



Service Manual

circuit diagram

Equalizer **GF215 & GF230**

Zeck Audio
Service department
Turnhallenweg 6
D-79183 Waldkirch
Germany

Phone: +49-(0)7681-2004-18
Fax: +49-(0)7681-2004-972
email: support@zeck-audio.de
www: www.zeck-support.de

This manual has been provided for the use of authorized service personnel. It has been assumed that basic service procedures inherent to the industry, and more specifically Zeck Products, are already known and understood by the users.

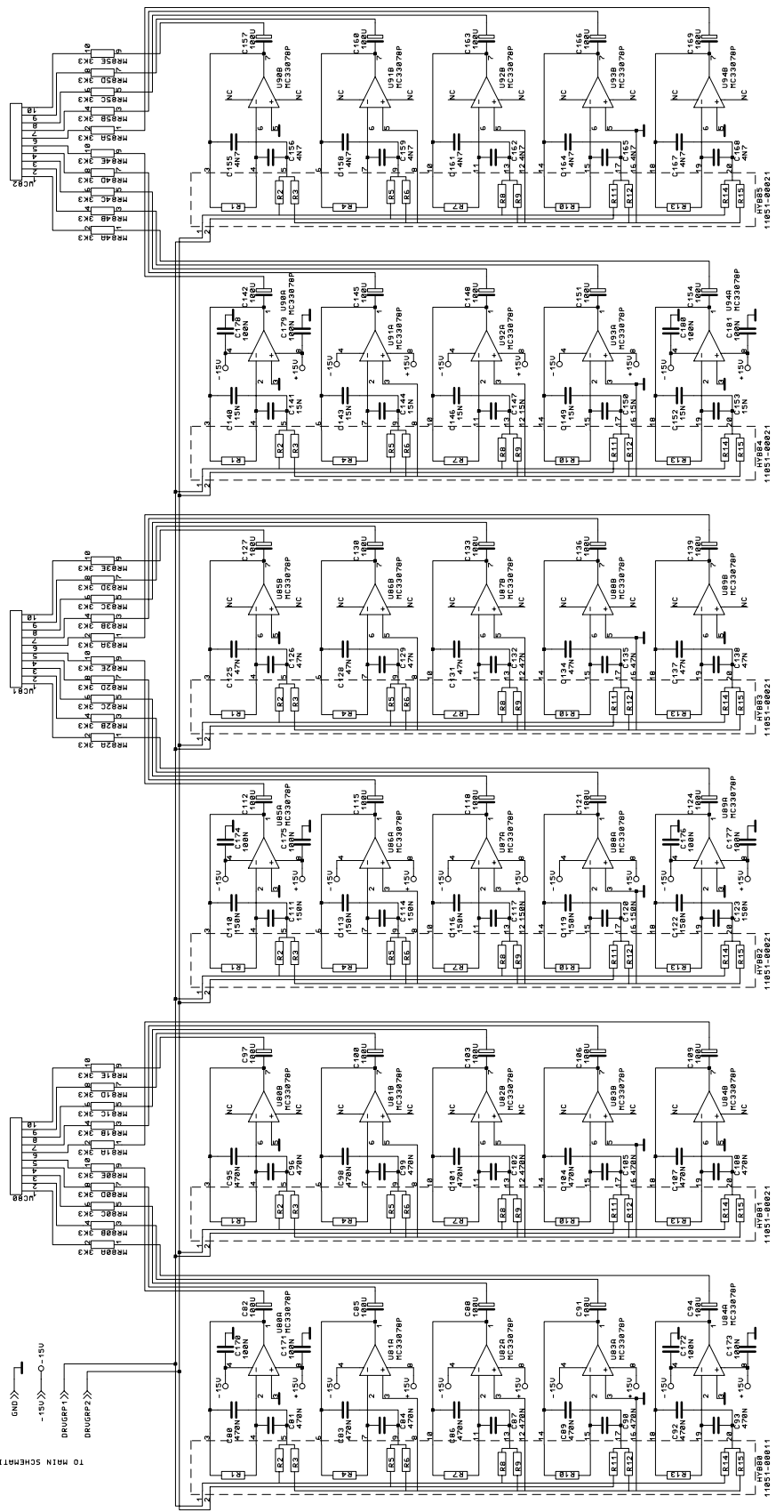
- Warning:** Failure to follow appropriate service and safety procedures when servicing this product may result in personal injury, destruction of expensive components and failure of the product to perform as specified. For these reasons, we advise all Zeck product owners that all service required should be performed by qualified service personnel.
Static discharge can destroy expensive components. Discharge any static electricity your body may have accumulated by grounding yourself to the ground buss in the unit.
- Important:** Turn the unit OFF during disassembly and parts replacement. Recheck all work before you apply power to the unit.
- Safety related component warning:** Components identified by mark "!" on the schematic diagrams and in the parts list are critical to safe operation. Replace these components with Zeck original parts only.
-

Dieses Service-Manual ist für den Gebrauch durch autorisiertes Service-Personal bestimmt. Es wird vorausgesetzt, daß der Benutzer über grundlegende und industrieübliche Kenntnisse im Elektronik-Service verfügt und insbesondere mit der Technik von Zeck-Produkten vertraut ist.

- Warnung:** Die Nichtbeachtung von Service- und Sicherheits-Richtlinien kann bei Arbeit an diesem Gerät zu körperlichen Schäden, Zerstörung wertvoller Bauteile und zum Ausfall des Gerätes führen. Aus diesem Grunde empfehlen wir dem Benutzer dringend, alle anfallenden Service-Arbeiten ausschließlich qualifiziertem Personal zu überlassen. Eventuell vorhandene elektrostatische Aufladungen können wertvolle Bauteile zerstören. Vor der Arbeit an dem Gerät sollte der Service-Techniker sich daher durch Berühren des Schaltungs-Nullpunkts des Gerätes von jedweder elektrostatischer Aufladung befreien.
- Wichtig:** Vor Öffnung des Gerätes und während des Auswechslens von Bauteilen muß das Gerät abgeschaltet sein.
- Sicherheitsrelevante Bauteile** Für die Funktion des Gerätes kritische Bauteile sind durch das Symbol "!" im Schaltplan und in der Ersatzteilleiste markiert. Diese Bauteile dürfen nur durch original Zeck-Ersatzteile ersetzt werden.

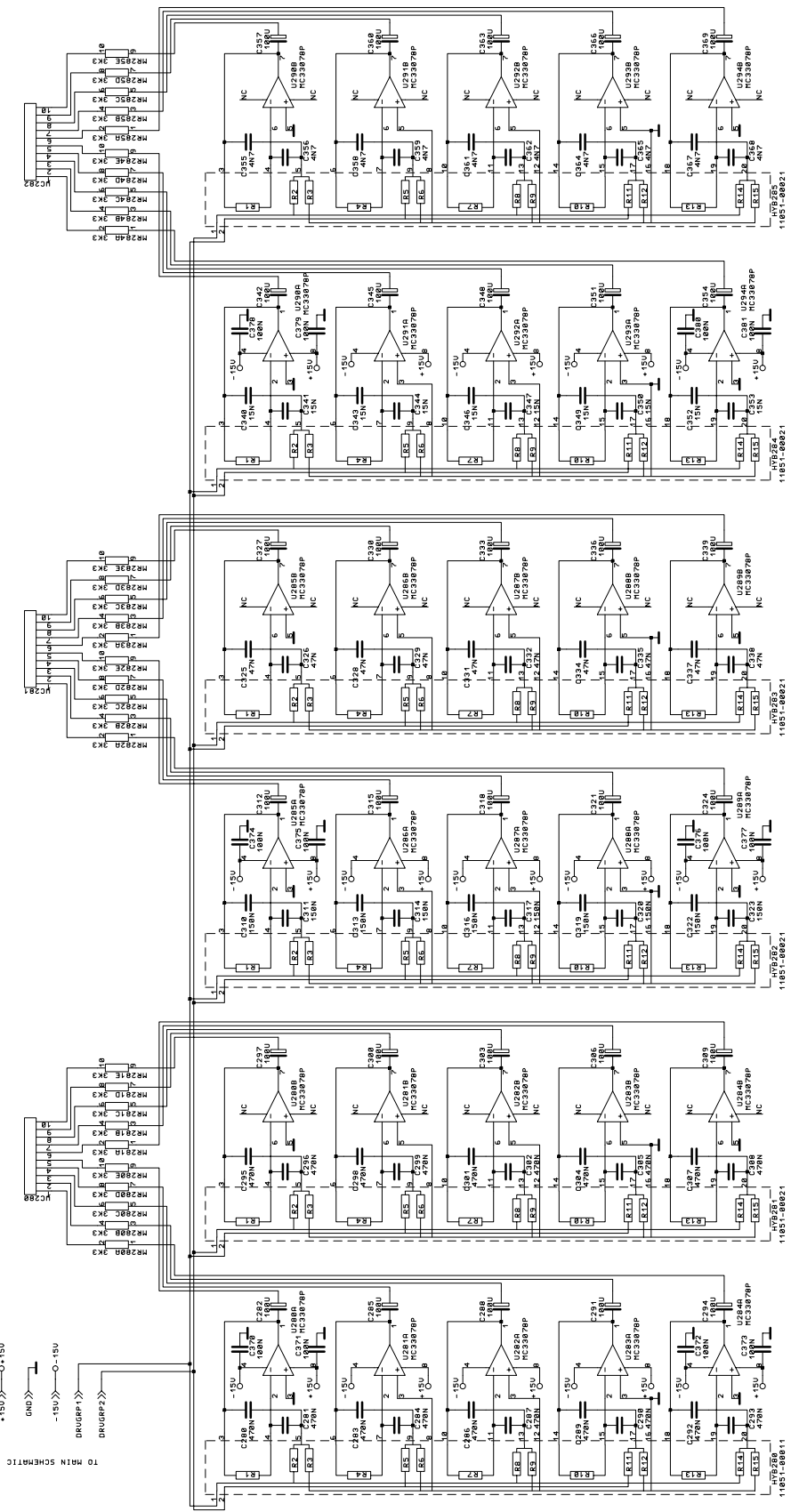
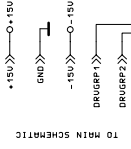
TO MAIN SCHEMATIC

