



DCP-2000

DIGITAL CINEMA SERVER

Audio Wiring Guide

Version 1.0

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1 Introduction

1.1 Purpose

This document provides guidance about audio wiring of the DCP-2000 to external audio devices.

1.2 Presentation

This document is structured according to the following sections:

- **Section 1:** Introduction – Overall presentation of the document
- **Section 2:** Doremi Audio Connectors Pin-Outs – Presents the pin-outs of Doremi audio device connectors
- **Section 3:** Doremi Audio Cables – Lists the audio cable available from Doremi
- **Section 4:** Audio Wiring – Provides audio signals mapping between the DCP-2000 and other audio devices
- **Section 5:** Document Revision History

2 Doremi Audio Connectors Pin-Outs

2.1 Doremi DCP-2000 – D-Cinema Server

DCP-2000 audio connectors are located on the rear panel of the unit, as presented below:

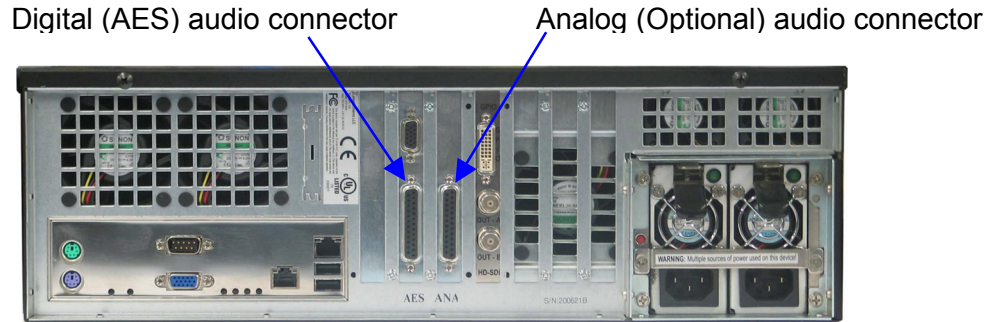


Figure 1: Rear Panel of DCP-2000 fitted with Dolphin DCI

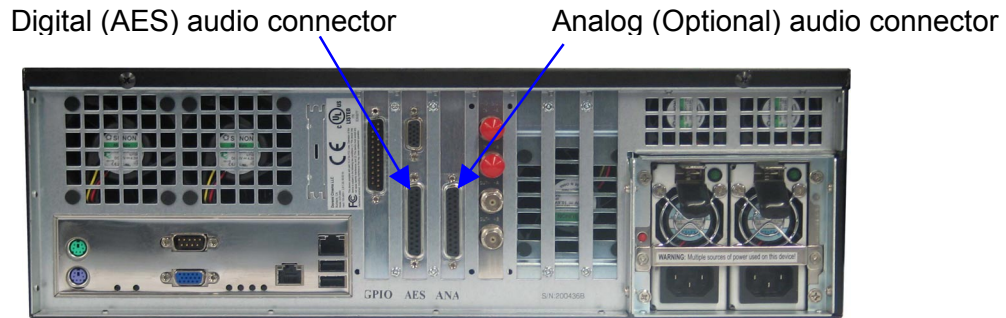
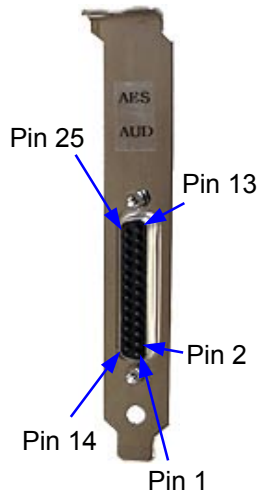


Figure 2: Rear Panel of DCP-2000 fitted with Dolphin Rev B

Note: In case the analog audio output is not present, an external AUD-D2A converter could be used – see section 2.2.

