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Installation Notes

SDDS Sony Dynamic Digital Sound™

Installation Notes

This manual provides installers notes for the proper and timely installation of a Sony DFP-R2000 and a DFP-D2000 SDDS Player System. Installers must read this document carefully BEFORE attempting the installation of these components. If there are questions not addressed in this document, please contact the Sony Dynamic Digital Sound World Service Headquarters for further assistance. SDDS offices can be contacted at:

Telephone: 1 (310) 842-4567
FAX: 1 (310) 842-4568

1. Before You Begin

Prior to installation, various installation requirements must be verified. The design of the DFP-R2000, and DFP-D2000 supports many variations of installation (i.e., projector type, cinema audio processor, etc.). Therefore, to minimize the total installation time, a thorough pre-installation site review is necessary.

1.1. Site Inquiry and Preparation

The site inquiry is instrumental in verifying the specific requirements of the installation. The following items should be checked prior to the installation day of the Sony DFP-2000 system.

* **Reader Mounting**:
  - Projector type, and mounting plate required[1]
  - Penthouse clearance to ceiling, and wall
  - Film Threading (path and alignment)

* **Decoder Mounting**:
  - Check Rack space available (3U height required)
  - Check Rack depth (approximately 24 inches or more required)
  - Check interconnections between other equipment
  - Check cable length to amplifier system

* **System Issues**:
  - Verify speaker configuration
  - Make cable harness for analog audio cabling

Prior to making any installation:
  - Check existing system for any ground problems
  - Check existing system for any audio noise problems

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[1] Many common projector types are supported with mounting plates manufactured by SDDS. These can be ordered directly from SDDS U.S.A. (310) 280-5777.

The projector models supported by SDDS plates are as follows:

- Norelco AA
- Cinemechanica Victoria 8
- Cinemechanica Victoria 5
- Norelco (Kinoton) DP-75
- Simplex 35/70
- Christie
- Century SA
- Century JJ

Standard plates are provided in the packaging of the reader unit (DFP-R2000) carton. These plates are located in the bottom of the carton. These standard plates will allow mounting on most configurations of the following projectors:

- Simplex 35/70
- Century SA
- Century JJ

Also, these standard plates can be used to mount the SDDS reader unit (DFP-R2000) atop a DTS or SR•D reader unit.

Optional plates are available for the following projector types:

- Norelco AA
- Cinemechanica Victoria 8
- Cinemechanica Victoria 5
- Norelco (Kinoton) DP-75
- Christie

Optional plates are available from SDDS or your SDDS local representative. Optional plates are available on a charge basis. The approximate cost is US$50.00 to US$100.00 each.

1.2. Required Tools, Test Equipment, etc.

There are few tools required for the installation of the SDDS system. The following tools are suggested. If your tools or test equipment do not match these descriptions, contact SDDS World Service Headquarters.

Equipment	Model	Remarks
DVM	Fluke Model-77 (or equivalent)	* optional *
IBM PCAT Compatible Personal Computer	Refer to specifications below	for set-up of decoder via RS-232C
Real-Time Analyzer (with 4 calibrated microphones)	THX R-2, etc.	for installation room EQ
Hand Tools	See accompanying Chart	

Chart 1-1. Required Test Equipment List

The following are the minimum features and specifications for the required and the optional general electronic test equipment.

Computer:

• Personal Computer	Intel 486/33MHz minimum (laptop preferable, NO 486SX)
• RAM Memory	8M byte minimum
• RS-232C Port	1 (one) minimum available
• Disk Drive(s)	Hard Disk (with 20 M byte available space) plus, 3.5-inch 1.44M Floppy drive
• Software Required	MS-DOS 5.0 or higher Windows 3.1 SDDS Set-up Software (included in the Dealer Spares "A" kit)
• Interface Cable	RS-232C "null modem" cable, 9-pin d-sub male to 9-pin d-sub female (included in the Dealer Spares "A" kit)

Audio Analyzer:

• Response	1/3 Octave
• Microphone	minimum 4 (four) calibrated microphone

Digital Voltmeter:

• Display	3 1/2 digit display
• Input Impedance	more than 10MΩ
• Accuracy	+/-0.1%

Hand Tools:

Part/Model #	Description	Remarks
7-700-749-01	Sony Phillips Type Screwdriver (#0)	
7-700-749-03	Sony Phillips Type Screwdriver (#1)	
7-700-749-04	Sony Phillips Type Screwdriver (#2)	
N/A	Hexagonal Wrench Set	3/8-inch size for reader mounting hardware
J-6080-029-A	Sony Small Inspection Mirror	used for film path alignment

Chart 1-2. Hand Tools

1.3. Verifying Carton Contents

Inside the carton for the DFP-R2000 are the following items:

Quantity	Description	Part Number
1	Reader Unit	DFP-R2000
1	Reader Cable	CCZ-A10 (25, or 50)
3	Standard Reader Mounting Plates	3-185-979-01 3-185-980-02 3-185-982-01
8	Mounting Plate Hexagon Screws 3/8-inch	3-185-981-01
2	M4x6 Securing Screws (set screw type)	7-683-247-08
1	Inertia Roller Weight	N/A
3	+PS 3x20 Securing Screws	7-682-653-09

Chart 1-3. Reader Carton Contents

Inside the carton for the DFP-D2000 are the following items:

Quantity	Description	Part Number
1	Decoder Unit	DFP-D2000
1	Operation Manual	3-759-583-02
1	Power Cable	N/A

Chart 1-4. Decoder Carton Contents

1.4. Notes on Installation Procedures

The installation procedures given in the following pages are in a recommended order. Of course, as you become more familiar with the equipment, certain procedure flows can be modified to accommodate variations in installation timing, or personal preference.

The site evaluation prior to the installation is key to the most efficient use of time. Perhaps the best time saver is the making of audio interface cables prior to the actual installation. NO MODIFICATION IS REQUIRED FOR THE CINEMA AUDIO PROCESSOR (CP-65, CP-200, ETC.).

Familiarity with the SDDS Set-Up software is also a key factor in the speed at which the installation is made. Practicing with the set-up software is recommended and can be performed on any computer (which meets the aforementioned requirements) without the DFP-D2000 connected to the computer. Familiarity with the operation of Windows® based programs is also necessary to perform smooth and timely installations.