+15V <>< O +15V
 GND <>< O GND
 -15V <>< O -15V
 DRUGRP <>< O DRUGRP



NOTES: FOR ACTUAL COMPONENT VALUES REFER TO PARTS LIST

Rev. 1	Date 03/02/94	Eng. E. B.
Project: ZECK GF230 GRAPHIC ED. FILTERS CHANNEL A		
SUMMIT ENGINEERING, INC. 1000 RIVERVIEW BLVD TOLSON, MD 21158 TEL: 410-326-5111 FAX: 31-85		
File: EOPFIL1.SCH		Sheet: 1 of 1



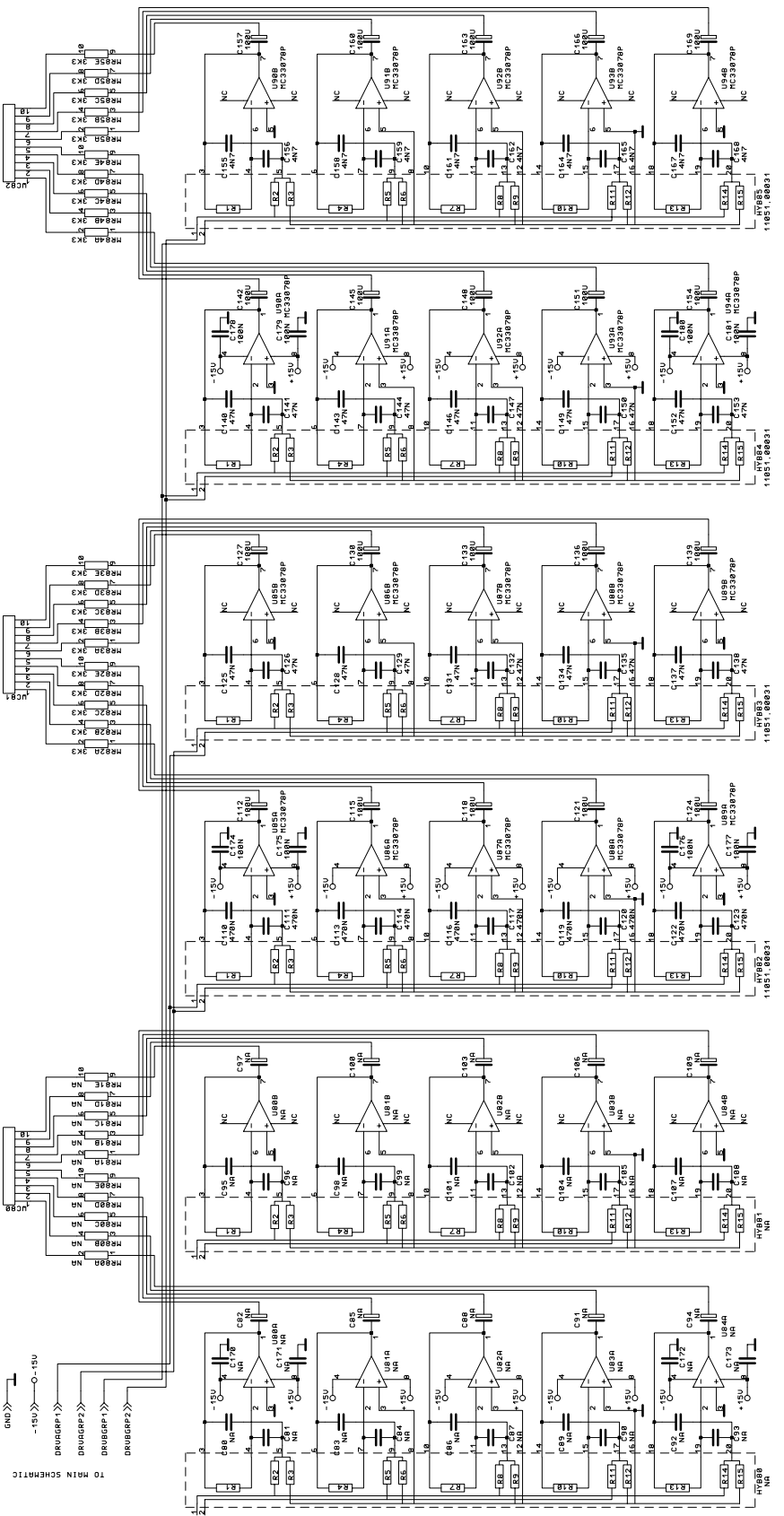
NOTES: FOR ACTUAL COMPONENT VALUES REFER TO PARTS LIST

Rev. 1	Date 03/02/94	Eng. E. B.
Project: ZECK GF230 GRAPHIC ED. FILTERS CHANNEL B		
SUMMIT ENGINEERING, INC. 1000 Rte. 150 Tomball, TX 77375 TEL: 281-291-6531 FAX: 281-291-85		
Incl. in date: 12/11/93 Sheet: 1 Of: 1		

CHANNEL B DRIVE TO POTENTIOMETERS

CHANNEL A DRIVE TO POTENTIOMETERS

TO MAIN SCHEMATIC



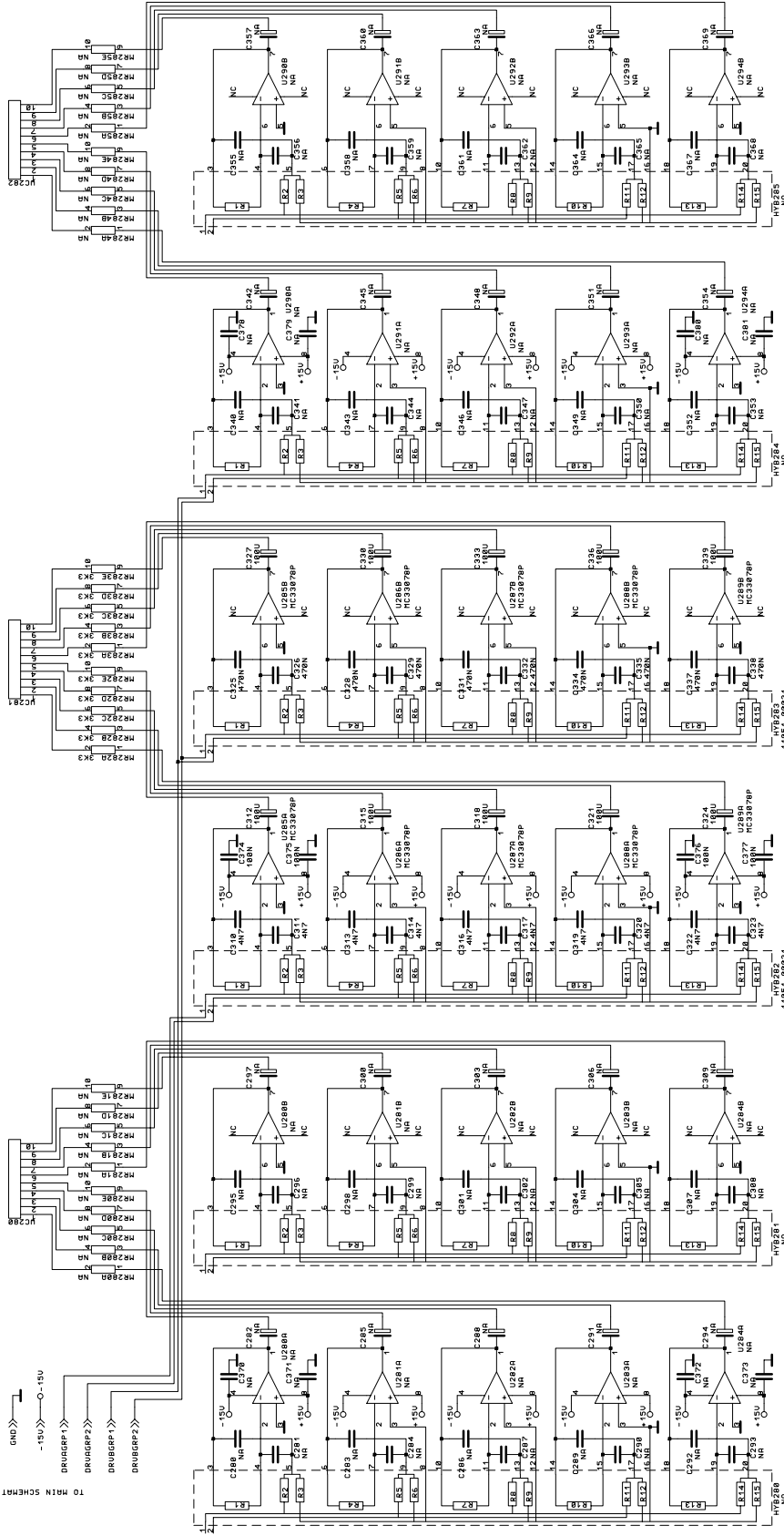
NOTES: FOR ACTUAL COMPONENT VALUES REFER TO PARTS LIST

Rev. 1	Date 08/02/94	Eng. E. B.
Project: ZECK GF215 GRAPHIC ED. FILTERS		
SUMMIT ENGINEERING, INC. 1000 RIVERVIEW BLVD. SHELTON, CT 06484 TEL: 860-351-6531 FAX: 860-351-6531		
File: FL02101.SCH		Sheet: 1 of 1

