



**Monitor
Facilities
Rack**
AM 5198

**User
Manual**

527 - 387
Issue 1

Health & Safety Notice

**For your own safety and for the protection of others,
please observe the following safety precautions:**



- Read these instructions.
- Heed all safety warnings.
- Do not use near water.
- Clean only with a dry cloth.
- Do not install near heat sources.
- Do not block ventilation openings.
- Protect the power cord.
- Only use accessories specified by the manufacturer.
- Unplug when unused for long periods of time.
- Refer all servicing to qualified personnel only.

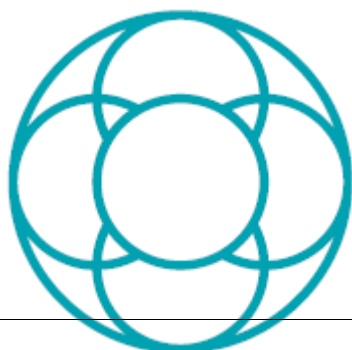
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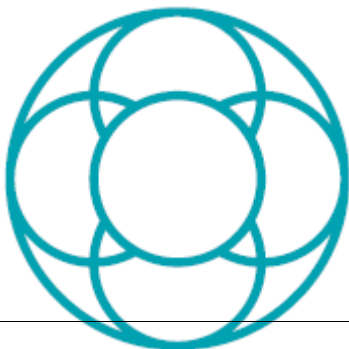
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There are also two A3-size block diagram schematics at the end of this document showing signal flow for the unit.



Introduction

General

The rack has 9 balanced audio Monitor inputs from the digital engine intended to be used for up to 8.1 monitoring.

There is a single balanced audio Calibrate input which can replace the 9 input signals for speaker output level setting.

There are 3 balanced audio inputs for Dialogue; each channel of which mixes into the monitor channels on left, right and centre respectively.

There are 9 balanced audio inputs for Effects; each channel of which mixes into the corresponding monitor channel.

The three paths - Monitor, Dialogue and Effects - can be independently controlled for level. The controlling software will create an aggregate level control value for each path depending on control room level, dim level settings and speaker selection.

Each of the 9 balanced sums of Monitor, Dialogue and Effects can then be switched onto any of three 9 wide output paths nominally titled Large Speakers, Small 1 Speakers and Small 2 Speakers.

The left and right channels can also be selected to a pair of Mini Left and Right outputs. A function called LSRSFlip mutes L and R and replaces them with LS and RS for surround monitoring in the front speakers.

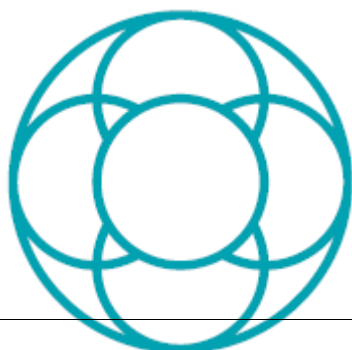
There are a pair of Return Talkback inputs with automatic volume controls which can be selected onto both Small Speaker outputs or onto the Mini Speaker outputs.

The rack has the capability of being level controlled by voltages to allow a very basic compatibility with earlier Remote Level Control Units or by Tranlink.

RS 485 and RS 232 input control will become available at a later date.

All the Inputs and Outputs are available on varicon connectors.

Throughout this document, the abbreviation **MonFac** is used.



Mechanical

The unit is a 4U 19inch rack .

The front panel has a profiled silver brushed finish with a standard AMS-Neve logo.

There are two mains switches on the front panel giving indication of power supply operation and enabling either or both supplies to be switched off.

The rear of the unit has two IEC power connectors; one for each of the two power supplies.

There are 4 x 56 pin Varelco connectors containing

- 9 Monitor inputs
- 1 Calibrate input
- 9 Effects inputs
- 3 Dialogue inputs
- 2 RTB (return talkback) microphone inputs
- 9 Large speaker outputs
- 9 Small 1 speaker outputs
- 9 Small 2 speaker outputs
- 2 Mini speaker outputs

There is a 9 pin D-type control connector compatible with the existing DFC analogue rack (see Control below).

