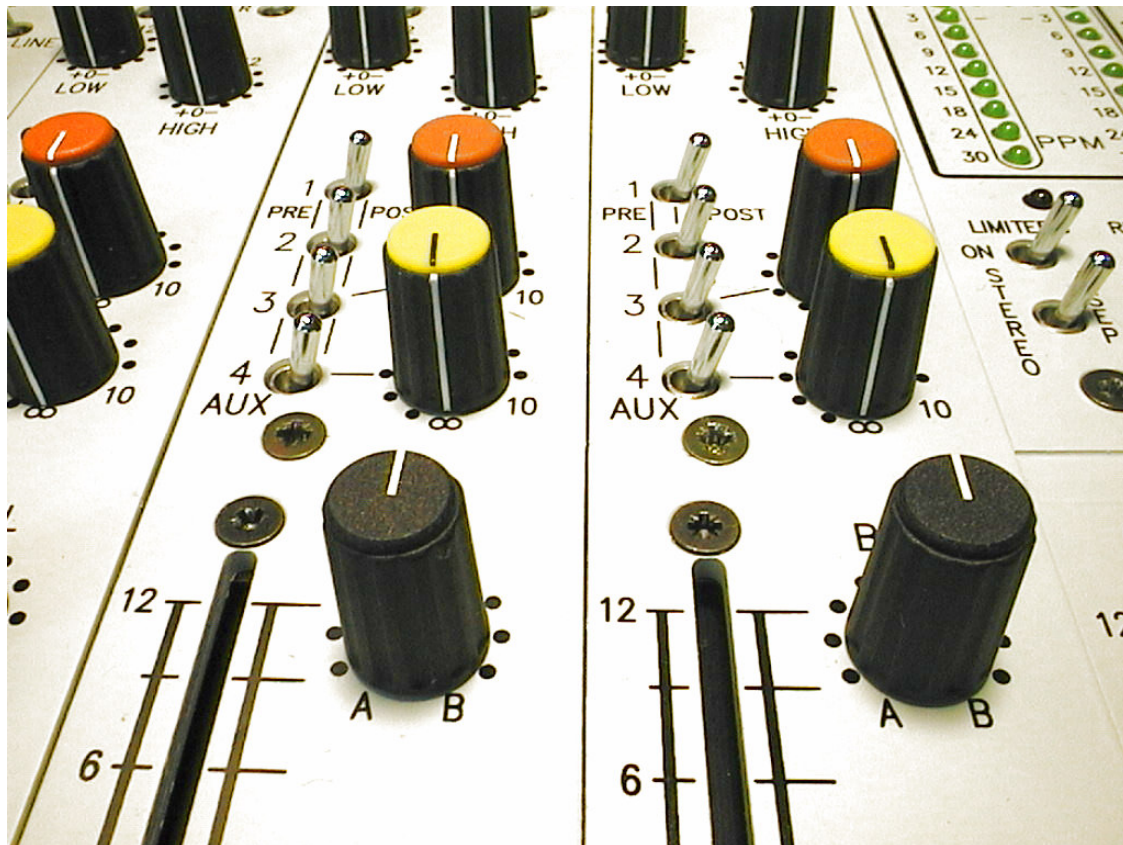


Seeport Portable Mixer

Seemix Sound



Seeport² User Manual

Seemix Sound AS

Gjerdrumsvei 12B
N-0484 Oslo
Norway

Telephone: (+47) 22 58 10 00

Telefax: (+47) 22 58 10 01

E-mail: info@seemix.no

www.seemix.no



Seeport 2 User Manual
Date of revision: 05 September 2006

Every effort has been made to supply complete and accurate information. However Seemix Sound AS assumes no responsibility for the use of, nor for consequential damages of the use of information and/or the instrumentation described herein. Furthermore, Seemix Sound AS assumes no responsibility for any infringement of the intellectual property rights of third parties, wherever applicable, which would result from such use.

Seemix Sound AS reserves the right to amend any of the information given in this manual without further notice.

Contents

1. GENERAL INFORMATION	4
2. MIXER LAYOUT	5
3. MODULES	6
3.1 MIC/MONO LINE INPUT MODULE, I3800	6
3.2 STEREO LINE INPUT MODULE, I3801	8
3.3 TELEPHONE HYBRID MODULE, TH3800	10
3.4 OUTPUT MODULE, U3811	12
3.5 LIGHT OUTPUT MODULE, U3804	14
3.6 MONITOR MODULE, M3810	16
3.7 TALKBACK / AUX MASTER MODULE, TK3800	18
3.8 EXT. MONITOR, PFL & PHASE METER MODULE, Y3802	20
3.9 PRESENTER MONITOR FEED MODULE, M3808	22
3.10 AC POWER SUPPLY MODULE, P3807	24
3.11 AC/DC POWER SUPPLY MODULE, P3806	25
4. OPTIONS	26
4.1 INSERT POINTS ON INPUTS, INS3800	26
4.2 VU METER BRIDGE, VU3800	26
4.3 EXPANSION CABLE, EC3800	26
4.4 TRANSPARENT DUST COVER, DC3808/12/16	26
4.5 MODULE EXTENDER CARD, EX07	27
4.6 FLIGHT CASES, FC3808/12/16	27
4.7 RACK MOUNTING BRACKETS, MB3800	27
5. TECHNICAL INFORMATION	28
5.1 AUDIO BLOCK DIAGRAM	28
5.2 REMOTE CONTROL / CUE LIGHT SYSTEM	29
5.3 LEVEL DIAGRAM	30
5.4 EQUALIZING CURVES	31
5.5 CONNECTOR INFORMATION	32
5.6 BACK PANEL LAYOUT	34
5.7 DIMENSIONS AND WEIGHTS	35
5.8 TECHNICAL DATA	36

1. General Information

This manual gives general functional and technical information on the Seeport 2 portable mixer. The mixer has 2 outputs. A separate manual is available for the Seeport 4, which has 4 outputs.

Seeport has been designed with much thought to the user. With its modular design, it offers versatility and an extensive range of functions, some which are not so typical in small mixers, making it suitable for many types of applications. Typically these include radio and television studio work, OB vans, film sound, location recording and TV post production.

The ergonomic design and surface layout of Seeport has been much appraised over the years, incorporating a high functional level into a compact, yet uncluttered user surface.

Seeport is available in three frame sizes and with a range of different modules. Full details of all modules are given in this manual.

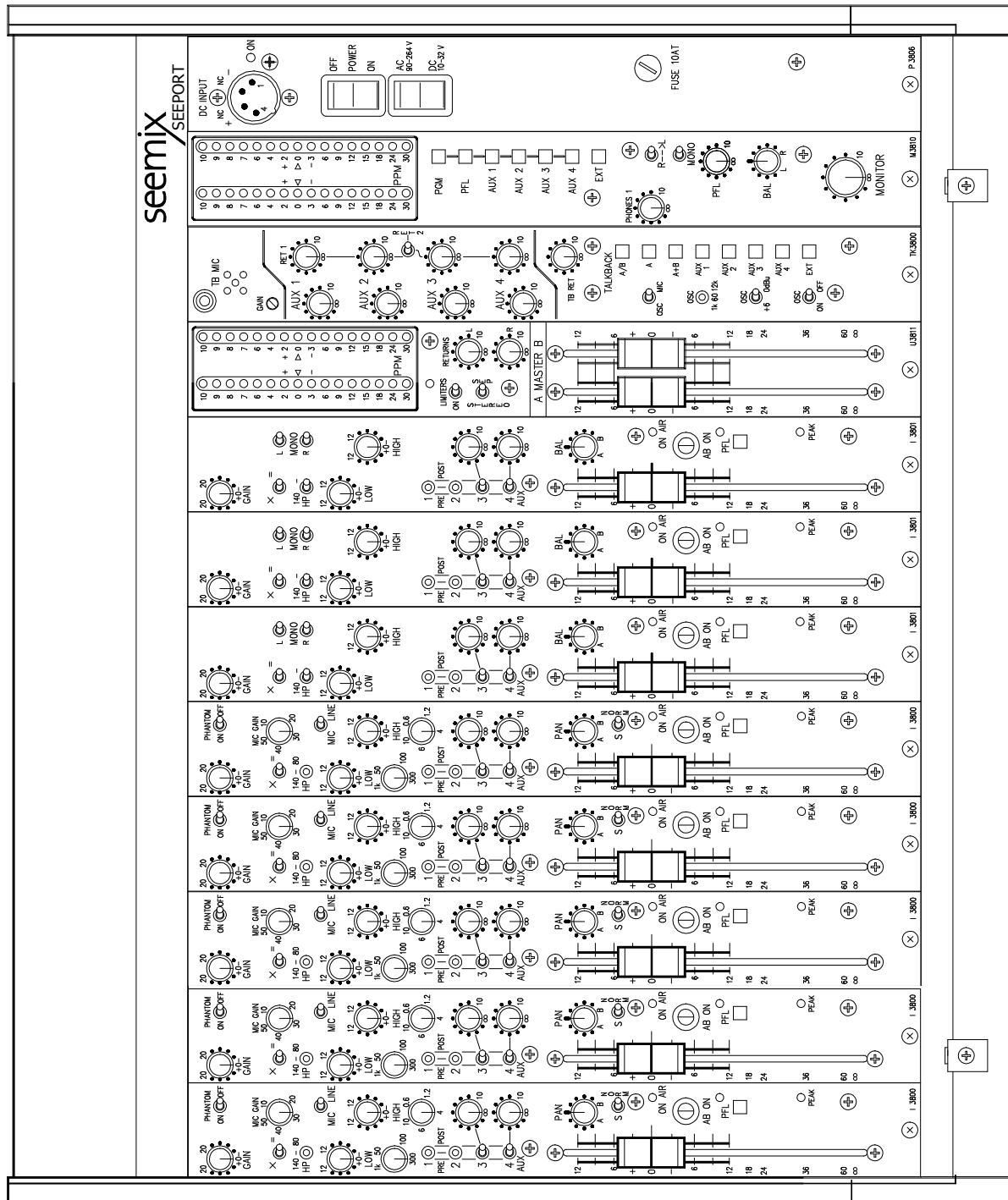
Built to very high standards both mechanically and electronically, Seeport is robust and extremely reliable in operation. All faders used are Penny & Giles long throw (104 mm) conductive plastic. The frame mechanism provides a neat suitcase type carrying solution. Weight has also been taken into consideration in the design, an 8/2 weighing approximately 9.5kg.

Various options are available for Seeport which are covered in section 4.

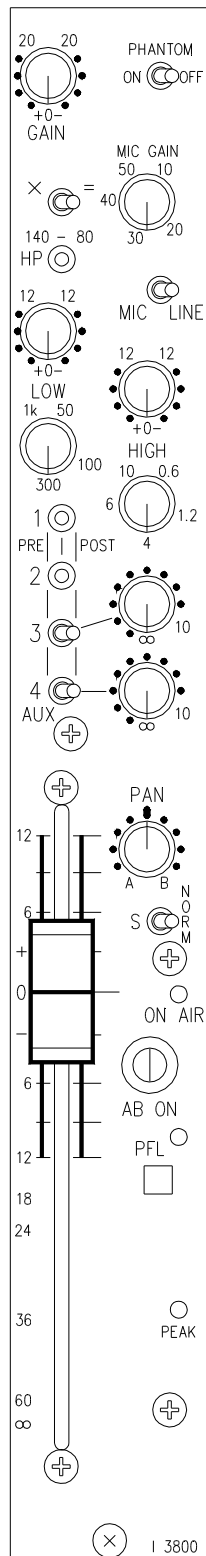
Further technical information is provided in the Seeport Service Documentation. This is provided with each Seeport delivery or is available from Seemix Sound on request.

2. Mixer Layout

The following drawing is an example of an 8 channel configuration. Seepport 2 is available in three frame sizes, housing 8, 12 or 16 input modules.



