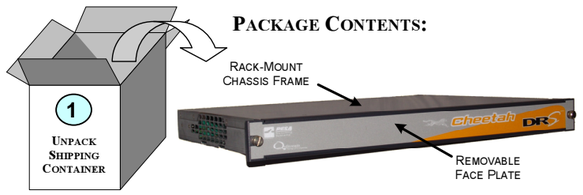
START

CHEETAH DRS SERIES AUDIO ROUTERS

Quick-Start Guide

Step 1 UNPACK THE DRS RACK UNITS

- Carefully unpack DRS Unit from shipping container and verify package contents against contents listed below.
- Visually inspect the DRS for any signs of damage in shipment or transit.
- If any components are missing or damaged, contact QuStream Customer Service.



QUICK START GUIDE

TECH MANUAL CD

6-PIN DETACHABLE CONNECTOR MATING PLUGS - SUPPLIED ONLY WITH FRAMES CONFIGURED WITH 6-PIN DETACHABLE CONNECTOR AUDIO BLOCKS OR TIME CODE BLOCKS

2 **VERIFY ALL ITEMS SHOWN ABOVE ARE INCLUDED WITH FRAME**

If any components are missing or damaged, contact PESA Customer Service by phone or e-mail.

Customer Service: (256) 726-9222
Toll Free: (800) 323-7372
Fax: (256) 726-9268
Email: *service@PESA.com*

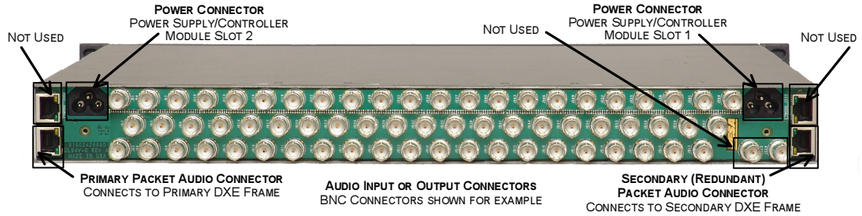
Step 2 GET ACQUAINTED

- Every DRS Audio Routing System is comprised of Audio Frames or Time Code Frames, and Data Exchange Engine (DXE) Frames. Each audio frame routes 128 audio signals – either as a single "block" of 128 channels or as two blocks of 64 channels each.
- Audio frame variants are available with differing combinations of signal input blocks and signal output blocks – refer to Chapter 3 of DRS Technical Manual.

Step 2 GET ACQUAINTED (CONT.)

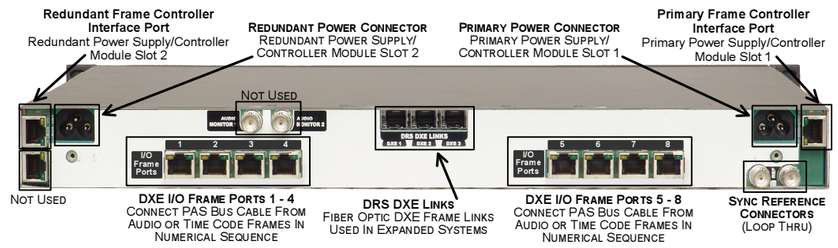
- Input blocks receive audio signals from external sources.
- Output blocks provide audio output signals for various destination points in the facility.
- DXE frames perform all data routing functions between input and output blocks and, in expanded systems, other DXE frames.
- Audio frames and time code frames interconnect with a DXE using common CAT-5E cable fitted with RJ-45 connectors (up to 100 meters).
- Audio connections and system connections with other DRS components are made through connectors on the rear panel of audio frames.
- System connectors, as shown below, are identical on the rear panel of all audio frame variants and time code frames.

TYPICAL INPUT OR OUTPUT FRAME REAR PANEL CONNECTIONS



- Audio signals are routed between I/O frames and DXE frames using CAT-5E cable over a serial data stream known as the Packet Audio Stream Bus, or simply PAS Bus.
- When only one DXE is used, connect PAS Bus cable to Primary Packet Audio Connector. When a second (redundant) DXE is used, connect PAS Bus cable from second DXE frame to Secondary Packet Audio Connector.

TYPICAL DXE FRAME REAR PANEL CONNECTIONS



- Each DRS System requires at least one Power Supply/Frame Controller Module installed in each DXE frame. Each system also requires at least one PERC2000 System Controller located either in a stand-alone rack frame or a Cheetah Video Matrix Switcher.
- Communication between the frame and system controller is over CAT-5E cable using an Ethernet communication protocol.
- Sync Reference Connectors of each DXE frame in the system must be connected to an in-house sync generator. Frames may be added to in-house sync distribution in a daisy-chain fashion along with other facility equipment or as a terminated stand-alone connection. Input and Output Frames **do not** require a connection to a sync reference source.