There is also a 25 pin D-type with the DFC control signals plus others called the Extended control connector (see below).

There are RJ 45 Tranlink In and Out connectors and 9 pin D-type RS232 and RS485 connectors for processor control.

Control

The rack can be controlled one of four ways:

- Via hardwired voltage and logic lines referred to as DFC 9PIN MODE and EXPANDED 25PIN MODE.
- Via 'transputer' link.
- Via RS232
- Via RS485

RS 232 & RS 485 will be implemented at a later date.

Switches on the MonFac rack processor board will select which system the board should use.

AC Power

The rack is powered via two IEC mains connectors and two independent power supplies to give full redundancy.

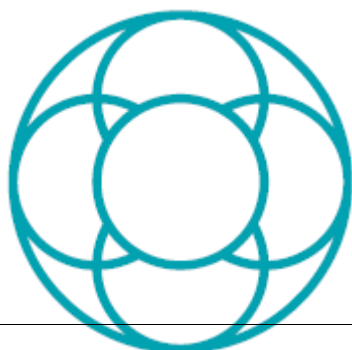
If a power button on the front of the unit fails to light when switched On, check the relevant supply inside the unit.

Please contact AMS Neve for replacement power supplies.

The AC current required by each supply is approximately 120mA at 240volts.

Input voltage: 90-132/180-264 V AC – autoranging

Input frequency: 47-63 Hz



Hardwired Voltage and Logic Lines

The current DFC has a voltage control line and several logic control lines for its audio output box.

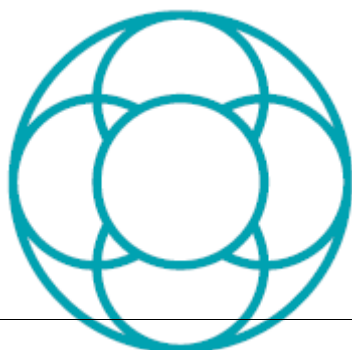
The MonFac rack implements those lines on a 9 way connector and then duplicates those and adds more controls on a 25 way Tranlink connector.

9-Pin mode

Current DFC connector.

(Set the Processor to 9-pin mode)

Pin number	Signal	Description
1	Chassis	
2	nDIM	When low, dim output level by 20dB
3	VCNTRL	Voltage control of monitor level
4	79/VAR	When high, set output level using 79/VAR preset
5	Gnd	
6	5v Ref	Via NAP 2
7	DIRECT	When high, set ignore VCNTRL but use pins 4 & 8
8	85 dB SPL	When high, set output level using 85dB SPL preset
9	Gnd	

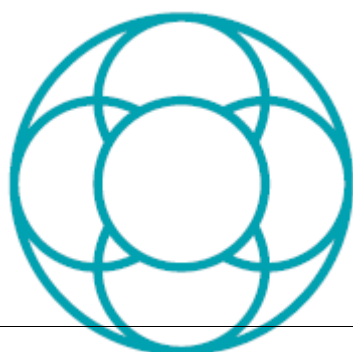


25-Pin mode

The above lines are paralleled onto the 25-way extended connector and additional lines added.

