Field Engineering Bulletin
071827506 January 2, 2008
Reference ECO: 183Q

Jupiter / Saturn / AccuSwitch Release 7.5

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

7.5 Release

AccuSwitch (CM-4000 systems)

- Path finding is now supported, including path finding for Venus and Concerto data routers. See page 7.
- Serial bus protocol is now supported. See page 9.

JupiterXPress (CM-4000 systems)

- Lawo protocol is now supported. See page 10.

Bug Fixes

See page 32.

Known Issues

See page 33.

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 37.

JupiterXPress and AccuSwitch (CM-4000 systems)

- Horizon protocol is now supported. See page 47.
- Nexus Star protocol is now supported. See page 48.

Bug Fixes

See page 50.

Known Issues

See page 51.

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 071836301 and the JEP-100 Installation and Operating Manual, part no. 0718372xx.
- 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 55.
- Control of up to 4096 x 4096 routers using Ultra Crosspoint bus.

AccuSwitch (CM-4000 systems)

- Pathfinding support for AccuSwitch. For details, see page 53.
- 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 52.
- 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 58.

7.3.2 Release and Prior

For information about Release 7.3.2 and prior, please refer to FEB 071827503.

Corrections

Error corrections are provided by this release, as described in the Release Notes section beginning on page 7. 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.

Upgrade Caveats

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 650428007

Qty	Description	Part number
1	Software, CD ROM Jupiter 7.5	063809308
1	Kit, Documentation CD	721007000
1	Field Engineering Bulletin	071827506

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	D2AA
JUPITER.LDR	EED4
JUPITER.SYS	15E2
MCS3500.SYS	928A
SATURN.LDR	BA86
SATURN.SYS	F06E
SNOWBIRD.SYS	BFE4

Release notes

7.5 Release

Enhancements

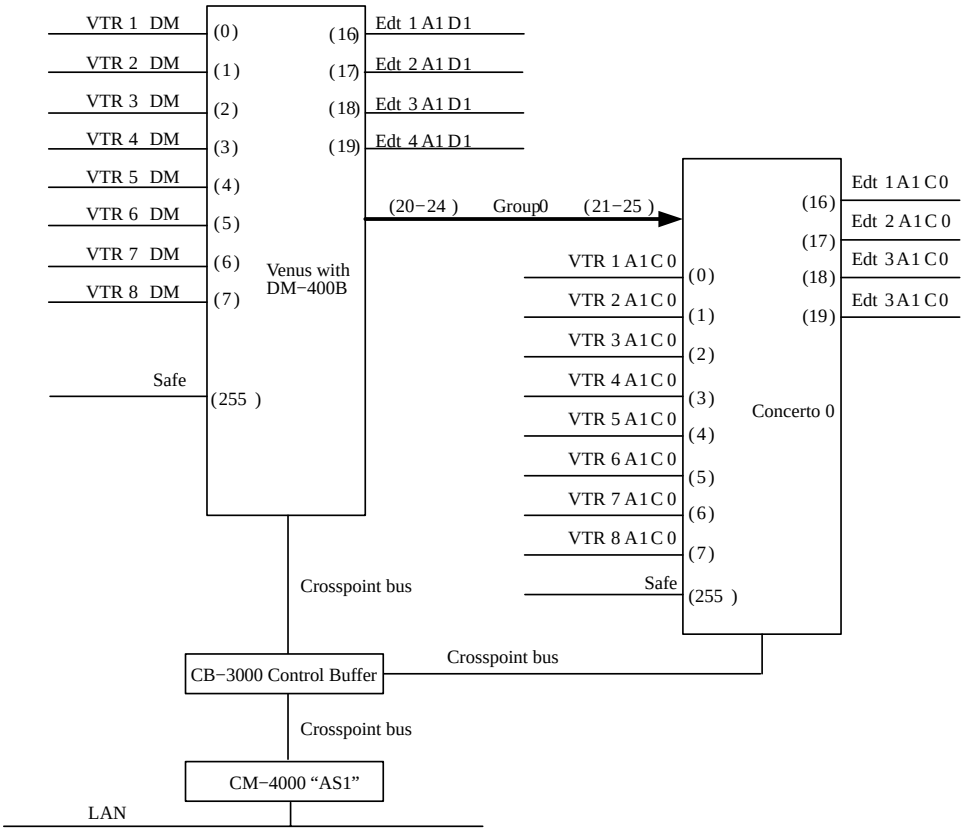
1. CM–4000 controllers running the Accuswitch application now support two data router models:

- Venus data routers with DM–400B Data Matrix boards, and
- Concerto data routers.

In addition, Accuswitch will now support path finding (tie line operation) between any combination of Venus DM–400B and Concerto data routers, up to a maximum of three routers.

For example, Figure 1 shows a single CM–4000/Accuswitch controlling a Venus and Concerto connected with five tie lines. All cables are 1−1 (pin−to−pin) including the tie line cables.

Figure 1.



In this example, a Venus source data router has several data sources (VTR1DM – VTR8DM) connected to ports 0–7. There are several destinations (Edt1A1D1 – Edt4A1D1). The source data router is also connected to a destination data router (Concerto 0) via five tie lines (Group 0). This gives the system the ability for the destination router to "pull" or get data sources that are connected to the Venus through to the destination data sources Edt1A1C0 – Edt3A1C0 on the Concerto. The return data path is automatically switched in the reverse direction.

There are several constraints necessary when dealing with data routers and path finding:

a. The software on Accuswitch will support only the Venus DM–400B and the Concerto Data Routers.

b. Data routers that are part of a path must be connected to CM–4000 controllers defined on the Network Description table as Type "AS" (Accuswitch) boards.

c. Because data routers require a switch to be made in both directions (for the forward and return data), the physical I/O numbers must be defined in both the input and output tables.

d. The user must define a "SAFE" input for the data router level. This is used with the "Enforce" or "Advise" features.

e. The maximum number of "hops" in a data router path finding path is 2. For example, one Venus could be connected to a Concerto, which in turn could be connected to a second Concerto.

Accuswitch also has the ability to lock or protect a data router output. This feature will also lock the reverse output which protects or locks the data path in both directions.

For additional information concerning Jupiter control of data routers and pathfinding, please refer to the Jupiter CM–4000 Installation and Operating Manual, part no. 071826104.

2. AccuSwitch now supports serial bus control of the following routers:

   - Alpha Image
   - DataTek
   - Horizon
   - Nexus
   - Nexus Star
   - NVision (using ESbus protocol)
   - Triton (Network Systems)
   - Utah Scientific (1200 baud)
   - Utah Scientific (9600 baud)

   In addition, AccuSwitch now supports the following serial protocols:

   - ESbus (EScontrol)
   - Grass Valley Native

3. Lawo/Dune digital audio routers can now be controlled by a CM-4000 running JupiterXPress. CM-4000s running AccuSwitch and VM/SI-3000s cannot be used. Only one Dune router can be connected per CM.

Hardware installation

Hardware connections are shown in Figure 2.

Information about installation and configuration of the Dune switcher itself is contained in the Dune Installation manual.

Figure 2*. Example of connection to Dune switching system*

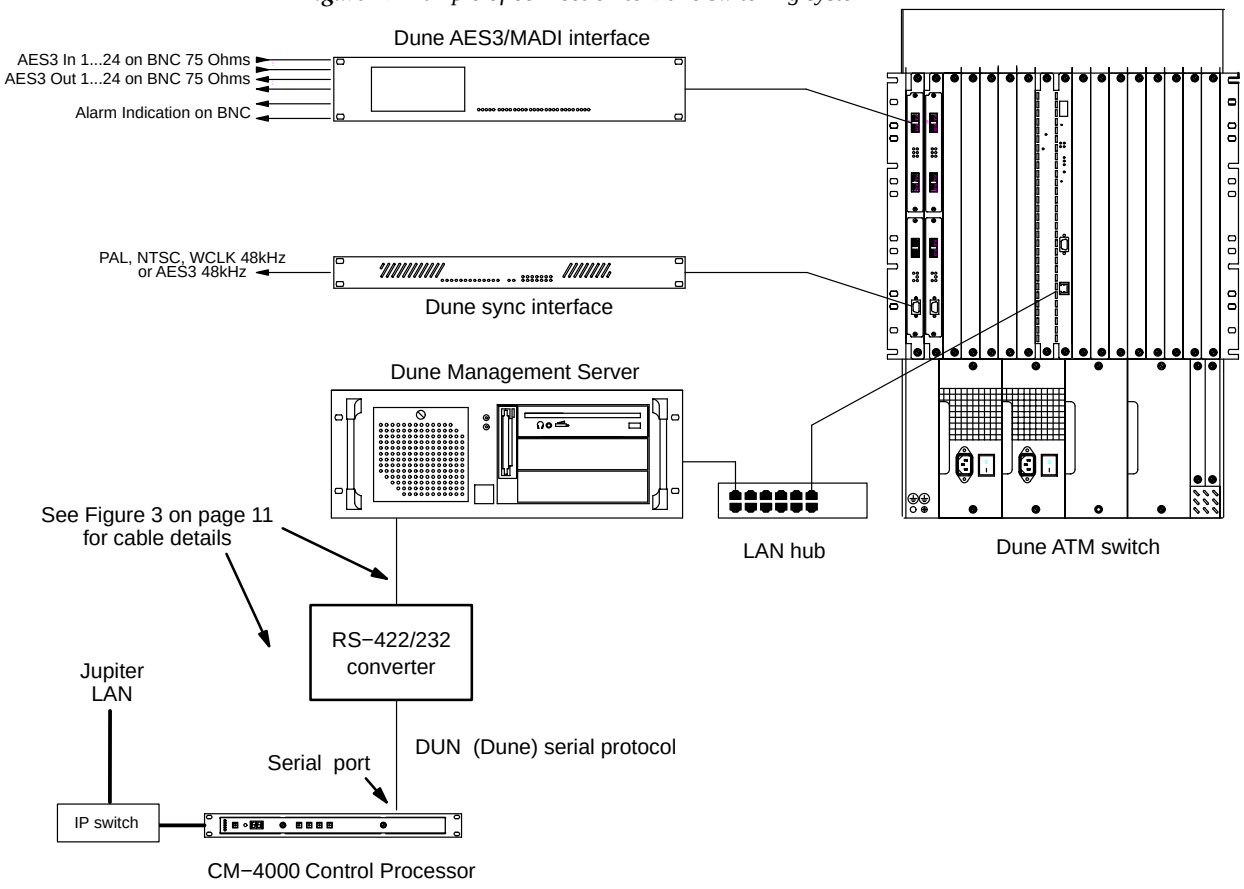
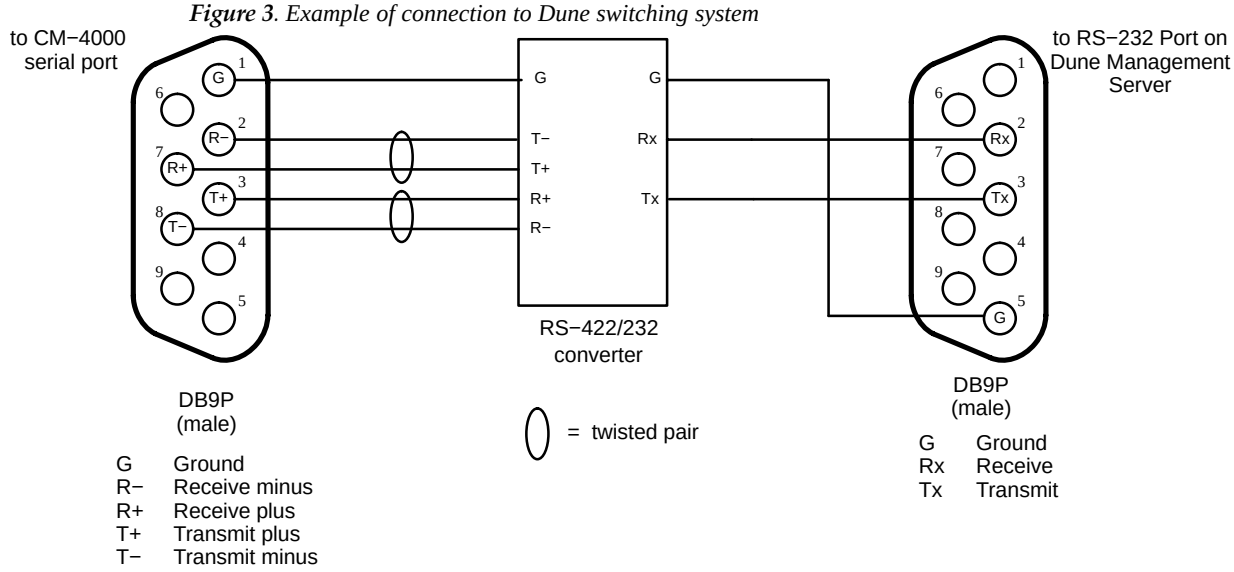


Figure 3. Example of connection to Dune switching system



Jupiter/Dune Software Configuration

The CM–4000 connected to the Dune router must be configured using the Serial Protocol table, with "DUN" protocol selected for the appropriate serial port.

