

Service Manual

Model: CLE4.0

Compressor / Limiter



www.altoproaudio.com

Version: 1.1

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1. Specification

AUDIO INPUT		
Connectors	XLR and 1/4" TRS (Pin 2 and Tip hot)	
Type	Electronically balanced/unbalanced, RF filtered	
Impedance	Balanced >50Kohm, Unbalanced>25Kohm	
Nominal operating level	+4dBu/-10dBV switchable	
Max input level	>+24dBu balanced and unbalanced	
CMRR	Typically>50dB at 1KHz	

AUDIO OUTPUT		
Connectors	XLR and 1/4" TRS (Pin 2 and Tip hot)	
Type	Electronically balanced/unbalanced, RF filtered	
Impedance	Balanced 120ohm, Unbalanced>60ohm	
Max output level	>+21dBu,+20dBm balanced and unbalanced	

SYSTEM SPECIFICATIONS		
Bandwidth	22HZ to 22KHz, +0/-0.5dB	
Frequency Response	0.35Hz to 200kHz,+0/-3dB	
Noise	>-95dBu, unweighted, 22Hz to 22kHz	
THD	<0.008% Typical at +4dBu, 1kHz, unity gain <0.04% Typical at +20dBu, 1kHz, unity gain	
IMD	<0.1% Typical SMPTE	
Crosstalk	<-100dB, 22Hz to 22Khz	
Stereo Coupling	True RMS detection	

COMPRESSOR SECTION		
Type	Interactive Compressor (Interactive Knee Adaptation)	
Threshold	variable (-40dB to +20dB)	
Ratio	variable (1:1 to :1)	
Threshold Characteristic	variable (Interactive or Hard Knee)	
Manual Attack Time	variable (0.5ms to 100ms / 20dB)	
Manual Release Time	variable from 0.05 ms to 5s / 20dB	
Auto Attack Time	Typical 15ms at 10dB, 5ms at 20dB, 3ms at 30dB	
Auto Release Time	Program dependent, typical 125dB/s	
Output level	variable (-20dB to +20dB)	

PEAK LIMITER SECTION		
Type	Interactive Gain Control Peak Limiter	
Threshold	variable (+4dB to OFF (+22dBu))	
Ratio	:1	
Stage 1 Limiter Type	Clipper	
Attack Time	"zero"	
Release Time	"zero"	
Stage 2 Limiter Type	Program Limiter	

Attack	program dependent, typ. <5ms	
Release	Program dependent, typ. 20dB/s	

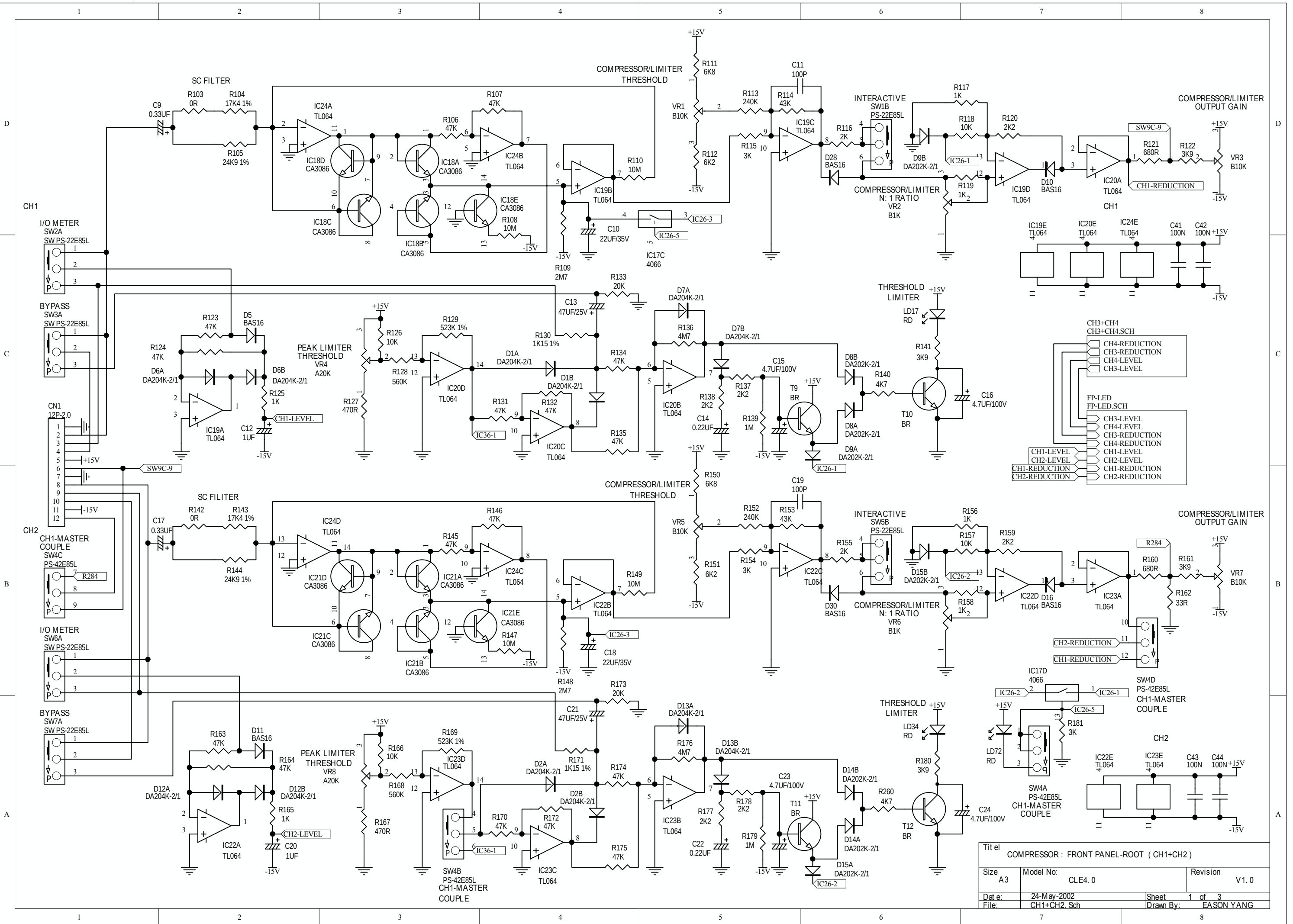
FUNCTION SWITCHES		
INTERACTIVE	Enables the "Interactive Knee Adaptation" characteristics.	
CONTOUR	Allows for frequency dependent detection.	
I/O METER	Switches between input and output for the Level Meter.	
BYPASS	Relay controlled hard-bypass	
OPERATING LEVEL	Changes the internal reference level from +4 dBu to –10dBu.	
COUPLE	Linking channels 1&2 or 3&4 for stereo operation. Channel 1 (or 3) becomes master.	

