GS-CU001P

COMMENTATOR UNIT

PRODUCT DETAILS

6 BROOKS PLACE, MAIDSTONE, KENT, ME14 1HE. ENGLAND.
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GS-CU001P Commentator Unit

Handbook Contents

Issue 1P, June 2014

Glensound Electronics Ltd

Thank you for choosing a new Glensound product.

Information contained in this manual is subject to change without notice, if in doubt please contact us for the latest product information.

If you need any help with the product then we can be contacted at:

Glensound Electronics Ltd
1 – 6 Brooks Place
Maidstone
Kent
ME14 1HE
United Kingdom

Telephone: +44 (0) 1622 753662
Fax: +44 (0) 1622 762330

EMAIL ADDRESSES
General enquires: office@glensound.co.uk
Technical enquires: techinfo@glensound.co.uk
Sales enquires: sales@glensound.co.uk

PRODUCT WARRANTY:

All equipment is fully tested before dispatch and carefully designed to provide you with trouble free use for many years.

We have a policy of supporting products for as long as possible and guarantee to be able to support your product for a minimum of 10 years.

For a period of one year after the goods have been despatched the Company will guarantee the goods against any defect developing after proper use providing such defects arise solely from faulty materials or workmanship and that the Customer shall return the goods to the Company’s works or their local dealer.

All non wear parts are guaranteed for 2 years after despatch and any defect developing after proper use from faulty materials or workmanship will be repaired under this warranty providing the Customer returns the goods to the Company's works or their local dealer.

CE

This equipment manufactured by Glensound Electronics Ltd of Brooks Place Maidstone Kent ME14 1HE is CE marked and conforms to:

Low Voltage Directive:	EN60065
Emissions:	EN55103.1
Immunity:	EN55103.2

WASTE ELECTRICAL AND ELECTRONIC EQUIPMENT REGULATIONS 2006 (WEEE)

Glensound Electronics Ltd is registered for business to business sales of WEEE in the UK our registration number is:

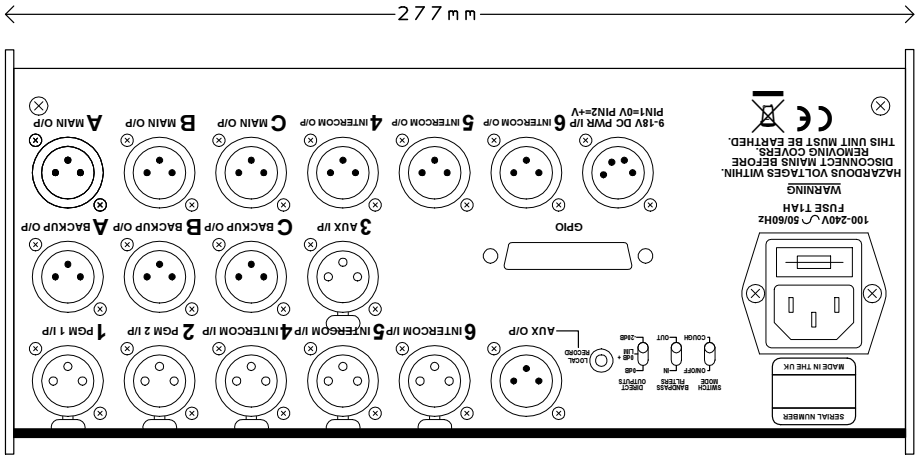
WEE/JJ0074UR

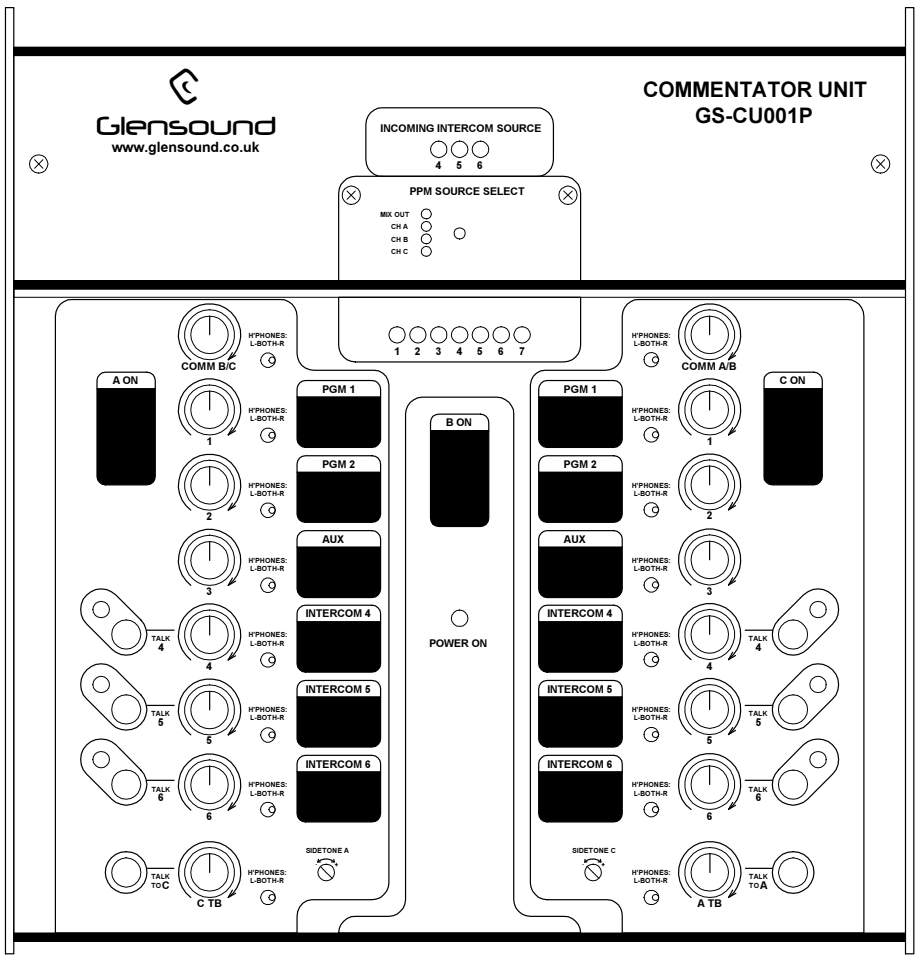
RoHS DIRECTIVE

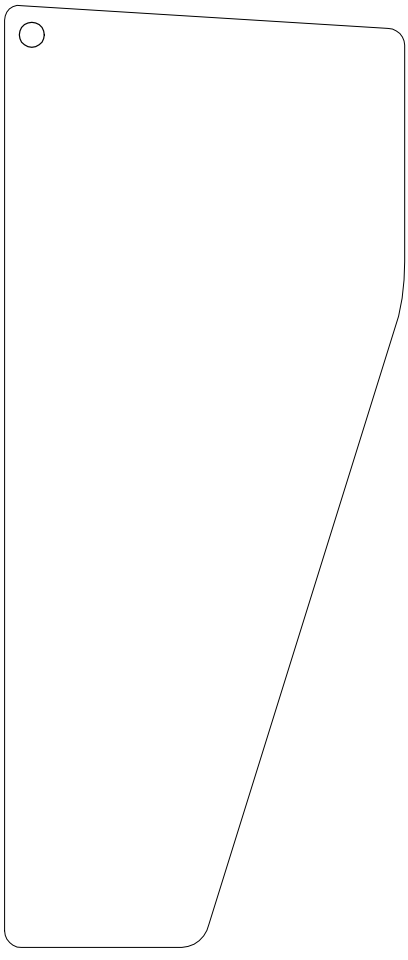
EC directive 2002/95/EC restricts the use of the hazardous substances listed below in electrical and electronic equipment.

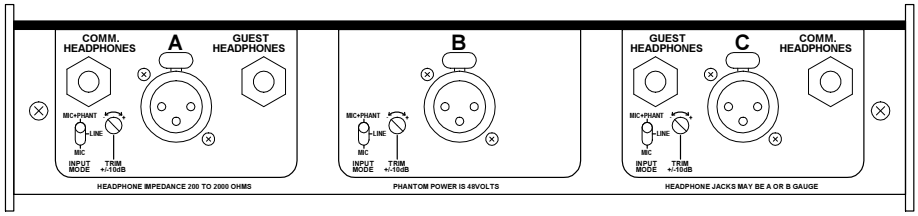
This product conforms to the above directive and for this purposes, the maximum concentration values of the restricted substances by weight in homogenous materials are:

Lead	0.1%
Mercury	0.1%
Hexavalent Chromium	0.1%
Polybrominated Biphenyls	0.1%
Polybrominated Diphenyl Ethers	0.1%
Cadmium	0.01%









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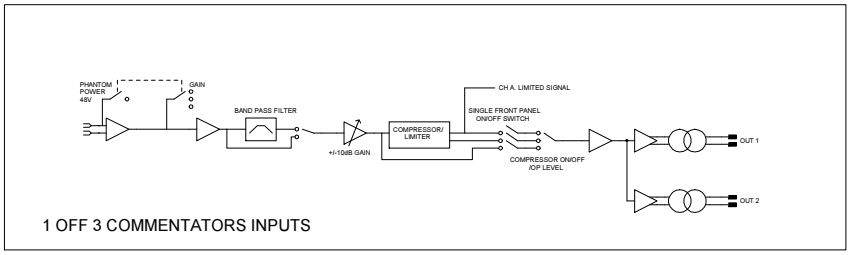
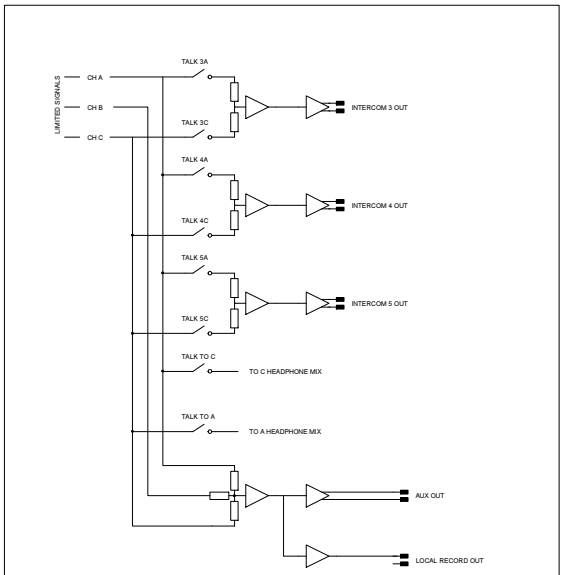
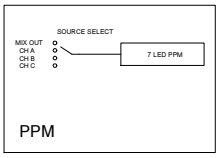
DRAWN	GGD		