For further information, refer to Chapters 3 and 4 in the DRS Technical Manual

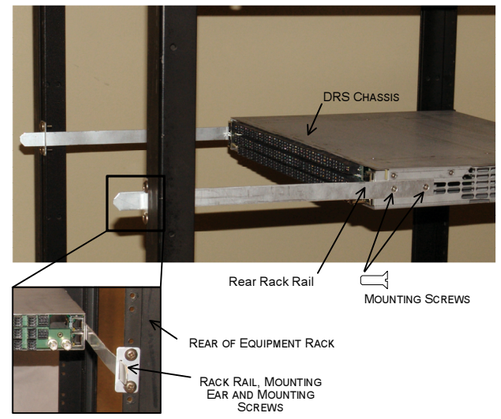
Step 3 INSTALL DRS FRAMES

- Considerations for mounting location include proximity to signal sources/destinations, availability of primary power and availability of a source of synchronization/timing pulse from an in-house sync generator.
- Rack mount adaptor brackets are located behind removable face plate of each DRS frame. Loosen two thumb screws securing front face to frame as shown below; remove it and set it aside.

- It is not necessary to remove power cord prior to frame installation, however, if doing so makes frame mounting more convenient, loosen securing harness screw and pull power cord from its mating connector.
- Mount each frame in an equipment rack and secure frame to rack using four rack mount screws, as shown below.

INSTALL REAR RACK RAILS

- Install two rear rack rails to each DRS Frame, as shown below.



- Do not replace front panel on installed frames at this time. Front panels will be replaced in a later step following initial power-up of the system. If you chose to remove the power cord prior to frame installation, replace the cord now.
- Do not apply power to any frame in the system until all external connections are made and verified in the following steps. There is no power switch on a DRS frame. Power is applied simply by connecting the power cord to a source of primary power.

For further information, refer to Chapter 5 in the DRS Technical Manual

Part No. 81-9059-0593-0 Rev. B

Cheetah DRS Series
Audio Routers

Quick-Start Guide

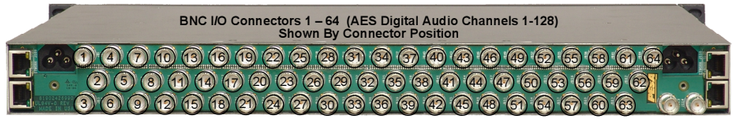
Step 4 AUDIO CONNECTIONS

NOTE

Rear panel layouts shown in the following text illustrate audio I/O connections for 128 channel dedicated input or output audio frames. If you are installing split audio frames with same or mixed connector types, or time-code frames, refer to Chapter 5 of the DRS Technical Manual for connector pin-out data

- Connect Audio Input Source and Output Signal Cables to the DRS I/O frames using the following connector numbering illustrations and pin-out charts.
- Analog Audio Outputs MUST be connected to a high-impedance load, ≥10K Ohms.
- When wiring UNBALANCED analog output signals to external loads – NEVER connect the negative (-) output terminal to any external connection point or to ground. The negative terminal MUST be left floating.

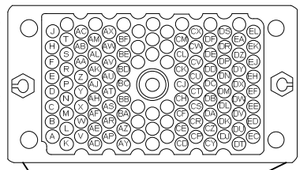
BNC CONNECTOR FRAME

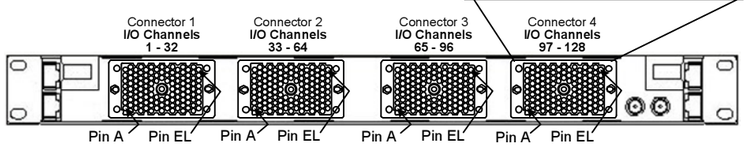


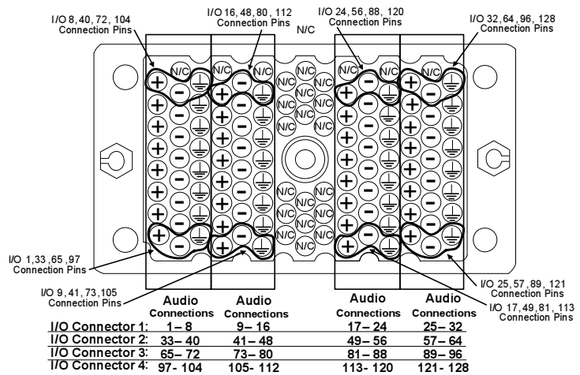
BNC Connector Number	AES Digital Audio Channels	BNC Connector Number	AES Digital Audio Channels	BNC Connector Number	AES Digital Audio Channels	BNC Connector Number	AES Digital Audio Channels	BNC Connector Number	AES Digital Audio Channels	BNC Connector Number	AES Digital Audio Channels	BNC Connector Number	AES Digital Audio Channels	BNC Connector Number	AES Digital Audio Channels
1	1, 2	9	17, 18	17	33, 34	25	49, 50	33	65, 66	41	81, 82	49	97, 98	57	113, 114
2	3, 4	10	19, 20	18	35, 36	26	51, 52	34	67, 68	42	83, 84	50	99, 100	58	115, 116
3	5, 6	11	21, 22	19	37, 38	27	53, 54	35	69, 70	43	85, 86	51	101, 102	59	117, 118
4	7, 8	12	23, 24	20	39, 40	28	55, 56	36	71, 72	44	87, 88	52	103, 104	60	119, 120
5	9, 10	13	25, 26	21	41, 42	29	57, 58	37	73, 74	45	89, 90	53	105, 106	61	121, 122
6	11, 12	14	27, 28	22	43, 44	30	59, 60	38	75, 76	46	91, 92	54	107, 108	62	123, 124
7	13, 14	15	29, 30	23	45, 46	31	61, 62	39	77, 78	47	93, 94	55	109, 110	63	125, 126
8	15, 16	16	31, 32	24	47, 48	32	63, 64	40	79, 80	48	95, 96	56	111, 112	64	127, 128

