



Room 197



The City College
of New York

Table Of Contents

Hardware Connections Overview: The Lynx Aurora and the DM-2000 (pg 3)

Equipment & Function - Lynx Aurora (pg 11)

Equipment & Function - Big Ben and DM-2000 (pg 15)

Signal Flow Overviews (pg 24)

Analog Patchbay Overview (pg 27)

Analog Patchbay Normalizing (pg 33)

Patch Control Center Patchbays (pg 41)

Monitor Layout (pg 44)

Intonato I/O Connections (pg 48)

Intonato Monitor Controller (pg 52)

Computer, Aux In, & 02R Monitoring (pg 57)

Recording and Monitoring with Pro Tools & Lynx (pg 61)

Headphone Mixes with Pro Tools & Lynx (pg 67)

Interconnections To/From the Isolation Booth (pg 71)

Recording and Monitoring with Logic & Lynx (pg 74)

Headphone Mixes with Logic & Lynx (pg 79)

Headphone Gain Structure & Talkback (pg 81)

DM-2000 Solo Modes (pg 84)

DM-2000 Screens (pg 89)

197 Video Connections (pg 98)

Open the Keynote in Preview and put it in Full Screen Mode (Control + Command+ F). Now use Option + Command + G to move to the appropriate page.



Hardware Connections Overview

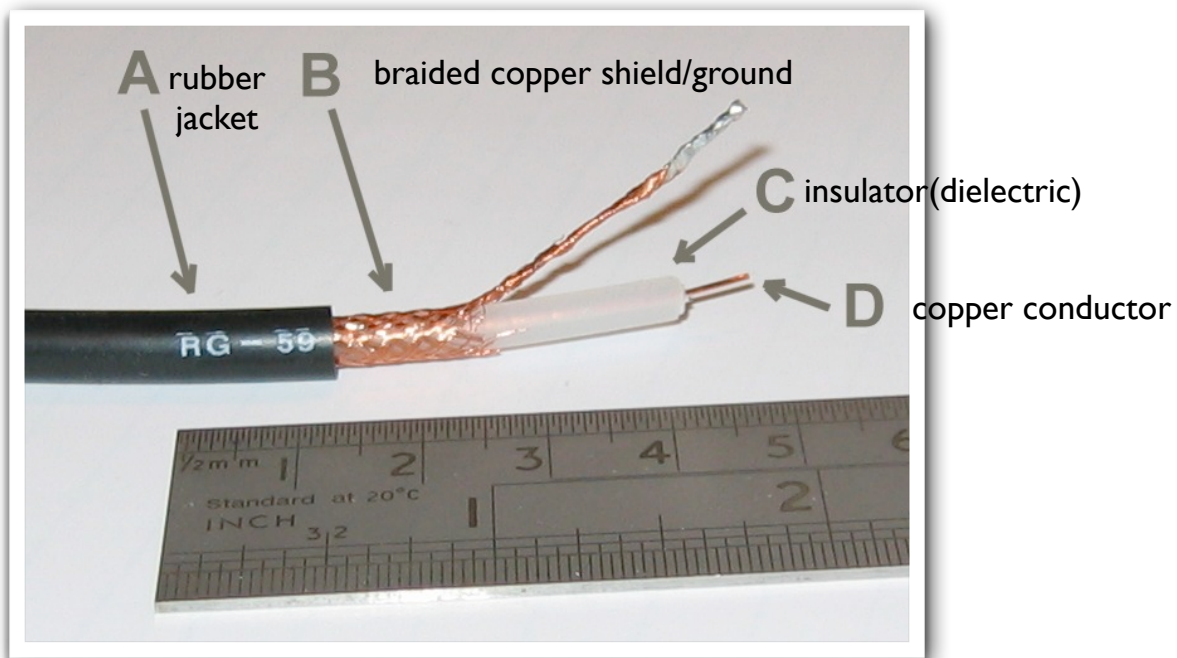
The Lynx Aurora & Yamaha DM-2000



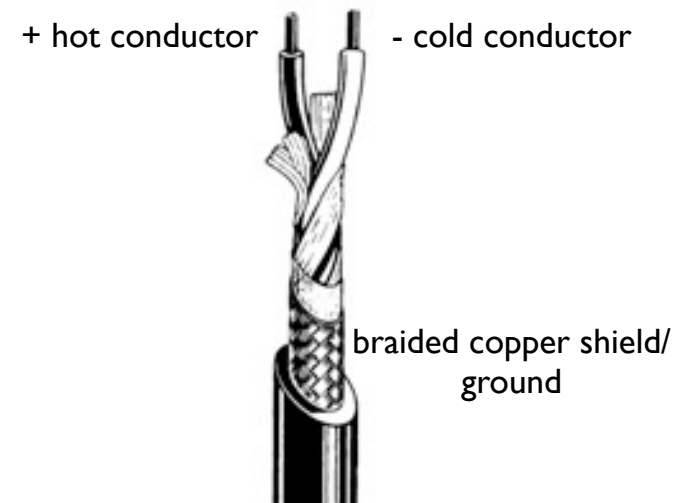
The City College
of New York

Digital and Analog Audio Cables

Coaxial Cable

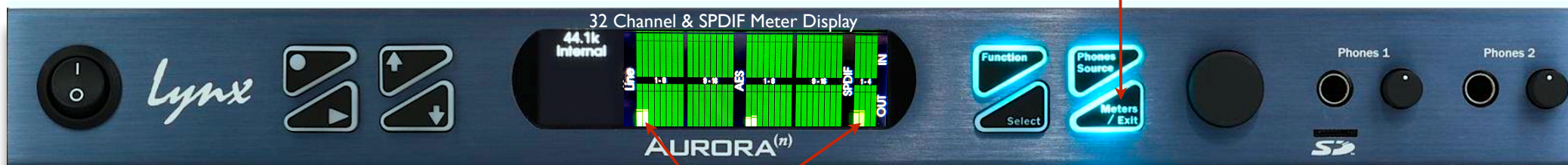


Twisted Pair Cable



Lynx Aurora Overview

Meter Selection - Depress until the meter looks like this display.



SPDIF Outputs 1-2 carrying the Aline 1-2 signal to Yamaha Console



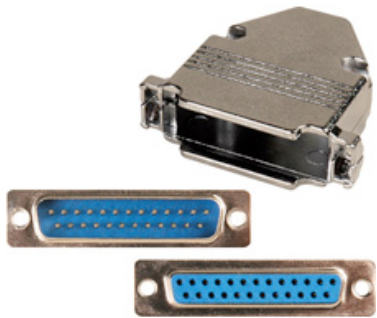
16 Analog Inputs & Outputs (Aline In/Out 1-16)

16 Digital Inputs/Outputs(AES I/O 1-16)

The Lynx Aurora syncs immediately to the Big Ben and provides 32 Channel I/O metering. Therefore, there is no need to use software to adjust these parameters. **Phones Source** is preset to Aline 1-2 for both Phones outputs.

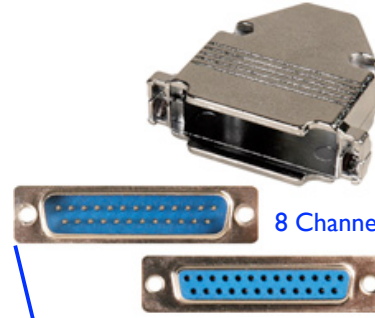
Analog and Digital I/O Connections

Connectors = 25 pin D-Sub



Cable = Balanced, 3 conductor, **Twisted Pair**, 70 Ohm

Connectors = 25 pin D-Sub



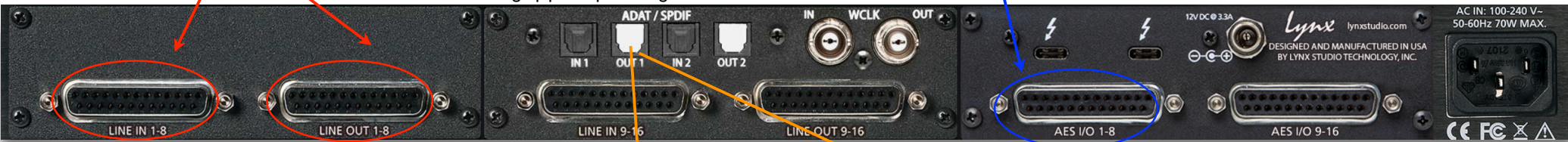
Cable = Balanced, 3 conductor, **Twisted Pair**, 110 Ohm

8 Channels - Bi Directional - **AES3** Digital Format

8 Channels - Uni Directional - **Line Level** Analog

Lynx Aurora

"Lightpipe", Optical, Digital Audio Connections



Connectors = Toslink

Cable = Optical



Optical "Lightpipe" to Coaxial Convertor

Connectors = RCA

Cable = Unbalanced, 2 conductor, **Coaxial**, 75 Ohm



Note: Both the Optical and Coaxial cables carry SPDIF data. They just use different technology to transmit this data!

2 Channels - Uni Directional - **SPDIF** Digital Format

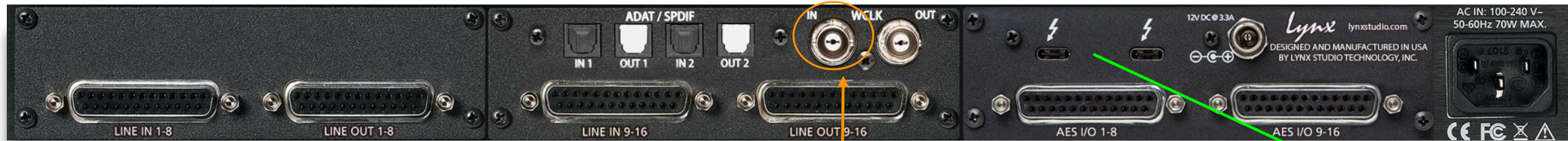
NB - The object of the "impedance" of a cable is to simply "carry" the source impedance to the load without changing it.

Word Clock Connections

Lynx Aurora

Word Clock Connections

Thunderbolt 3 Connections

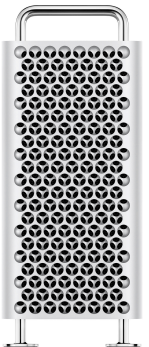


Uni Directional - Digital Word Clock x1 Format

Big Ben



To/From Mac Pro



WORD CLOCK SELECT		IN	OUT	1/2	3/4	5/6	7/8	9/10	11/12	13/14	15/16
SLOT1	4	4									
SLOT2	8	8									
SLOT3	4	4									
SLOT4	0	4									
SLOT5	8	0									
SLOT6	-	-									

DM-2000



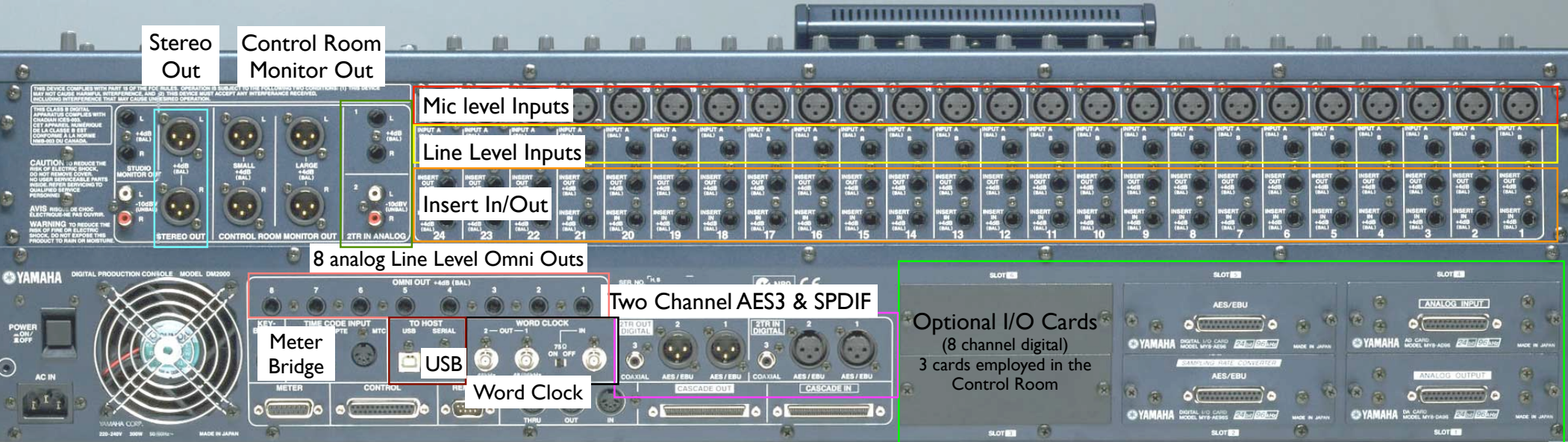
Cable = Unbalanced, 2 conductor, Coaxial, 75 Ohm

Connectors = BNC



DM-2000 Word Clock Source

DM-2000 - Backplate



Stereo Out

Control Room Monitor Out

Mic level Inputs

Line Level Inputs

Insert In/Out

8 analog Line Level Omni Outs

Two Channel AES3 & SPDIF

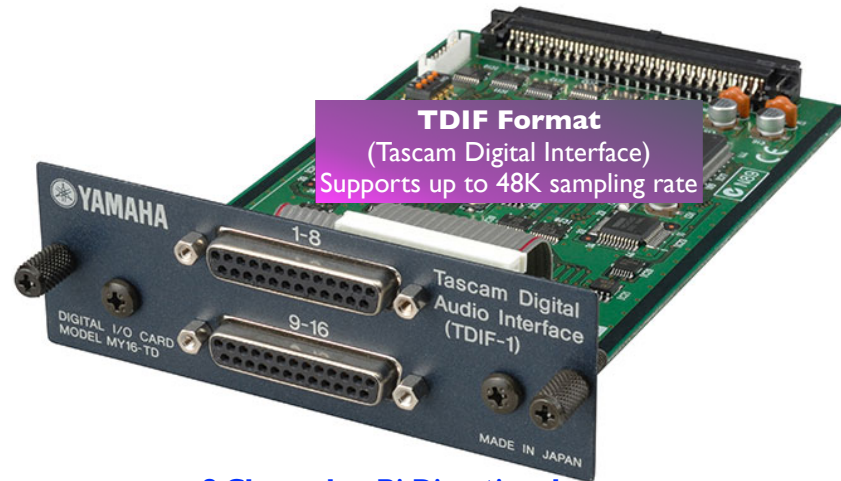
Meter Bridge

USB

Word Clock

Optional I/O Cards
(8 channel digital)
3 cards employed in the
Control Room

Legacy Digital Audio Transfer Formats



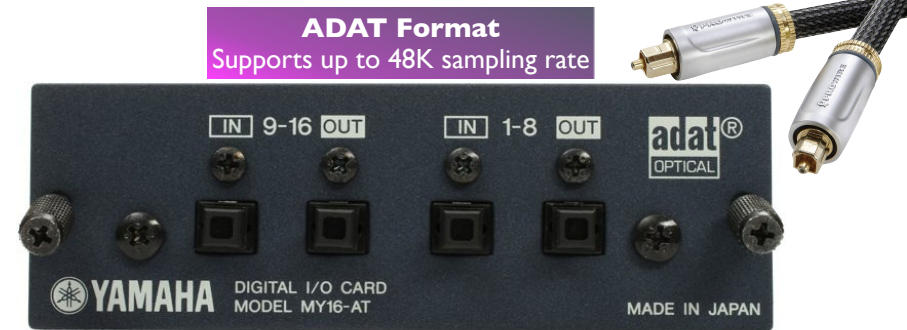
TDIF Format
 (Tascam Digital Interface)
 Supports up to 48K sampling rate

8 Channels - Bi Directional
DB-25 Connector - Twisted pair 110 Ohm cable

S/PDIF Format
 (Sony/Philips Digital Interface)
 Supports up to 192K sampling rate



2 Channels - Unidirectional
RCA connectors with coaxial cable
Toslink Connectors - Optical cable



ADAT Format
 Supports up to 48K sampling rate

8 Channels - Unidirectional
Toslink Connector - Optical cable

Large Channel Count Digital Audio Transfer Formats

MADI Format
(Multichannel Audio Digital Interface)
Supports up to 192K sampling rate



64 channels - Unidirectional
Multimode SC Optical Connector
Optical Cable

64 channels - Unidirectional
BNC Connector - Coaxial cable

DANTE Format
Supports up to 192K sampling rate



128 channels - Bidirectional
Ethernet Connector - CAT 5/6 cable



Equipment and Function
Lynx Aurora

SAC
Sonic Arts Center

The City College
of New York

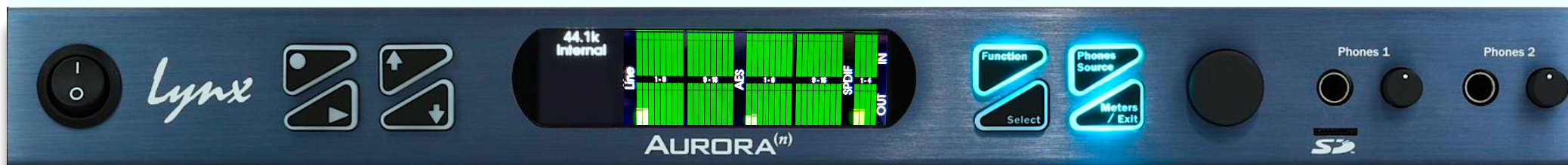
Main Functions of the Lynx Aurora

Provides input/output connections (digital and analog) for Logic and Pro Tools

A-D and D-A Conversion for Logic and Pro Tools

Provides interconnection to the computer

Lynx Face/Backplate



**From Patchbay
Channels 1-8**

**To Patchbay
Channels 1-8**

**From Patchbay
Channels 9-16**

**To Patchbay
Channels 9-16**

**To/From DM-2000, Slot 1
Channels 1-8**

**To/From DM-2000, Slot 2
Channels 9-16**

To DM-2000/02R96

From Big Ben

**To/From
Mac Pro**

Avid, Pro Tools I/O Routing

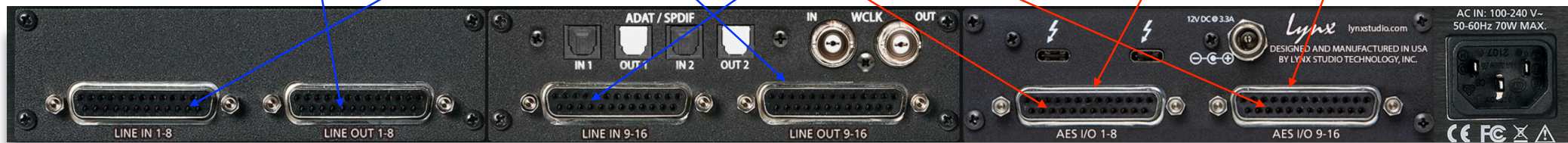
OUTPUTS

INPUTS

The screenshots show the I/O Routing window for 'A - 1: Aurora(n)-TB3'. The left window (OUTPUTS) shows routing for analog outputs (A Line 1-8, A Line 9-16) and digital outputs (AES 1-8, AES 9-16). The right window (INPUTS) shows routing for analog inputs (A Line 1-8, A Line 9-16) and digital inputs (AES 1-8, AES 9-16). Blue lines indicate analog routing, and red lines indicate digital routing.

BLUE = ANALOG

RED = DIGITAL





The City College
of New York

Equipment & Function

Big Ben & DM-2000



Main Functions of the DM-2000

Inputs/Outputs Connections (Digital & Analog)

Audio Routing and Signal Level Modification

Preamplification

Remote Control

Signal Processing

Talkback

Audio Monitoring



DM-2000 - Front

Yamaha Layer

SAC Function

Yamaha I/O Connection

Lynx Aurora I/O

Layer 1-24

Scene 1 - Direct Outs from layer 1-24 go to the Lynx AES I-16 inputs

Microphone Inputs 1-24

Card Slots 1 & 2

To
Lynx AES Ins 1-16

Layer 25-48

Lynx Digital Returns 1-16 (headphones)

Card Slots 1 & 2

From
Lynx AES Outs 1-16

Layer 49-72

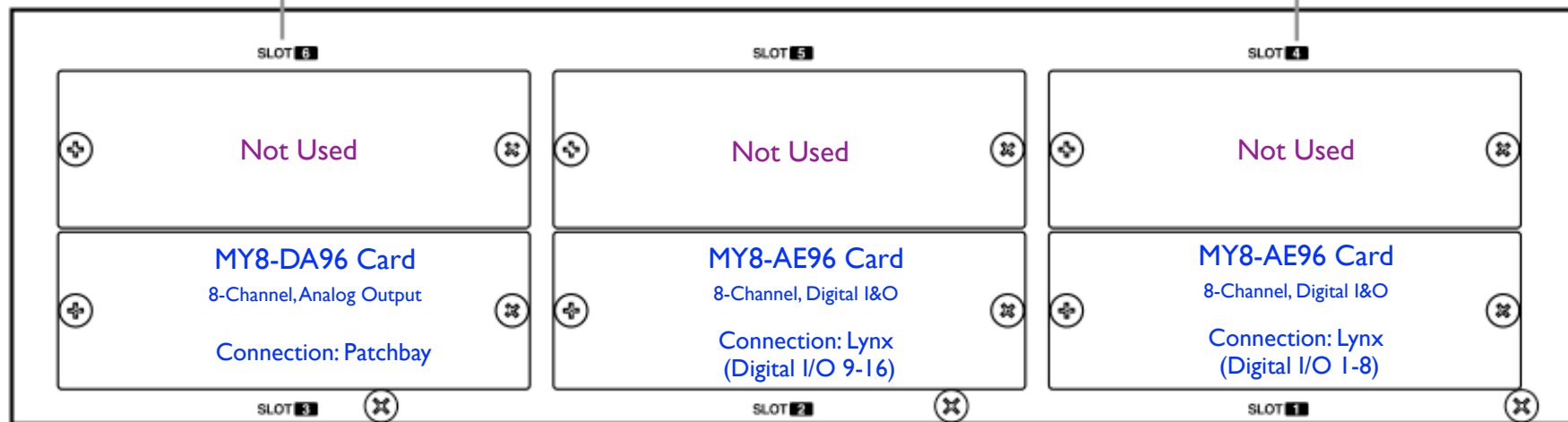
Layer 73-96

Remote

Remote

Master

Master Section



Yamaha DM-2000

Normalizing the 02R96 for a Recording Session

1. Reset the Scene Memory to **Scene 1**.
2. Normalize the hardware associated with the head amp (pot, 48v, pad, Insert) for all 16 channels
3. Set Input Metering Position to **Pre Eq**
4. Set Stereo meter to **Control Room**
5. Set **Control Room Monitor** Select to **Symphony**
6. Select **Layer 1-24**
7. Select **Fader** for Fader Mode.
8. Make sure the **Word Clock Select** is set to **Word Clock In** (see next page)

Apogee, Big Ben - Master



MASTER CLOCK PULSES



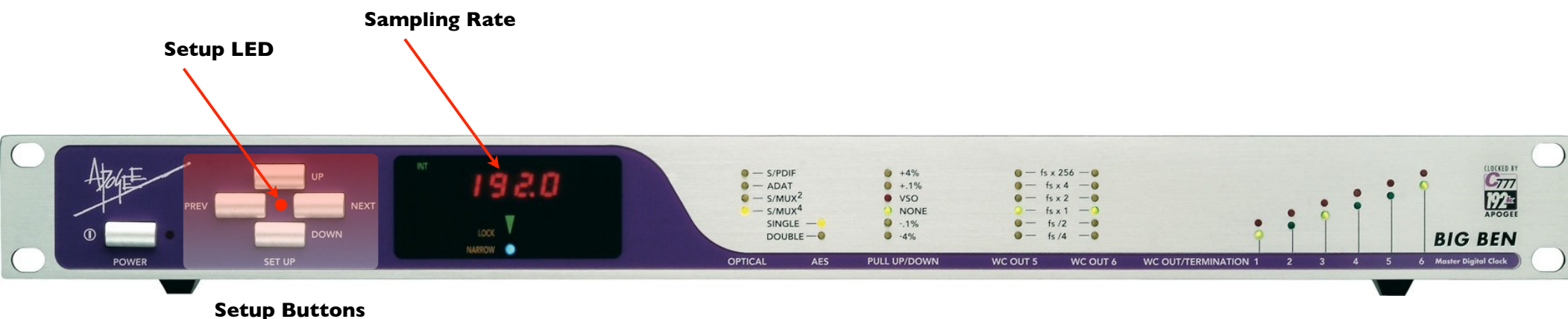
AUDIO BYTE/WORD (READ OR RECORDED) SLAVED TO THE MASTER CLOCK

(In the DM-2000 and Apogee Symphony)

Main Function of the Big Ben

Provides the master clock to all digital audio hardware
(Lynx Aurora and DM-2000)

Establishing the Session Sampling Rate Setting the Big Ben



- 1) Enable Setup Mode by simply pressing any of the SETUP buttons. The SETUP LED will illuminate and the value selected the previous time SETUP mode was enabled will flash (sampling rate if that was the last value selected)
- 2) Press either the PREV or NEXT button if sampling rate is NOT flashing. Press until sampling rate is flashing.
- 3) Press either the UP or DOWN buttons until the desired (sampling rate) is blinking.
- 4) Please Note: If no buttons are pressed for 2 seconds, after the initial press, Setup Mode will be disabled automatically and the value which was blinking will now illuminate solidly.
- 5) Once you have set the proper sampling rate the value will stop blinking and will be saved automatically.