1 OFF 3 COMMENTATORS INPUTS



TALKBACK & AUX OUTPUTS



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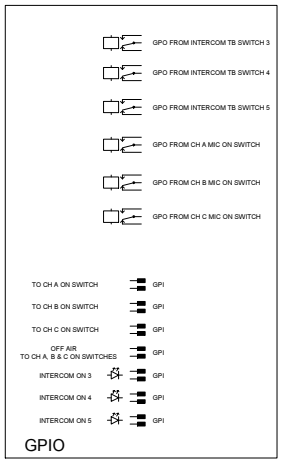

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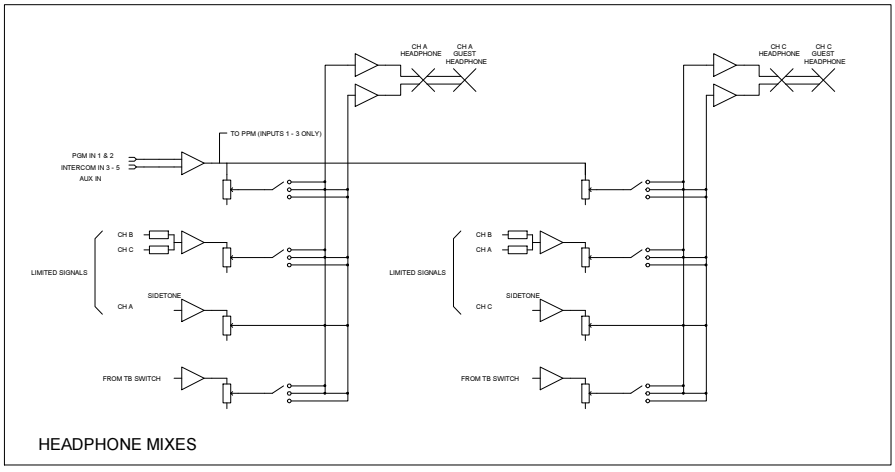
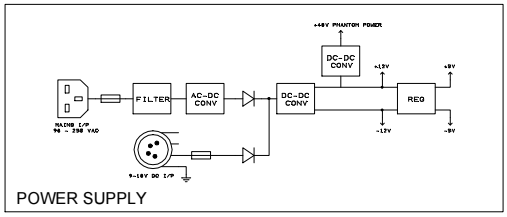
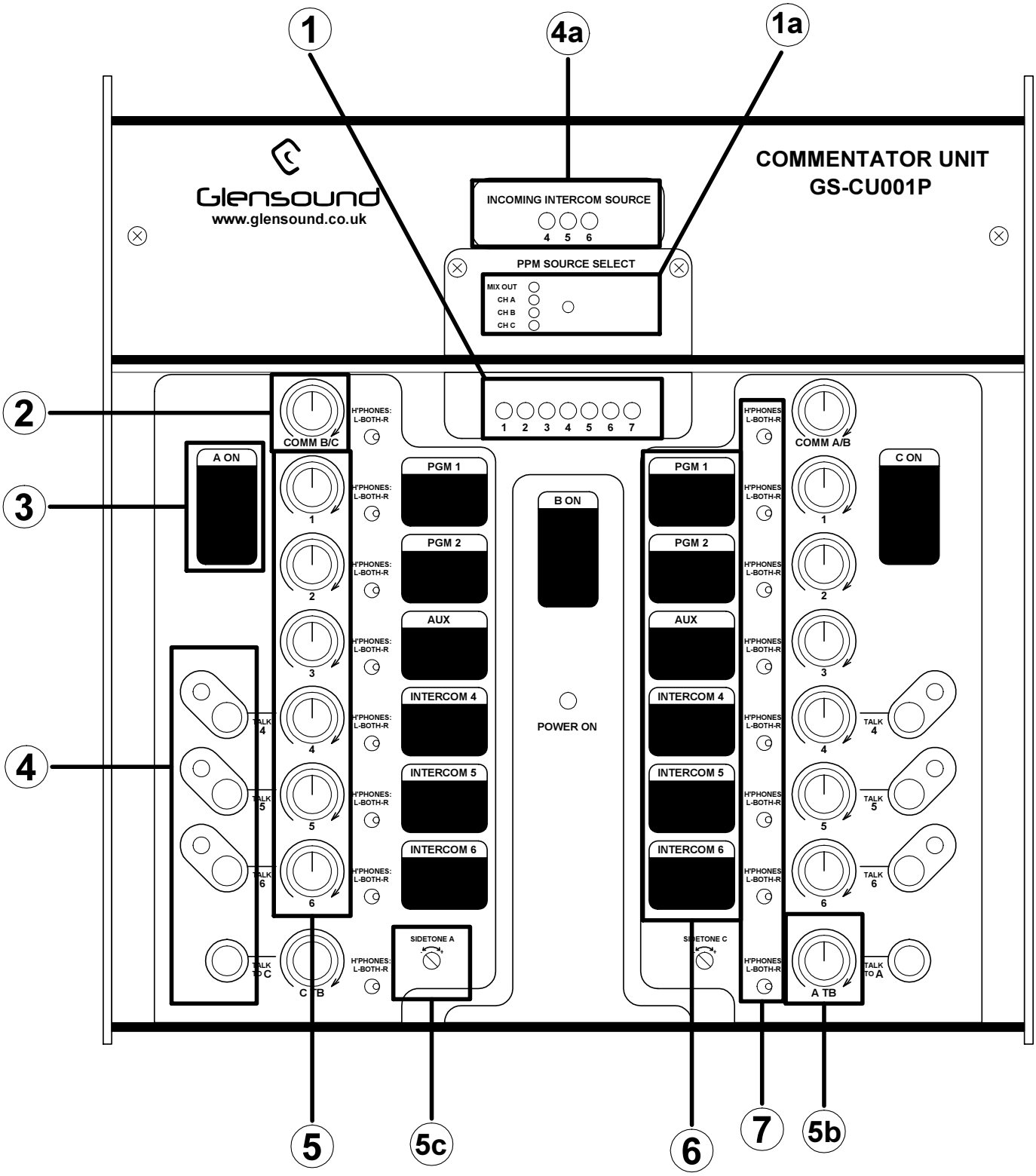


HEADPHONE MIXES



POWER SUPPLY

GS-CU001P BLOACK DIAGRAM	ISSUE 3	DATE 02/06/14	Glensound www.glensound.co.uk ©2014
	DRAWING NUMBER A1-17168		



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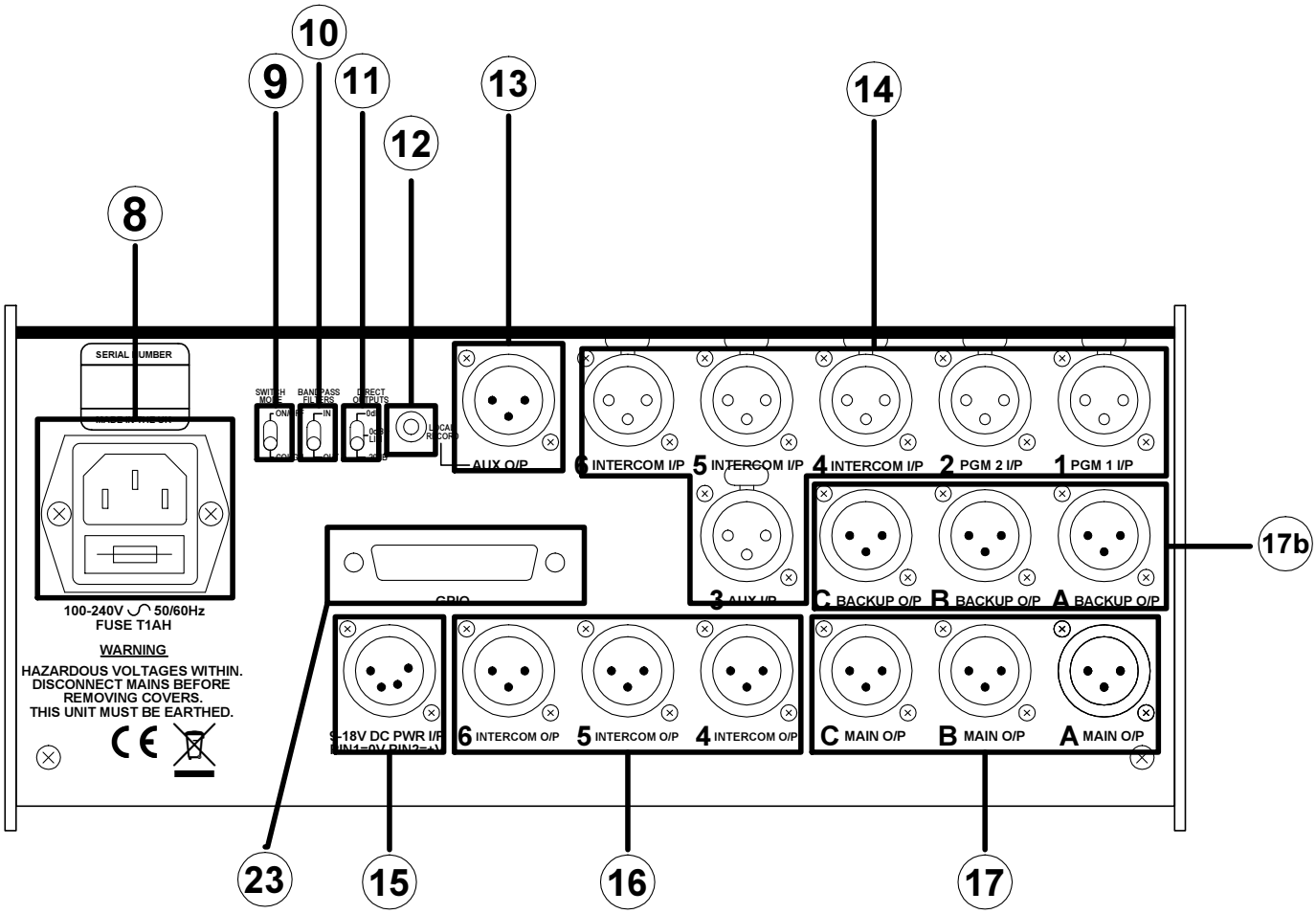

