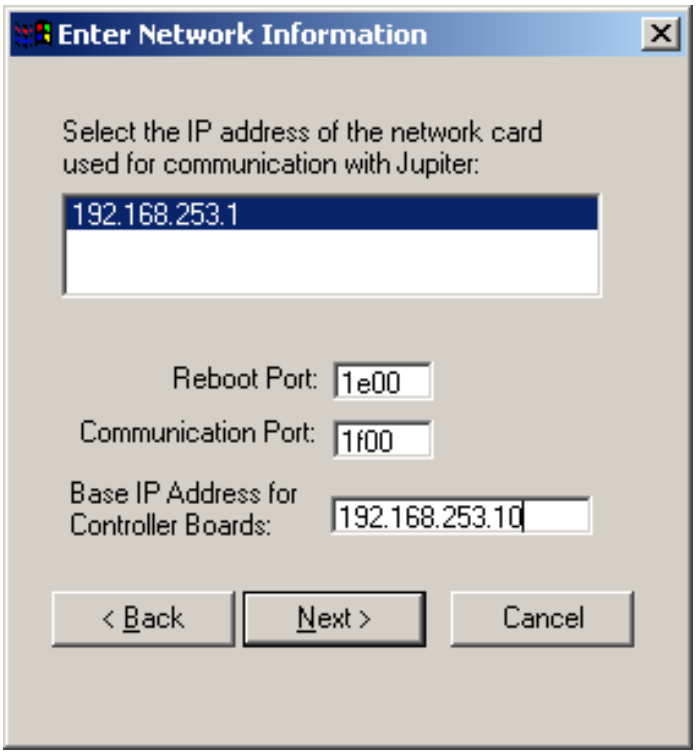
Figure 54.



The default is C:\Program Files\Thomson\Jupiter.

12. Verify the file server's IP address.

Figure 55.



13. Verify the Network settings.

The recommended (factory default) settings are as follows:

Reboot Port: 1E00
Communication Port: 1F00
Base IP Address: 192.168.253.10

In most cases, these recommended settings work well. The "base" IP address will be assigned automatically to the first controller board listed in the Jupiter Network Description table (described in the Jupiter manual). The base address, plus one, will be assigned automatically to the next board in the table; the base address, plus two, will be assigned automatically to the next board in the table, etc.

- If you want to keep the present IP address of the first controller board (CM–4000, VM–3000, etc.), the present communication port setting, and present reboot port setting, click "Next."
- Or, enter new settings.

NOTE Do not confuse the Base IP Address with the File Server IP Address. The Base IP Address goes to the first controller board (CM/VM, etc.). The File Server IP Address is for the PC only and is set using the Windows Network Setup application; the recommended (factory default) File Server IP Address is 192.168.253.1.

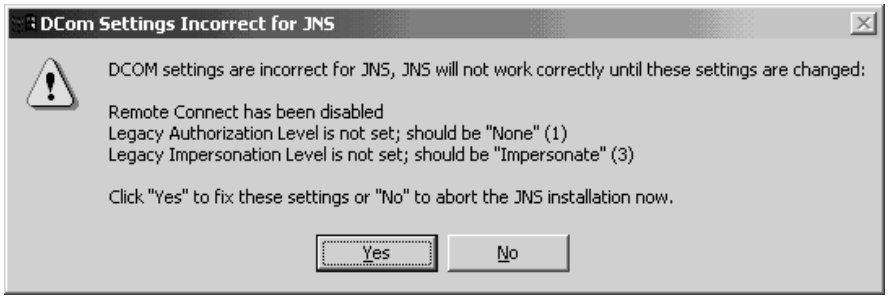
NOTE The Base IP and File Server IP must be within the same subnet. E.g., if the subnet is 192.168.253 (and the subnet mask is 255.255.255.0) then both IP addresses would need to have 192.168.253.x addresses.

NOTE If a second ("remote") PC is attached to the LAN (e.g., to provide a Software Control Panel station), it must not conflict with any other address on the LAN, including those generated automatically as described above. If you don't know a PC's address, see *Getting the Jupiter LAN IP address of a PC* on page 22.

NOTE The Reboot and Communication Port settings should be left at "1E00" and "1F00" respectively except in very unusual circumstances.