3.1 Mic/Mono Line Input Module, I3800



GAIN

+/-20 dB fine gain adjustment on mic and line inputs.

PHANTOM ON/OFF

Switch for selecting 48 V phantom power.

PHASE (X / =)

Phase reversal switch.

MIC GAIN

10-50 dB gain on mic input.

HP

High pass filter, 12 dB/octave. 80 Hz and 140 Hz cut off frequencies.

MIC / LINE

Mic/Line input selector. (Separate XLR-type connectors).

LOW

Parametric equalizer low end. +/-12 dB, 50 Hz to 1kHz peak/dip. Q=1.3 at max peak/dip.

HIGH

Parametric equalizer high end, +/-12 dB, 600 Hz to 10 kHz peak/dip. Q=1.3 at max peak/dip.

AUX 1-4

Aux output pre/post selectors and level pots. AUX 1 and AUX 2 have center off switches and no pots. Post fader may be taken before or after AB ON switch (jumper selectable).

PAN POT

Pan pot for panning signal between A and B outputs when A/B ON switch is depressed.

S/NORM SWITCH

With this switch in the S position, a phase reversal of the signal is sent to output B. This provides therefore the 'S' signal of an MS configuration on the AB outputs. The 'M' signal would be fed from a separate mic channel (in NORM position). In this way, two faders can be used for controlling an MS signal. Note: The pan pot must be set centred for both channels when used in MS configuration.

ON AIR LED

This is lit when the fader is open and the AB Switch is ON.

AB ON

Channel On switch. Affects stereo output only, leaving AUX and PFL active.

PFL

Pre-fade listen, with LED. Jumper settings determine whether PFL is cut when channel is On Air, or is independent of On Air status.

PEAK

Overload LED.

Module Information

SIGNALISATION.

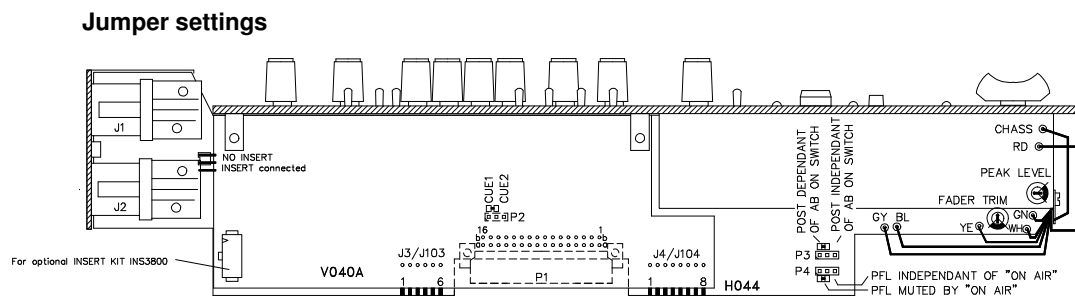
When the fader is open, and AB-switch is on, the fader start relay for the channel will be closed when the channel is in LINE position. In MIC position, the CUE1 or CUE2 signalling bus may be fed (jumper dependant).

JUMPER SETTINGS.

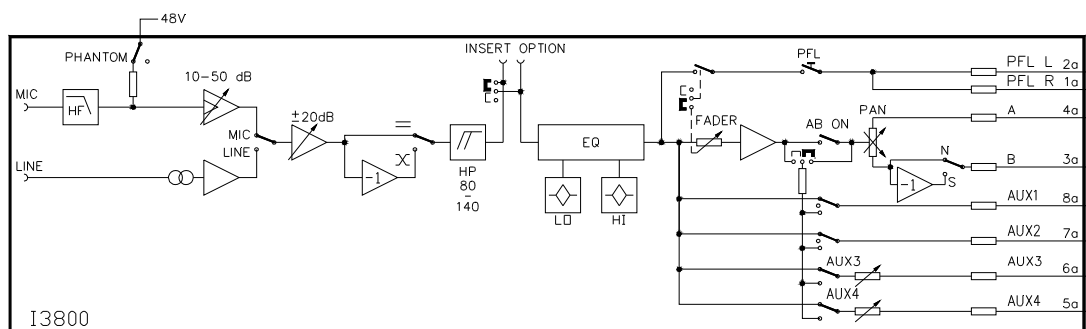
The following jumper settings are available for the module.

- INSERT option
- CUE1 or CUE2 or no CUE when on air
- AUX POST dependent/independent of AB-switch
- PFL muted by ON AIR, or PFL independent of ON AIR

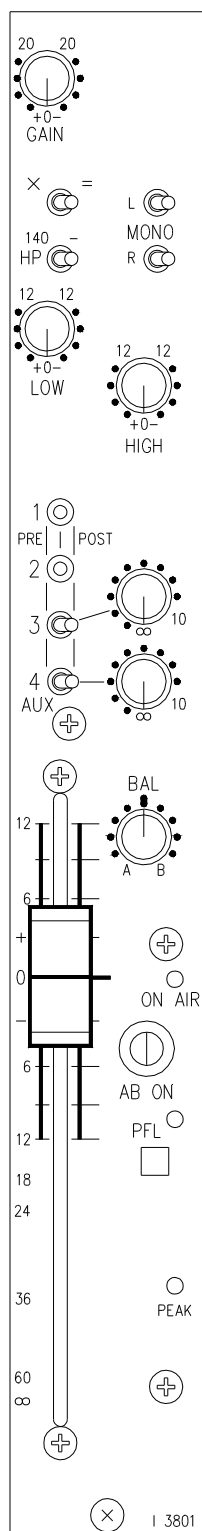
The positions of these jumpers are indicated in the diagram below.



I3800 MODULE AUDIO BLOCK DIAGRAM



3.2 Stereo Line Input Module, I3801



GAIN

+/-20 dB fine gain adjustment.

X / =

Phase reversal switch.

HIGH PASS

High pass filter, 12 dB/octave. Cut off frequency 140 Hz.

MONO L/R

When both switches are in the right position (as shown) the channel is stereo. When the L position is used, the left input signal is sent to both A and B channels. When the R position is used the right input signal is sent to both A and B channels. If both switches are used, both left and right inputs are sent to both A and B channels.

LOW

Shelving filter low end, +/-12 dB.

HIGH

Shelving filter high end, +/-12 dB.

AUX 1-4

AUX output pre-post selectors and level pots. AUX 1 and AUX 2 have center off switches and no pots.

AUX send signal is the sum of left and right channels. Post fader may be taken before or after AB ON switch (jumper selectable).

BAL

Stereo balance potentiometer. Adjusts balance between A and B outputs when A/B ON switch is depressed.

ON AIR LED

This is lit when the fader is open and the AB Switch is ON.

AB ON

Channel On switch. Affects stereo output only, leaving AUX and PFL active.

PFL

Stereo pre-fade listen, with LED. Jumper settings determine whether PFL is cut when channel is On Air, or is independent of On Air status.

PEAK

Overload LED.

Module Information

SIGNALISATION.

When the fader is open and AB-switch is on, the fader start relay for the channel will be closed.

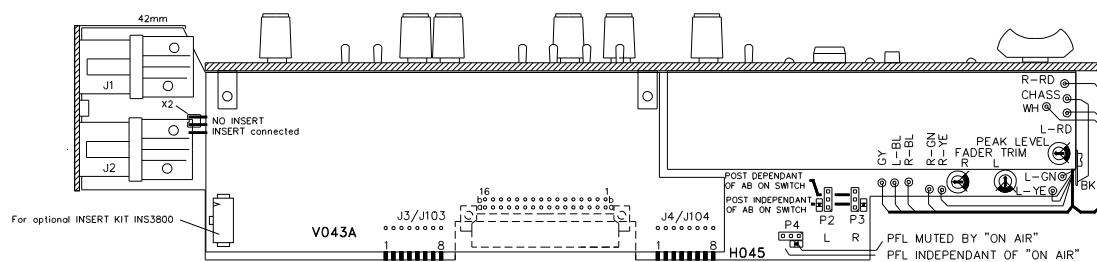
JUMPER SETTINGS.

The following jumper settings are available for the module.

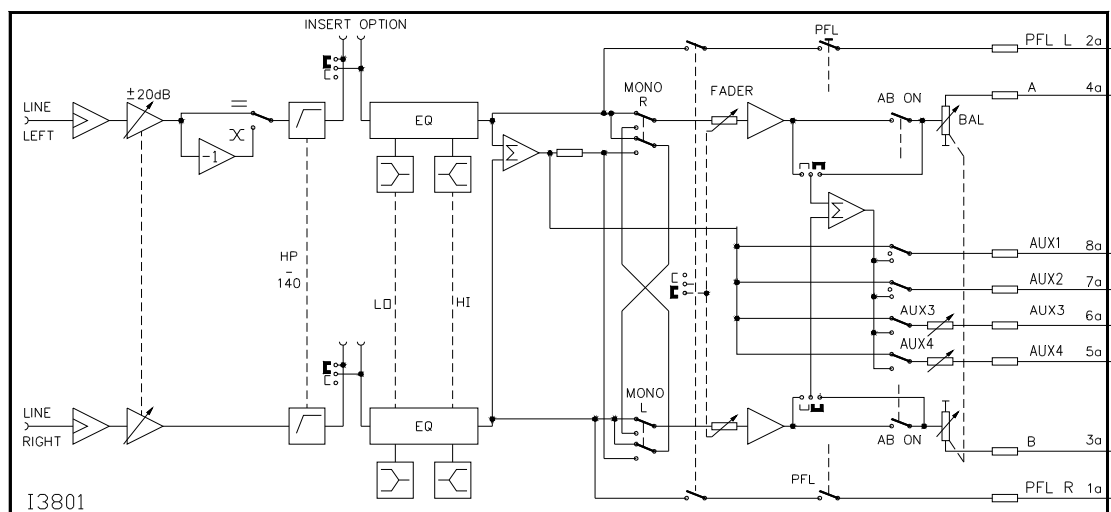
- INSERT option
- AUX POST dependent/independent of AB-switch
- PFL muted by ON AIR or PFL independent of ON AIR

The positions of these jumpers are indicated in the diagram below.

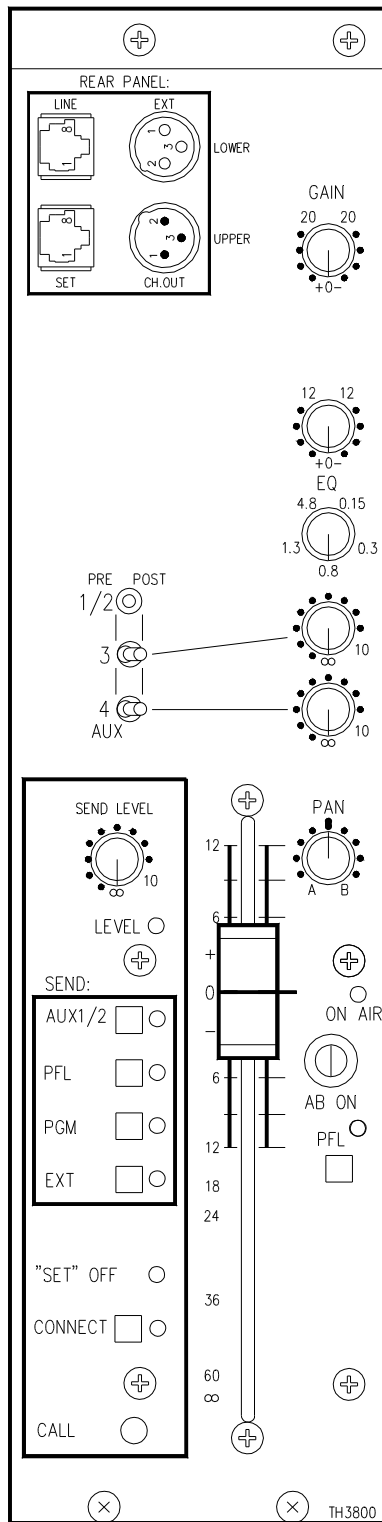
Jumper settings



I3801 MODULE AUDIO BLOCK DIAGRAM



3.3 Telephone Hybrid Module TH3800



GAIN

+/-20 dB fine gain adjustment

EQ

Equalizer +/-12 dB, 150 Hz to 4,8 kHz peak/dip.