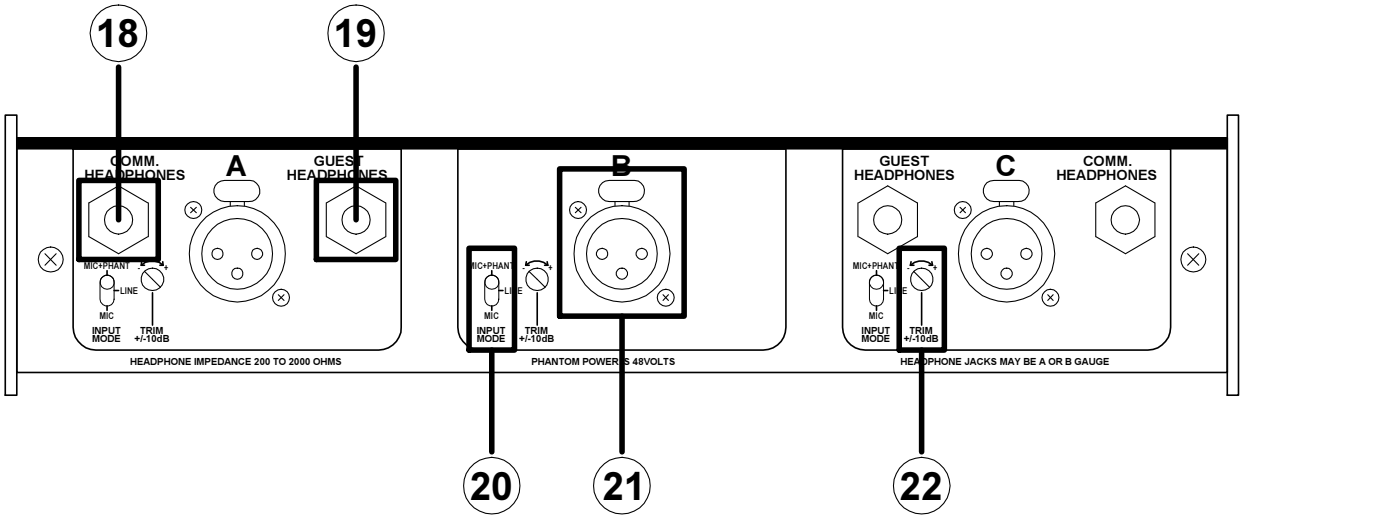

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DATE	03/6/14		
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GS-CU001P Panel Features – refer to numbered diagrams

1. Seven-segment LED bargraph meter

This has a PPM characteristic and follows the level on the AUX/ MIXED output. The scale is labelled from PPM1 to 7 with PPM4 equating to 0dBu at the output. Note: since the AUX/ MIXED output is always fed via the compressor/limiter, unlimited DIRECT outputs may exceed the level displayed on the meter.

1a. PPM Source Select

The 4 LEDs indicate which source is being routed to the PPM. Pushing & releasing the small grey switch selects the next source to the meter.

2. COMM level control (channels A and C only)

Controls the amount of signal fed from the "other" two channels into the headphone mix.

3. ON switches

The behaviour of these switches alters according to the setting of the rear panel SWITCH MODE selector. In ON/OFF mode, brief actuation of the switches will toggle the corresponding channel on and off. In COUGH mode, the channels remain permanently on except whilst the ON switch is held down, i.e. the switch acts as a mute.

Panel indicators display the status of each channel. When off, a channel feeds no signal to either the DIRECT or MIXED outputs but talkback remains possible.

4. Talkback (TB) switches (channels A and C only) – see also "Switch Options" section below

Pressing any of the three talkback buttons feeds the channel signal to the correspondingly numbered talkback output. The "smart" switches have two modes of operation – brief pushes of the switch toggle in and out of talkback mode ("lazy" talkback), while longer pushes engage talkback only for the period that the switch is depressed ("momentary" talkback).

Panel indicators display the status of each of the three talkback circuits. When talkback is active, the channel feeds no signal to either the DIRECT or MIXED outputs.

Note: In many cases, the three talkback circuits will have a corresponding return talkback signal fed back to three of the SOURCE inputs. The talkback circuits are therefore labelled 4, 5 and 6 in order to provide a loose association with source inputs 4, 5 and 6 under these circumstances. However, the talkback send outputs are entirely independent of the source inputs and may be used in any configuration required.

4a. Incoming Intercom Source Indication

The 3 LEDs provide a visual indication of an incoming intercom talkback circuit. The LEDs can be made to illuminate when connected via a GPI (i.e. when connected to the output switch contact of an intercom system). The LEDs also automatically indicate via internal audio presence circuits.

5. SOURCE level controls (channels A and C only)

Control the amount of signal fed from the correspondingly numbered/ labelled SOURCE input into the headphone mix.

5b. A/C TB level controls (channels A and C only)

Control the amount of internal talkback signal fed from the other commentary channel into the headphone mix.

5c. SIDETONE level controls (channels A and C only)

Control the amount of each commentator's output signal that is fed into their own headphone mix.

6. Labelling areas

Convenient areas for denoting the purpose of each SOURCE input and/or talkback circuit, using sticky labels, chinagraph pencil etc.

7. Headphone routing switches

Allow each of the sources contributing to the headphone mix to be fed to just the left channel, just the right channel or both channels of the headphones as preferred.

8. IEC mains input

Accepts worldwide mains voltages without adjustment. Power consumption is less than 12W. The inlet also houses a 1A slow-blow HRC fuse and in the event of failure this should be replaced with an identical part to ensure continuing protection.

9. SWITCH MODE selector

Allows the operation of the channel ON switches to be chosen as either ON/OFF or COUGH (see above).

10. BANDPASS FILTER selector

Allows an optional bandpass filter with -3dB rolloff points of approx. 80Hz and 12.5kHz to be applied to the channel audio signals. Note: the filter is only applied when the channel input is set to MIC or MIC+PHANT.

11. DIRECT OUTPUTS level selector

Allows one of three level options to be selected for the three DIRECT channel outputs:

The 0dB+LIM position feeds the DIRECT outputs from the internal compressor/limiter at a nominal lineup level of 0dBu. With excessive input levels automatically restricted, this is the optimal choice for simpler installations.

The 0dB position feeds the DIRECT outputs with the uncompressed input signal at a nominal lineup level of 0dBu. This option should be selected when peak signal level is to be controlled manually or by offboard equipment.

The -20dB position feeds the DIRECT outputs with the uncompressed input signal at a nominal lineup level of -20dBu. This option delivers maximum headroom in applications where peak signal level is to be controlled manually or by offboard equipment.

12. LOCAL RECORD output

A 3.5mm jack socket – accepting either mono or stereo jack plugs – carrying an unbalanced signal at -14dBu for local recording onto MiniDisk, etc. The signal presented is a combination of the AUX/ MIXED output (i.e. the overall output of the unit) and the signal being received on SOURCE input 1 (e.g. return PGM cue from studio, etc.).

13. AUX/ MIXED output

A balanced mono output carrying the combined output of all three audio channels at a nominal lineup level of 0dBu. Signals sent to the MIXED output are always processed by the compressor/limiter. The level at the MIXED output is displayed on the front panel LED meter.

14. SOURCE inputs and link switches

Six balanced mono inputs. Source inputs contribute to the channel A and C headphone mixes via a front panel level pot and panning switch, and may be used for cue/programme audio, talkback returns, etc.

15. DC POWER input

A four-pin male XLR via which the GS-CU001 may be powered from an external DC source lying in the range +9V to +18V. Power consumption is less than 12W. Should both mains and external DC power be applied, power drain will be transferred from the mains to the DC supply once the DC voltage exceeds +12V.

16. TB/ INTERCOM SEND outputs

Three balanced mono outputs with a nominal lineup level of 0dBu. Channel A and C audio is fed to these outputs when the correspondingly numbered talkback circuit is activated by the front panel buttons.

17. MAIN outputs

Three transformer balanced mono outputs, the lineup level of which is controlled by the DIRECT OUTPUTS selector (see above). These carry the individual output signals of the three audio channels and can be used when mixing is to be performed by off board equipment.

17b. BACKUP outputs

Three transformer balanced mono outputs. These have identical signals as the MAIN outputs and are fed from separate output electronics & transformers and could be used for redundancy circuits.

18. COMM HEADPHONES (channels A and C only)

A stereo 6.35mm jack socket (capable of accepting both A and B gauge jack plugs) carrying the headphone mix. Sources contributing to this mix are SOURCE inputs 1-5, the combined signal from the “other” two channels and own channel sidetone. All these sources, with the exception of sidetone, have a front panel level control and panning switch allowing customisation of the headphone mix.

19. GUEST HEADPHONES (channels A and C only)

Two stereo 6.35mm jack sockets (capable of accepting both A and B gauge jack plugs) carrying a copy of the headphone mixes from channels A and C. A guest being interviewed may be provided with a headphone feed from whichever channel is appropriate.

20. INPUT MODE selectors

Three position recessed switches which determine the sensitivity of the channel audio inputs. In each position the input gain may be trimmed +/-10dB around its nominal value (see below).

In LINE mode, the input sensitivity suits line level signals.

In MIC mode, the input sensitivity suits non-phantom powered microphones.

In MIC+PHANT mode, the input sensitivity suits phantom powered microphones and +12V phantom power is supplied to the input socket.

21. CHANNEL inputs

Three balanced mono audio inputs feeding the three input channels. Sensitivity is determined by the INPUT MODE selector (see above).

22. TRIM controls

A continuous rotary control allowing the input gain to be trimmed +/-10dB about its nominal value. In LINE mode this may be used to accommodate both consumer and professional levels, while in MIC mode the unit may be adapted (“on-the-fly” if necessary) to different user and microphone characteristics.

23. General Purpose Input & Output Controls (GPIO)

This 25 pin D connector provides interconnectivity to external equipment. There are 6 relay outputs and 7 loop input circuits. The 6 relay outputs provide indication when the 3 mic circuits are on and when the 3 talkback/ intercom circuits are on. The 7 inputs provide external control of the 3 mic on circuits, a global off air control, and 3 inputs for illuminating the 3 incoming intercom source LEDs.

Switch Options

Units supplied after June 2008 are fitted with enhanced firmware that allows the operation of some front panel controls to be altered by the user. This allows the functionality of the unit to be tailored to meet changing requirements and fulfil different tasks. Older units can be retro fitted with this software.

Changes are made by holding down specific combinations of front panel buttons *as power is applied to the unit*. For safety reasons the unit only responds to change instructions at the moment of power-up and applying the switch combinations at any other time will have no effect other than the usual functions of the switches involved. Combinations of switches other than those detailed below are ignored.