02R-96 Word Clock Select Screen

96 Initial Data D10 96k CH48-NAME

WORD CLOCK SELECT:

SLOT TYPE	IN	OUT	1/2	3/4	5/6	7/8	9/10	11/12	13/14	15/16
SLOT1 adat	4	4	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
SLOT2 AES/EBU	8	8	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
SLOT3 TDIF	4	4	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
SLOT4 D/A	0	4	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
SLOT5 A/D	8	0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
SLOT6 NO CARD	-	-	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

FS WC IN CAS.IN 2TRD1 2TRD2 2TRD3

96 kHz INT 44.1k INT 48k INT 88.2k INT 96k

WORD CLOCK DITHER CASCADE CAS. OUT

Switch In the **Display Access** Section

This must be the **Word Clock** source.

The source select buttons have the following indications:

- A usable wordclock signal is present at this input.
- No wordclock signal is present at this input.
- A wordclock signal is present, but it's out of sync with the current DM2000 clock.
- This is the currently selected wordclock source.
- This input was selected as the wordclock source, but no usable signal was received.
- This cannot be selected as the wordclock source because a wordclock signal cannot be sourced from this input on this type of I/O Card, or no I/O Card is installed.



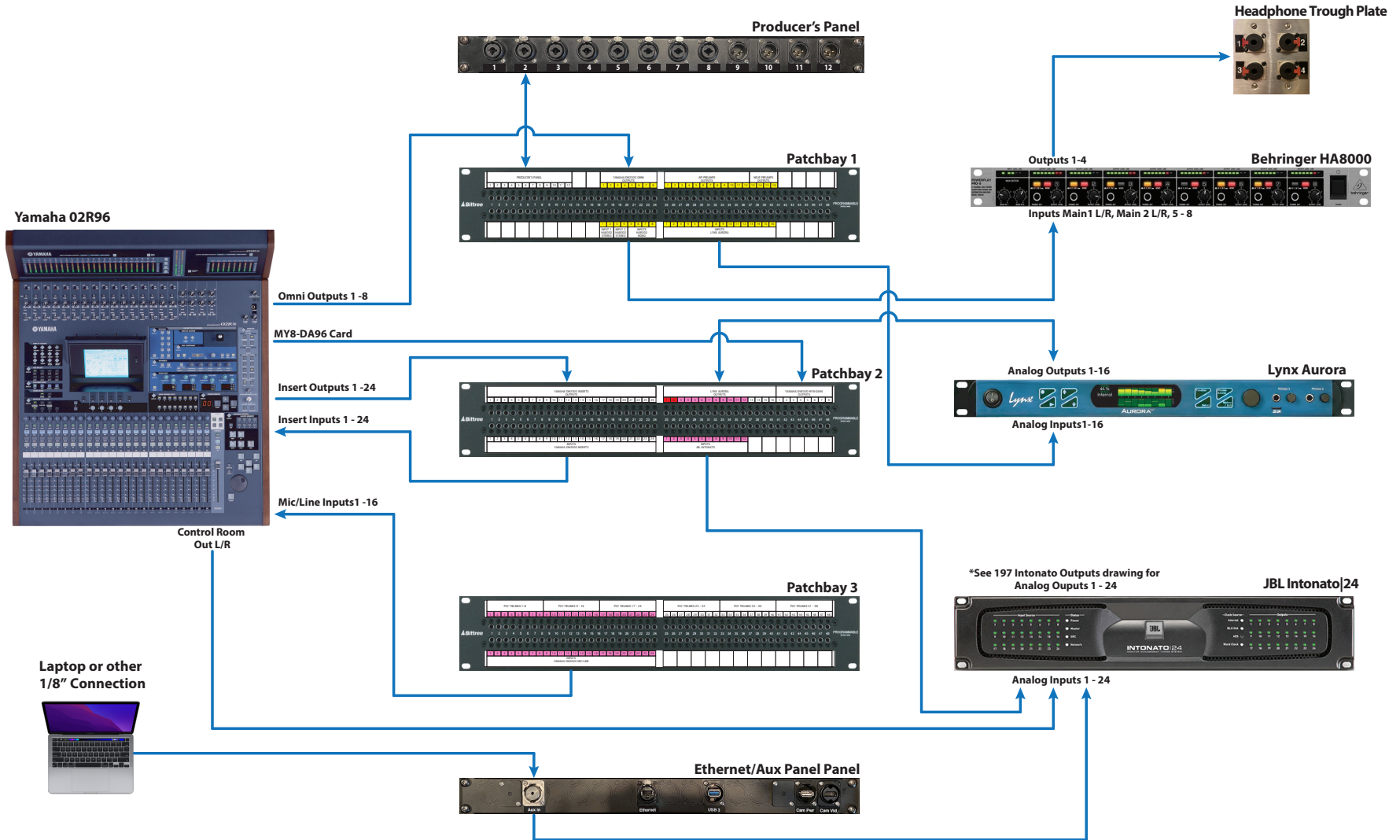
The City College
of New York

Signal Flow Overviews





197 Analog Signal Flow

Patchbay - Full Normal = █
 Patchbay - Half Normal = █
 Line Level = █



193 - 197 Digital Signal Flow

Digital Cable = 
 Word Clock = 

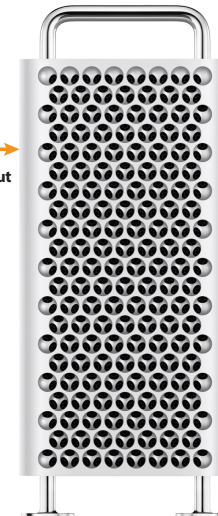
Apogee Big Ben



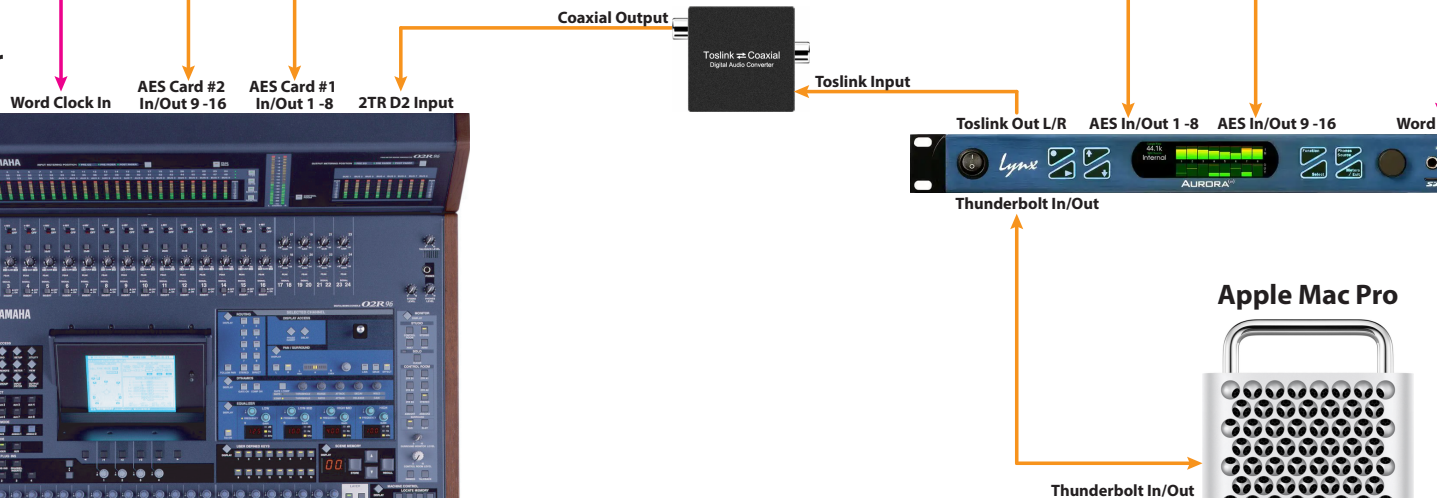
Lynx Aurora



Apple Mac Pro



Yamaha
02R96 or
DM2000





Analog Patchbay Overview



The City College
of New York

= Half Normal

= Full Normal

= Not Available

Room 197 Patchbays

Edited by Joe Popp 02.20.20

Patchbay 1

PRODUCER'S PANEL												YAMAHA DM2000 OMNI OUTPUTS							
1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8
												1	2	3	4	5	6	7	8
												INPUT 1 HA8000 STEREO	INPUT 2 HA8000 STEREO	INPUTS HA8000 MONO					

API PREAMPS OUTPUTS												NEVE PREAMPS OUTPUTS							
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
																INPUTS LYNX AURORA			

Patchbay 2

YAMAHA DM2000 INSERTS OUTPUTS																							
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
INPUTS YAMAHA DM2000 INSERTS																							

LYNX AURORA OUTPUTS												YAMAHA DM2000 MY8-DA96 OUTPUTS											
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	1	2	3	4	5	6	7	8
1	2	3	4	5	6	7	8	9	10	11	12												
												INPUTS JBL INTONATO											

Patchbay 3

PCC TIELINES 1-8								PCC TIELINES 9 - 16								PCC TIELINES 17 - 24							
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
INPUTS YAMAHA DM2000 MIC/LINE																							

PCC TIELINES 25 - 32								PCC TIELINES 33 - 40								PCC TIELINES 41 - 48							
25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48

Patchbay 4

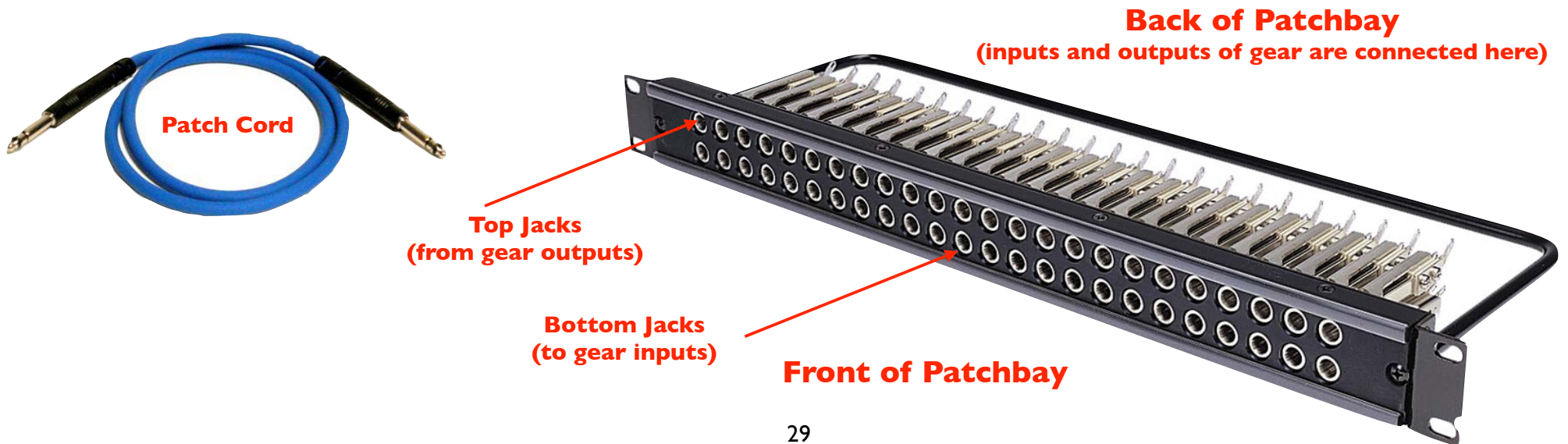
6176 PREAMP OUTPUT	6176 COMPRESSOR OUTPUT			DISTRESSOR OUTPUTS	MANLEY ELOP OUTPUTS	RETRO 176 OUTPUT	ALAN SMART OUTPUTS	DANGEROUS BAX EQ OUTPUTS				
LINE	LINE			A	B	L	R	OUT	A	B	L	R
INPUT 6176 PREAMP	INPUT 6176 COMPRESSOR			INPUTS DISTRESSOR	INPUTS MANLEY ELOP	INPUT RETRO 176	INPUTS ALAN SMART	INPUTS DANGEROUS BAX EQ				

ONKYO TX-RZ830 OUTPUTS																			
1	2	3	4	5	6	7	8	9	10	11	12								
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
												INPUTS API PREAMPS				INPUTS NEVE PREAMPS			

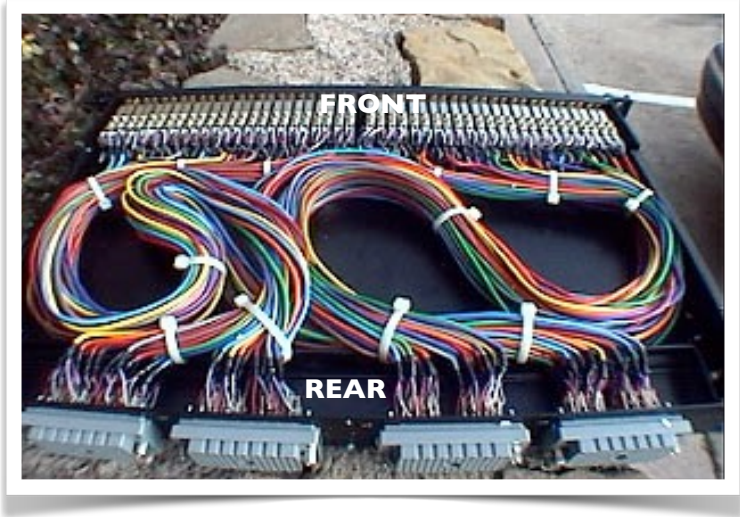
The Analog Patchbay Defined

An analog patchbay is a device that allows studio users to bring some or all of the analog Input & Output connections to a central place to allow for easy and flexible interconnections between various piece of analog equipment.

In general, patch bays consist of two rows of jacks, one on top of the other. The **top jacks** have **outputs** connected to them and the **bottom jacks** have **inputs** connected to them.



Termination: TT/Bantam with EDAC/ELCO & 25 Pin D-Sub



96 point TT/BANTAM patchbay with EDAC termination points



96 point TT/BANTAM patchbay with DB-25 termination points

Patch Cord Comparison



1/4" TRS

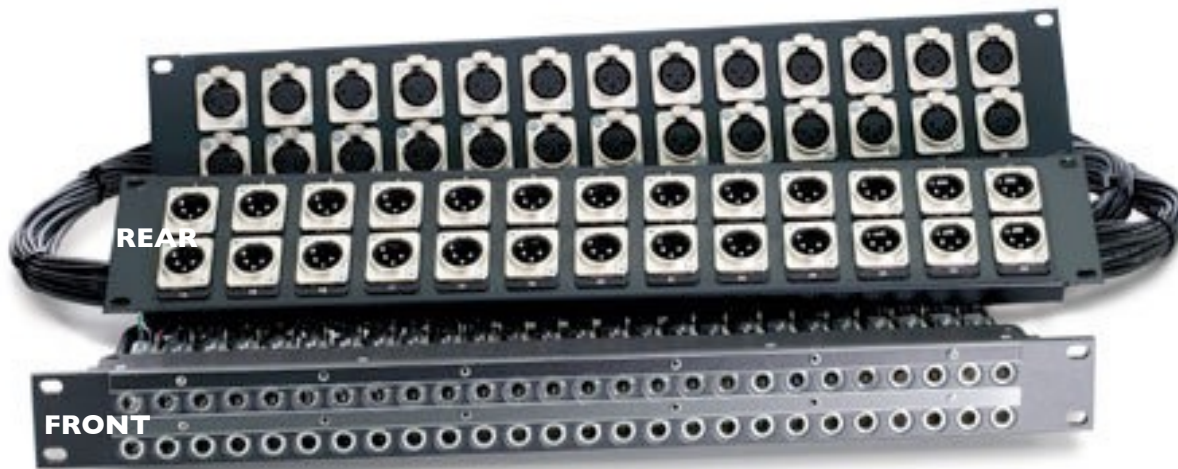
TT or Bantam

TT/Batam's low profile can allow for 96 point patch bays
 1/4" TRS can only accommodate 48 point patch bays

Termination: TT/Bantam with XLR - 1/4" RTS with Punch Block

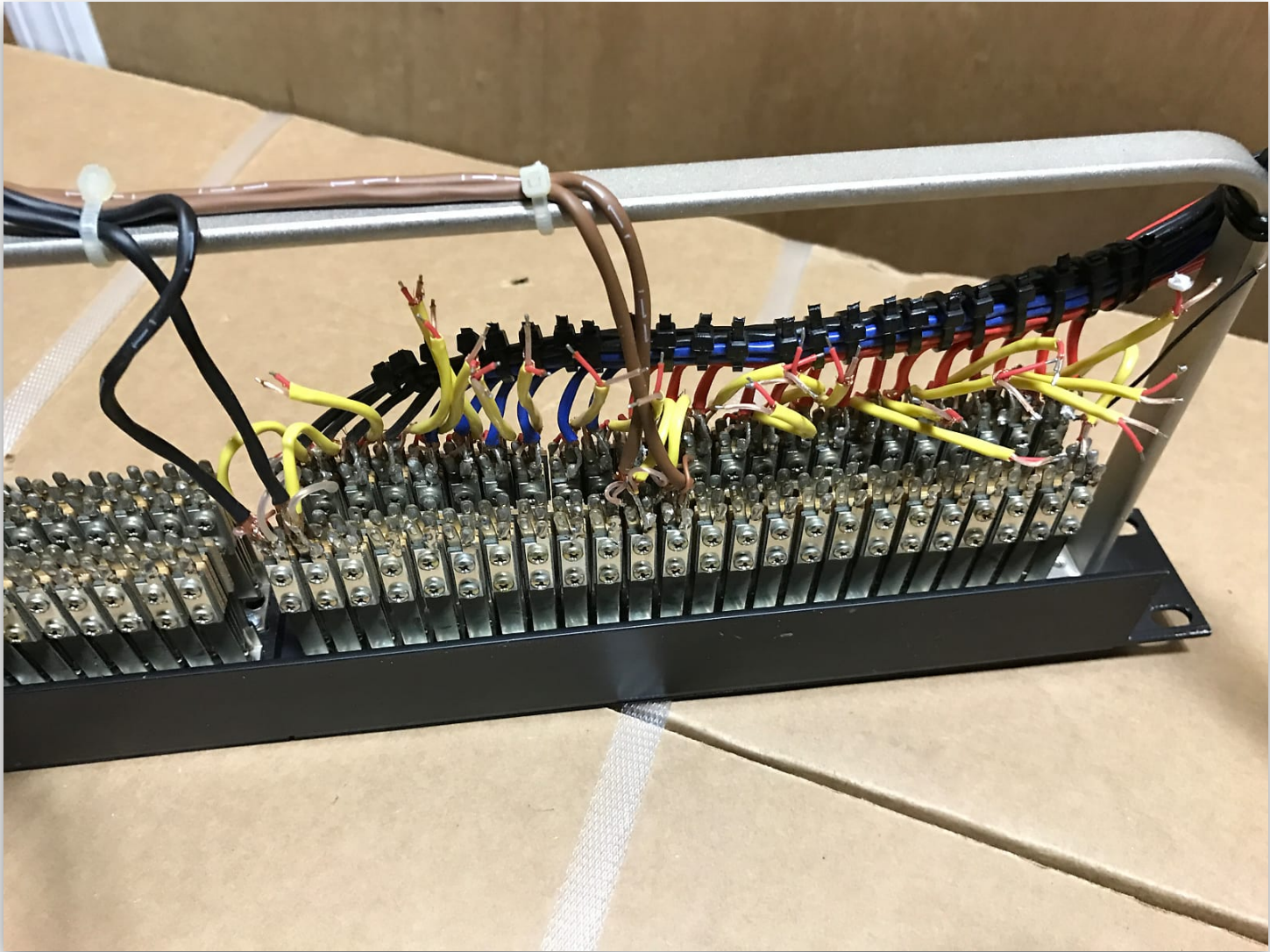


48 point 1/4" Ring-Tip-Sleeve patchbay with Punch Block termination (non normaling)



48 point 1/4" Ring-Tip-Sleeve patchbay with XLR Termination

Termination: TT/Bantam with Solder Connection Points





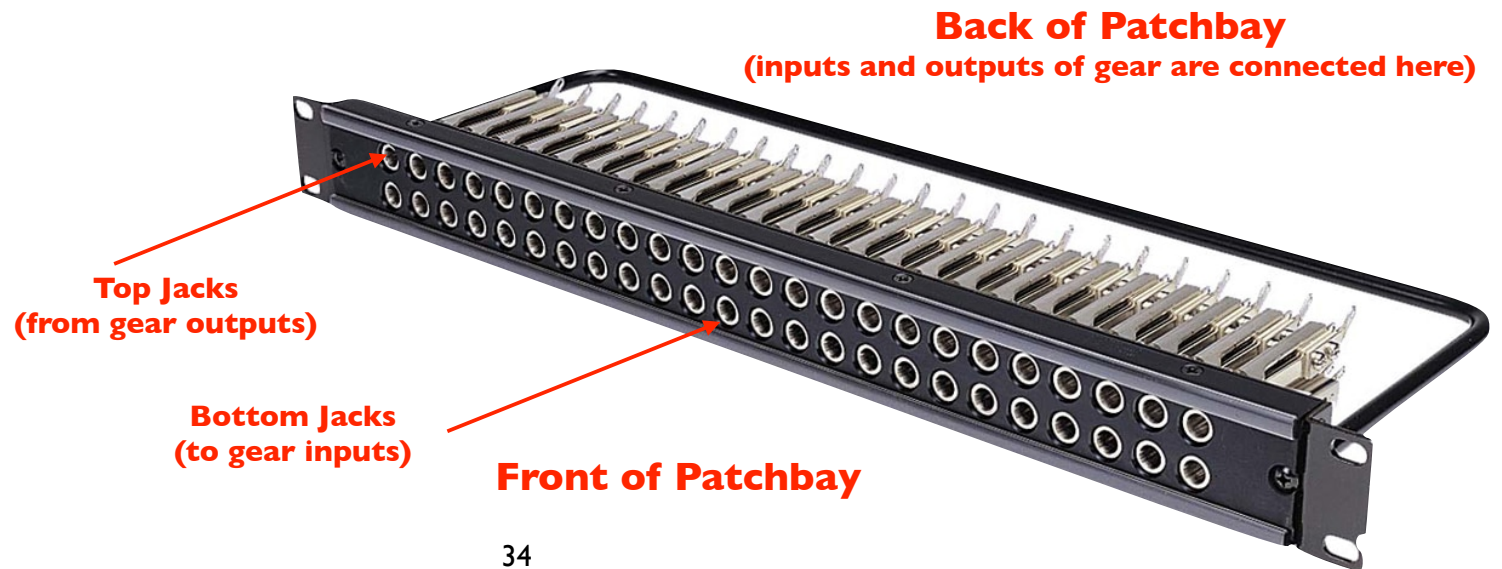
Analog Patchbay Normaling

SAC
Sonic Arts Center

The City College
of New York

Normalling

Normalling is creating a connection between the top and bottom jacks that do not require the use of a patch cord. Signal flows from the output of a piece of analog equipment to the top jack, down to the bottom jack, and out to the input of an analog piece of equipment.