ELCO/EDAC BLOCK CONNECTOR FRAME

ELCO/EDAC backplanes are manufactured using EDAC Part Number 516-120-520-202 connectors from the 516 Rack and Panel Connector Series. Mating connectors are available in many styles from the manufacturer. www.edac.net





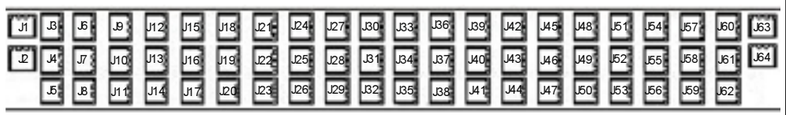


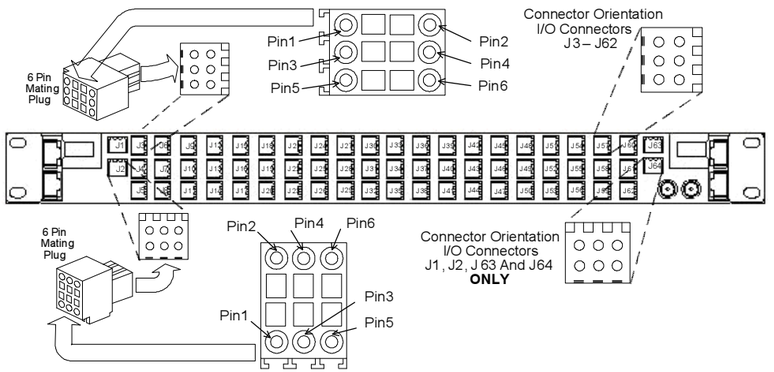
For further information, refer to Chapter 5 in the DRS Technical Manual.

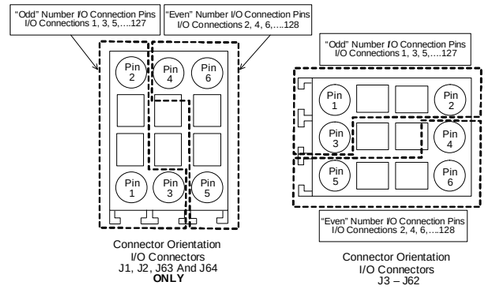
Connection Pin-Outs By Input/Output Number For ELCO/EDAC Audio Connectors

I/O Connection	AES Digital Audio Channel	Analog Audio Channel	Pos. (+)	Neg. (-)	Ground (Shield)	I/O Connection	AES Digital Audio Channel	Analog Audio Channel	Pos. (+)	Neg. (-)	Ground (Shield)
1, 33, 65, 97	1, 17, 33, 49 AC CPLD	1, 33, 65, 97	A	K	V	17, 49, 81, 113	9, 25, 41, 57 AC CPLD	17, 49, 81, 113	CD	CP	CY
2, 34, 66, 98	1, 17, 33, 49 DC CPLD	2, 34, 66, 98	B	L	W	18, 50, 82, 114	9, 25, 41, 57 DC CPLD	18, 50, 82, 114	CE	CR	CZ
3, 35, 67, 99	2, 18, 34, 50 AC CPLD	3, 35, 67, 99	C	M	X	19, 51, 83, 115	10, 26, 42, 58 AC CPLD	19, 51, 83, 115	CF	CS	DA
4, 36, 68, 100	2, 18, 34, 50 DC CPLD	4, 36, 68, 100	D	N	Y	20, 52, 84, 116	10, 26, 42, 58 DC CPLD	20, 52, 84, 116	CH	CT	DB
5, 37, 69, 101	3, 19, 35, 51 AC CPLD	5, 37, 69, 101	E	P	Z	21, 53, 85, 117	11, 27, 43, 59 AC CPLD	21, 53, 85, 117	CJ	CU	DC
6, 38, 70, 102	3, 19, 35, 51 DC CPLD	6, 38, 70, 102	F	R	AA	22, 54, 86, 118	11, 27, 43, 59 DC CPLD	22, 54, 86, 118	CK	CV	DD
7, 39, 71, 103	4, 20, 36, 52 AC CPLD	7, 39, 71, 103	H	S	AB	23, 55, 87, 119	12, 28, 44, 60 AC CPLD	23, 55, 87, 119	CL	CW	DE
8, 40, 72, 104	4, 20, 36, 52 DC CPLD	8, 40, 72, 104	J	T	AC	24, 56, 88, 120	12, 28, 44, 60 DC CPLD	24, 56, 88, 120	CM	CX	DF
9, 41, 73, 105	5, 21, 37, 53 AC CPLD	9, 41, 73, 105	AD	AP	AY	25, 57, 89, 121	13, 29, 45, 61 AC CPLD	25, 57, 89, 121	DJ	DT	EC
10, 42, 74, 106	5, 21, 37, 53 DC CPLD	10, 42, 74, 106	AE	AR	AZ	26, 58, 90, 122	13, 29, 45, 61 DC CPLD	26, 58, 90, 122	DK	DU	ED
11, 43, 75, 107	6, 22, 38, 54 AC CPLD	11, 43, 75, 107	AF	AS	BA	27, 59, 91, 123	14, 30, 46, 62 AC CPLD	27, 59, 91, 123	DL	DV	EE
12, 44, 76, 108	6, 22, 38, 54 DC CPLD	12, 44, 76, 108	AH	AT	BB	28, 60, 92, 124	14, 30, 46, 62 DC CPLD	28, 60, 92, 124	DM	DW	EF
13, 45, 77, 109	7, 23, 39, 55 AC CPLD	13, 45, 77, 109	AJ	AU	BC	29, 61, 93, 125	15, 31, 47, 63 AC CPLD	29, 61, 93, 125	DN	DX	EH
14, 46, 78, 110	7, 23, 39, 55 DC CPLD	14, 46, 78, 110	AK	AV	BD	30, 62, 94, 126	15, 31, 47, 63 DC CPLD	30, 62, 94, 126	DP	DY	EJ
15, 47, 79, 111	8, 24, 40, 56 AC CPLD	15, 47, 79, 111	AL	AW	BE	31, 63, 95, 127	16, 32, 48, 64 AC CPLD	31, 63, 95, 127	DR	DZ	EK
16, 48, 80, 112	8, 24, 40, 56 DC CPLD	16, 48, 80, 112	AM	AX	BF	32, 64, 96, 128	16, 32, 48, 64 DC CPLD	32, 64, 96, 128	DS	EA	EL