TO MAIN SCHEMATIC

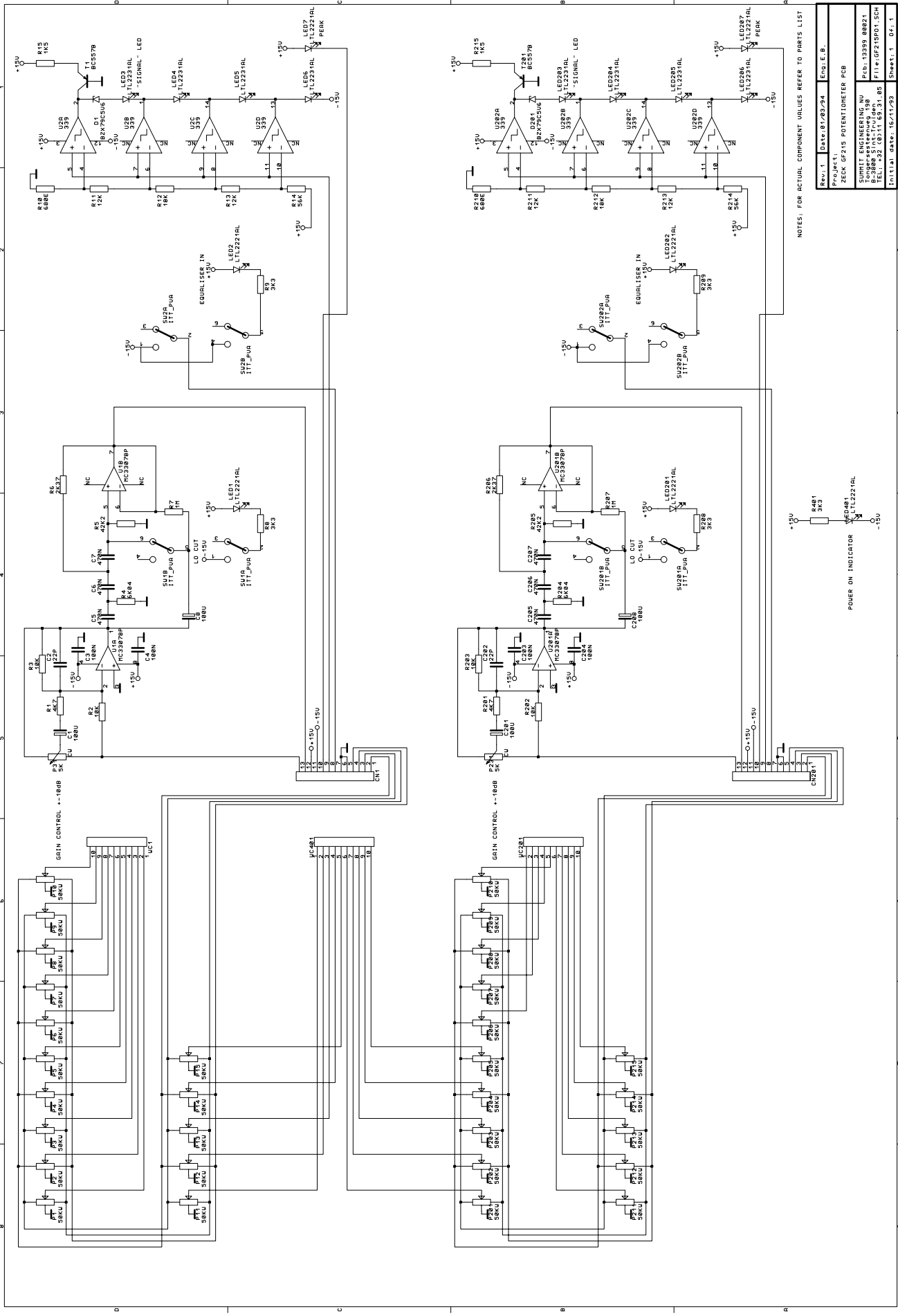
+15V <>> O <>> +15V
 GND <>> <>> GND
 -15V <>> O <>> -15V
 DRUGDRP1 <>> <>> DRUGDRP1
 DRUGDRP2 <>> <>> DRUGDRP2
 DRUGDRP3 <>> <>> DRUGDRP3

POTENTIOMETERS DRIVE CHANNELS A B



NOTES: FOR ACTUAL COMPONENT VALUES REFER TO PARTS LIST

Rev. 1	Date 08/02/94	Eng. E. B.
Project: ZECK GP215 GRAPHIC ED. FILTERS		
SUMMIT ENGINEERING, INC.		
1000 Independence Ave		
TEL: 920-631-6531, 85		
File: FL02101.SCH		
Initial date: 12/11/93		
Sheet: 1 of 1		



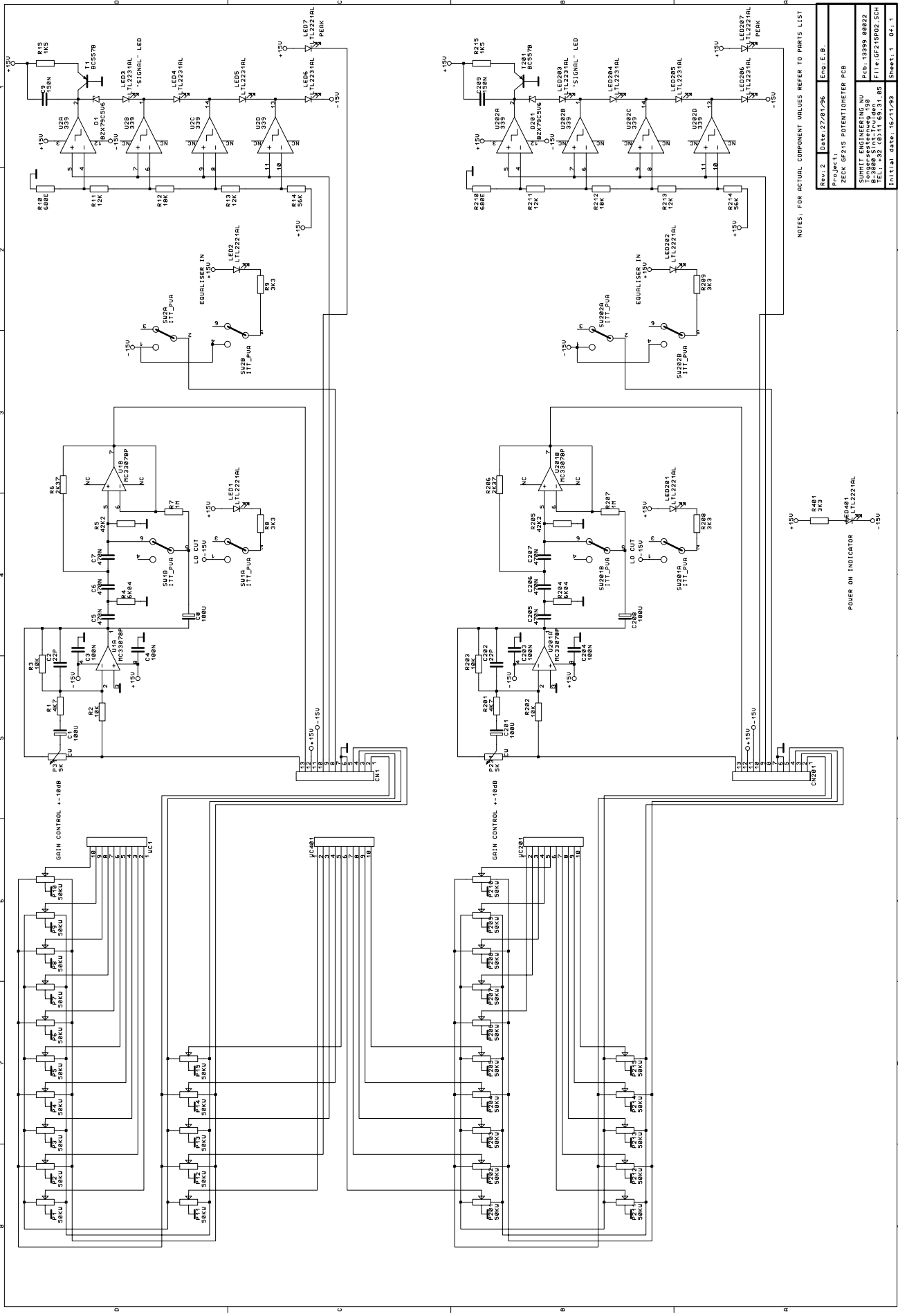
NOTES: FOR ACTUAL COMPONENT VALUES REFER TO PARTS LIST

Rev. 1	Date 8/18/24	Eng. E. B.
Project: ZECK GP215 POTENTIOMETER PCB		
SUMMIT ENGINEERING INC 1000 RIVERVIEW BLVD TEL: 920-651-6531 File: GP215POT1.SCH		
In: K:\data\16/11/23		Sheet: 1 of 1

POWER ON INDICATOR

PERK

Notes and additional project information.



NOTES: FOR ACTUAL COMPONENT VALUES REFER TO PARTS LIST

Rev. 2	Date: 27/01/96	Eng: E. B.
Project: ZECK GP215 POTENTIOMETER PCB		
SUMMIT ENGINEERING INC		
1000 Springdale Ave. 150		
TEL: 92 (611) 69 31 85 File: GP215P02.SCH		
In: K:\A\DATE: 16/11/93 Sheet: 1 Of: 1		

