



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

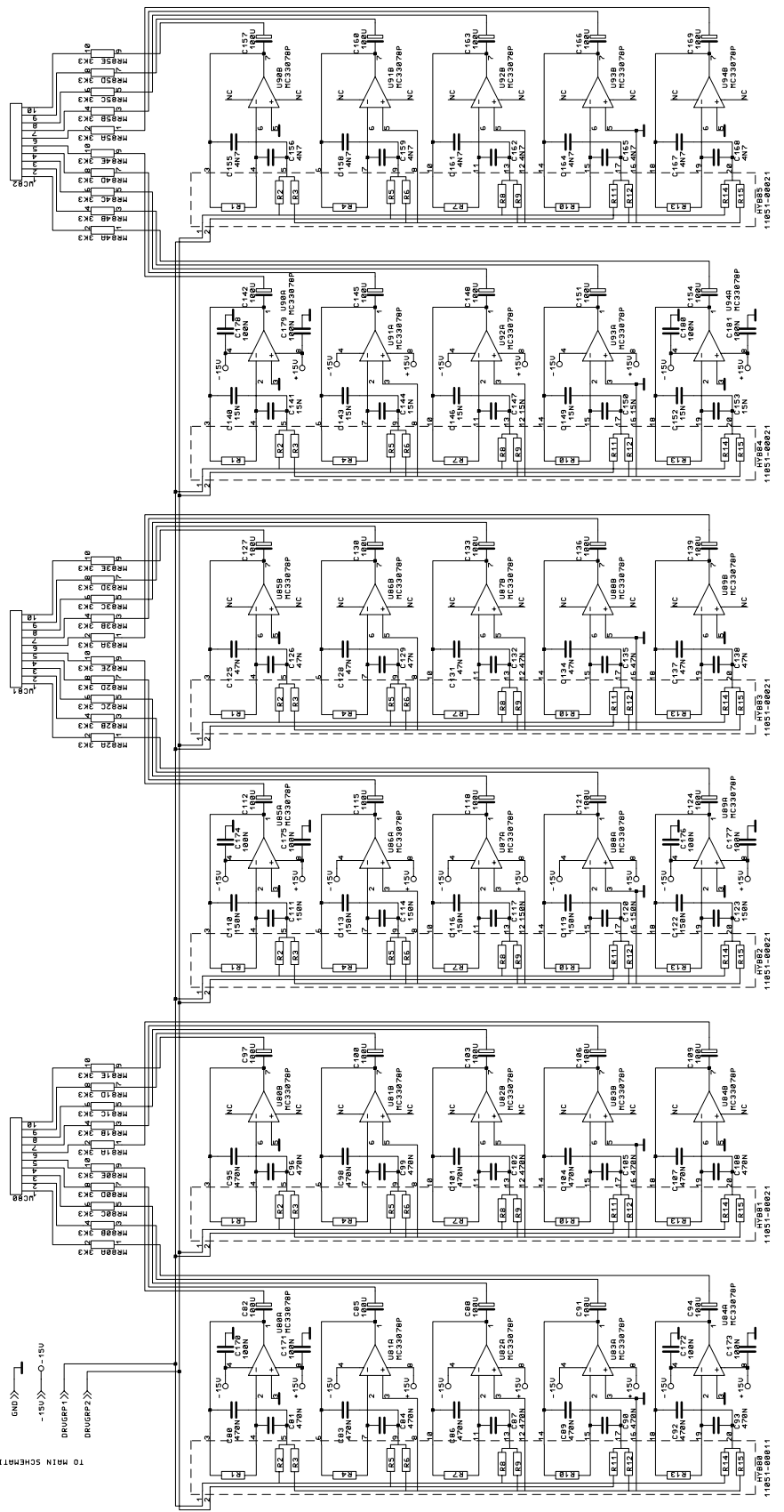
This manual has been provided for the use of authorized service personnel. It has been assumed that basic service procedures inherent to the industry, and more specifically Zeck Products, are already known and understood by the users.

- 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.
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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.