(Set processor to 25-pin Mode)

Pin number	Signal	Description
1	Chassis	
2	NDIM	When low, dim output level by 20dB
3	VCNTRL	Voltage control of monitor level (linear dB)
4	79/VAR	When high, set output level using 79/VAR preset
5	Gnd	
6	DIACNTRL	Voltage control of Dialogue level (linear dB)
7	Vcc	
8	Small1 SPKR	When high, output on Small 1 loudspeakers
9	Mini SPKR	When high, output on Mini loudspeakers
10	RTB Small	When high, output RTB to Small loudspeakers
11	CALON	When high, replace monitor input with CAL input
12	CTRL2	Spare logic input 2
13	Gnd	
14	Vcc	
15	DIRECT	When high, set ignore VCNTRL but use pins 4 & 8
16	85dB SPL	When high, set output level using 85dB SPL preset
17	Gnd	
18	FXCNTRL	Voltage control of FX level (linear dB)
19	RTBCNTRL	Voltage control of RTB level (linear dB)
20	Large SPKR	When high, output on Large loudspeakers
21	Small2 SPKR	When high, output on Small 2 loudspeakers
22	LSRS Flip	When high, drive LSRS onto LR
23	RTB Mini	When high, output RTB to Mini loudspeakers
24	CTRL 1	Spare logic input 1
25	CTRL 3	Spare logic input 3



Switch Settings

Switches should be set with 6 and 8 ON (Link Boot or Flash Boot as appropriate) and the appropriate communications method selected.

1. Comm Opt 1 (see table below)
2. Comm Opt 2 (see table below)
3. **ON** sets DIM to -30dB
Off sets DIM to -20dB
4. **ON** sets Fader / Level control to +10dB max
Off sets Fader / Level control to +15dB max
5. **ON** is boot from Flash
Off is boot from Tranlink
6. Sharc link boot *
7. Sharc local boot *
8. Eprom / flash boot *

* Used only by hardware.

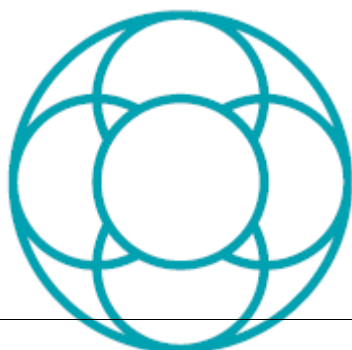
The MonFac rack will boot **only** if 6 and 8 are **ON** and 7 is Off

Comm Opt 2	Comm Opt 1	Communication mode
Off	Off	Tranlink
Off	ON	9-pin mode
ON	Off	Expanded 25-pin mode
ON	ON	RS 232 or RS 485 (not currently implemented)

NB:

The processor reads:

- **ON** as 0
- Off as 1



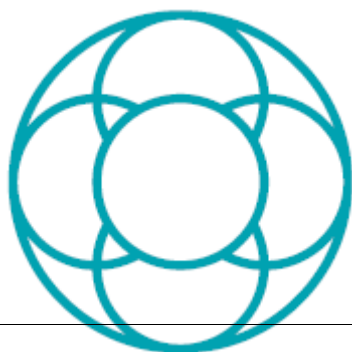
Varicon Connector Pin Outs

Connector 1, Small 2, Mini LS & CS Outputs

Signal	Name	Pin Number		
		Hi	Lo	Scn
1	Small LS 2 L Output	C	J	D
2	Small LS 2 R Output	P	V	K
3	Small LS 2 C Output	U	Z	d
4	Small LS 2 LFE Output	Y	c	f
5	Small LS 2 LS Output	s	m	j
6	Small LS 2 RS Output	x	t	n
7	Small LS 2 LE Output	CC	y	JJ
8	Small LS 2 RE Output	MM	HH	NN
9	- - -	B	F	A
10	Mini LS L Output	L	R	E
11	Mini LS R Output	S	W	a
12	- - -	X	b	e
13	Large LS CS Output	r	l	h
14	Small LS 1 CS Output	v	p	k
15	Small LS 2 CS Output	z	u	DD
16	- - -	LL	EE	KK