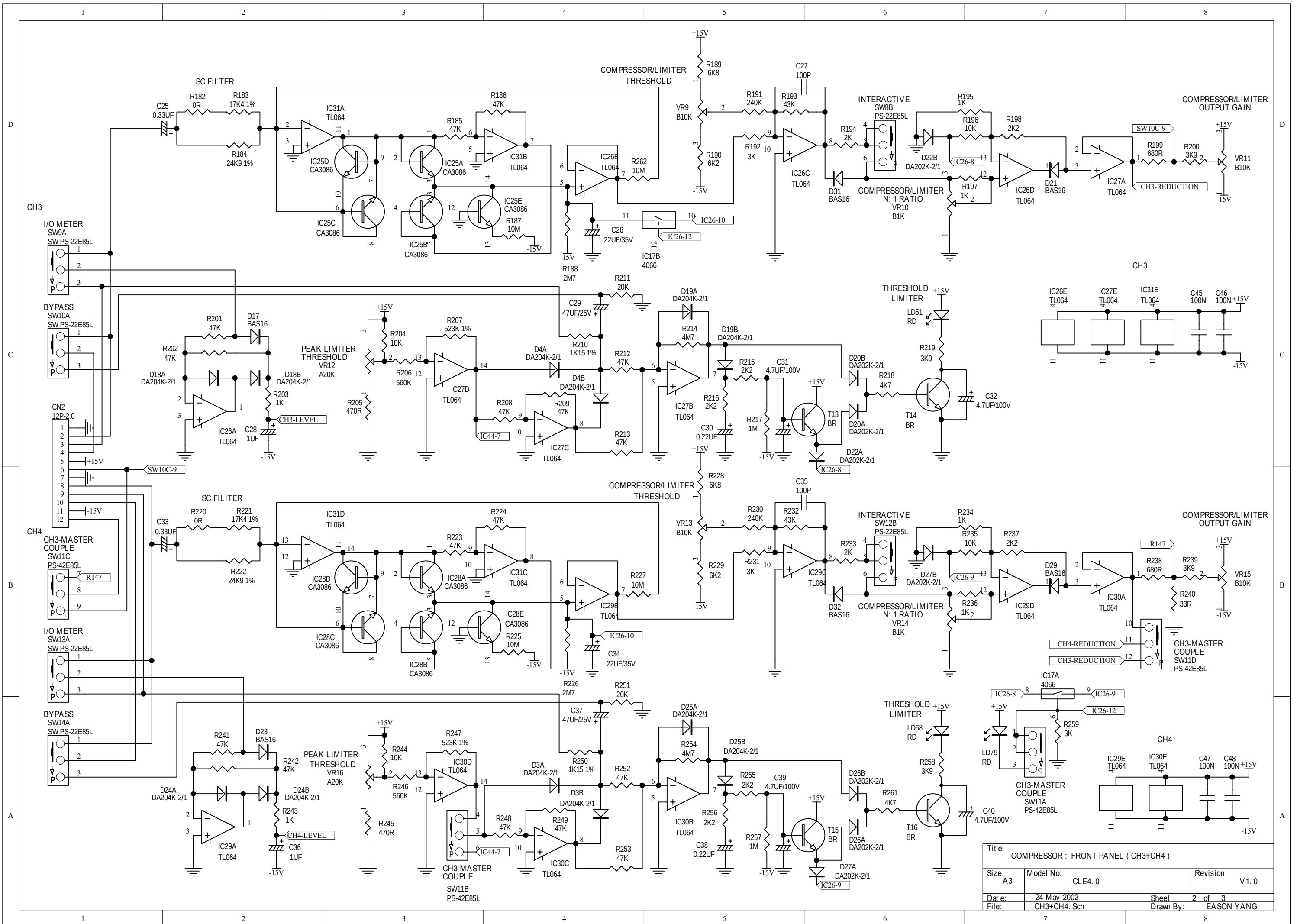
INDICATORS		
GAIN REDUCTION	8 element LED display: 1/3/6/10/15/20/25/30 dB.	
INPUT/OUTPUT LEVEL	8 element LED display: -24/-18/-12/-6/0/+6/+12/+18 dB	
Peak Limiter Threshold	1 LED for indication of limiter function.	
Function switch	LED indicator for each	

POWER SUPPLY		
Mains Voltages	USA/Canada ~120VAC, 60Hz U.K./Australia ~240VAC, 50Hz Europe ~230VAC, 50Hz General Export Model ~100-120VAC, ~200-240VAC, 50-60Hz	
Fuse	100-120VAC : 630mA (SLOW-BLOW) 200-240VAC : 315mA (SLOW-BLOW)	
Power consumption	14Watts	
Mains Connection	Standard IEC receptacle	