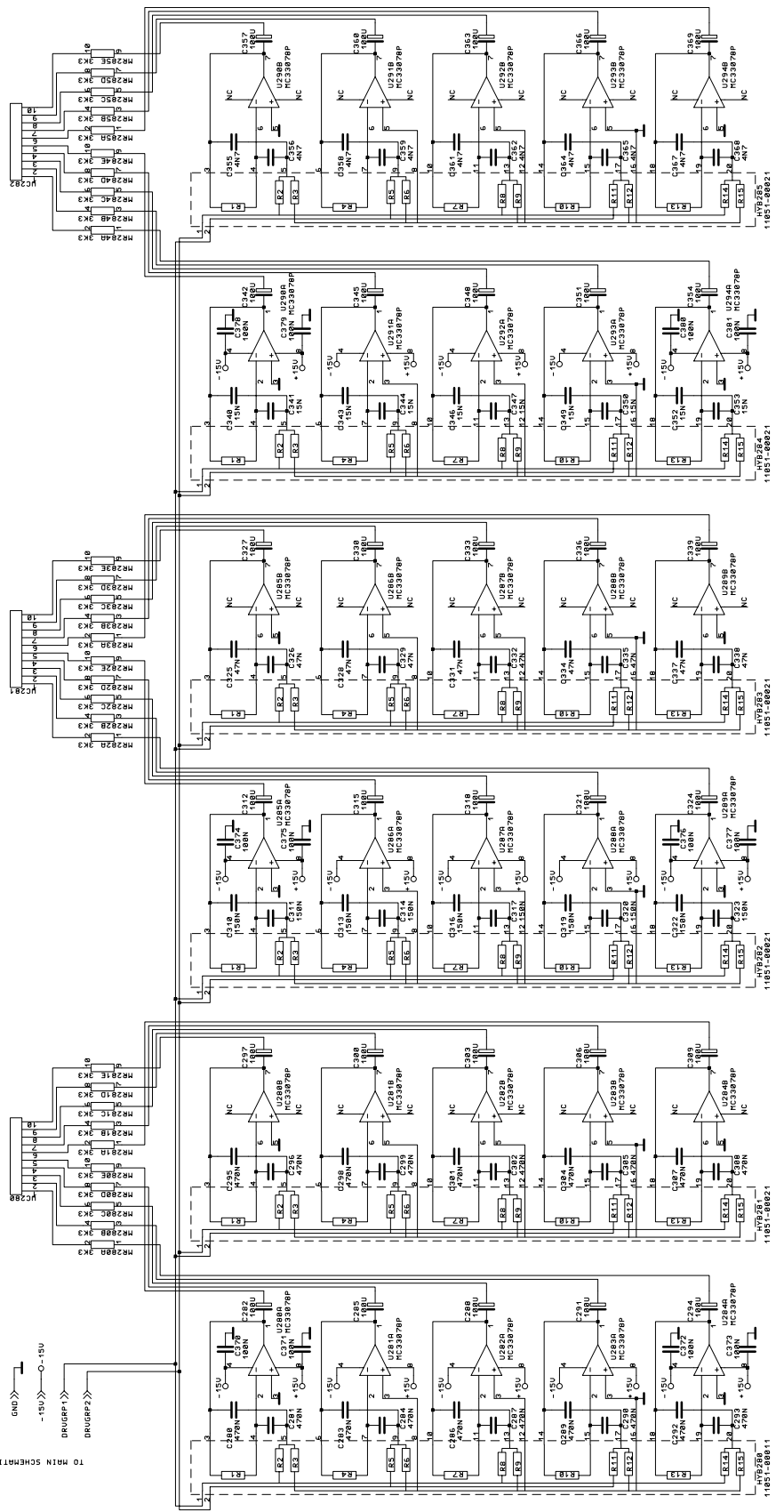
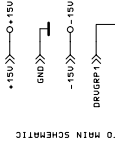
- Warnung:** Die Nichtbeachtung von Service- und Sicherheits-Richtlinien kann bei Arbeit an diesem Gerät zu körperlichen Schäden, Zerstörung wertvoller Bauteile und zum Ausfall des Gerätes führen. Aus diesem Grunde empfehlen wir dem Benutzer dringend, alle anfallenden Service-Arbeiten ausschließlich 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
 DRUGRP+ >>> +15V
 DRUGRP- >>> -15V
 GND >>> GND



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 SUNNYVALE, CA 94086 TEL: (415) 551-6531 FAX: (415) 551-6531		
Incl. in date: 12/11/93		Sheet: 1 of 1