Full and Half Normalled

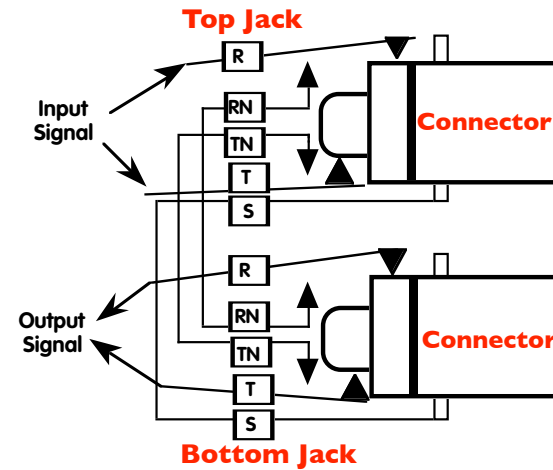
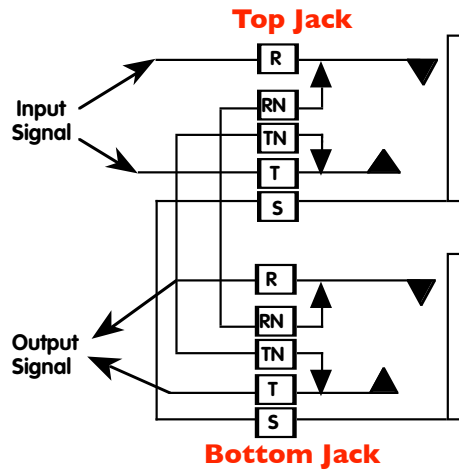
↑ = Metal Flange Connection

R = Ring
 RN = Ring Normalled
 T = Tip
 TN = Tip Normalled
 S = Sleeve/Ground

FULL-NORMALLED

(normal down)

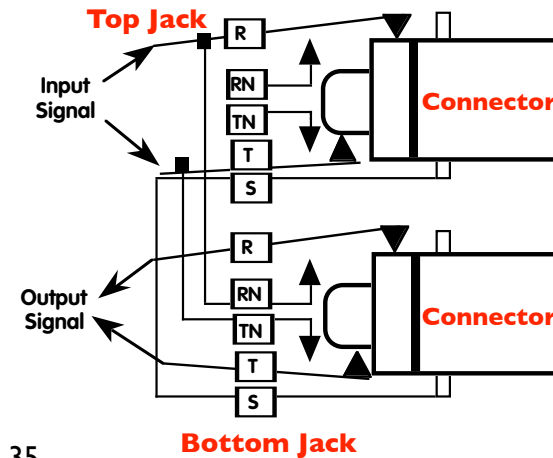
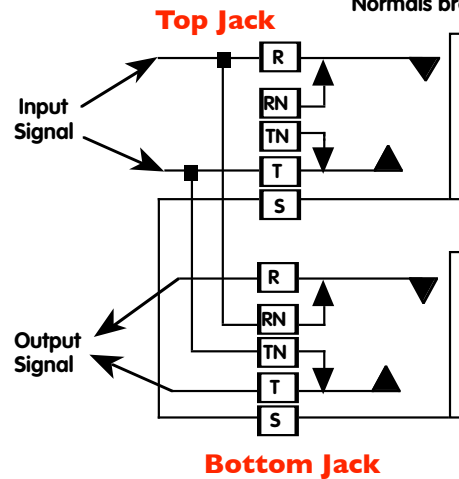
Normals broken with jacks in either patch point



HALF-NORMALLED

(normal down)

Normals broken with jacks in bottom patch point only

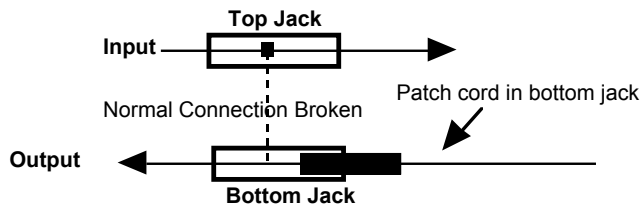
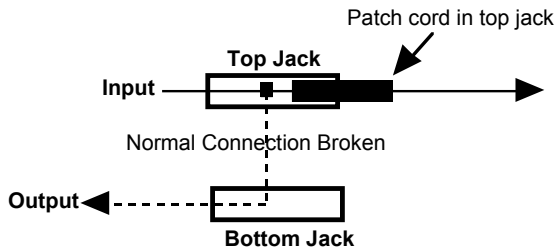


Patchbay Normals Signal Flow

FULL-NORMALLED

(normal down)

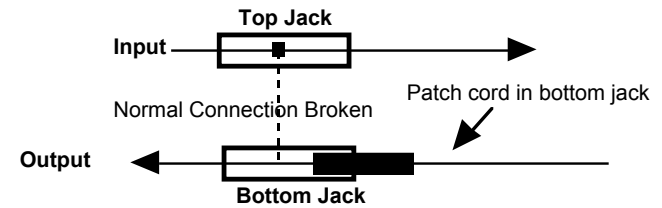
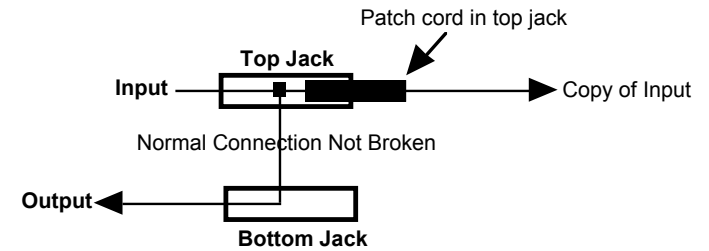
Normals broken with jacks in either patch point



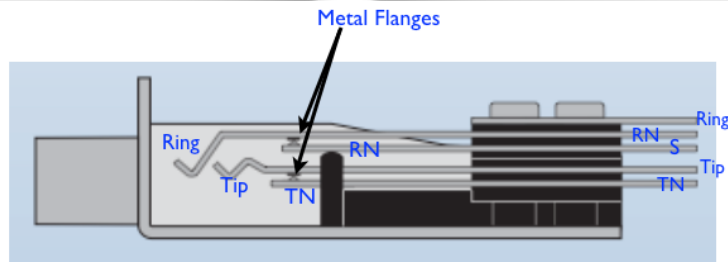
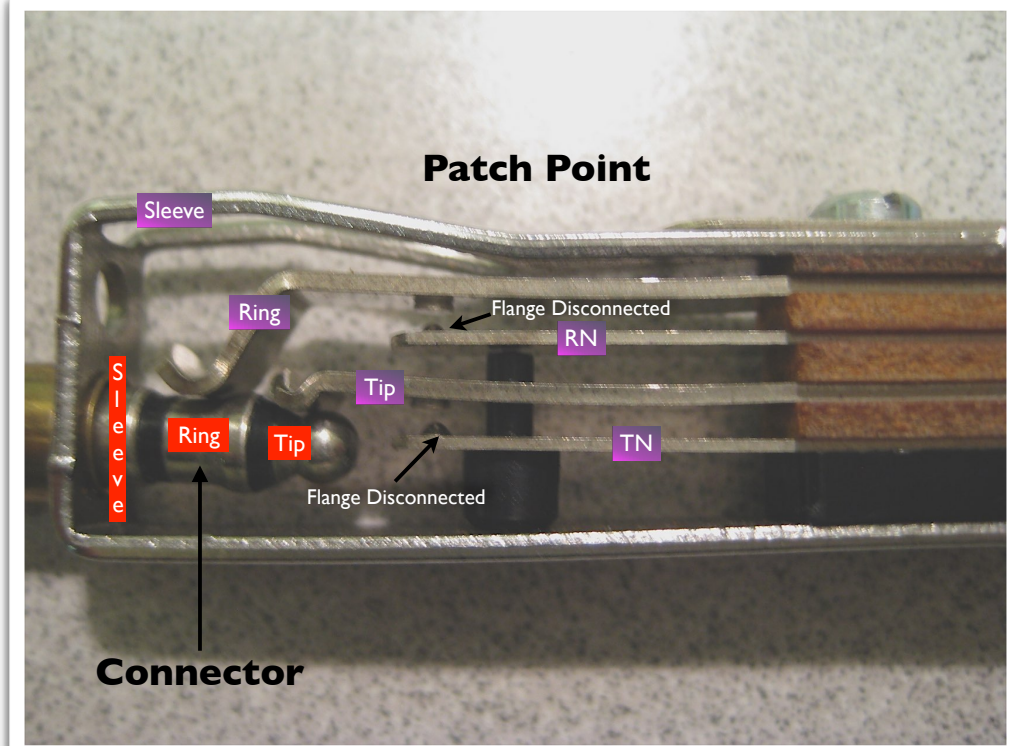
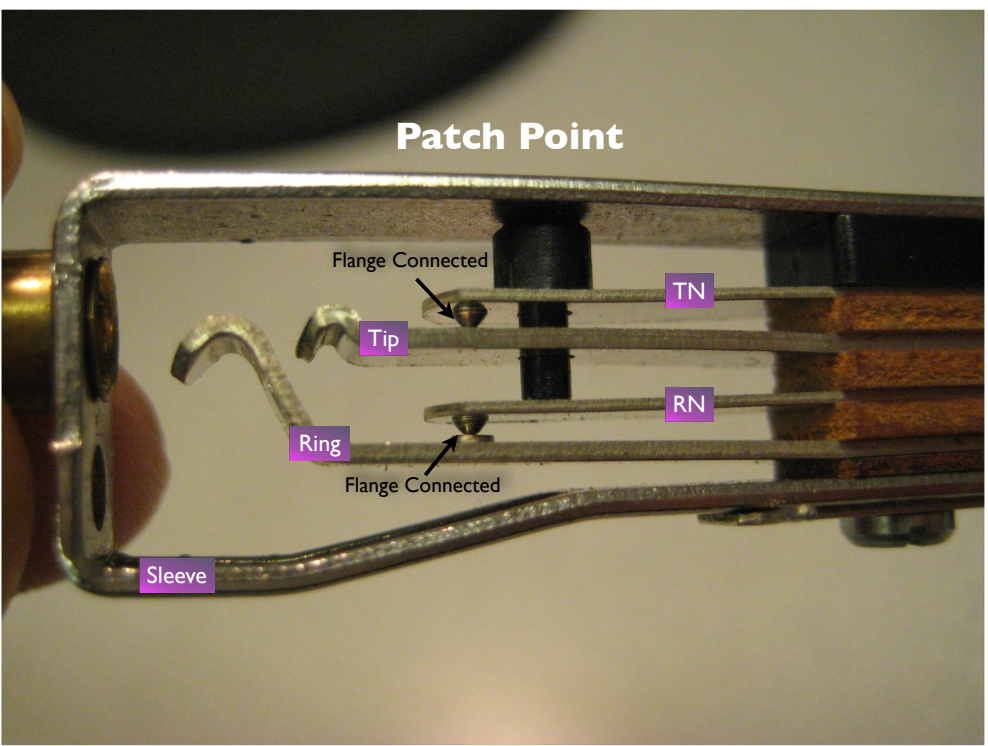
HALF-NORMALLED

(normal down)

Normals broken with jacks in bottom patch point only



Normalling Patchpoints Up Close

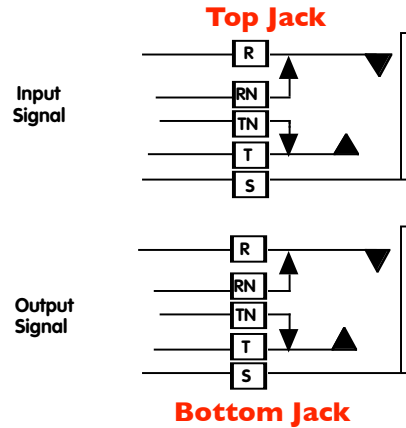


Anatomy of balanced Bantam/TT jack

Everything Out, Non-Normalled, Mult/Parallel

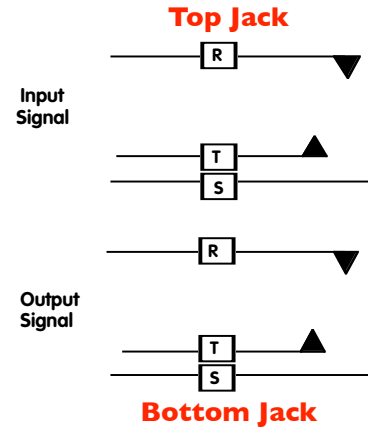
EVERYTHING OUT

Can be wired to be full-normalled or half-normalled



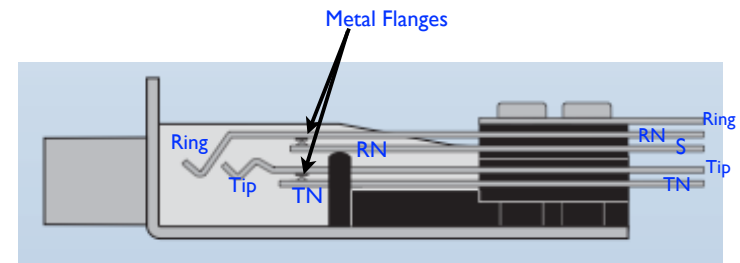
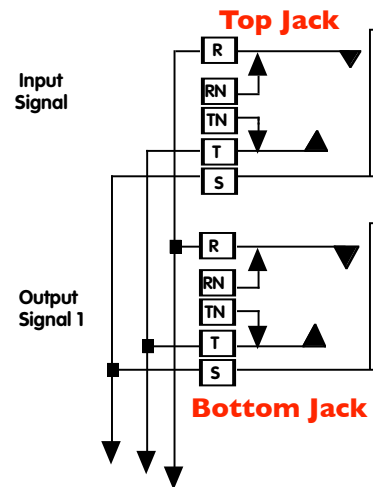
NON-NORMALLED

Can't be wired to do any normalling



MULT/PARALLEL

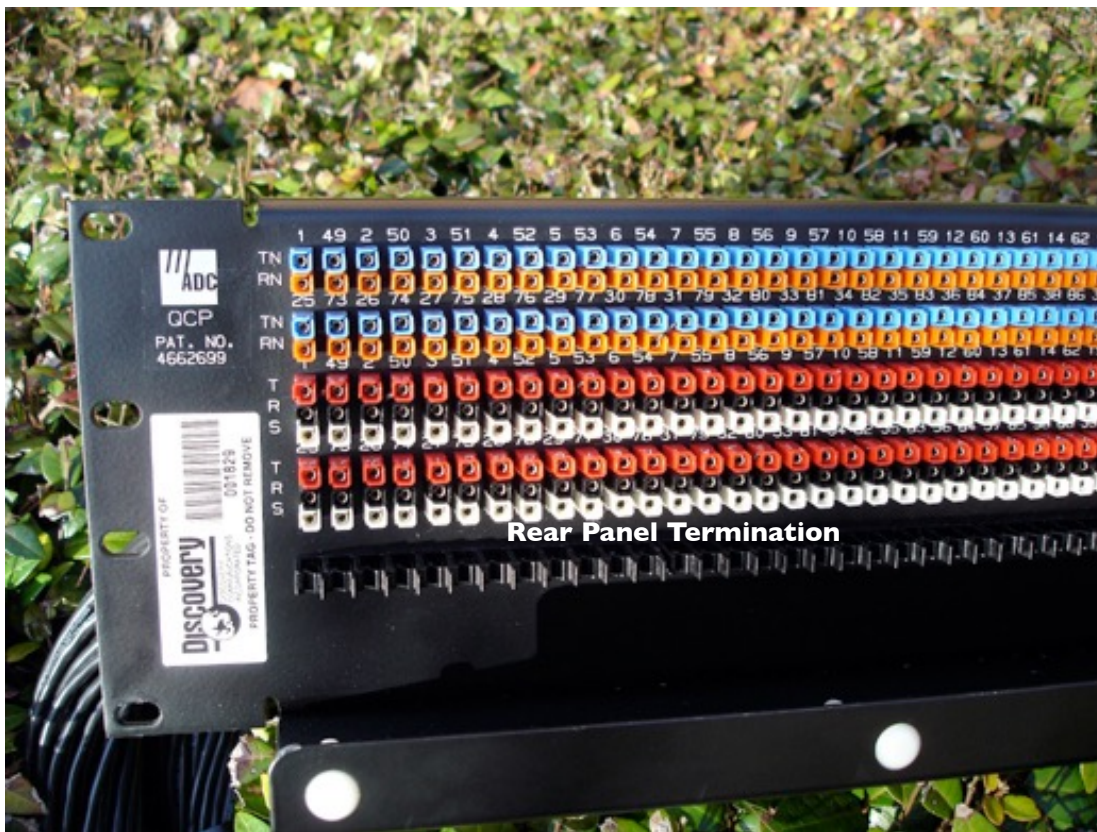
Patching into one jack multiplies the signal to the other connected jacks. Usually wired in sets of four jacks. Only one input signal should be used for each jack set.



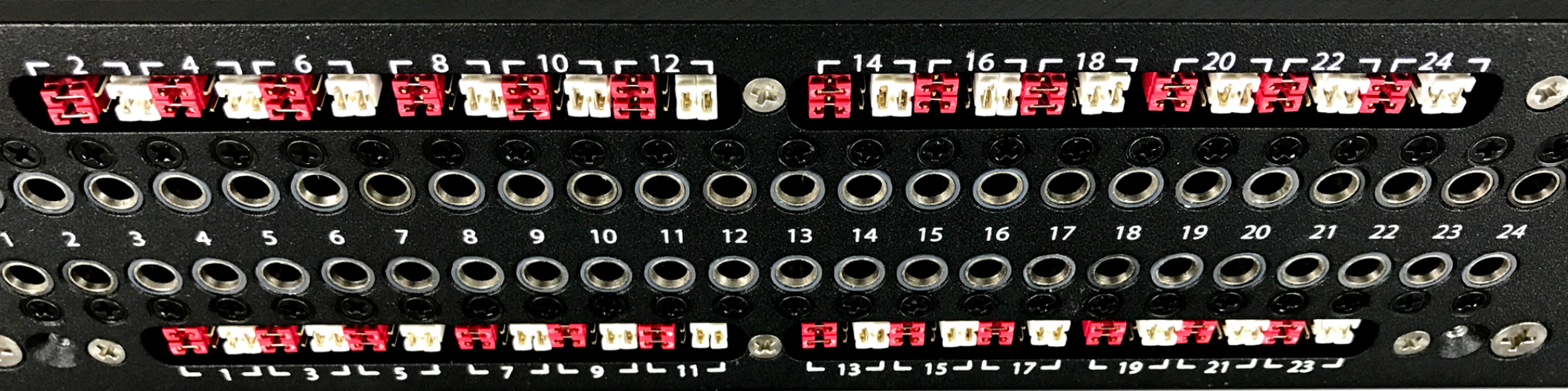
Anatomy of balanced Bantam/TT jack

To two other patch points which function as output signals 2 & 3

Termination for Normalling: Punch Block



Bittree Patchbay Normalling



Full Normalled Isolated Grounds	Full Normalled Looped Grounds	Full Normalled Bussed Grounds	Half Normalled Isolated Grounds	Half Normalled Looped Grounds	Half Normalled Bussed Grounds	Non Normalled Isolated Grounds	Non Normalled Bussed Grounds

For more info visit us at: bittree.com

A professional recording studio control room. The room features a large mixing console with multiple faders and knobs, several computer monitors displaying blue desktop backgrounds, and three ergonomic chairs. The ceiling is equipped with track lighting and several studio monitors. A green door is visible on the left wall, and a window with a wooden frame is in the background. The floor is made of light-colored wood.