1.5. Installation Flow Chart

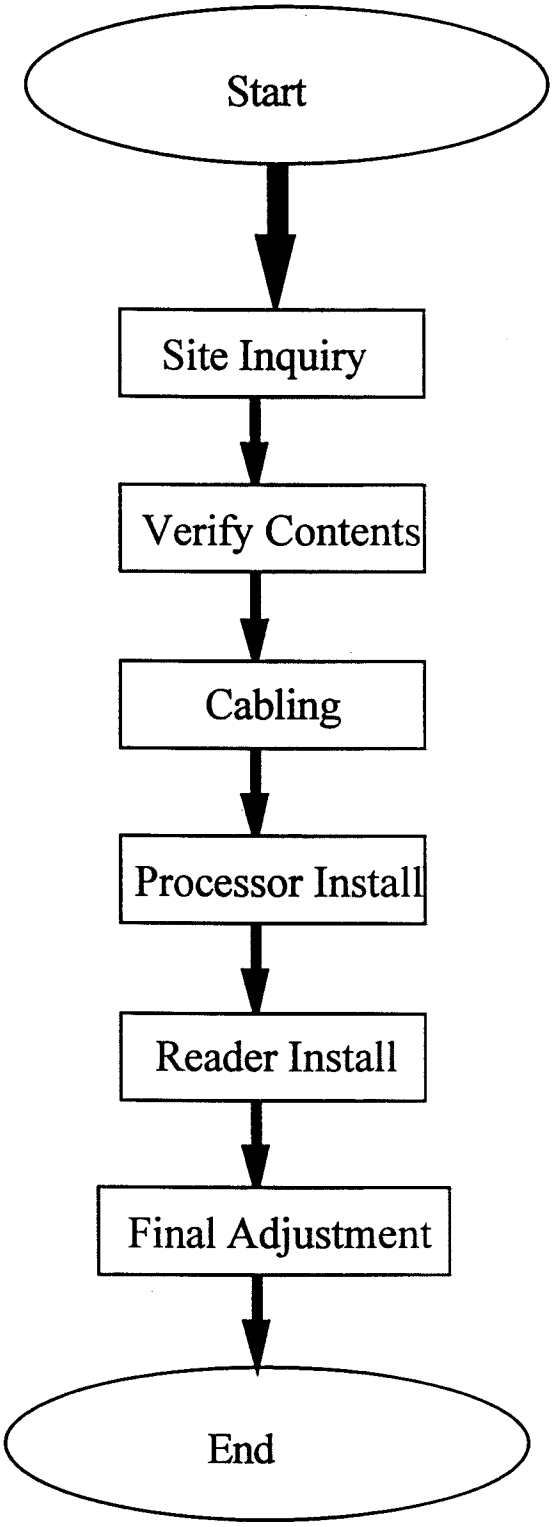


Chart 1-5. Basic Installation Flow Chart

To give a better understanding of the flow of steps required for the complete installation procedure, refer to Chart 1-6. This chart explains the specific steps in a recommended order. For the detailed description of each step, refer to the SDDS Set-up Software User's Manual and this documentation to follow.

SDDS ELECTRICAL SET-UP PROCEDURES

STEP 1 Connect the computer to the DFP-D2000 with the null-modem cable (refer to Figure 2-7 of this document). power both systems "ON" and launch the set-up software on the computer. (refer to page 4 of the SDDS Set-up Software User's Manual)

STEP 2 Determine the serial number of the DFP-D2000. This can be accomplished one of two ways. The first is to check the serial number label on the left side panel (as viewed from the front of the machine). The second method is to access the internally stored serial number through the access keypad on the inside front panel. The serial number is accessed by pressing the EDIT, then F3, then F1 keys. At this time, the serial number and revision of firmware of the DFP-D2000 is displayed on the LCD panel. (for details on the operation of this panel, refer to the DFP-D2000 Service Manual, page 1-19 through 1-21)

STEP 3 "Connect" to the DFP-D2000 with the computer via the "Config" menu of the Set-up Software. (refer to page 9 ~ 10 of the SDDS Set-up Software User's Manual)

STEP 4 Once the computer is connected, select the "Config" menu and choose "Matrix Mode". Set the speaker matrix for SDDS mode (8 channel). (refer to page 24 through 29 of the SDDS Set-up Software User's Manual)

STEP 5 For safety, lower all channel level trim controls to -27dB, and turn "ON" all channel EQs (note that the sub woofer channel does not have a channel EQ). (refer to page 18 of the SDDS Set-up Software User's Manual)

STEP 6 Go to the "Test" menu and select "Signal Generation". Once in the "Signal Generation" window, set the generator for pink noise output, ALL channels "ON" @ -20dB. (refer to page 42 ~ 43 of the SDDS Set-up Software User's Manual)

STEP 7 Go to "Tools" menu and select "Link Mute Channels to Channel Select". (refer to page 36 of the SDDS Set-up Software User's Manual)

STEP 8 Select one of the front five channels (L, LC, C, RC, or R) and set for 85dBC using the appropriate channel level trim control. Repeat the procedure for all front channels. Set the Sub-Woofer channel (SW) to 91dBC. Then set the surround channels (SL, & SR) for 82dBC each. (refer to page 18 of the SDDS Set-up Software User's Manual)

STEP 9 Now equalize all channels (except the sub woofer channel) to the following standard:

- SMPTE RP 141-1990 (ISO 2969/"X" Curve)

(refer to page 16 ~ 20 of the SDDS Set-up Software User's Manual)

STEP 10 After EQ adjustment, confirm (and re-adjust if necessary) the level of each channel as performed previously in STEP 8. (refer to page 18 of the SDDS Set-up Software User's Manual)

STEP 11 Access the "Test" menu and turn "OFF" the signal generator.(refer to page 42 of the SDDS Set-up Software User's Manual)

STEP 12 Access the "Tools" menu and "Unlink Mute Channels to Channel Select". (refer to page 36 of the SDDS Set-up Software User's Manual)

STEP 13 UNMUTE ALL CHANNELS MANUALLY! (refer to page 16 of the SDDS Set-up Software User's Manual)

STEP 14 Set the appropriate speaker matrix mode for your cinema. (refer to page 24 of the SDDS Set-up Software User's Manual)

STEP 15 Load the SDDS alignment test film, count the frames between the picture gate (arpeture), and the lenses of the DFP-R2000 reader unit. Add 2 to this number and enter this value into the "Master Sync Delay" window (located in the "Projector Set-up" menu of the "Config" menu. Refer to "Section 5.1 Rough Adjustment" of this document. (refer to page 23 of the SDDS Set-up Software User's Manual)

NOTE: This setting CANNOT occur while film is running. Make sure film is NOT running when attempting this adjustment.