Only one change may be made at a time – to make multiple changes, remove power from the unit after each change then reapply it while holding down the next switch combination required. Apart from the restrictions described, the number of changes is unlimited and they may be applied at any time.

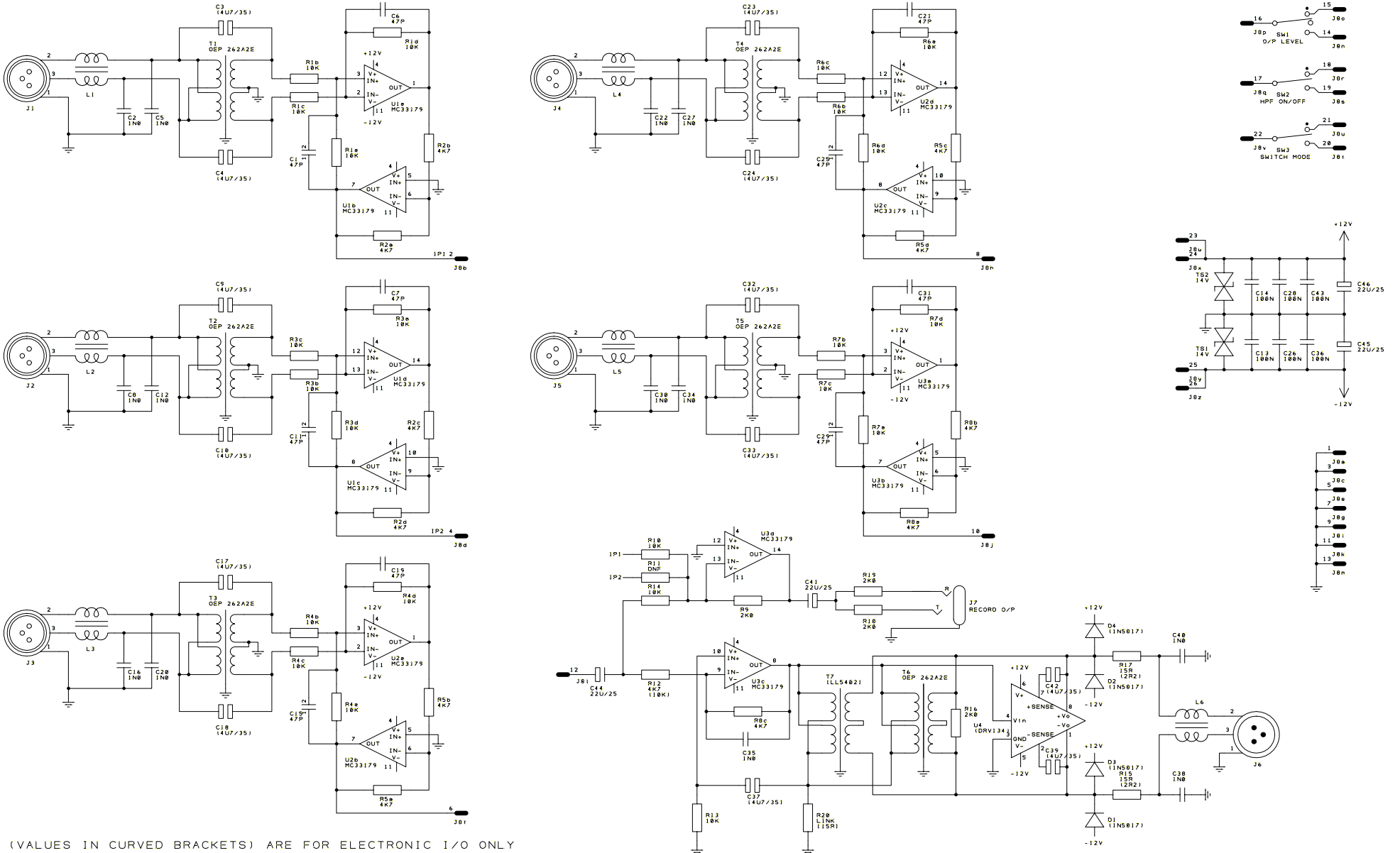
The unit configuration is stored in internal non-volatile memory and retained even when the unit is unpowered.

Supported options:

- Holding both C ON and TALK3-C selects normal operation of the TB switches, whereby brief depressions of the switches toggle talkback on and off and longer presses engage talkback for only as long as the switch is pressed. This is the default mode of operation.
- Holding both C ON and TALK4-C selects momentary-only operation of the TB switches, whereby talkback is only engaged for as long as the switch is pressed.
- Holding both C ON and TALK5-C selects latching-only operation of the TB switches, whereby each depression of the switch, however long or short, toggles talkback from on to off or vice versa.
- Holding both C ON and B ON toggles whether the channel A and C microphone signals are muted when one of their corresponding talkback channels is active. The default mode of operation is for muting to be enabled.

A Further firmware revision was made to allow the switch operation of the Talkback and Microphone circuits to be linked together. This firmware is fitted to all versions with a serial no: 642 or higher.

- Holding both A ON and C ON allows the A & C mic switches to be linked.
- Holding both TALK3-A and TALK3-C allows the TALK3 switches to be linked.
- Holding both TALK4-A and TALK4-C allows the TALK4 switches to be linked.
- Holding both TALK5-A and TALK5-C allows the TALK5 switches to be linked.
- Holding both B ON and TALK3-A allows the B ON switch to toggle all the switches between linked switches and normal operation. When in this mode if the B ON switch is on then any pairs of switches that have been set to be linked will operate in the linked mode and if the B ON switch is off then these same switches will operate individually.
- NOTE: The above programming operations 'toggle' between turning the facility on and off.



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[VALUES IN SQUARE BRACKETS] ARE FOR LUNDAHL O/P ONLY

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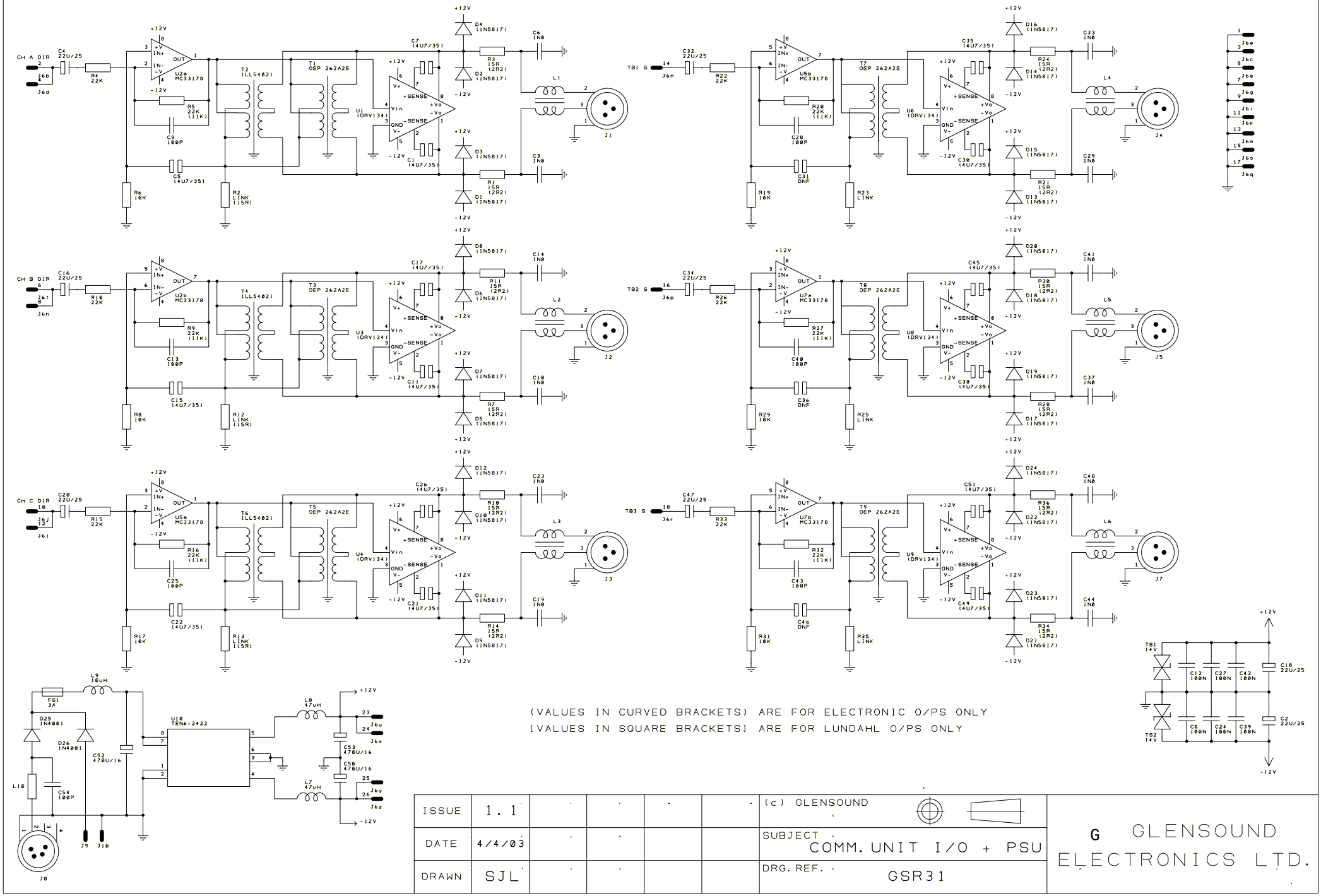
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CH B DIR
CH C DIR
TB1 S
TB2 S
TB3 S
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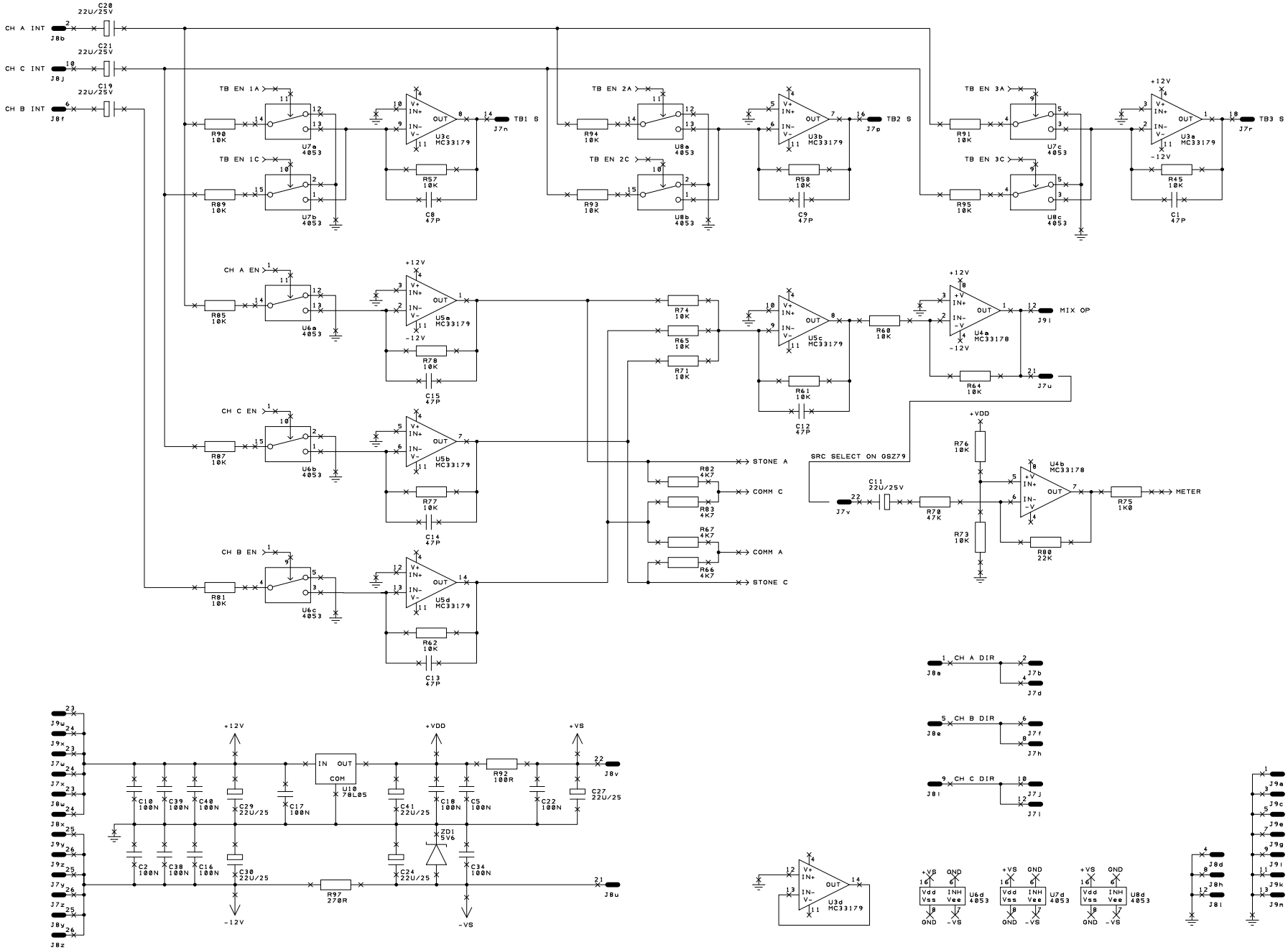