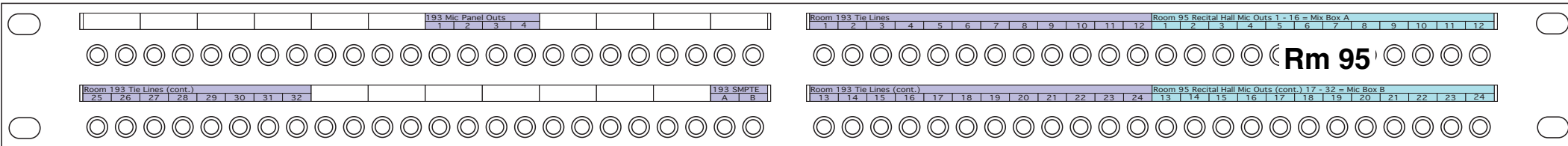
Patch Control Center Patchbays



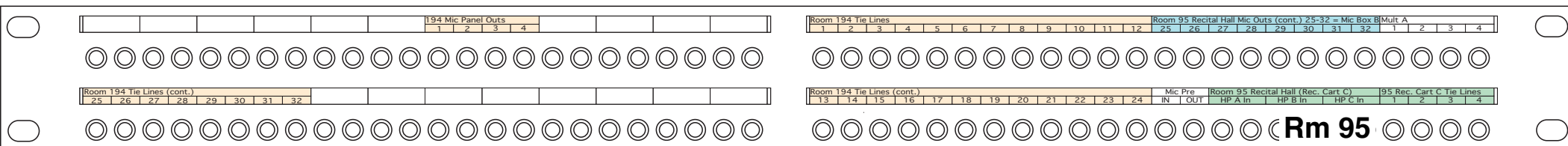
The City College
of New York

Patch Control Center Patch Bays

Room 193 - Surround Production Studio



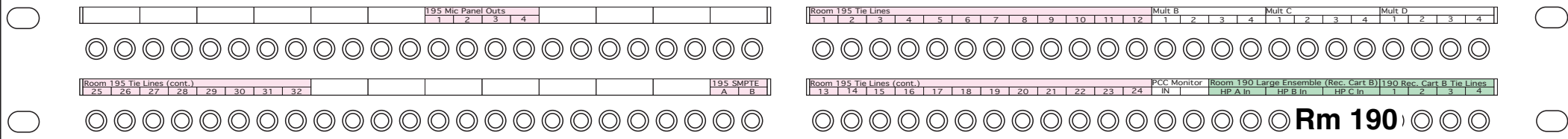
Room 194 - Production Studio



Room 95

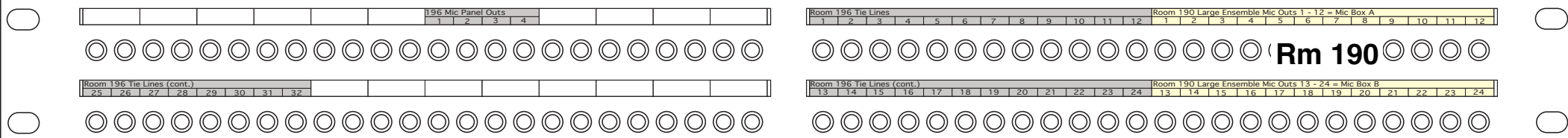
Mult

Room 195 - Production Studio



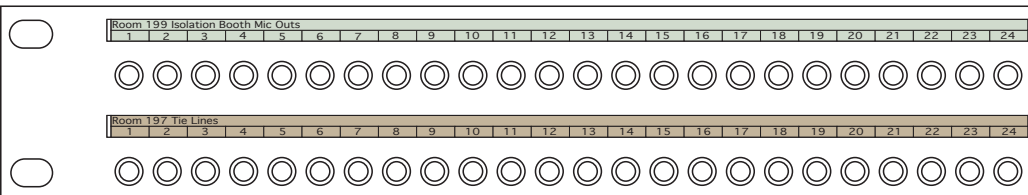
Mults

Room 196 - Production Studio



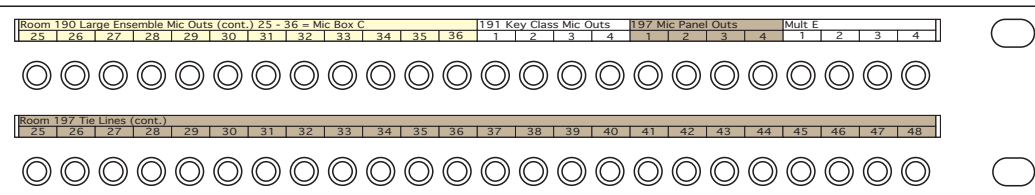
Patch Control Center Patch Bays

Room 199 - Isolation Booth



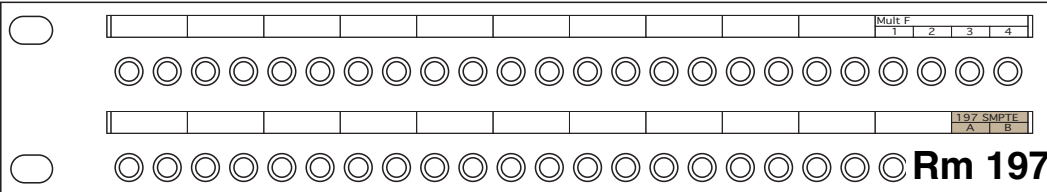
Rm 190

Rm 191 Rm 197

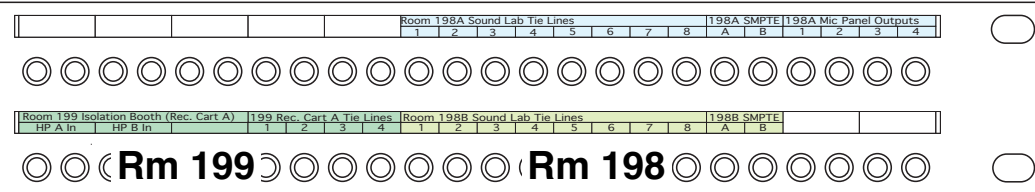


Room 197 - Control Room

Room 197 - Control Room



Room 198 - Sound Lab



Rm 197

Rm 199

Rm 198

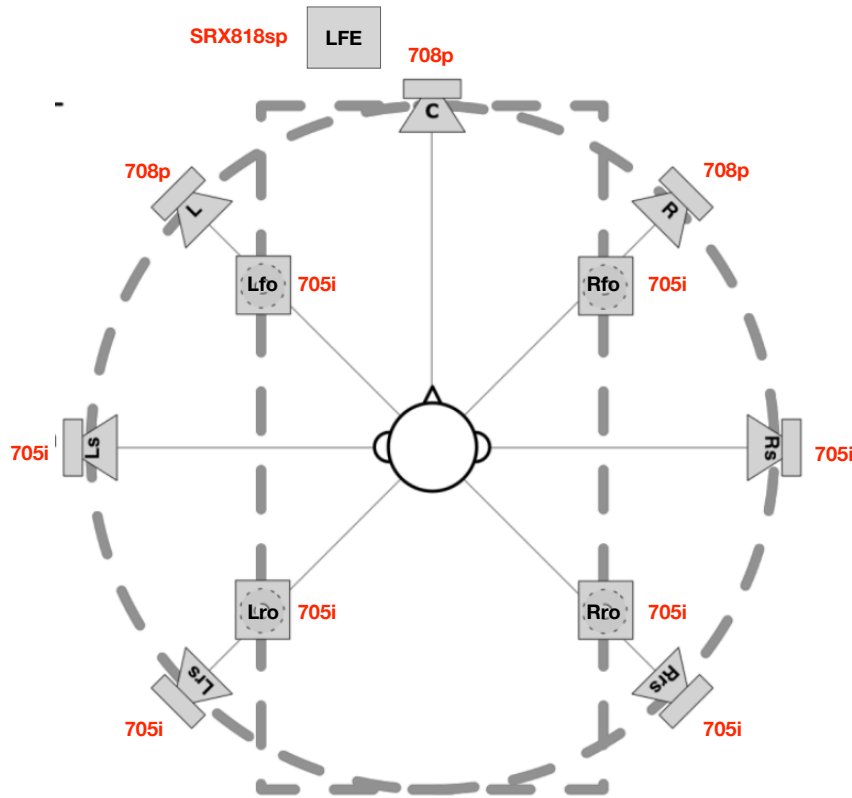
A professional recording studio control room. The room features a large mixing console with a red top edge, several computer monitors displaying blue waveforms, and multiple studio monitors on stands. The room has wood-paneled walls, a green door, and a window with a wooden frame. The ceiling is equipped with track lighting and a central air conditioning unit. The floor is made of light-colored wood.

Monitor Layout

Control Room Monitor Layout

Speaker Type
JBL 705i = Passive 5' speaker
JBL 708p = Active 8" Speaker
SRX818sp = Active LFE/Subwoofer

Speaker Positions
L= Left
C= Center
R= Right
Ls = Left surround
Rs = Right Surround
Lrs = Left Rear Surround
Rrs = Right Rear Surround
Lfo = Left Front Overhead
Rfo = Right Front Overhead
Lro = Left Rear Overhead
Rro = Right Rear Overhead
LFE = Low Frequency Enhancement



SRX818sp = Active LFE/Subwoofer





JBL 708p = Active

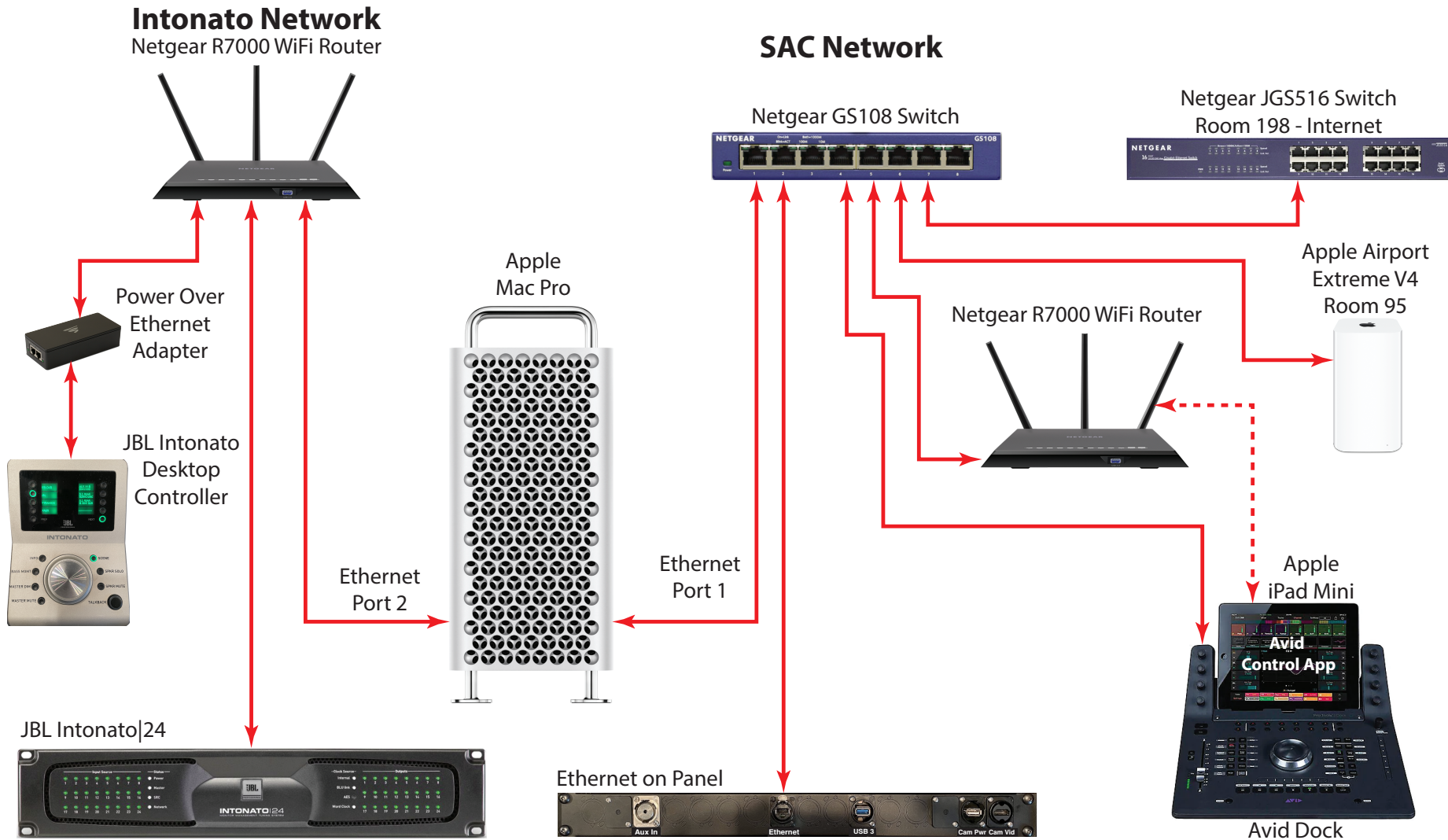
JBL 705i = Passive



Crown - 8/300, 8 - 300 watt per channel amplifier.
Located in PCC

Room 197 Ethernet Routing

Ethernet = 
Wireless = 





JBL 705i

Rrs

Rro

JBL 705i

Lro

JBL 705i

Rfo

JBL 705i

Lfo

JBL 705i

Rs

Lrs

JBL 705i

Ls

JBL 705i

JBL 705i

L

C

R

JBL 708p

JBL 708p

LFE behind the desk

Infonato 24

Monitor Identification



A professional recording studio control room. The room features a large mixing console with multiple faders and knobs, several computer monitors displaying blue desktop backgrounds, and several large black studio monitors on stands. The room has a wooden floor, a green door, and a window with a wooden frame. The ceiling is equipped with track lighting and a central ventilation grille. The overall atmosphere is professional and modern.

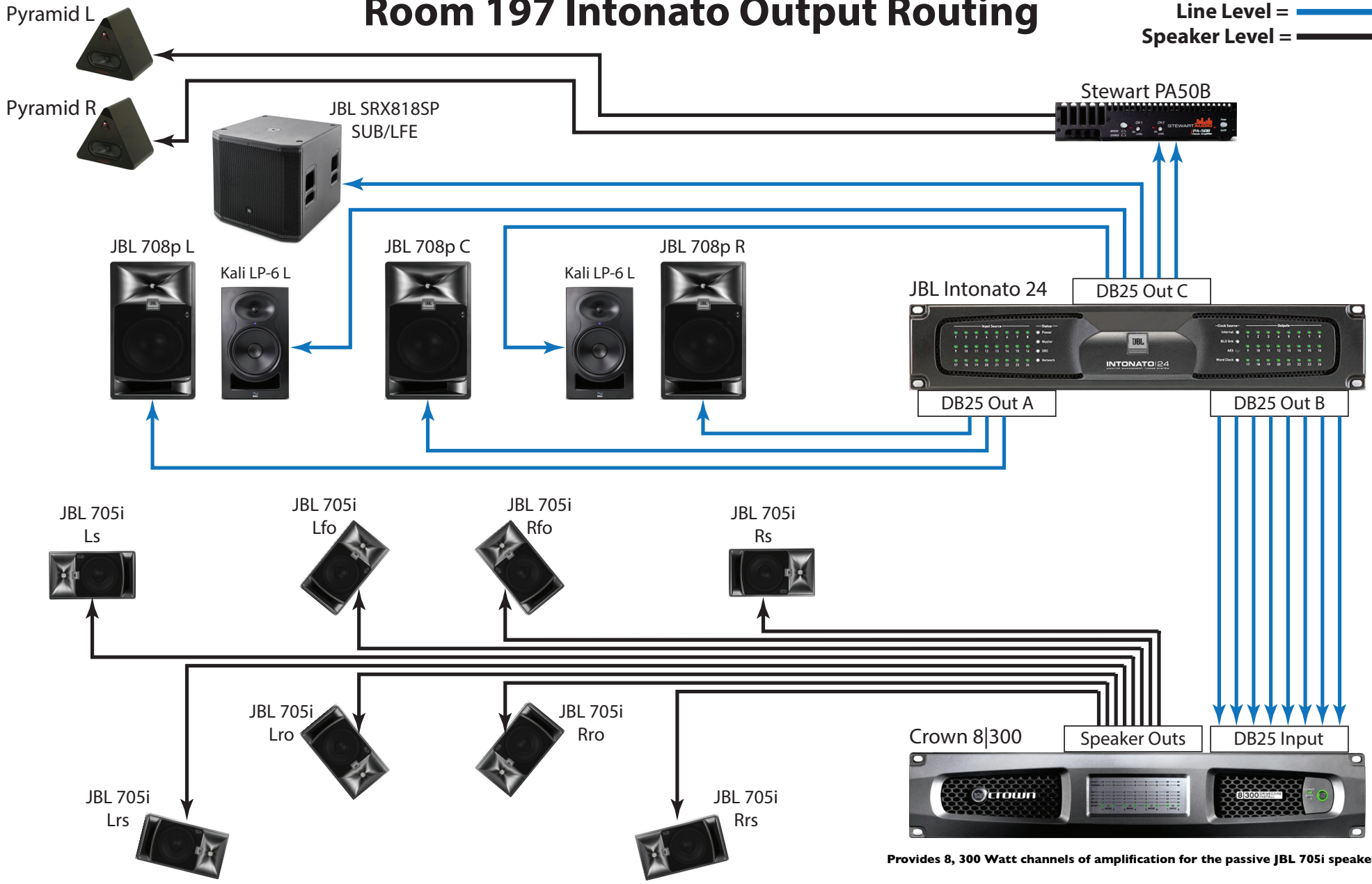
Intonato I/O Connections

SAC
Sonic Arts Center

The City College
of New York


Room 197 Intonato Output Routing

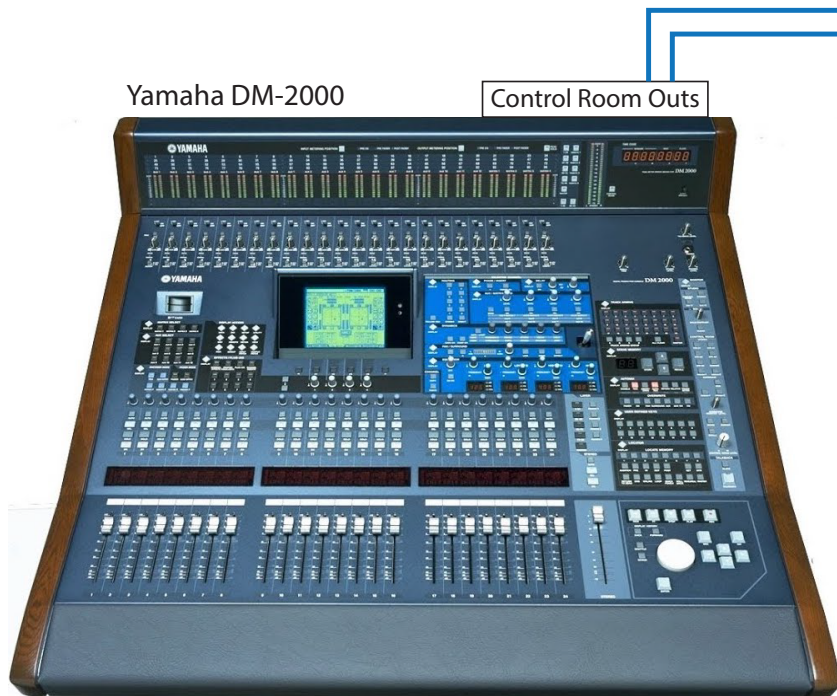
Line Level = 
 Speaker Level = 



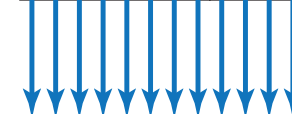
Provides 8, 300 Watt channels of amplification for the passive JBL 705i speakers

Room 197 Intonato Input Routing

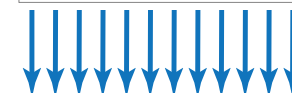
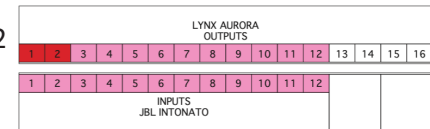
Line Level = 



DB25 Outs 1 - 8 DB25 Outs 9 - 12



197 Patchbay 2
(Full Normal)



JBL Intonato 24

DB25 Input A DB25 Input B



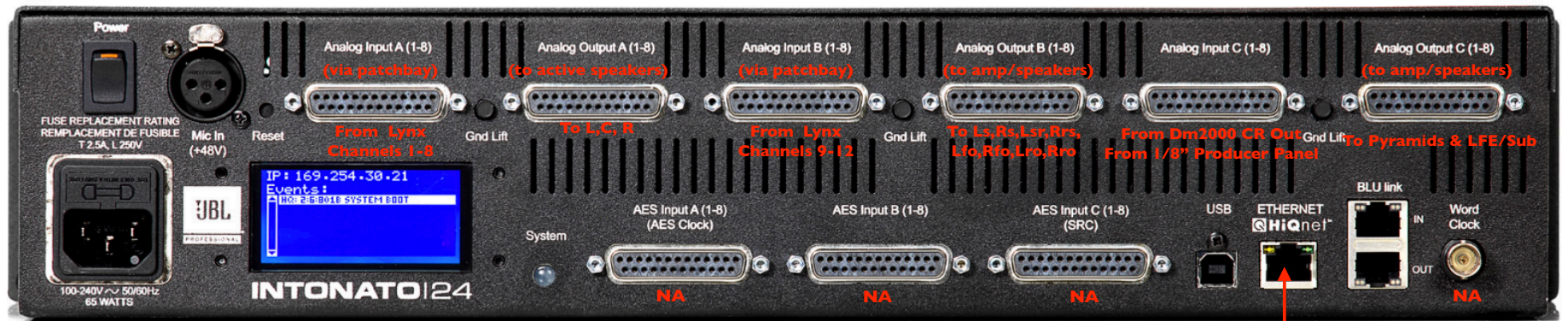
DB25 Input C

197 Aux Input Panel



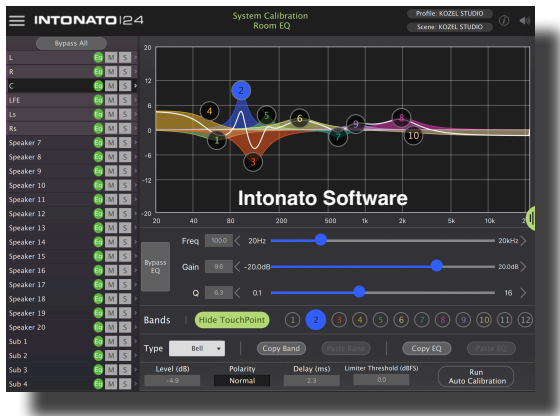
JBL Intonato 24 Analog Connections

Accepts Analog Inputs from the Lynx Aurora and routes these signals to the appropriate active speaker or amplifier & passive speaker. Provides various calibration tools, speaker configurations, etc. via a software interface on a computer or tablet



(AES Connections are not used with the Intonato)

To Airport Extreme V2



Cable = Balanced, 3 conductor, **Twisted Pair**, 70 Ohm



Connectors = 25 pin D-Sub



8 Channels - Uni Directional - Line Level Analog

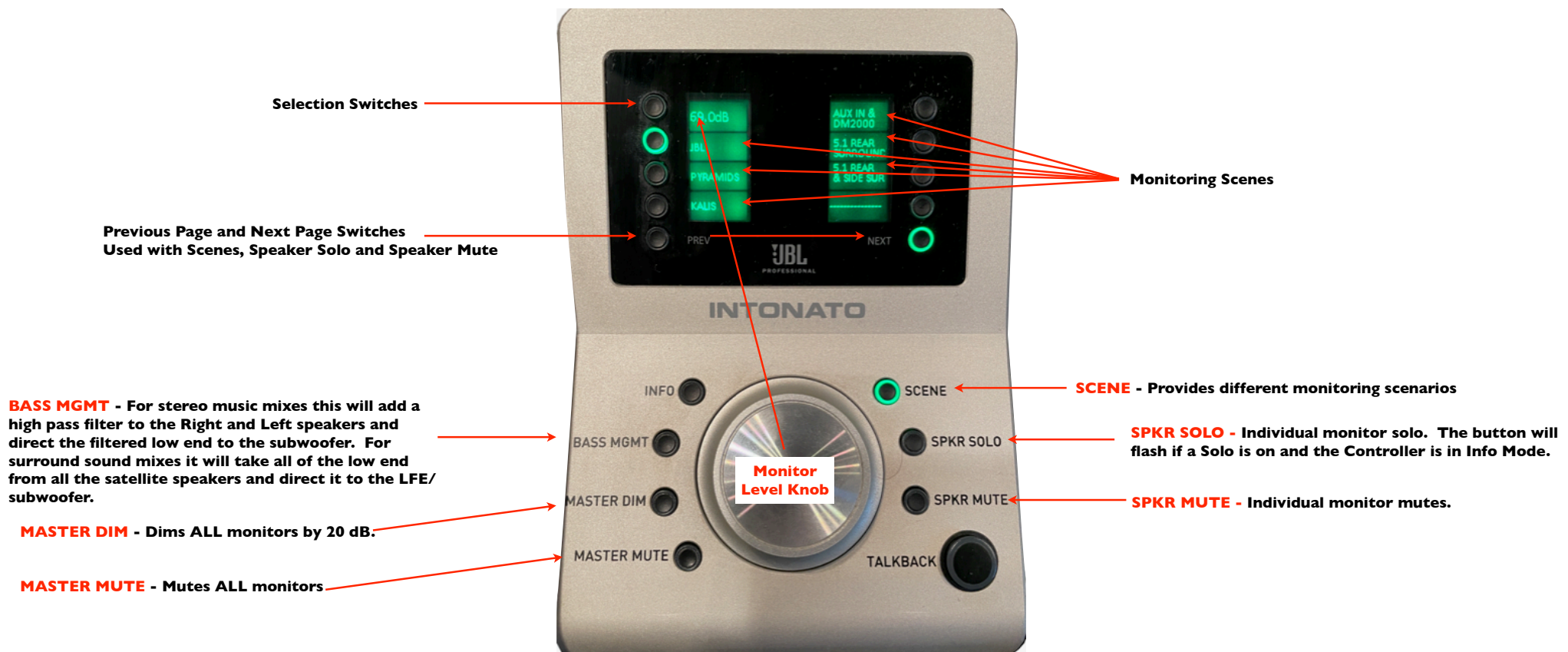
A professional recording studio control room. The room features a large mixing console with multiple faders and knobs, several computer monitors displaying blue waveforms, and several large black studio monitors on stands. The room has a wooden floor, a green door, and a window with a wooden frame. The ceiling is equipped with track lighting and a central air conditioning unit. The walls are covered in acoustic panels.