POWER ON INDICATOR

LED7
TL2221AL
PERK

LED6
TL2221AL
PERK

LED5
TL2221AL

LED4
TL2221AL

LED3
TL2221AL

LED2
TL2221AL

LED1
TL2221AL

U1A
MC3397BP

U1B
MC3397BP

U2A
U2B
U2C
U2D
393

U2A
U2B
U2C
U2D
393

U2A
U2B
U2C
U2D
393

U2A
U2B
U2C
U2D
393

P1
100K

R1
100K

R2
100K

R3
100K

R4
100K

R5
100K

R6
100K

R7
100K

R8
100K

R9
100K

R10
100K

R11
100K

R12
100K

R13
100K

R14
100K

C1
100N

C2
100N

C3
100N

C4
100N

C5
100N

C6
100N

C7
100N

C8
100N

C9
100N

C10
100N

C11
100N

C12
100N

C13
100N

C14
100N

C15
100N

C16
100N

C17
100N

C18
100N

C19
100N

C20
100N

C21
100N

C22
100N

C23
100N

C24
100N

C25
100N

C26
100N

C27
100N

C28
100N

C29
100N

C30
100N

C31
100N

C32
100N

C33
100N

C34
100N

C35
100N

C36
100N

C37
100N

C38
100N

C39
100N

C40
100N

C41
100N

C42
100N

C43
100N

C44
100N

C45
100N

C46
100N

C47
100N

C48
100N

C49
100N

C50
100N

C51
100N

C52
100N

C53
100N

C54
100N

C55
100N

C56
100N

C57
100N

C58
100N

C59
100N

C60
100N

C61
100N

C62
100N

C63
100N

C64
100N

C65
100N

C66
100N

C67
100N

C68
100N

C69
100N

C70
100N

C71
100N

C72
100N

C73
100N

C74
100N

C75
100N

C76
100N

C77
100N

C78
100N

C79
100N

C80
100N

C81
100N

C82
100N

C83
100N

C84
100N

C85
100N

C86
100N

C87
100N

C88
100N

C89
100N

C90
100N

C91
100N

C92
100N

C93
100N

C94
100N

C95
100N

C96
100N

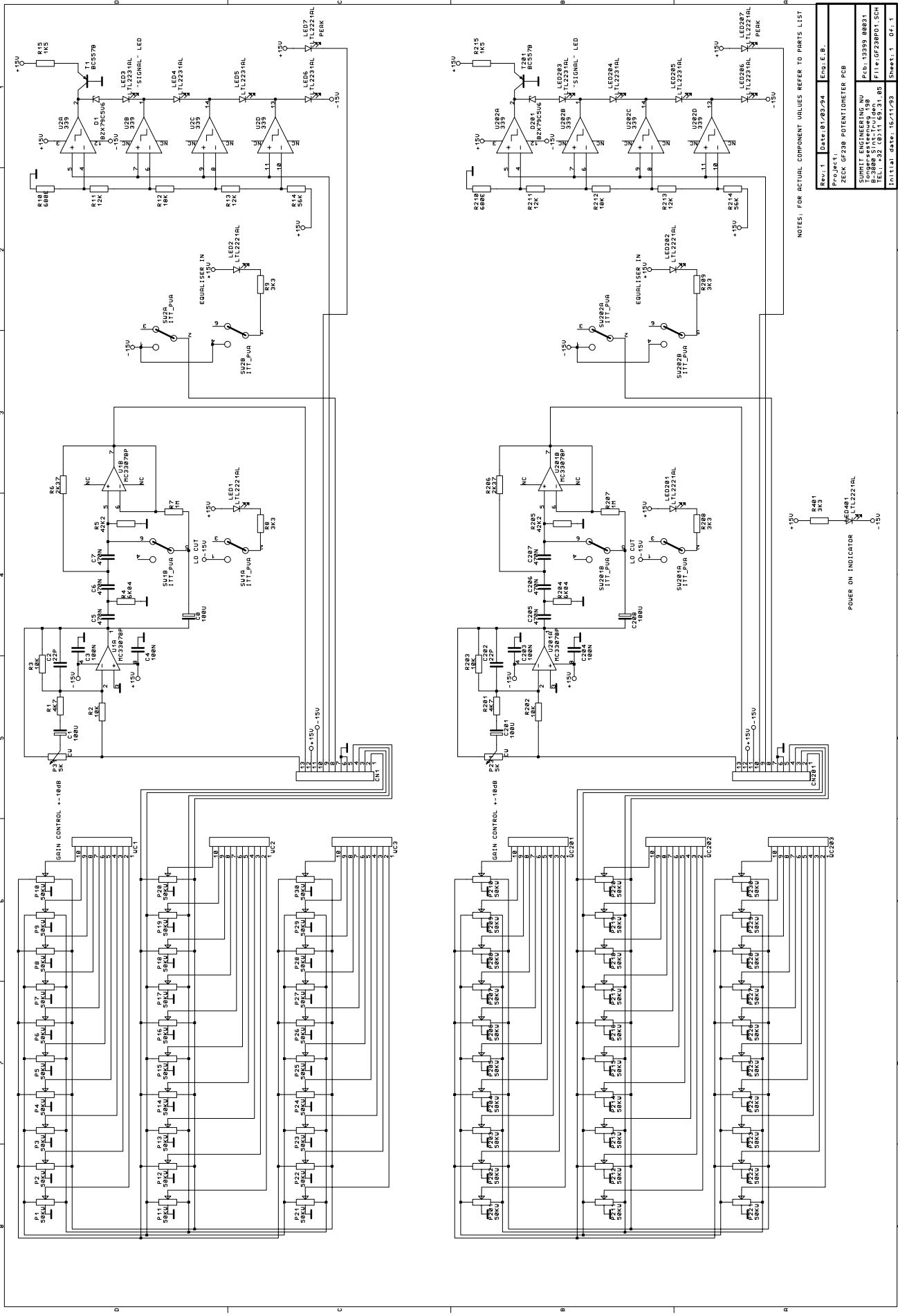
C97
100N

C98
100N

C99
100N

C100
100N

U1A
U1B
U2A
U2B
U2C
U2D



NOTES: FOR ACTUAL COMPONENT VALUES REFER TO PARTS LIST

Rev. 1	Date: 8/18/2014	Eng: E. B.
Project: ZECK GF230 POTENTIOMETER PCB		
SUMMIT ENGINEERING, INC.		
1000 Independence Ave		
TEL: 920-651-6531, 85		
File: GF230POT.SCH		
Initial date: 16/11/2013		
Sheet: 1 of 1		