STEP 16 After making the rough adjustment in STEP 15, connect the headphones to the Lip Sync jack and run the film to make the fine adjustment of Lip Sync. Refer to "Section 5.2 Fine Adjustment" of this document. (refer to page 41 of the SDDS Set-up Software User's Manual)

1.6. Preparation

After arriving at the site, remove the DFP-R2000 and DFP-D2000 from the packaging. After verification of the contents, prepare the reader unit and the decoder unit for mounting. The mechanical mounting of these units can be performed prior to other set-up procedures if the situation permits.

2. Processor Set-up

2.1. Audio Connections

Analog audio connections to the DFP-D2000 unit are easily made at the rear panel of the DFP-D2000 Processor unit. Two (2) types of interface connections (3 pin XLR and 25 pin d-sub) are provided for maximum flexibility. Refer to Figure 3-1. The pin out connections for each connector in Figure 3-2. on the XLR type, pin 2 is normally the "hot" pin. However, there are jumper wires on the APR-6 board (located in the DFP-D2000 card rack, bottom slot) to configure the XLR "hot" pin to either pin 2 (factory setting) or pin 3.

To modify the "hot" pin, the APR-6 board must be removed and the jumpers for all eight channels moved to the "pin 2 'cold' position". The APR-6 board is located in the bottom slot of the DFP-D2000 rack. To access the APR-6 board, open the front door of the DFP-D2000 by loosening the securing screw on the right side of the front panel. After loosening the securing screw, open the front panel door. This panel is hinged on the left side. Refer to the figure below.

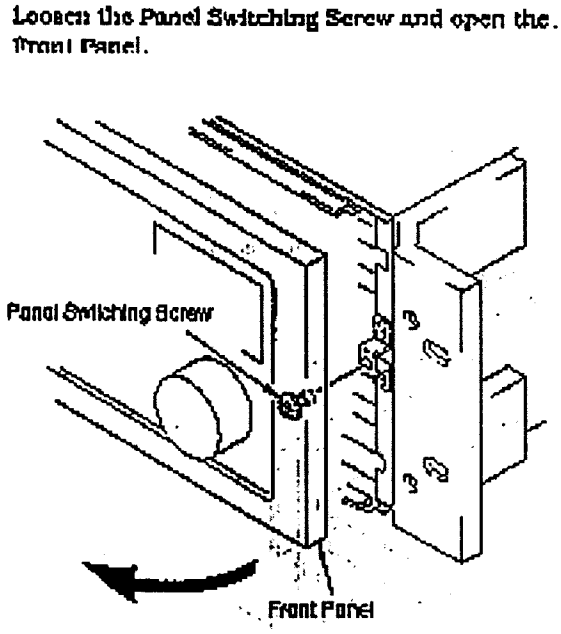
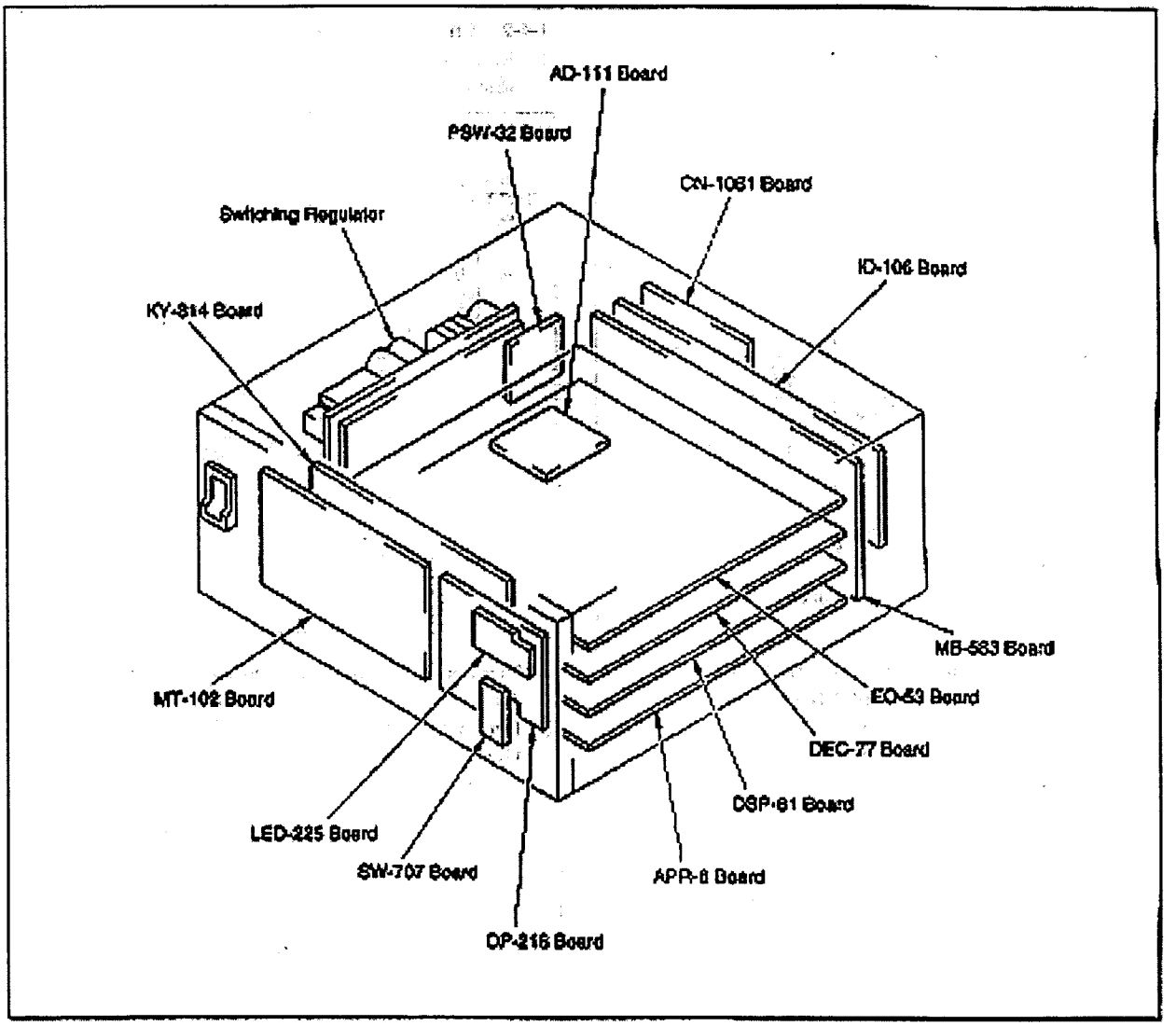