AUX 1-4

Aux output pre-post selectors and level pots. AUX 1/2 has a center off switch and no pot. Post fader may be taken before or after AB ON switch (jumper selectable).

SEND LEVEL

Level potentiometer for return signal to incoming caller. The LEVEL LED indicates that the SEND level limiter is active.

SEND BUTTONS

Interlocking switches for selecting return signal to caller. Caller may be sent any one of AUX1 or AUX2 signals (jumper selectable), PFL, A+B (PGM) or an external signal (EXT) connected at the back of the module.

"SET" OFF

"SET" OFF LED indicates that the telephone set is disconnected. This is activated by the CONNECT button or by CUE1 or CUE2 (jumper selectable). CUE1 or CUE2 may be activated by any other channel when on air (eg. for red light). This therefore avoids ringing interruption when for example a local mic is live.

CONNECT

This button activates the hybrid function itself and connects the line to the channel. It also disconnects the telephone set (100ms after making the channel connection) as mentioned above. Releasing the connect button breaks the connection to the mixer channel and re-connects the telephone set (again after 100ms) to enable off air conversation. NB: The set will only be re-connected when the relevant CUE signal is not present, e.g. local mic which controls red light is off air.

CALL

The call LED gives a visual indication of the presence of an incoming call. This is useful when ringing has been deactivated by one of the cue busses when on air.

PAN

Pan potentiometer. Feeds main outputs if A/B ON switch is depressed.

ON AIR LED

This is lit when the fader is open and the AB Switch is ON.

AB ON

Routes signal to A and B mix busses.

PFL

Pre-fade listen, with LED. Jumper settings determine whether PFL is cut when channel is On Air, or is independent of On Air status.

The drawing in the upper left corner of the module shows the connections on the back panel.

Module Information

The TH3800 can be used in several different ways, either as a straight hybrid (without interacting with the rest of the mixer) or as an integrated mixer channel with routing to and from the mix busses.

The incoming line signal can be routed, via the AB ON switch, to the A and B master busses. It can also be sent to the PFL bus as well as to all AUX busses either pre or post fade. However, the channel can only be sent to either AUX1 or AUX2, not both. This choice is jumper selectable. The reason for this is that AUX1 or AUX2 can also be selected as the return signal to the caller (SEND) (also jumper selectable). These jumpers must therefore be set differently for the two signal paths in order to avoid a feedback loop. Further, if two hybrid modules are used simultaneously, by setting these jumpers in 'mirrored' positions for each module, AUX1 and AUX2 can be used for cleanfeed mixes (N-1) for respectively line 1 and line 2.

The return signal (SEND) can be selected from AUX1/2 (as described above), PFL, A+B or an external source. A+B would normally be selected when the line is to be used for transmission.

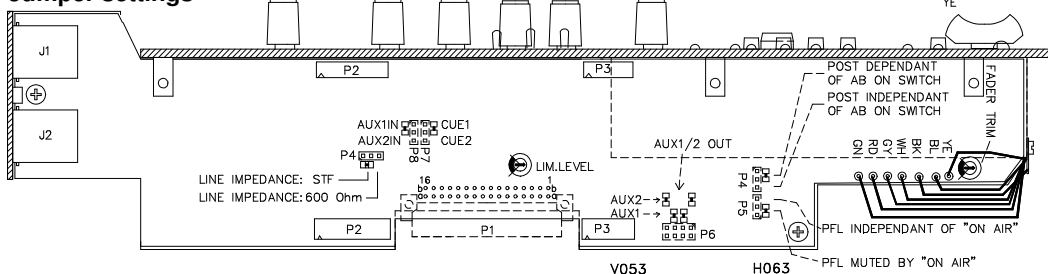
The module also has a channel out connector. This is fed from the post fade signal and provides an extra output independent of the rest of the mixer. This enables the module to be used as a stand alone hybrid. For example, the Channel Out is sent to an external mixer, and the output of this mixer is in turn connected to the EXT input of the hybrid to provide the SEND signal to the caller. Any source connected to the EXT input can be sent down the line for monitoring (SEND EXT). Similarly, any incoming telephone line signal can be monitored directly from the channel output connector.

JUMPER SETTINGS.

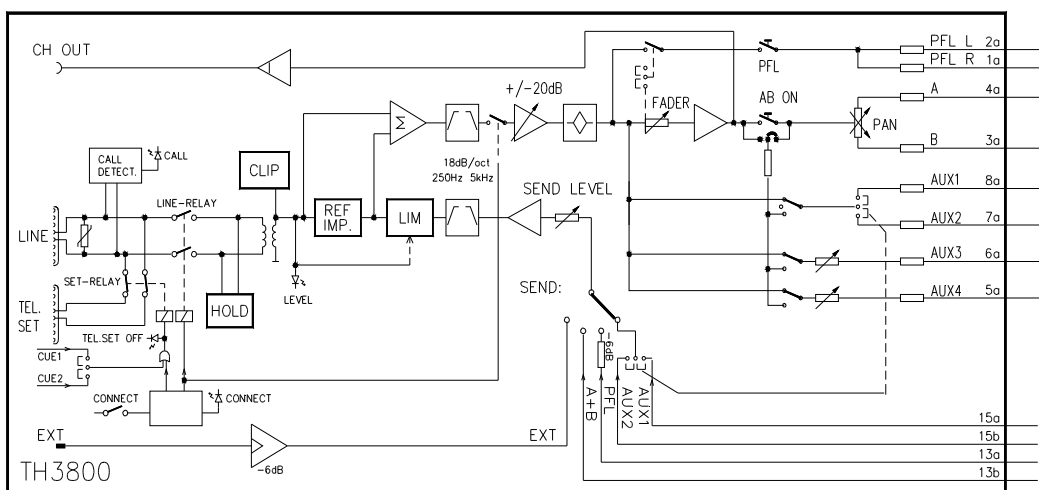
The following jumper possibilities are available. Jumpers positions are indicated in the diagram below.

- CUE1 or CUE2 signals can mute ringing from telephone set to avoid interruptions when on air
- AUX POST dependent/independent of AB-switch
- PFL muted by ON AIR, or PFL independent of ON AIR
- STF (Norwegian standard), or 600 Ohm LINE IMPEDANCE
- Line mixed to AUX1 or AUX2
- AUX1 or AUX2 to SEND path (cleanfeed mix to caller)

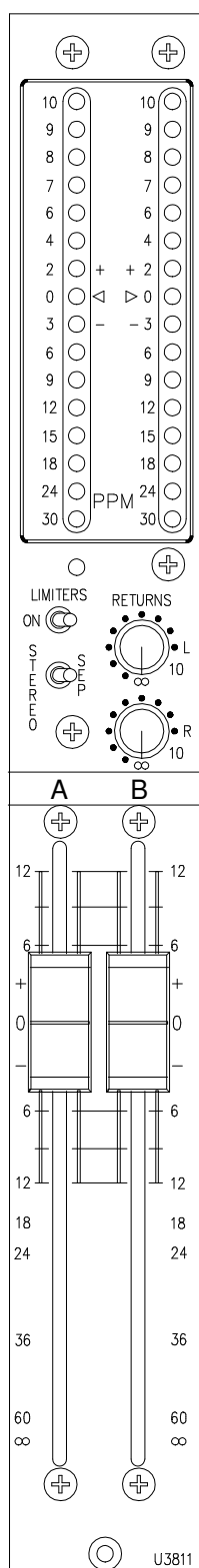
Jumper settings



TH3800 MODULE AUDIO BLOCK DIAGRAM



3.4 Output module, U3811



STEREO PPM

Peak Programme Meter fitted with 16 LEDs.
Nordic scale: 0 dB on meter = 0 dBu output

LIMITERS

Selects stereo limiter in or out.

STEREO/SEP

Selects between stereo ganged limiters or separate for each channel.

RETURN

Return level pots for A and B return inputs.

Module Information

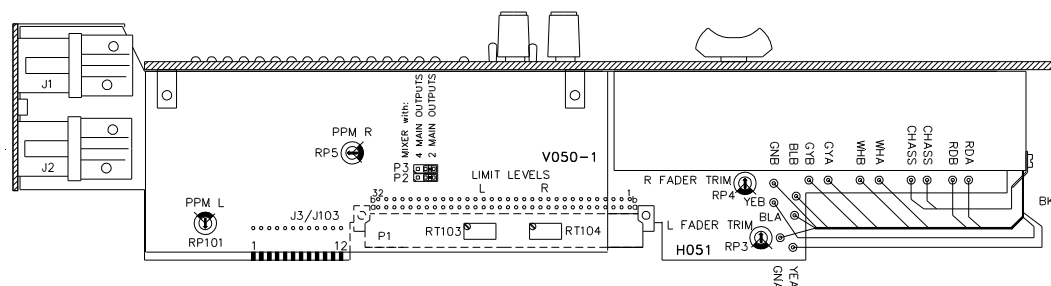
SIGNALISATION.

When one or both faders are open, the fader start relay for the output channels will be closed.

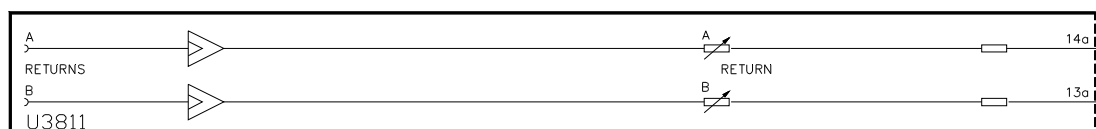
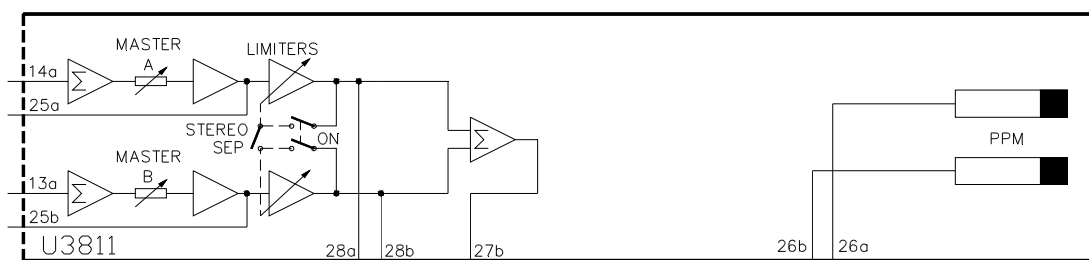
JUMPER SETTINGS.

This module is also used in the Seeport 4 mixer (two modules giving 4 outputs). Jumpers must be set accordingly as indicated in the drawing below.

Jumper settings



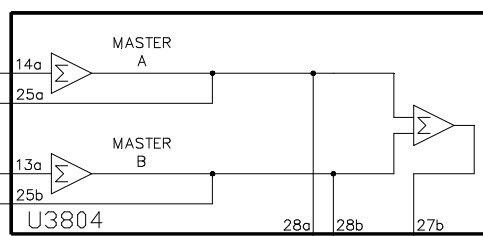
U3811 MODULE AUDIO BLOCK DIAGRAM



3.5 Light Output Module, U3804

The U3804 is a stripped down version of the U3811 main output module, for use where no controls are required. It has no faders, limiters, PPMs or return inputs.