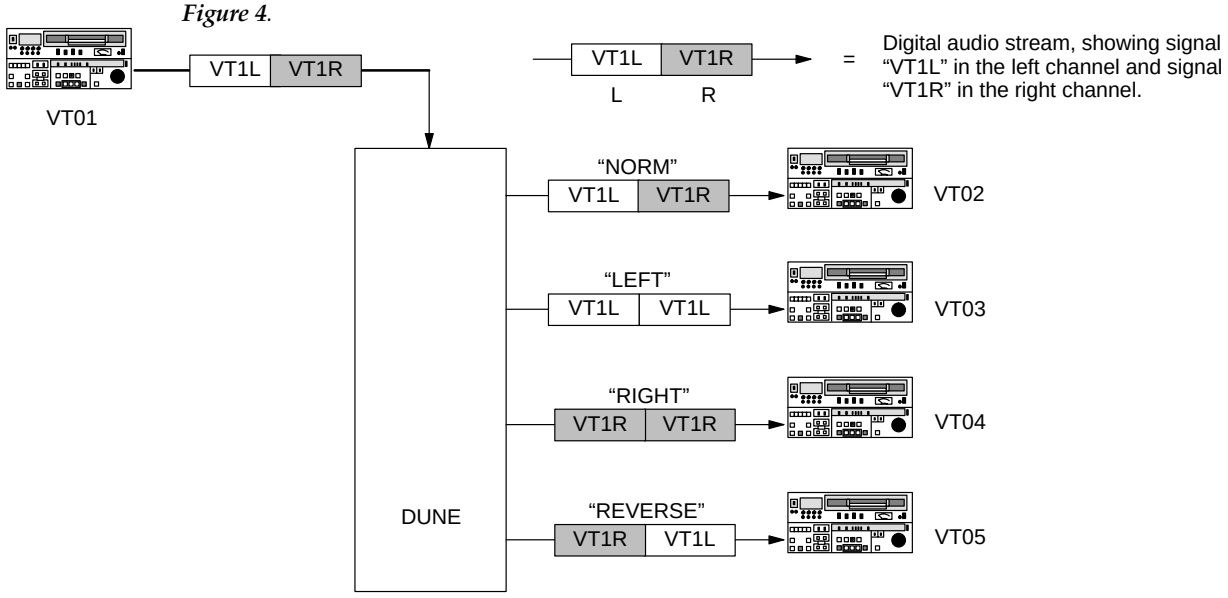
Additional configuration steps will depend on whether or not incoming stereo pairs will always be switched together. This is an important difference because it will greatly affect entries to the Switcher Description table and other tables.

Switcher Description Table

Dune switchers controlled by Jupiter have three possible configuration methods: 1) Mono, 2) Always Stereo Pair, or 3) Stereo with Left/Right/Reverse Switching. The following discussion compares the three methods, beginning with an example system and a switching scenario.

The system shown in Figure 4 has four VTRs with digital audio connections through a Dune router. The objective in this example is to perform a "Normal," a "Left," a "Right," and a "Reverse" switch into the three destination VTRs.

Figure 4.



Using this scenario as the desired result, the three configuration methods can be compared as follows:

Method 1: Mono configuration. This method requires only 1 Level column to be filled in on the Switcher Input table. The number of control panel "Takes" to achieve the result shown in Figure 4 is: 2 for the "Norm" switch, 2 for the "Left" switch, 2 for the "Right" switch, and 2 for the "Reverse" switch. This method is easy to configure but generally requires more control panel keystrokes for the same results.

Method 2: Always Stereo Pair configuration. "Normal" switching only. This method requires 2 Level columns to be filled in on the Switcher Input table. The "Norm" switch requires only one control panel "Take." *However, by definition "Left," "Right," and "Reverse" switches* ***cannot*** *be performed using Method 2.*

Method 3: Stereo with Left/Right/Reverse Switching using special table entries. This method reduces the number of Takes needed, but requires 2 Level columns to be filled in on the Switcher Input table and three times the number of rows. In the example above, the "Norm" switch requires only one control panel "Take," and the "Left" and "Right" switches require only one Take. The "Reverse" switch requires two. This is the most powerful method, but it is more difficult to configure and operate.

Notice that the "Mix" function, where audio from two channels is mixed on one channel, is not available on Dune routers.

Each of the above configuration methods is described in detail in the following pages.

Mono Configuration

The Switcher Description table for a Mono configuration is shown in Figure 5. There is one level for the Dune switcher; the Physical Level number is (by convention) "32."

Figure 5.

Switcher Description

	Switcher	Level	VI	RV	MC	Board	#In	#Out	PLvL	Follow Level	Driver	3 LI	3 LO	Option	Audio	DM 400 Off Time
1	DUNE	AES	☑	☐	☑	VM1	64	64	32		L (Dune)				None	

Corresponding Switcher Input and Output tables are shown in Figure 6.

Figure 6.

Switcher Input – DUNE

	Logical Input Name	AES
1	VT01–L	000
2	VT01–R	001
3	VT02–L	002
4	VT02–R	003

•
•
•

Switcher Output – DUNE

	Logical Output Name	Security	S–T	Password	AES
1	VT01–L		–		000
2	VT01–R		–		001
3	VT02–L		–		002
4	VT02–R		–		003
5	VT03–L		–		004
6	VT03–R		–		005
7	VT04–L		–		006
8	VT04–R		–		007

•
•
•

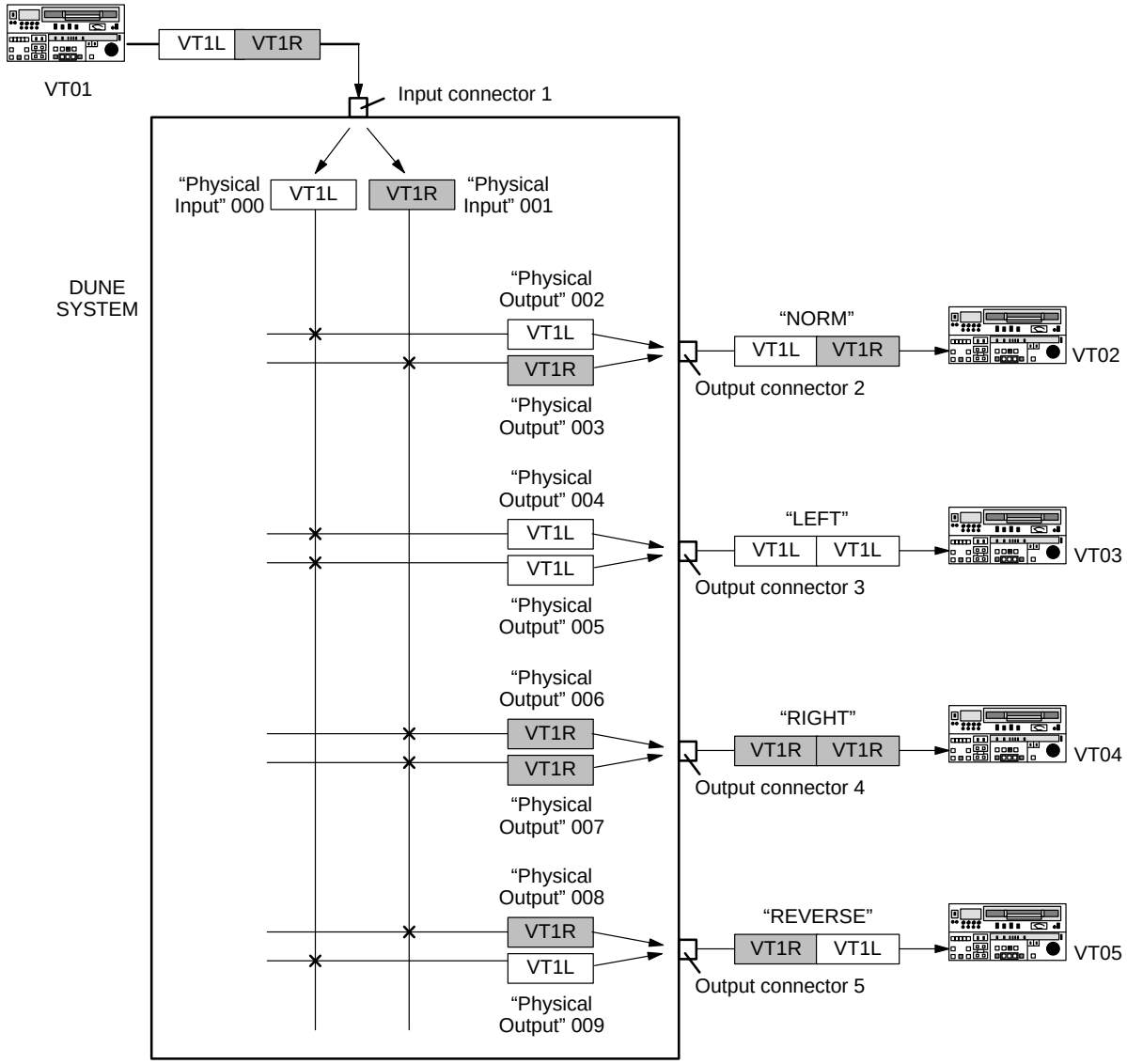
The "In Names" and "Out Names" are user–defined; the suffixes "–L" and "–R"are suggested. The "Physical" numbers in these tables must start at zero.

Figure 8 shows additional detail within the Dune routing system, whereby an incoming digital audio signal is separated into the left and right channels. These signals are brought to a switch matrix, which in the Dune router is actually a software or “virtual” matrix. The left and right channels are then re-combined and exit the system through a single connector. In this example, “Normal,” “Left,” “Right,” and “Reverse” switches described earlier have been executed. Control panel operations would be as follows:

Figure 7.

For switch type	Select input	Select output	
Norm	VT01−L	VT02−L	Take
	VT01−R	VT02−R	Take
Left	VT01−L	VT03−L	Take
	VT01−L	VT03−R	Take
Right	VT01−R	VT04−L	Take
	VT01−R	VT04−R	Take
Reverse	VT01−L	VT05−R	Take
	VT01−R	VT05−L	Take

Figure 8. *Mono configuration operation (example).*



The relationship between the "Physical" numbers on the Switcher Input/Output tables and the numbers on the rear panel BNC connectors is shown on Page 16. At row number 48, all 24 of the MADI (Multiplexed Audio Digital Interface) connectors have been assigned and Connector numbering must start over at "1" with the second MADI interface.

Page 18 is a continuation sheet that can be copied and completed by the installer if desired. The "Row" Numbers and "Physical" numbers will be continuous; the "Connector" numbers will restart after each set of 48 entries and the number of the MADI interface will be incremented by 1.

Figure 9. *Mono configuration connector numbering.*

Table row	Name	"Physical" #	Connector #	MADI interface #
01	−L	00	1	1
02	−R	01	1	1
03	−L	02	2	1
04	−R	03	2	1
05	−L	04	3	1
06	−R	05	3	1
07	−L	06	4	1
08	−R	07	4	1
09	−L	08	5	1
10	−R	09	5	1
11	−L	10	6	1
12	−R	11	6	1
13	−L	12	7	1
14	−R	13	7	1
15	−L	14	8	1
16	−R	15	8	1
17	−L	16	9	1
18	−R	17	9	1
19	−L	18	10	1
20	−R	19	10	1
21	−L	20	11	1
22	−R	21	11	1
23	−L	22	12	1
24	−R	23	12	1
25	−L	24	13	1
26	−R	25	13	1
27	−L	26	14	1
28	−R	27	14	1
29	−L	28	15	1
30	−R	29	15	1
31	−L	30	16	1
32	−R	31	16	1
33	−L	32	17	1
34	−R	33	17	1
35	−L	34	18	1
36	−R	35	18	1
37	−L	36	19	1
38	−R	37	19	1
39	−L	38	20	1
40	−R	39	20	1
41	−L	40	21	1
42	−R	41	21	1
43	−L	42	22	1
44	−R	43	22	1
45	−L	44	23	1
46	−R	45	23	1
47	−L	46	24	1
48	−R	47	24	1
49	−L	48	1	2
50	−R	49	1	2

Table row	Name	“Physical” #	Connector #	MADI inter-face #
51	−L	50	2	2
52	−R	51	2	2
53	−L	52	3	2
54	−R	53	3	2
55	−L	54	4	2
56	−R	55	4	2
57	−L	56	5	2
58	−R	57	5	2
59	−L	58	6	2
60	−R	59	6	2
61	−L	60	7	2
62	−R	61	7	2
63	−L	62	8	2
64	−R	63	8	2
65	−L	64	9	2
66	−R	65	9	2
67	−L	66	10	2
68	−R	67	10	2
69	−L	68	11	2
70	−R	69	11	2
71	−L	70	12	2
72	−R	71	12	2
73	−L	72	13	2
74	−R	73	13	2
75	−L	74	14	2
76	−R	75	14	2
77	−L	76	15	2
78	−R	77	15	2
79	−L	78	16	2
80	−R	79	16	2
81	−L	80	17	2
82	−R	81	17	2
83	−L	82	18	2
84	−R	83	18	2
85	−L	84	19	2
86	−R	85	19	2
87	−L	86	20	2
88	−R	87	20	2
89	−L	88	21	2
90	−R	89	21	2
91	−L	90	22	2
92	−R	91	22	2
93	−L	92	23	2
94	−R	93	23	2
95	−L	94	24	2
96	−R	95	24	2
97	−L	96	1	3
98	−R	97	1	3
99	−L	98	2	3
100	−R	99	2	3