POWER ON INDICATOR

LED401
TL2224HL

R401 3K3

LED281 TL2224HL

LED282 TL2224HL

LED283 TL2224HL

LED284 TL2224HL

LED285 TL2224HL

LED286 TL2224HL

LED287 TL2224HL

LED288 TL2224HL

LED289 TL2224HL

LED290 TL2224HL

LED291 TL2224HL

LED292 TL2224HL

LED293 TL2224HL

LED294 TL2224HL

LED295 TL2224HL

LED296 TL2224HL

LED297 TL2224HL

LED298 TL2224HL

LED299 TL2224HL

LED300 TL2224HL

LED301 TL2224HL

LED302 TL2224HL

LED303 TL2224HL

LED304 TL2224HL

LED305 TL2224HL

LED306 TL2224HL

LED307 TL2224HL

LED308 TL2224HL

LED309 TL2224HL

LED310 TL2224HL

LED311 TL2224HL

LED312 TL2224HL

LED313 TL2224HL

LED314 TL2224HL

LED315 TL2224HL

LED316 TL2224HL

LED317 TL2224HL

LED318 TL2224HL

LED319 TL2224HL

LED320 TL2224HL

LED321 TL2224HL

LED322 TL2224HL

LED323 TL2224HL

LED324 TL2224HL

LED325 TL2224HL

LED326 TL2224HL

LED327 TL2224HL

LED328 TL2224HL

LED329 TL2224HL

LED330 TL2224HL

LED331 TL2224HL

LED332 TL2224HL

LED333 TL2224HL

LED334 TL2224HL

LED335 TL2224HL

LED336 TL2224HL

LED337 TL2224HL

LED338 TL2224HL

LED339 TL2224HL

LED340 TL2224HL

LED341 TL2224HL

LED342 TL2224HL

LED343 TL2224HL

LED344 TL2224HL

LED345 TL2224HL

LED346 TL2224HL

LED347 TL2224HL

LED348 TL2224HL

LED349 TL2224HL

LED350 TL2224HL

LED351 TL2224HL

LED352 TL2224HL

LED353 TL2224HL

LED354 TL2224HL

LED355 TL2224HL

LED356 TL2224HL

LED357 TL2224HL

LED358 TL2224HL

LED359 TL2224HL

LED360 TL2224HL

LED361 TL2224HL

LED362 TL2224HL

LED363 TL2224HL

LED364 TL2224HL

LED365 TL2224HL

LED366 TL2224HL

LED367 TL2224HL

LED368 TL2224HL

LED369 TL2224HL

LED370 TL2224HL

LED371 TL2224HL

LED372 TL2224HL

LED373 TL2224HL

LED374 TL2224HL

LED375 TL2224HL

LED376 TL2224HL

LED377 TL2224HL

LED378 TL2224HL

LED379 TL2224HL

LED380 TL2224HL

LED381 TL2224HL

LED382 TL2224HL

LED383 TL2224HL

LED384 TL2224HL

LED385 TL2224HL

LED386 TL2224HL

LED387 TL2224HL

LED388 TL2224HL

LED389 TL2224HL

LED390 TL2224HL

LED391 TL2224HL

LED392 TL2224HL

LED393 TL2224HL

LED394 TL2224HL

LED395 TL2224HL

LED396 TL2224HL

LED397 TL2224HL

LED398 TL2224HL

LED399 TL2224HL

LED400 TL2224HL

GRAIN CONTROL --18dB

U1 UC1

U2 UC2

U3 UC3

U4 UC4

U5 UC5

U6 UC6

U7 UC7

U8 UC8

U9 UC9

U10 UC10

U11 UC11

U12 UC12

U13 UC13

U14 UC14

U15 UC15

U16 UC16

U17 UC17

U18 UC18

U19 UC19

U20 UC20

U21 UC21

U22 UC22

U23 UC23

U24 UC24

U25 UC25

U26 UC26

U27 UC27

U28 UC28

U29 UC29

U30 UC30

U31 UC31

U32 UC32

U33 UC33

U34 UC34

U35 UC35

U36 UC36

U37 UC37

U38 UC38

U39 UC39

U40 UC40

U41 UC41

U42 UC42

U43 UC43

U44 UC44

U45 UC45

U46 UC46

U47 UC47

U48 UC48

U49 UC49

U50 UC50

U51 UC51

U52 UC52

U53 UC53

U54 UC54

U55 UC55

U56 UC56

U57 UC57

U58 UC58

U59 UC59

U60 UC60

U61 UC61

U62 UC62

U63 UC63

U64 UC64

U65 UC65

U66 UC66

U67 UC67

U68 UC68

U69 UC69

U70 UC70

U71 UC71

U72 UC72

U73 UC73

U74 UC74

U75 UC75

U76 UC76

U77 UC77

U78 UC78

U79 UC79

U80 UC80

U81 UC81

U82 UC82

U83 UC83

U84 UC84

U85 UC85

U86 UC86

U87 UC87

U88 UC88

U89 UC89

U90 UC90

U91 UC91

U92 UC92

U93 UC93

U94 UC94

U95 UC95

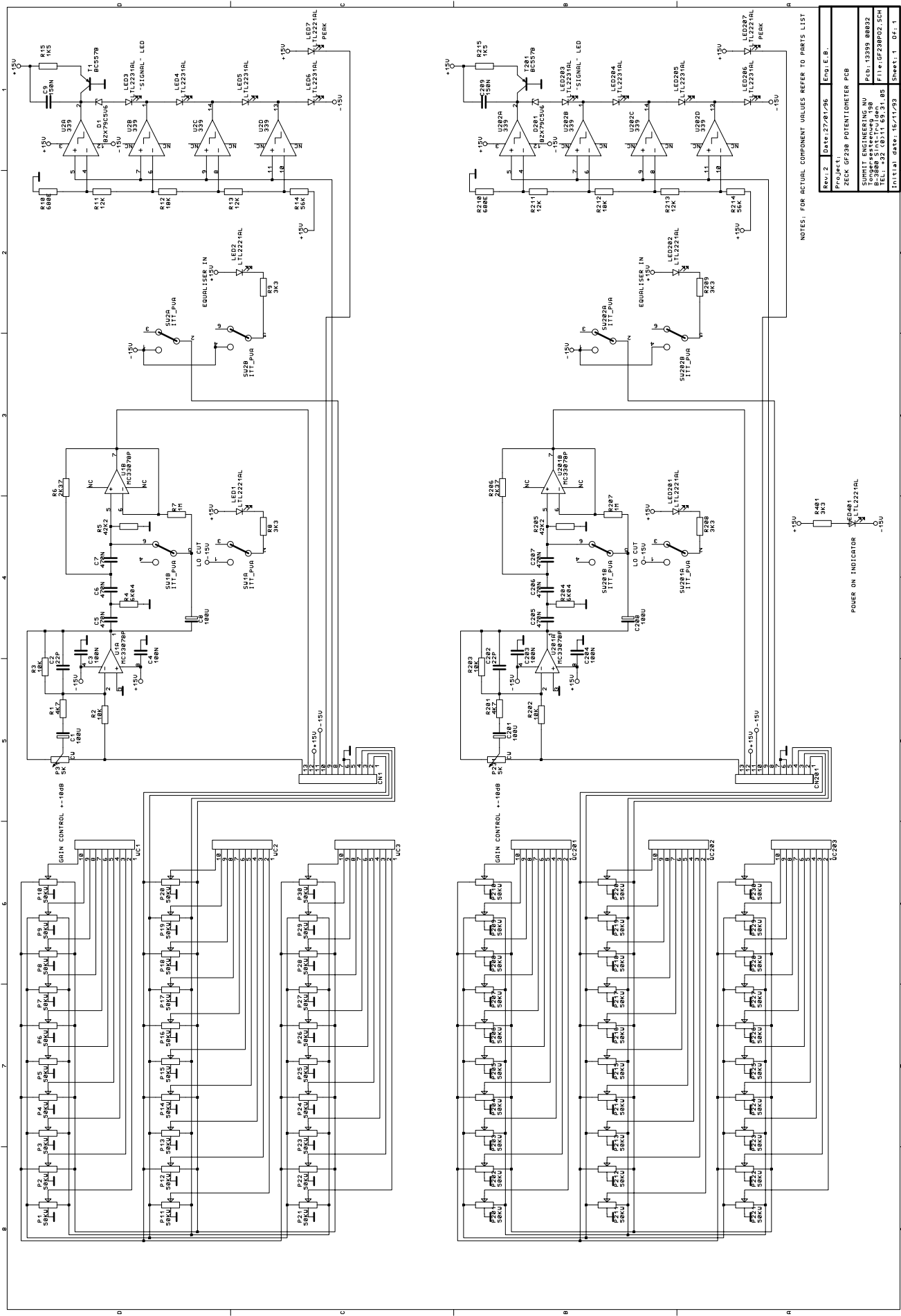
U96 UC96

U97 UC97

U98 UC98

U99 UC99

U100 UC100



NOTES: FOR ACTUAL COMPONENT VALUES REFER TO PARTS LIST

Rev. 2	Date: 27/01/95	Eng: E. B.
Project: ZECK GF230 POTENTIOMETER PCB		
SUMMIT ENGINEERING INC		
1000 Springdale Ave. 150		
TEL: (616) 653-185		
File: GF230POT.SCH		
Initial date: 16/11/93		
Sheet: 1 of 1		

POWER ON INDICATOR

LED7
TL2221AL

PERK

UC281

UC282

UC283

UC284

UC285

UC286

UC287

UC288

UC289

UC290

UC291

UC292

UC293

UC294

UC295

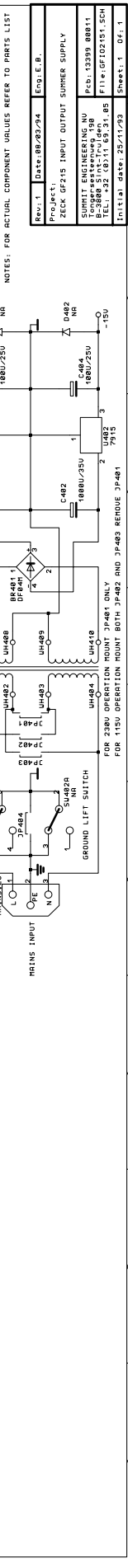
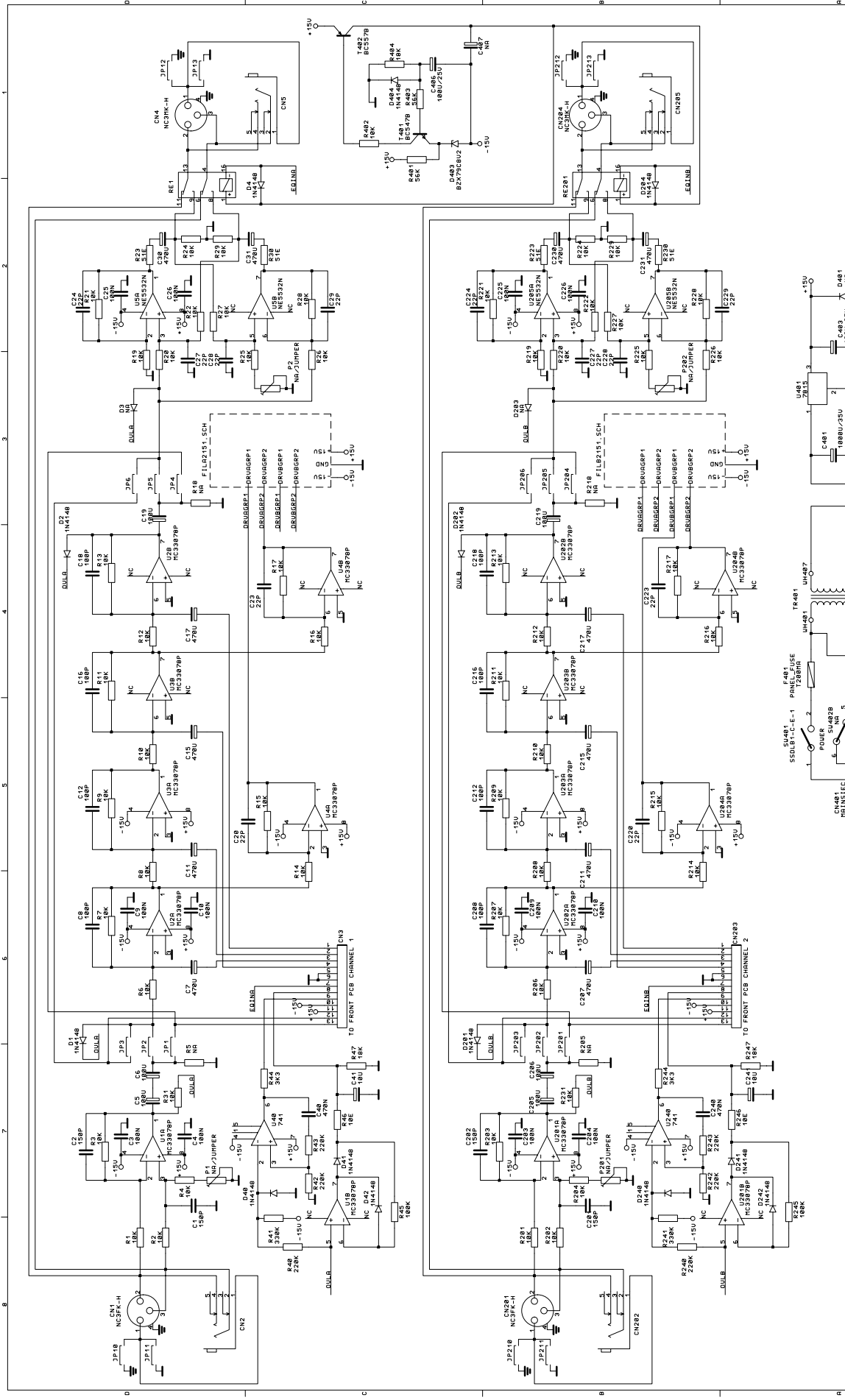
UC296