14. You may see the following message:

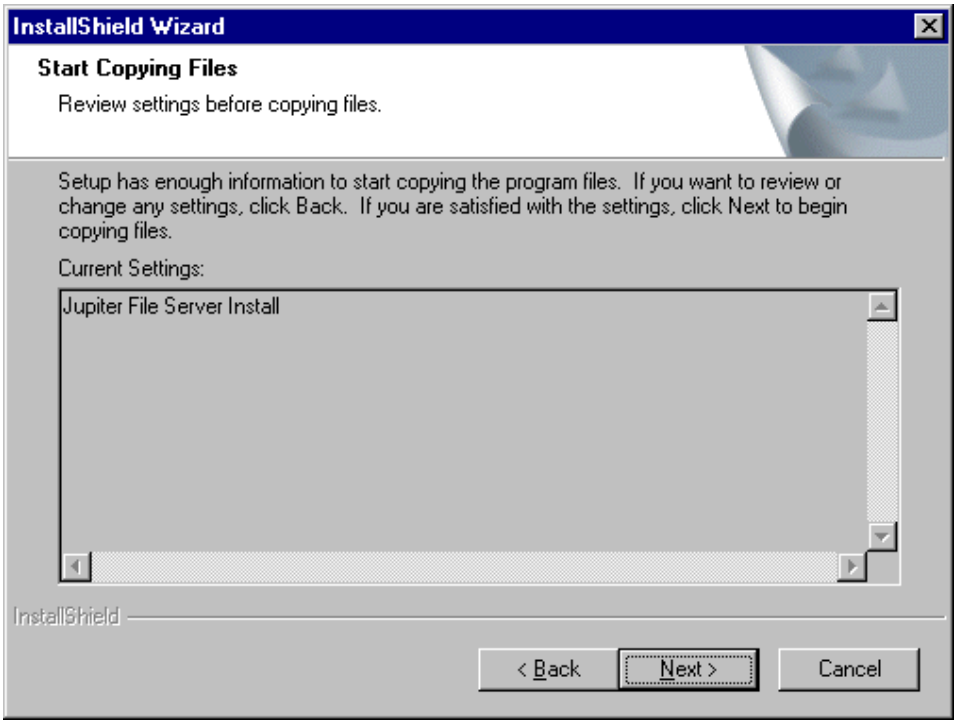
Figure 56.



If so, click on "Yes."

15. A list of Current Settings will be shown.

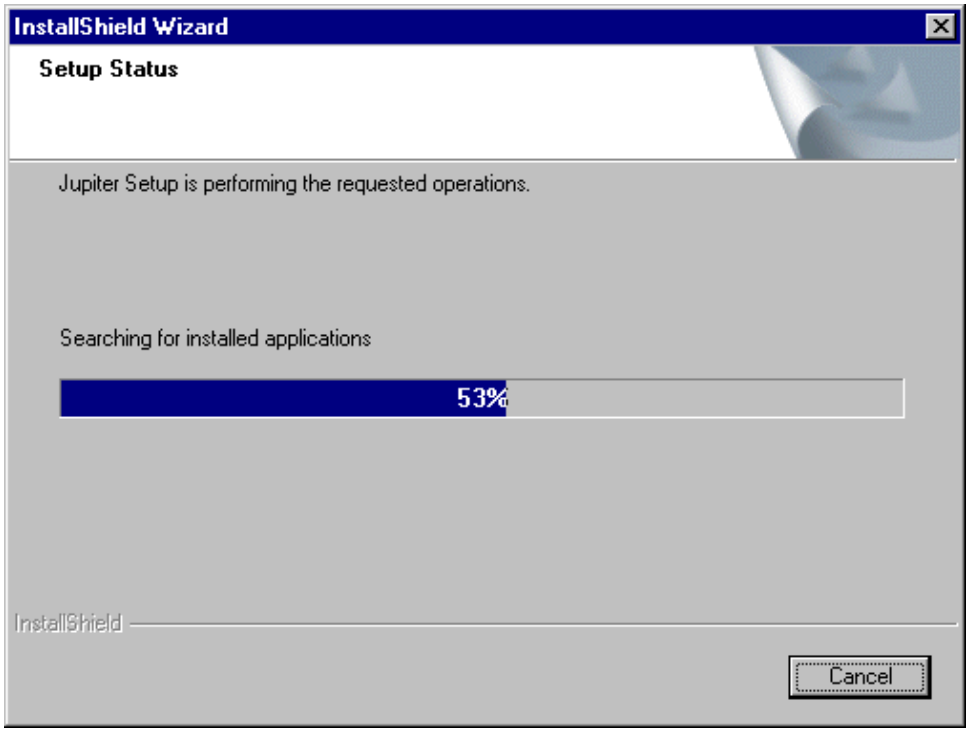
Figure 57.



The list will normally show "Jupiter File Server Install" when "File Server" was selected during Step 9 above.

16. Verify by selecting "Next." This will initiate the file copy process.

Figure 58.