Figure 10. *Mono configuration − work sheet for additional inputs/outputs*

Table row	Name	"Physical" #	Connector #	MADI inter-face #
01	−L	00		
02	−R	01		
03	−L	02		
04	−R	03		
05	−L	04		
06	−R	05		
07	−L	06		
08	−R	07		
09	−L	08		
10	−R	09		
11	−L	10		
12	−R	11		
13	−L	12		
14	−R	13		
15	−L	14		
16	−R	15		
17	−L	16		
18	−R	17		
19	−L	18		
20	−R	19		
21	−L	20		
22	−R	21		
23	−L	22		
24	−R	23		
25	−L	24		
26	−R	25		
27	−L	26		
28	−R	27		
29	−L	28		
30	−R	29		
31	−L	30		
32	−R	31		
33	−L	32		
34	−R	33		
35	−L	34		
36	−R	35		
37	−L	36		
38	−R	37		
39	−L	38		
40	−R	39		
41	−L	40		
42	−R	41		
43	−L	42		
44	−R	43		
45	−L	44		
46	−R	45		
47	−L	46		
48	−R	47		
49	−L	48		
50	−R	49		

Table row	Name	“Physical” #	Connector #	MADI inter-face #
51	−L	50		
52	−R	51		
53	−L	52		
54	−R	53		
55	−L	54		
56	−R	55		
57	−L	56		
58	−R	57		
59	−L	58		
60	−R	59		
61	−L	60		
62	−R	61		
63	−L	62		
64	−R	63		
65	−L	64		
66	−R	65		
67	−L	66		
68	−R	67		
69	−L	68		
70	−R	69		
71	−L	70		
72	−R	71		
73	−L	72		
74	−R	73		
75	−L	74		
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89	−L	88		
90	−R	89		
91	−L	90		
92	−R	91		
93	−L	92		
94	−R	93		
95	−L	94		
96	−R	95		
97	−L	96		
98	−R	97		
99	−L	98		
00	−R	99		

Always Stereo Pair Configuration

The Switcher Description table for an Always Stereo Pair configuration is shown in Figure 11. There are two Physical Levels: by convention, 32 and 33 (the right level is always the left level number + 1).

Figure 11.

Switcher Description

	Switcher	Level	VI	RV	MC	Board	#In	#Out	PLvL	Follow Level	Driver	3 LI	3 LO	Option	Audio	DM 400 Off Time
1	DUNE	AES−L	☑	☐	☑	VM1	64	64	32		L (Dune)				L	
2	DUNE	AES−R	☑	☐	☑	VM1	64	64	33		L (Dune)				R	

Corresponding Switcher Input and Output tables are shown in Figure 12.

Figure 12.

Switcher Input − DUNE

	Logical Input Name	AES−L	AES−R
1	VT01	000	001
2	VT02	002	003
3	VT03	004	005
4	VT04	006	007

•
•
•

Switcher Output − DUNE

	Logical Output Name	Security	S−T	Pass word	AES−L	AES−R
1	VT01		−		000	001
2	VT02		−		002	003
3	VT03		−		004	005
4	VT04		−		006	007
5	VT05		−		008	009
6	VT06		−		010	011
7	VT07		−		012	013
8	VT08		−		014	015

•
•
•

The "Physical" numbers in these tables must start at zero.

Figure 14 shows additional detail within the Dune routing system, whereby an incoming digital audio signal is separated into the left and right channels. These signals are brought to a switch matrix, which in the Dune router is actually a software or "virtual" matrix. The left and right channels, which are always switched together, are then re-combined and exit the system through a single connector.

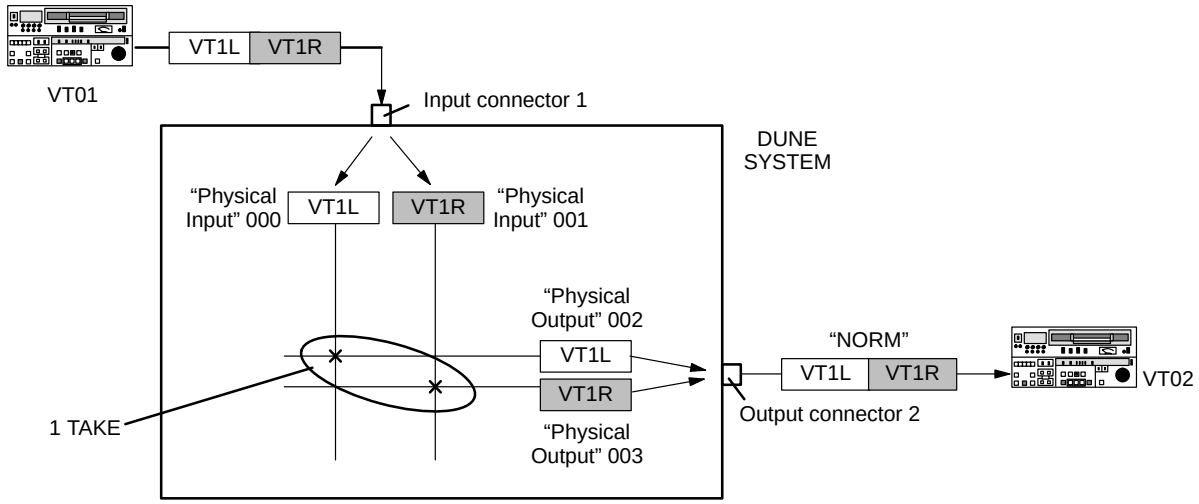
In this drawing, the "Normal" switch described earlier has been executed. Control panel operations would be as follows:

Figure 13.

For switch type	Select input	Select output	
Norm	VT01	VT02	Take

"Left," "Right," and "Reverse" type switches are not possible.

Figure 14. *Always Stereo Pair configuration operation (example).*



The relationship between the "Physical" numbers on the Switcher Input/Output tables and the numbers on the rear panel BNC connectors is shown on page 22. At row number 24, all 24 of the MADI interface connectors have been assigned and Connector numbering must start over at "1" with the second MADI interface.

Page 24 is a continuation sheet that can be copied and completed by the installer if desired. The "Row" Numbers and "Physical" numbers will be continuous; the "Connector" numbers will restart after each set of 24 entries and the number of the MADI interface will be incremented by 1.

Figure 15. *Always Stereo Pair configuration connector numbering.*

Table row	Name	“Physical” # Left	“Physical” # Right	Connector #	MADI interface #
01		00	01	1	1
02		02	03	2	1
03		04	05	3	1
04		06	07	4	1
05		08	09	5	1
06		10	11	6	1
07		12	13	7	1
08		14	15	8	1
09		16	17	9	1
10		18	19	10	1
11		20	21	11	1
12		22	23	12	1
13		24	25	13	1
14		26	27	14	1
15		28	29	15	1
16		30	31	16	1
17		32	33	17	1
18		34	35	18	1
19		36	37	19	1
20		38	39	20	1
21		40	41	21	1
22		42	43	22	1
23		44	45	23	1
24		46	47	24	1
25		48	49	1	2
26		50	51	2	2
27		52	53	3	2
28		54	55	4	2
29		56	57	5	2
30		58	59	6	2
31		60	61	7	2
32		62	63	8	2
33		64	65	9	2
34		66	67	10	2
35		68	69	11	2
36		70	71	12	2
37		72	73	13	2
38		74	75	14	2
39		76	77	15	2
40		78	79	16	2
41		80	81	17	2
42		82	83	18	2
43		84	85	19	2
44		86	87	20	2
45		88	89	21	2
46		90	91	22	2
47		92	93	23	2
48		94	95	24	2
49		96	97	1	3
50		98	99	2	3

Table row	Name	“Physical” # Left	“Physical” # Right	Connector #	MADI interface #
51		100	101	3	3
52		102	103	4	3
53		104	105	5	3
54		106	107	6	3
55		108	109	7	3
56		110	111	8	3
57		112	113	9	3
58		114	115	10	3
59		116	117	11	3
60		118	119	12	3
61		120	121	13	3
62		122	123	14	3
63		124	125	15	3
64		126	127	16	3
65		128	129	17	3
66		130	131	18	3
67		132	133	19	3
68		134	135	20	3
69		136	137	21	3
70		138	139	22	3
71		140	141	23	3
72		142	143	24	3
73		144	145	1	4
74		146	147	2	4
75		148	149	3	4
76		150	151	4	4
77		152	153	5	4
78		154	155	6	4
79		156	157	7	4
80		158	159	8	4
81		160	161	9	4
82		162	163	10	4
83		164	165	11	4
84		166	167	12	4
85		168	169	13	4
86		170	171	14	4
87		172	173	15	4
88		174	175	16	4
89		176	177	17	4
90		178	179	18	4
91		180	181	19	4
92		182	183	20	4
93		184	185	21	4
94		186	187	22	4
95		188	189	23	4
96		190	191	24	4
97		192	193	1	5
98		194	195	2	5
99		196	197	3	5
100		198	199	4	5

Figure 16. *Always Stereo Pair configuration − work sheet for additional inputs/outputs.*

Table row	Name	"Physical" # Left	"Physical" # Right	Connector #	MADI interface #
01		00	01		
02		02	03		
03		04	05		
04		06	07		
05		08	09		
06		10	11		
07		12	13		
08		14	15		
09		16	17		
10		18	19		
11		20	21		
12		22	23		
13		24	25		
14		26	27		
15		28	29		
16		30	31		
17		32	33		
18		34	35		
19		36	37		
20		38	39		
21		40	41		
22		42	43		
23		44	45		
24		46	47		
25		48	49		
26		50	51		
27		52	53		
28		54	55		
29		56	57		
30		58	59		
31		60	61		
32		62	63		
33		64	65		
34		66	67		
35		68	69		
36		70	71		
37		72	73		
38		74	75		
39		76	77		
40		78	79		
41		80	81		
42		82	83		
43		84	85		
44		86	87		
45		88	89		
46		90	91		
47		92	93		
48		94	95		
49		96	97		
50		98	99		

Table row	Name	“Physical” # Left	“Physical” # Right	Connector #	MADI interface #
51		00	01		
52		02	03		
53		04	05		
54		06	07		
55		08	09		
56		10	11		
57		12	13		
58		14	15		
59		16	17		
60		18	19		
61		20	21		
62		22	23		
63		24	25		
64		26	27		
65		28	29		
66		30	31		
67		32	33		
68		34	35		
69		36	37		
70		38	39		
71		40	41		
72		42	43		
73		44	45		
74		46	47		
75		48	49		
76		50	51		
77		52	53		
78		54	55		
79		56	57		
80		58	59		
81		60	61		
82		62	63		
83		64	65		
84		66	67		
85		68	69		
86		70	71		
87		72	73		
88		74	75		
89		76	77		
90		78	79		
91		80	81		
92		82	83		
93		84	85		
94		86	87		
95		88	89		
96		90	91		
97		92	93		
98		94	95		
99		96	97		
100		98	99		

Stereo with Left/Right/Reverse Switching Using Special Table Entries

A Switcher Description table for this configuration is shown in Figure 17. There are two Physical Levels: by convention, 32 and 33 (the right level is always the left level number + 1).

Figure 17.

Switcher Description

	Switcher	Level	VI	RV	MC	Board	#In	#Out	PLvL	Follow Level	Driver	3 LI	3 LO	Option	Audio	DM 400 Off Time
1	DUNE	AES−L	☑	☐	☑	VM1	64	64	32		L (Dune)				L	
2	DUNE	AES−R	☑	☐	☑	VM1	64	64	33		L (Dune)				R	

Corresponding Switcher Input and output tables are shown in Figure 18.

Figure 18.