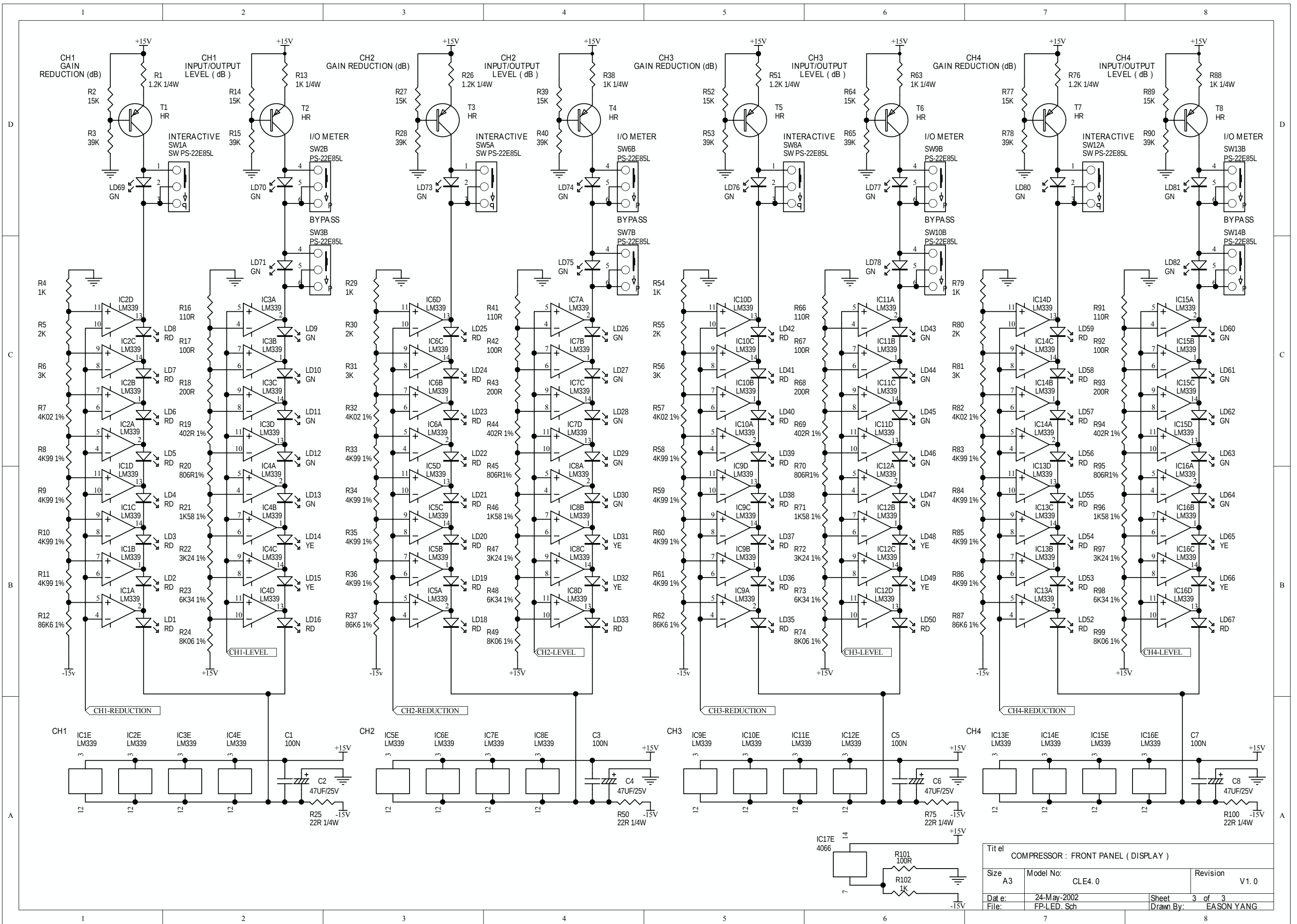
PHYSICAL		
Dimension	W(483.0)*D(198.0)*H(44.2) mm	
Net Weight	3.3Kg	