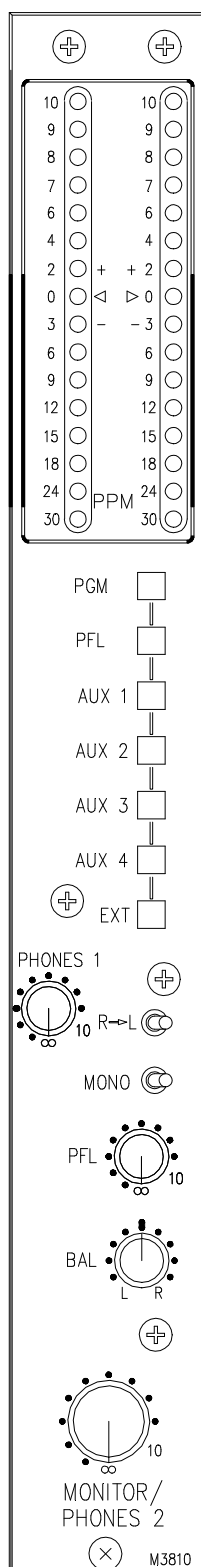
U3804 Module Audio Block Diagram



U3804

THIS PAGE IS INTENTIONALLY LEFT BLANK

3.6 Monitor Module, M3810



STEREO PPM

Peak Programme Meter fitted with 16 LEDs.
Nordic scale: 0 dB on meter = 0 dBu output.

PGM

Sends stereo A/B sum to monitor output.

PFL

Sends stereo PFL sum to monitor output.

AUX 1 - AUX 4

Sends mono AUX1-AUX4 sums to both left and right monitor outputs.

EXT

Sends signal from external stereo input (2 XLRs on back panel), or from optional Y3802 module, to monitor output. This routing is jumper selectable. See section 3.8 for information on Y3802 module.

R ► L

Sends right monitoring channel to both right and left monitoring outputs.

PHONES 1

Level control for the Phones 1 headphone output. The phones 1 output can be set to follow either the selected monitoring output, or always programme (jumper selectable). This can be set individually for left and right outputs.

MONO

Sends mono sum of both monitoring channels to both outputs.

PFL

Potentiometer for adjusting level of PFL mono output.

BAL

Potentiometer for adjusting L/R balance of the stereo monitor output.

MONITOR / PHONES 2

Level control for monitor/phones 2 output.

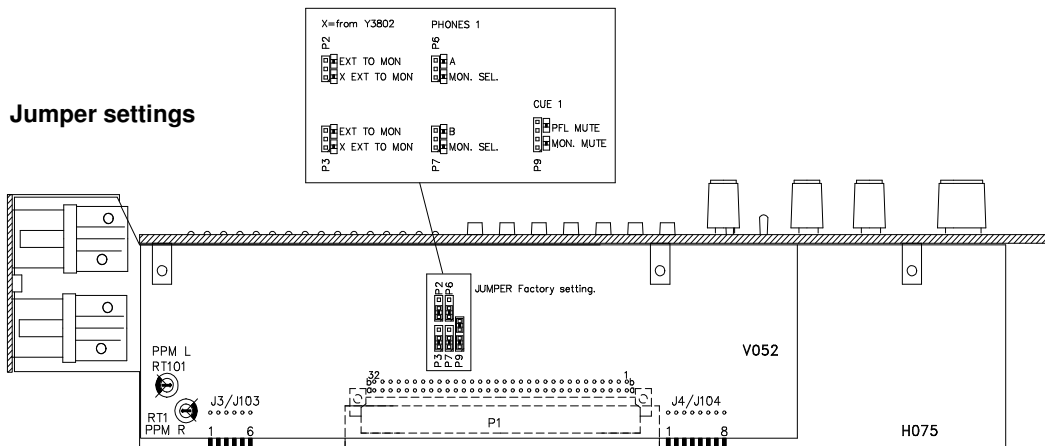
Module Information

JUMPER SETTINGS.

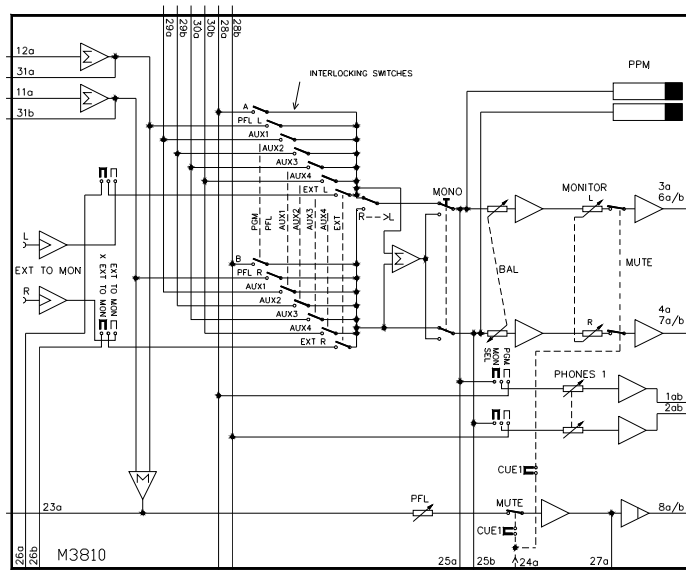
The following jumper possibilities are available:

- Selection of external monitoring source from ext. input on back panel or from optional Y3802 module (in 12 and 16 channel frameworks only).
- Phones 1 to follow monitor selection or always AB.
- Cue 1 signal can mute monitor/phones 2 output.
- Cue 1 signal can mute PFL output.

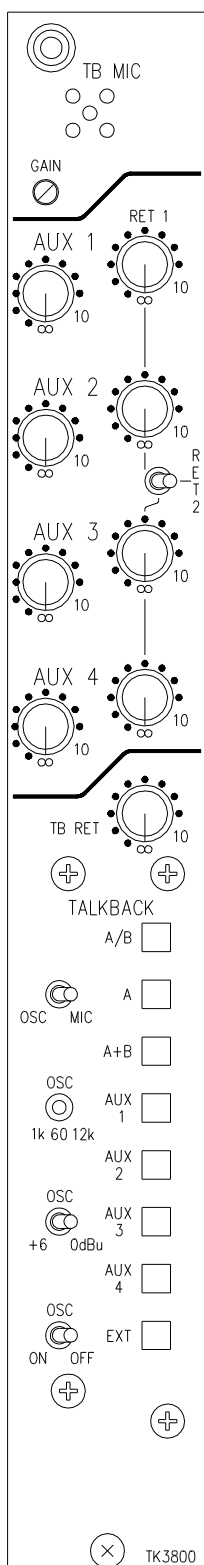
The positions of these jumpers are indicated in the diagram below.



M3810 MODULE AUDIO BLOCK DIAGRAM



3.7 Talkback / AUX Master Module TK3800



TB MIC

An external talkback mic can be connected here. When inserted, the in-built talkback mic. is disconnected.

GAIN

TB mic amplifier gain adjustment.

AUX 1-4

AUX master output level potentiometers.

RET 1 AND RET 2

Potentiometers for adjusting Aux. Return levels. The RET1 mono signal may be mixed with each of the 4 Aux buses, with separate level control for each bus. Alternatively, with the switch in the RET2 position, the Aux 3 and 4 buses may be fed with the Return 2 signal.

TB RET

Talkback return level potentiometer. The talkback return signal is sent to both L and R PFL buses.

TALKBACK BUTTONS

Non-latching talkback pushbuttons. Routes TB signal or oscillator to respective output(s).

OSC / MIC

Talkback circuits can be fed either from the talkback mic or from the built-in oscillator.

OSC 1k, 60, 12k

Oscillator frequency selector. 60Hz, 1kHz or 12kHz.

OSC +6, 0dBu

Oscillator level selector. 0 or +6dBu.

OSC ON OFF

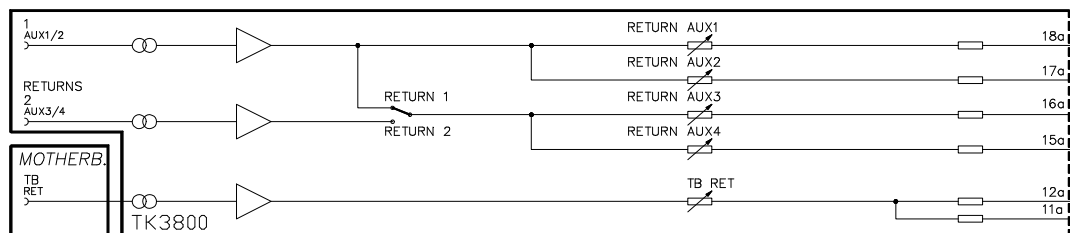
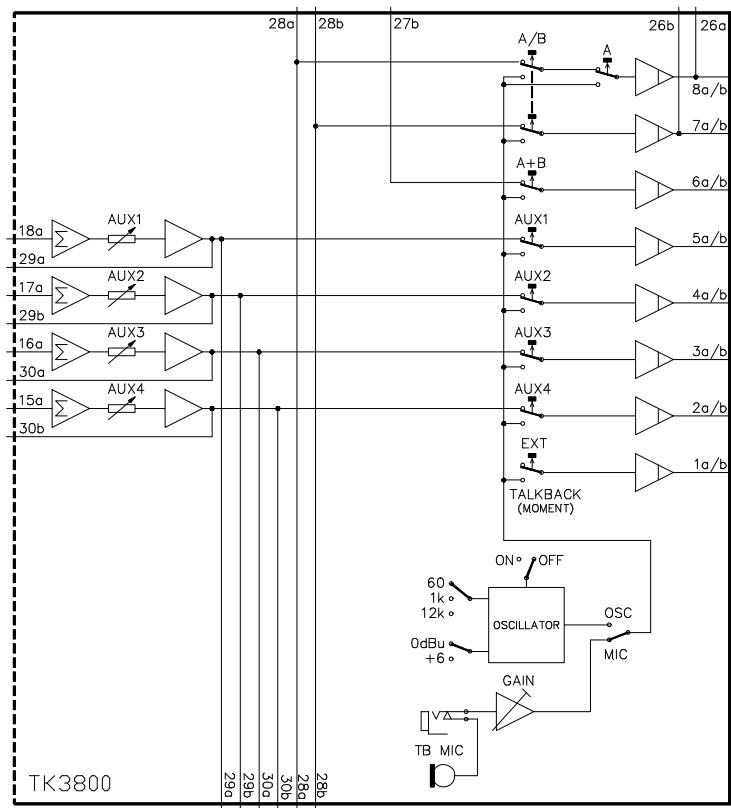
Switches oscillator on or off.

Module Information

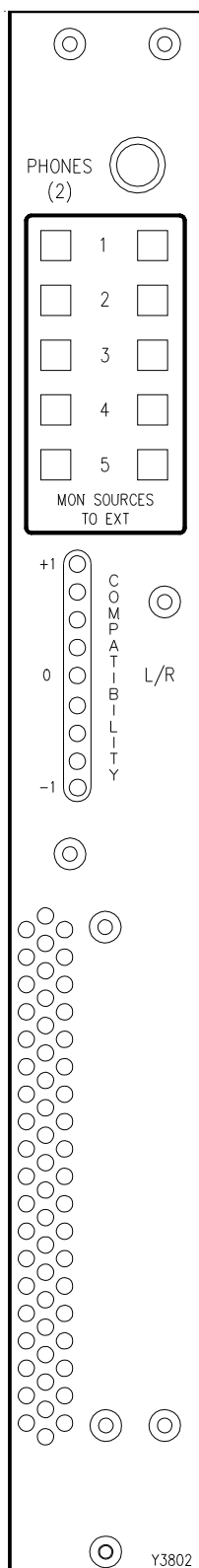
OUTPUT AMPLIFIERS

Output amplifiers for auxiliary and main outputs are located on the TK3800 module.