2.1.1 DCP-2000 Digital (AES) Audio Connector

The DCP-2000 AES balanced audio output connector pin-out follows:

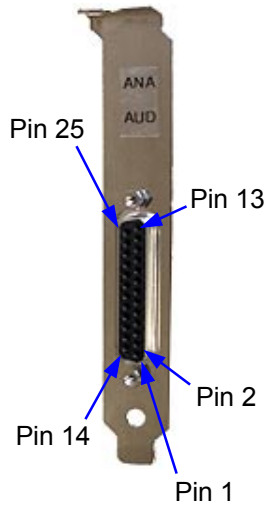


Pin #	Signal Description	Pin #	Signal Description
1	Ch 15 & 16 plus	14	Ch 15 & 16 minus
2	Ch 15 & 16 ground	15	Ch 13 & 14 plus
3	Ch 13 & 14 minus	16	Ch 13 & 14 ground
4	Ch 11 & 12 plus	17	Ch 11 & 12 minus
5	Ch 11 & 12 ground	18	Ch 9 & 10 plus
6	Ch 9 & 10 minus	19	Ch 9 & 10 ground
7	Ch 7 & 8 plus	20	Ch 7 & 8 minus
8	Ch 7 & 8 ground	21	Ch 5 & 6 plus
9	Ch 5 & 6 minus	22	Ch 5 & 6 ground
10	Ch 3 & 4 plus	23	Ch 3 & 4 minus
11	Ch 3 & 4 ground	24	Ch 1 & 2 plus
12	Ch 1 & 2 minus	25	Ch 1 & 2 ground
13	no connection		

DCI Channel Map:	
Channel 1: L	(screen, left)
Channel 2: R	(screen, right)
Channel 3: C	(screen, center)
Channel 4: LFE	(screen, low frequency effects subwoofer)
Channel 5: Ls	(surround, left wall)
Channel 6: Rs	(surround, right wall)
Channel 7: Lc	(screen, mid left to center)
Channel 8: Rc	(screen, mid right to center)

2.1.2 DCP-2000 Analog (ANA) Audio Connector - *Optional*

The DCP-2000 analog un-balanced audio output connector pin-out follows:



Pin #	Signal Description	Pin #	Signal Description
1	Ch 8 plus	14	no connection
2	Ch 8 ground	15	Ch 7 plus
3	no connection	16	Ch 7 ground
4	Ch 6 plus	17	no connection
5	Ch 6 ground	18	Ch 5 plus
6	no connection	19	Ch 5 ground
7	Ch 4 plus	20	no connection
8	Ch 4 ground	21	Ch 3 plus
9	no connection	22	Ch 3 ground
10	Ch 2 plus	23	no connection
11	Ch 2 ground	24	Ch 1 plus
12	no connection	25	Ch 1 ground
13	no connection		

DCI Channel Map:

Channel 1: L (screen, left)
 Channel 2: R (screen, right)
 Channel 3: C (screen, center)
 Channel 4: LFE (screen, low frequency effects subwoofer)
 Channel 5: Ls (surround, left wall)
 Channel 6: Rs (surround, right wall)
 Channel 7: Lc (screen, mid left to center)
 Channel 8: Rc (screen, mid right to center)

2.2 Doremi AUD-D2A - Audio Converter

The AUD-D2A is an 8 channels digital to analog audio converter that can be connected between the DCP-2000 digital audio output and an analog audio input of analog audio processor.

Its audio I/Os are located on the rear panel as presented below:



Figure 3: AUD-D2A Rear Panel

Note: The AUD-2A has the same analog output wiring scheme as the internal DCP-2000 analog audio output (which is optional in the DCP-2000).

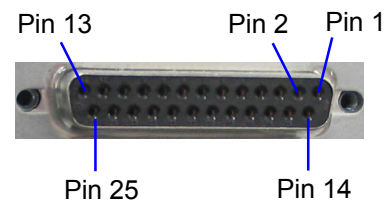
2.2.1 AUD-D2A AES/EBU Digital Audio Connector

The DB25-F digital audio input connector pin-out complies with the AES/EBU standard. Its pin-out follows:

Pin #	Signal Description	Pin #	Signal Description
1	no connection	14	no connection
2	no connection	15	no connection
3	no connection	16	no connection
4	no connection	17	no connection
5	no connection	18	no connection
6	no connection	19	no connection
7	Ch 7 & 8 plus	20	Ch 7 & 8 minus
8	Ch 7 & 8 ground	21	Ch 5 & 6 plus
9	Ch 5 & 6 minus	22	Ch 5 & 6 ground
10	Ch 3 & 4 plus	23	Ch 3 & 4 minus
11	Ch 3 & 4 ground	24	Ch 1 & 2 plus
12	Ch 1 & 2 minus	25	Ch 1 & 2 ground
13	no connection		

DCI Channel Map:

Channel 1: L (screen, left)
 Channel 2: R (screen, right)
 Channel 3: C (screen, center)
 Channel 4: LFE (screen, low frequency effects subwoofer)
 Channel 5: Ls (surround, left wall)
 Channel 6: Rs (surround, right wall)
 Channel 7: Lc (screen, mid left to center)
 Channel 8: Rc (screen, mid right to center)



The cable that is used to interconnect the DCP-2000 to the AUD-D2A is a one to one pin compatible.