The Intonato Monitor Controller

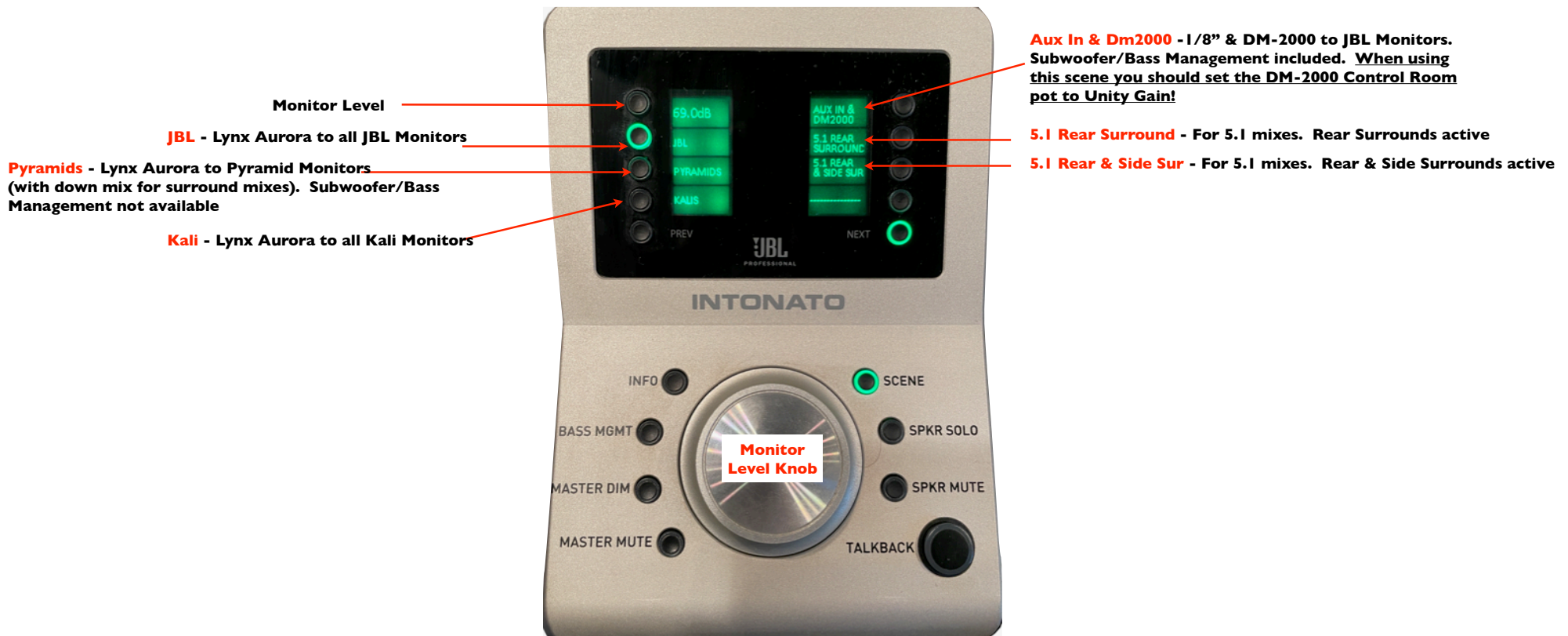
SAC
Sonic Arts Center

The City College
of New York

The Intonato Desktop Controller - Overview



The Intonato Desktop Controller - Scene Mode - Pg 1



The Intonato Desktop Controller - Scene Mode - Pg 2

5.1 Theatrical - For 5.1 theater mixes. Surrounds -3 dB

7.1 Theatrical - For 7.1 theater mixes. Surrounds -3 dB



The Intonato Desktop Controller - Info Mode



A professional recording studio control room. The room features a large mixing console with a red top edge, several computer monitors displaying blue waveforms, and multiple studio monitors on stands. The ceiling is equipped with track lighting and a central acoustic panel. A green door is visible on the left wall, and a window with a wooden frame is in the background. The floor is made of light-colored wood.

Computer, Aux In & DM-2000 Monitoring

SAC
Sonic Arts Center

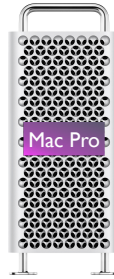
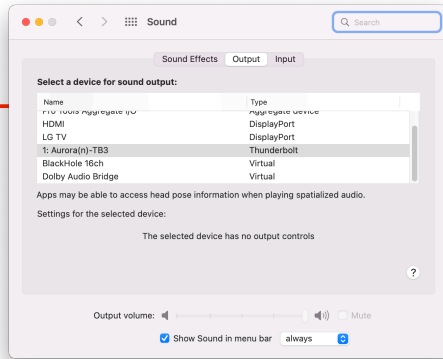
The City College
of New York

Computer Audio Monitoring

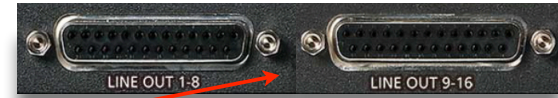
Computer Audio/Video File



Sound System Preference



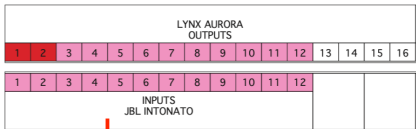
To 8-channel, analog output connectors



Lynx Aurora



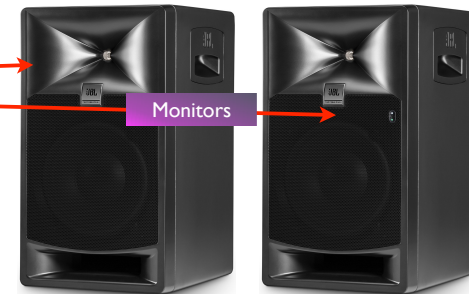
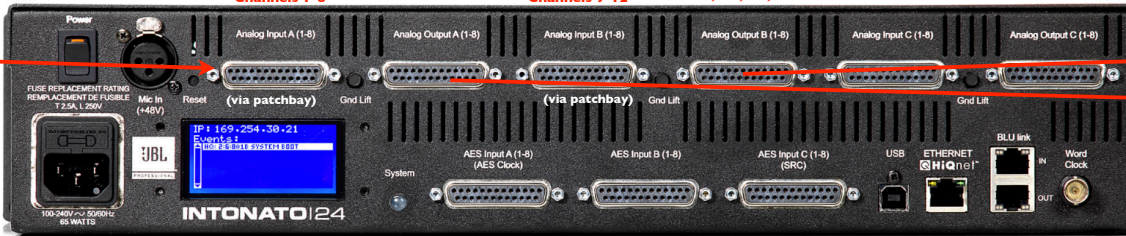
To the Patchbay



From the Patchbay



Select JBL



Monitors

From Lynx Channels 1-8 To L,C,R From Lynx Channels 9-12 To Ls,Rs,Lsr,Rrs, Lfo,Rfo,Lro,Rro

Aux In Monitoring

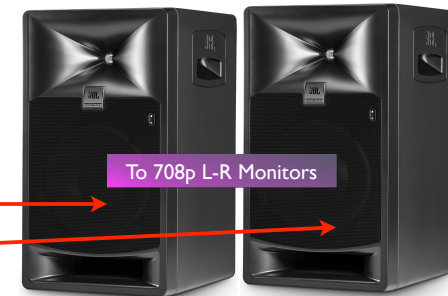
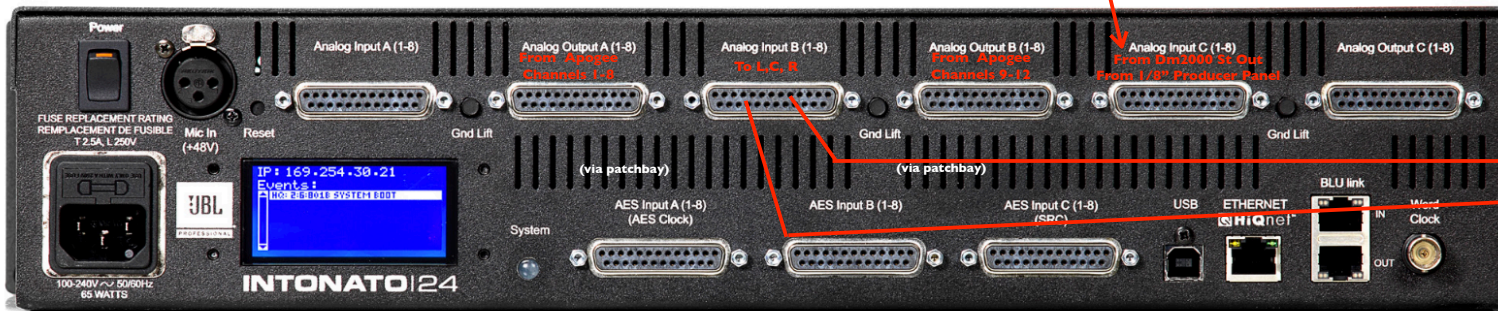


1/8" Connection on the Producer Panel

To the Intonato 24



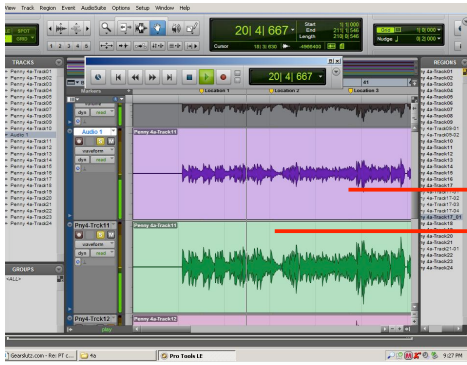
Select Aux In & DM-2000



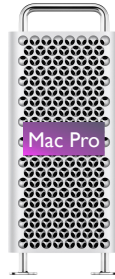
To 708p L-R Monitors

Monitoring Through the DM-2000 when Recording with the DM-2000

Pro Tools



Aline 1-2 outputs assigned to a track



Mac Pro

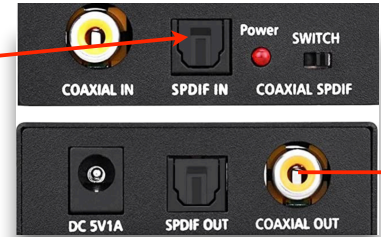
Aline 1-2 is duplicated and sent to Optical "Lightpipe" Outputs 1-2



Lynx Aurora



Note: Both the Optical and Coaxial cables carry SPDIF data. They just use different technology to transmit this data!

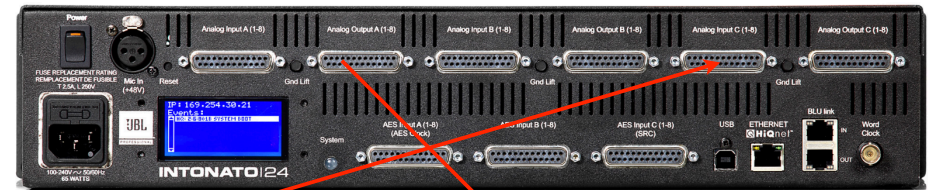


Optical "Lightpipe" to Coaxial Converter

Control Room Level Pot set to Unity Gain
Control Gain with Intonato Monitor Level Knob



JBL Intonato



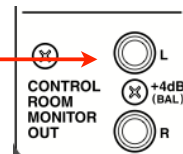
Back of DM-2000



To 2TR Digital In #3 (SPDIF) connector

Select 2TR D3 in monitor section

Signals selected in the Control Room Monitor section flow automatically to Control Room Monitor Out Pre fader & Post fader Solos are sent to the Control Room Monitor Outs as well



To the Intonato

To Monitors



Select Aux In & DM-2000





Interconnections and Signal Flow

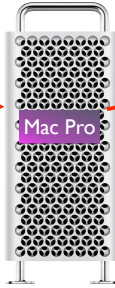
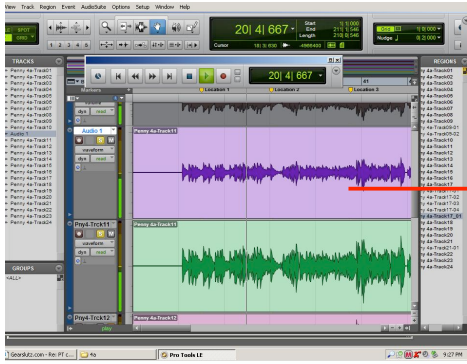
Recording & Monitoring with Pro Tools & the Lynx Aurora

SAC
Sonic Arts Center

The City College
of New York

Monitoring Pro Tools Through the Lynx Aurora & Intonato 24

Pro Tools



To 8-channel, analog output connector

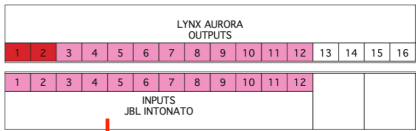


Lynx Aurora



A Line 1-2 (or 5.1, 7.1 & Atmos) outputs assigned to the Mix Bus

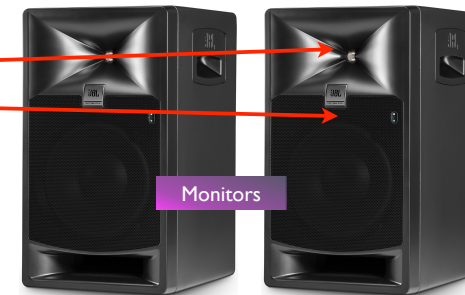
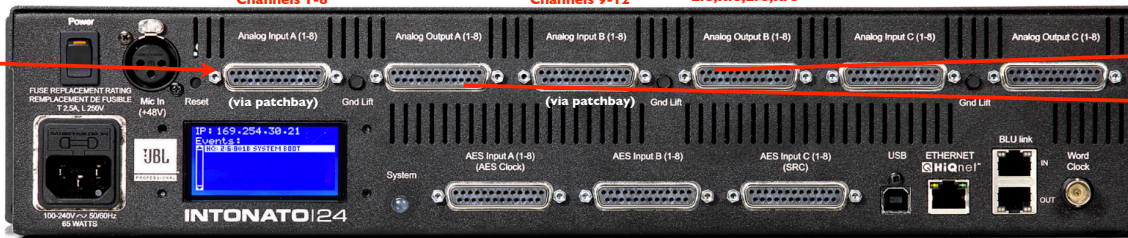
To the Patchbay



From the Patchbay



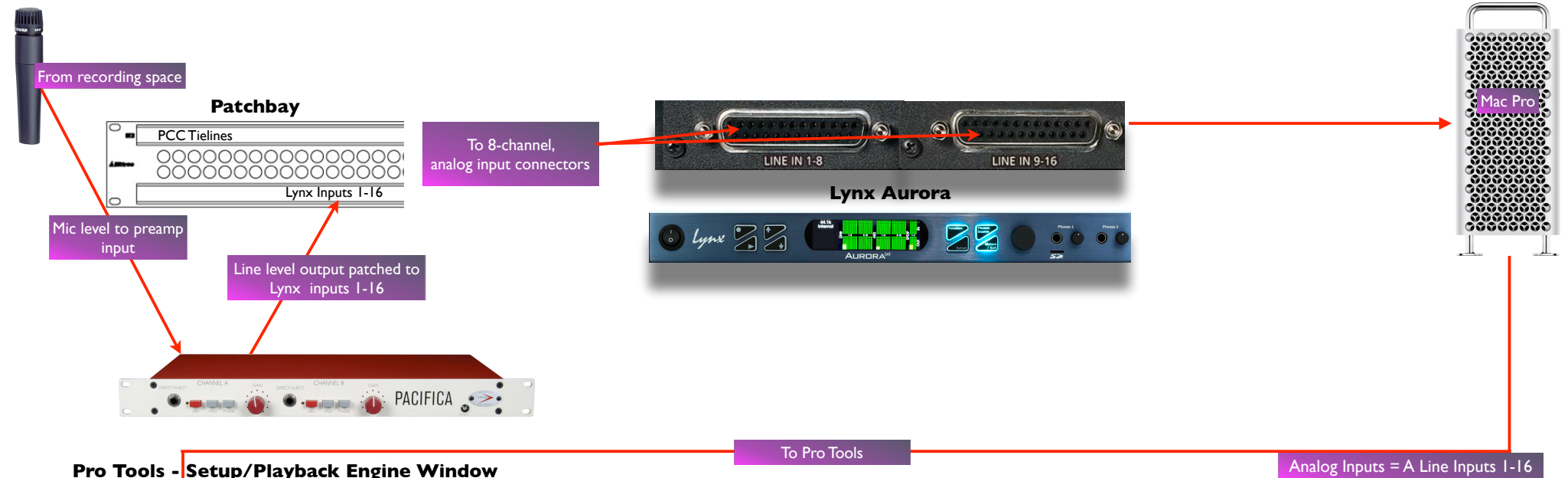
Select JBL



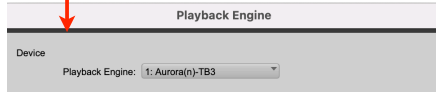
Monitors

From Lynx Channels 1-8 To L,C,R From Lynx Channels 9-12 To Ls,Rs,Lsr,Rrs, Lfo,Rfo,Lro,Rro

Recording in Pro Tools with the Lynx Aurora - Analog Inputs



Pro Tools - Setup/Playback Engine Window



In the Setup/Playback Engine Menu make sure Aurora is selected

Pro Tools I/O Setup

Input	Output	Bus	Insert	Mic Preamps	H/W Insert Delay	A - 1: Aurora(n)-TB3																															
						Analog																															
Name	Format	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32				
▶ A Line 1-2	Stereo	L	R																																		
▶ A Line 3-4	Stereo			L	R																																
▶ A Line 5-6	Stereo					L	R																														
▶ A Line 7-8	Stereo							L	R																												
▶ A Line 9-10	Stereo									L	R																										
▶ A Line 11-12	Stereo											L	R																								
▶ A Line 13-14	Stereo													L	R																						
▶ A Line 15-16	Stereo															L	R																				
▶ A AES 1-2	Stereo																																				
▶ A AES 3-4	Stereo																																				
▶ A AES 5-6	Stereo																																				
▶ A AES 7-8	Stereo																																				
▶ A AES 9-10	Stereo																																				
▶ A AES 11-12	Stereo																																				
▶ A AES 13-14	Stereo																																				
▶ A AES 15-16	Stereo																																				

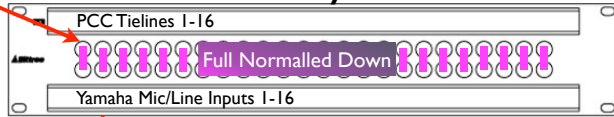


Recording in Pro Tools with the Lynx Aurora - Digital Inputs



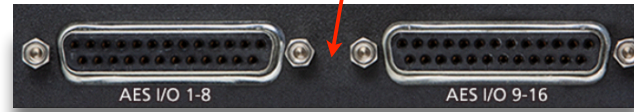
From recording space

Patchbay



To Mic/Line Input Channels 1-16

To AES, 8-channel, digital, I/O connector



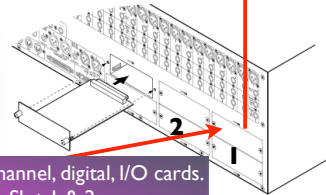
Lynx Aurora



Mac Pro



Back of DM-2000

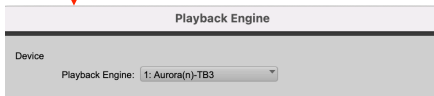


To AES, 8-channel, digital, I/O cards. Slot 1 & 2

Through channel and fader to direct outputs

To Pro Tools

Pro Tools - Setup/Playback Engine Window



In the Setup/Playback Engine Menu make sure Aurora is selected

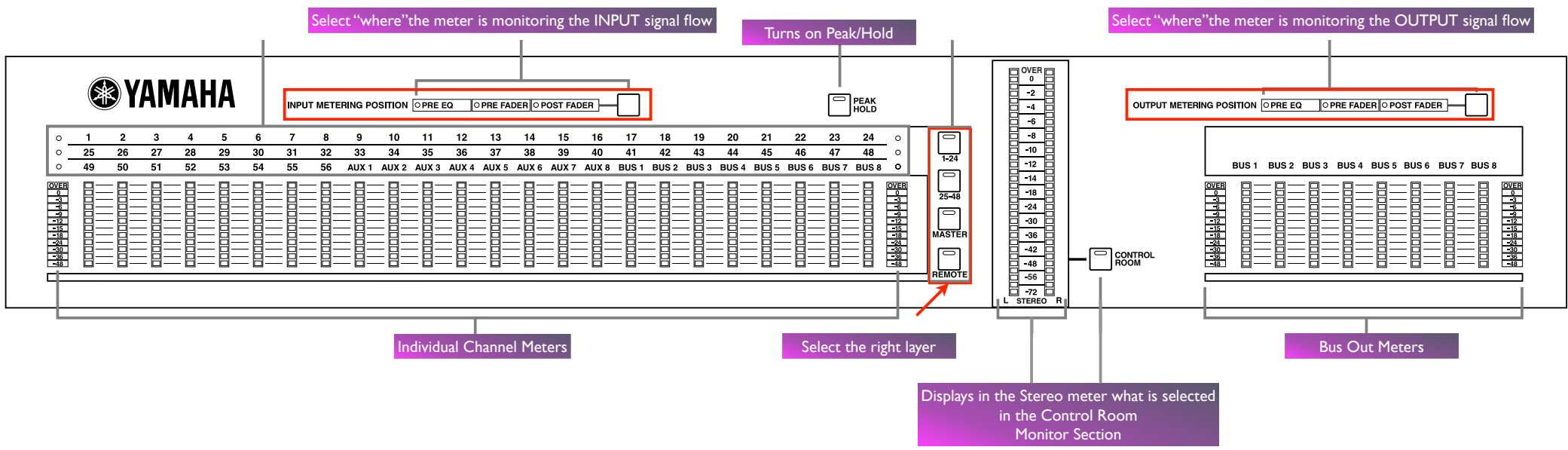
Input	Output	Bus	Insert	Mic Preamps	H/W Insert Delay	A - 1: Aurora(n)-TB3																															
						Analog																															
Name	Format	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32				
▶ A Line 1-2	Stereo																																				
▶ A Line 3-4	Stereo																																				
▶ A Line 5-6	Stereo																																				
▶ A Line 7-8	Stereo																																				
▶ A Line 9-10	Stereo																																				
▶ A Line 11-12	Stereo																																				
▶ A Line 13-14	Stereo																																				
▶ A Line 15-16	Stereo																																				
▶ A AES 1-2	Stereo																																				
▶ A AES 3-4	Stereo																																				
▶ A AES 5-6	Stereo																																				
▶ A AES 7-8	Stereo																																				
▶ A AES 9-10	Stereo																																				
▶ A AES 11-12	Stereo																																				
▶ A AES 13-14	Stereo																																				
▶ A AES 15-16	Stereo																																				

Pro Tools I/O Setup

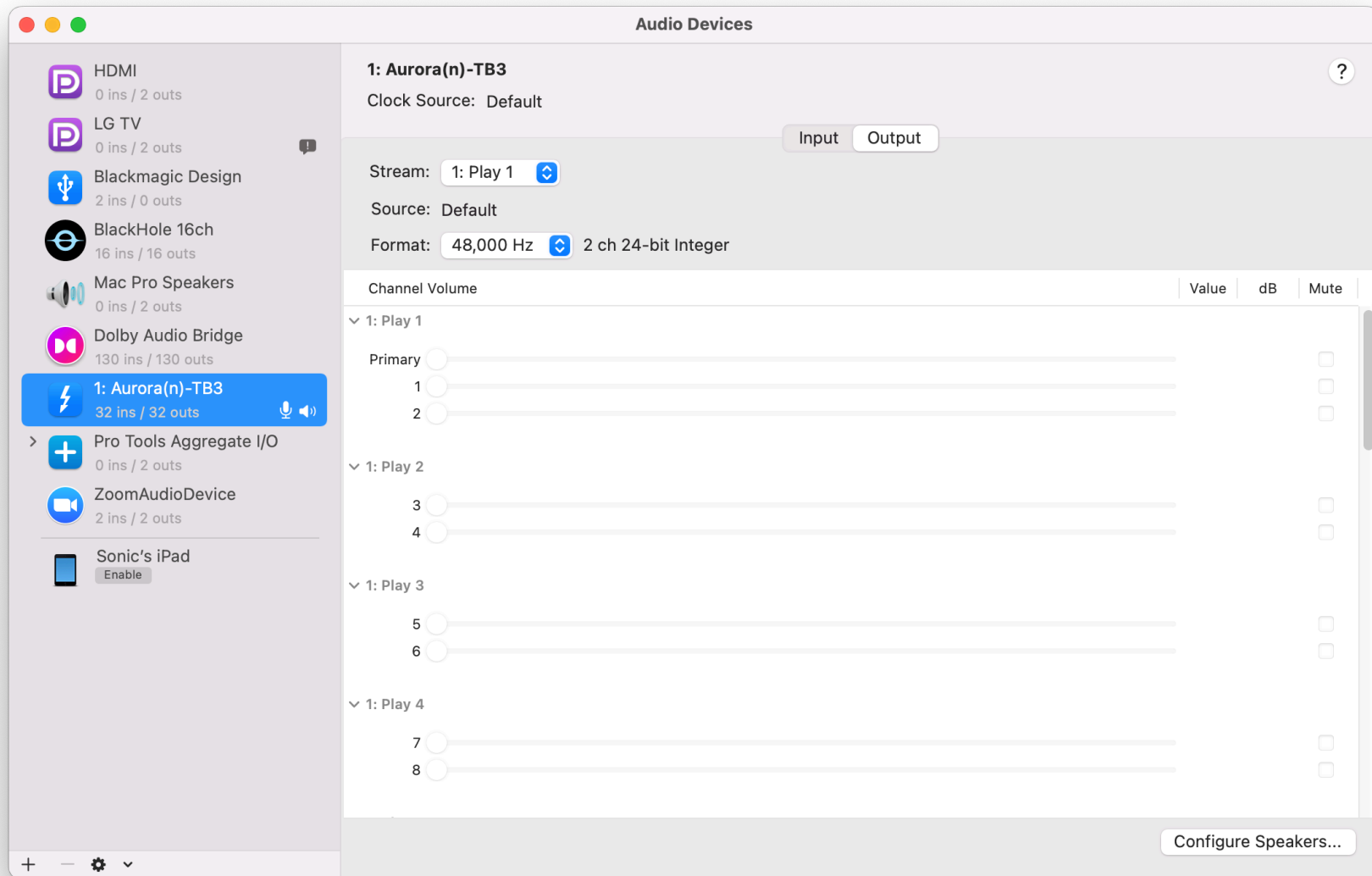


Select AES Inputs 1-16 for recording tracks.