Connector 2, Large and Small 1 LS Outputs

Signal	Name	Pin Number		
		Hi	Lo	Scn
1	Large LS L Output	C	J	D
2	Large LS R Output	P	V	K
3	Large LS C Output	U	Z	d
4	Large LS LFE Output	Y	c	f
5	Large LS LS Output	s	m	j
6	Large LS RS Output	x	t	n
7	Large LS LE Output	CC	y	JJ
8	Large LS RE Output	MM	HH	NN
9	Small LS 1 L Output	B	F	A
10	Small LS 1 R Output	L	R	E
11	Small LS 1 C Output	S	W	a
12	Small LS 1 LFE Output	X	b	e
13	Small LS 1 LS Output	r	l	h
14	Small LS 1 RS Output	v	p	k
15	Small LS 1 LE Output	z	u	DD
16	Small LS 1 RE Output	LL	EE	KK

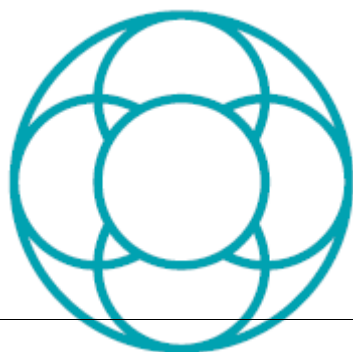


Connector 3, EFX & Dialogue Inputs

Signal	Name	Pin Number		
		Hi	Lo	Scn
1	EFX Input L	C	J	D
2	EFX Input R	P	V	K
3	EFX Input C	U	Z	d
4	EFX Input LFE	Y	c	f
5	EFX Input LS	s	m	j
6	EFX Input RS	x	t	n
7	EFX Input LE	CC	y	JJ
8	EFX Input RE	MM	HH	NN
9	EFX Input CS	B	F	A
10	- - -	L	R	E
11	Dialogue Input L	S	W	a
12	Dialogue Input R	X	b	e
13	Dialogue Input C	r	l	h
14	- - -	v	p	k
15	- - -	z	u	DD
16	- - -	LL	EE	KK

