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Network Signaling Group

Technical Reference

IDCA Standard System Configuration

909-0079-001 Revision A, October 2005 Version 1.0

CHANGE HISTORY

Date	ENG Version #	ECO Revision #	Author	Description	Approved* (Yes/No)
10/24/05	1.0	A	Sutcliffe	Prepared for external publication. (Based on 821-0008-01 V2.2). Changed Reference [4] to 892-0068-01.	Yes

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REFERENCES

External

None

Internal

The following are references internal to Tekelec. They are provided here to capture the source material used to create this document. Internal references are only available to Tekelec personnel.

[1] EAGLE 33.2 System Configuration Matrix, 820-3858-01*

[2] Manufacturing Acceptance Test Plan, P/N 820-5457-01*

[3] DWG_GEN_TEKWARE NETWORK ELEMENT, P/N 890-1809-01

[4] INTERCONNECT DIAGRAM_POWER_GENERIC T1000 FRAME, P/N 892-0068-01

[5] INSTRUCTION_GENERIC LABEL_TEKSERVER INSTALLED SW, P/N 820-5447-01

[6] IDCA Hardware Site Survey Checklist, WI00xxxx

ACRONYMS

EDCM	Enhanced Data Communication Module
IDCA	ISUP Digit Collection Application
M3UA	SS7 MTP3 User Adaptation Layer
PCI	Peripheral Component Interconnect
T1000	Tekelec 1000 Application Server

PHYSICAL ASSEMBLY

Mechanical Assembly:

Reference [3] with the following updates:

- Mount servers in hole locations shown in Figure 1.
- To accommodate Server F, Server E must be slightly raised on its adapter plates similar to Server A.

Power and Ground Cables:

Reference [4] with the following updates:

- Use **830-1013-11** power cable assembly for “SWITCH A A-PWR”
- Use **830-1013-10** power cable assembly for “SWITCH A B-PWR”
- Use **830-1013-09** power cable assembly for “SWITCH B A-PWR”
- Use **830-1013-12** power cable assembly for “SWITCH B B-PWR”
- Use **830-0988-16** power cable assembly for “SERVER F” connected and labeled as follows:
  BP-1 Circuit Breaker B4
  Label "A" Text: FROM SERVER F-B PWR TO BP1-POS4B
  Label "B" Text: FROM BP1-POS4B TO SERVER F-B PWR
- Use **830-0988-15** power cable assembly for “SERVER F” connected and labeled as follows:
  BP-2 Circuit Breaker A4
  Label "A" Text: FROM SERVER F-A PWR TO BP2-POS4A
  Label "B" Text: FROM BP2-POS4A TO SERVER F-A PWR
- Use new **830-0989-12** logic ground cable for “SERVER F” labeled as follows:
  Label "A" Text: FROM SERVER F LOGIC GND TO LOGIC GND TERM BLK
  Label "B" Text: FROM LOGIC GND TERM BLK TO SERVER F LOGIC GND

Door Label:

Reference [3] Detail N to apply **658-0821-09** MPS product label to each frame door.

Circuit Breaker Labels:

Reference [3] with the following updates:

- Use **658-0805-25** label for breaker panels 1 and 2.

Server and Switch Identification Labels:

Reference [3] with the following updates:

Use **658-0811-11** labels for the Servers and Ethernet Switches.