6-PIN DETACHABLE CONNECTOR FRAME







Connection Pin-Outs By Input/Output Channel For 6-Pin Detachable Audio Connectors

Backplane Connector Number	AES Digital Audio Channel	Analog Audio Channel	Pos. (+) Pin	Neg. (-) Pin	Gnd (Shld) Pin	Backplane Connector Number	AES Digital Audio Channel	Analog Audio Channel	Pos. (+) Pin	Neg. (-) Pin	Gnd (Shld) Pin	Backplane Connector Number	AES Digital Audio Channel	Analog Audio Channel	Pos. (+) Pin	Neg. (-) Pin	Gnd (Shld) Pin
J1	1 DC	1	1	2	3	J23	23 DC	45	1	2	3	J45	45 DC	89	1	2	3
J1	1 AC	2	5	6	4	J23	23 AC	46	5	6	4	J45	45 AC	90	5	6	4
J2	2 DC	3	1	2	3	J24	24 DC	47	1	2	3	J46	46 DC	91	1	2	3
J2	2 AC	4	5	6	4	J24	24 AC	48	5	6	4	J46	46 AC	92	5	6	4
J3	3 DC	5	1	2	3	J25	25 DC	49	1	2	3	J47	47 DC	93	1	2	3
J3	3 AC	6	5	6	4	J25	25 AC	50	5	6	4	J47	47 AC	94	5	6	4
J4	4 DC	7	1	2	3	J26	26 DC	51	1	2	3	J48	48 DC	95	1	2	3
J4	4 AC	8	5	6	4	J26	26 AC	52	5	6	4	J48	48 AC	96	5	6	4
J5	5 DC	9	1	2	3	J27	27 DC	53	1	2	3	J49	49 DC	97	1	2	3
J5	5 AC	10	5	6	4	J27	27 AC	54	5	6	4	J49	49 AC	98	5	6	4
J6	6 DC	11	1	2	3	J28	28 DC	55	1	2	3	J50	50 DC	99	1	2	3
J6	6 AC	12	5	6	4	J28	28 AC	56	5	6	4	J50	50 AC	100	5	6	4
J7	7 DC	13	1	2	3	J29	29 DC	57	1	2	3	J51	51 DC	101	1	2	3
J7	7 AC	14	5	6	4	J29	29 AC	58	5	6	4	J51	51 AC	102	5	6	4
J8	8 DC	15	1	2	3	J30	30 DC	59	1	2	3	J52	52 DC	103	1	2	3
J8	8 AC	16	5	6	4	J30	30 AC	60	5	6	4	J52	52 AC	104	5	6	4
J9	9 DC	17	1	2	3	J31	31 DC	61	1	2	3	J53	53 DC	105	1	2	3
J9	9 AC	18	5	6	4	J31	31 AC	62	5	6	4	J53	53 AC	106	5	6	4
J10	10 DC	19	1	2	3	J32	32 DC	63	1	2	3	J54	54 DC	107	1	2	3
J10	10 AC	20	5	6	4	J32	32 AC	64	5	6	4	J54	54 AC	108	5	6	4
J11	11 DC	21	1	2	3	J33	33 DC	65	1	2	3	J55	55 DC	109	1	2	3
J11	11 AC	22	5	6	4	J33	33 AC	66	5	6	4	J55	55 AC	110	5	6	4
J12	12 DC	23	1	2	3	J34	34 DC	67	1	2	3	J56	56 DC	111	1	2	3
J12	12 AC	24	5	6	4	J34	34 AC	68	5	6	4	J56	56 AC	112	5	6	4
J13	13 DC	25	1	2	3	J35	35 DC	69	1	2	3	J57	57 DC	113	1	2	3
J13	13 AC	26	5	6	4	J35	35 AC	70	5	6	4	J57	57 AC	114	5	6	4
J14	14 DC	27	1	2	3	J36	36 DC	71	1	2	3	J58	58 DC	115	1	2	3
J14	14 AC	28	5	6	4	J36	36 AC	72	5	6	4	J58	58 AC	116	5	6	4
J15	15 DC	29	1	2	3	J37	37 DC	73	1	2	3	J59	59 DC	117	1	2	3
J15	15 AC	30	5	6	4	J37	37 AC	74	5	6	4	J59	59 AC	118	5	6	4
J16	16 DC	31	1	2	3	J38	38 DC	75	1	2	3	J60	60 DC	119	1	2	3
J16	16 AC	32	5	6	4	J38	38 AC	76	5	6	4	J60	60 AC	120	5	6	4
J17	17 DC	33	1	2	3	J39	39 DC	77	1	2	3	J61	61 DC	121	1	2	3
J17	17 AC	34	5	6	4	J39	39 AC	78	5	6	4	J61	61 AC	122	5	6	4
J18	18 DC	35	1	2	3	J40	40 DC	79	1	2	3	J62	62 DC	123	1	2	3
J18	18 AC	36	5	6	4	J40	40 AC	80	5	6	4	J62	62 AC	124	5	6	4
J19	19 DC	37	1	2	3	J41	41 DC	81	1	2	3	J63	63 DC	125	1	2	3
J19	19 AC	38	5	6	4	J41	41 AC	82	5	6	4	J63	63 AC	126	5	6	4
J20	20 DC	39	1	2	3	J42	42 DC	83	1	2	3	J64	64 DC	127	1	2	3
J20	20 AC	40	5	6	4	J42	42 AC	84	5	6	4	J64	64 AC	128	5	6	4
J21	21 DC	41	1	2	3	J43	43 DC	85	1	2	3						
J21	21 AC	42	5	6	4	J43	43 AC	86	5	6	4						
J22	22 DC	43	1	2	3	J44	44 DC	87	1	2	3						
J22	22 AC	44	5	6	4	J44	44 AC	88	5	6	4						