UC297

UC298

UC299

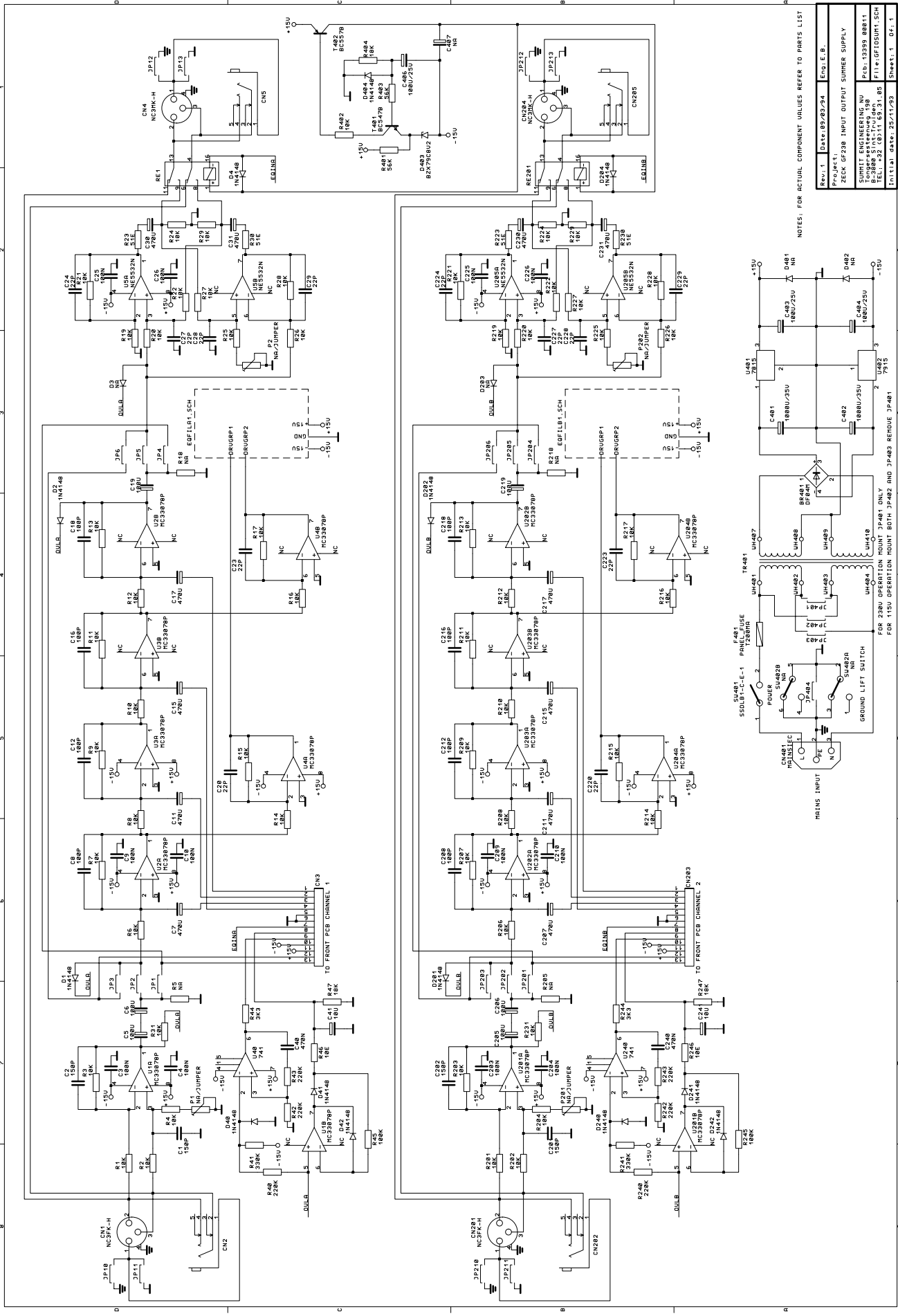
UC300



NOTES: FOR ACTUAL COMPONENT VALUES REFER TO PARTS LIST

Rev. 1	Date 08/02/94	Eng. E. B.
Project: ZECK GP215 INPUT OUTPUT SUMMER SUPPLY		
SUMMIT ENGINEERING, INC.		
1000 Independence Ave. SW		
Tacoma, WA 98409		
TEL: (206) 835-3185		
File: GP215.DWG		
Initial Date: 25/11/93		
Sheet: 1 of 1		

FOR 230V OPERATION MOUNT JP481 ONLY
FOR 150V OPERATION MOUNT BOTH JP482 AND JP483 REMOVE JP481

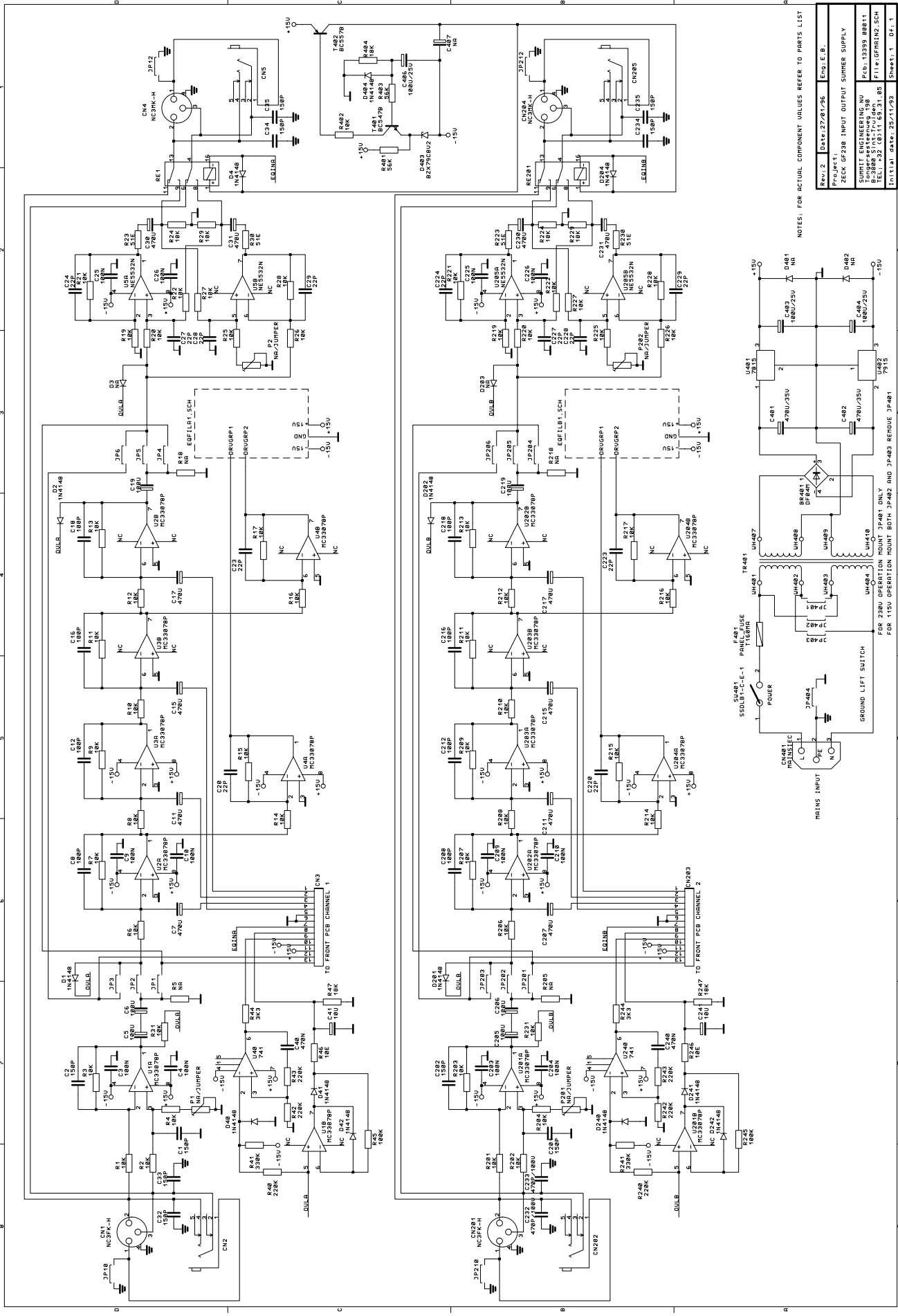


Rev. 1	Date: 09/02/94	Eng: E. B.
Project:		
ZECK GF230 INPUT OUTPUT SUMNER SUPPLY		
SUMMIT ENGINEERING, INC.		
Tempe, Arizona 85281		
TEL: (602) 948-3185		
File: GF230.DWG, SCH		
Initial Date: 25/11/93		
Sheet: 1 of 1		

NOTES: FOR ACTUAL COMPONENT VALUES REFER TO PARTS LIST

FOR 230V OPERATION MOUNT JP481 ONLY

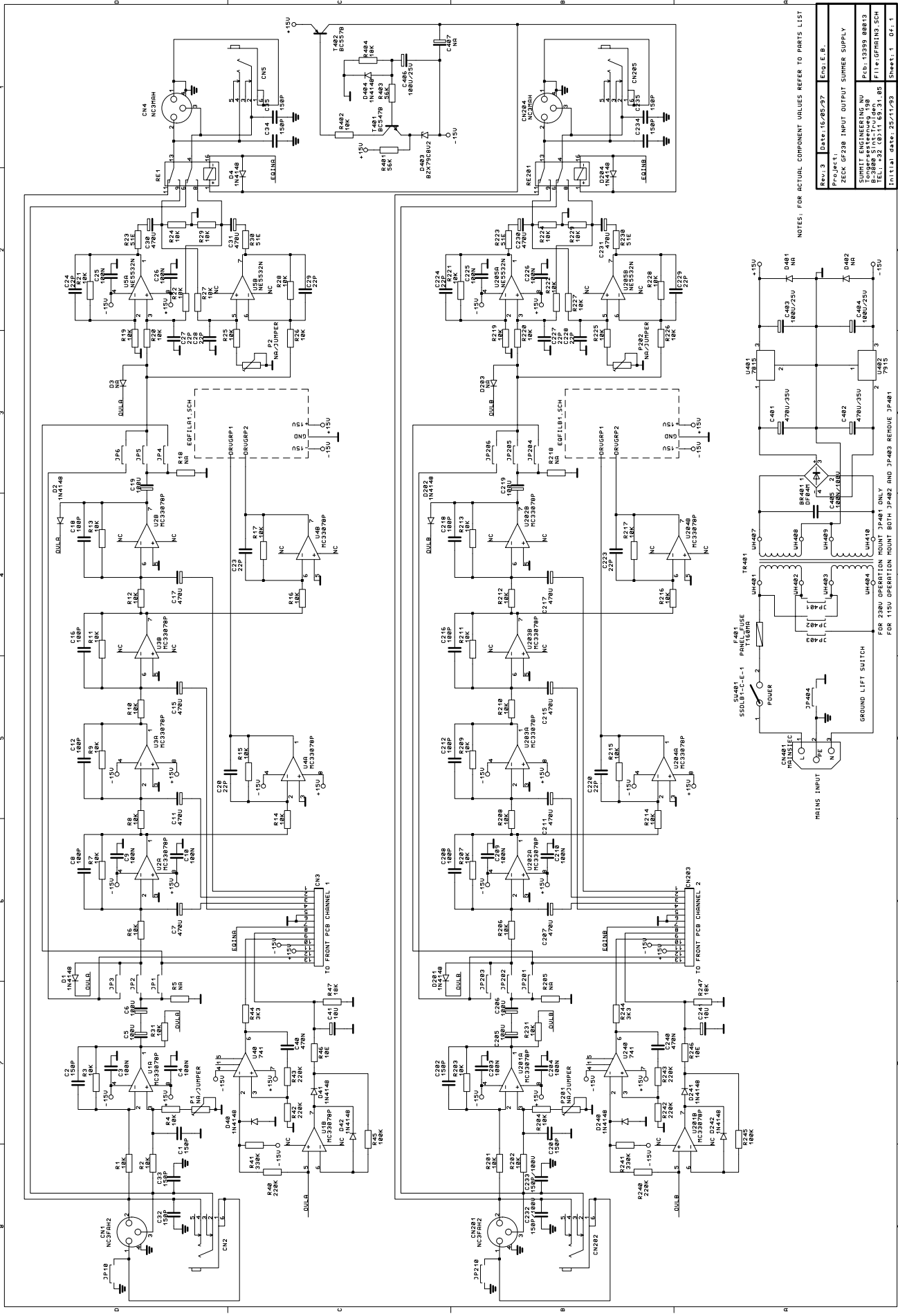
FOR 115V OPERATION MOUNT BOTH JP482 AND JP483 REMOVE JP481