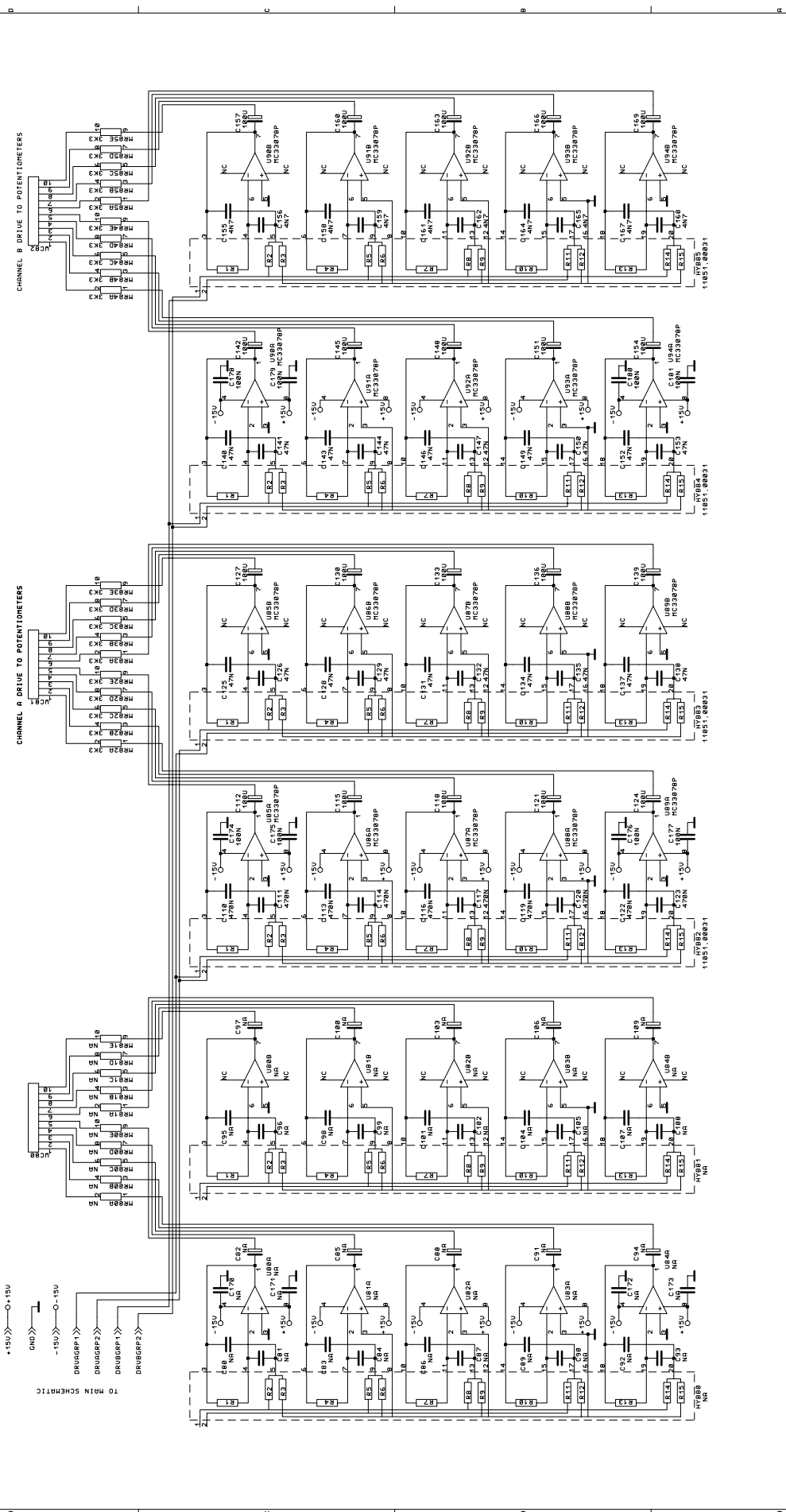
NOTES: FOR ACTUAL COMPONENT VALUES REFER TO PARTS LIST

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 77480 TEL: 281-261-8531 FAX: 281-261-8532 File: E01FIL1.SCH		
Initial date: 12/11/93		Sheet: 1 of 1