Switcher Input − DUNE

	Logical Input Name	AES−L	AES−R
1	VT01	000I	001I
2	VT01−L	000P	000P
3	VT01−R	001P	001P
4	VT02	002I	003I
5	VT02−L	002P	002P
6	VT02−R	003P	003P
7	VT03	004I	005I
5	VT03−L	004P	004P
6	VT03−R	005P	005P

Switcher Output − DUNE

	Logical Output Name	Security	S−T	Pass word	AES−L	AES−R
1	VT01		−		000	001
2	VT02		−		002	003
3	VT03		−		004	005
4	VT04		−		006	007
5	VT05		−		008	009
6	VT06		−		010	011
7	VT07		−		012	013
8	VT08		−		014	015

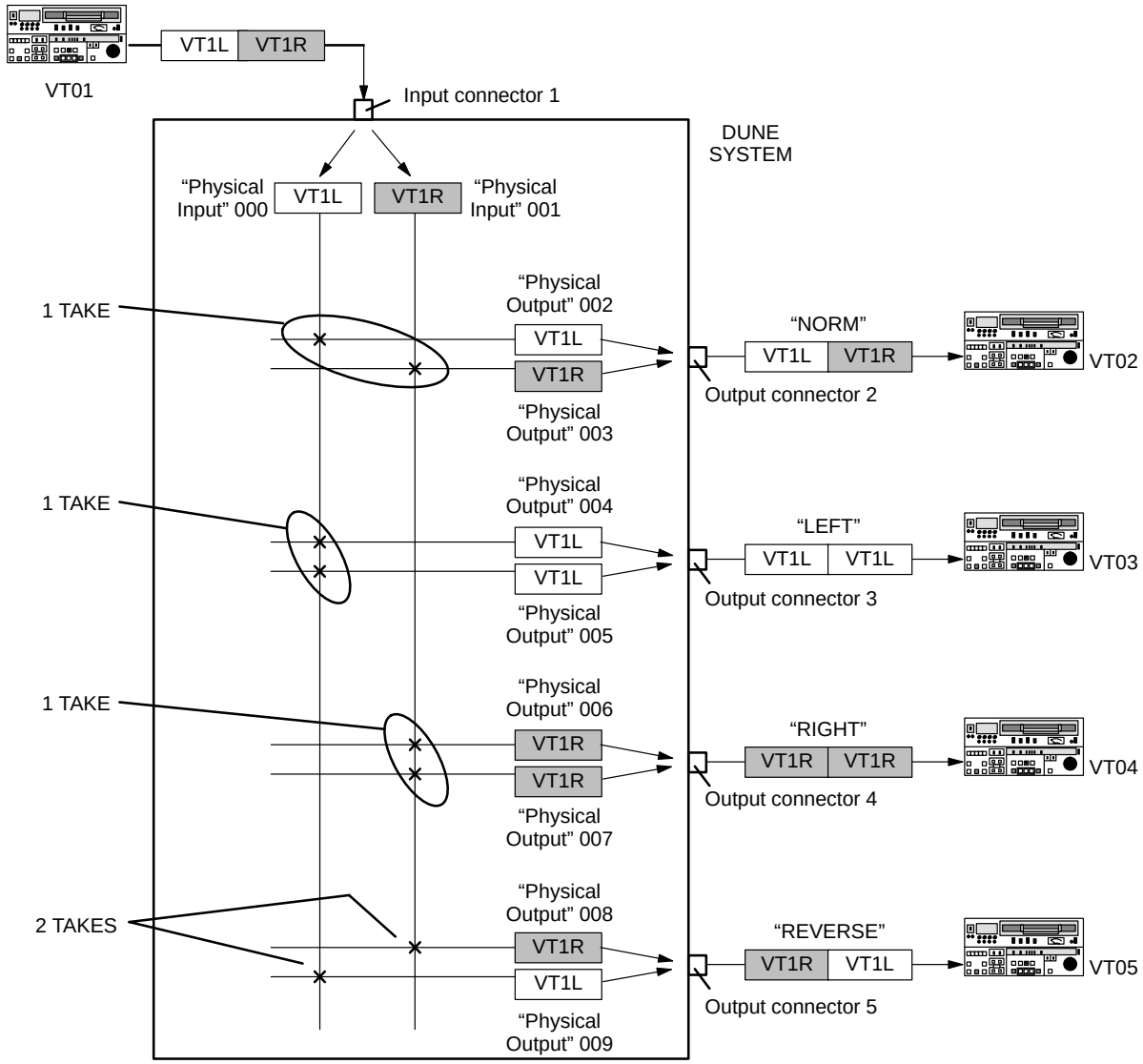
The "Physical" numbers in these tables must start at zero.

Figure 20 shows additional detail within the Dune routing system, whereby an incoming digital audio signal is separated into the left and right channels. These signals are brought to a switch matrix, which in the Dune router is actually a software or "virtual" matrix. The left and right channels are then re-combined and exit the system through a single connector. In this drawing, the "Normal" switch described earlier has been executed. Control panel operations would be as follows:

Figure 19.

For switch type	Select input	Select output	
Norm	VT01	VT02	Take
Left	VT01−L	VT03	Take
Right	VT01−R	VT04	Take
Reverse	VT01−R, left level	VT05	Take
	VT01−L, right level	VT05	Take

Figure 20. *Left/Right/Reverse configuration operation (example).*



The relationship between the "Physical" numbers on the Switcher Input/Output tables and the numbers on the rear panel BNC connectors is shown on Page 28. At row number 72, all 24 of the MADI interface connectors have been assigned and Connector numbering must start over at "1" with the second MADI interface.

Page 30 is a continuation sheet that can be copied and completed by the installer if desired. The "Row" Numbers and "Physical" numbers will be continuous; the "Connector" numbers will restart after each set of 72 entries and the number of the MADI interface will be incremented by 1.

Figure 21. *Left/Right/Reverse configuration connector numbering.*

Table row	Name	"Physical" # Left	"Physical" # Right	Connector #	MADI interface #
01		000I	001I	1	1
02	−L	000P	000P	1	1
03	−R	001P	001P	1	1
04		002I	003I	2	1
05	−L	002P	002P	2	1
06	−R	003P	003P	2	1
07		004I	005I	3	1
08	−L	004P	004P	3	1
09	−R	005P	005P	3	1
10		006I	007I	4	1
11	−L	006P	006P	4	1
12	−R	007P	007P	4	1
13		008I	009I	5	1
14	−L	008P	008P	5	1
15	−R	009P	009P	5	1
16		010I	011I	6	1
17	−L	010P	010P	6	1
18	−R	011P	011P	6	1
19		012I	013I	7	1
20	−L	012P	012P	7	1
21	−R	013P	013P	7	1
22		014I	015I	8	1
23	−L	014P	014P	8	1
24	−R	015P	015P	8	1
25		016I	017I	9	1
26	−L	016P	016P	9	1
27	−R	017P	017P	9	1
28		018I	019I	10	1
29	−L	018P	018P	10	1
30	−R	019P	019P	10	1
31		020I	021I	11	1
32	−L	020P	020P	11	1
33	−R	021P	021P	11	1
34		022I	023I	12	1
35	−L	022P	022P	12	1
36	−R	023P	023P	12	1
37		024I	025I	13	1
38	−L	024P	024P	13	1
39	−R	025P	025P	13	1
40		026I	027I	14	1
41	−L	026P	026P	14	1
42	−R	027P	027P	14	1
43		028I	029I	15	1
44	−L	028P	028P	15	1
45	−R	029P	029P	15	1
46		030I	031I	16	1
47	−L	030P	030P	16	1
48	−R	031P	031P	16	1
49		032I	033I	17	1
50	−L	032P	032P	17	1

Table row	Name	“Physical” # Left	“Physical” # Right	Connector #	MADI interface #
51	−R	033P	033P	17	1
52		034I	035I	18	1
53	−L	034P	034P	18	1
54	−R	035P	035P	18	1
55		036I	037I	19	1
56	−L	036P	036P	19	1
57	−R	037P	037P	19	1
58		038I	039I	20	1
59	−L	038P	038P	20	1
60	−R	039P	039P	20	1
61		040I	041I	21	1
62	−L	040P	040P	21	1
63	−R	041P	041P	21	1
64		042I	043I	22	1
65	−L	042P	042P	22	1
66	−R	043P	043P	22	1
67		044I	045I	23	1
68	−L	044P	044P	23	1
69	−R	045P	045P	23	1
70		046I	047I	24	1
71	−L	046P	046P	24	1
72	−R	047P	047P	24	1
73		048I	049I	1	2
74	−L	048P	048P	1	2
75	−R	049P	049P	1	2
76		050I	051I	2	2
77	−L	050P	050P	2	2
78	−R	051P	051P	2	2
79		052I	053I	3	2
80	−L	052P	052P	3	2
81	−R	053P	053P	3	2
82		054I	055I	4	2
83	−L	054P	054P	4	2
84	−R	055P	055P	4	2
85		056I	057I	5	2
86	−L	056P	056P	5	2
87	−R	057P	057P	5	2
88		058I	059I	6	2
89	−L	058P	058P	6	2
90	−R	059P	059P	6	2
91		060I	061I	7	2
92	−L	060P	060P	7	2
93	−R	061P	061P	7	2
94		062I	063I	8	2
95	−L	062P	062P	8	2
96	−R	063P	063P	8	2
97		064I	065I	9	2
98	−L	064P	064P	9	2
99	−R	065P	065P	9	2
100		066I	067I	10	2

Figure 22. *Left/Right/Reverse configuration − work sheet for additional inputs/outputs.*

Table row	Name	"Physical" # Left	"Physical" # Right	Connector #	MADI interface #
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
31					
32					
33					
34					
35					
36					
37					
38					
39					
40					
41					
42					
43					
44					
45					
46					
47					
48					
49					
50					

Table row	Name	“Physical” # Left	“Physical” # Right	Connector #	MADI interface #
51					
52					
53					
54					
55					
56					
57					
58					
59					
60					
61					
62					
63					
64					
65					
66					
67					
68					
69					
70					
71					
72					
73					
74					
75					
76					
77					
78					
79					
80					
81					
82					
83					
84					
85					
86					
87					
88					
89					
90					
91					
92					
93					
94					
95					
96					
97					
98					
99					
100					

Problems corrected in release 7.5

1. Added the ability to issue Clear Flash from the Control center resulting in all files being removed from the CM–4000 hard drive.

2. AccuSwitch now supports a device called CP–ESLAN that utilizes CP–3800 Input, Output, Level, Sequence, and overrides sets to allow for Category entry through ESLAN. This CP–ESLAN device also supports output level sets through ES–LAN.

3. CR 56598: Horizon and Grass Ten 10/20 protocols have been added to Jupiter LE.

4. CR 67332: Corrected problem with the CM–4000 using ESCP where if a port is defined to run ESCP there must be at least one ESCP device configured for that port or the CM–4000 could continuously reboot.

5. CR 70145 Corrected a problem where ESLAN updates may not be sent when multiple ESLAN devices are configured.

6. CR 70439: Corrected an issue with AccuSwitch ES autoupdates where status was not being returned for multiple commands sent within a short time frame.

7. CR 72594: Added an information field for the protect status PSTD 0x7D to work like the lock status does.

8. CR 76627: Corrected a problem with the Triton serial port driver not working with physical levels above 9 when the maximum physical level is 16.

9. CR 80419: Added support in Jupiter Xpress for transfering labels (Andromeda) between the CM–4000 and the XtenDD.

10. CR 80561: Corrected a problem with the JEP–100 where multiple rapid button pushes could result in “NO COMM” being displayed on the panel.

11. CR 80989: Corrected a problem where a redundant CM–4000 could page fault when running the Datatek protocol.

12. CR 81038: Corrected a problem with AccuSwitch where ESTributary would not load the Input, Output, and Level sets properly.

13. CR 83182: CM–4000 ASCII protocol now allows an XOFF followed by any byte to turn the UART back on. Before only an XON would turn on the UART after receiving an XOFF.

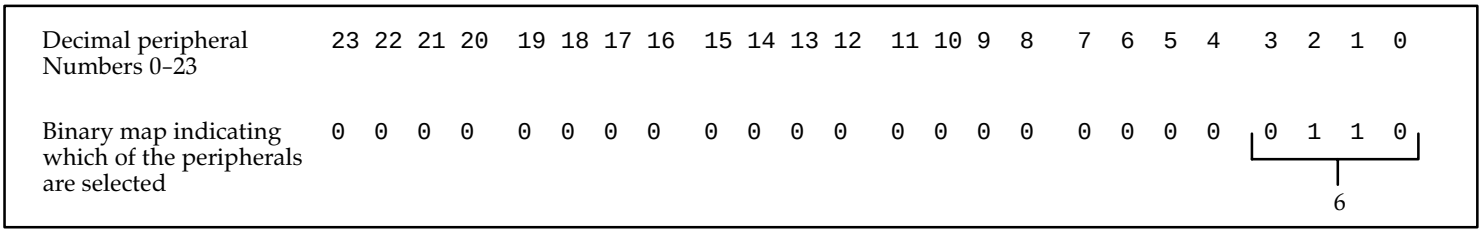
14. CR 83927: CM–4000 ASCII protocol now supports commands terminated with a CRLF.

Known issues in v7.5

1. GVG–200/E–MEM application (VM 3000 systems only). Due to a Jupiter software limitation, connecting peripheral devices in addition to the single VM/SI is not recommended. MPK Device Address 6 is known to work when GVG–200 Peripheral devices 1 and 2 are *both* enabled (even though only one device is actually present).

Discussion: The Jupiter implementation of the E–MEM 200 protocol used for the GVG–200 production switcher interface is technically incorrect. The GVG–200 protocol specifies that the peripheral devices on the bus be addressed by a 6 ASCII character field which represents a 3–digit hexadecimal 3–byte 24–bit mask value. The peripheral number corresponds to the bit number. If the bit in the value is set then that peripheral device is selected; for example, selecting peripherals 1 and 2 results in a value of 000000000000000000000110. See Figure 23.