Figure 1: IDCA Setup – Frame Assembly

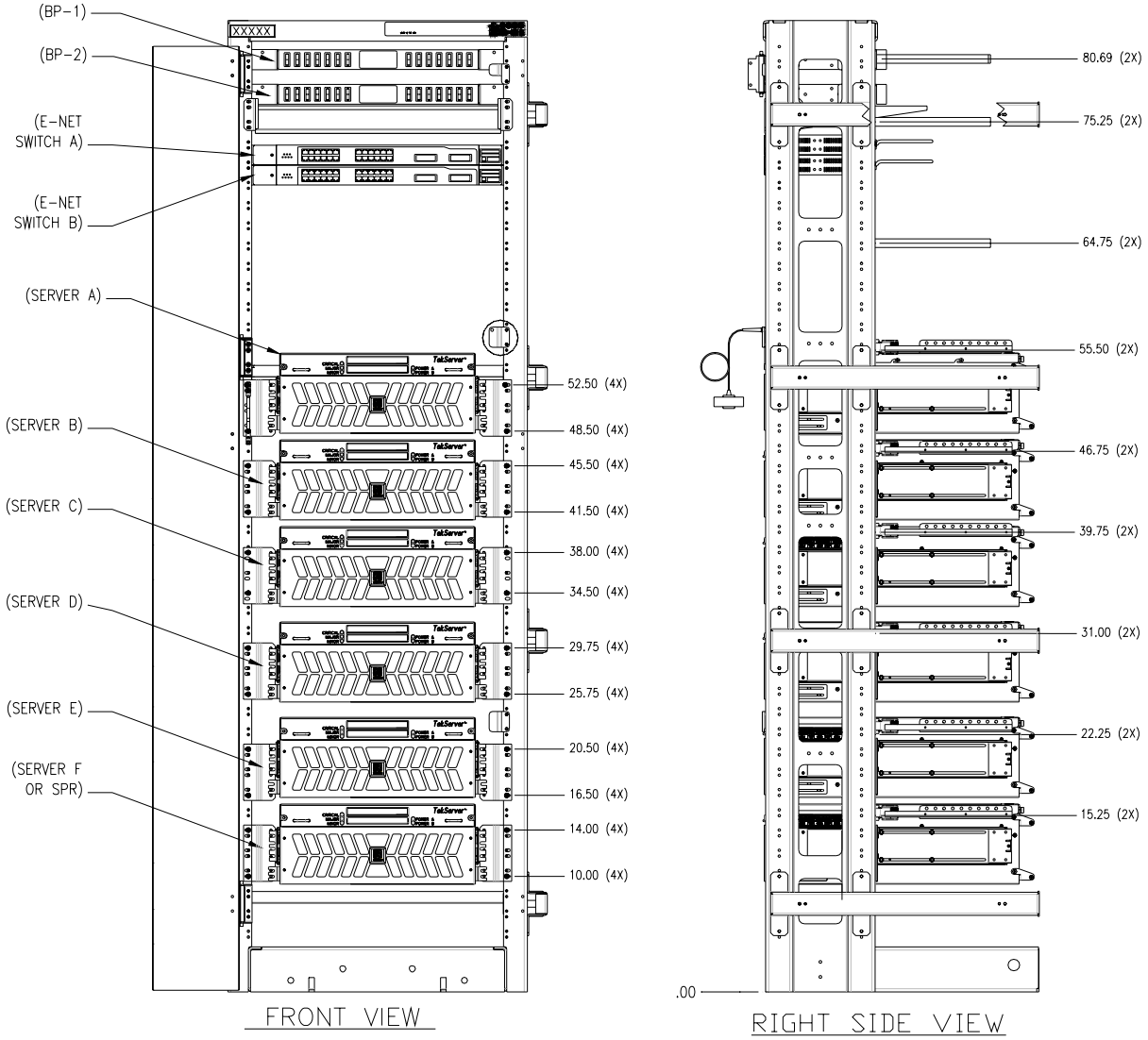
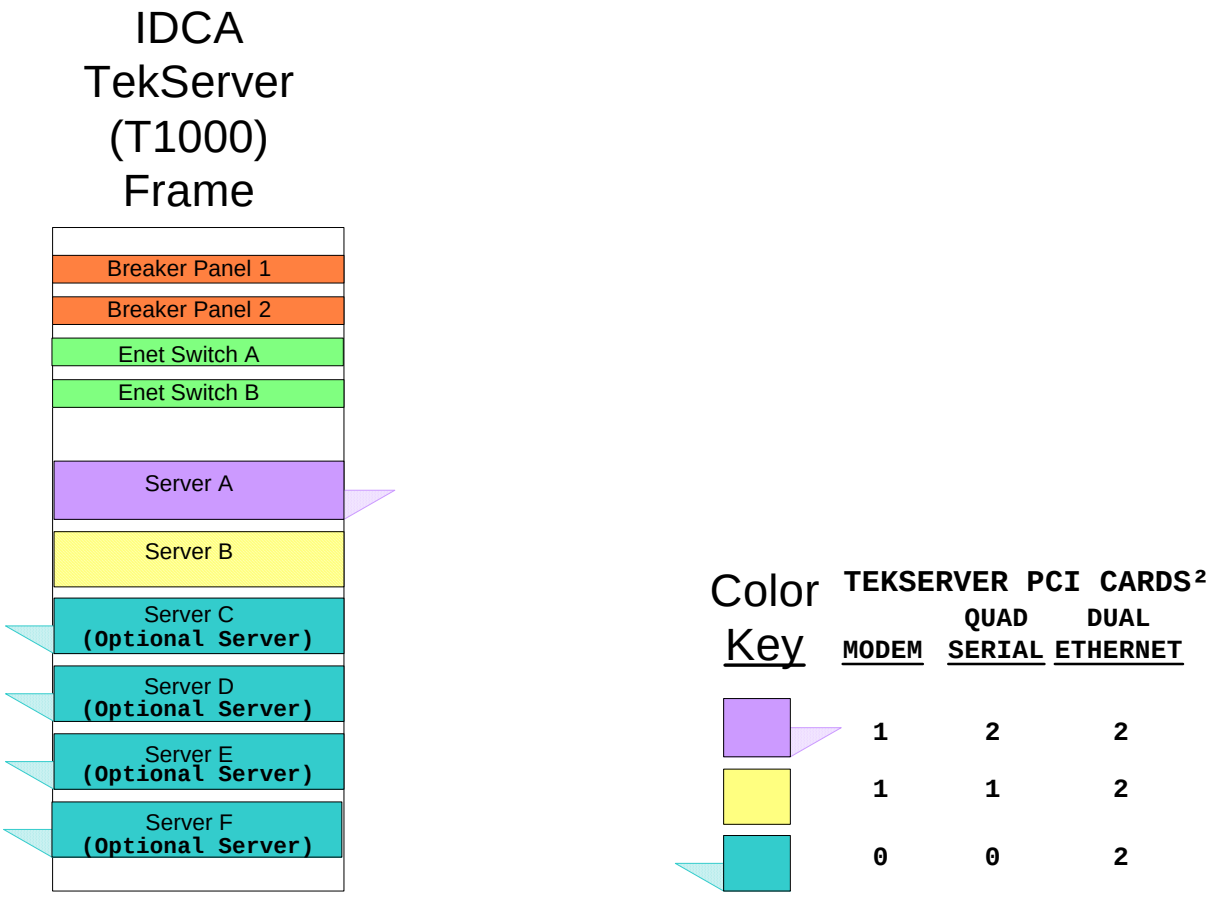