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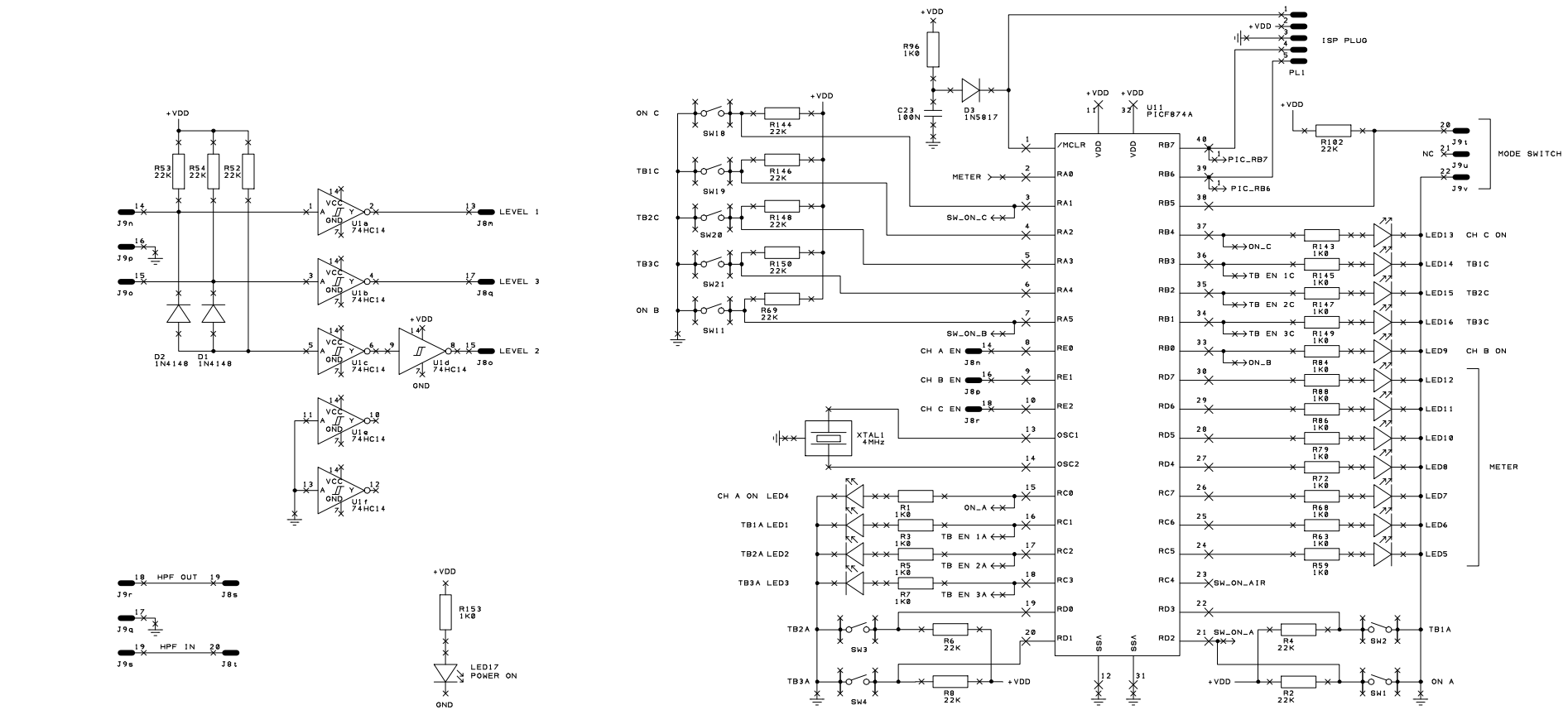

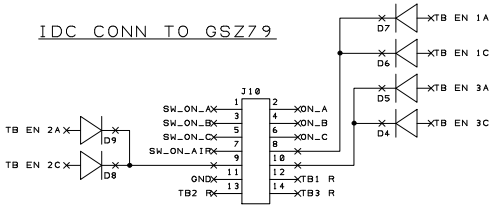

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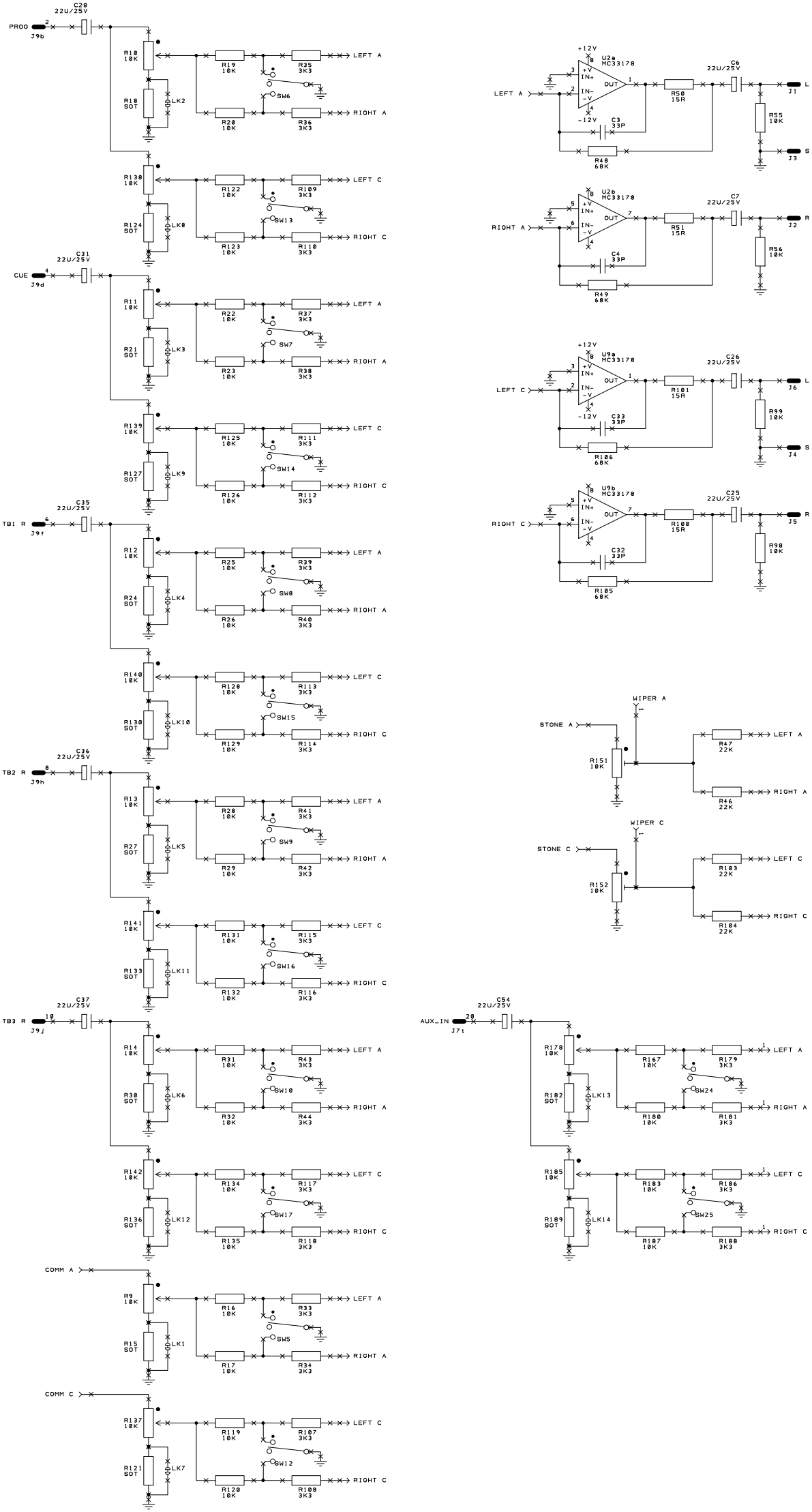