CHANNEL B DRIVE TO POTENTIOMETERS

CHANNEL A DRIVE TO POTENTIOMETERS

TO MAIN SCHEMATIC



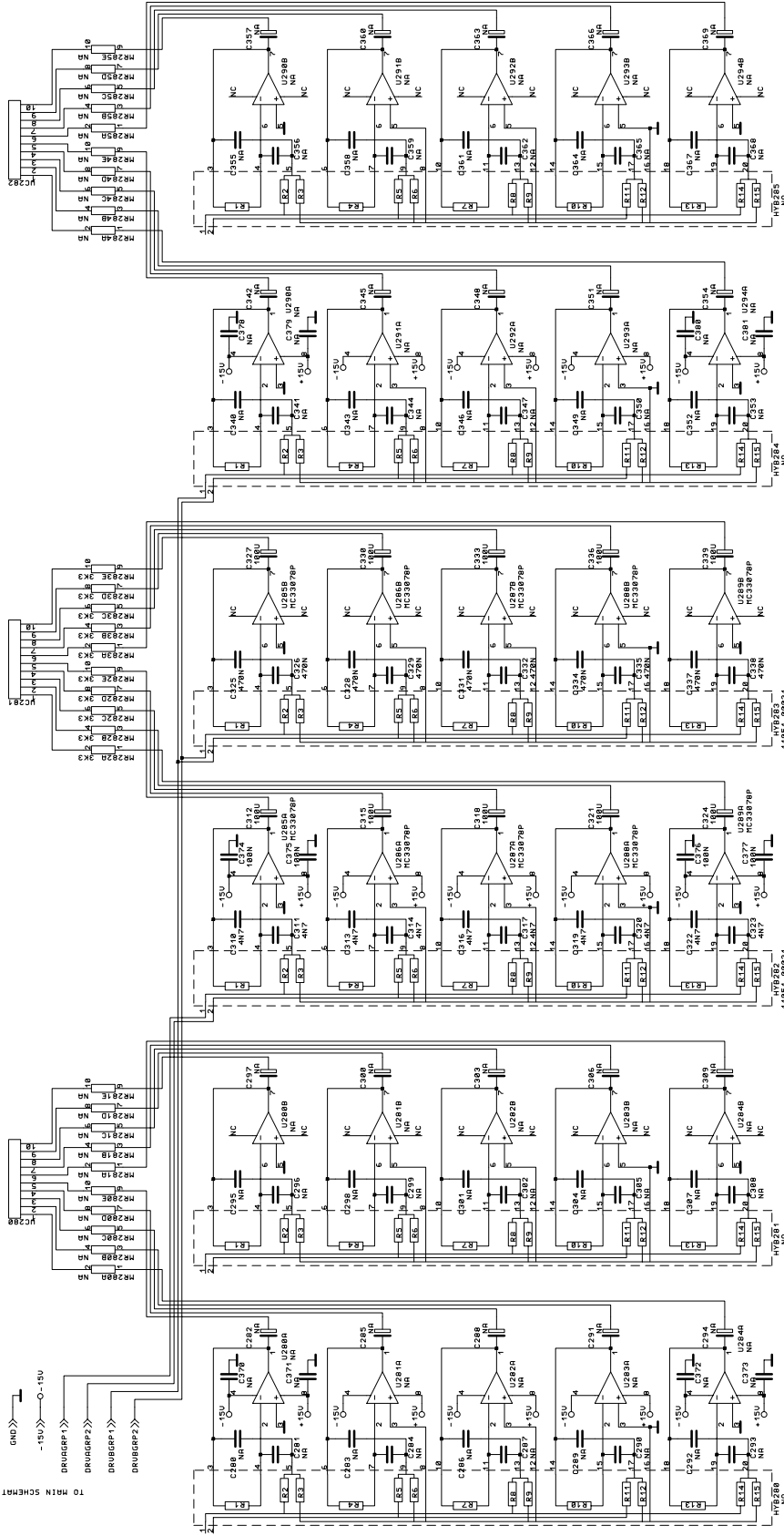
NOTES: FOR ACTUAL COMPONENT VALUES REFER TO PARTS LIST

Rev. 1	Date 08/02/94	Eng. E. B.
Project: ZECK GP215 GRAPHIC ED. FILTERS		
SUMMIT ENGINEERING, INC. 1000 RIVERVIEW BLVD ANN ARBOR, MI 48106-1500 TEL: 313.963.8531 FAX: 313.963.8532 E-MAIL: GARY@SEI.COM		
Sheet: 1		Of: 1

TO MAIN SCHEMATIC

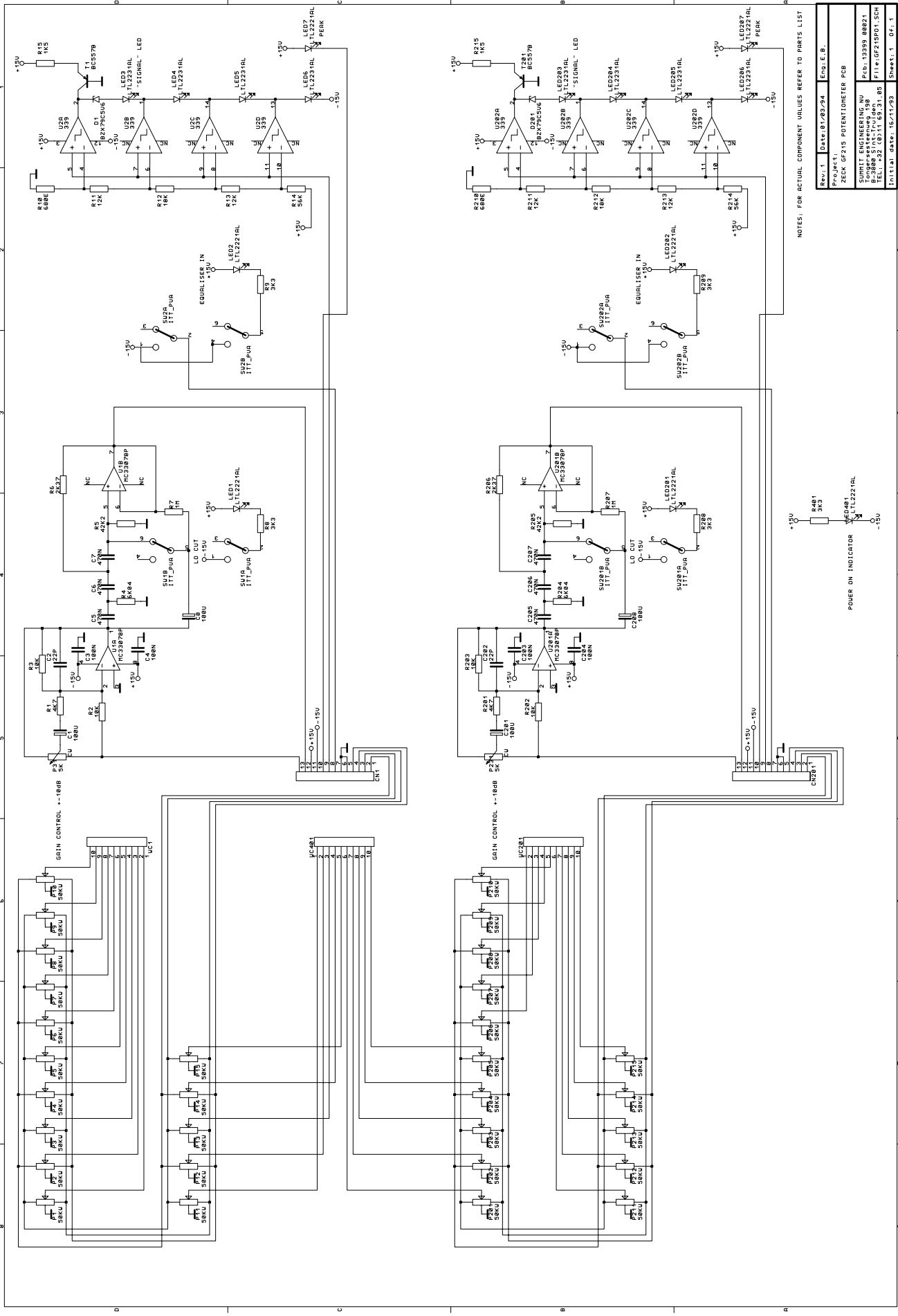
+15V <>> O <>> +15V
 GND <>> <>> GND
 -15V <>> O <>> -15V
 DRUGGRP1 <>> <>> DRUGGRP1
 DRUGGRP2 <>> <>> DRUGGRP2