3. Schematic Diagram

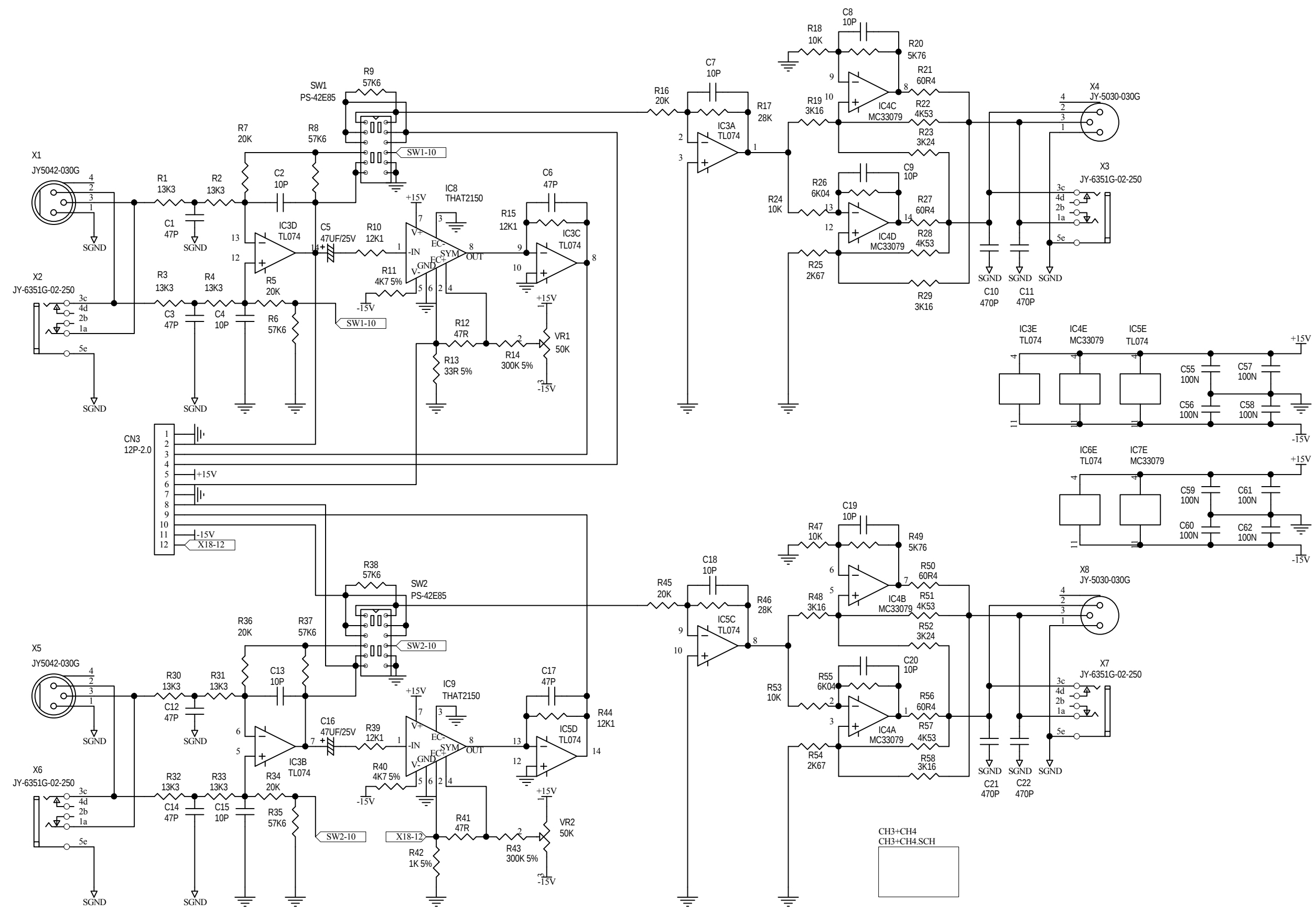




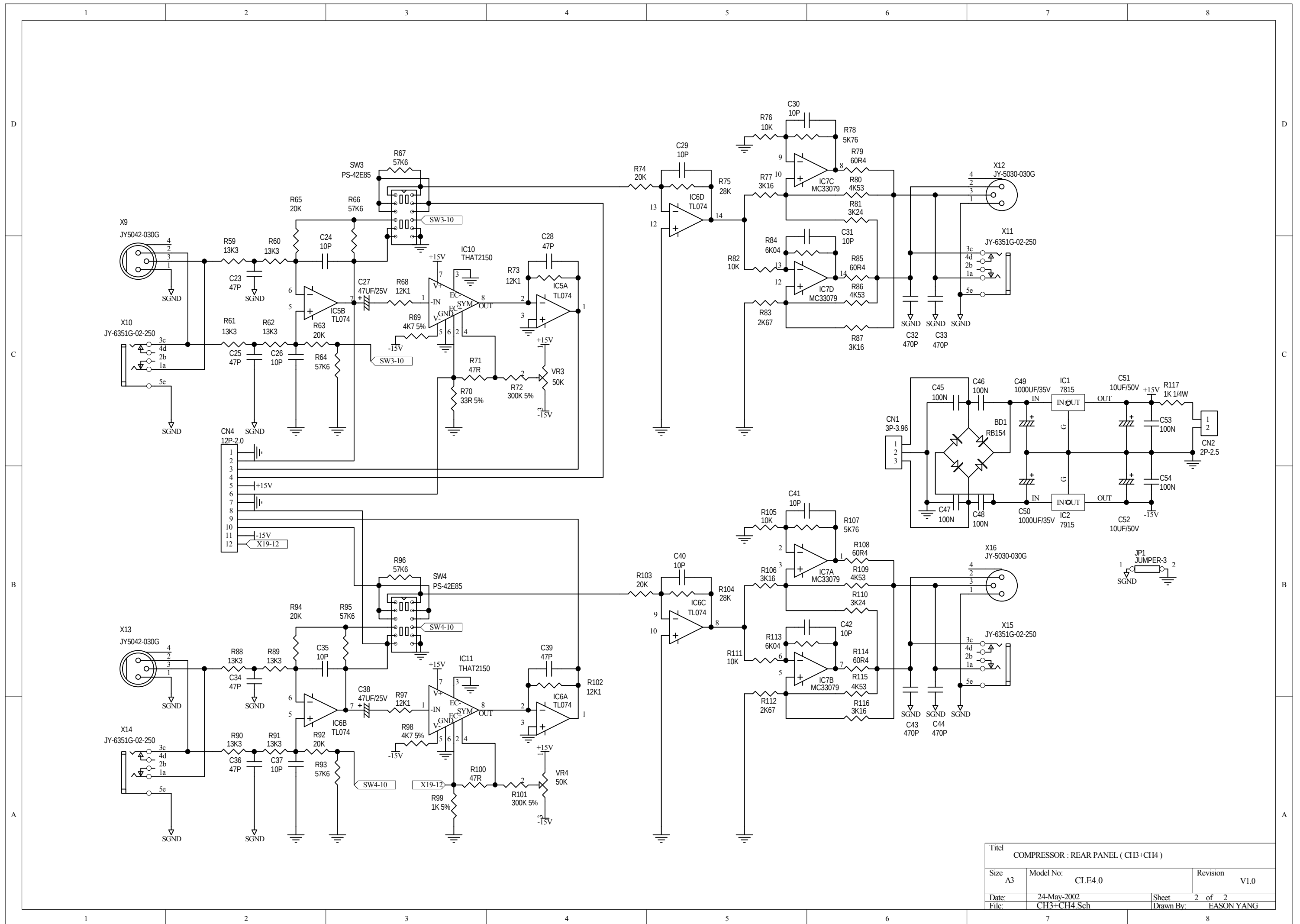
Titel		
COMPRESSOR : FRONT PANEL (CH3+CH4)		
Size	Model No:	Revision
A3	CLE4.0	V1.0
Date:	24-May-2002	Sheet 2 of 3
File:	CH3+CH4_Sch	Drawn By: EASON YANG