TK3800 MODULE AUDIO BLOCK DIAGRAM



3.8 Ext. Monitor, PFL & Phase Meter Module, Y3802



PHONES (2)

Headphones jack connector. Headphones inserted here monitor the selected monitoring signal while muting the main monitor outputs. The phones 2 output on the front of the mixer is however not muted.

MON SOURCES TO EXT

Five external stereo sources, connected via a 25-pin D-sub connector on back panel, can be summed and monitored when the EXT monitor button on the M3810 module is selected.

COMPATIBILITY METER

Meter for indicating phase content/correlation in the stereo output signal. Follows the selected monitoring source.

LOUDSPEAKER

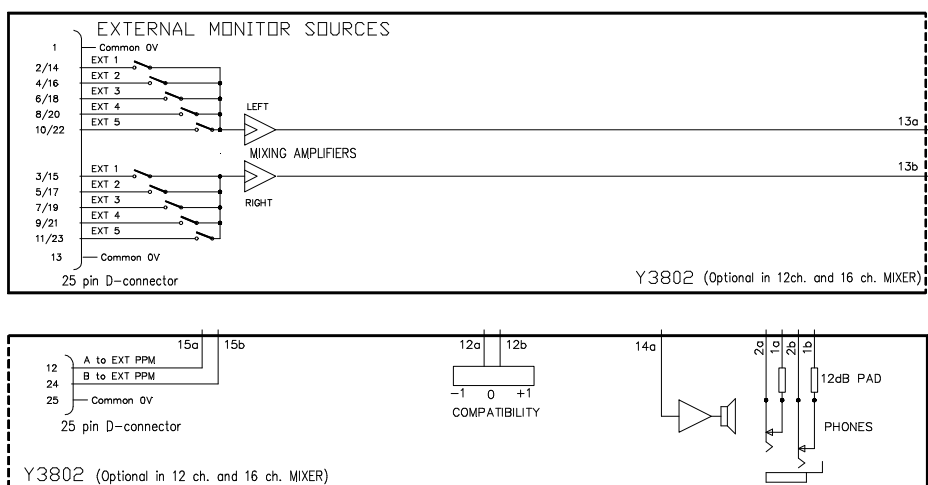
Monitors the mono summed PFL signal.

Module Information

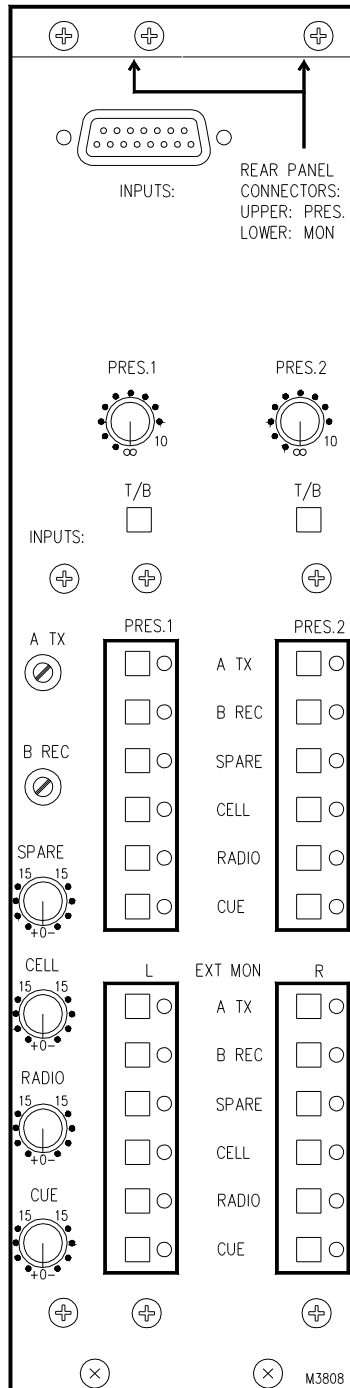
CONFIGURATION LIMITATIONS

The Y3802 module can only be used in 12 or 16 channel Seeport 2 frameworks. The module is positioned between the monitor and power modules.

Y3802 MODULE AUDIO BLOCK DIAGRAM



3.9 Presenter Monitor Feed Module, M3808



INPUTS

15-pin D-sub connector for external inputs SPARE, CELL, RADIO and CUE.

Signals generated in the mixer (A and B outputs and talkback mic) are fed to the module via a factory modification inside the mixer.

OUTPUTS

Four XLR connectors for the module outputs are positioned at the rear of the module which appear on the back panel. These are: Pres 1 headphones (mono), Pres 2 headphones (mono), Monitor left and Monitor right.

PRES1 - PRES2

Level controls for headphones outputs for each presenter, plus monitor selection switches.

T/B-T/B

Pushbutton switches for sending talkback to each presenter.

INPUT LEVEL CONTROLS

Adjusts input level for external sources plus A and B sums from the mixer within +/- 15dB.

EXT MON

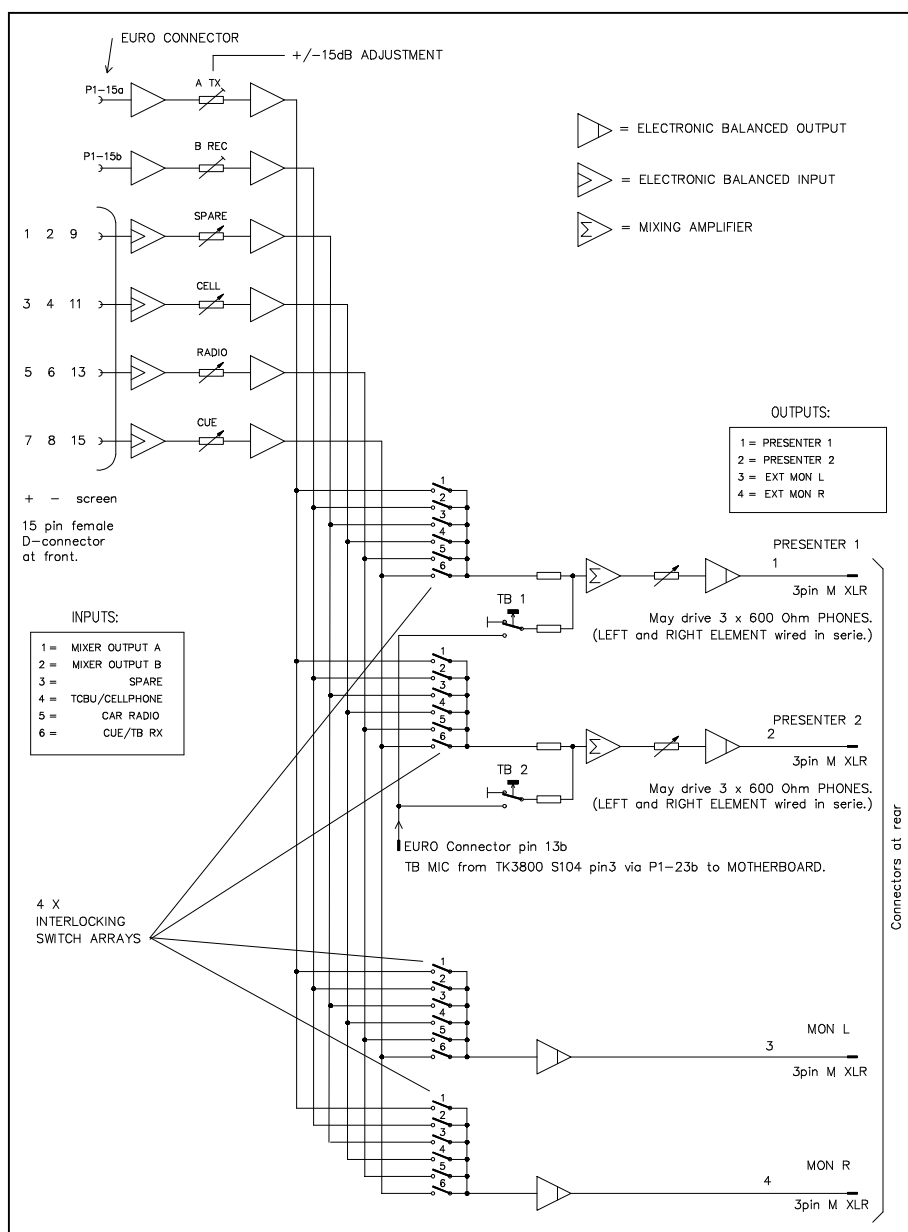
Monitor selection switches for L/R monitoring outputs.

Module Information

The M3808 is designed for feeding presenters in the field with a choice of several monitoring sources. The module can feed 2 presenters simultaneously with any one of six sources (independent selection for each presenter). Two of these available sources are the A and B outputs from the mixer, the four others are external sources which are connected to the module via a 15-pin D-sub connector. Talkback from the mixer can be mixed with the selected source and sent to each presenter.

The module is designed primarily for mono monitoring. Each presenter output is terminated as a mono balanced pair on an XLR connector, allowing headphones to be driven over long cable lengths. Left and right monitoring outputs are also available on XLR connectors for monitoring by the engineer. Typically, these outputs might be fed to the EXT monitor inputs on the M3810 monitor module. Input levels for each source can be adjusted with $\pm 15\text{dB}$ (common setting for both presenters). Each presenter output has an individual main level control. The module occupies the place of two normal input modules in the mixer.

M3808 MODULE AUDIO BLOCK DIAGRAM



3.10 AC Power Supply Module, P3807



ON

An LED indicates that the unit is switched on.

POWER

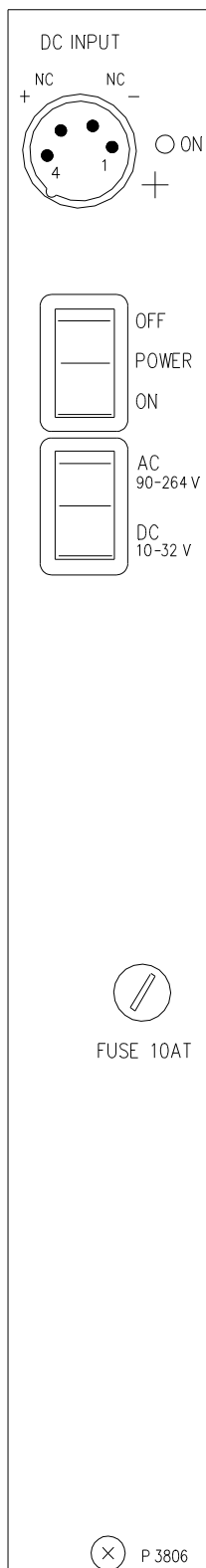
Mains switch for switching the unit on and off.

Module Information

All Seeport mixers can be equipped with two different power supplies. The P3807 which runs off AC mains, or the P3806 which runs off AC or DC supplies (see next page).

P3807 accepts all mains voltages between 90 and 264 V AC. The output voltages generated internally are ± 15 V and 48 V.

3.11 AC/DC Power Supply Module, P3806



DC INPUT

4-pole XLR connector for connecting DC power.

ON

An LED indicates that the unit is switched on.

POWER

Mains switch for switching the unit on and off

AC / DC SWITCH

Selects whether the mixer is to be fed from AC or DC supply.

FUSE 10AT

10 amp slow-blow fuse for protection of DC input.

Module Information

The module accepts all mains voltages between 90 and 264 V AC, or 10-32V DC. The output voltages generated internally are $\pm 15V$ and 48V.