“Follow the Lights” Signal Flow - DM-2000



Apple Audio Midi Setup



A professional recording studio with a mixing console, multiple monitors, and studio speakers. The room features wood-paneled walls, a green door, and a glass window. The ceiling is equipped with track lighting and studio monitors. The floor is made of light-colored wood. The overall atmosphere is professional and creative.

Interconnections and Signal Flow

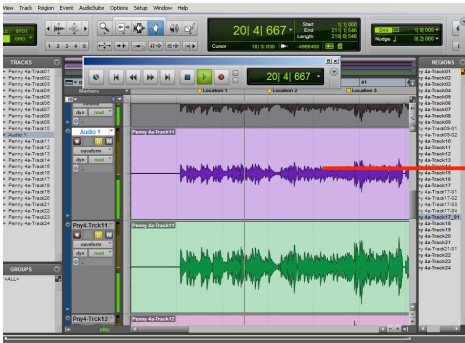
Headphone Mixes with Pro Tools & the Lynx Aurora

SAC
Sonic Arts Center

The City College
of New York

Headphone Mixes in Pro Tools Through the Lynx Aurora

Pro Tools



To AES 8 channel I/O connector



Lynx Aurora



These headphone outputs are preset to Aline 1-2 for stereo monitoring

1. Use buses and Aux Masters for Headphone mixes in the SAC Stereo Music Template.
2. The Aux Master Outs are assigned to **AES Outs 1-8**.

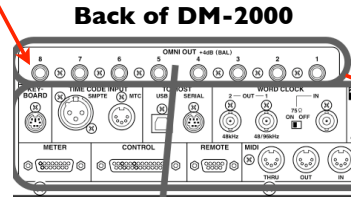
To 8 channel AES I/O Cards in Slots #1

Lynx Aurora digital returns assigned to Auxes
Preset in Scene 1.



To layer 2, Lynx Aurora Digital Returns 1-8

NOTE
Layer 2 Inputs 1-8 are grouped together in pairs
Auxes 1-8 are grouped together in pairs as well.

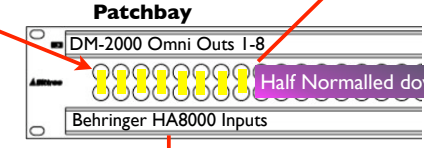


Omni Outs Connectors
(analog, line level)

Actual Patchbay

DM2000 OMNI OUTPUTS							
1	2	3	4	5	6	7	8
L	R	L	R	5	6	7	8
HAB000 STEREO INPUT 1				HAB000 STEREO INPUT 2			
HAB000 MONO INPUTS							

Patch Omni Outs to control room tie lines 41-48 to connect to recording rooms. (higher numbered tielines used for sends)

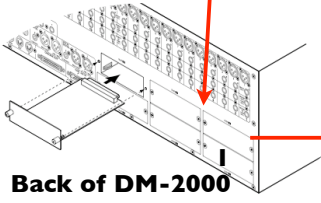


Half Normalled down

To Behringer HA8000



Behringer HA8000 Headphone Amp



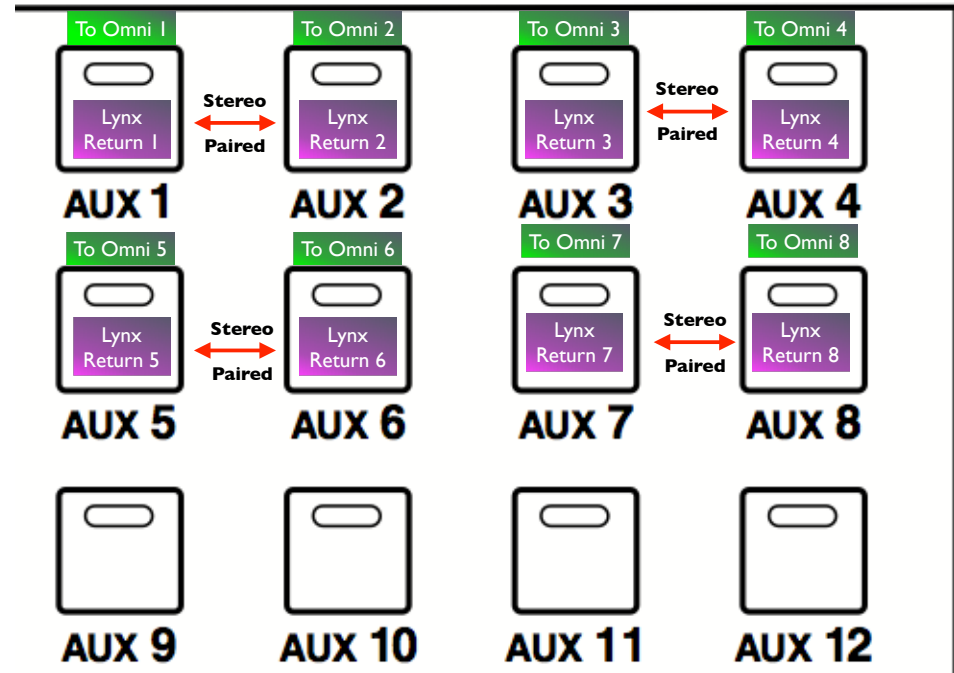
Back of DM-2000

Headphone Mixes Preset Assignments on the DM-2000



Headphone Mixes Stereo Paired Faders

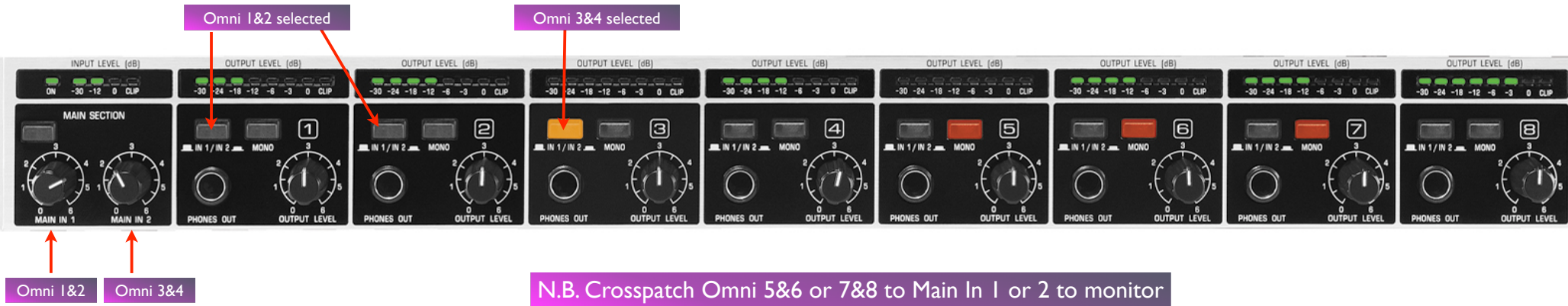
AUX SELECT



Assignment of Return Channels to Auxes (Preset in Scene 1)

Assignment of Auxes to Omni Outs (Preset in Scene 1)

Yamaha Omni Outs Assigned to Behringer Headphone Amp (Post DM-2000)



Patchbay

02R OMNI OUTPUTS							
1	2	3	4	5	6	7	8

1	2	3	4	5	6	7	8
HA8000 STEREO INPUT 1		HA8000 STEREO INPUT 2		HA8000 MONO INPUTS			



Interconnections and Signal Flow

Interconnections to/from the Isolation Booth

SAC
Sonic Arts Center

The City College
of New York

Patching and Connecting Headphones to the Isolation Booth

In the **Control Room** patch OMNI Outputs 1-8 to PCC tie lines 41-48

Control Room

YAMAHA DM2000 OMNI OUTPUTS								PCC TIELINES 41 - 48							
1	2	3	4	5	6	7	8	41	42	43	44	45	46	47	48

At the **Patch Control Center** patch the Control Room tie lines to the Headphone Amps in the Isolation Booth (Room 199)

Patch Control Center

Room 197 Tie Lines								Room 199 Isolation Booth (Rec. Cart A)				199 Rec. Cart A Tie Lines			
41	42	43	44	45	46	47	48	HP A In	HP B In			1	2	3	4



In the **Isolation Booth** connect the Headphone amp to the Furman HR-2 headphone box

Isolation Booth



Each amp can be used for dual mono or stereo mixes



199 Recording Cart



Furman HR-2 Headphone Box



Tielines can be used for:



Reamping
(Tie 1 or 3)



or Remote Amping
(Tie 2 or 4)

Each Headphone amp can provide a stereo (1&2) or two mono (1, 2) headphone mixes



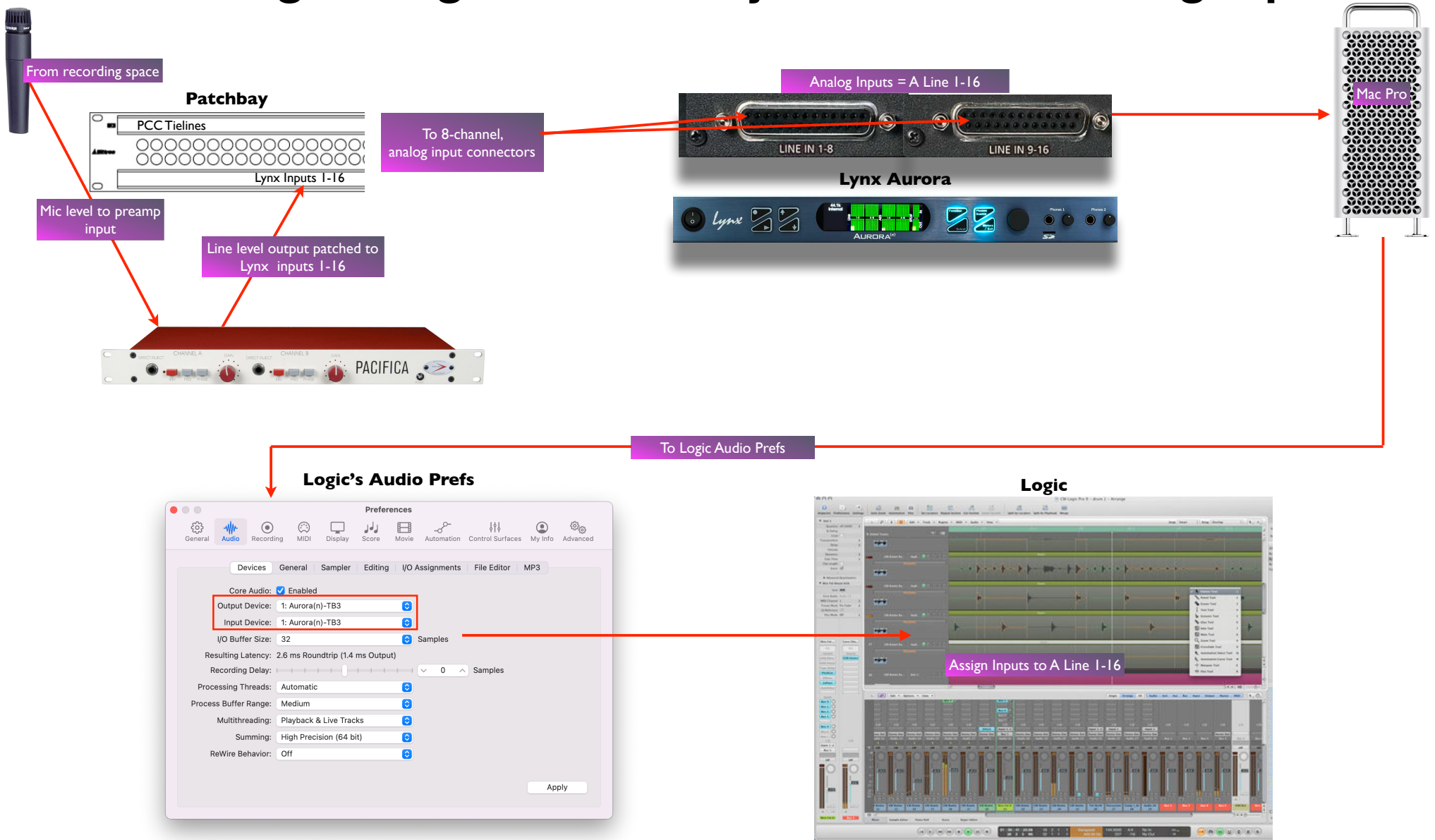
Interconnections and Signal Flow

Recording & Monitoring with Logic & the Lynx Aurora

SAC
Sonic Arts Center

The City College
of New York

Recording in Logic with the Lynx Aurora - Analog Inputs

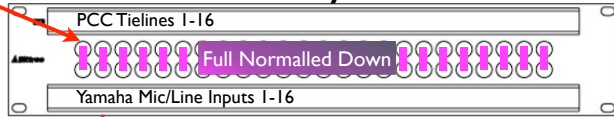


Recording in Logic with the Lynx Aurora - Digital Inputs



From recording space

Patchbay



To Mic/Line Input Channels I-16

To AES, 8-channel, digital, I/O connector

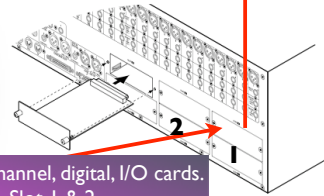


Lynx Aurora



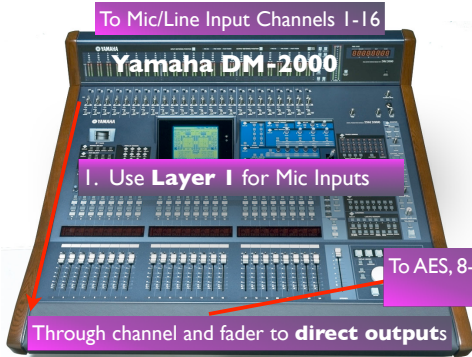
Mac Pro

Back of DM-2000

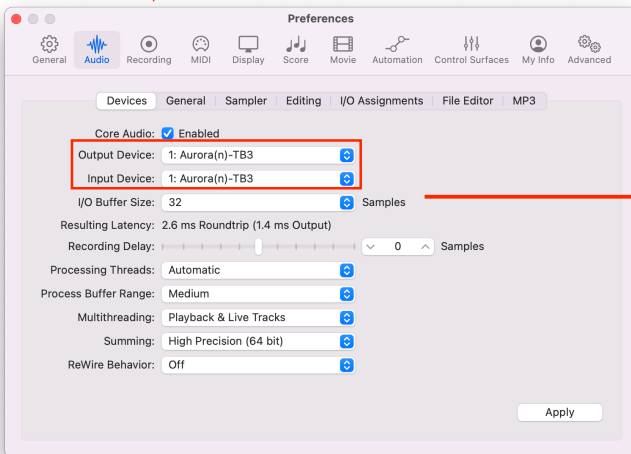


To AES, 8-channel, digital, I/O cards. Slot 1 & 2

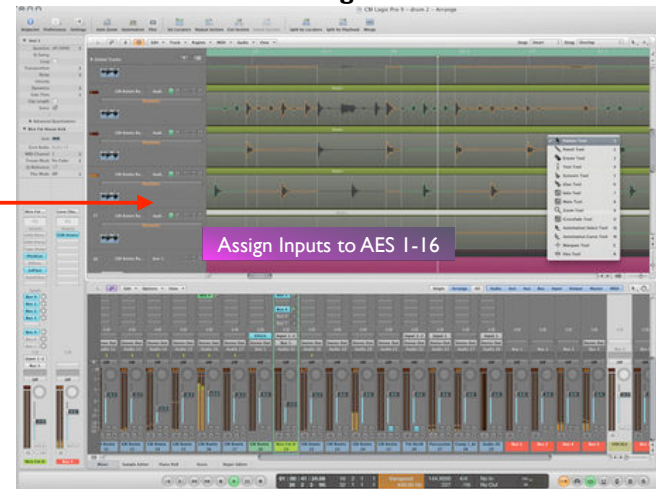
To Logic Audio Prefs



Logic's Audio Prefs

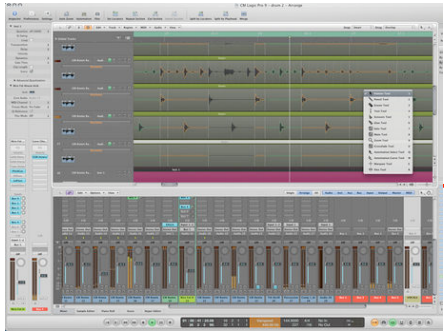


Logic



Monitoring Logic Through the Lynx Aurora & Intonato

Logic



To 8-channel, analog output connectors

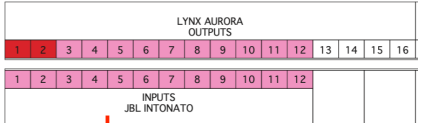


Lynx Aurora



A Line 1-2 (or 5.1, 7.1 & Atmos) outputs assigned to the Mix Bus

To the Patchbay



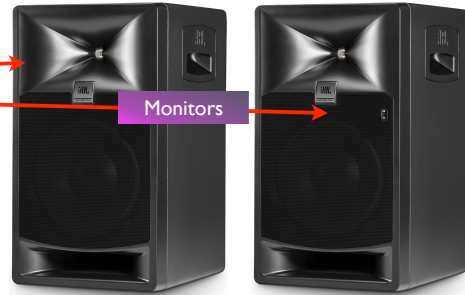
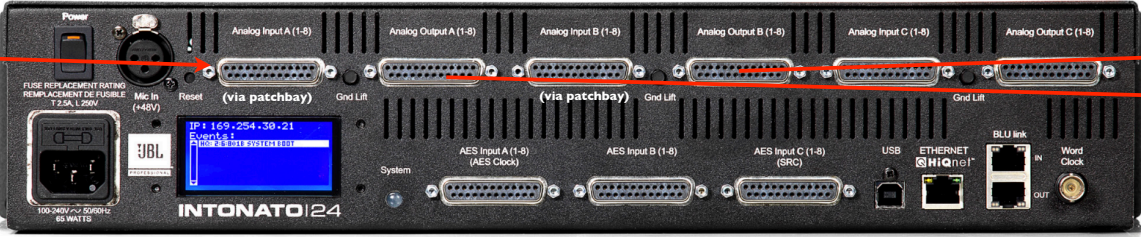
From the Patchbay



From Lynx Channels 1-8 To L,C,R From Lynx Channels 9-12 To Ls,Rs,Lsr,Rrs, Lfo,Rfo,Lro,Rro

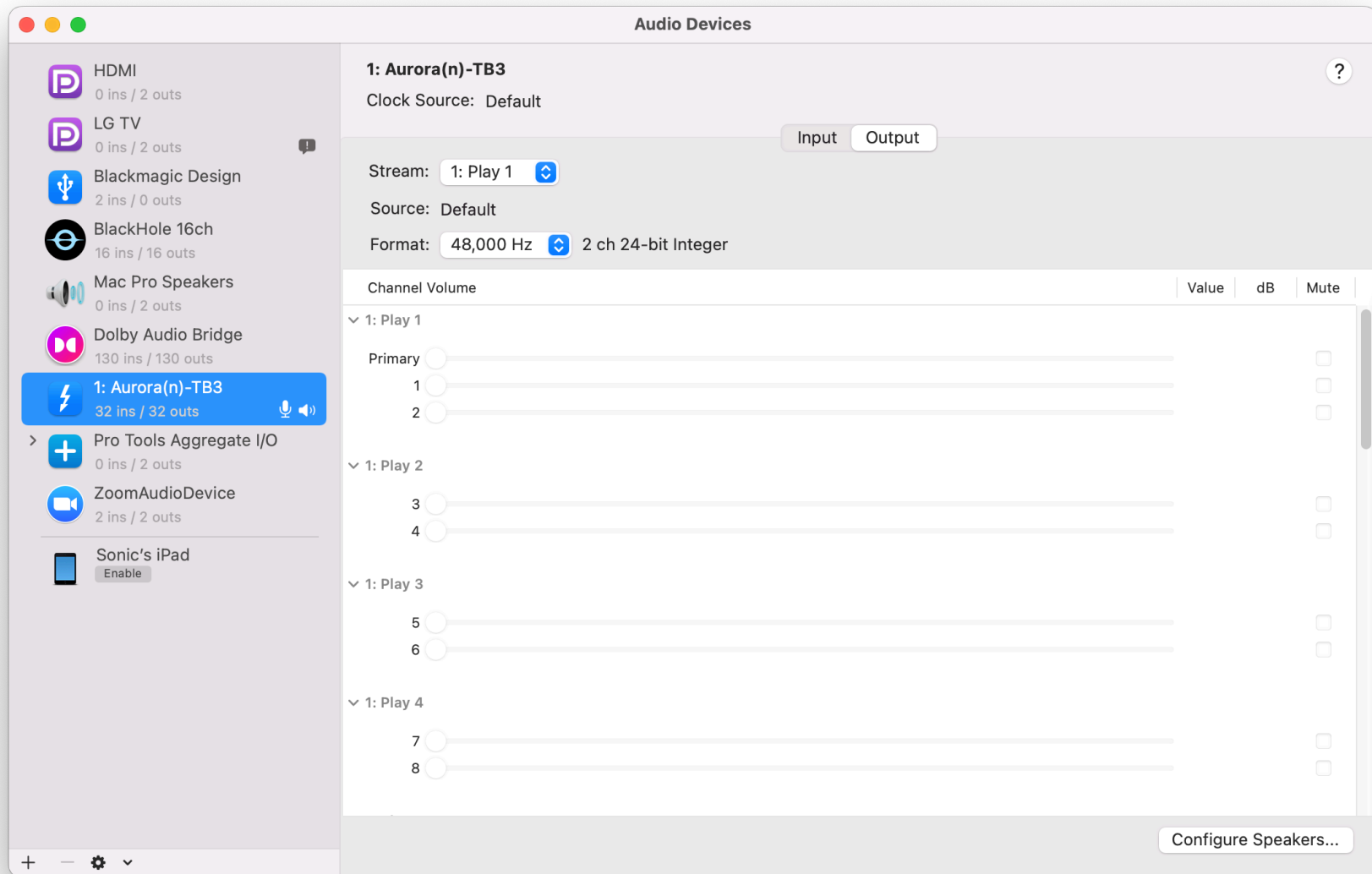


Select JBL



Monitors

Apple Audio Midi Setup



A professional recording studio with a mixing console, multiple monitors, and speakers. The room features wood-paneled walls, a green door, and a glass window. The ceiling is equipped with track lighting and several large black speakers. The floor is made of light-colored wood. The overall atmosphere is professional and modern.