Title		
COMPRESSOR : FRONT PANEL (DISPLAY)		
Size	Model No:	Revision
A3	CLE4.0	V1.0
Date:	24-May-2002	Sheet 3 of 3
File:	FP-LED_Sch	Drawn By: EASON YANG

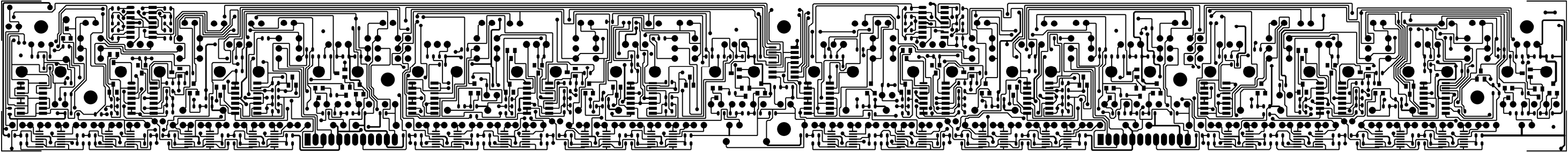


Titel		
COMPRESSOR : REAR PANEL (CH1+CH2)		
Size	Model No:	Revision
A3	CLE4.0	V1.0
Date:	24-May-2002	Sheet 1 of 2
File:	CH1+CH2.SCH	Drawn By: EASON YANG

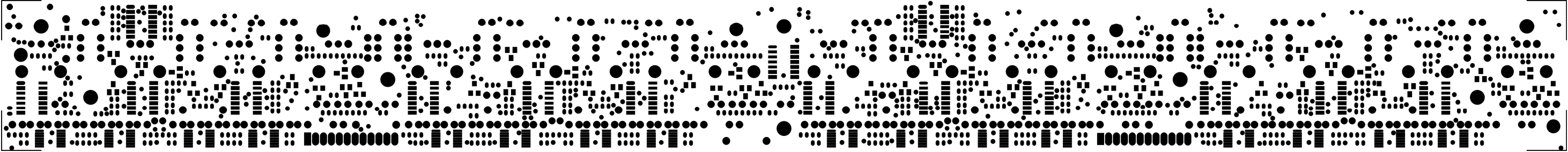


Titel		
COMPRESSOR : REAR PANEL (CH3+CH4)		
Size	Model No:	Revision
A3	CLE4.0	V1.0
Date:	24-May-2002	Sheet 2 of 2
File:	CH3+CH4.Sch	Drawn By: EASON YANG