Figure 2-1. Opening the Front Panel of the DFP-D2000



CIRCUIT CONFIGURATION

Board Name	Function
AD-111	ATRAC DECODE BOARD
APR-6	D/A CONVERTOR/LINE AMP/ CLOCK GEN BOARD
CN-1061	I/O CONNECTOR BOARD
DEC-77	ID DECODE/SHUFFLE/ECC DECODE/ DESCRAMBLE/TBC/SYSTEM DELAY/ ATRAC CONTROL BOARD
DP-216	SYSTEM CONTROL, AUDIO PROCESSING BOARD
DSP-61	INDICATOR BOARD

Board Name	Function
DUS-794	KEY I/F BOARD
DUS-810	BPF/COMPARATOR BOARD
EQ-53	PB·RF·EQ/AGC/RF·COMPARATOR/ AFC BOARD
ID-106	I/O I/F, AUDIO I/O CONNECTOR BOARD
KY-314	FRONT PANEL I/F, LCD KEY BOARD
LED-225	MASTER LEVEL DISPLAY BOARD
MB-583	MOTHER BOARD
MT-102	LED LEVEL METER BOARD
PSW-32	± 15 V CONTROL BOARD

Figure 2-2. PC Board Locations/Functions in DFP-D2000

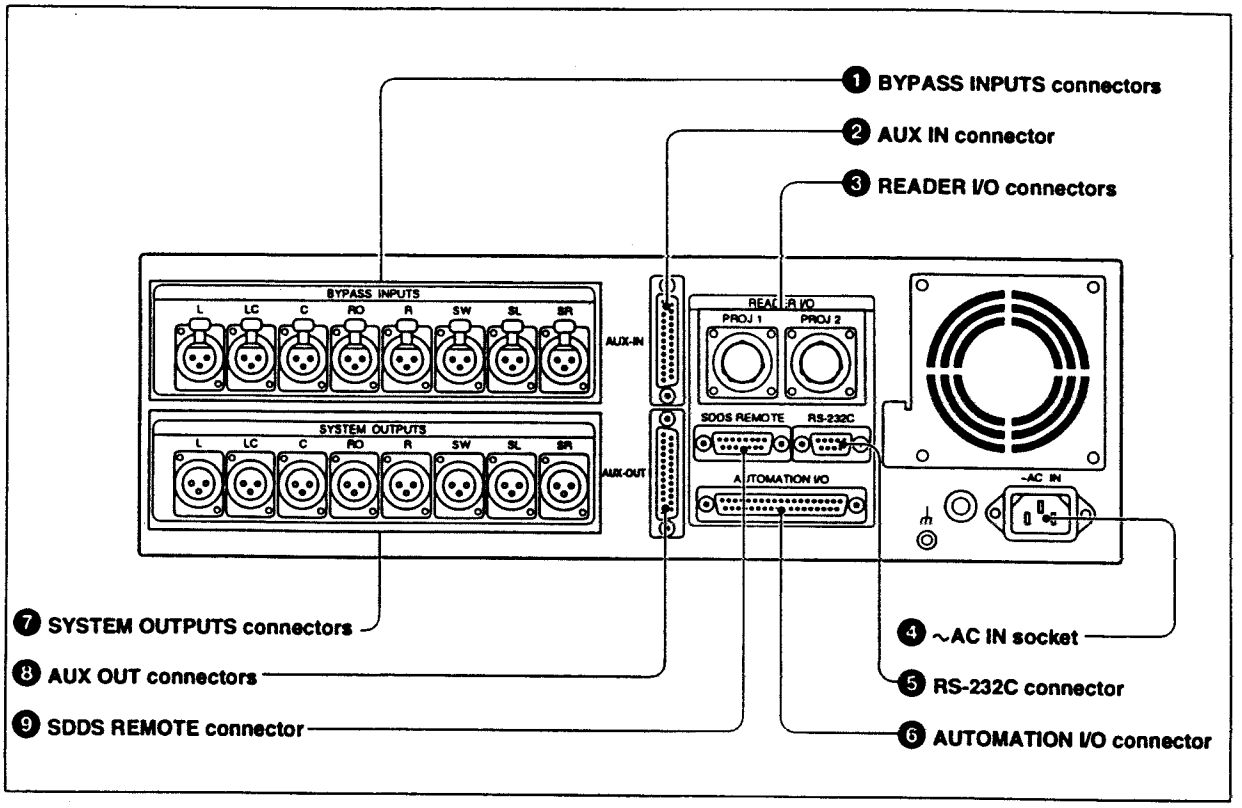
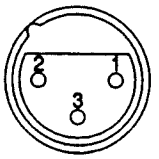


Figure 2-3. DFP-D2000 Rear Panel

BYPASS INPUTS (XLR 3P, FEMALE)