2.2.2 AUD-D2A Analog Audio Out Connector

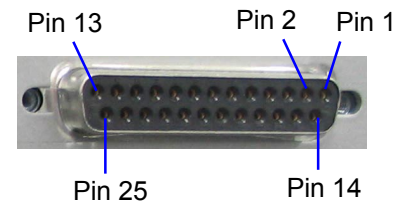
The product ships with unbalanced output by default. It can ship with balanced output as well. The DB25-F connector for the Analog Audio Output has the following pin-out:

Un-balanced output (default configuration)

Pin #	Signal Description	Pin #	Signal Description
1	Ch 8 plus	14	no connection
2	Ch 8 ground	15	Ch 7 plus
3	no connection	16	Ch 7 ground
4	Ch 6 plus	17	no connection
5	Ch 6 ground	18	Ch 5 plus
6	no connection	19	Ch 5 ground
7	Ch 4 plus	20	no connection
8	Ch 4 ground	21	Ch 3 plus
9	no connection	22	Ch 3 ground
10	Ch 2 plus	23	no connection
11	Ch 2 ground	24	Ch 1 plus
12	no connection	25	Ch 1 ground
13	no connection		

DCI Channel Map:

Channel 1: L (screen, left)
 Channel 2: R (screen, right)
 Channel 3: C (screen, center)
 Channel 4: LFE (screen, low frequency effects subwoofer)
 Channel 5: Ls (surround, left wall)
 Channel 6: Rs (surround, right wall)
 Channel 7: Lc (screen, mid left to center)
 Channel 8: Rc (screen, mid right to center)

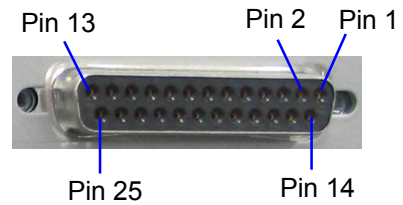


If the analog output is balanced (optional configuration), the pin-out follows:

Pin #	Signal Description	Pin #	Signal Description
1	Ch 8 plus	14	Ch 8 minus
2	Ch 8 ground	15	Ch 7 plus
3	Ch 7 minus	16	Ch 7 ground
4	Ch 6 plus	17	Ch 6 minus
5	Ch 6 ground	18	Ch 5 plus
6	Ch 5 minus	19	Ch 5 ground
7	Ch 4 plus	20	Ch 4 minus
8	Ch 4 ground	21	Ch 3 plus
9	Ch 3 minus	22	Ch 3 ground
10	Ch 2 plus	23	Ch 2 minus
11	Ch 2 ground	24	Ch 1 plus
12	Ch 1 minus	25	Ch 1 ground
13	no connection		

DCI Channel Map:

- Channel 1: L (screen, left)
- Channel 2: R (screen, right)
- Channel 3: C (screen, center)
- Channel 4: LFE (screen, low frequency effects subwoofer)
- Channel 5: Ls (surround, left wall)
- Channel 6: Rs (surround, right wall)
- Channel 7: Lc (screen, mid left to center)
- Channel 8: Rc (screen, mid right to center)



3 Doremi Audio Cables

This section provides a list of audio interface cables for the DCP-2000 available from Doremi:

- **ANA-DCP - DCP2K Analog Out Single Leg to Cinema Processor Analog In**

Analog single leg cable wired for connection to Dolby CP650/CP500 6-Ch audio input

- **AES-DCP - DCP2K AES Out to Cinema Processor AES In**

Digital audio (AES OUT) cable wired for connection to DTS XD10, USL JDS-80, and Dolby DMA8 and DMA8plus

- **AUD-DA1U - DCP2K AES Out to AUD-D2A AES In**

Digital audio cable - for connection to AUD-D2A - wired as a "straight through" cable for 4 AES Stereo Pairs

- **DB-25 to 8 XLRs (Hosa DTM-803)**

Cable that can be used either as an "8 channels analog audio cable" or as a "16 channels digital (4 stereo pairs) cable" - Note that the impedance will not be matched for digital.