Cheetah DRS Series
Audio Routers

Quick-Start Guide

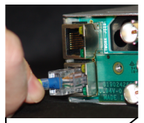
Step 5 System Interconnections

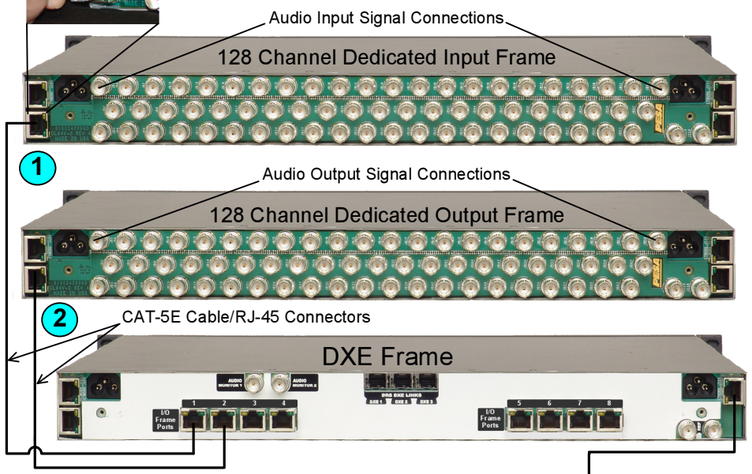
Specific wiring connections between DRS frames vary greatly with individual systems and installations, depending on such factors as I/O capacity, power/controller redundancy and PAS bus redundancy. Regardless of installation, there are three types of connections possible in a DRS installation: PAS Bus interconnects between Input and Output Frames and a DXE, Frame Controller to System Controller and, only in the case of expanded I/O multiple DXE frame installations, DXE to DXE Optical Interconnection. This Quick-Start Guide introduces the three types of connections using simple systems as examples. A much more in-depth discussion of system interconnection procedures for various installation possibilities is presented in Chapter 5 of the DRS Series Technical Manual. Use the following illustrations as a guide when connecting your DRS frames.

128 Input X 128 Output DRS Installation

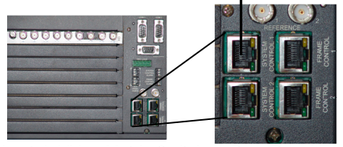
The following example illustrates system connections between a single 128 channel dedicated input frame, a single 128 channel dedicated output frame and DXE frame to form a basic 128X128 non-redundant DRS system. Connect audio or time-code frames to DXE I/O Frame Ports in numerical sequence, beginning with port 1. Either the input frame or output frame can be connected to DXE I/O port 1; for this example, we are showing the audio input frame connected to port 1.

- All connections between DXE frames and input frames, output frames and the external system controller are made using high quality CAT-5E cable and RJ-45 connectors as shown in the inset below.
- Cable runs up to 100 Meters are permissible between frames.