Connector 4, Main, Cal and RTB Rack Inputs

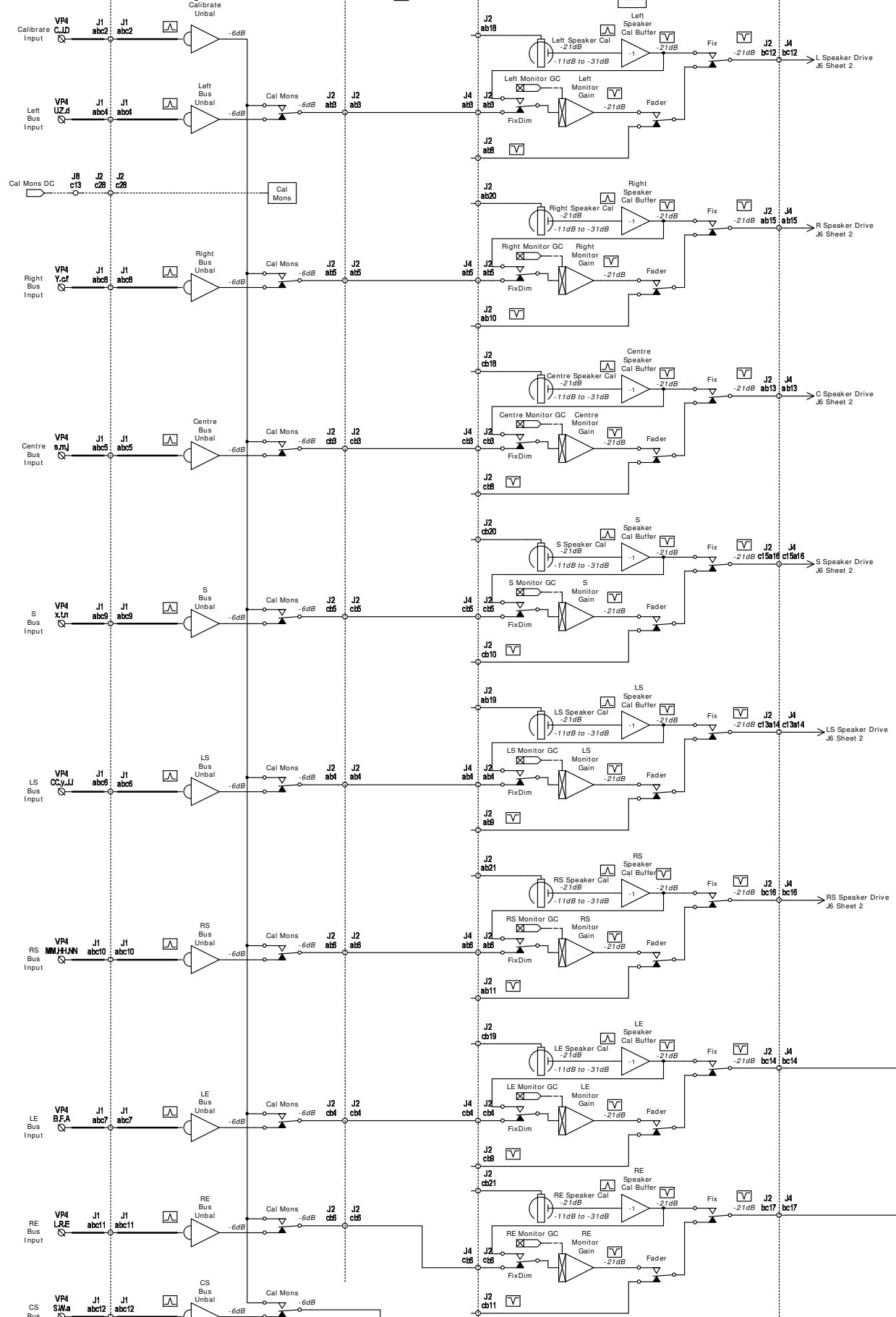
Signal	Name	Pin Number		
		Hi	Lo	Scn
1	Cal Input	C	J	D
2	- - -	P	V	K
3	Main L Input	U	Z	d
4	Main R Input	Y	c	f
5	Main C Input	s	m	j
6	Main LFE Input	x	t	n
7	Main LS Input	CC	y	JJ
8	Main RS Input	MM	HH	NN
9	Main LE Input	B	F	A
10	Main RE Input	L	R	E
11	Main CS Input	S	W	a
12	- - -	X	b	e
13	- - -	r	l	h
14	RTB Mic Input 1	v	p	k
15	RTB Mic Input 2	z	u	DD
16	- - -	LL	EE	KK



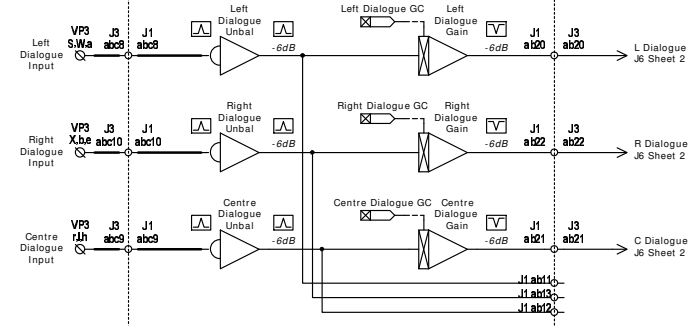
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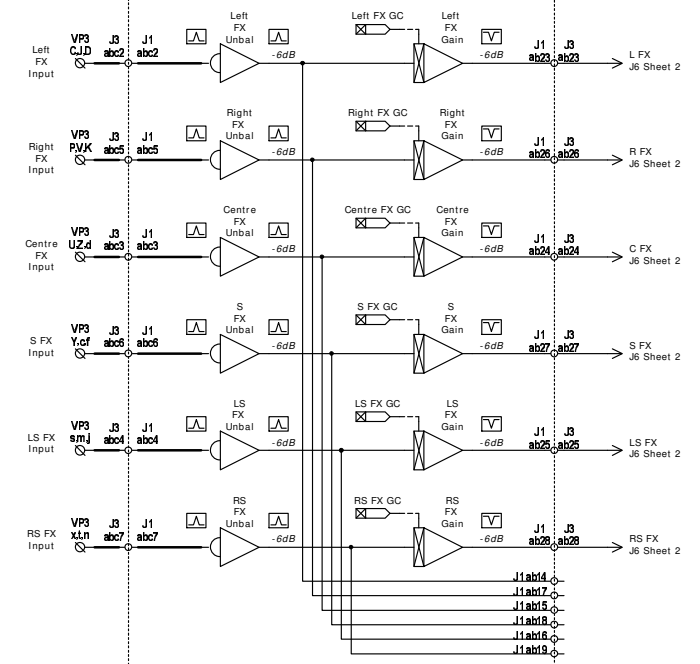
SBL801-055 MONFAC Audio Exp Board