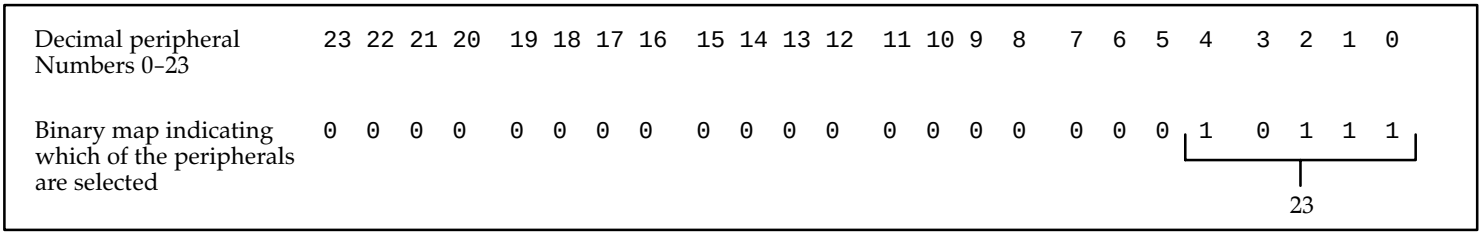
***Figure 23**. GVG–200 peripheral addressing (example)*



The Jupiter implementation however uses that mask value as the *Address*. Therefore if peripherals 1 and 2 are selected the mask value will be 6 and the MPK address must be 6.

As another example, if peripherals 0, 1, 2, and 4 are selected by the GVG–200, Jupiter will treat this combination as Address 23—which is the maximum value that can be entered in the Jupiter address field. See Figure 24.

***Figure 24**. GVG–200 peripheral addressing (example)*



Because of this implementation, "4" is the highest numbered peripheral device that can be selected by the GVG–200.

Another aspect of this implementation is that the GVG–200 interface currently will only work on a peripheral bus where the selected device does not change; in other words, when the Jupiter system is the only device connected.

2. CR 49966: The CP–3824 control panel does not provide multi–source, multi–level breakaway switching as described in certain Jupiter manuals.

The Jupiter CM–4000 manual (part no. 071826104 and prior) and VM–3000 manual (part no. 071830502 and prior) include a CP–3824 "Breakaway Switching – Multi–Level Take" procedure whereby the operator selects a source, selects a level or levels, and then selects another source and chooses between remaining unused levels in order to perform a multi–source, multi–level switch with a single Take. This function is not available for this panel.

3. CR 66947: Only physical inputs 000–999 can be used as Primary and Indirect sources.

4. CR 70998: Maestro sources are not being protected on VM–3000 systems (they are protected on CM–4000 systems).

5. CR 71041: The system may indicate incorrect router status when a) output monitoring is configured, and b) when the router is power cycled or Jupiter is rebooted:

a. Following output monitoring configuration, the Switcher Input table will contain double entries. For example:

Figure 25.

Switcher Input – MainRout				
	Logical Input Name	VIDEO	LEFT	RIGHT
1	BARS	000	000	000
2	CAM1	001	001	001
•				
•				
•				
65	OUT0	000	000	000

In this example, the input "OUT0" actually refers to the router's physical *output* zero. Using a control panel, the operator selects this output as an "input" in order to monitor output zero. The control panel will show the mnemonic for OUT0 as status for the monitor output. This is the correct status.

However, notice the double entries, i.e., that two input names (BARS and OUT0) refer to the same physical input (000).

b. If the router power is now cycled or Jupiter is rebooted, status must be refreshed. In the above example, the system finds that input "000" has been switched to the monitor output—but there are two "000" entries on the Switcher Input table. Becaused the letter "B" in BARS comes before the letter "O" in OUT, the control panel will now assume that BARS is feeding the monitor output and thus report the mnemonic for BARS as status. This report may or may not be correct. To insure correct status, the workaround is to re-take the switch.

There are other examples of the same physical output number being assigned to more than one logical input name, as for example when multiple "alias" names are assigned to the same physical input number. This might be done in order to use the status function to display the title of a program. Again, if the router is power cycled or Jupiter is rebooted the panel may or may not display the correct status. As before, re-taking the switch will insure that status is correct.

For a more complete description of output monitoring, please refer to the Jupiter Installation and Operating manual.

6. CR 75029: DD–35 switchers need to run, or upgrade to, software version 4.8.5 in order to communicate with the Jupiter control system. The DD–35 software changes the parity bit for the Diamond protocol from previous versions, and needs to be changed from “no parity” back to “even parity” to communicate properly.

7. CR 84235: When ESswitch protocol is used to lock/protect an output on a single level, and an attempt is made to switch the output using a control panel, the panel may appear to execute and status the switch even though no switch has occured. After approximately 6–10 switch attempts the panel shows the correct status and displays a “Locked/Protected” message.

7.4.1 Release

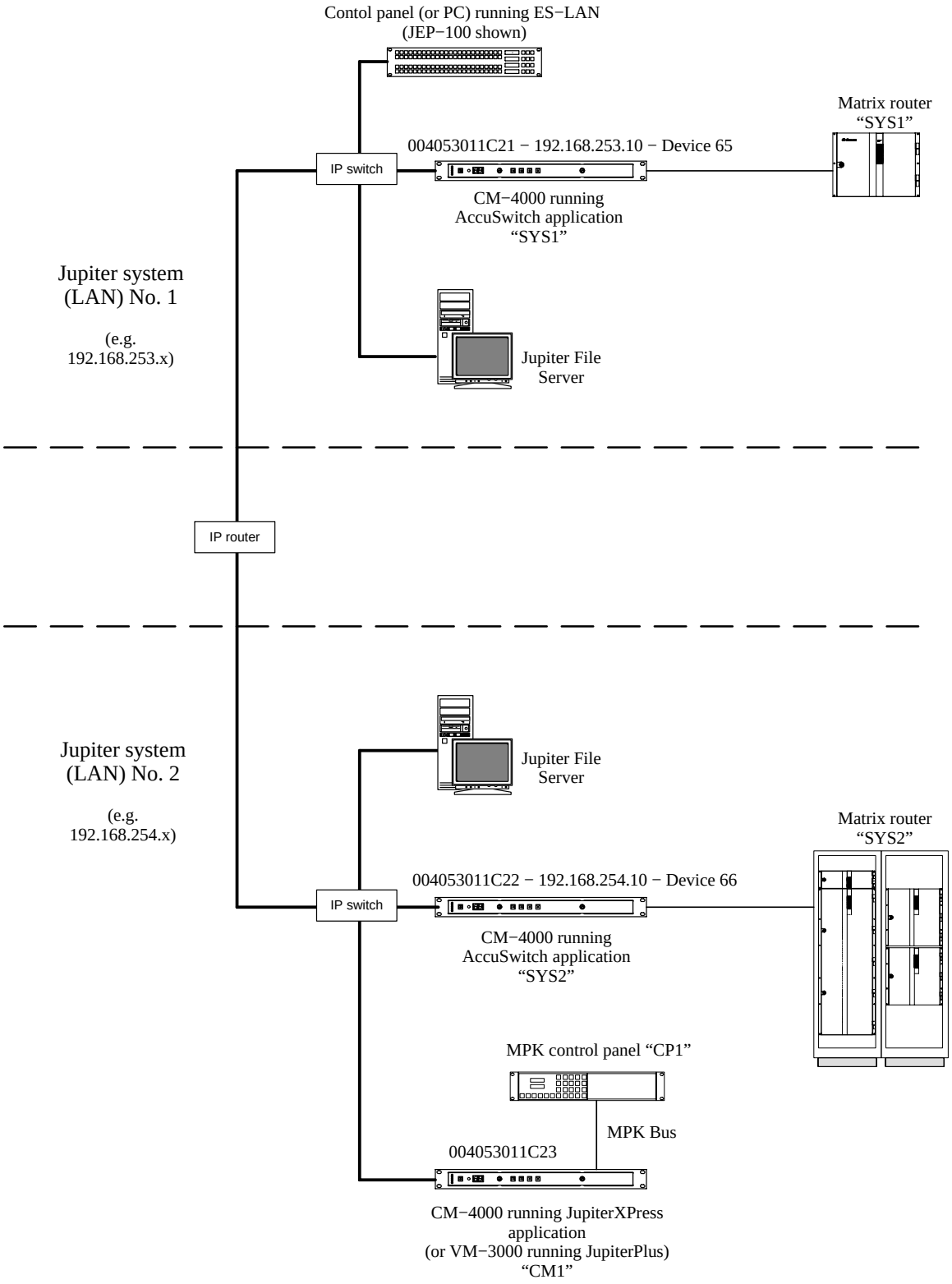
Enhancements

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 26.

   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 26**. 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.*



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 26.

The Network Description table for System 1 is shown in Figure 27. 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 27. *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 28). But again, there is a special entry for the "remote" CM back on System 1:

Figure 28. *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 29.

Figure 29. *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 32 on page 41

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 32 on page 41). 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 42.

Figure 30 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 30. *Switcher Description table on System 2 server (example).*

Level Name "VIDEO(SYS2)" from Sys 2 CP Level Set (Figure 32) 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 42) must be created as type "CP-3000." Figure 31 shows the table for System 1.

Figure 31. *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 32 shows the table on the System 2 server.

Figure 32. *CP Level Set table on System 2 server (example).*

Index number "0" from System 1's Switcher Description table (Figure 29) maps to the first row

Maps to the local Switcher Description table (Figure 30 on page 40)

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 29 on page40) converts to modulo "0," which in turn points to row 1 in Figure 32 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 30).

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 33 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 30 on page 40).

Figure 33. *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 34 shows the table on the System 2 server.

Figure 34. *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 35) and another table for the remote router (Figure 36). Notice that the Logical Input Names must be unique across these tables.

Figure 35. *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 36. *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 37

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 42 on page 44

The input numbers in Figure 36 ("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 37 is assigned via the MPK Devices table to the JEP-100 panel shown on page 38. 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 37 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 37. *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 36

Figure 38. *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 39. *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 40. *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 42

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

from Figure 36

Input Set — SYS2INP (SERIAL)

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

to Figure 40

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 43. *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 44. *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 45

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 50 on page 46

CP Output Sets – SYS1 Server

Figure 45. *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 44

Output Set – SYS1OUT (SERIAL)

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

Figure 46. *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 47. *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 48. *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 50

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 49. *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 44

Output Set – SYS2OUT (SERIAL)

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

to Figure 48

Figure 50. *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 51). 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).

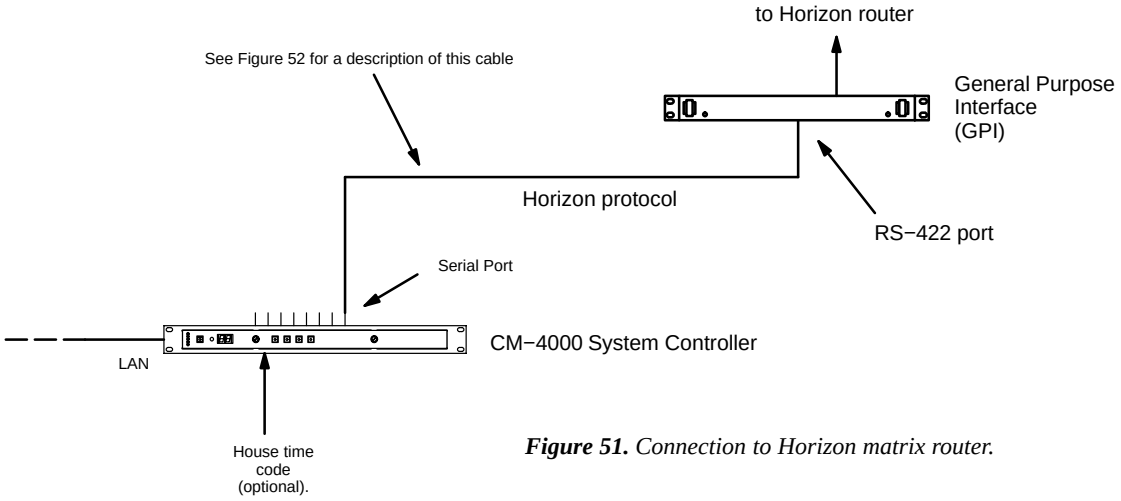


Figure 51. *Connection to Horizon matrix router.*

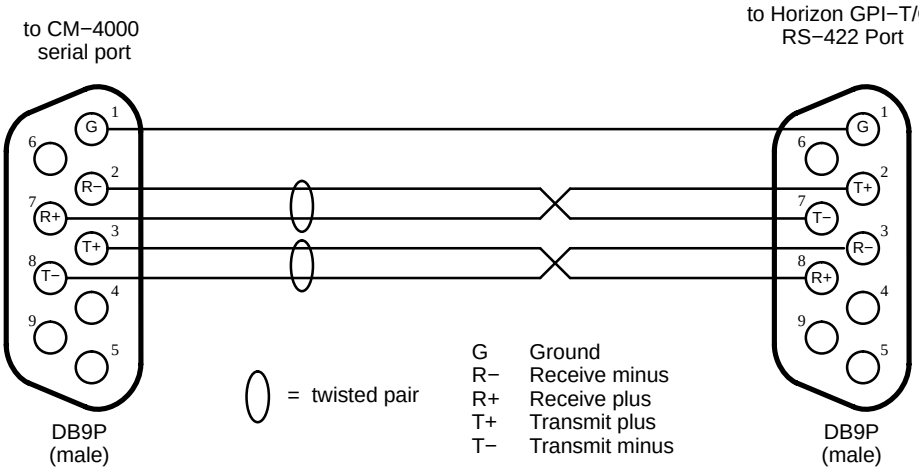


Figure 52. *Cable for connecting CM−4000 to Horizon matrix router.*

3. Nexus Audio Routing System protocol is now supported.

Nexus audio routers can be controlled using the hardware connections shown in Figure 53. The Nexus switcher requires special PROMs for this application (please contact Grass Valley for more information).