3 Connect Ethernet Cable from Primary DXE Interface Port Connector (Power Supply/ Controller Module Slot 1) to "System Control" Connector on Cheetah Video Matrix Switcher or Stand-Alone System Controller Chassis.

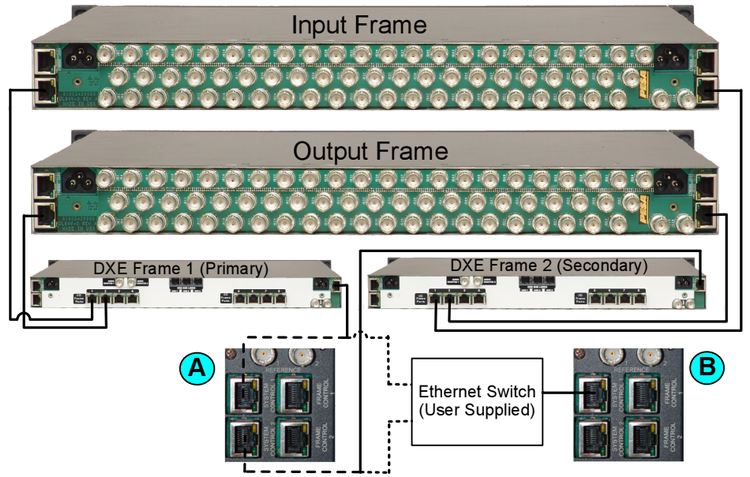


Cheetah Video Matrix Switcher, Rear Panel Typical System Controller CCA Mounted Inside Video Matrix Frame & Shared With DRS Audio Router

For further information, refer to Chapter 5 in the DRS Technical Manual

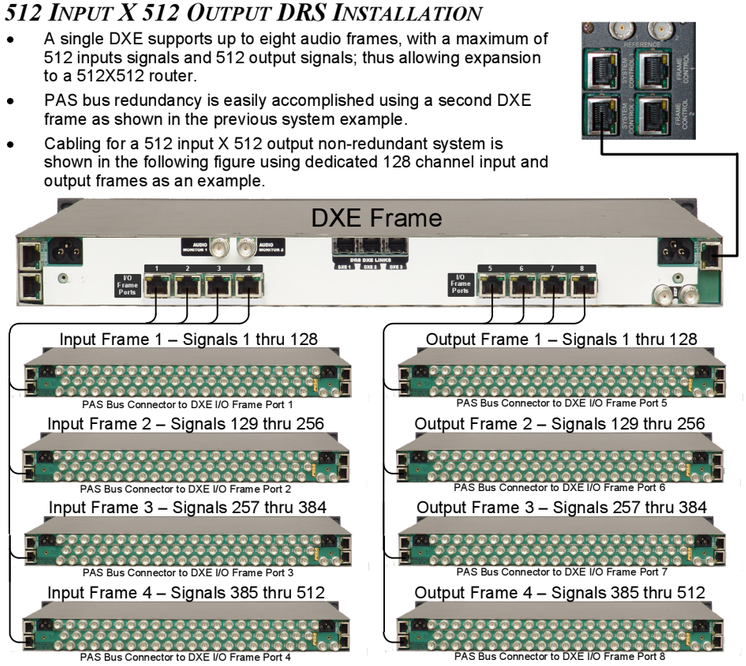
128 Input X 128 Output Redundant PAS Bus DRS Installation

- A Redundant PAS Bus 128X128 system requires two DXE frames – one for each PAS bus. Hook-up is very similar to a basic 128X128 system except that the secondary bus connector on each frame is connected to secondary DXE frame.
- Each DXE Frame MUST be furnished a direct link to the System Controller. This example shows two methods of doing this in a dual DXE system. Method **A** is used when there are redundant (two) System Controller CCAs; method **B** is used when only a single System Controller CCA is present in the video matrix frame or stand-alone frame.



512 Input X 512 Output DRS Installation

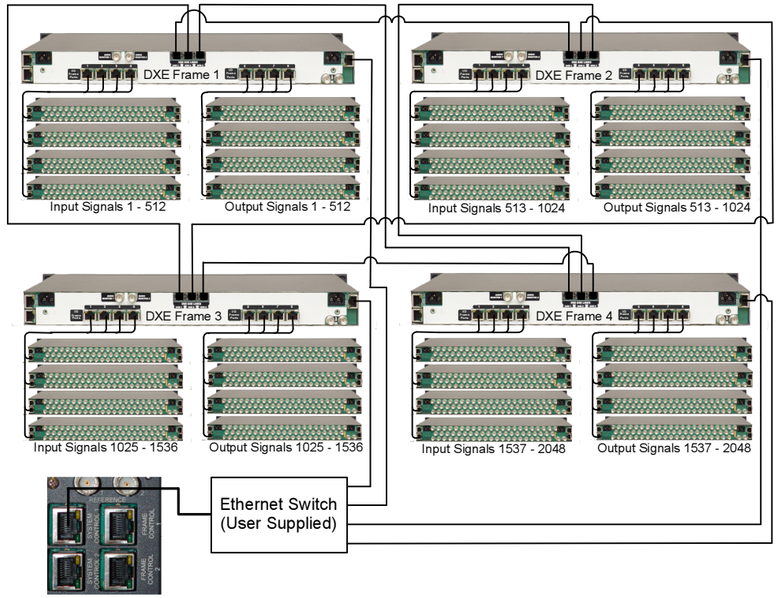
- A single DXE supports up to eight audio frames, with a maximum of 512 inputs signals and 512 output signals; thus allowing expansion to a 512X512 router.
- PAS bus redundancy is easily accomplished using a second DXE frame as shown in the previous system example.
- Cabling for a 512 input X 512 output non-redundant system is shown in the following figure using dedicated 128 channel input and output frames as an example.