Rev. 2	Date: 27/01/96	Eng: E. B.
Project: ZECK GF230 INPUT OUTPUT SUMNER SUPPLY		
SUMMIT ENGINEERING INC 1000 Greenfield Ave. 150 Tempe, AZ 85281 TEL: 480-961-6931, 85 FAX: 480-961-6931		
Initial Date: 25/11/93		Sheet: 1 of 1

NOTES: FOR ACTUAL COMPONENT VALUES REFER TO PARTS LIST

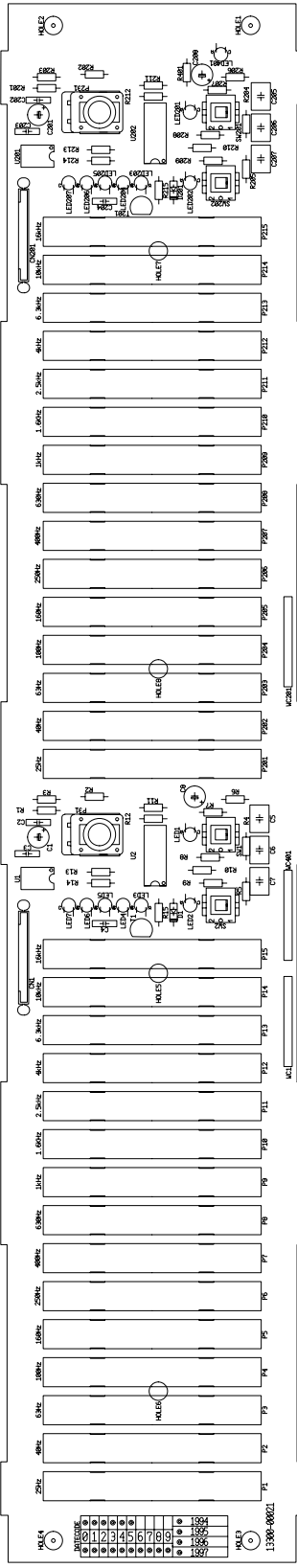
FOR 230V OPERATION MOUNT JP481 ONLY
FOR 115V OPERATION MOUNT BOTH JP482 AND JP483 REMOVE JP481

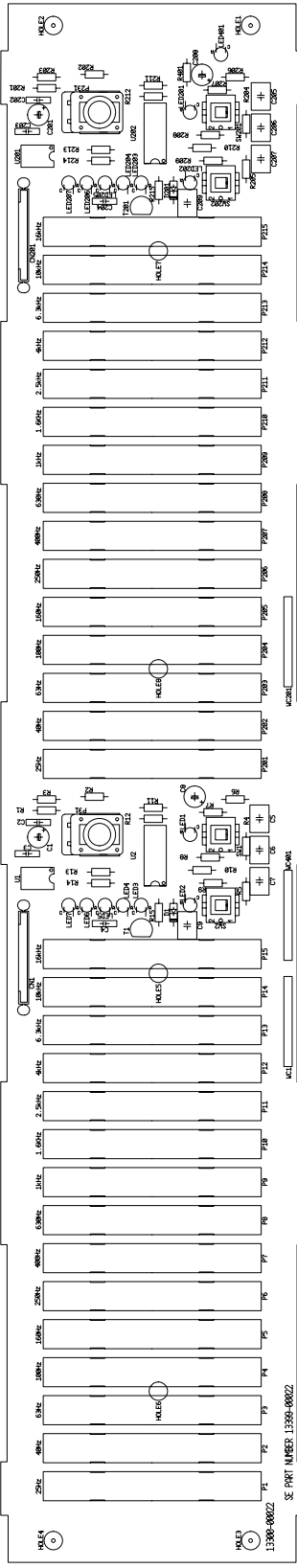


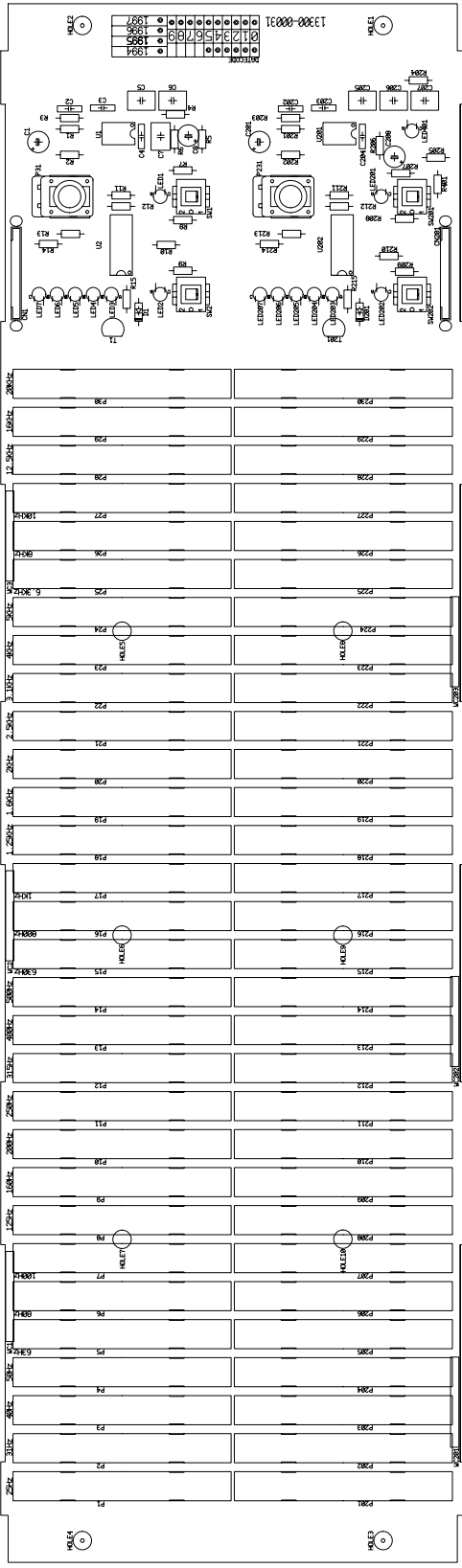
Rev. 3	Date: 16/05/97	Eng: E. B.
Project: ZECK GF230 INPUT OUTPUT SUMNER SUPPLY		
SUMMIT ENGINEERING INC 10000 Springdale Ave. 150 Tomball, TX 77480 TEL: 281-631-6331, 65-31-85 FAX: 281-631-6331		
Initial Date: 25/11/93 Sheet: 1 of 1		