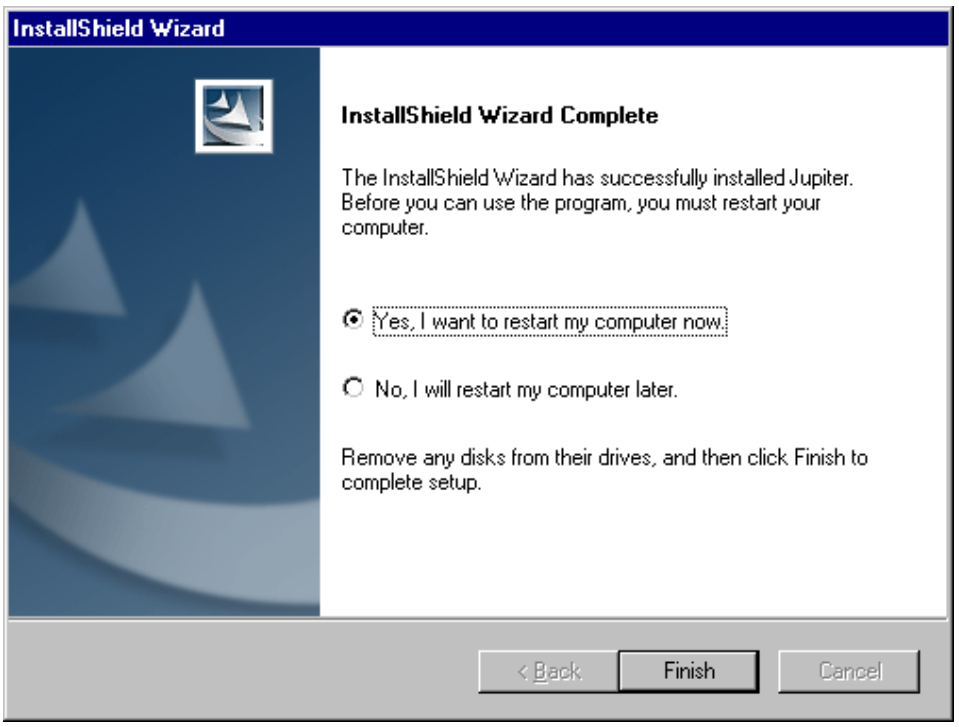


When finished, the installer will report "InstallShield Wizard Complete."

17. Click "Finish."

18. In some cases, when the installation is complete, a message will indicate that a reboot is required:

Figure 59.



19. "Jupiter Network Suite" (JNS) should now appear in the "Start > Programs" menu.

20. (Optional - Saturn only) Install the patch that allows the "On Air Mono" and "Program Mono" digital outputs of the DAP 4000 Digital Audio Processor to be turned into stereo outputs:

a. Go to the Jupiter installation directory where the DSP files are located (C:\ProgramFiles\Thomson\Jupiter\dnload\list\common).

b. Back up the file "DSPA_XX.BIN" by renaming it (e.g., to "DSPA_XX.BAK").

c. Copy the file "DSPA_STR.BIN" and rename the copy "DSPA_XX.BIN."

d. Recompile the configuration set.

e. Activate and download the configuration set.

f. The On Air Mono and Program Mono outputs will now be stereo for all DAPs in the system.

21. Set the gateway and subnet mask values for the Jupiter network boards (VM/SI/CM/Saturn):

g. Launch Jupiter Network Suite.

h. Go to “Tools > Jupiter Settings.”

i. Select (check) the field with the IP address used for the Jupiter network. This is the address described in Step12 above. The “base” address was described in Step 13 above.

j. For the Gateway address, enter the Jupiter network number (e.g., 192.168.253) and a “1” for the gateway itself. For example: “192.168.253.1.”

k. For the Subnet Mask, indicate a Class C network by entering “255.255.255.0.”