Expanded I/O DRS Installations with multiple DXE Frames

Systems expanded beyond 512 input or 512 output capacity required multiple DXE frames. Each DXE and its associated I/O signal blocks are referred to as a channel group; and each channel group functions as a routing element within the total system. Each channel group is configured exactly as the 512 X 512 system described in the last example. Interconnecting the DXE frames provides the expanded I/O capacity.

- DXE frames must be interconnected using single-mode or multi-mode, dual-conductor fiber optic cable, fitted with Small Form-Factor Pluggable (SFP), Type LC Connectors.
- DXE frames are interconnected in a "star" networking topology configuration whereby each frame has a direct connection with every other frame in the system.
- The frame controller in each frame must have a dedicated LAN connection with the system controller.
- Cabling of a non-redundant 2048 X 2048 system is shown below. Carefully follow the connection points of the fiber optic cable as shown in the diagram.



Fiber Optic Cable Optical Loss Budget

- Optical loss budget for each fiber module in the DRS system is 12dB. This means that the total loss of any interconnecting path from DXE to DXE CAN NOT exceed 12dB.
- Use procedural steps below and illustration on next page to calculate cable optical loss.
  1. Refer to manufacturer's specification sheet and find optical loss parameter given for Fiber Connectors A and B.
  2. Refer to manufacturer's specification sheet for the optical cable you are using and locate optical loss parameter. Use that parameter and the length (X) of your cable run to calculate optical loss for cable.
  3. Add these three factors together to arrive at the total optical loss parameter for the cable.
- This calculated value CAN NOT exceed 12 dB loss for the DRS application.
- If the calculated value does exceed 12 dB, consider using a different type of cable with a lower loss value, different connectors, re-routing to reduce cable length or a combination of all these methods.

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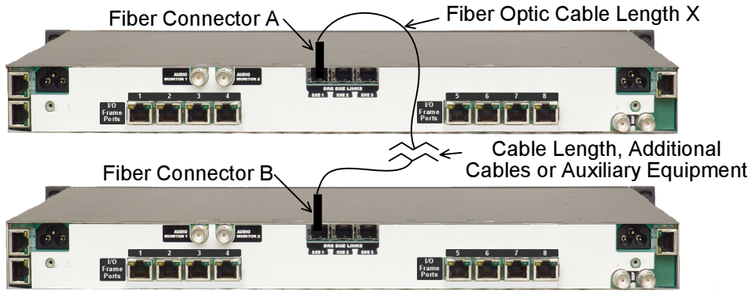
Cheetah DRS Series Audio Routers

Quick-Start Guide

PESA

FINISH

Step 5 System Interconnections (Continued)



- In system configurations where a cable path from one DXE to another is routed through a jack field or interconnect panel, it is very likely that the DXE to DXE path will be made by two or more cables routed through auxiliary equipment.
- Loss factors must be considered for every piece of cable used plus any losses introduced by auxiliary equipment.
- Add all factors together to calculate total optical loss. This total CAN NOT exceed 12 dB loss for the DRS application.

Redundant DRS System Installation

- DRS system architecture allows for redundancy of virtually any system component. Every input and output frame is equipped with two independent PAS bus connections for bus redundancy.
- Redundant PAS bus systems up to 512 X 512 require two DXE frames: one for each PAS bus connection on each I/O frame. When multiple DXE frames are used each channel group incorporates two DXE frames. A fully expanded (2048 X 2048) bus-redundant system requires eight DXE frames.
- Each frame controller in the system must have a direct connection to either the system controller or an Ethernet switch forming a LAN with the system controller frame. There are a number of possible combinations of controller configurations, depending on frame controller redundancy and/or system controller redundancy. Control redundancy is addressed in the DRS Series Technical Manual and the user is referred to that document for redundant control installation.

NOTE

DO NOT CONNECT THE PACKET AUDIO STREAM CONNECTORS TO AN ETHERNET NETWORK!!

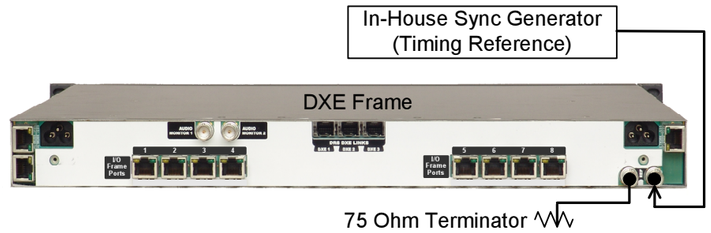
Even though the Packet Audio Stream connections are made using RJ-45 connectors and CAT5E cable, they SHOULD NOT be made through the facility LAN. The packet audio bus operating parameters require dedicated, point-to-point connections, and WILL NOT function over a network!!