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SUBJECT GS-CU001 CONTROL PANEL
HEADPHONE MONITORING

DRG. REF. A3-17556

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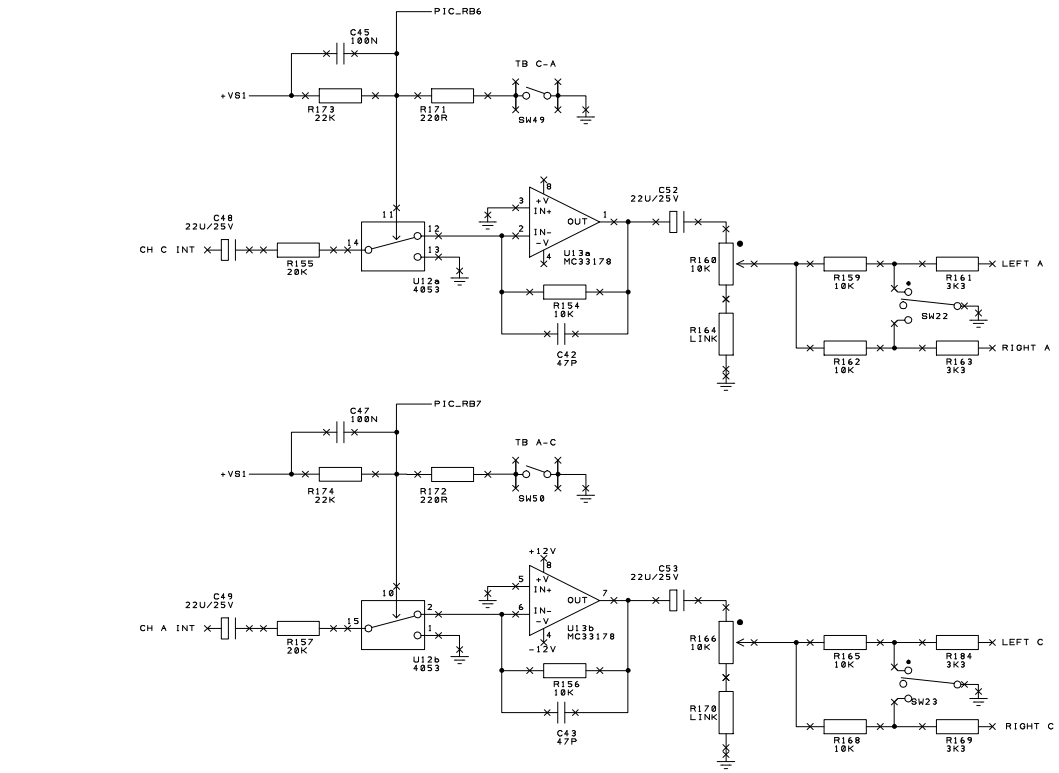

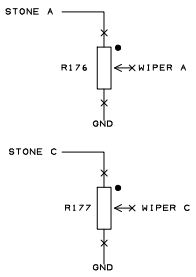

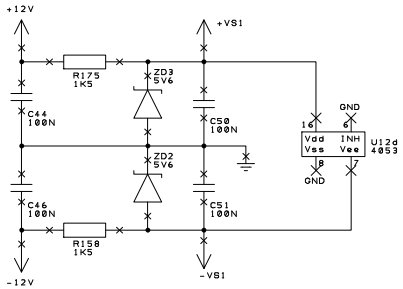

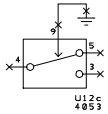

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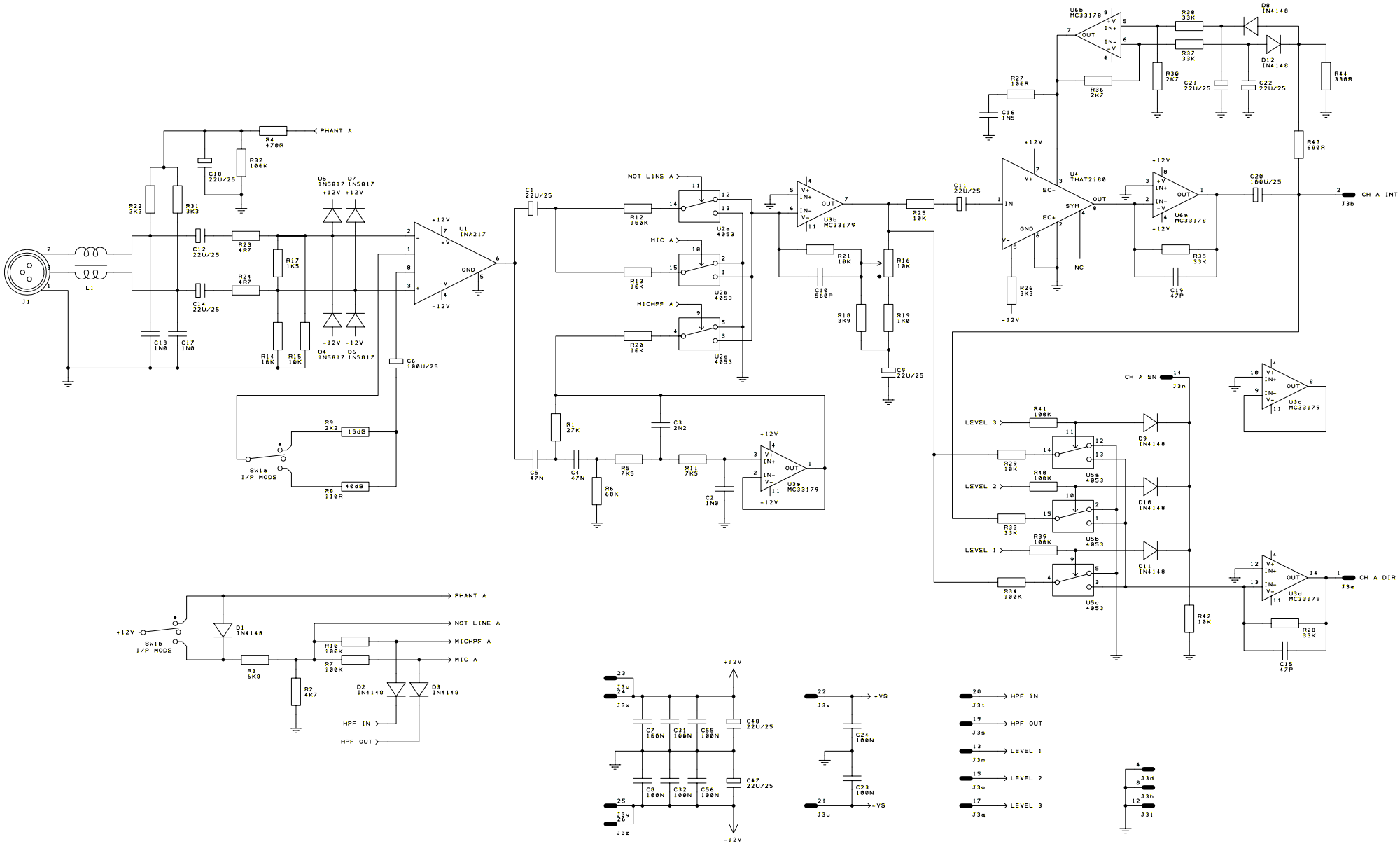

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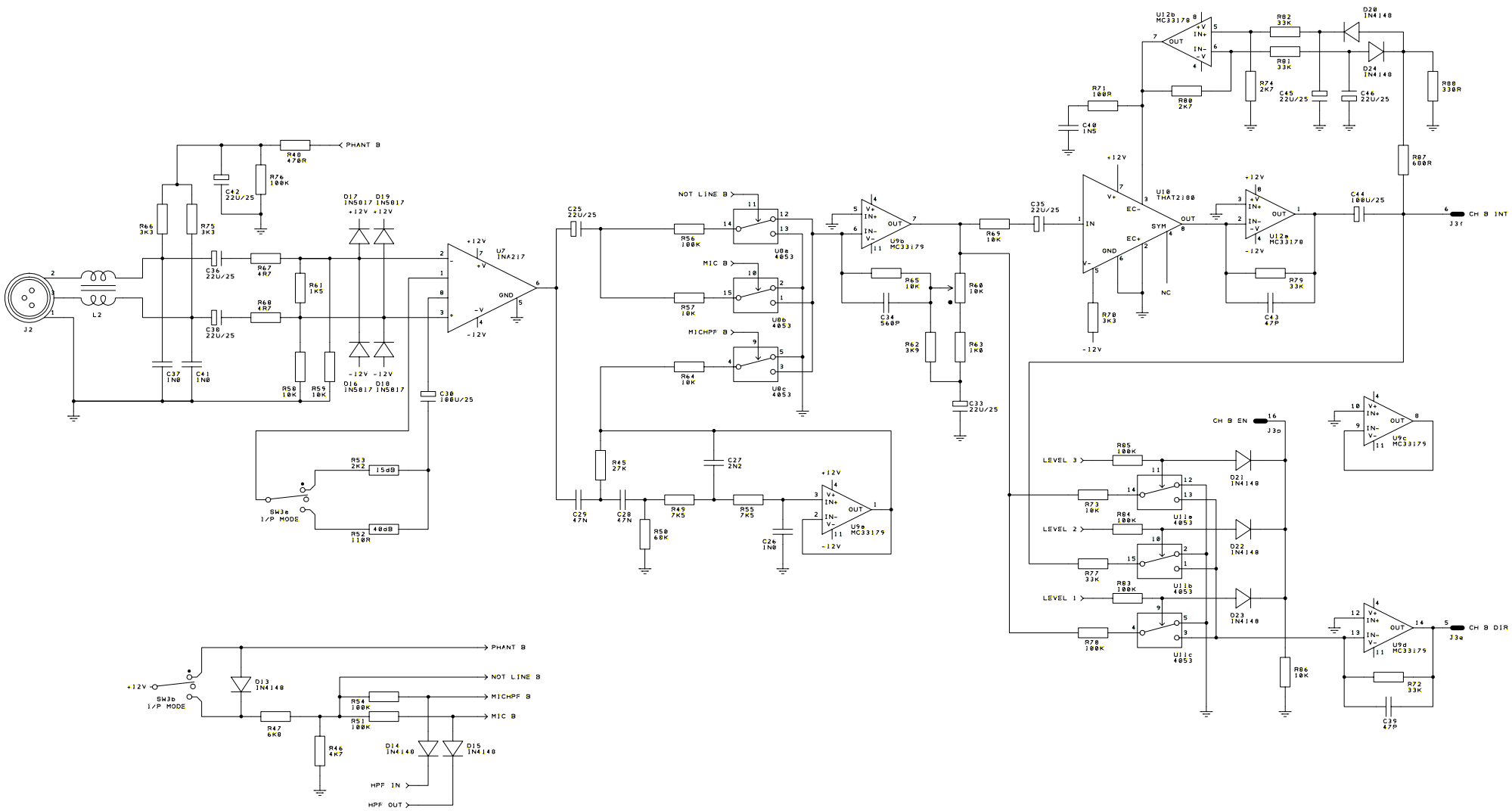