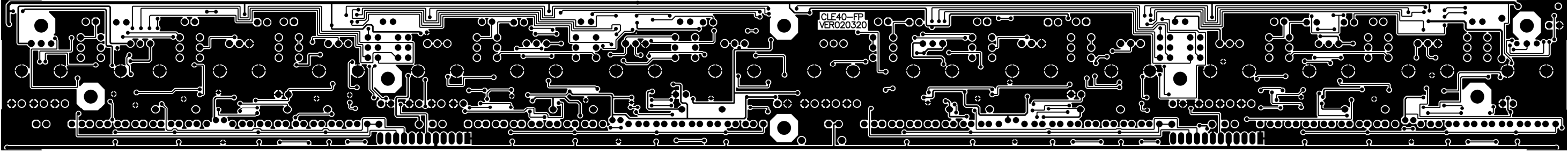
4. Printed Circuit Board



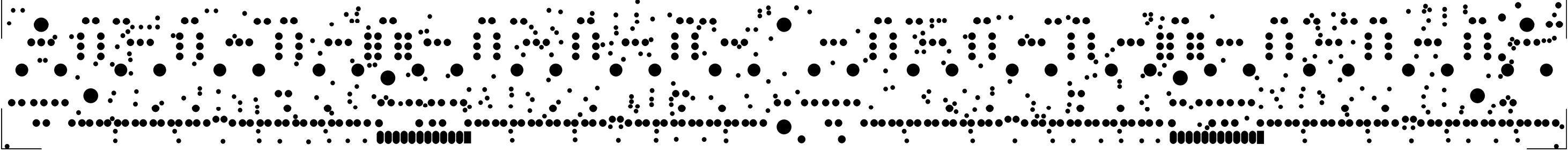
PCB : CLE40-FP TOP LAYER



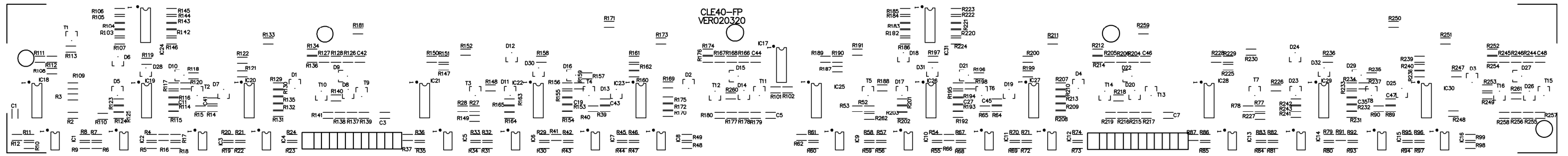
PCB : CLE40-FP TOP SOLDER MASK



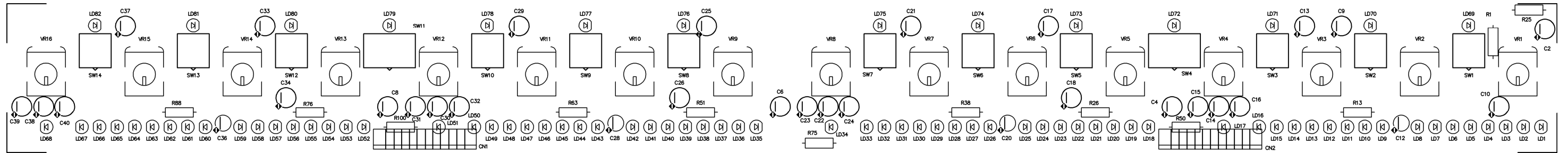
PCB : CLE40-FP BOTTOM LAYER



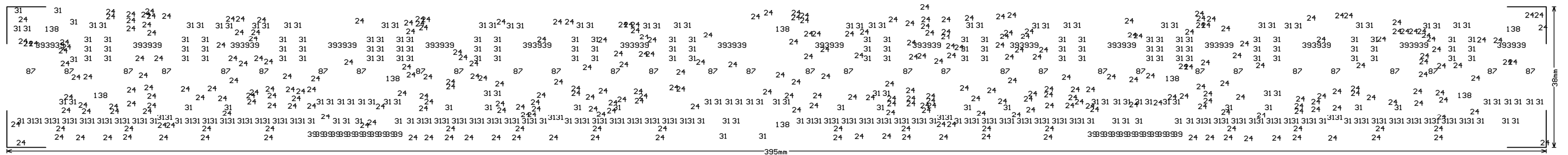
PCB : CLE40-FP BOTTOM SOLDER MASK



PCB : CLE40-FP TOP OVERLAY

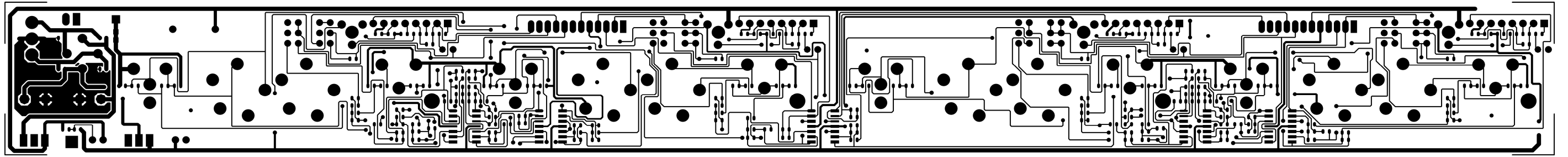


PCB : CLE40-FP BOTTOM OVERLAY

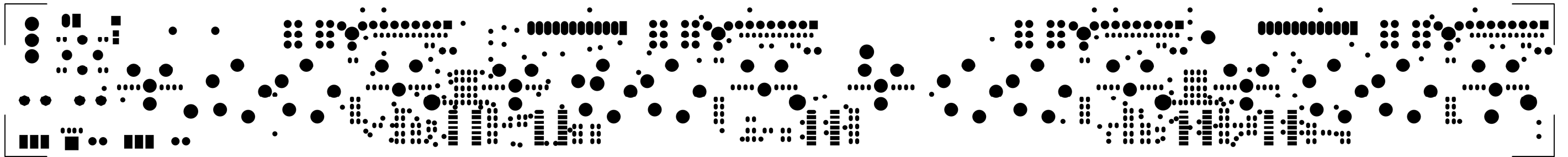


PCB : CLE40-FP DRILL DRAWING PLOTS

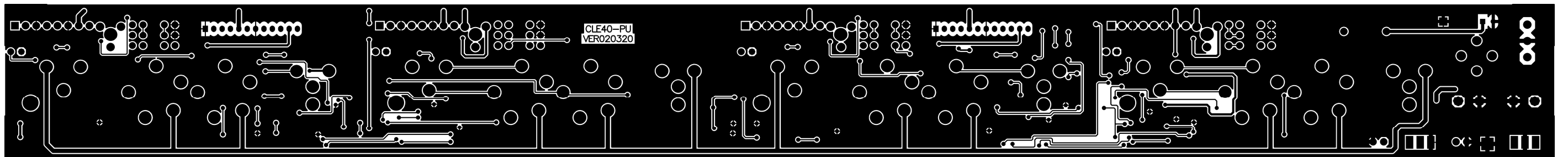
Tool	Hole Size	Hole Count Plated	Tool Travel
T1	24mil (0.6096mm)	354	93.34 Inch (2370.79 mm)
T2	31mil (0.7874mm)	348	73.87 Inch (1876.40 mm)
T3	39mil (0.9906mm)	72	35.33 Inch (897.40 mm)
T4	87mil (2.2098mm)	32	34.95 Inch (887.77 mm)
T5	138mil (3.5052mm)	8 NPTH	36.02 Inch (914.97 mm)
Totals		814	273.52 Inch (6947.33 mm)