Figure 2: IDCA Setup – Standard Equipment Configuration

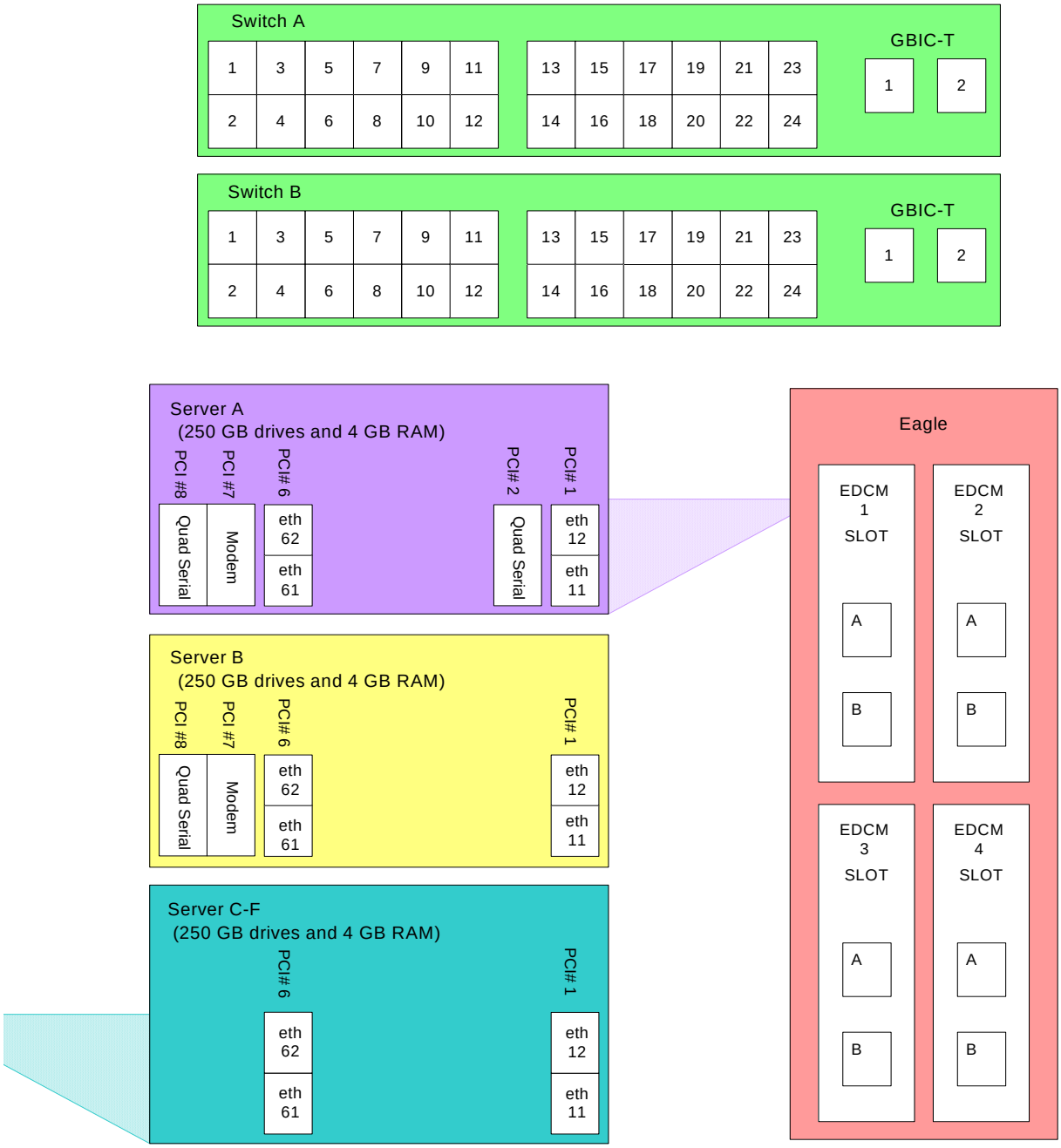


INPUT: -48 VDC, 40 AMPS
Max PER POWER FEED
MAX WATTS: 5000 WATTS[1]

² NOTE: See Figure 3 for PCI card slot assignments.

[1] NOTE: 5000 WATTS is the generic frame level capacity.
Refer to Appendix A for IDCA frame power requirements.

Figure 3: IDCA Setup – Port Identifications



IDCA Standard Ethernet Configuration

Table 1. IDCA Standard Ethernet Configuration

Connection #	Switch	Cable Part No.	Cable Qty	Cable Length	Port (from)	Port (to)	Notes
Switch A - Ports 1 through 6 – Customer Provisioning Network (Public)							
1	A	830-0888-03	1	6.0 ft	SWITCH A PORT 1	SERVER A ETH11	Yellow CAT5 Cable
2	A	830-0888-03	1	6.0 ft	SWITCH A PORT 2	SERVER B ETH11	Yellow CAT5 Cable
3	A	830-0888-05	1	7.0 ft	SWITCH A PORT 3	SERVER C ETH11	Yellow CAT5 Cable
4	A	830-0888-06	1	8.0 ft	SWITCH A PORT 4	SERVER D ETH11	Yellow CAT5 Cable
5	A	830-0888-06	1	8.0 ft	SWITCH A PORT 5	SERVER E ETH11	Yellow CAT5 Cable
6	A	830-0888-07	1	10.0 ft	SWITCH A PORT 6	SERVER F ETH11	Yellow CAT5 Cable
Switch B - Ports 1 through 6 – Eagle M3UA Network B (Private)							
7	B	830-0889-03	1	6.0 ft	SWITCH B PORT 1	SERVER A ETH12	Blue CAT5 Cable
8	B	830-0889-03	1	6.0 ft	SWITCH B PORT 2	SERVER B ETH12	Blue CAT5 Cable