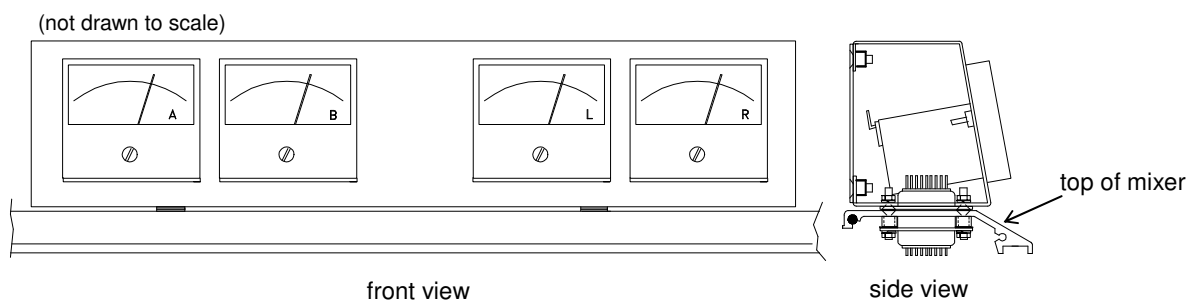
4. Options

4.1 Insert Points on Inputs, INS3800

Insert points on inputs is available as an option for any or all channels. The insert points appear on 9-pin D-sub connectors which extend over the top of the back panel above each module. Both inputs and outputs are unbalanced. Pin-outs and dimensions are given in section 5.5

4.2 VU Meter Bridge, VU3800

A meter bridge housing 4 analogue VU meters for A and B outputs plus L and R monitor outputs (shown below) is available as an option. The bridge is connected via two 9-pin D-sub connectors positioned on the mixer's top panel.



4.3 Expansion Cable, EC3800

An expansion cable for connecting two Seeport mixers together in a master/slave configuration is available. The expansion connectors on the mixers are 25-pin D-sub. Pin outs for the connections are given in section 5.5.

4.4 Transparent Dust Covers, DC3808/12/16

A transparent plastic dust cover is available for all frame sizes. This functions as a protection to the user surface and guards against unintended contact with the mixer controls when on air.

4.5 **Module Extender Card, EX07**

An extender card is available to allow access to modules whilst still connected to the mixer for measuring or for test purposes.

4.6 **Flight Cases, FC3808/12/16**

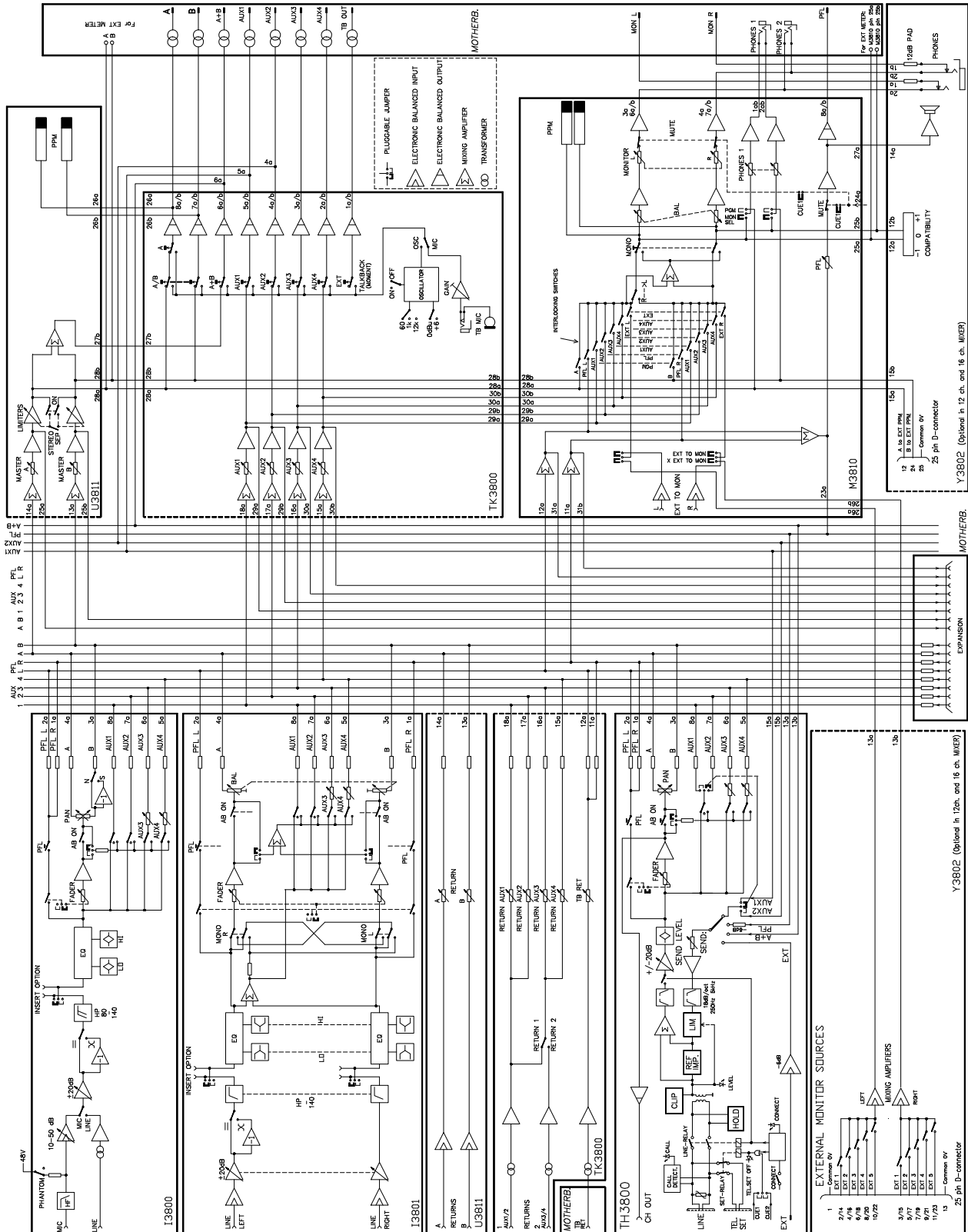
Sturdy flight cases for transport are available for all mixer sizes. All cases include a small section for cables, spare modules, etc.

4.7 **Rack Mounting Brackets, MB3800**

An 8 channel Seeport 2 can be mounted in a 19" rack with the use of rack mounting brackets. The brackets may also be used for larger frame sizes for flushing into furniture.