POTENTIOMETERS DRIVE CHANNELS A B



NOTES: FOR ACTUAL COMPONENT VALUES REFER TO PARTS LIST

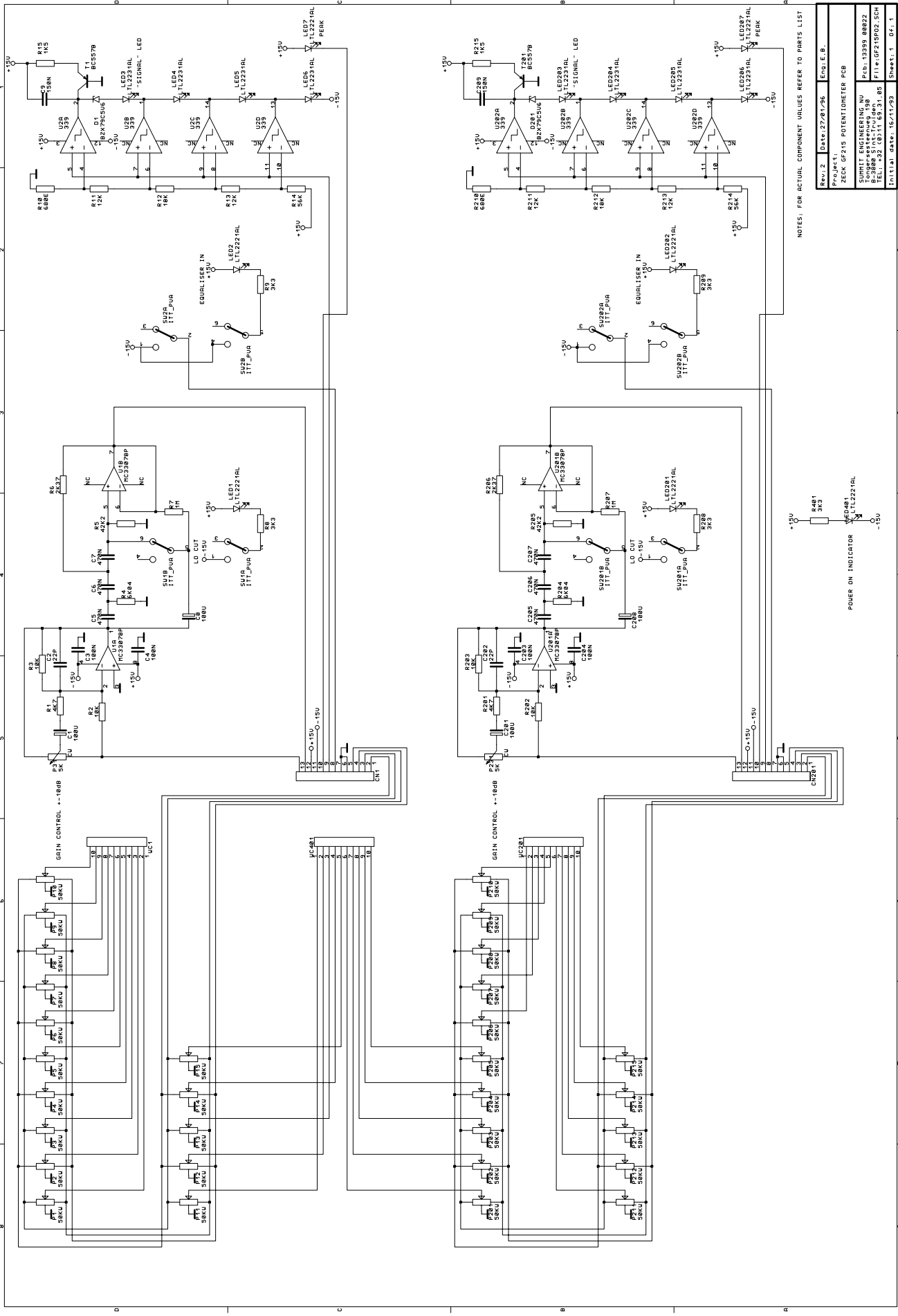
Rev. 1	Date 08/02/94	Eng. E. B.
Project: ZECK GF215 GRAPHIC ED. FILTERS		
SUMMIT ENGINEERING, INC.		
1000 Independence Ave		
TEL: 920-631-6531		
File: FL02151.SCH		
In: KLM Date: 12/11/93		
Sheet: 1 Of: 1		



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 10000 RIVERVIEW BLVD TEL: 920-651-6531 File: GP215POT1.SCH		
In: K:\data\16\11\23		Sheet: 1 of 1

POWER ON INDICATOR



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.I.M. date: 16/11/93 Sheet: 1 Of: 1		