4 Audio Wiring

4.1 Digital Audio Wiring

The mapping between the digital audio signals and the various audio connectors is presented below:

Signal Description	DCP-2000 AES Out Pin #	"DCP-2000 AES OUT" Cable Pin #	"DCP-2000 Out to AUD-D2A AES In" Cable Pin#	Doremi AUD-D2A AES In Pin #	Dolby DMA8/DMA8 plus Pin#	DTS XD10P External 2 (Digital) Pin#	USL JDS-80 Digital AES/EBU Pin#	Odyssey 650-OPTIO-AES Pin #	Dolby CP650 with Cat 790 Card Pin #	QSC Basis 922dz Pin#
Ch 1 & 2 plus	24	14	24	24	14	14	14	14	1	7
Ch 1 & 2 minus	12	2	12	12	2	2	2	2	n/c	15
Ch 1 & 2 ground	25	1	25	25	1	1	1	Shell	7	
Ch 3 & 4 plus	10	3	10	10	3	3	3	3	2	24
Ch 3 & 4 minus	23	16	23	23	16	16	16	16	n/c	23
Ch 3 & 4 ground	11	15	11	11	4	4	4	Shell	7	
Ch 5 & 6 plus	21	17	21	21	17	17	17	17	13	8
Ch 5 & 6 minus	9	5	9	9	5	5	5	5	n/c	16
Ch 5 & 6 ground	22	4	22	22	18	18	18	Shell	7	
Ch 7 & 8 plus	7	6	7	7	6	-	-	6	21	22
Ch 7 & 8 minus	20	19	20	20	19	-	-	19	n/c	21
Ch 7 & 8 ground	8	18	8	8	18	-	-	Shell	7	
Ch 9 & 10 plus	18									
Ch 9 & 10 minus	6									
Ch 9 & 10 ground	19									
Ch 11 & 12 plus	4									
Ch 11 & 12 minus	17									
Ch 11 & 12 ground	5									
Ch 13 & 14 plus	15									
Ch 13 & 14 minus	3									
Ch 13 & 14 ground	16									
Ch 15 & 16 plus	1									
Ch 15 & 16 minus	14									
Ch 15 & 16 ground	2									
no connection	13									

4.2 Analog Audio Wiring

The mapping between the analog audio signals and the various audio connectors is presented below:

Signal Description	DCP-2000 Analog OUT Pin #	“DCP-2000 Analog Single Leg” Cable Pin#	AUD-D2A Analog OUT Pin #	Dolby CP650/CP500 Analog IN Pin #	Dolby DMA8 / DMA8Plus Analog IN Pin#	DTS XD10P Analog IN Pin #	DTS 6AD Pin#	Ultra Stereo JDS-80 Pin#
Ch 1 plus	24	14	24	14	14	14	14	14
Ch 1 minus	-		(12) *	-		-		
Ch1 ground	25	3	25	3	3	3	1	1
Ch 2 plus	10	17	10	17	17	17	17	17
Ch 2 minus	-		(23) *	-		-		
Ch 2 ground	11	18	11	18	18	-	5	5
Ch 3 plus	21	20	21	20	20	20	20	20
Ch 3 minus	-		(9) *	-		-		
Ch 3 ground	22	21	22	21	21	21	7	7
Ch 4 plus	7	24	7	24	24	24	24	24
Ch 4 minus	-		(20) *	-		-		
Ch 4 ground	8	25	8	25	25	25	11	11
Ch 5 plus	18	15	18	15	15	15	15	15
Ch 5 minus	-		(6) *	-		-		
Ch 5 ground	19	16	19	16	16	-	3	3
Ch 6 plus	4	2	4	2	2	2	2	2
Ch 6 minus	-		(17) *	-		-		
Ch 6 ground	5	1	5	1	1	1	4	4
Ch 7 plus	15		15			18		18
Ch 7 minus	-		(3) *			-		
Ch 7 ground	16		16			7		7
Ch 8 plus	1		1			16		16
Ch 8 minus	-		(14) *			-		
Ch 8 ground	2		2			6		6

*: For the Doremi AUD-D2A, the pin # written between brackets (..) correspond to the optional balanced configuration – the concerned pins are not connected for the un-balanced default configuration.

5 Document Revision History

Date	Version	Description
02/17/2009	1.0	First version.