5.1 Audio Block Diagram

Audio block diagram for 2-output Seeport

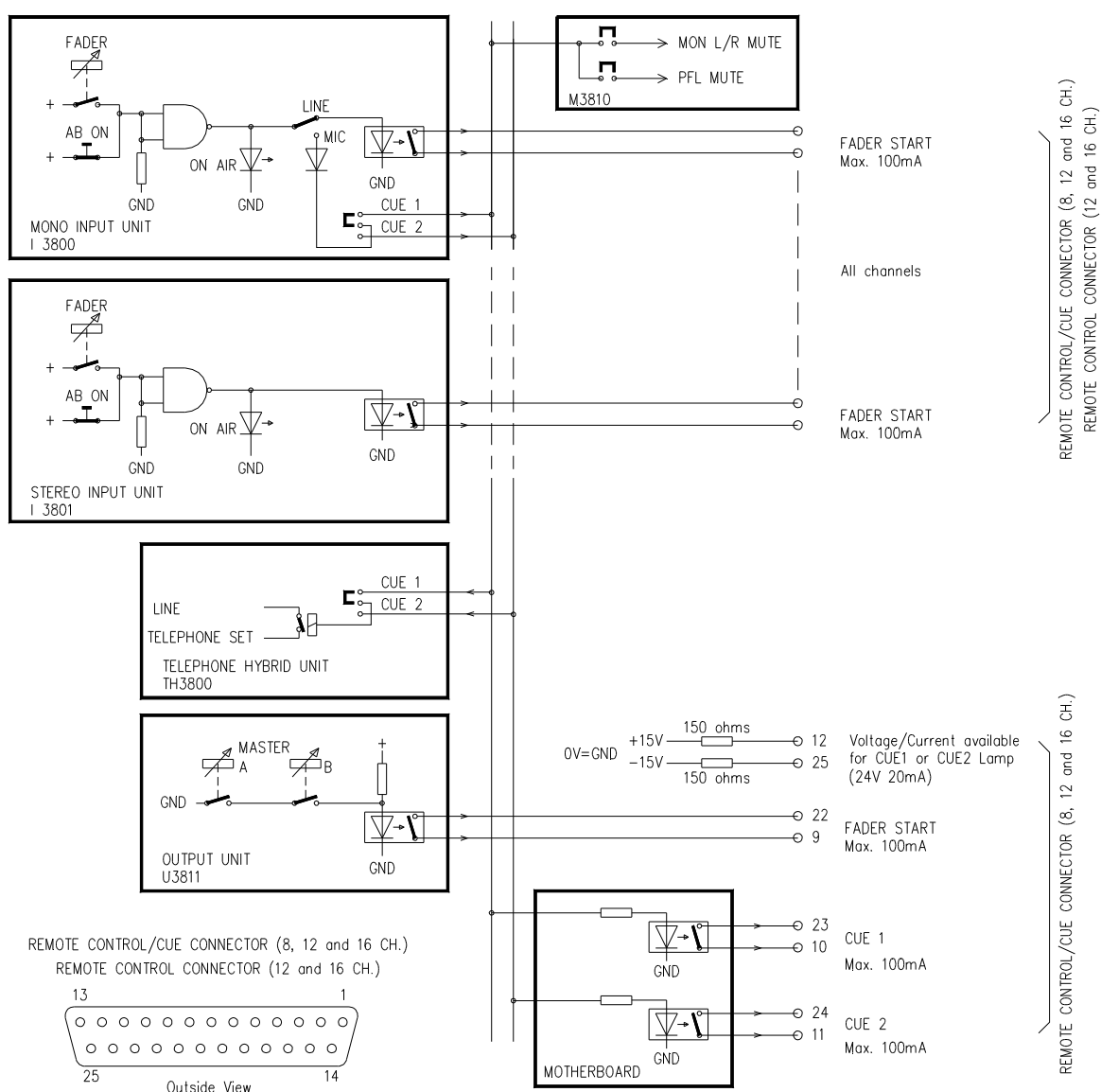


5.2 Remote Control / Cue System

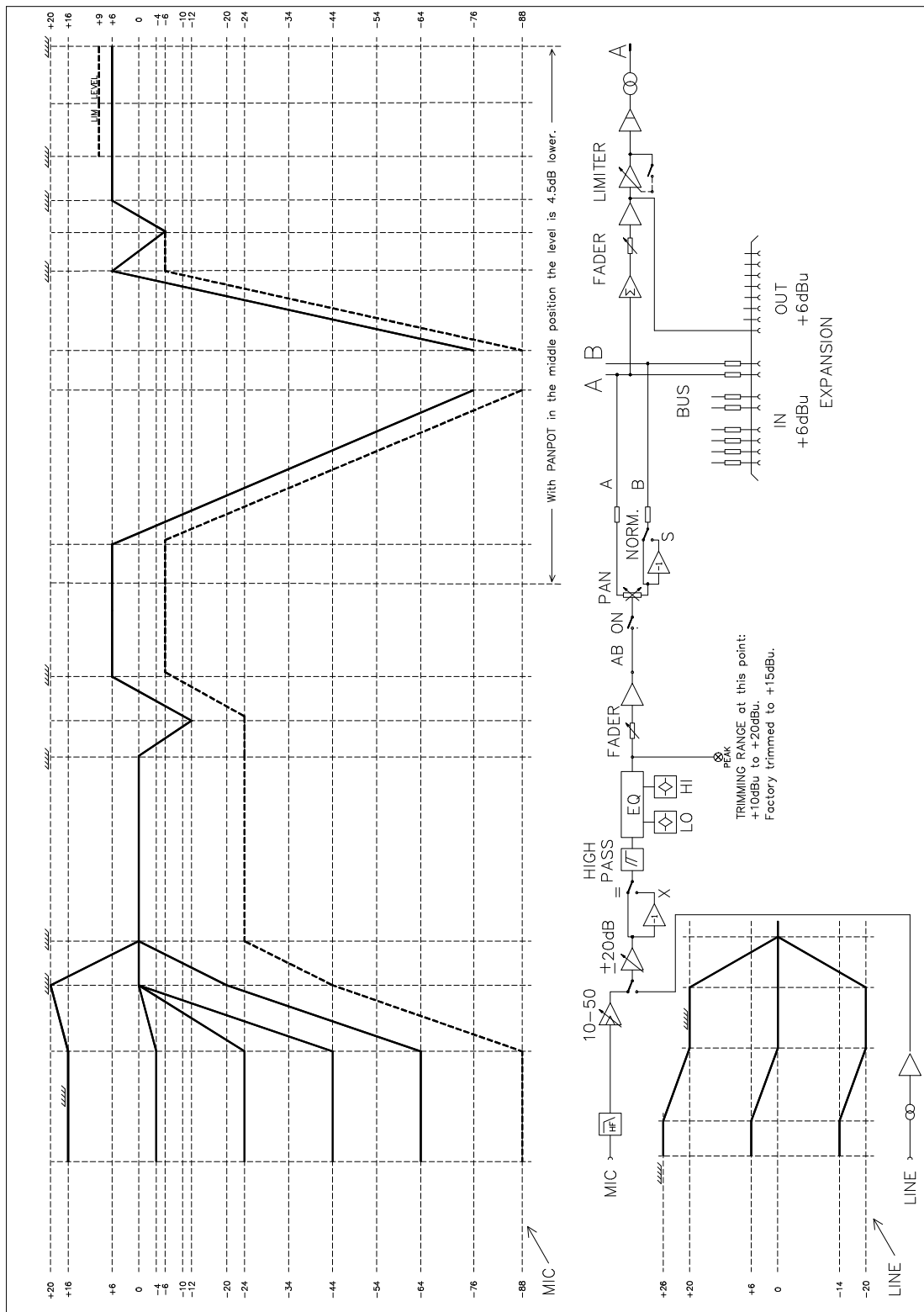
A remote control (fader start) solid state relay output from each audio channel and the stereo master output is available. On the I3800 mono input module, fader start is activated when the input selector is set to LINE. In the MIC position, the control goes instead to one of two solid state relay cue (ON AIR) outputs. These can be used for example to drive limited capacity 'on air' or 'ready' lamps. Maximum current through the switches is 100mA.

Both CUE signals can also be used to disconnect a telephone set that is connected to the TH3800 telephone hybrid module, in order to prevent the set from ringing.

The CUE1 signal can be used to MUTE the MON L/R output and/or the PFL MONO output (jumper selectable on the M3810 module).

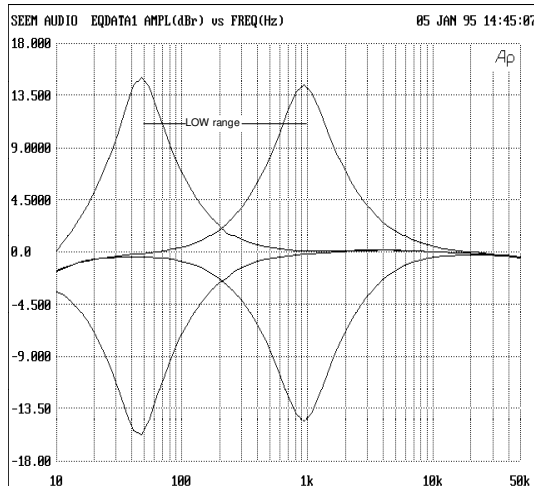


5.3 Level Diagram

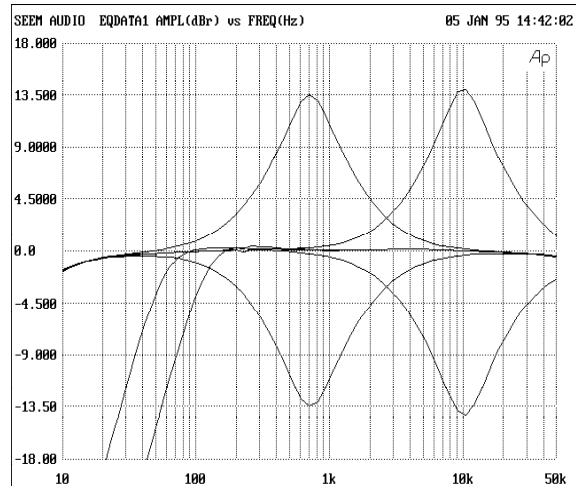


5.4 Equalizing Curves

I3800 Mic/Mono Line Input Module



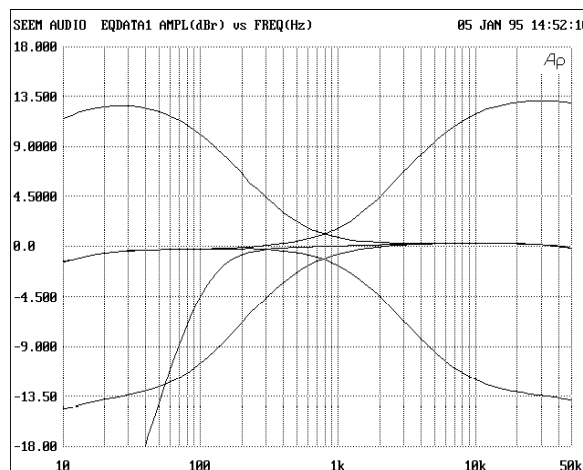
Equalizer: "LOW" eq section of I3800 module at min and max frequencies. Q-value at max peak/dip = 1.3.



Equalizer: "HIGH" eq section of I3800 module at min and max frequencies. Q-value at max peak/dip = 1.3.

High Pass Filter: At 80 and 140 Hz cut off frequencies. (-12 dB/octave)

I3801 Stereo Line Input Module



Equalizer: "HIGH" and "LOW" shelving filter sections of I3801 module at max peak/dip.

High Pass filter: 140 Hz cut off frequency (-12 dB / octave)

5.5 Connector Information

Audio Connectors

All standard audio inputs and outputs are terminated on XLR connectors, wired as follows:

Pin1: Ground
Pin2: Hot (+phase)
Pin3: Cold (-phase)

Headphones Connectors

The mixer has two separate 1/4" stereo jack headphones connections. These are located under the carrying handle in front of the master module. Level controls are located on the M3810 monitor module (phones 1 and phones 2). An additional headphones connector is also found on the optional Y3802 module.

Signal Connectors

Remote start for all channels and master output faders together with two CUE signals are available on 25-pin female D-connectors. The 8 channel mixer has one connector, the 12 and 16 channel mixers have two connectors. Pin-outs are given below. All outputs are in the form of a bipolar solid state relay switch, capable of 100 mA.

REMOTE CONTROL CONNECTOR:

	8 Ch. Mixer	12 Ch. Mixer	16 Ch. Mixer
Pin 1-14.....			Ch.1
Pin 2-15.....			Ch.2
Pin 3-16.....			Ch.3
Pin 4-17.....			Ch.4
Pin 5-18.....		Ch.1	Ch.5
Pin 6-19.....		Ch.2	Ch.6
Pin 7-20.....		Ch.3	Ch.7
Pin 8-21.....		Ch.4	Ch.8

REMOTE CONTROL / CUE CONNECTOR:

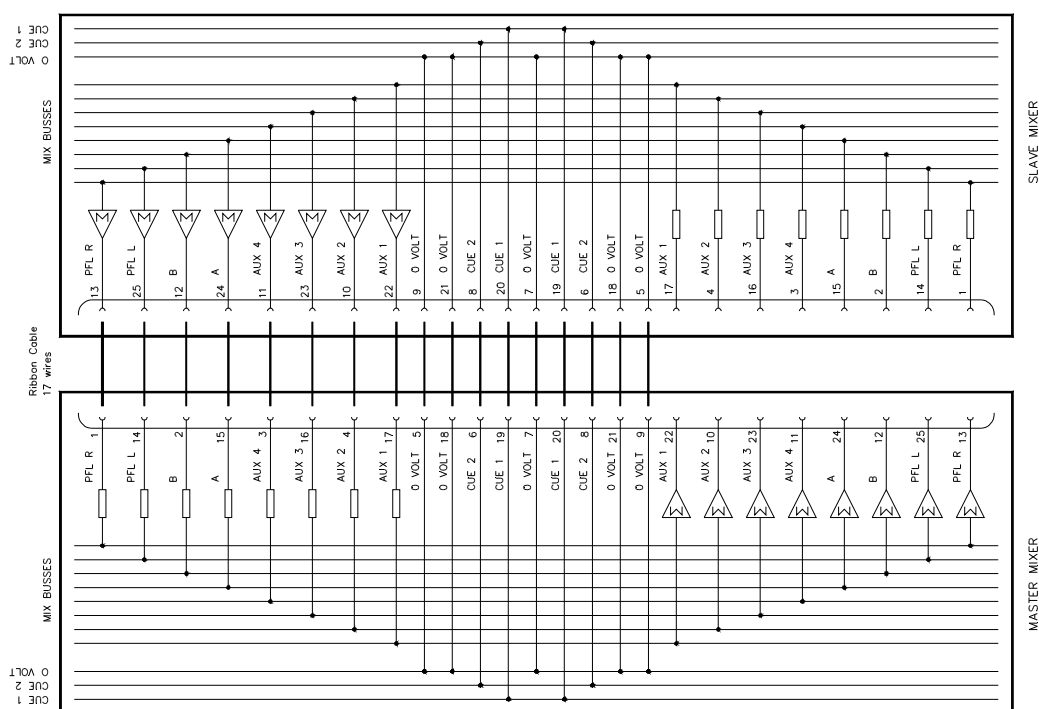
	8 Ch. Mixer	12 Ch. Mixer	16 Ch. Mixer
Pin 1-14.....	Ch.1	Ch.5	Ch.9
Pin 2-15.....	Ch.2	Ch.6	Ch.10
Pin 3-16.....	Ch.3	Ch.7	Ch.11
Pin 4-17.....	Ch.4	Ch.8	Ch.12
Pin 5-18.....	Ch.5	Ch.9	Ch.13
Pin 6-19.....	Ch.6	Ch.10	Ch.14
Pin 7-20.....	Ch.7	Ch.11	Ch.15
Pin 8-21.....	Ch.8	Ch.12	Ch.16
Pin 9-22.....	A/B	A/B	A/B
Pin 10-23.....	CUE 1	CUE 1	CUE 1
Pin 11-24.....	CUE 2	CUE 2	CUE 2

Expansion Connectors

Two Seeport mixers can be connected and operated in a 'master/slave' configuration. The 8 mixed outputs from the one mixer (slave) are fed to the eight mix buses of the other (master). The connection is made via a 25-pin D-sub expansion cable. This allows, for example, two 8 channel mixers to be used as a 16 channel mixer.

The cue signal buses in the two mixers are directly connected together.
The 0 volt references of each mixer are directly connected together.

Pin configuration of the multi-pin connectors and cable connections are shown below.

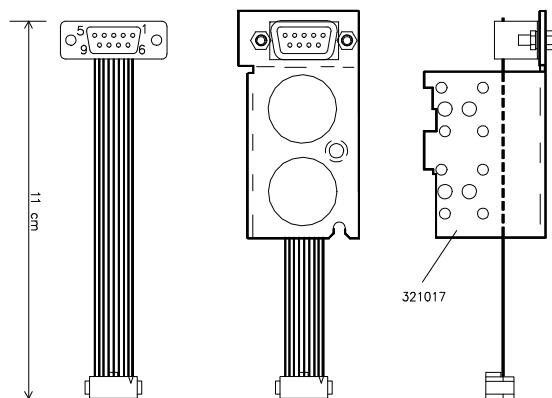


Insert Points Connectors

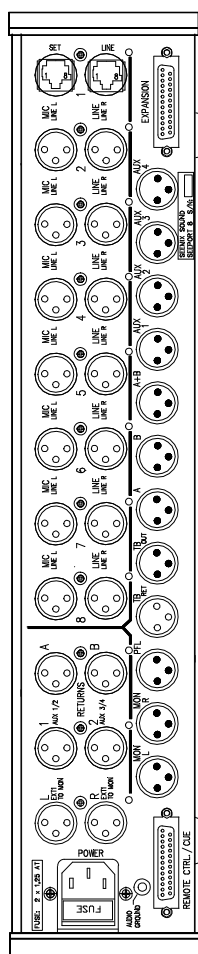
Insert points for inputs are connected on a 9-pin D-sub connector on the back panel above each module. Pin-outs and views are shown below.