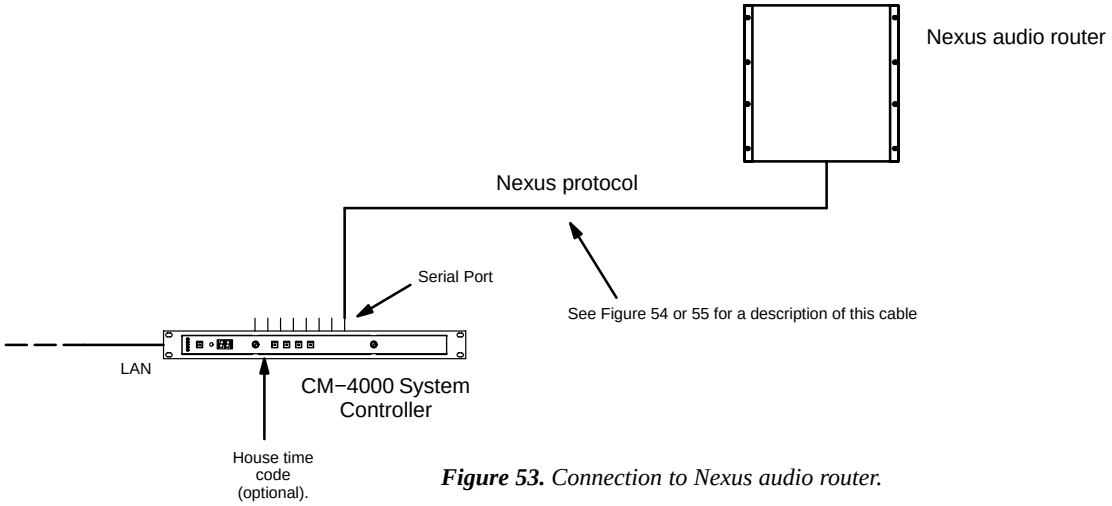


Figure 53. *Connection to Nexus audio router.*

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.

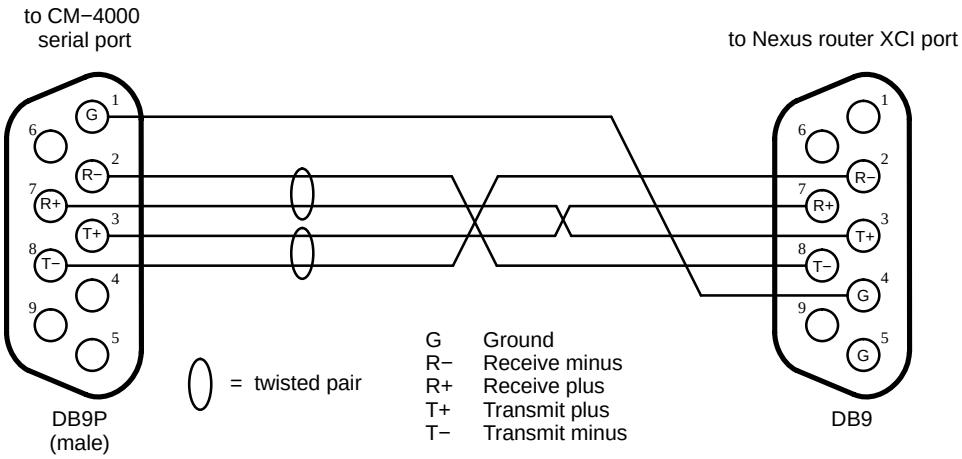


Figure 54. *Cable for connecting CM−4000 to Nexus audio router XCI port.*

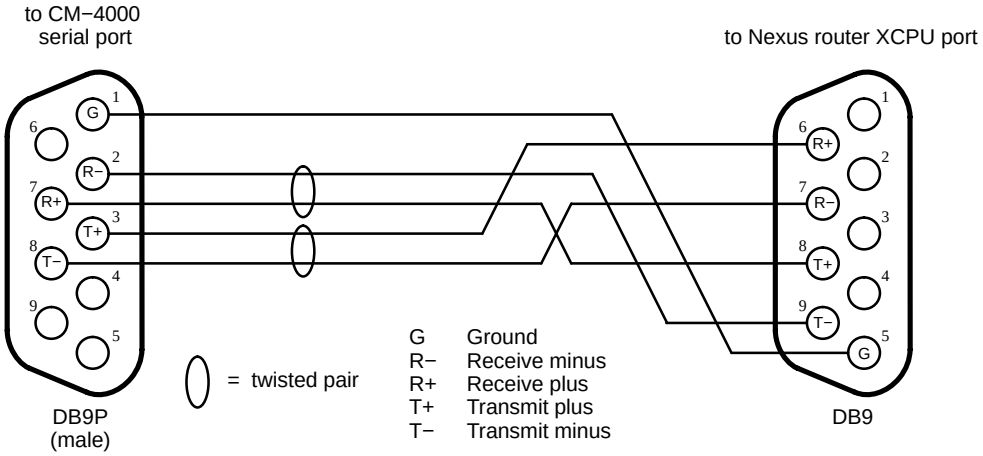


Figure 55. *Cable for connecting CM−4000 to Nexus audio router XCPU port.*

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.

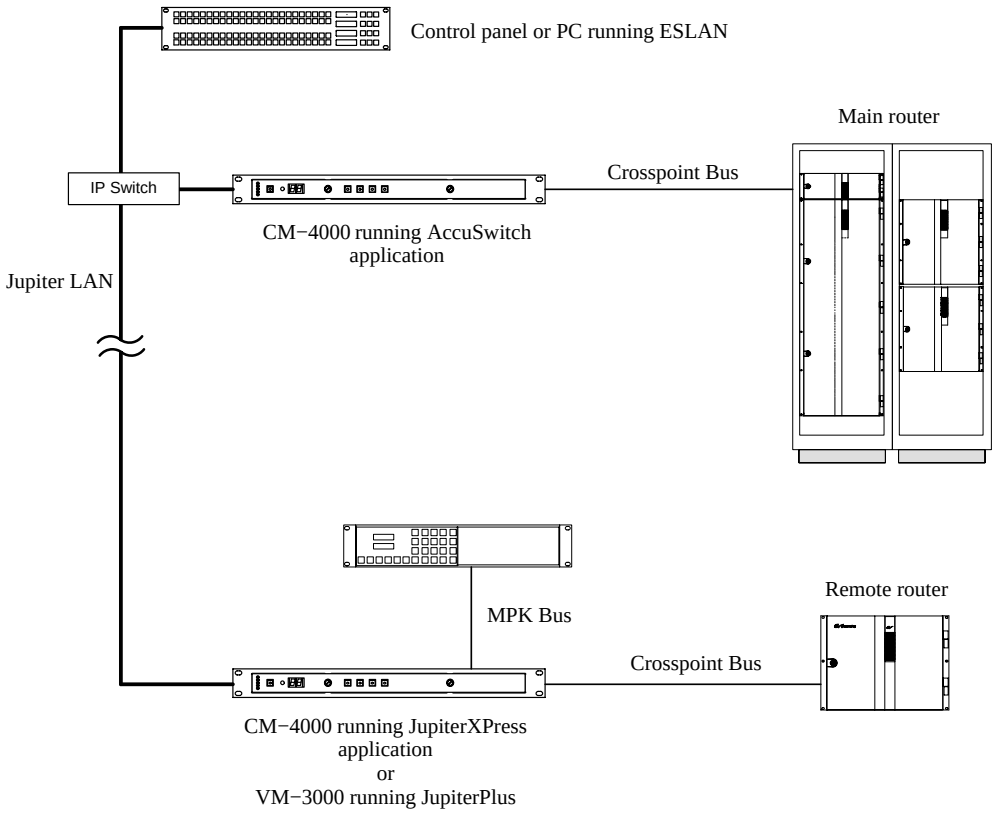
7.4 Release

Enhancements

(The following discussion provides details about some of the new functions supported by this release. For a complete list of enhancements, see page 37.)

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

Figure 56. Switch forwarding (AccuSwitch).



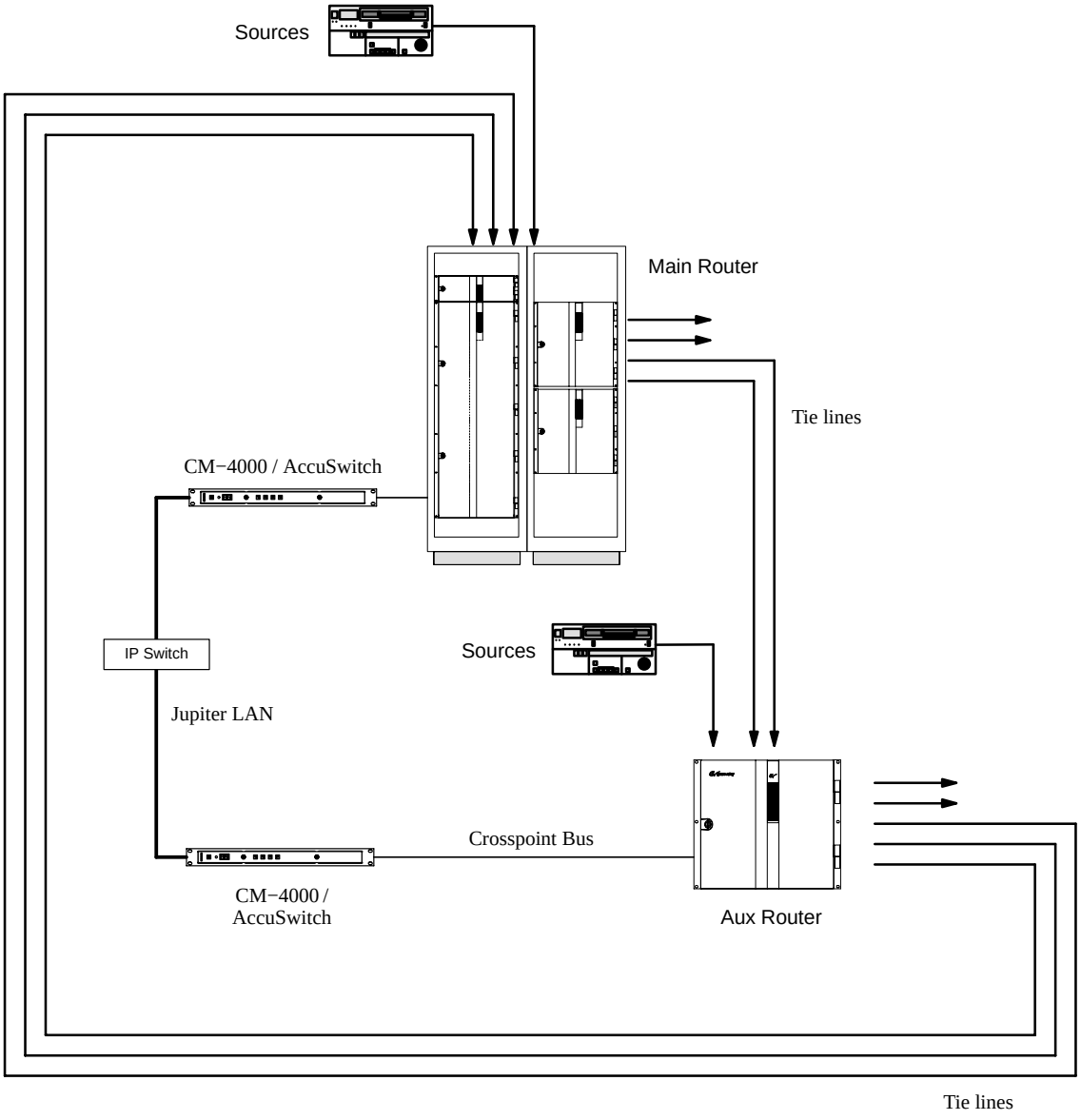
In the past the AccuSwitch application could only control a router connected directly to the CM–4000 running AccuSwitch. With this release the software determines if the router is not located on this board and will send (forward) the switch request on the LAN to the controller (VM–3000 or CM–4000) that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