9	B	830-0889-05	1	7.0 ft	SWITCH B PORT 3	SERVER C ETH12	Blue CAT5 Cable
10	B	830-0889-06	1	8.0 ft	SWITCH B PORT 4	SERVER D ETH12	Blue CAT5 Cable
11	B	830-0889-06	1	8.0 ft	SWITCH B PORT 5	SERVER E ETH12	Blue CAT5 Cable
12	B	830-0889-07	1	10.0 ft	SWITCH B PORT 6	SERVER F ETH12	Blue CAT5 Cable
Switch A - Ports 7 through 12 – Eagle M3UA Network A (Private)							
13	A	830-0888-03	1	6.0 ft	SWITCH A PORT 7	SERVER A ETH61	Yellow CAT5 Cable
14	A	830-0888-03	1	6.0 ft	SWITCH A PORT 8	SERVER B ETH61	Yellow CAT5 Cable
15	A	830-0888-05	1	7.0 ft	SWITCH A PORT 9	SERVER C ETH61	Yellow CAT5 Cable
16	A	830-0888-06	1	8.0 ft	SWITCH A PORT 10	SERVER D ETH61	Yellow CAT5 Cable
17	A	830-0888-06	1	8.0 ft	SWITCH A PORT 11	SERVER E ETH61	Yellow CAT5 Cable
18	A	830-0888-07	1	10.0 ft	SWITCH A PORT 12	SERVER F ETH61	Yellow CAT5 Cable
Switch B - Ports 7 through 12 – Reserved							
19	B	830-0889-03	1	6.0 ft	SWITCH B PORT 7	SERVER A ETH62	Blue CAT5 Cable
20	B	830-0889-03	1	6.0 ft	SWITCH B PORT 8	SERVER B ETH62	Blue CAT5 Cable
21	B	830-0889-05	1	7.0 ft	SWITCH B PORT 9	SERVER C ETH62	Blue CAT5 Cable
22	B	830-0889-06	1	8.0 ft	SWITCH B PORT 10	SERVER D ETH62	Blue CAT5 Cable
23	B	830-0889-06	1	8.0 ft	SWITCH B PORT 11	SERVER E ETH62	Blue CAT5 Cable
24	B	830-0889-07	1	10.0 ft	SWITCH B PORT 12	SERVER F ETH62	Blue CAT5 Cable