For further information, refer to Chapters 2 and 3 in the DRS Technical Manual.

Step 6 Sync Reference Connection

- Sync Reference Connectors of each DXE frame in the system must be connected to an in-house timing synchronization reference signal from the facility sync generator using 75 Ohm coaxial cable such as Belden 8281, or equivalent. Frames may be added to in-house sync distribution in a daisy-chain fashion along with other facility equipment or as a terminated stand-alone connection. Input and Output Frames **do not** require a connection to a sync reference source.

Step 6 Sync Reference Connection (Continued)

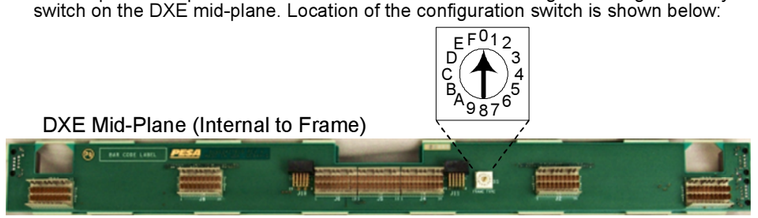


- Remember, if the DXE frame is the only, or the last, piece of equipment on the chain the open connector on the rear panel pair must be fitted with a 75 Ohm terminator.

For further information, refer to Chapters 3 and 4 in the DRS Technical Manual.

Step 7 Frame Controller IP Address and DXE Configuration

- Power Supply/PERC1000 Controller Module(s) in each DXE must be connected to a PERC2000 System Controller.
- System Controller circuitry communicates bi-directionally with each PERC1000 Frame Controller over a standard 10/100 Ethernet link using unique IP addressing for each module.
- Initially each P1K module is assigned the factory Default IP Address of 192.168.1.201 using a Subnet Mask of 255.255.0.0. The default IP address may be changed to a different Base Address, if necessary for your facility network, using the procedure outlined in Chapter 6 of the DRS Technical Manual.
- On initial power-up the PIK module(s) within each DXE frame in a channel group assume a unique IP address based on the position of the rotary switch on the DXE mid-plane and the module slot in which the controller is installed.
- Three operational parameters for each DXE frame must configured using the rotary switch on the DXE mid-plane. Location of the configuration switch is shown below:



- Setting position of this switch determines:

  Primary/Redundant DXE - Assigns Primary or Redundant status to an individual DXE

  DXE I/O Range - Assigns the input and output channel group processed by an individual DXE

  IP Address - Increments the IP Address of the P1K Frame Controller Module(s) installed in each DXE. Notice from the following table the IP address assigned by each switch position to the various frame controller(s) is the Base IP Address incremented sequentially by a value of one in the fourth octet of the address.

- Verify that the rotary switch on each DXE is set correctly, as determined by the function of the DXE in the system, in accordance with the following table:

DXE Rotary Switch Setting	Primary/Redundant DXE	DXE I/O Range	IP Address Controller in Slot 1	IP Address Controller in Slot 2
0	Primary	1 – 512	Base IP Address	Base IP Address + 1
1	Primary	513 – 1024	Base IP Address + 2	Base IP Address + 3
2	Primary	1025 – 1536	Base IP Address + 4	Base IP Address + 5
3	Primary	1537 - 2048	Base IP Address + 6	Base IP Address + 7
4	Redundant	1 – 512	Base IP Address + 8	Base IP Address + 9
5	Redundant	513 – 1024	Base IP Address + 10	Base IP Address + 11
6	Redundant	1025 – 1536	Base IP Address + 12	Base IP Address + 13
7	Redundant	1537 - 2048	Base IP Address + 14	Base IP Address + 15

For further information, refer to Chapter 6 in the DRS Technical Manual.

Step 8 Initial Power-Up

Before applying power to the DRS system for the first time, please take time to go back over your installation.

- Check your work for electrically sound connections, proper connector placement and possible wiring errors.
- Ensure that each DXE frame has connection with a source of in-house sync reference and that each loop-through connector is either daisy-chained to the next unit in the chain, or is properly terminated into a 75 Ohm load.
- Check that all logic cards and power supply/controller modules are securely installed in each system frame.
- Ensure that all RJ-45 connectors between frames and system controllers are in the proper mating receptacle and are securely snapped in place.
- To verify switch settings or if a switch accidentally gets moved from its preset position, refer to Chapter 6 of the DRS Series Technical Manual.

There are no power switches on DRS frames and each frame is powered-up by connecting the main power cord to a source of primary power. Systems with redundant power supply/controller modules have two main power cords per frame, each of which must be connected to a source of primary power.

- Apply power to all frames in the system.
- Wait a few seconds for each frame to perform processor boot-up, and observe the status of the ERROR LED located on the front edge of each logic card.
- This LED will initially light upon application of power, but should extinguish after the on-board processor has completed start-up.
- Verify that the LED is off on all DRS frames.

- Once initial power-up procedure has been completed on all chassis frames in system, replace front panels on each frame by aligning front panel and tightening two thumbscrews.