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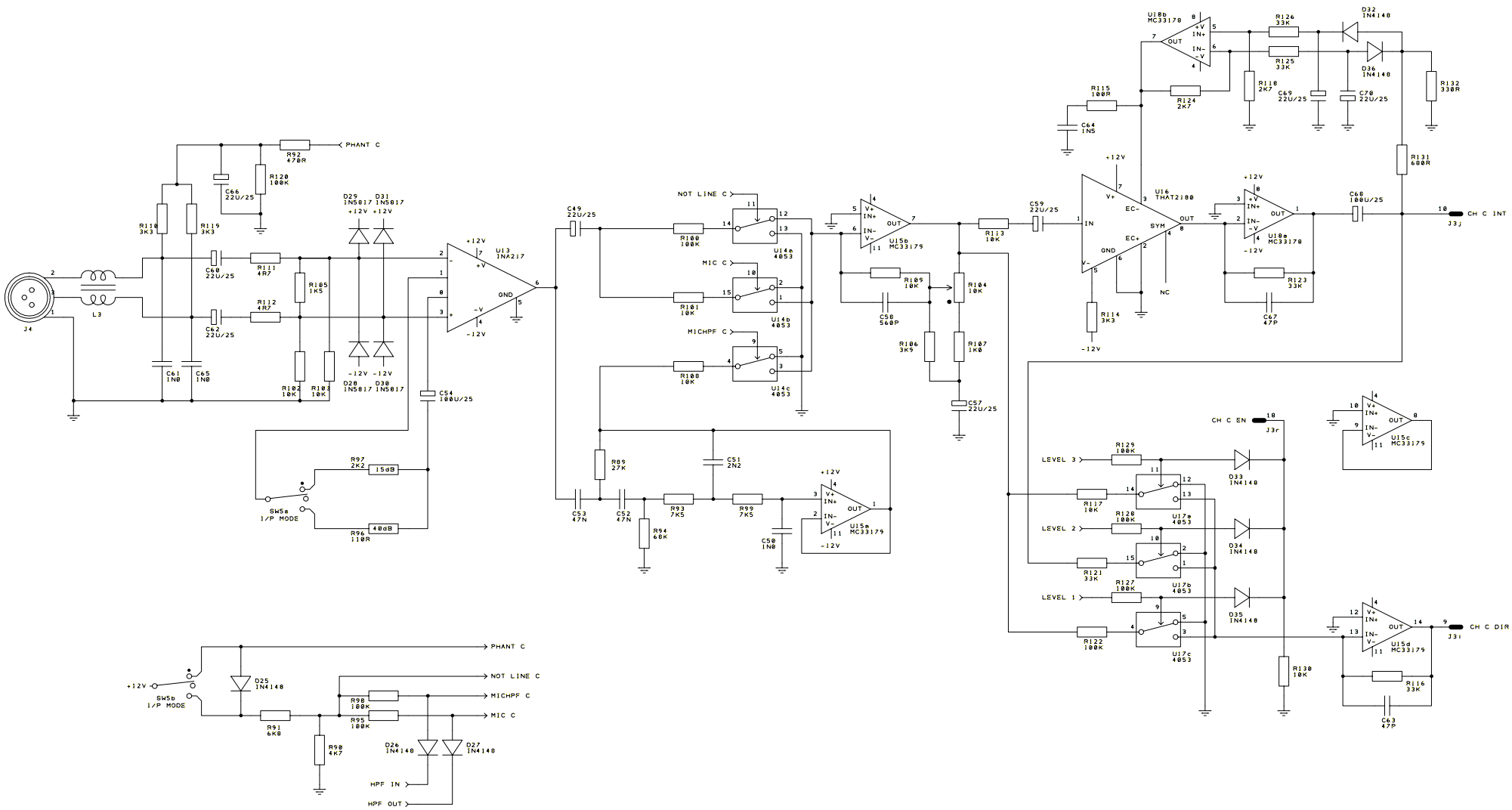

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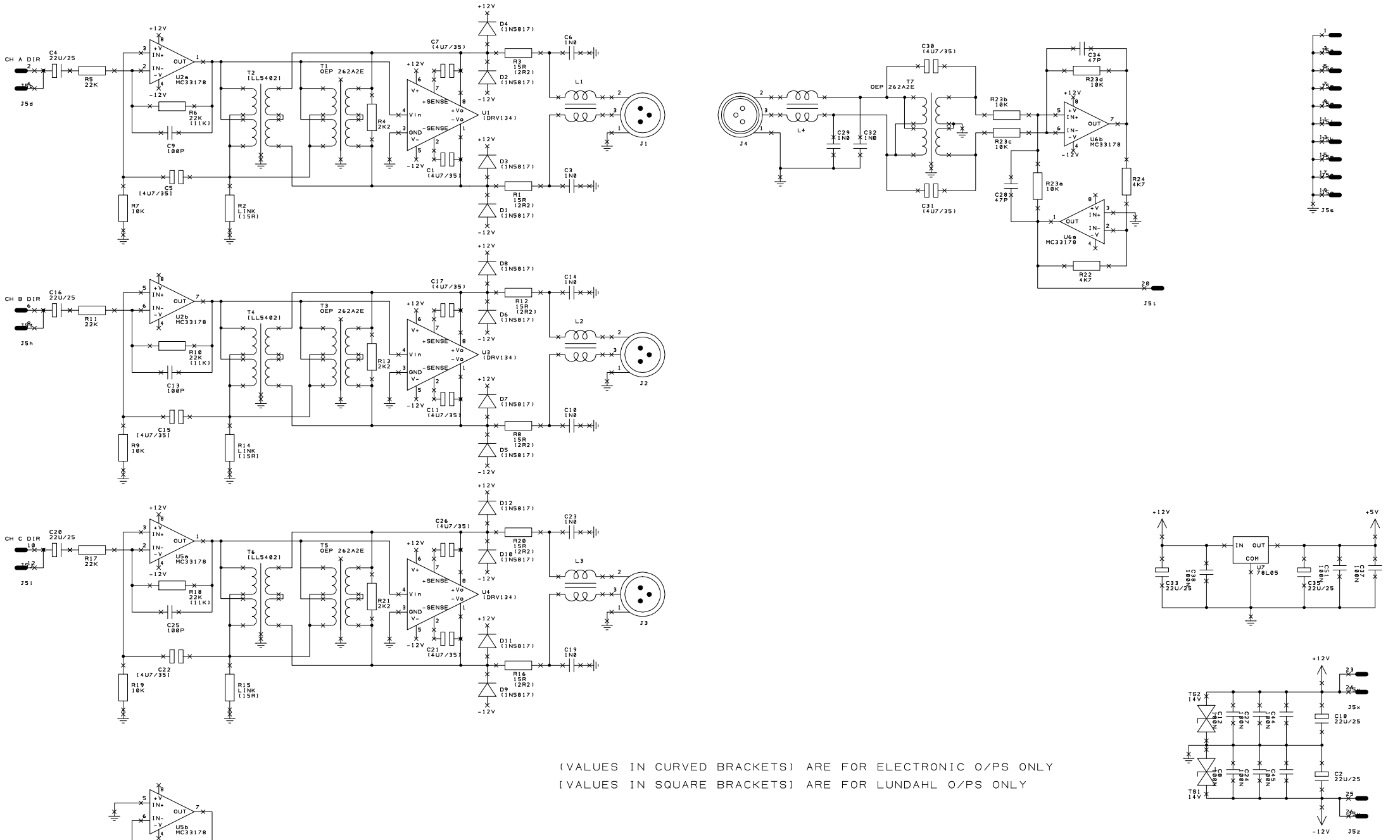

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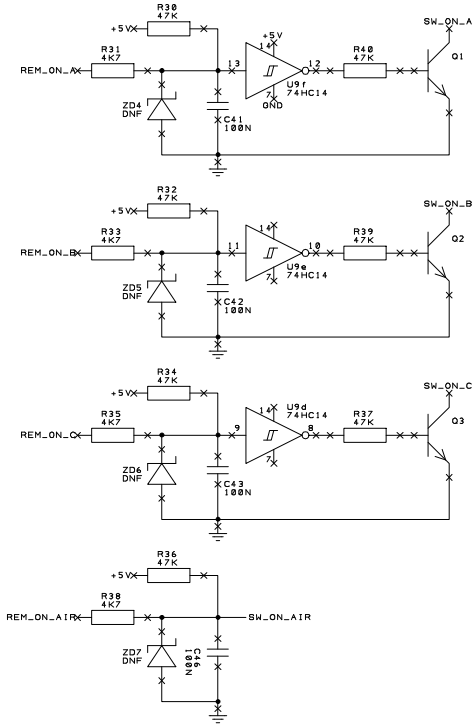
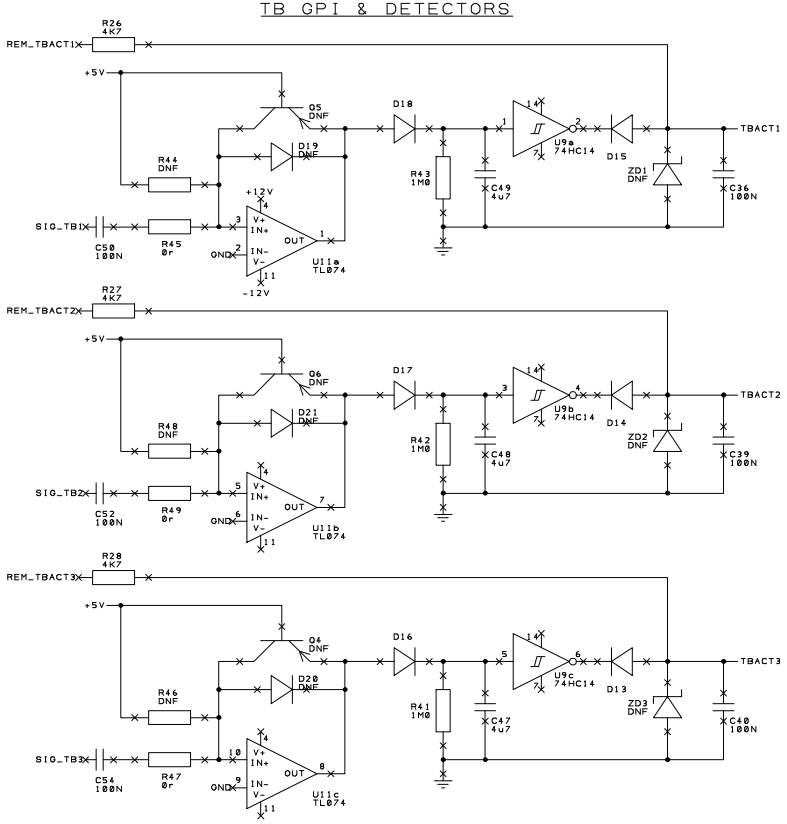
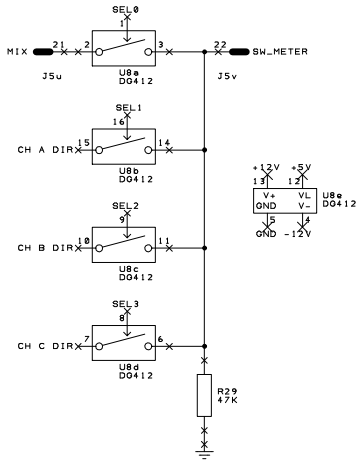
GPI BUFFERS