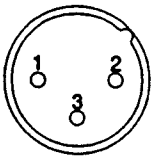
- OUTSIDE VIEW -



Pin No.	Input/Output	Signal Name	Signal Level	Description
1	—	GND	—	GND
2	I	HOT	Reference +4 dBu Max +24 dBu	Bypass Signal Balanced Input (HOT)
3	I	COLD	Reference +4 dBu Max +24 dBu	Bypass Signal Balanced Input (COLD)

SYSTEM OUTPUT (XLR 3P, MALE)

- OUTSIDE VIEW -

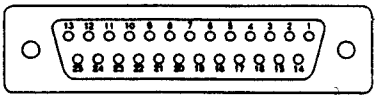


Pin No.	Input/Output	Signal Name	Signal Level	Description
1	—	GND	—	GND
2	O	HOT	Reference +4 dBu Max +24 dBu	Audio Signal Balanced Input (HOT)
3	O	COLD	Reference +4 dBu Max +24 dBu	Audio Signal Balanced Input (COLD)

Figure 2-4A. Audio Connector Pin-out Configurations (XLR)

AUX-IN (D-sub 25P, FEMALE)

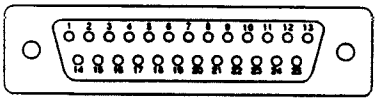
- OUTSIDE VIEW -



Pin No.	Input/Output	Description
1	I	Left Shld
2	I	Left Hi
3	I	Left Center Low
4	I	Center Shld
5	I	Center Hi
6	I	Right Center Low
7	I	Right Shld
8	I	Right Hi
9	I	Left Surround Shld
10	I	Left Surround Low
11	I	Surround Right Low
12	I	Sub Woofer Low
13	I	Sub Woofer Shld
14	I	Left Low
15	I	Left Center Shld
16	I	Left Center Hi
17	I	Center Low
18	I	Right Center Shld
19	I	Right Center Hi
20	I	Right Low
21	—	NC (Not connection)
22	I	Surround Right Shld
23	I	Left Surround Hi
24	I	Surround Right Hi
25	I	Sub Woofer Hi

AUX-OUT (D-sub 25P, MALE)

- OUTSIDE VIEW -



Pin No.	Input/Output	Description
1	O	Left Shld
2	O	Left Hi
3	O	Left Center Low
4	O	Center Shld
5	O	Center Hi
6	O	Right Center Low
7	O	Right Shld
8	O	Right Hi
9	O	Left Surround Shld
10	O	Left Surround Low
11	O	Surround Right Low
12	O	Sub Woofer Low
13	O	Sub Woofer Shld
14	O	Left Low
15	O	Left Center Shld
16	O	Left Center Hi
17	O	Center Low
18	O	Right Center Shld
19	O	Right Center Hi
20	O	Right Low
21	—	NC (Not connection)
22	O	Surround Right Shld
23	O	Left Surround Hi
24	O	Surround Right Hi
25	O	Sub Woofer Hi

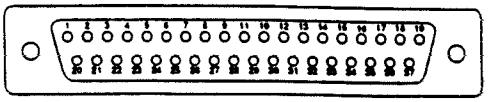
Figure 2-4B. Audio Connector Pin-out Configurations (D-sub 25-pin)

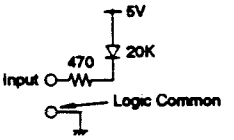
After installing the DFP-D2000 into the rack assembly, connect the audio cables to the cinema processor (Dolby® CP-200, etc.) and to the amplifier system as shown in Figure 3-3. The installation shown in Figure 3-3 is a "generic" wiring configuration which shows the basic structure. Of course, many installations may vary.

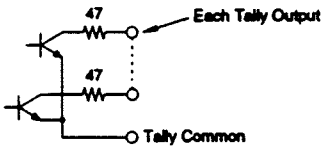
AUTOMATION I/O (D-sub 37P, MALE)

Pin No.	Input/ Output	Signal Name	Signal Level	Description
1	—	CHASSI GND	P. C	Chassis Ground
2	I	CHANGE TLY	P. C	Projector2 (Changeover) Sheet
3	I	ECM MUTE	P. C	External Channel Master Mute
4	I	L MUTE	P. C	External Channel Left Mute
5	I	LC MUTE	P. C	External Channel Left/Center Mute
6	I	C MUTE	P. C	External Channel Center Mute
7	I	RC MUTE	P. C	External Channel Right/Cenyer Mute
8	I	R MUTE	P. C	External Channel Right Mute
9	I	SW MUTE	P. C	External Channel Sub Mute
10	I	SL MUTE	P. C	External Channel Left Surround Mute
11	I	SR MUTE	P. C	External Channel Right Surround Mute
12	I	BYPASS	P. C	External Bypass
13	I	REMOTE DISABLE	P. C	SDDS Remote Disable
14	—	LOGIC CMN		Logic Common
15	—	LOGIC CMN		Logic Common
16	—	TLY CMN		Tally Common Shown in the figure
17	—	TLY CMN		Tally Common Shown in the figure
18	—	TLY CMN		Tally Common Shown in the figure
19	—	TLY CMN		Tally Common Shown in the figure
20	O	PROJ1 TLY	O. C	Projector 1 Tally
21	O	PROJ2 TLY	O. C	Projector 2 Tally
22	O	M MUTE TLY	O. C	Master Mute Tally
23	O	L MUTE TLY	O. C	Left Mute Tally
24	O	LC MUTE TLY	O. C	Left/Denter Mute Tally
25	O	C MUTE TLY	O. C	Center Mute Tally
26	O	RC MUTE TLY	O. C	Right/Center Mute Tally
27	O	R MUTE TLY	O. C	Right Mute Tally
28	O	SW MUTE TLY	O. C	Sub Mute Tally
29	O	SL MUTE TLY	O. C	Left Surround Mute Tally
30	O	SR MUTE TLY	O. C	Right Surround Mute Tally
31	O	BYPASS TLY	O. C	Bypass Tally
32	O	B P TLY	O. C	SDDS Data Presence Tally
33	O	ALARM TLY	O. C	System Alarm Tally
34	I	OPTION IN1	P. C	Lip Sync Plus Control
35	I	OPTION IN2	P. C	Lip Sync Minus Control
36	O	OPTION OUT1	O. C	Spare
37	O	OPTION OUT2	O. C	Spare