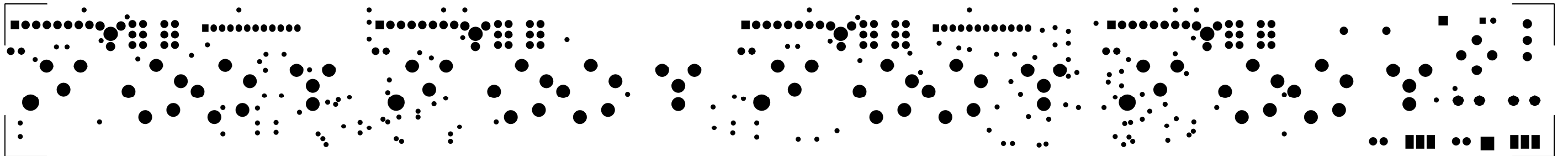
PCB : CLE40-PU TOP LAYER



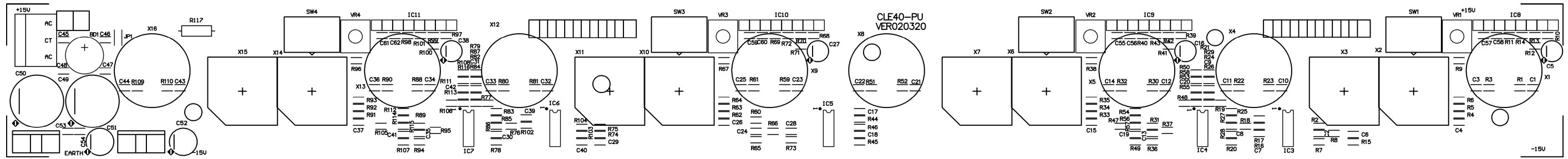
PCB : CLE40-PU TOP SOLDER MASK



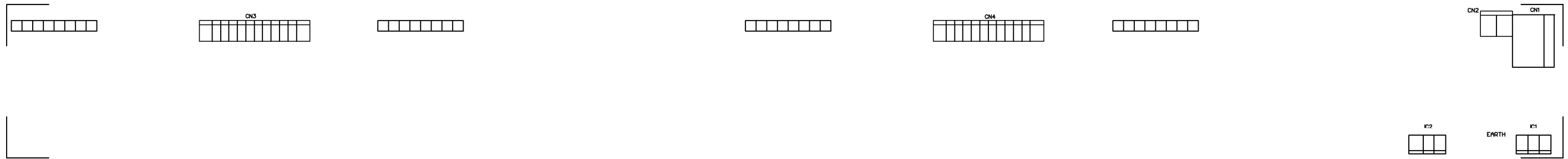
PCB : CLE40-PU BOTTOM LAYER



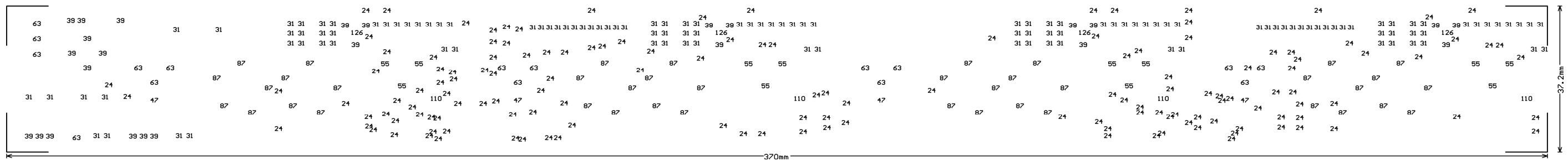
PCB : CLE40-PU BOTTOM SOLDER MASK



PCB : CLE40-PU TOP OVERLAY



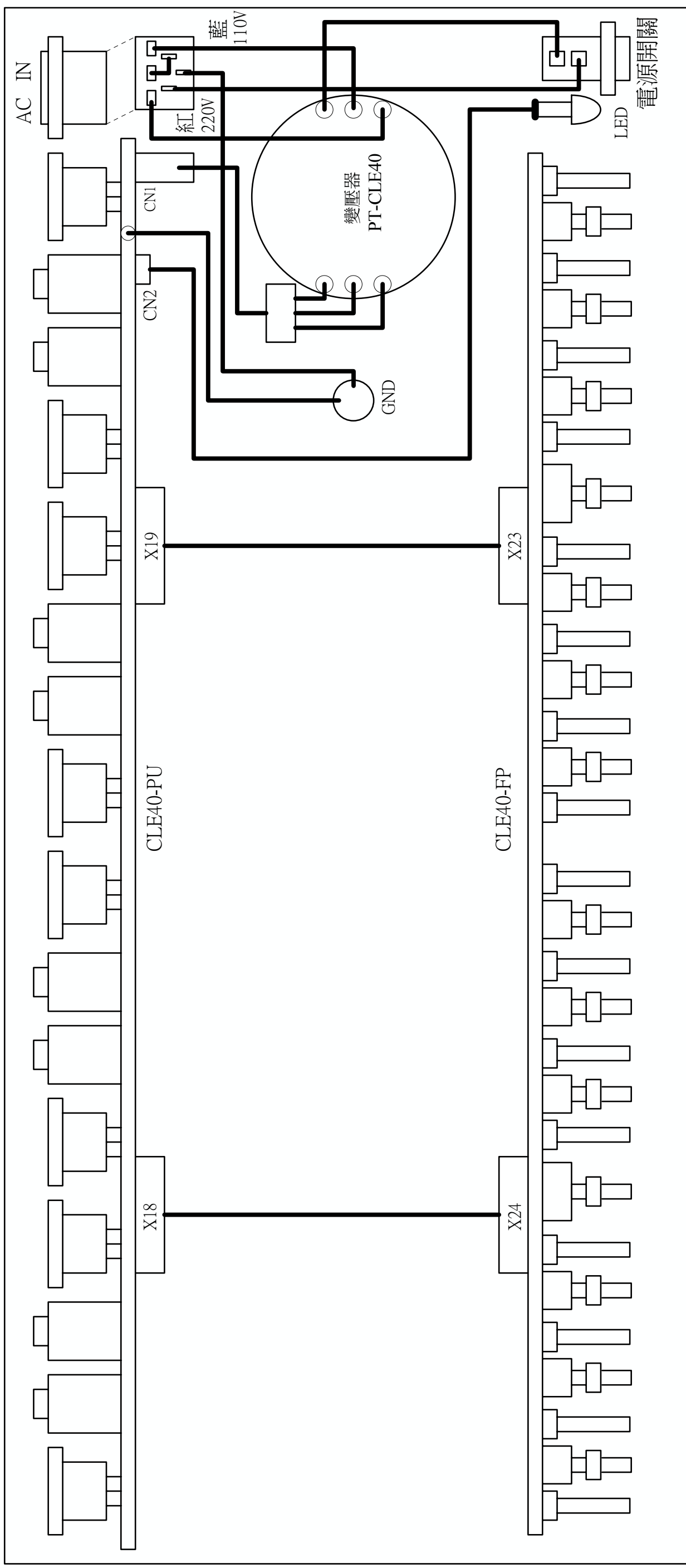
PCB : CLE40-PU BOTTOM OVERLAY



PCB : CLE40-PU DRILL DRAWING PLOTS

Tool	Hole Size	Hole Count Plated	Tool Travel
T1	24mil (0.6096mm)	144	50.44 Inch (1281.19 mm)
T2	31mil (0.7874mm)	122	41.70 Inch (1059.29 mm)
T3	39mil (0.9906mm)	25	34.36 Inch (872.72 mm)
T4	47mil (1.1938mm)	4	17.22 Inch (437.45 mm)
T5	55mil (1.397mm)	12	30.13 Inch (765.22 mm)
T6	63mil (1.6002mm)	16	29.45 Inch (747.94 mm)
T7	87mil (2.2098mm)	40	33.54 Inch (851.88 mm)
T8	110mil (2.794mm)	4	19.43 Inch (493.40 mm)
T9	126mil (3.2004mm)	4	NPTH 28.55 Inch (725.22 mm)