D-connector pinout:

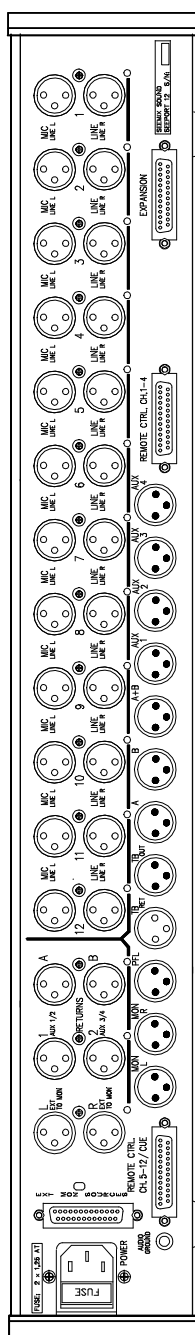
- 1: INSERT SEND L
 - 2: INSERT RETURN L
 - 3: Common 0V
 - 4: INSERT SEND R
 - 5: INSERT RETURN R
- } MONO CHANNEL



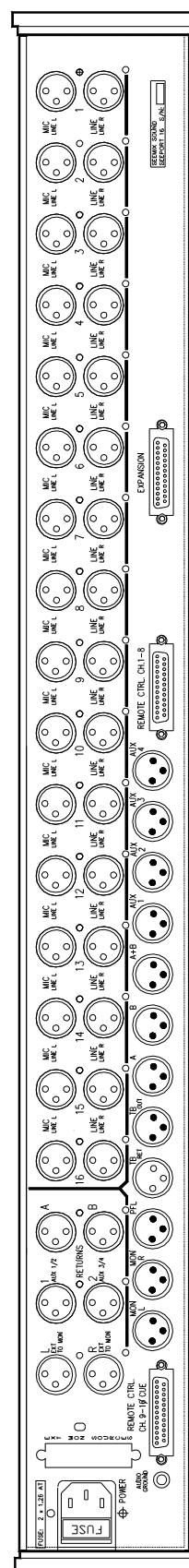
5.6 Back Panel Layouts



8 channel mixer



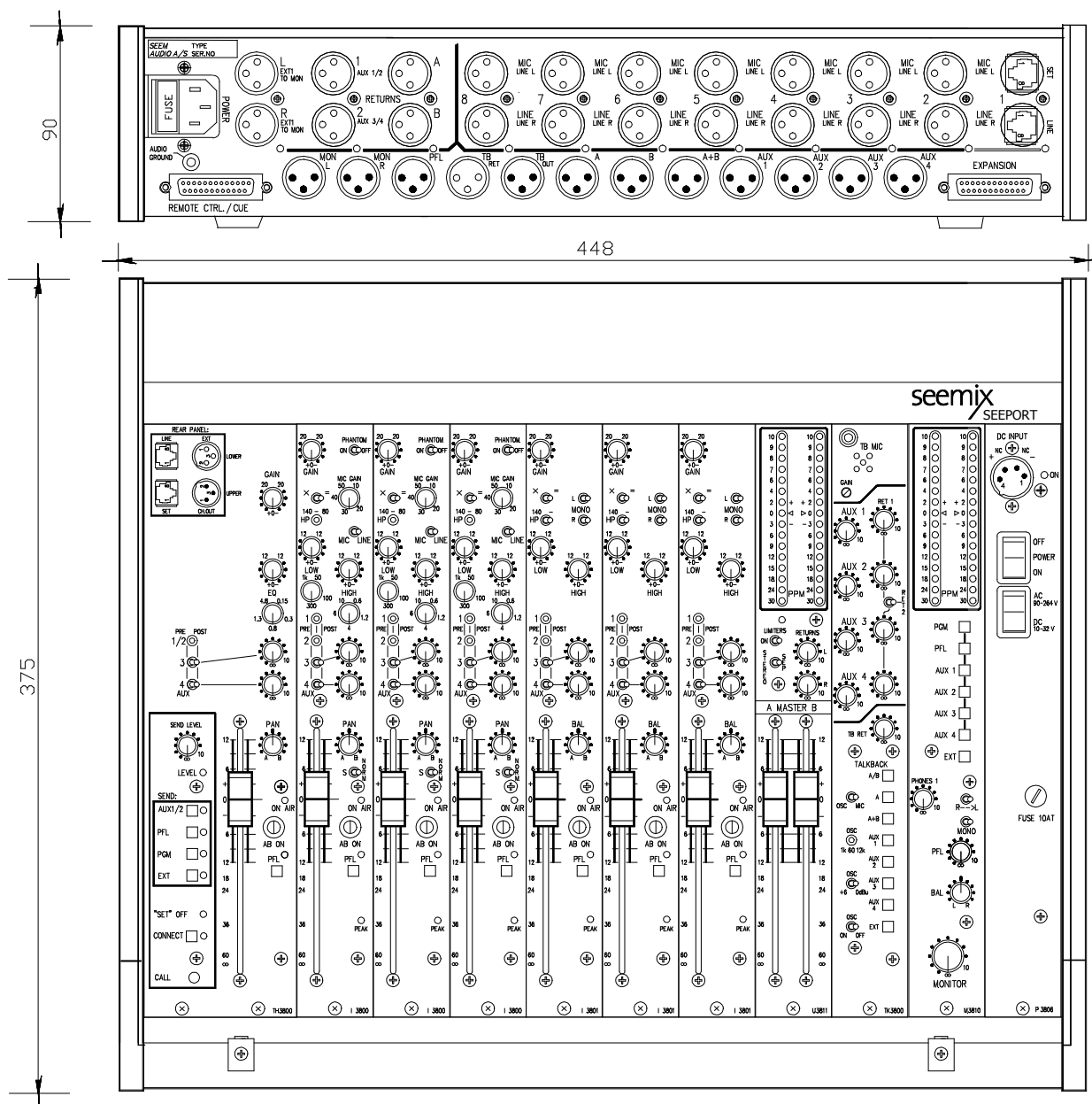
12 channel mixer



16 channel mixer

5.7 Dimensions and Weights

Dimensions shown for an 8 channel frame size:



Dimensions and weights for all frame sizes:

FRAME SIZE	DIMENSIONS (WxDxH)	WEIGHT
8 channel	448 x 375 x 90 mm	9,5 Kg
12 channel	636 x 375 x 90 mm	12,0 Kg
16 channel	778 x 375 x 90 mm	15,0 Kg

5.8 Technical Data

Inputs

MICROPHONE INPUTS

Input type:	Electronic balanced
Input impedance:	8 kOhm +/- 2 %
Equivalent Input Noise, 200 Ohm source, 50 dB gain:	<-115 dBu CCIR weighted peak <-125 dBu RMS 22 Hz—23 kHz
Maximum input level:	+16 dBu
Maximum channel gain to main output:	94 dB with channel panned full left or full right
Common mode rejection: 1 kHz	>60 dB
20 kHz	>50 dB, typically 55 dB

LINE INPUTS, I3800 MONO MODULE

Input type:	Transformer balanced
Input impedance:	10k ohm +/- 2 %
Common mode rejection: 1 kHz	>80 dB
20 kHz	>55 dB, typically 65 dB

LINE INPUTS, I3801 STEREO MODULE, plus EXT INPUT on TH3800

Input type:	Electronic balanced
Input impedance:	25 kOhm +/- 2 %
Common mode rejection: 1 kHz	>60 dB, typically 70 dB
20 kHz	>50 dB, typically 55 dB

Outputs

MAIN OUTPUTS A and B, AUX 1-4, A+B and TB OUTPUT

Output type:	Transformer balanced
Output impedance:	<40 Ohm
Minimum load impedance:	300 Ohm

MONITOR OUTPUT and PHONES 2

Output type:	Unbalanced, stereo
Output impedance:	<40 Ohm
Minimum load impedance:	600 Ohm

PFL MONO OUTPUT, plus CH. OUT on TH3800

Output type:	Electronic balanced
Output impedance:	<40 Ohm
Minimum load impedance:	600 Ohm

PHONES 1 OUTPUT

Output type:	Unbalanced, stereo
Output impedance:	150 Ohm
Minimum load impedance:	50 Ohm

Levels

Nominal levels on outputs and line inputs:	+ 6 dBu
Maximum output level:	+ 20 dBu

Headroom

(difference between nominal level and maximum level)

Pre fader:	20 dB
Post fader:	+14 dBu

Output limiters

Nominal limiting level:	+ 9 dBu
Maximum output level at full limiting:	+11 dBu
Maximum channel gain difference in stereo mode:	1 dB
Attack time:	Approx. 1 msec.
Release time:	Approx. 500 msec

Gain

Mic. input to stereo outputs, channel and master fader

at 0dB, panned full A or full B:..... 10 - 50 dB +/-20 dB i.e. -10 to +70 dB

Line input to stereo outputs, channel and master fader

at 0dB, channel panned full A or full B: +/-20 dB (corresponds to -14 dBu to +26 dBu input level for +6 dBu output)

Frequency response

Line input or mic. input at 10 dB gain, to stereo or AUX outputs,

30 Hz:..... 0 +/-0.5 dB

100 Hz-20 kHz:..... 0 +/-0.2 dB

Mic. input at 50dB gain, 30 Hz:..... 0 +/-0.7 dB

100 Hz-20 kHz:..... 0 +/-0.2 dB

Distortion

(T.H.D.+ NOISE)

OUTPUT LEVEL**+6 dBu:****+20 dBu:**

Mic. input, 10 dB gain, 30 Hz	<0.2 %	<0.6 %
1 kHz	<0.05 %	<0.05 %
20 kHz.....	<0.05 %	<0.05 %

Mic. input, 50 dB gain, 30 Hz	<0.3 %	<0.6 %
1 kHz	<0.2 %	<0.3 %
20 kHz.....	<0.2 %	<0.3 %

Line input, 0 dB gain, 30 Hz	<0.2 %	<0.5 %
1 kHz	<0.02 %	<0.02 %
20 kHz.....	<0.02 %	<0.05 %

Output noise level

All channels routed to a main output, channel faders at minimum

gain, output fader at 0 dB gain (N10 system noise): -77 dBu, CCIR weighted peak
-85 dBu, RMS 22 Hz-22 kHzAs above, one channel fader open, line input: -74 dBu, CCIR weighted peak
-83 dBu, RMS 22 Hz-22 kHzMic. input, 50 dB gain:..... -64,5 dBu, CCIR weighted peak
-74,5 dBu, RMS 22 Hz-22 kHz**Crosstalk attenuation:**

(20 kHz:)

Line input to mic. input, mic. gain 10 dB:..... >95 dB (105 dB ref. to input)

Line input to mic. input, mic. gain 50 dB:..... >68 dB (118 dB ref. to input)

Across closed channel fader:..... >90 dB

Across channel AUX pot: >90 dB

Across channel AUX switch (AUX1-2): >95 dB

Across channel A/B ON switch in off position: >90 dB

Across panpot: >68 dB

Power Consumption

(For a typical 8/2 mixer)

230V AC:	max 23 W
12V DC:	max 2.15 A
24V DC:	max 1.05 A