- OUTSIDE VIEW -







P. C : Photo coupler input
O. C: Open corrector output

Figure 2-5. Automation Interface Connecto Pin-out

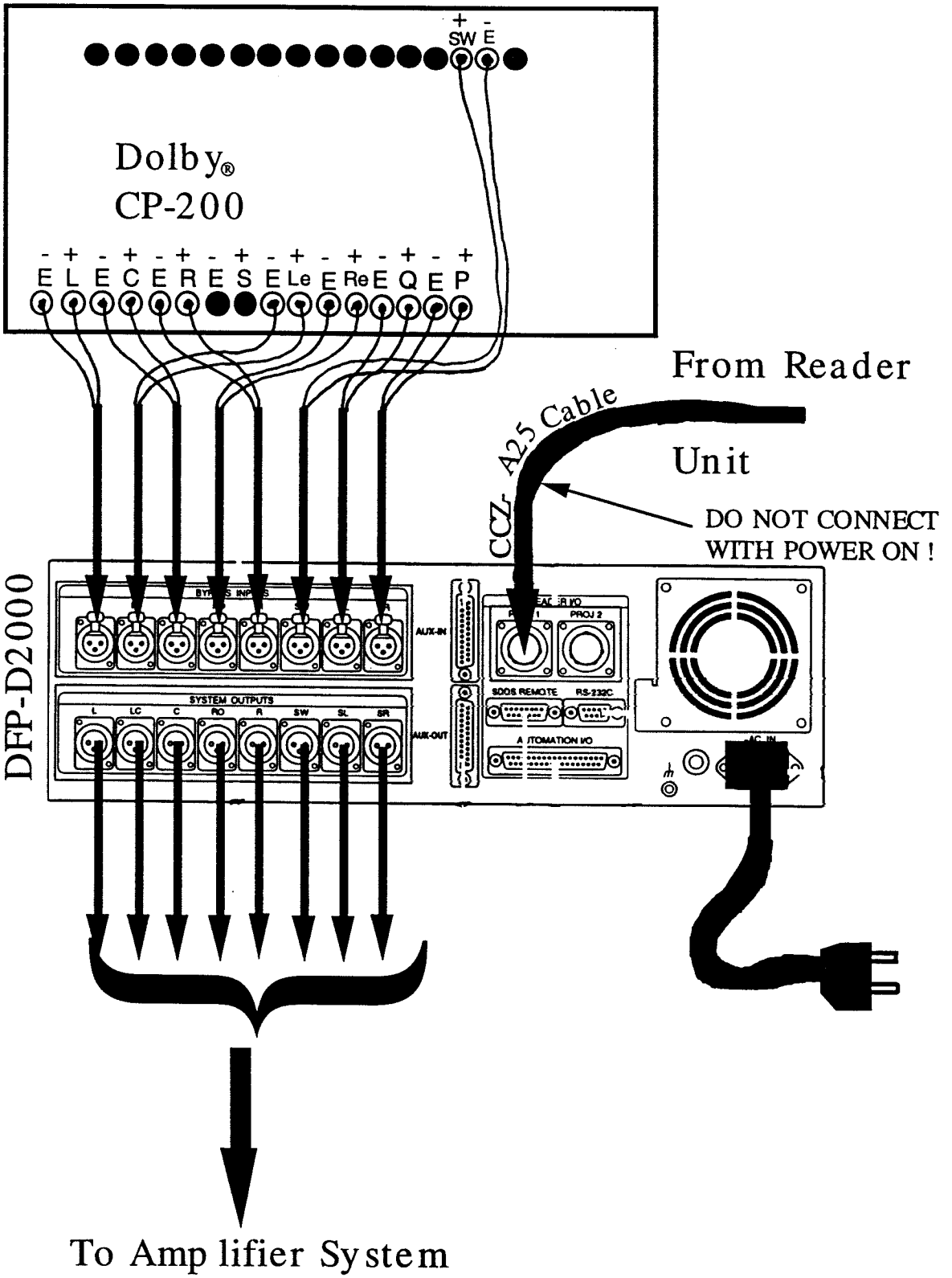


Figure 2-6. Basic System Wiring Diagram (with CP-200)