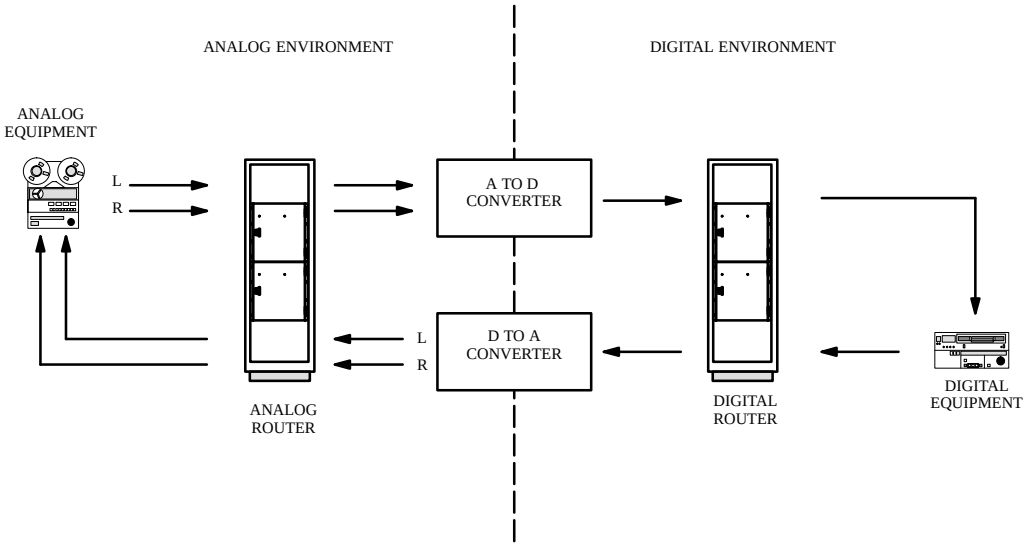
Path finding allows two or more routing switchers to operate as a system, where one switcher can access the other's inputs through a number of *tie lines*. With this release, the routers can be controlled by separate CM-4000s if they are both running AccuSwitch.

Figure 57. 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 58.

Figure 58.



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

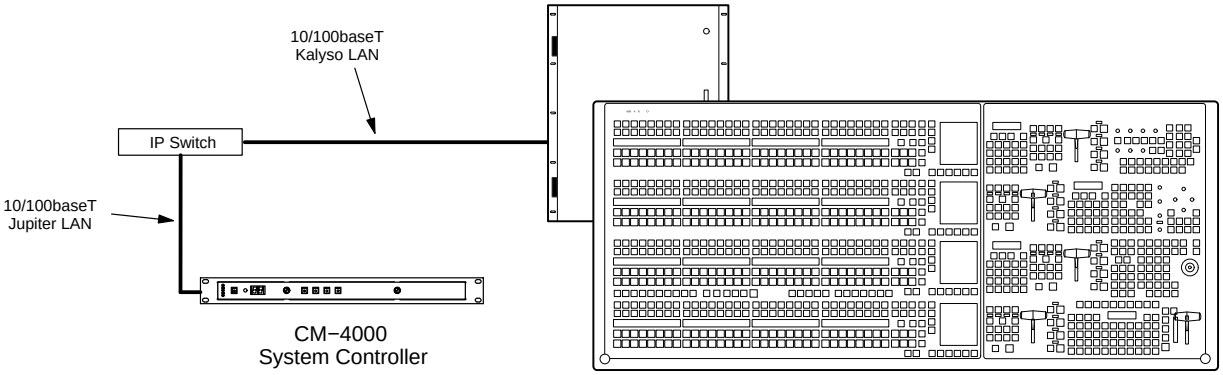
This enhancement allows the Jupiter system and associated router to be controlled by a Kalypso production switcher.

Kalypso Application

a. Hardware Connections

An example of hardware connections is shown in Figure 59.

Figure 59. 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 60.

Figure 60. *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 61. *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 62. *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 63. *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 73.

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.

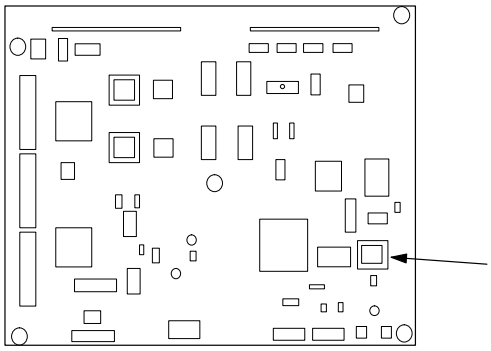
Installation/Upgrade

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 4.

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 64.



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.

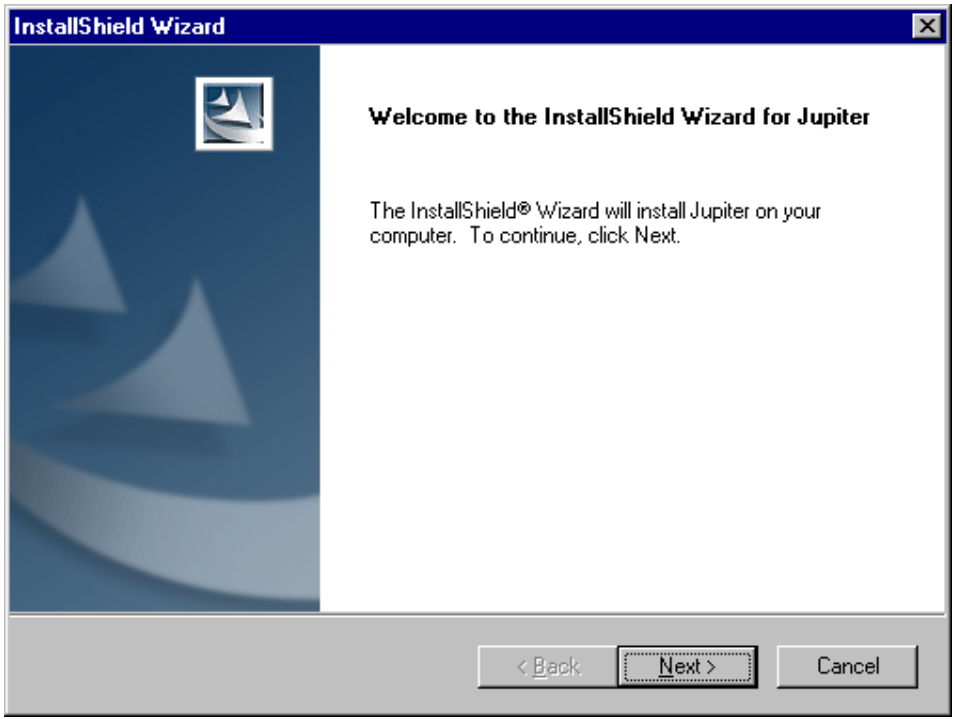
2. If configuration sets exist on this server you may wish to back up your current configuration directory (C:\Program Files\Thomson\Jupiter\ config) and save it on another disk drive.

3. If previous versions of Jupiter software were installed on this server, they must be uninstalled at this time. See page 70.

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 65.



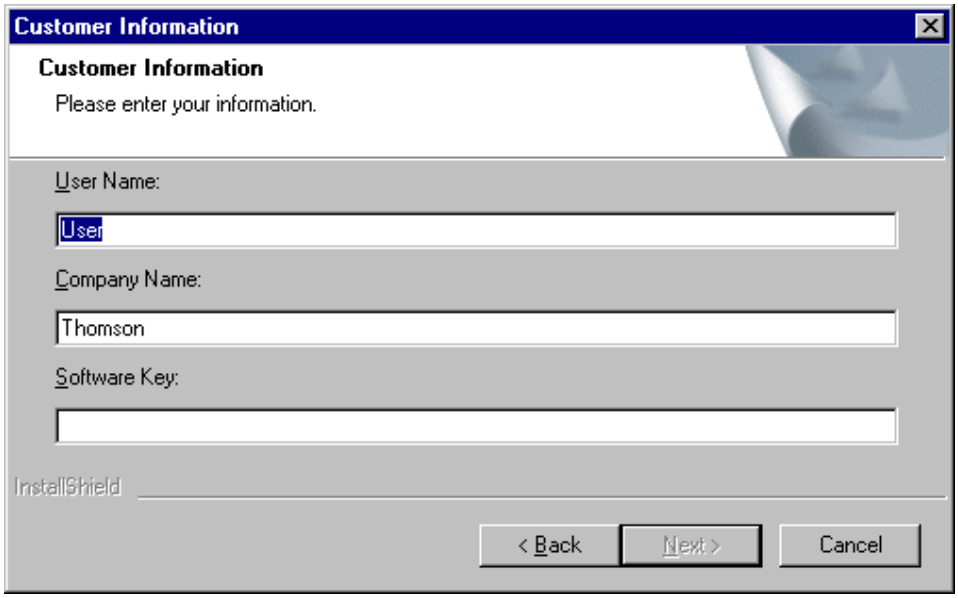
If your PC requires configuration of the Windows Installer, this will be done automatically. Some systems may require a restart following this configuration. If the following dialog box appears, click “Restart”.

Figure 66.

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

5. Click on "Next."

Figure 67.



6. Enter a User Name and a Company Name.

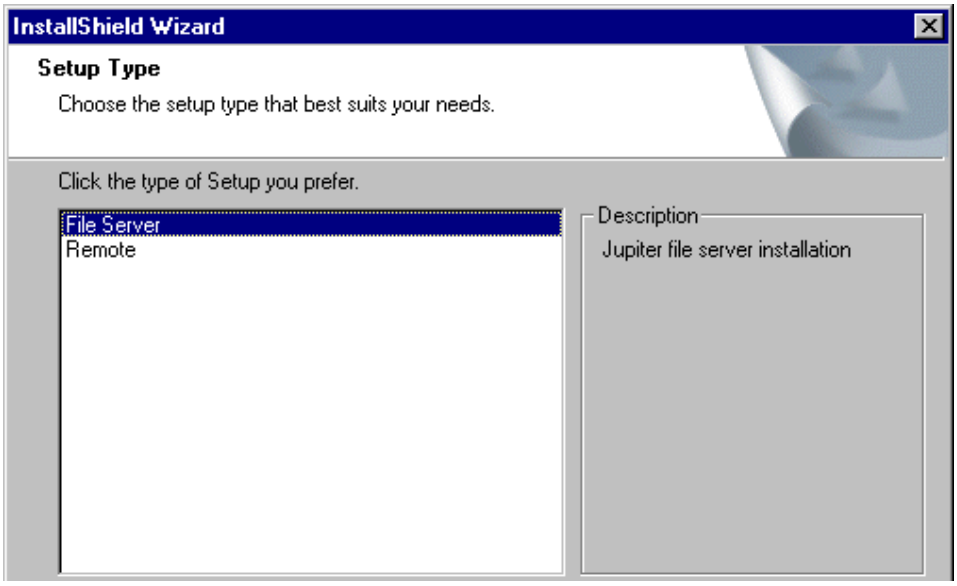
7. Enter the Software Key Number printed on the CD-ROM case. This will be three groups of non-case-sensitive characters separated by dashes.

   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:”

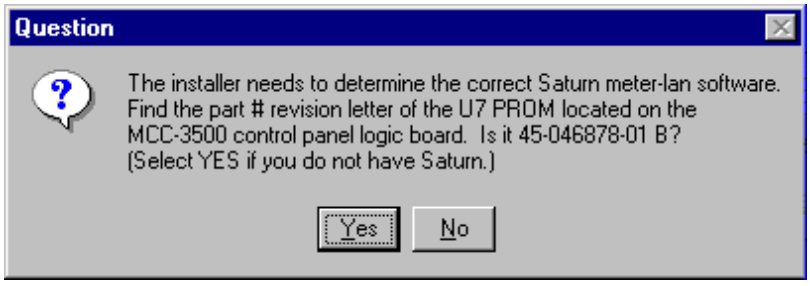
Figure 68.



For more information about Remote Jupiter PCs, see page 71.

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 59).