Totals		371	284.82 Inch (7234.30 mm)

CLE4.0 全機配線圖



Title: COMPRESSOR CLE4.0

Size A4	Model No: CLE4.0	Revision V1.0
Date: 24-May-2002	Sheet 1 of 1	Drawn By: EASON YANG
File: CLE40.Sch		

7. Electrical Parts List

CLE4.0-ALTO- -230V

Structure Needing Material Detail List

<u>NO.</u>	<u>Midprod NO</u>	<u>Quantity</u>	<u>Unit</u>
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NO	Material No	Item Name	Specific
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<i>NO</i>	<i>Material No</i>	<i>Item Name</i>	<i>Specific</i>
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<i>NO</i>	<i>Material No</i>	<i>Item Name</i>	<i>Specific</i>
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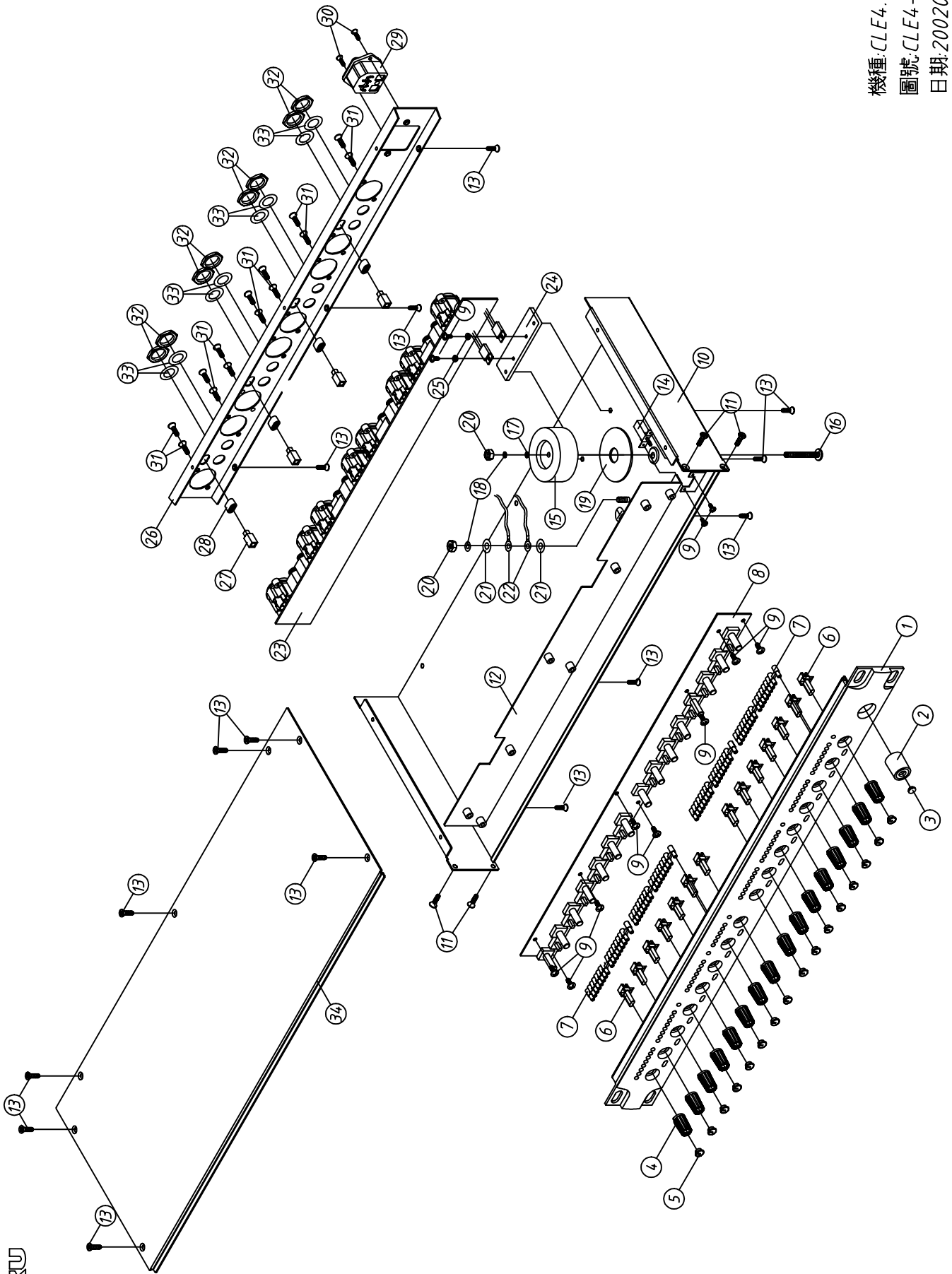
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8. Exploded Views

SEKAKU



機種: CLE4.0
圖號: CLE4-00
日期: 20020204