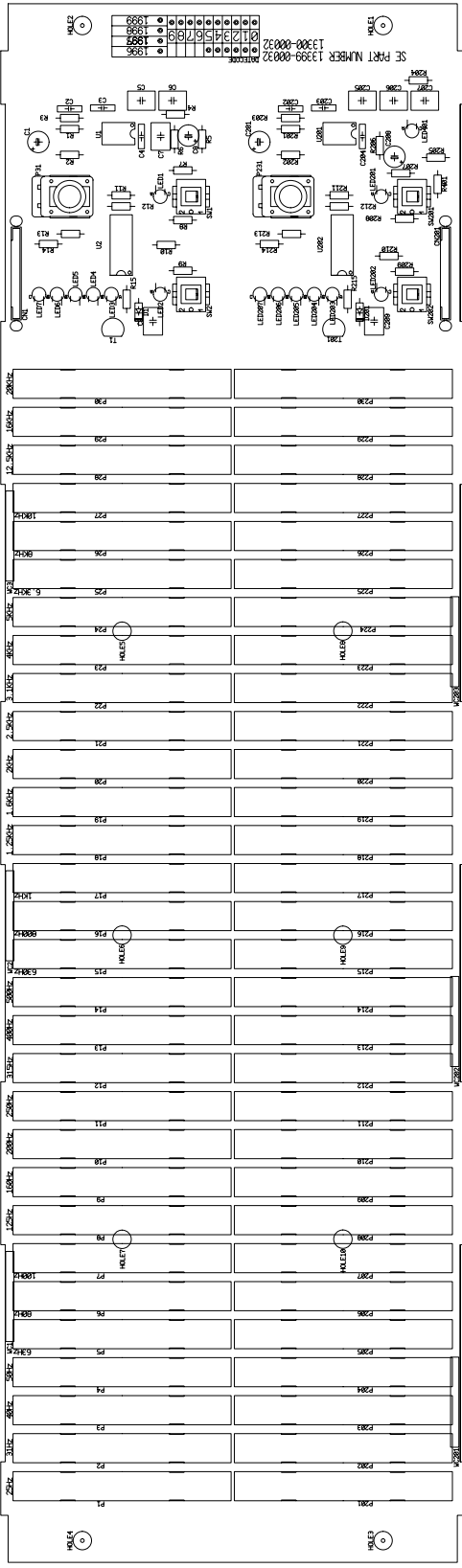
NOTES: FOR ACTUAL COMPONENT VALUES REFER TO PARTS LIST

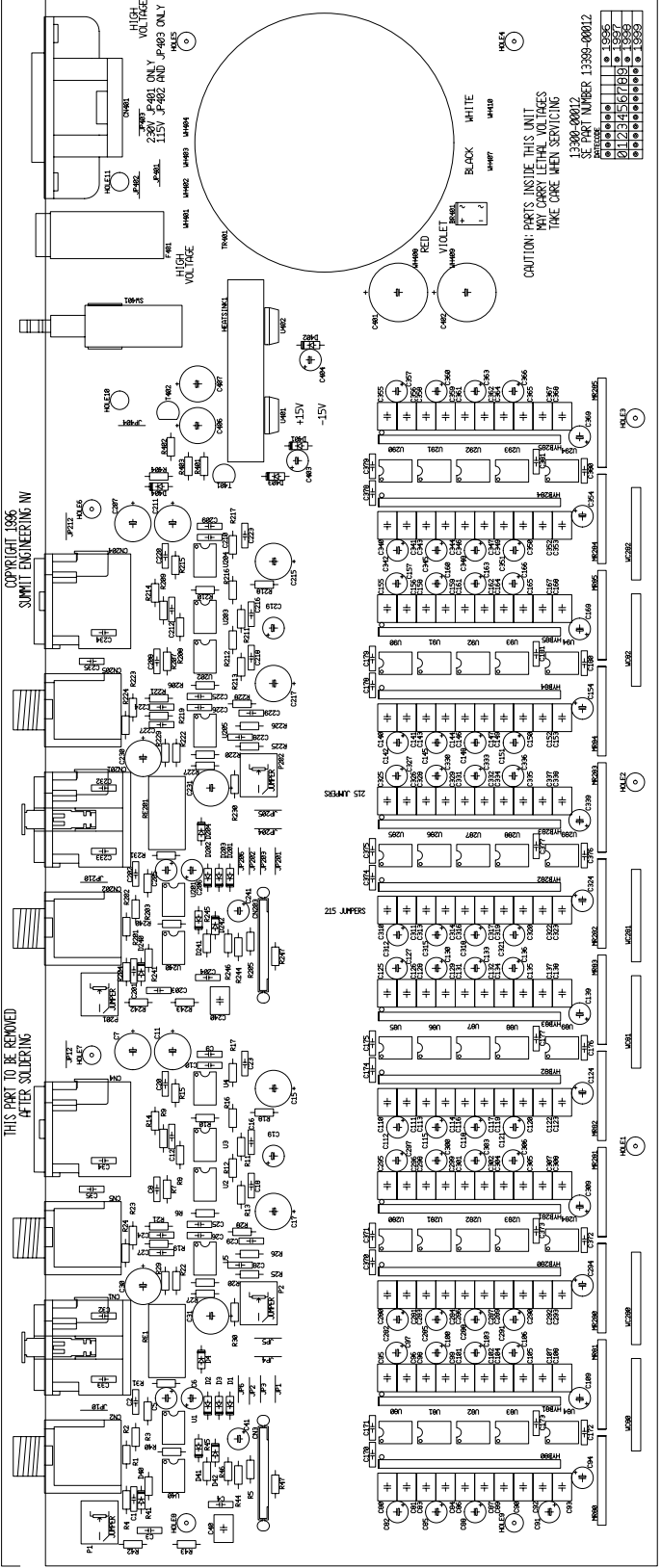
FOR 230V OPERATION MOUNT JP481 ONLY
FOR 115V OPERATION MOUNT BOTH JP482 AND JP483 REMOVE JP481





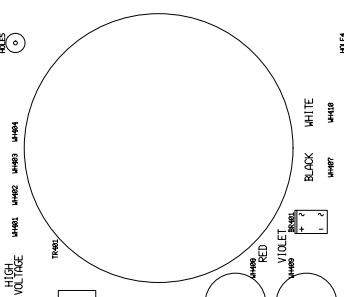






THIS PART TO BE REMOVED
AFTER SOLDERING

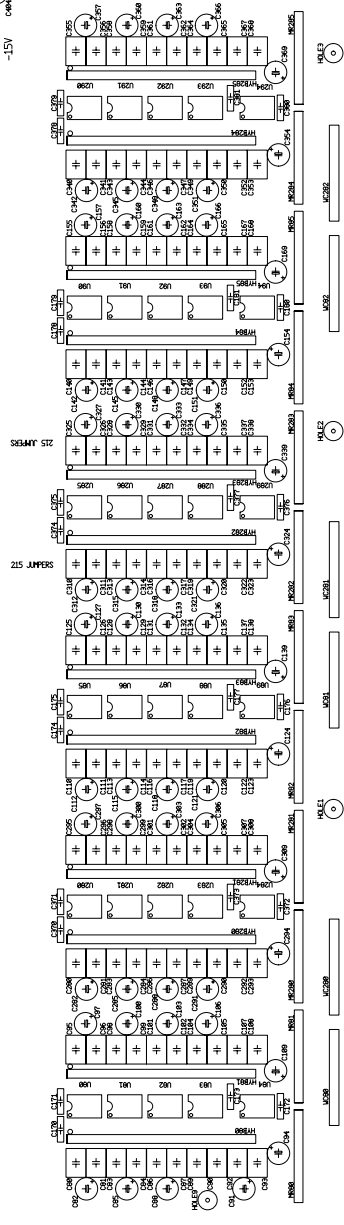
HIGH VOLTAGE
W401 W402 W403 W404 W405 W406
230V 115V 0V
HIGH VOLTAGE ONLY
P-401 ONLY
P-402 AND P-403 ONLY



CAUTION: PARTS INSIDE THIS UNIT
MAY CARRY LETHAL VOLTAGES
TAKE CARE WHEN SERVICING

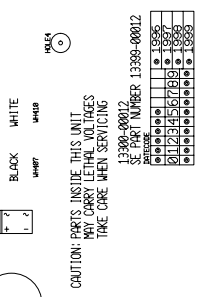
13309-00012
SERIAL NUMBER 13309-00012
PART NUMBER 13309-00012
13309-00013
13309-00014
13309-00015
13309-00016
13309-00017
13309-00018
13309-00019
13309-00020

BLACK WHITE
RED VIOLET
WHITE



THIS PART TO BE REMOVED
AFTER SOLDERING

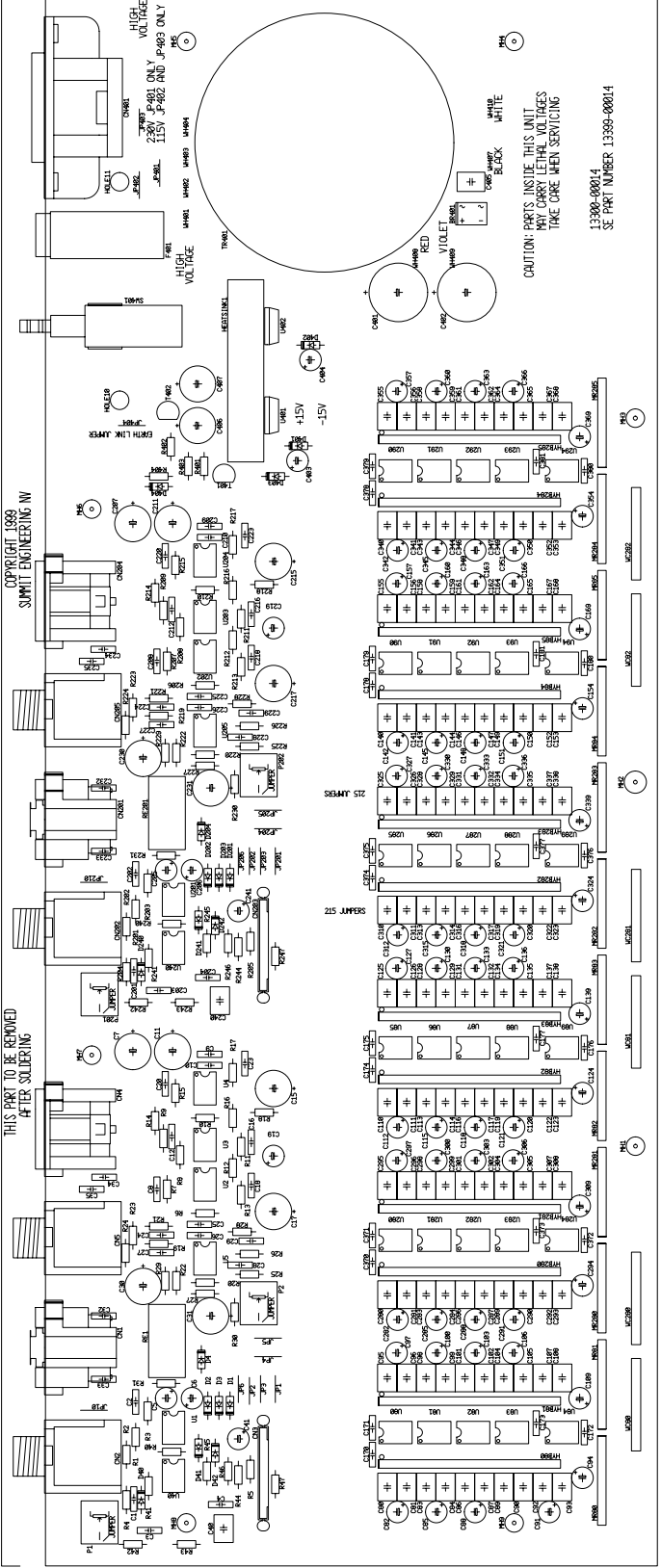
HIGH VOLTAGE
W401 W402 W403 W404 W405 W406
230V 115V 0V
HIGH VOLTAGE ONLY
P-401 ONLY
P-402 AND P-403 ONLY



CAUTION: PARTS INSIDE THIS UNIT
MAY CARRY LETHAL VOLTAGES
TAKE CARE WHEN SERVICING

13309-00012
SERIAL NUMBER 13309-00012
PART NUMBER 13309-00012
13309-00013
13309-00014
13309-00015
13309-00016
13309-00017
13309-00018
13309-00019
13309-00020

BLACK WHITE
RED VIOLET
WHITE



VERSION CHANGED TO #4
SOLDER RESISTS AND HOLES
FOR GROUNDING CHANGED ONLY