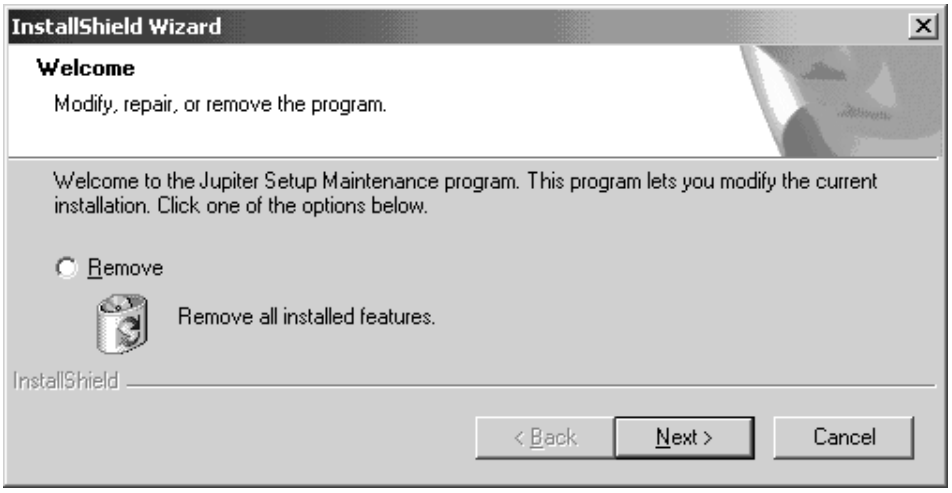
Removing Jupiter Software

NOTE This process will not remove existing user-created configuration sets.

CAUTION You must be logged in as the administrator in order to load Jupiter software, launch Jupiter applications, and configure the system. This same login should be used for all tasks performed on the Jupiter file server, including uninstalling software. Failure to observe this rule may result in system corruption.

1. Go to "Start > Settings > Control Panel > Add/Remove Programs." The InstallShield Wizard welcome screen will appear:

Figure 60.



2. Click "Remove."

3. To initiate the uninstall procedure, click "Next."

   When finished the system will report "Maintenance Complete."

NOTE For those with Jupiter 7.2 Beta 1 installed: If you are unable to remove it, *re-install* Jupiter 7.2 Beta 1 and go to the Control Panel again to try to remove it. You can then proceed to install Jupiter 7.4.1.

Getting the Jupiter LAN address of a PC

1. Go to "Start > Settings > Control Panel > Network and Dial-up Connections > Local Area Connection > Properties."

2. Select the Jupiter network adapter. The IP address will be indicated.

Software configuration

If this is an initial installation, the system software must be configured using the Jupiter configuration editor. For overall software configuration instructions, please refer to the Jupiter Installation and Operating manual starting with Section 4 - "Jupiter Network Suite Control Console."

Running applications on a Remote PC

The following programs can be "connected to" (accessed) on a remote PC equipped with JNS:

- Board Status
- Control Center
- Force Unlock
- Logger
- Log Viewer
- Physical Control
- Party Line Download (JupiterPlus only)
- Router Control Utility
- Router Save/Restore
- Saturn Monitor Follow (JupiterPlus only)
- Software Control Panels Suite

To install these programs remotely, follow the instructions beginning on page 41 and select "Remote" during Step 9.

For more information about Remote PC installation and operation, refer to the Jupiter manual.

Connecting a Remote PC to a Windows XP Server

If the file server is running Windows XP and you would like to run remote clients that connect to the file server, a Local Security Policy setting may need to be changed on the file server. By default, Windows XP will prevent remote clients from connecting.

Open the Control Panel, select Performance and Maintenance, select

Administrative Tools, select Local Security Policy, double-click on Local Policies in the tree-view, and double-click on Security Options in the tree-view. Scroll down the list of settings to find “Network access: Sharing and security model for local accounts.” Change the setting from “Guest only - local users authenticate as Guest” to “Classic - local users authenticate as themselves.” You may need to reboot the file server.

If you still get DCOM errors while connecting, the Administrative Tools /Event Viewer may provide helpful information.

Keep in mind that the username AND password on both the file server and the remote clients must be identical. To prevent unauthorized access, Grass Valley recommends that you use a secure password.

Appendix

Grass Valley Native Protocol Implementation on CM-4000 Systems

A subset of the GV Native Protocol is now supported by CM−4000 controllers. This implementation is for Ethernet applications only.

A complete description of Native Protocol is found in the Grass Valley NP manual, part number 071 0201 02.

NP Commands Not Supported

The commands **not** implemented in the Jupiter 7.4.0 release are:

AS	Machine Assign
BK\tA	Background Activities Clear Query Assignment flags
BK\tP	Background Activities Port Configuration Parameters.
CH	Chop
CT	Clear Tie−lines
DA	Machine De−Assign
QA	Query Assignment
QL & Ql	Query Status with Tie−lines
QN\tV	Query Salvo Names
QN\tR	Query Room Names
QN\tT	Query Tie−line Names
QN\tM	Query Names
QN\tY	Query Names
QT	Query Date and Time
QV	Query Salvo status
ST	Set Date and Time
TJ	Take Index Level Bitmap
TM	Take Monitor
TS	Take Salvo

Other Jupiter exceptions

Jupiter does not require refreshing protects. Protects will not time out on the refresh interval.