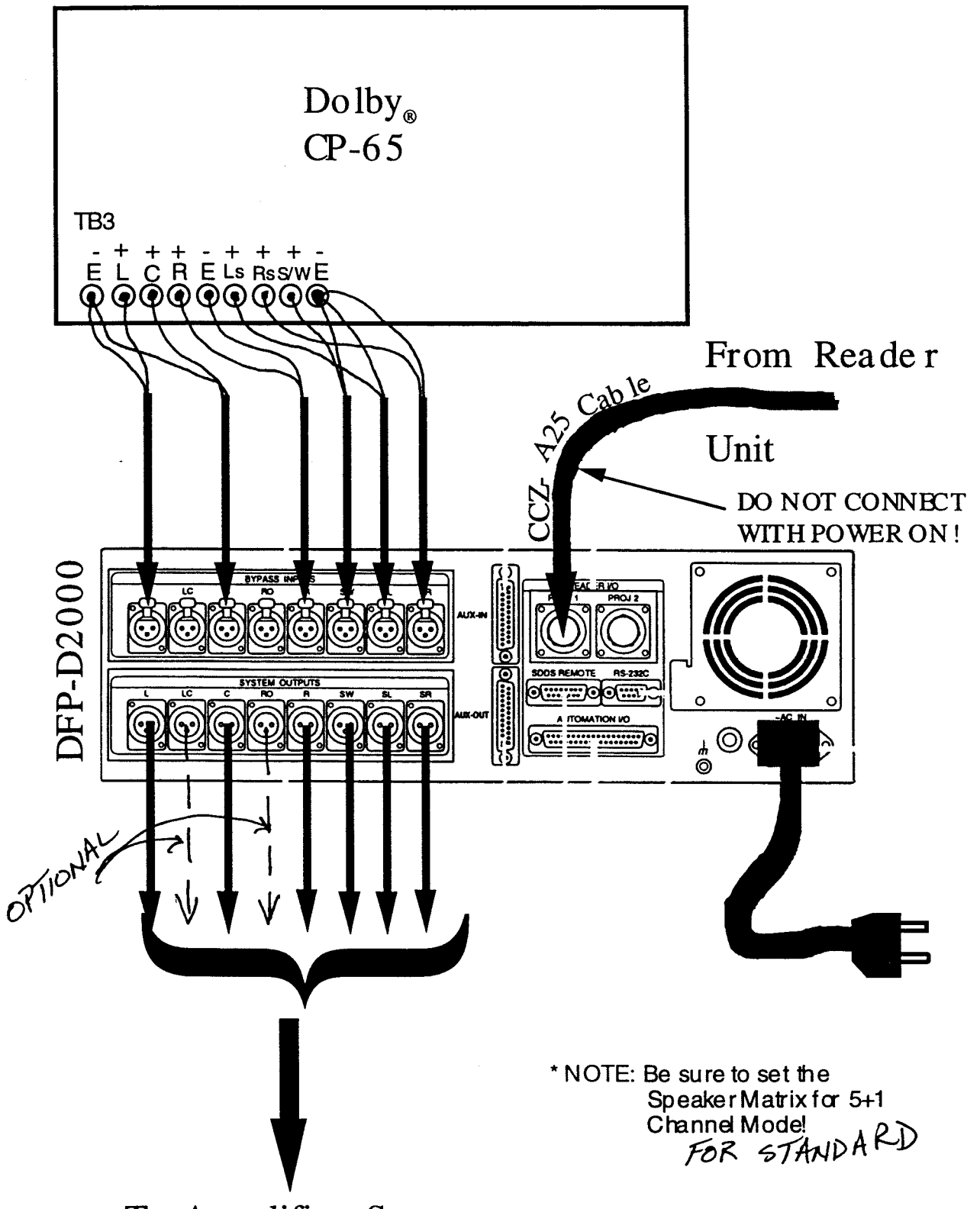


Figure 2-7. Basic System Wiring Diagram (with CP-65)

2.2. Computer Connection

After installation of the DFP-R2000 onto the projector, the DFP-D2000 into the rack and the connection of the various interface cables, connect the computer RS-232C cable to the computer and the DFP-D2000 RS-232C connections. Refer to Figure 3-4.

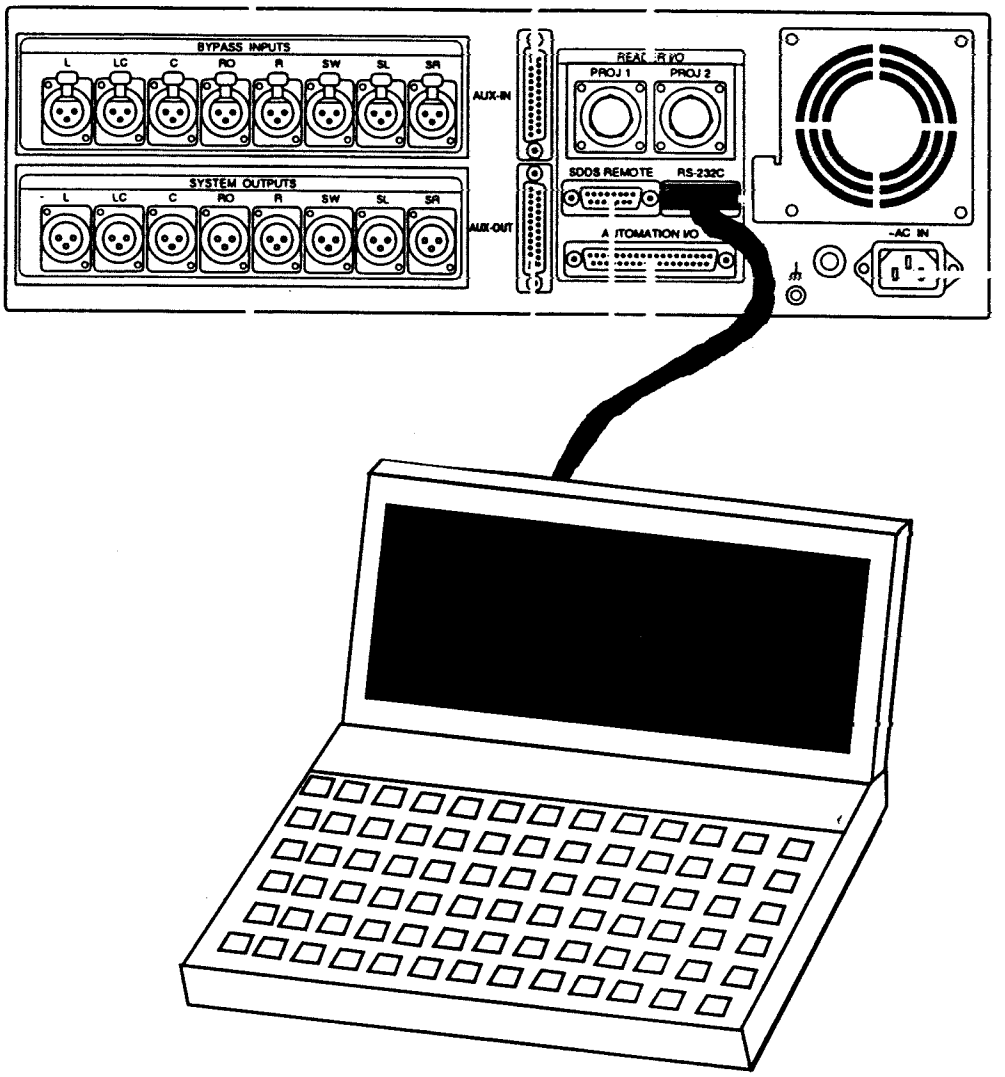


Figure 2-8. RS-232C Connection

2.3. Launch of Set-Up Software

After connection of the RS-232C cable, power on the DFP-D2000 processor and the computer. On the computer, launch the Windows® software by typing "win" at the prompt. The windows software will launch and load into the computer RAM and the computer will be ready to launch the SDDS Set-Up software. Double "click" on the SDDS application icon. This will launch the SDDS Set-Up software.