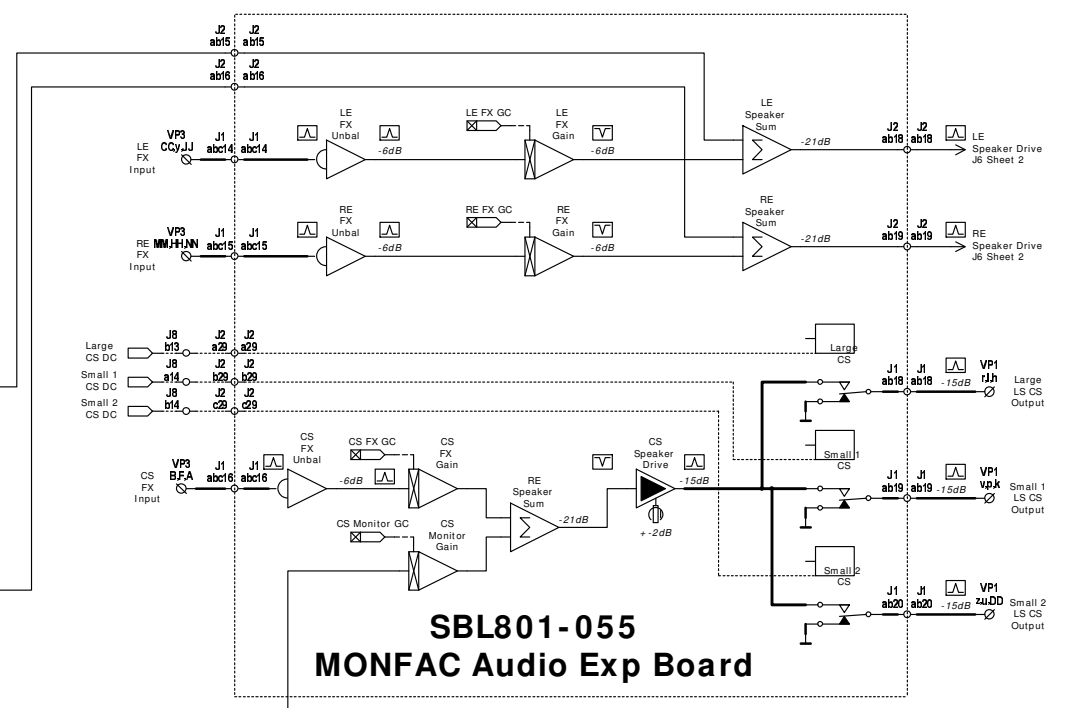
Dialogue to Speakers



FX to Speakers



SBL801-045 FX Dialogue Board



SBL801-045 FX Dialogue Board

SBL801-055 MONFAC Audio Exp Board

VBDC Filename:

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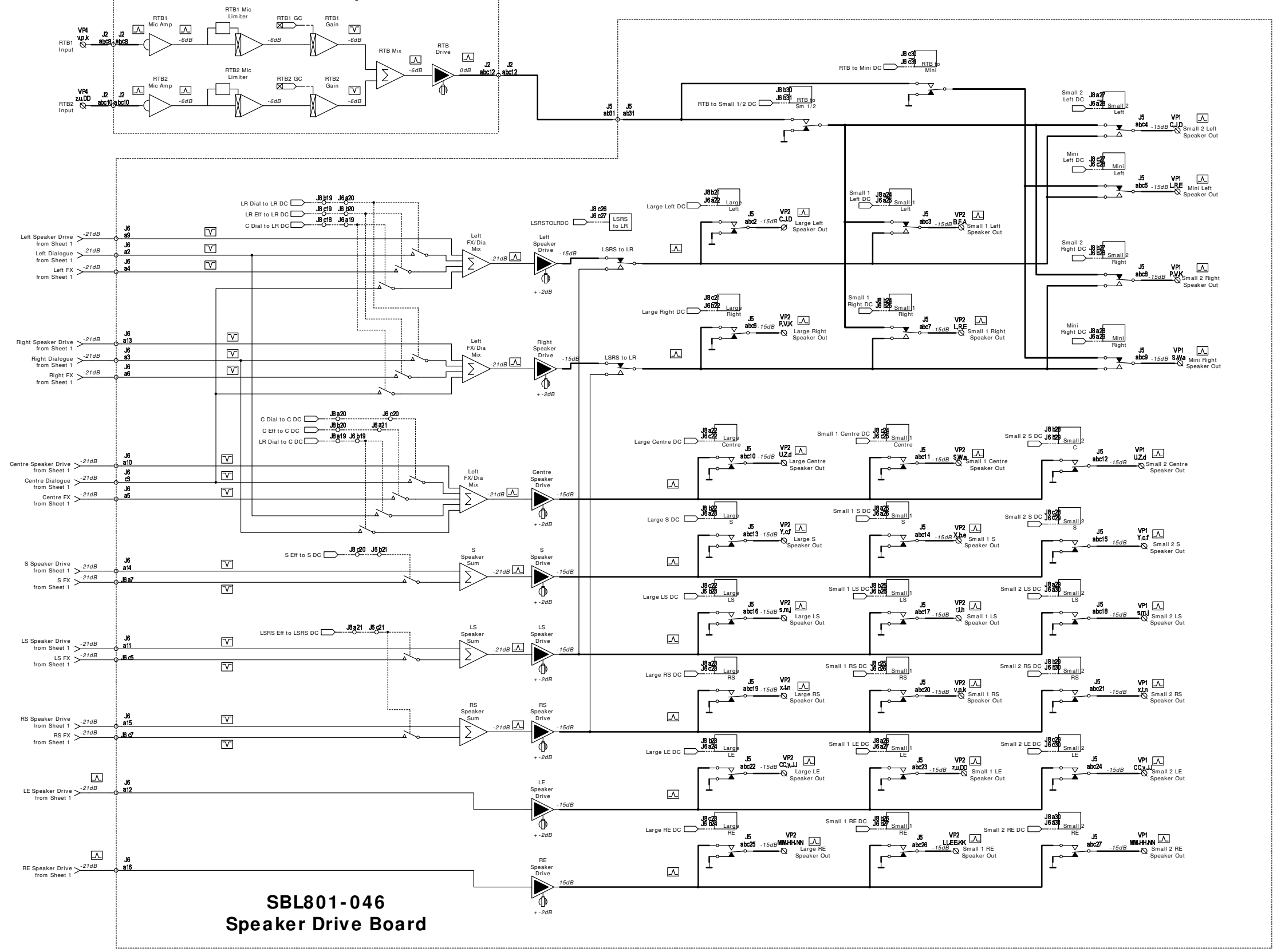
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**SBL801-055
MONFAC Audio Exp Board**



**SBL801-046
Speaker Drive Board**

**Monitor Speaker
Switching**

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