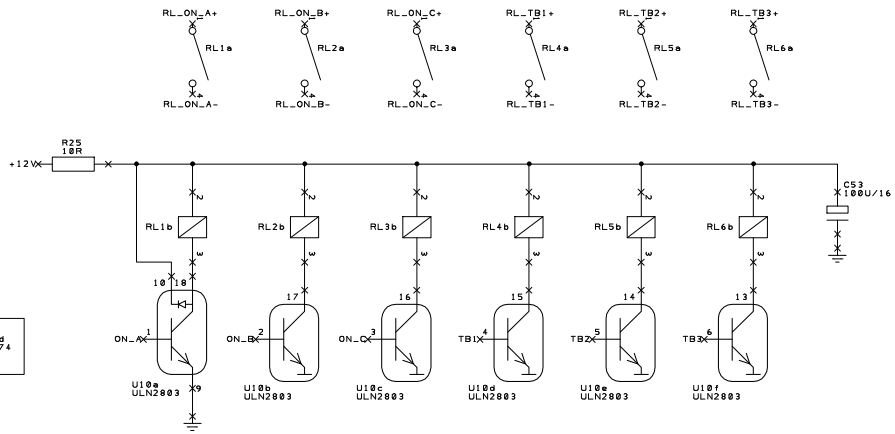
TB GPI & DETECTORS



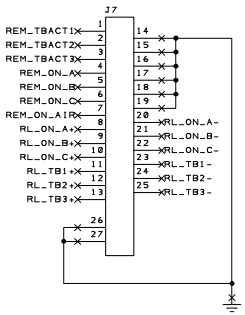
METER SOURCE SWITCHING



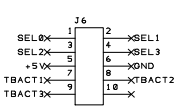
RELAY OUTPUTS



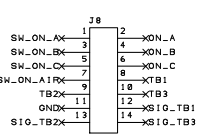
GPIO ON D25F

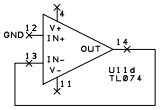


IDC CONN TO GSZ80

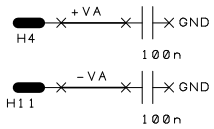


IDC CONN TO GSZ78



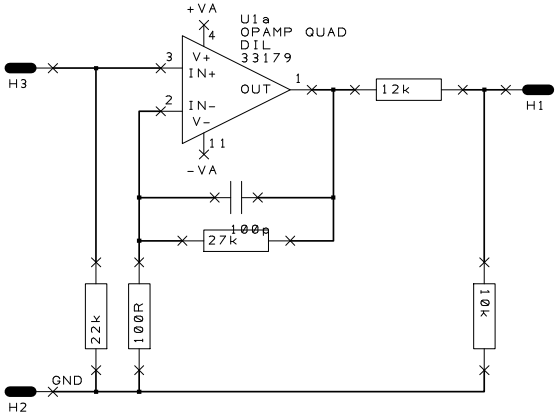


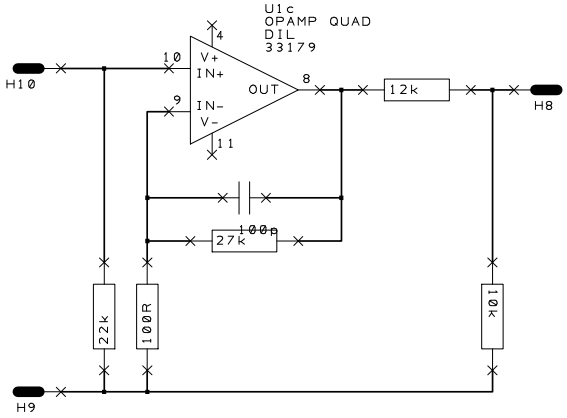
ISSUE	1					(c) GLENSOUND	GLENSOUND ELECTRONICS LTD.
DATE	25/3/14					SUBJECT: COMM. UNIT GPIO	
DRAWN	SJL					DRG. REF.: A3-17562	

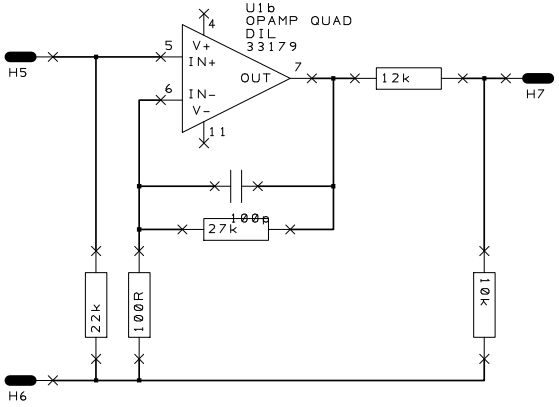


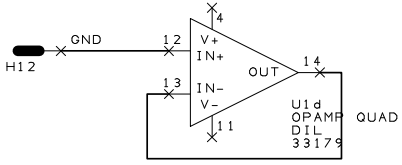
H13

H14





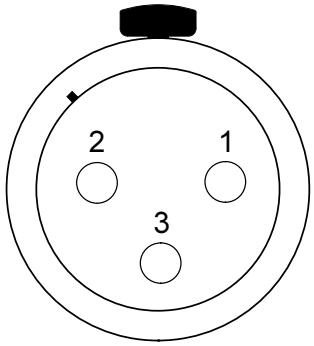




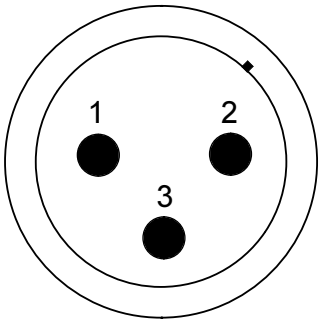
AUDIO DETECT FOR CU0001P	ISSUE 1	DATE 03/06/14
	DRAWING NUMBER A4-17550	Glensound ELECTRONICS LTD

A1
Border A4 horizontal

GS-CU001P Connectors



XLR SOCKET (FEMALE)



XLR PLUG (MALE)

STANDARD XLR AUDIO PINOUTS:

1: Ground/ Earth

2: INPHASE/ POSITIVE/ HOT/ MIC +

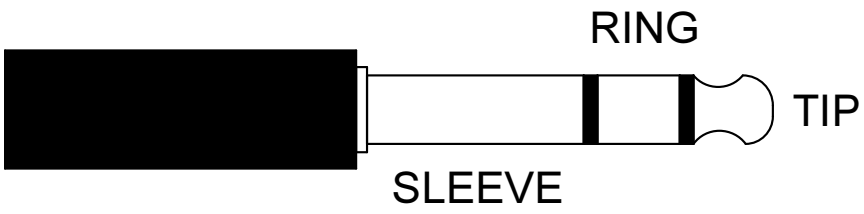
3: MATE/ NEGATIVE/ COLD/ MIC -

STANDARD HEADPHONE WIRING:

TIP: A/ LEFT Ear

RING: B/ RIGHT Ear

SLEEVE: Common/ Earth



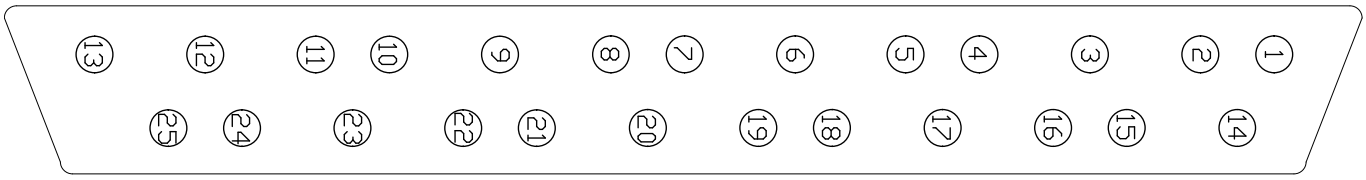
Local record:

3.5mm stereo jack socket. Tip = signal, Ring = signal, Sleeve = GND. Mono plugs may be used without damage.

Headphone outputs:

Accept A- or B-gauge jack plugs.

Pin Out Of GPIO 'D' 25 Socket



Function	Pin No
Incoming Intercom Source 4 LED	1
Incoming Intercom Source 5 LED	2
Incoming Intercom Source 6 LED	3
Remote on for Mic A (input)	4
Remote on for Mic B (input)	5
Remote on for Mic C (input)	6
Remote on air lock (input)	7
Mic A on Relay output +	8
Mic B on Relay output +	9
Mic C on Relay output +	10
Intercom talk 4 on Relay output +	11
Intercom talk 5 on Relay output +	12
Intercom talk 6 on Relay output +	13
Grounds	14/ 15/ 16/ 17/ 18/ 19
Mic A on Relay output -	20
Mic B on Relay output -	21
Mic C on Relay output -	22
Intercom talk 4 on Relay output -	23
Intercom talk 5 on Relay output -	24
Intercom talk 6 on Relay output -	24