POWER ON INDICATOR

LED8

R481 3K3

U1 741

U28 741

U29 741

U28A 741

U29A 741

U28B 741

U29B 741

LED1 TL2221AL

LED2 TL2221AL

LED3 TL2221AL

LED4 TL2221AL

LED5 TL2221AL

LED6 TL2221AL

LED7 TL2221AL

LED8 TL2221AL

R1 5K

R2 10K

R3 10K

R4 10K

R5 42K

R6 25K

R7 10K

R8 10K

R9 10K

R10 10K

R11 12K

R12 18K

R13 12K

R14 56K

R28 3K3

R29 3K3

R481 3K3

C1 100N

C2 100N

C3 100N

C4 100N

C5 100N

C6 100N

C7 100N

C28 100N

C29 100N

U1 741

U28 741

U29 741

U28A 741

U29A 741

U28B 741

U29B 741

SU28 1T1_PWR

SU29 1T1_PWR

LED1 TL2221AL

LED2 TL2221AL

LED3 TL2221AL

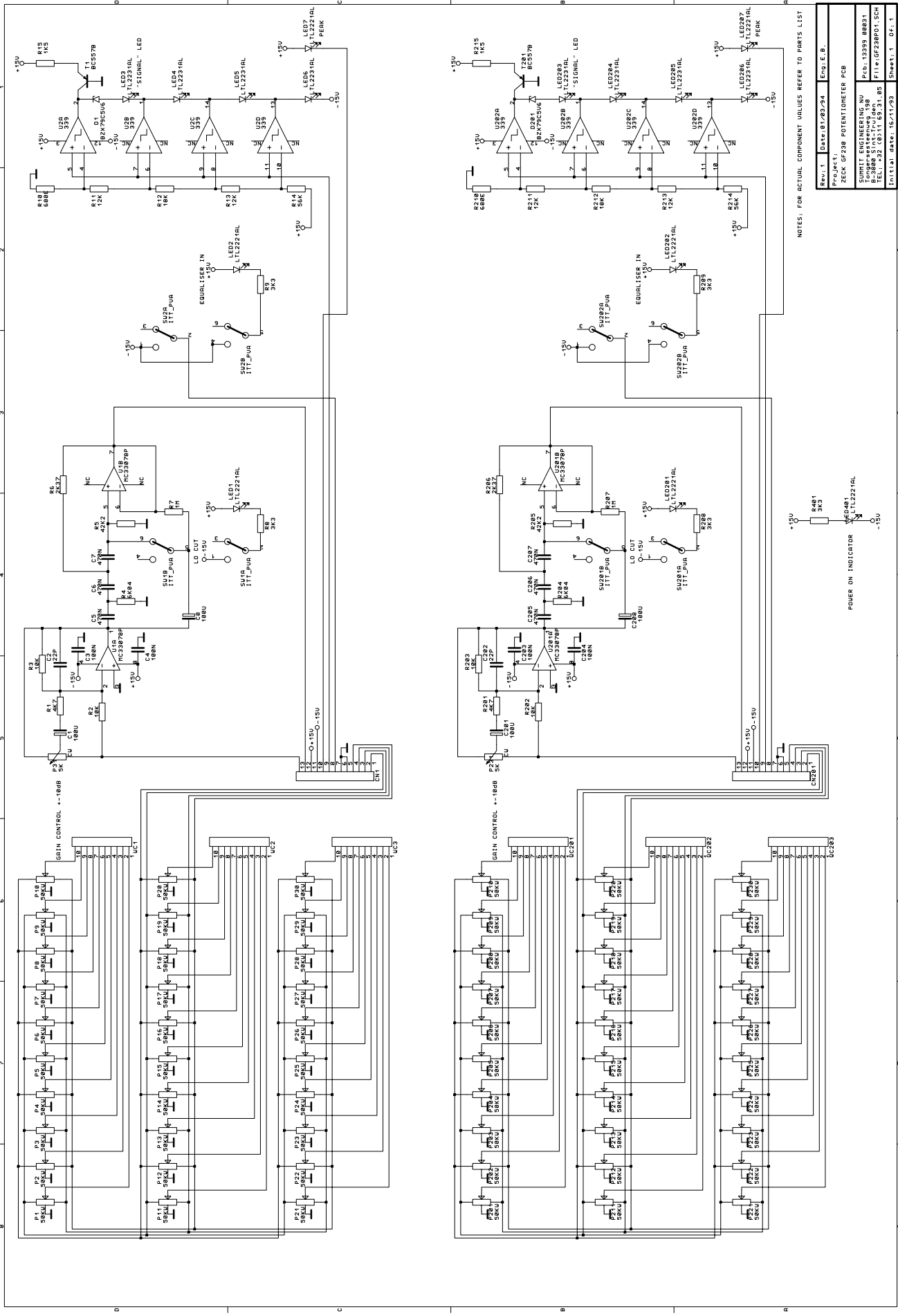
LED4 TL2221AL

LED5 TL2221AL

LED6 TL2221AL

LED7 TL2221AL

LED8 TL2221AL



NOTES: FOR ACTUAL COMPONENT VALUES REFER TO PARTS LIST

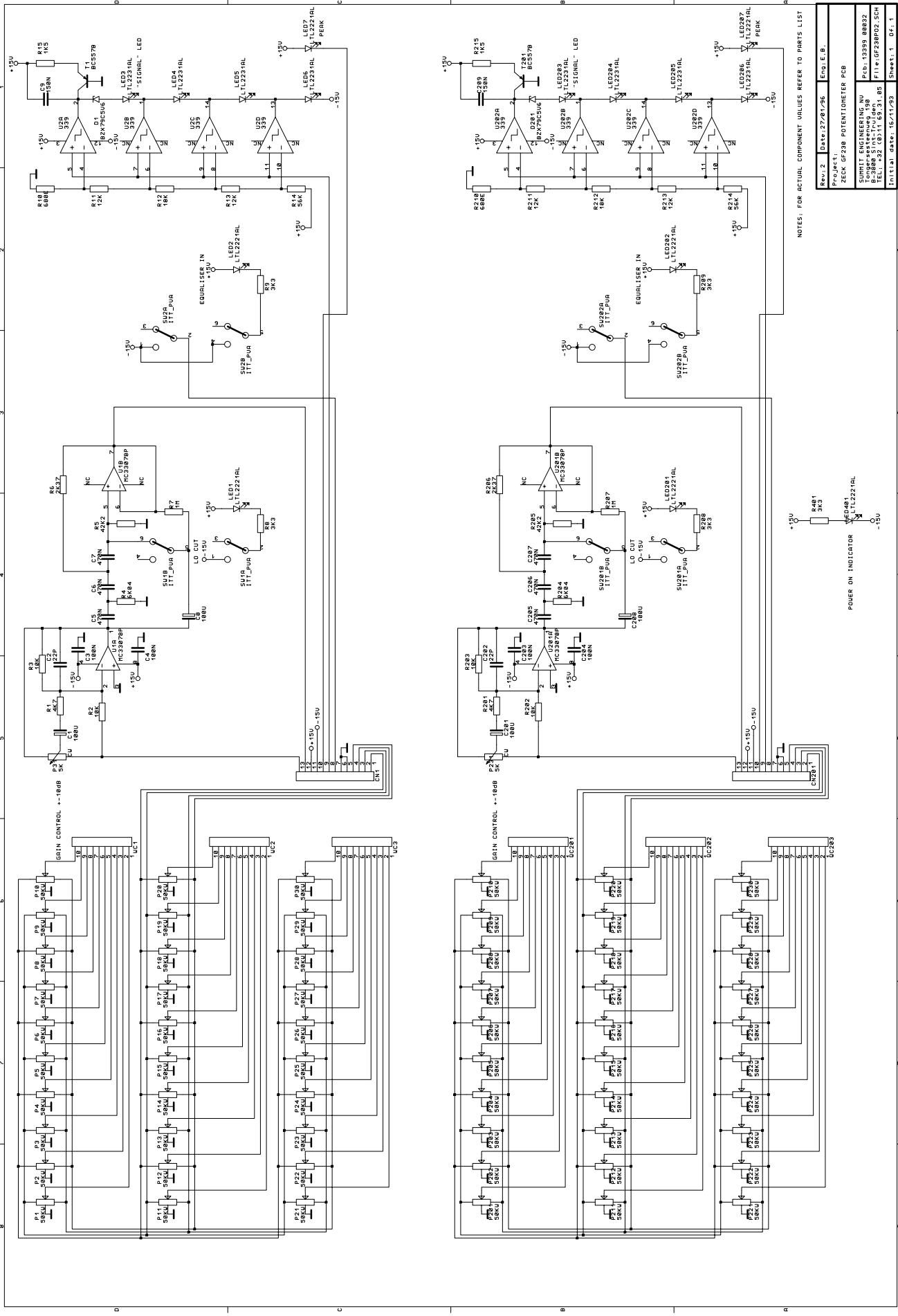
Rev. 1	Date: 8/18/2014	Eng: E. B.
Project: ZECK GF230 POTENTIOMETER PCB		
SUMMIT ENGINEERING, INC.		
1000 Independence Ave SW		
Tacoma, WA 98409		
TEL: 252-631-6531 FAX: 252-631-6531		
File: GF230POT.SCH		
Initial Date: 16/11/2013		
Sheet: 1 of 1		