Table 1. IDCA Standard Ethernet Configuration

Connection #	Switch	Cable Part No.	Cable Qty	Cable Length	Port (from)	Port (to)	Notes
Switch A - Ports 13 through 17 – Site Specific Network Connections							
25	A	830-0723-xx	1	site specific†	SWITCH A PORT 13		Customer Provisioning Network (Public network)
26	A	830-0978-xx	1	site specific†	SWITCH A PORT 14	STP 1 – EDCM1-A	Eagle M3UA Network A (Private network)
27	A	830-0978-xx	1	site specific†	SWITCH A PORT 15	STP 1 – EDCM2-B	Eagle M3UA Network A (Private network)
28	A	830-0978-xx	1	site specific†	SWITCH A PORT 16	STP 1 – EDCM3-A	Eagle M3UA Network A (Private network)
29	A	830-0978-xx	1	site specific†	SWITCH A PORT 17	STP 1 – EDCM4-B	Eagle M3UA Network A (Private network)
Switch B - Ports 13 through 17 – Site Specific Network Connections							
30	B		0		SWITCH B PORT 13		Reserved
31	B	830-0978-xx	1	site specific†	SWITCH B PORT 14	STP 1 – EDCM4-A	Eagle M3UA Network B (Private network)
32	B	830-0978-xx	1	site specific†	SWITCH B PORT 15	STP 1 – EDCM3-B	Eagle M3UA Network B (Private network)
33	B	830-0978-xx	1	site specific†	SWITCH B PORT 16	STP 1 – EDCM2-A	Eagle M3UA Network B (Private network)
34	B	830-0978-xx	1	site specific†	SWITCH B PORT 17	STP 1 – EDCM1-B	Eagle M3UA Network B (Private network)

Table 1. IDCA Standard Ethernet Configuration

Connection #	Switch	Cable Part No.	Cable Qty	Cable Length	Port (from)	Port (to)	Notes
Switch A - Ports 18 through 24 – Reserved							
35	A		0		SWITCH A PORT 18		Reserved
36	A		0		SWITCH A PORT 19		Reserved
37	A		0		SWITCH A PORT 20		Reserved
38	A		0		SWITCH A PORT 21		Reserved
39	A		0		SWITCH A PORT 22		Reserved
40	A		0		SWITCH A PORT 23		Reserved
41	A		0		SWITCH A PORT 24		Reserved
Switch B - Ports 18 through 24 – Reserved							
42	B		0		SWITCH B PORT 18		Reserved
43	B		0		SWITCH B PORT 19		Reserved
44	B		0		SWITCH B PORT 20		Reserved
45	B		0		SWITCH B PORT 21		Reserved
46	B		0		SWITCH B PORT 22		Reserved
47	B		0		SWITCH B PORT 23		Reserved
48	B		0		SWITCH B PORT 24		Reserved

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IDCA Standard Serial Configuration