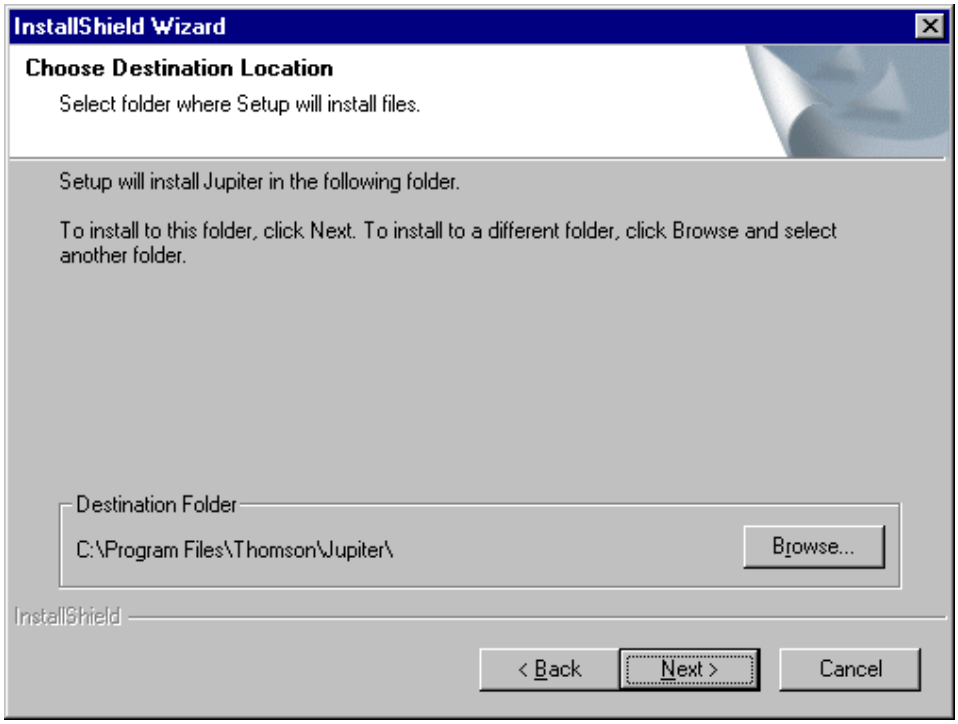
Figure 69.



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

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

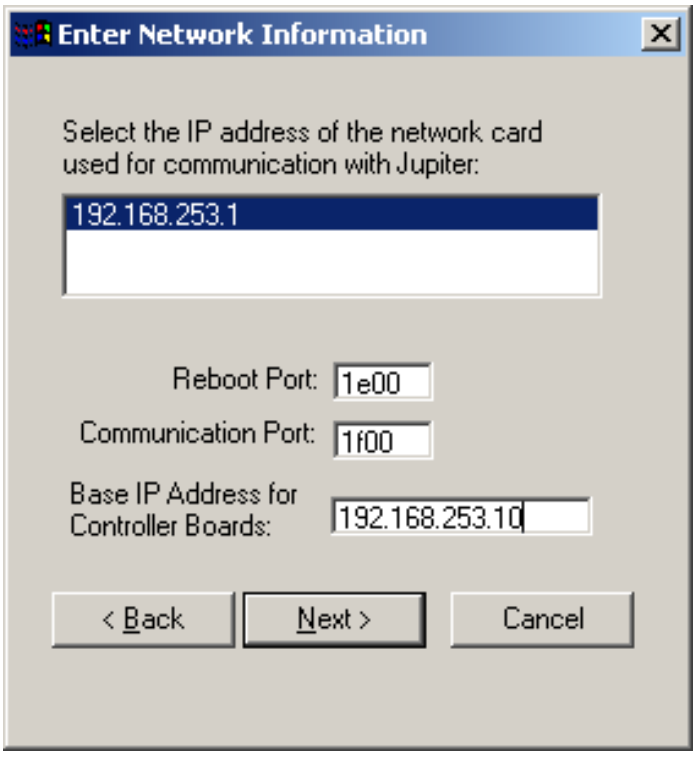
Figure 70.



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

12. Verify the file server's IP address.

Figure 71.



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.

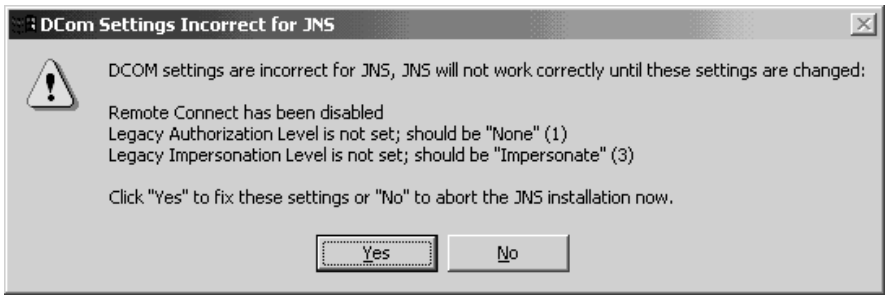
NOTE The Base IP and File Server IP must be within the same subnet. E.g., if the subnet is 192.168.253 (and the subnet mask is 255.255.255.0) then both IP addresses would need to have 192.168.253.x addresses. Otherwise an IP gateway must be used to connect the two networks.

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:

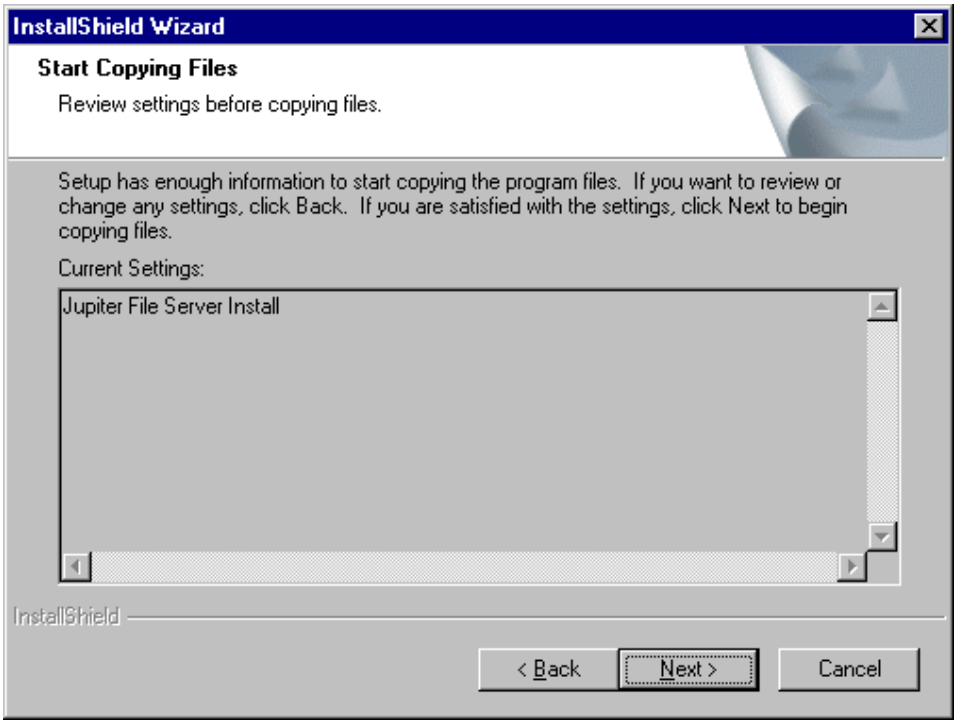
Figure 72.



If so, click on “Yes.”

15. A list of Current Settings will be shown.

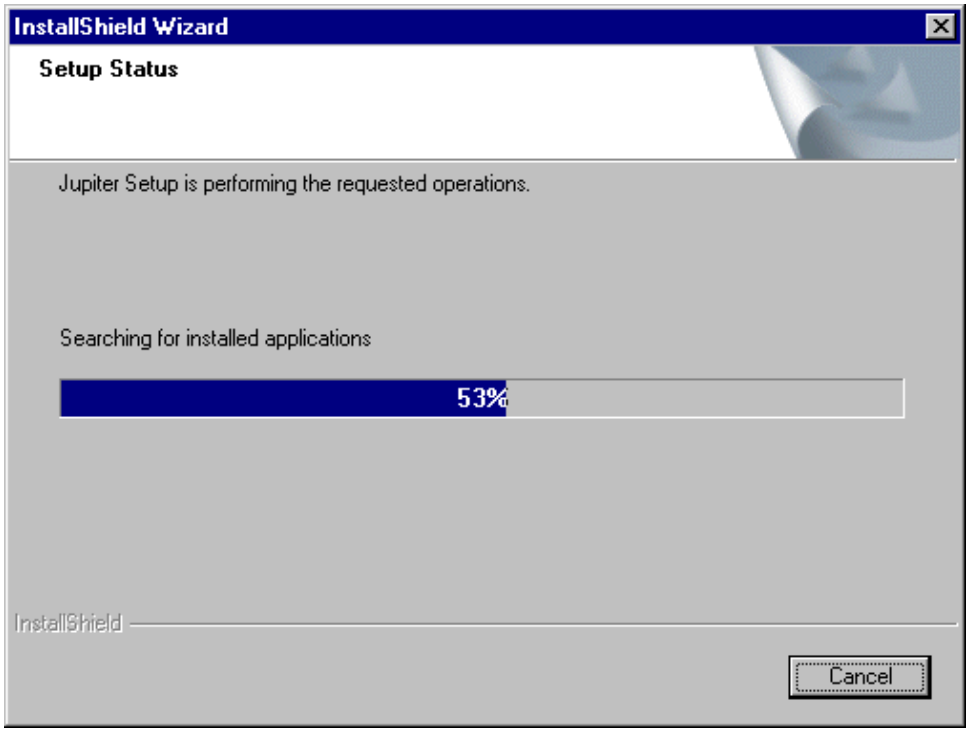
Figure 73.



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 74.

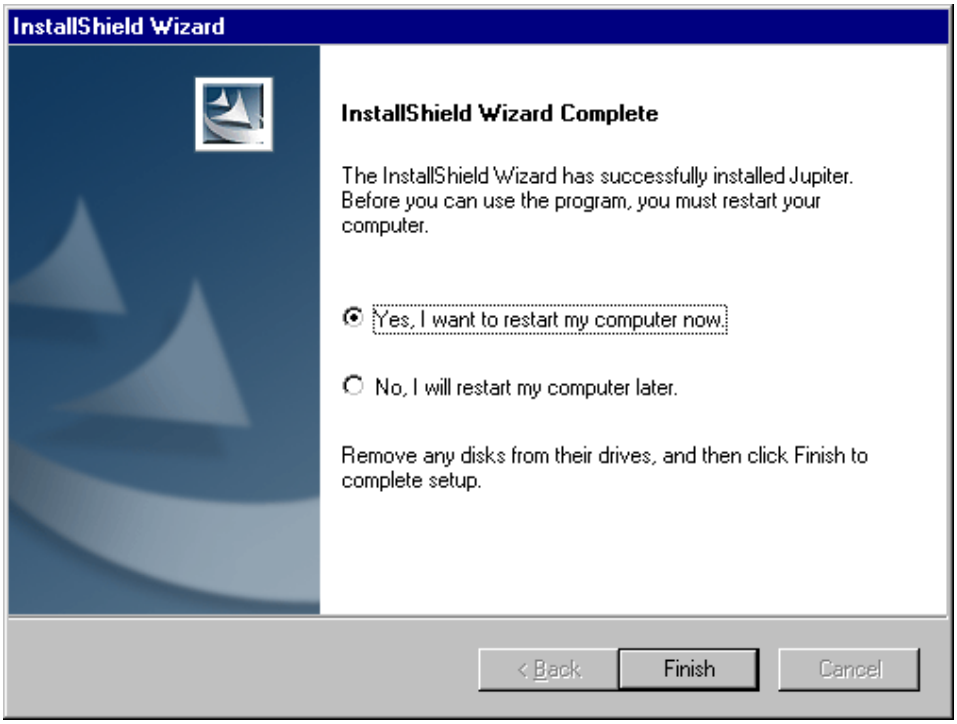


When finished, the installer will report "InstallShield Wizard Complete."

17. Click "Finish."

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

Figure 75.



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.”

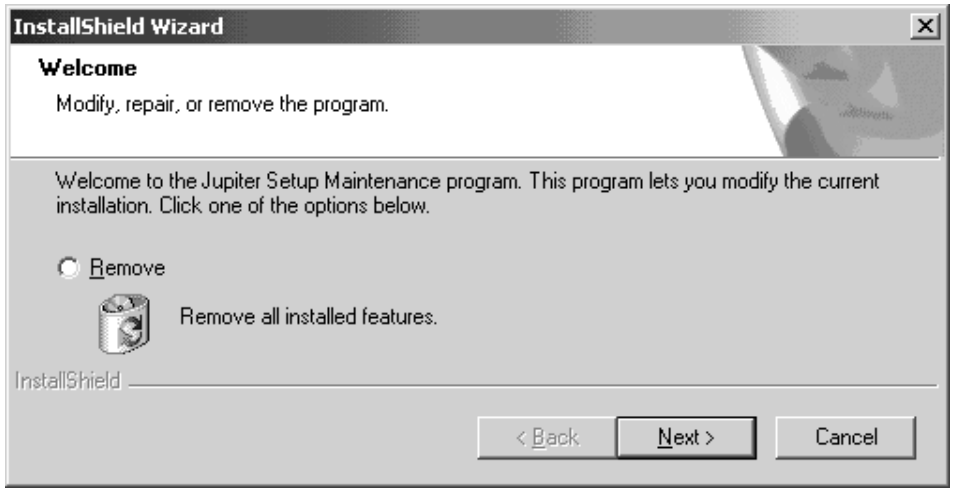
Removing Jupiter Software

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 76.



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 7.5.

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 59 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 071020102.

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.