2.4. SDDS Set-Up Software HOME Screen

Once the SDDS Set-Up software is launched, the HOME screen will appear. The screen colors are selectable, yet the screen should appear as shown on page 6 of the SDDS Set-up Software User's Manual.

2.5. Initial Steps

The first step (once the Set-Up software is launched is to "Connect to DFP". This function is found in the "Config" menu bar. Simply "click" on the "Config" menu bar. This will display the menu. The first item in the menu is "Connect to DFP...".

Next, "click" on the "Connect to DFP..." bar and the "Connect to DFP" window will appear. In this window, ensure that the correct serial port for your computer is selected and that the correct serial number of the DFP processor is entered. After ensuring that this information is indeed correct, "click" the "Save Config" "button" in the Connect to DFP window. This will save the port selection and the serial number for future connections[2].

Next, "click" the "OK" button. This will begin the communication between the DFP-D2000 and the computer. A message window will appear informing you that the DFP is ready for commanding. At this prompt "click" "OK". Another window will appear after approximately 1 second. This window has a horizontal bargraph which will fill from left to right. This is an automatic function that indicates the retrieval of all set-up information presently residing in the DFP-D2000 on board memory (located on the DSP-61 board inside the DFP-D2000).

Once this data has been retrieved from the DFP-D2000, the screen will return to the HOME screen. The DFP-D2000 is now ready for level setting, room equalization, etc.

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[2] This information is stored to a file in the computer. This file will be used the next time the SDDS Set-Up software is used.

The final step is to select the appropriate speaker matrix for the theater. Before setting the EQ, filters, etc., the speaker matrix must be set to SDDS mode. After audio system set-up, then enter this screen again and set the appropriate mode for the given speaker configuration. The SDDS system can be set for the following speaker configurations:

- SDDS (8 channel)
- 7 + 1 Channels
- 6 Channels
- 5 + 1 Channels
- 4 Channels

The speaker matrix is set by entering (again) the "Config" menu. Select the "Set Matrix Mode...". A window will appear which allows the specific selection to be made. When selection is complete, "click" "DONE".

2.6. Audio Output Level & Equalization Adjustments

Once the room audio analyzer and microphones are set-up in the room, adjustment of the DSP (Digital Signal Processing) section of the DFP-D2000 can be made.

The DFP-2000 Digital Film Sound Player system is designed to conform to most all installations in the theater environment. The key to remember is that the SDDS system should be adapted to the "normal" environment of the theater. This will limit any confusion for the placement of the SDDS processor in the audio chain.

2.6.1. Channel Level

Adjust the channel level trim "scroll bar" for all eight channels. A "rough" setting before room equalization is recommended. This ensures a safe level in the theater. The level to be set on the specific channels are as follows:

Left	: 85 dBC
Left Center	: 85 dBC
Center	: 85 dBC
Right	: 85 dBC
Sub Woofer	: 91 dBC
Surround Left	: 82dBC
Surround Right	: 82dBC

2.6.2. Equalization and Filters

Adjust all channels to the ISO-2969 (or "X") curve. Note that all channels excepts the sub woofer are equipped with a 1/3 octave equalizer.

3. Master Level Setting

After all channel equalizations are made, the final master level setting for all channels must be made. Generally, the master level is set to 0 (zero) and the channel levels are set to the aforementioned settings. If it is desired, the reference can be altered from zero, (to a value within the range of +/- 10dB) to accommodate various "house standards". The key point is that the master level settings give the results mentioned in Section 3.2.2.1 of this procedure.

4. Reader

4.1. Mounting & Mechanical Alignment

The DFP-R2000 unit is designed to be mounted above the projector. If there is a pre-existing 70mm audio head, or another digital reader unit mounted on the projector, the SDDS reader unit MUST be mounted above the existing systems. This will eliminate the need for re-adjustment of the delay timing of the pre-existing units.

Remove any film path arms mounted on the top of the projector assembly and install the DFP-R2000 with the supplied mounting plates. Some modification may be necessary.

Once the rough mounting of the reader unit is made, ensure that the film path of the DFP-R2000 is in alignment with the other film path rollers/guides. This can be easily performed with a gate alignment tool.

5. Sync Delay Setting

The sync delay setting has two individual adjustments. The first being a rough adjustment "Master Sync Delay" (located in the "Config" menu, under "Projector Adjustments"). This rough adjustment can be adjusted ONLY when film is NOT running. Therefore, this adjustment is made first. The adjustment range is 0 frames to 119 frames (0~4.95 seconds). The minimum setting in this window is 20 frames. Generally, the installation will require approximately 57 ~ 63 frames of offset here.

The fine adjustment is termed "Fine Frame Delay" (located in the "Master" menu, "Master Settings" window. This adjustment is centered at the factory. The adjustment range is +/-99 milliseconds (+/-2.5 frames).

5.1. Rough Adjustment

Place a length of film through the projector threading path and through the DFP-R2000 threading path. The key point is to ensure that film is threaded from the DFP-R2000 lens assembly to the picture gate (arpeture). Once the film is threaded, count the number of film frames between the center of the DFP-R2000 lens assembly and the center of the picture gate (arpeture). Write this number down, and add two (2) frames to the number. For example, if the actual number of frames between the lens assembly and the picture gate is 45, then the final number to be loaded into the PC (personal computer) is 47 (47 = 45 + 2).

The load of this number into the DFP-D2000 memory is accomplished through the use of the computer and the interface. Refer to page 19 of the SDDS Set-up Software User's Manual. In the CONFIG menu, "Projector Setup..." accesses the window where the adjustment is made. Ensure that the reading in the Projector Set-up window reads the correct value. For example, 47 frames, as given in the example above.

5.2. Fine Adjustment

The fine adjustment of lip sync is performed with film running and the computer connected to the DFP-D2000. The adjustment window is located in the MASTER menu. Refer to page 35 of the SDDS Set-up Software User's Manual.

To make this adjustment, headphones are used to listen to the playback sound of the analog center channel (Left Headphone speaker) and the playback sound of the SDDS digital track center channel (Right Headphone speaker). The headphone jack is located inside the DFP-D2000 on the front edge of the APR-6 board Refer to the figure below.