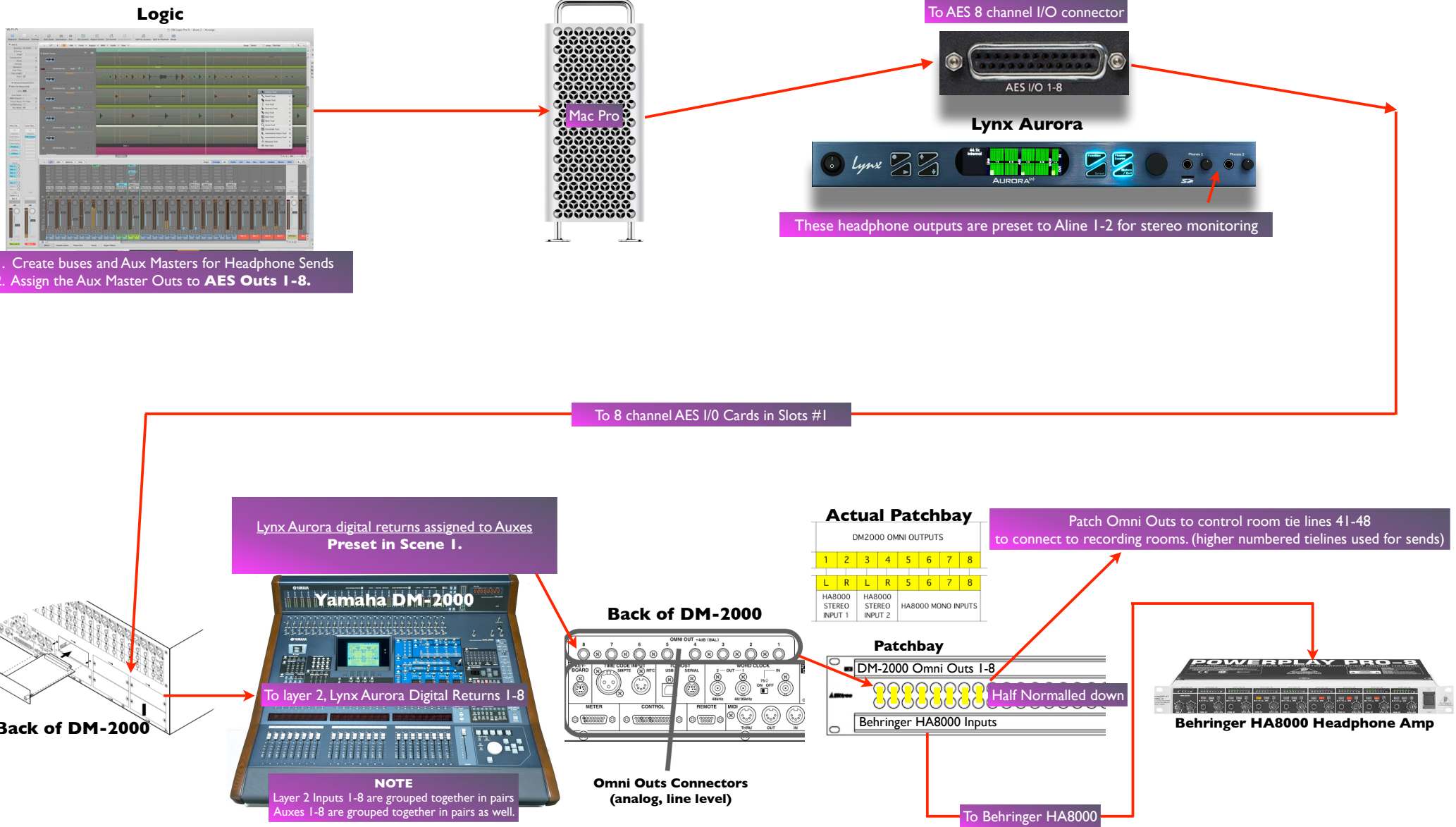
Interconnections and Signal Flow

Headphone Mixes with Logic & the Lynx Aurora

SAC
Sonic Arts Center

The City College
of New York

Headphone Mixes in Pro Tools Through the Lynx Aurora



A professional recording studio control room. The room features a large mixing console with multiple faders and knobs, several computer monitors displaying blue desktop backgrounds, and several large black studio monitors on stands. The room has a wooden floor, a green door, and a window with a wooden frame. The ceiling is equipped with track lighting and a central air conditioning unit. The walls are covered in acoustic panels.

Headphone Gain Structure & Talkback

SAC
Sonic Arts Center

The City College
of New York

Pro Tools Headphone Gain Structure

Individual Sends controls



prefader

Send level adjusts individual channel sends and can be **grouped** to effect the global send level to the Aux. A Master Fader for the Bus can be used as a global control as well.

Important Tip

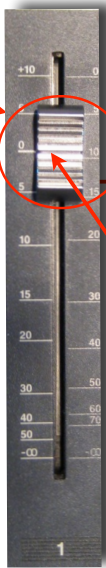
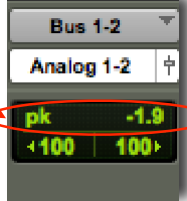
Changing the levels **ONLY** at the DAW sends or Master Fader will allow the gain structure to be perfectly replicated at all subsequent sessions

AUX Master



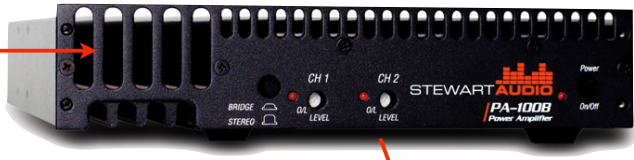
Set to unity gain/0

View **peak levels** at Aux (Command-click on this display)



Aux faders on DM-2000 preset to unity gain/0

Preset input levels at headphone amp

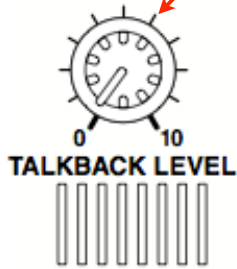


Talent level control



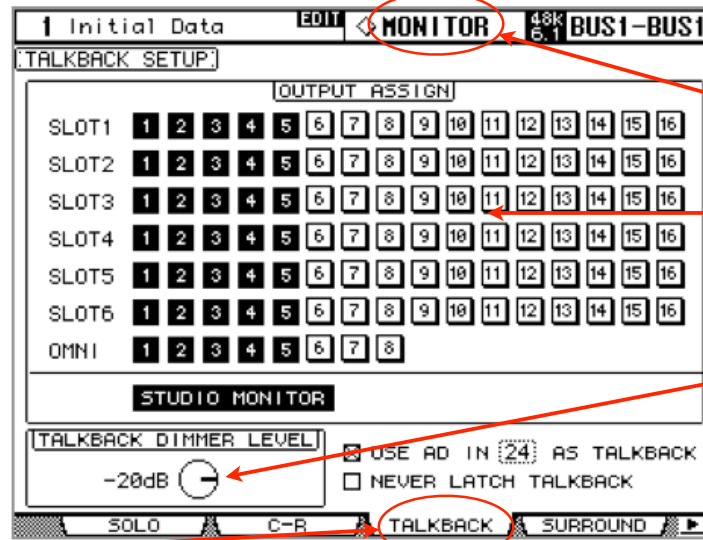
DM-2000 Talkback Controls

Talkback level control. Usually set around 1:00.



If **NEVER LATCH TALKBACK** is selected, the Talkback control must be held down throughout an announcement

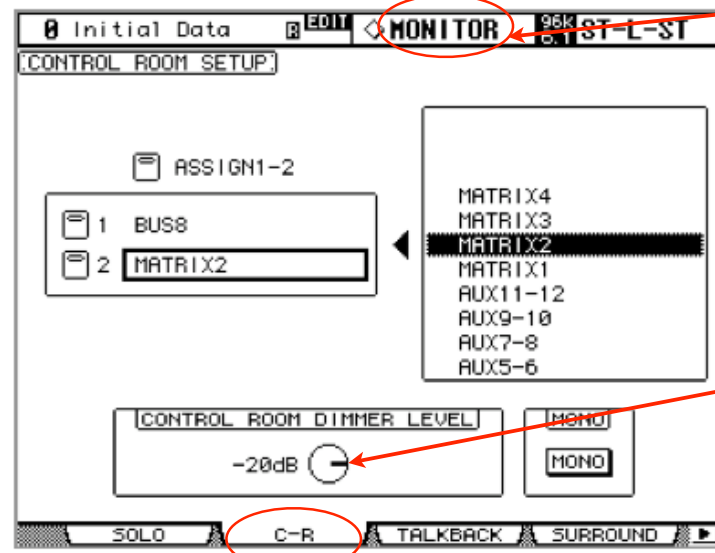
If **NEVER LATCH TALKBACK** is **NOT** selected, the Talkback control is turned on by depressing the control and turned off by depressing the control again.



In the **Monitor Display** Section

Talkback assignment area. Talkback is assigned to ALL OMNI Outs.

Sets the amount of dimming that takes place in the **HEADPHONE** mix when Talkback is engaged.



In the **Monitor Display** Section

Available if Intonato Controller is set to Aux In & DM2000



Use Master Dim on Intonato Controller if set to JBL

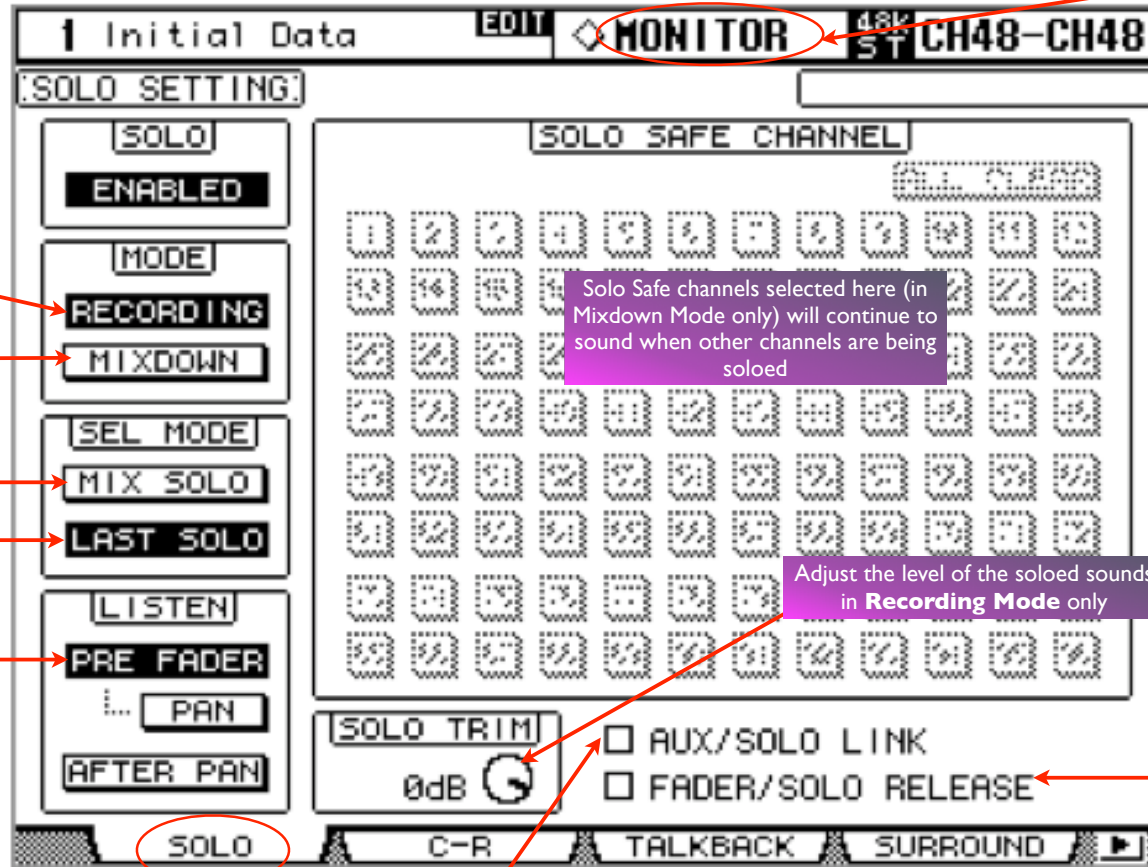


DM-2000 Solo Modes

SAC
Sonic Arts Center

The City College
of New York

Solo Modes on the DM-2000



In the **Monitor Display** Section

Directs solo signals to the Control Room Monitors and out to the speakers. PFL and AFL are available

Engages SIP (Solo in Place) and the Solos Safe Channel controls.

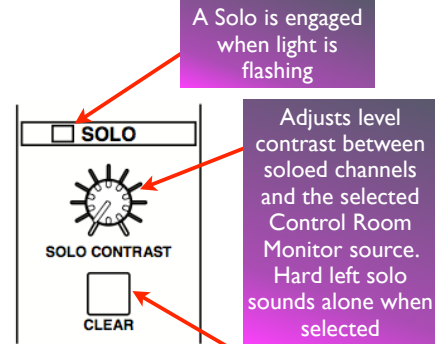
Multiple solo buttons can be engaged

One solo at a time

Sets **Recording Mode** to Pre Fader, Pre Fader with Pan, and Post/After Fader with Pan

Solo Safe channels selected here (in Mixdown Mode only) will continue to sound when other channels are being soloed

Adjust the level of the soloed sounds in **Recording Mode** only



A Solo is engaged when light is flashing

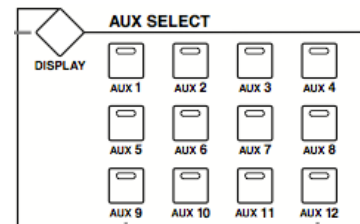
Adjusts level contrast between soloed channels and the selected Control Room Monitor source. Hard left solo sounds alone when selected

In the **Monitor** Section

Cancels all active Solos

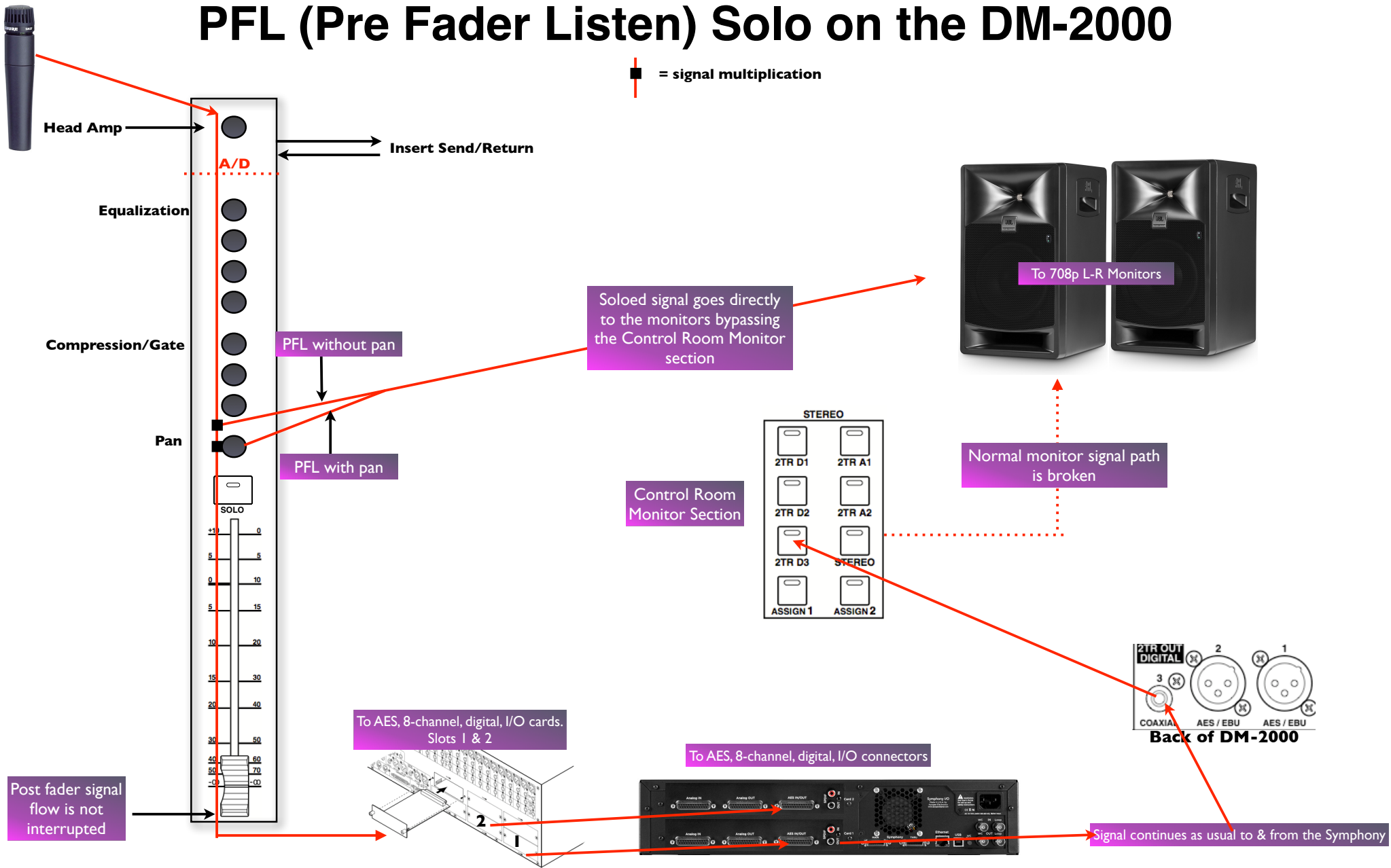
When fader is moved on a soloed channel the solo is immediately released/cancelled

Allows soloing of the Aux Master Sends by simply depressing the Aux controls in the **Aux Select Section**. Depress the appropriate Aux control to select it and then again to solo it. The Aux switch will flash. Grouped Auxes will have both switches flash.



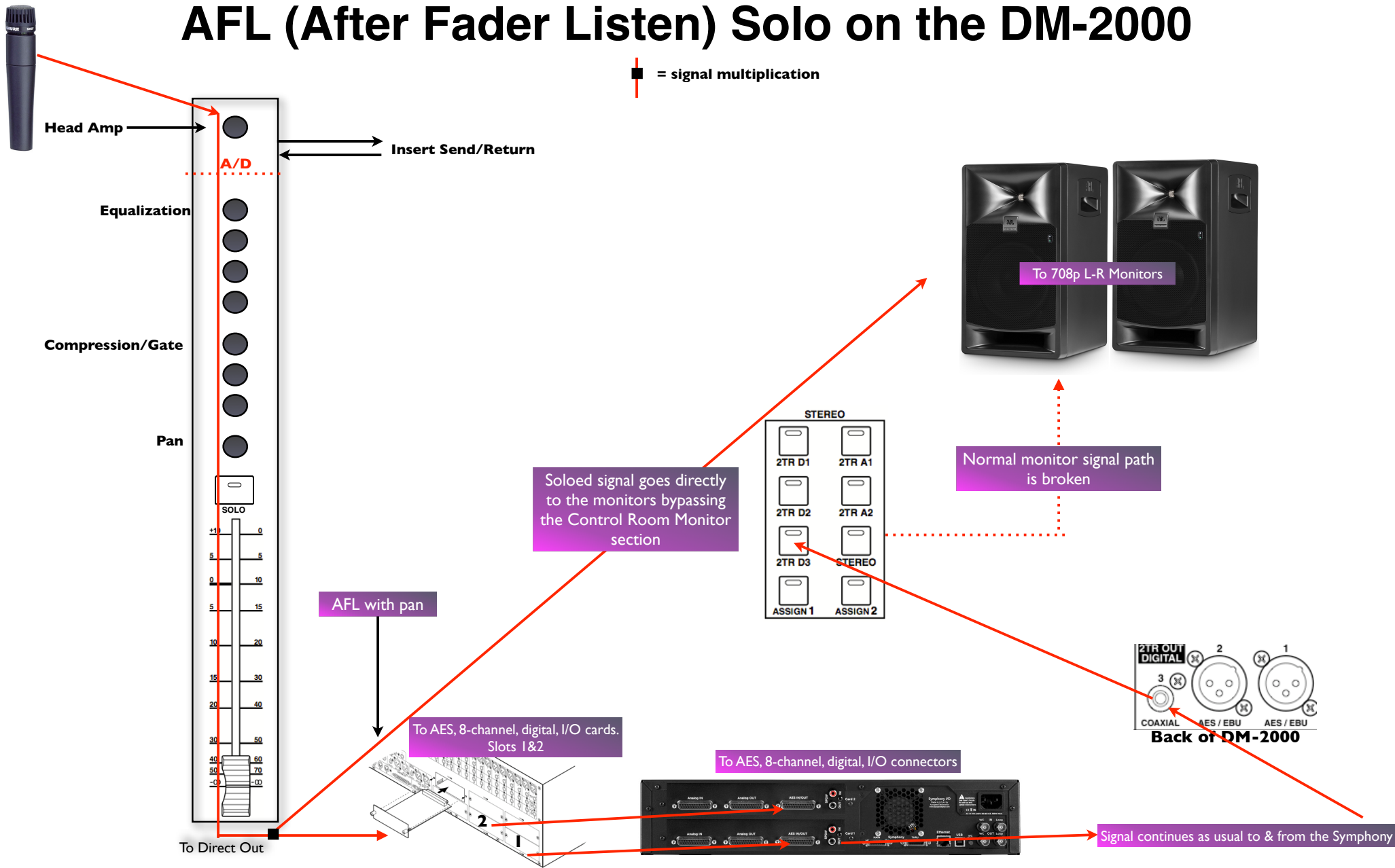
PFL (Pre Fader Listen) Solo on the DM-2000

■ = signal multiplication



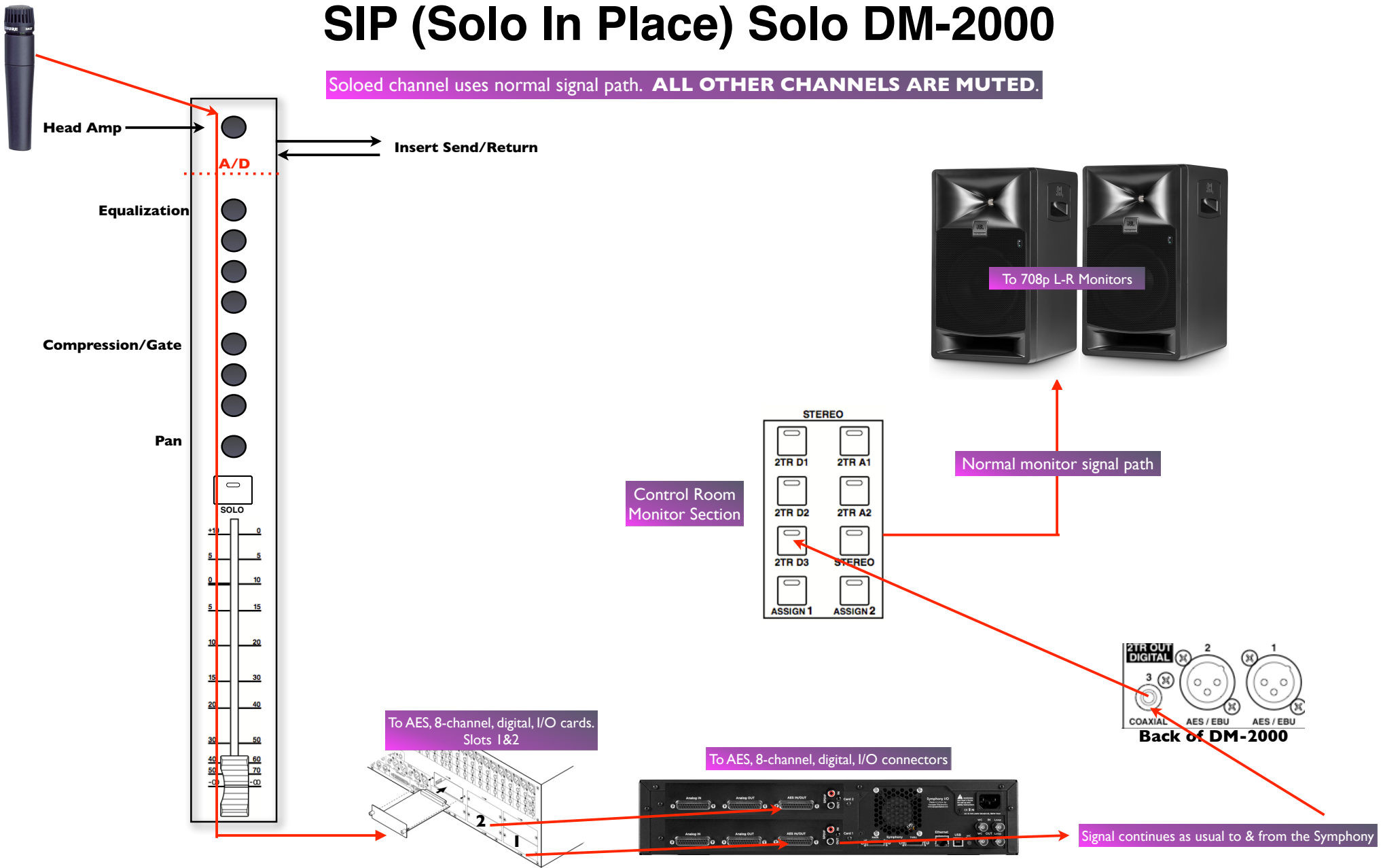
AFL (After Fader Listen) Solo on the DM-2000

■ = signal multiplication



SIP (Solo In Place) Solo DM-2000

Soloed channel uses normal signal path. **ALL OTHER CHANNELS ARE MUTED.**





DM-2000 Screens

SAC
Sonic Arts Center

The City College
of New York

DM-2000 Word Clock Select Screen

96 Initial Data D10 96k CH48-NAME

WORD CLOCK SELECT:

SLOT TYPE	IN	OUT	1/2	3/4	5/6	7/8	9/10	11/12	13/14	15/16
SLOT1 adat	4	4	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
SLOT2 AES/EBU	8	8	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
SLOT3 TDIF	4	4	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
SLOT4 D/A	0	4	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
SLOT5 A/D	8	0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
SLOT6 NO CARD	-	-	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

FS WC IN CAS.IN 2TRD1 2TRD2 2TRD3

96 kHz INT 44.1k INT 48k INT 88.2k INT 96k

WORD CLOCK DITHER CASCADE CAS. OUT

In the **Display Access** Section

This must be the **Word Clock** source.