Table 2. Standard Serial Configuration

Connection #	Server	Cable Part No.	Cable Qty	Cable Length	Port (from)	Port (to)	Notes
Server A - Serial							
49	A	870-2708-01	2	n/a	4-port serial cable supplied with PCI card PCI2 P0 cable label: SERVER A PCI2 P0 PCI2 P1 cable label: CUSTOMER MMI PCI2 P4 cable label: CUSTOMER TERMINAL PCI8 P0 cable label: SERVER A PCI8 P0		Refer to [4], Note 10 for details on making labels for 4-port serial cable.
50‡	A	830-0963-xx	1	site specific†	SERVER A PCI2 P1		CUSTOMER MMI Flow Control, DB9F to DB15M
51	A	830-0970-01	1	60.0 in	SERVER A PCI2 P2	SERVER B SERIAL	Null modem, DB9F to DB9M
52	A	830-0961-05	1	60.0 in	SERVER A PCI2 P3	BP2 ALARMS	
53‡	A	804-1929-01	1	n/a	SERVER A PCI2 P4		EIA/RS-232 opto-isolator, DB9F to DB9M
		830-0964-xx	1	site specific†			CUSTOMER TERMINAL Null modem, DB9F to DB25M
54	A	830-1012-01	1	n/a	SERVER A PCI8 P1	SWITCH A CONSOLE	Serial adapter, DB9F to RJ45F
		830-1005-04	1	48.0 in			8-Wire straight through, RJ45 to RJ45
55	A	830-1012-01	1	n/a	SERVER A PCI8 P2	SWITCH B CONSOLE	Serial adapter, DB9F to RJ45F
		830-1005-04	1	48.0 in			8-Wire straight through, RJ45 to RJ45
56	A	830-0961-05	1	60.0 in	SERVER A PCI8 P3	BP1 ALARMS	
57	A	830-0970-01	1	60.0 in	SERVER A PCI8 P4	SERVER F SERIAL	Null modem, DB9F to DB9M

Table 2. Standard Serial Configuration

Connection #	Server	Cable Part No.	Cable Qty	Cable Length	Port (from)	Port (to)	Notes
Server B - Serial							
58	B	870-2708-01	1	n/a	4-port serial cable supplied with PCI card PCI8 P0 cable label: SERVER B PCI8 P0		Refer to [4], Note 10 for details on making labels for 4-port serial cable.
59	B	830-0970-01	1	60.0 in	SERVER B PCI8 P1	SERVER A SERIAL	Null modem, DB9F to DB9M
60	B	830-0970-01	1	60.0 in	SERVER B PCI8 P2	SERVER C SERIAL	Null modem, DB9F to DB9M
61	B	830-0970-01	1	60.0 in	SERVER B PCI8 P3	SERVER D SERIAL	Null modem, DB9F to DB9M
62	B	830-0970-01	1	60.0 in	SERVER B PCI8 P4	SERVER E SERIAL	Null modem, DB9F to DB9M

Appendix A – Power Requirements

IDCA Frame Power Requirement

SYSTEM	**IDCA Frame with 6 servers**			
TOTAL SYSTEM POWER	**2940W** **73.5A @ 40V**			
SUBSYSTEM	MAX POWER FEED A1	MAX POWER FEED B1	MAX POWER FEED A2	MAX POWER FEED B2
Ethernet Switch A 3 amp breaker	60W 1.5A @ 40V			60W 1.5A @ 40V
Ethernet Switch B 3 amp breaker		60W 1.5A @ 40V	60W 1.5A @ 40V	
T1000 Server A 15 amp breaker	470W 11.75A @ 40V			470W 11.75A @ 40V
T1000 Server B 15 amp breaker		470W 11.75A @ 40V	470W 11.75A @ 40V	
T1000 Server C 15 amp breaker	470W 11.75A @ 40V			470W 11.75A @ 40V
T1000 Server D 15 amp breaker		470W 11.75A @ 40V	470W 11.75A @ 40V	
T1000 Server E 15 amp breaker	470W 11.75A @ 40V			470W 11.75A @ 40V
T1000 Server F 15 amp breaker		470W 11.75A @ 40V	470W 11.75A @ 40V	
POWER FEED TOTALS	**1470W** **36.75A @ 40V**	**1470W** **36.75A @ 40V**	**1470W** **36.75A @ 40V**	**1470W** **36.75 A @ 40V**