The source select buttons have the following indications:

- A usable wordclock signal is present at this input.
- No wordclock signal is present at this input.
- A wordclock signal is present, but it's out of sync with the current DM2000 clock.
- This is the currently selected wordclock source.
- This input was selected as the wordclock source, but no usable signal was received.
- This cannot be selected as the wordclock source because a wordclock signal cannot be sourced from this input on this type of I/O Card, or no I/O Card is installed.

DM-2000 Sampling Rate Converter Screen

Initial Data		EDIT	D10	96k ST	CH6-CH6
[SAMPLING RATE CONVERTER:]					
SRC		SRC		SRC	
2TR IN D1	ON	2TR IN D2	ON	2TR IN D3	OFF
AES/EBU	Unlock	AES/EBU	Unlock	COAXIAL	96kHz
SRC		SRC		SRC	
2TR OUT D1	OFF	2TR OUT D2	OFF	2TR OUT D3	OFF
AES/EBU	44.1kHz	AES/EBU	44.1kHz	COAXIAL	44.1kHz
FS 96kHz					
SRC		FORMAT			

In the **Display Access**
Section

DM-2000 Input Patching Screen

1 Initial Data	◇ IN PATCH	48k ST	ST-R-ST				
.INPUT CH1-48 PATCH:		CH1					
		AD IN 1	↑				
1	2	3	4	5	6	7	8
AD1	AD2	AD3	AD4	AD5	AD6	AD7	AD8
9 -♥- 10	11	12	13	14	15	16	
AD9	AD10	AD11	AD12	AD13	AD14	AD15	AD16
17 -♥- 18	19	20	21	22	23	24	
AD17	AD18	AD19	AD20	AD21	AD22	AD23	AD24
25	26	27	28	29	30	31	32
S1-1	S1-2	S1-3	S1-4	S1-5	S1-6	S1-7	S1-8
33	34	35	36	37	38	39	40
S2-1	S2-2	S2-3	S2-4	S2-5	S2-6	S2-7	S2-8
41	42	43	44	45	46	47	48
S3-1	S3-2	S3-3	S3-4	S3-5	S3-6	S3-7	S3-8
CH1-48	CH49-96	INS1-48	INS49-96	▶			

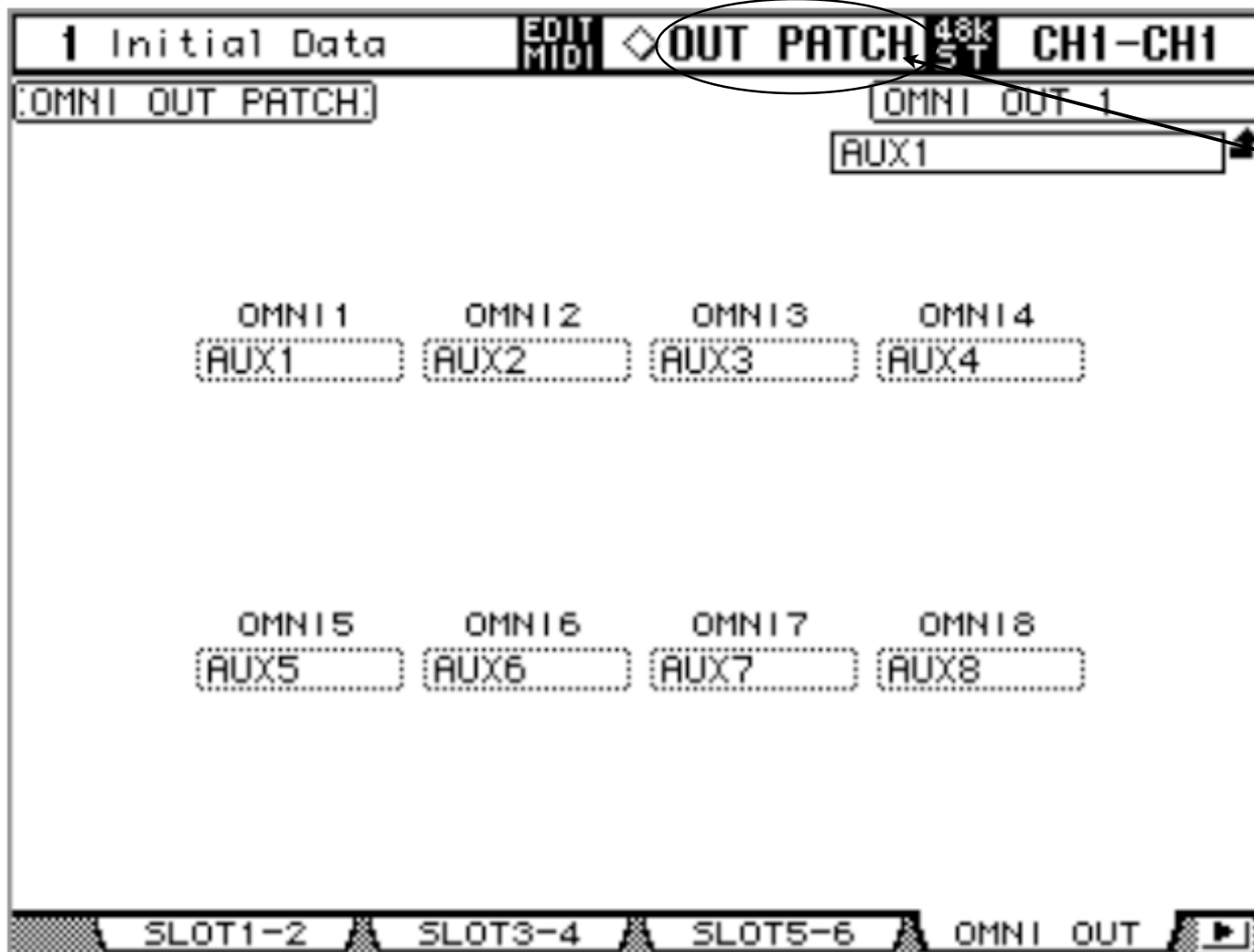
In the **Display Access** Section

DM-2000 Output Patching/Slots Screen

1 Initial Data	◇ OUT PATCH	48k	ST-R-ST				
.SLOT1-2 OUTPUT PATCH:		BUS1					
SLOT1							
1	2	3	4				
BUS1	BUS2	BUS3	BUS4				
5	6	7	8				
BUS5	BUS6	BUS7	BUS8				
9	10	11	12				
BUS1	BUS2	BUS3	BUS4				
13	14	15	16				
BUS5	BUS6	BUS7	BUS8				
SLOT2							
1	2	3	4				
BUS1	BUS2	BUS3	BUS4				
5	6	7	8				
BUS5	BUS6	BUS7	BUS8				
9	10	11	12				
BUS1	BUS2	BUS3	BUS4				
13	14	15	16				
BUS5	BUS6	BUS7	BUS8				
SLOT1-2		SLOT3-4		SLOTS5-6		OMNI OUT	

In the **Display Access** Section

DM-2000 Output Patching/Omni Outs Screen

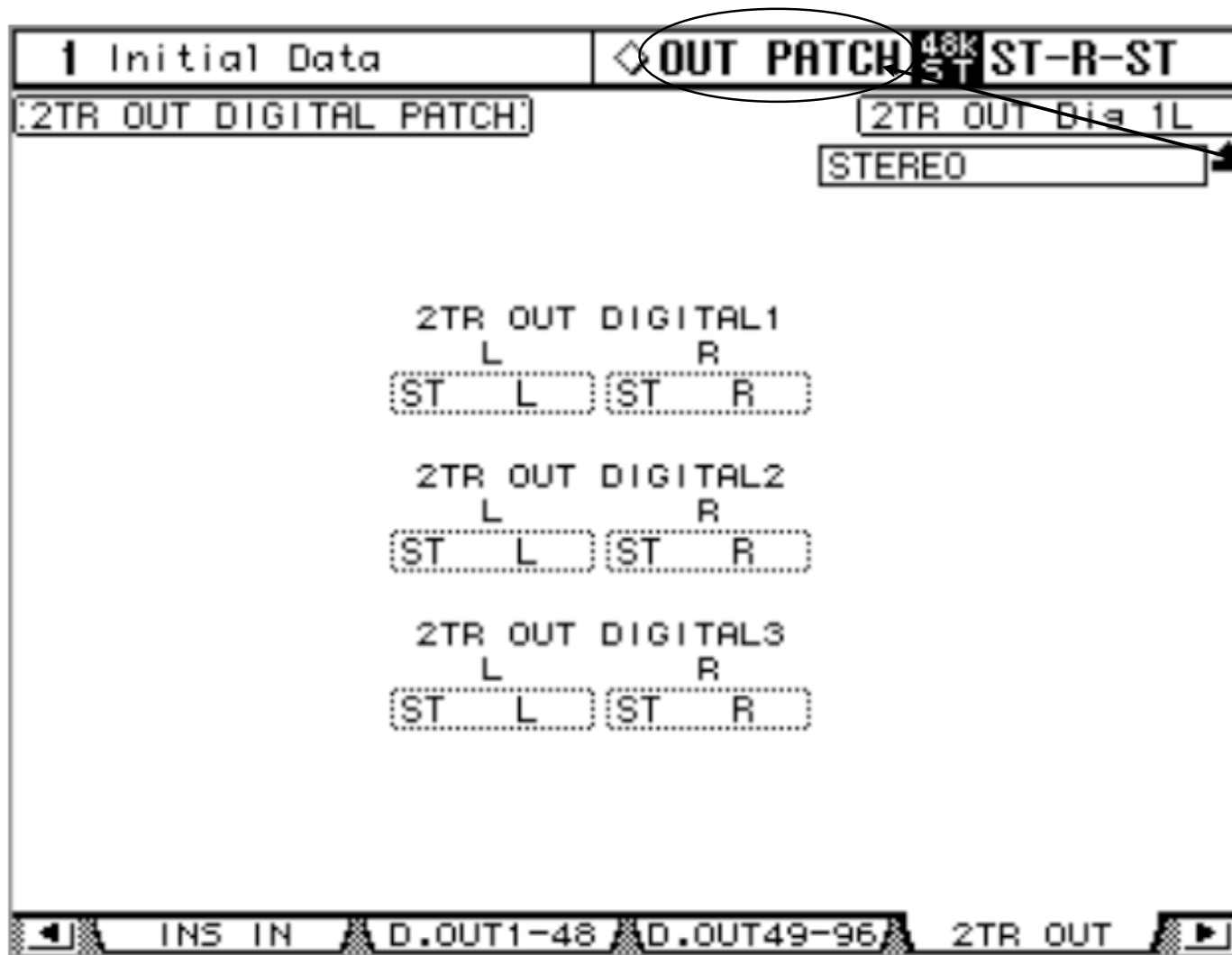


DM-2000 Output Patching/Direct Out Screen

1 Initial Data				◇ OUT PATCH ^{48k} ST			
CH1-48 DIRECT OUT DESTINATION:				CH1			
				Slot1 CH1 OUT			
1	2	3	4	5	6	7	8
S1-1	S1-2	S1-3	S1-4	S1-5	S1-6	S1-7	S1-8
9 -♥-	10	11	12	13	14	15	16
S2-1	S2-2	S2-3	S2-4	S2-5	S2-6	S2-7	S2-8
17 -♥-	18	19	20	21	22	23	24
S3-1	S3-2	S3-3	S3-4	S3-5	S3-6	S3-7	S3-8
25	26	27	28	29	30	31	32
-	-	-	-	-	-	-	-
33	34	35	36	37	38	39	40
-	-	-	-	-	-	-	-
41	42	43	44	45	46	47	48
-	-	-	-	-	-	-	-
DIRECT OUT				PRE EQ	PRE FADER	POST FADER	
◀	INS IN	D.OUT1-48	D.OUT49-96	2TR OUT	▶		

In the **Display Access** Section

DM-2000 Output Patching/2-Track Out Screen



In the **Display Access** Section

DM-2000 Input Channel Routing Screen

0 Initial Data [EDIT] > **ROUTING** 96k CH64-CH64

INPUT CH1-24 ROUTING: CH1

[ALL STEREO] [ALL BUS] [ALL CLEAR]

1	2	3	4	5	6	7	8	9	10	11	12
PAN	PAN	PAN	PAN	PAN	PAN	PAN	PAN	PAN	PAN	PAN	PAN
LR	LR	LR	LR	LR	LR	LR	LR	LR	LR	LR	LR
LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS
CS	CS	CS	CS	CS	CS	CS	CS	CS	CS	CS	CS
ES	ES	ES	ES	ES	ES	ES	ES	ES	ES	ES	ES
SD	SD	SD	SD	SD	SD	SD	SD	SD	SD	SD	SD

13	14	15	16	17	18	19	20	21	22	23	24
PAN	PAN	PAN	PAN	PAN	PAN	PAN	PAN	PAN	PAN	PAN	PAN
LR	LR	LR	LR	LR	LR	LR	LR	LR	LR	LR	LR
LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS
CS	CS	CS	CS	CS	CS	CS	CS	CS	CS	CS	CS
ES	ES	ES	ES	ES	ES	ES	ES	ES	ES	ES	ES
SD	SD	SD	SD	SD	SD	SD	SD	SD	SD	SD	SD

SURROUND MODE 6.1 [E=LFE]

CH1-24 CH25-48 CH49-72 CH73-96

In the **Routing Display** Section


A professional recording studio with a control room, mixing console, and recording booth. The control room features a large mixing console, multiple computer monitors, and several studio chairs. The recording booth is visible through a glass window. The room is equipped with professional lighting and sound equipment.

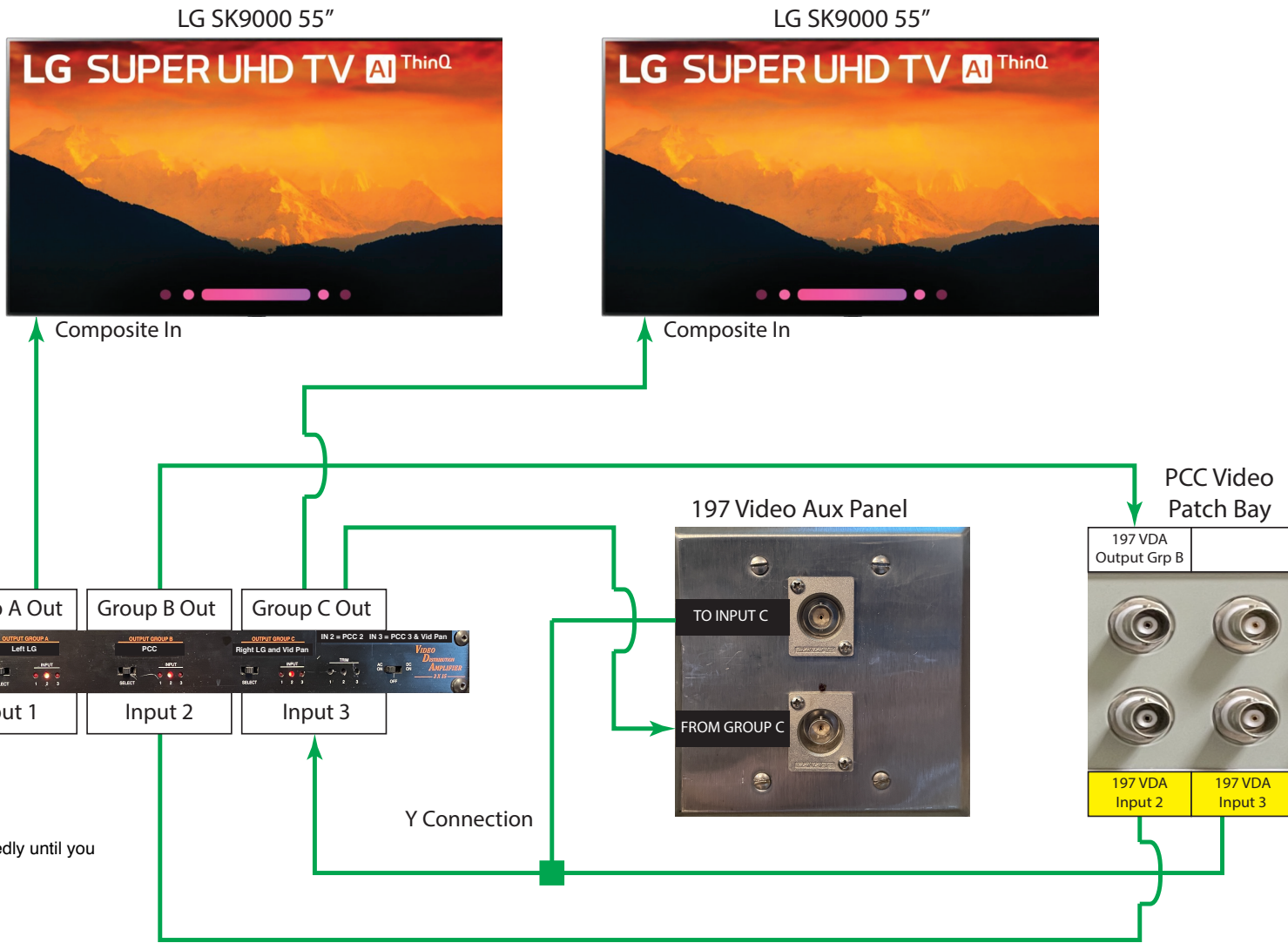
197 Video Connections

SAC
Sonic Arts Center

The City College
of New York

Room 197 - Analog Video Routing

Video Signal = 

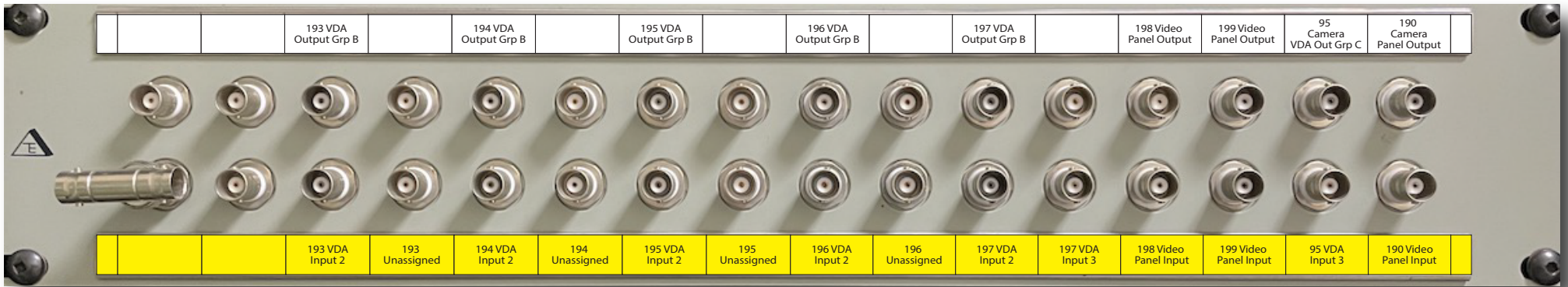


LG MONITOR REMOTE





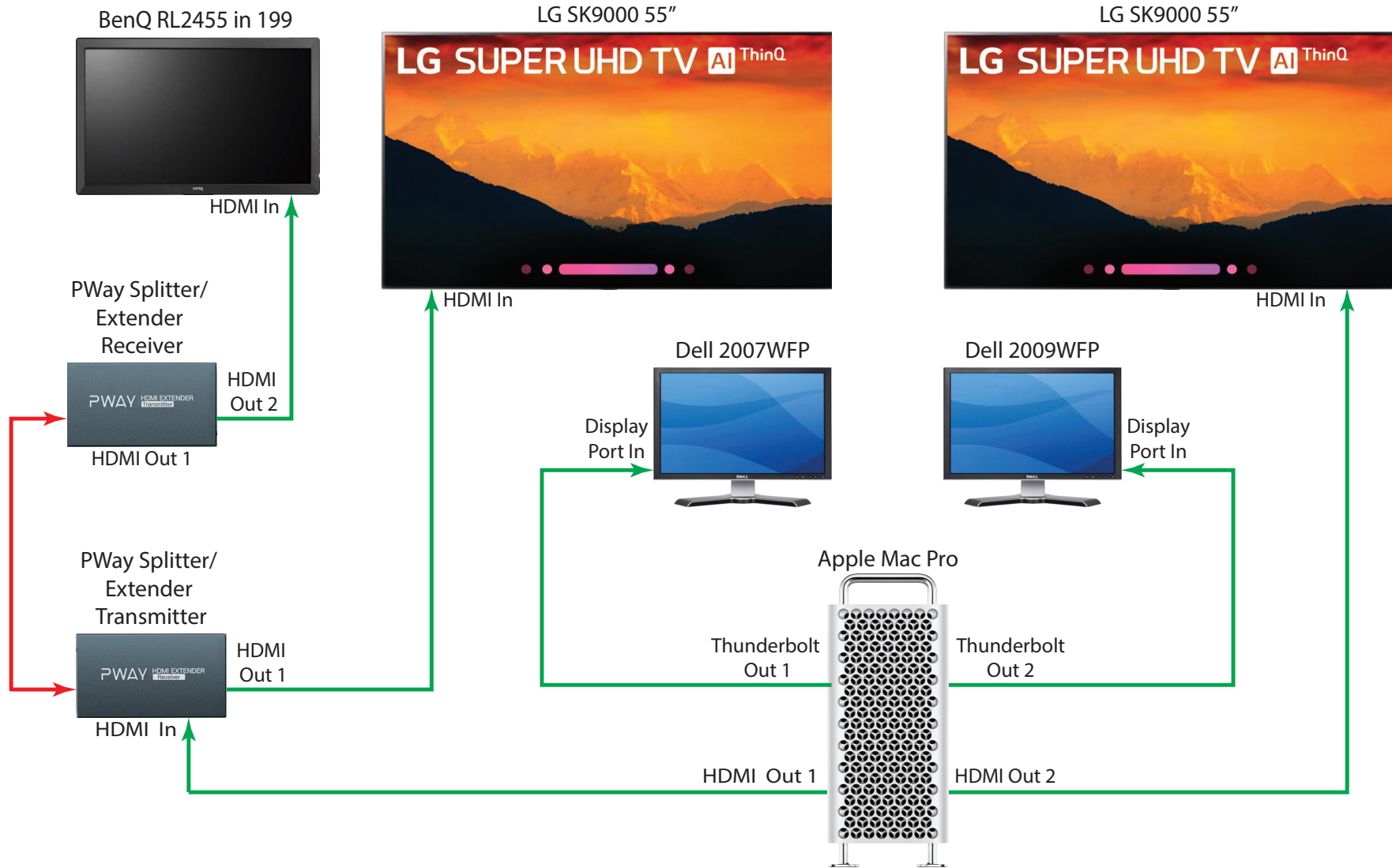
Press repeatedly until you get to AV.

PCC Video Connections



Room 197 - Digital Video Routing

Video Signal = 
Ethernet = 



Room 95 - Analog Video Routing

Video Signal = 