POWER ON INDICATOR

D401
TL2224HL

UC1 UC2 UC3

UC281 UC282 UC283 UC284 UC285 UC286 UC287 UC288 UC289 UC290 UC291 UC292 UC293 UC294 UC295 UC296 UC297 UC298 UC299 UC300 UC301 UC302 UC303 UC304 UC305 UC306 UC307 UC308 UC309 UC310 UC311 UC312 UC313 UC314 UC315 UC316 UC317 UC318 UC319 UC320 UC321 UC322 UC323 UC324 UC325 UC326 UC327 UC328 UC329 UC330 UC331 UC332 UC333 UC334 UC335 UC336 UC337 UC338 UC339 UC340 UC341 UC342 UC343 UC344 UC345 UC346 UC347 UC348 UC349 UC350 UC351 UC352 UC353 UC354 UC355 UC356 UC357 UC358 UC359 UC360 UC361 UC362 UC363 UC364 UC365 UC366 UC367 UC368 UC369 UC370 UC371 UC372 UC373 UC374 UC375 UC376 UC377 UC378 UC379 UC380 UC381 UC382 UC383 UC384 UC385 UC386 UC387 UC388 UC389 UC390 UC391 UC392 UC393 UC394 UC395 UC396 UC397 UC398 UC399 UC400 UC401 UC402 UC403 UC404 UC405 UC406 UC407 UC408 UC409 UC410 UC411 UC412 UC413 UC414 UC415 UC416 UC417 UC418 UC419 UC420 UC421 UC422 UC423 UC424 UC425 UC426 UC427 UC428 UC429 UC430 UC431 UC432 UC433 UC434 UC435 UC436 UC437 UC438 UC439 UC440 UC441 UC442 UC443 UC444 UC445 UC446 UC447 UC448 UC449 UC450 UC451 UC452 UC453 UC454 UC455 UC456 UC457 UC458 UC459 UC460 UC461 UC462 UC463 UC464 UC465 UC466 UC467 UC468 UC469 UC470 UC471 UC472 UC473 UC474 UC475 UC476 UC477 UC478 UC479 UC480 UC481 UC482 UC483 UC484 UC485 UC486 UC487 UC488 UC489 UC490 UC491 UC492 UC493 UC494 UC495 UC496 UC497 UC498 UC499 UC500 UC501 UC502 UC503 UC504 UC505 UC506 UC507 UC508 UC509 UC510 UC511 UC512 UC513 UC514 UC515 UC516 UC517 UC518 UC519 UC520 UC521 UC522 UC523 UC524 UC525 UC526 UC527 UC528 UC529 UC530 UC531 UC532 UC533 UC534 UC535 UC536 UC537 UC538 UC539 UC540 UC541 UC542 UC543 UC544 UC545 UC546 UC547 UC548 UC549 UC550 UC551 UC552 UC553 UC554 UC555 UC556 UC557 UC558 UC559 UC560 UC561 UC562 UC563 UC564 UC565 UC566 UC567 UC568 UC569 UC570 UC571 UC572 UC573 UC574 UC575 UC576 UC577 UC578 UC579 UC580 UC581 UC582 UC583 UC584 UC585 UC586 UC587 UC588 UC589 UC590 UC591 UC592 UC593 UC594 UC595 UC596 UC597 UC598 UC599 UC600 UC601 UC602 UC603 UC604 UC605 UC606 UC607 UC608 UC609 UC610 UC611 UC612 UC613 UC614 UC615 UC616 UC617 UC618 UC619 UC620 UC621 UC622 UC623 UC624 UC625 UC626 UC627 UC628 UC629 UC630 UC631 UC632 UC633 UC634 UC635 UC636 UC637 UC638 UC639 UC640 UC641 UC642 UC643 UC644 UC645 UC646 UC647 UC648 UC649 UC650 UC651 UC652 UC653 UC654 UC655 UC656 UC657 UC658 UC659 UC660 UC661 UC662 UC663 UC664 UC665 UC666 UC667 UC668 UC669 UC670 UC671 UC672 UC673 UC674 UC675 UC676 UC677 UC678 UC679 UC680 UC681 UC682 UC683 UC684 UC685 UC686 UC687 UC688 UC689 UC690 UC691 UC692 UC693 UC694 UC695 UC696 UC697 UC698 UC699 UC700 UC701 UC702 UC703 UC704 UC705 UC706 UC707 UC708 UC709 UC710 UC711 UC712 UC713 UC714 UC715 UC716 UC717 UC718 UC719 UC720 UC721 UC722 UC723 UC724 UC725 UC726 UC727 UC728 UC729 UC730 UC731 UC732 UC733 UC734 UC735 UC736 UC737 UC738 UC739 UC740 UC741 UC742 UC743 UC744 UC745 UC746 UC747 UC748 UC749 UC750 UC751 UC752 UC753 UC754 UC755 UC756 UC757 UC758 UC759 UC760 UC761 UC762 UC763 UC764 UC765 UC766 UC767 UC768 UC769 UC770 UC771 UC772 UC773 UC774 UC775 UC776 UC777 UC778 UC779 UC780 UC781 UC782 UC783 UC784 UC785 UC786 UC787 UC788 UC789 UC790 UC791 UC792 UC793 UC794 UC795 UC796 UC797 UC798 UC799 UC800 UC801 UC802 UC803 UC804 UC805 UC806 UC807 UC808 UC809 UC810 UC811 UC812 UC813 UC814 UC815 UC816 UC817 UC818 UC819 UC820 UC821 UC822 UC823 UC824 UC825 UC826 UC827 UC828 UC829 UC830 UC831 UC832 UC833 UC834 UC835 UC836 UC837 UC838 UC839 UC840 UC841 UC842 UC843 UC844 UC845 UC846 UC847 UC848 UC849 UC850 UC851 UC852 UC853 UC854 UC855 UC856 UC857 UC858 UC859 UC860 UC861 UC862 UC863 UC864 UC865 UC866 UC867 UC868 UC869 UC870 UC871 UC872 UC873 UC874 UC875 UC876 UC877 UC878 UC879 UC880 UC881 UC882 UC883 UC884 UC885 UC886 UC887 UC888 UC889 UC890 UC891 UC892 UC893 UC894 UC895 UC896 UC897 UC898 UC899 UC900 UC901 UC902 UC903 UC904 UC905 UC906 UC907 UC908 UC909 UC910 UC911 UC912 UC913 UC914 UC915 UC916 UC917 UC918 UC919 UC920 UC921 UC922 UC923 UC924 UC925 UC926 UC927 UC928 UC929 UC930 UC931 UC932 UC933 UC934 UC935 UC936 UC937 UC938 UC939 UC940 UC941 UC942 UC943 UC944 UC945 UC946 UC947 UC948 UC949 UC950 UC951 UC952 UC953 UC954 UC955 UC956 UC957 UC958 UC959 UC960 UC961 UC962 UC963 UC964 UC965 UC966 UC967 UC968 UC969 UC970 UC971 UC972 UC973 UC974 UC975 UC976 UC977 UC978 UC979 UC980 UC981 UC982 UC983 UC984 UC985 UC986 UC987 UC988 UC989 UC990 UC991 UC992 UC993 UC994 UC995 UC996 UC997 UC998 UC999 UC1000



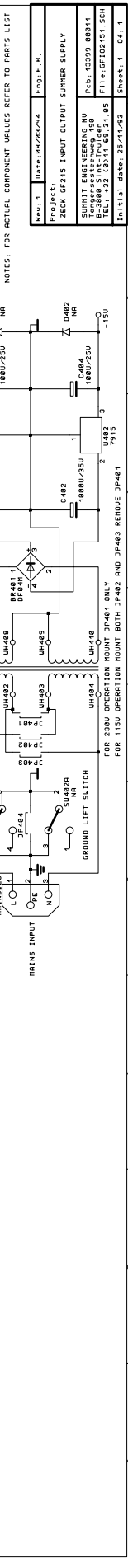
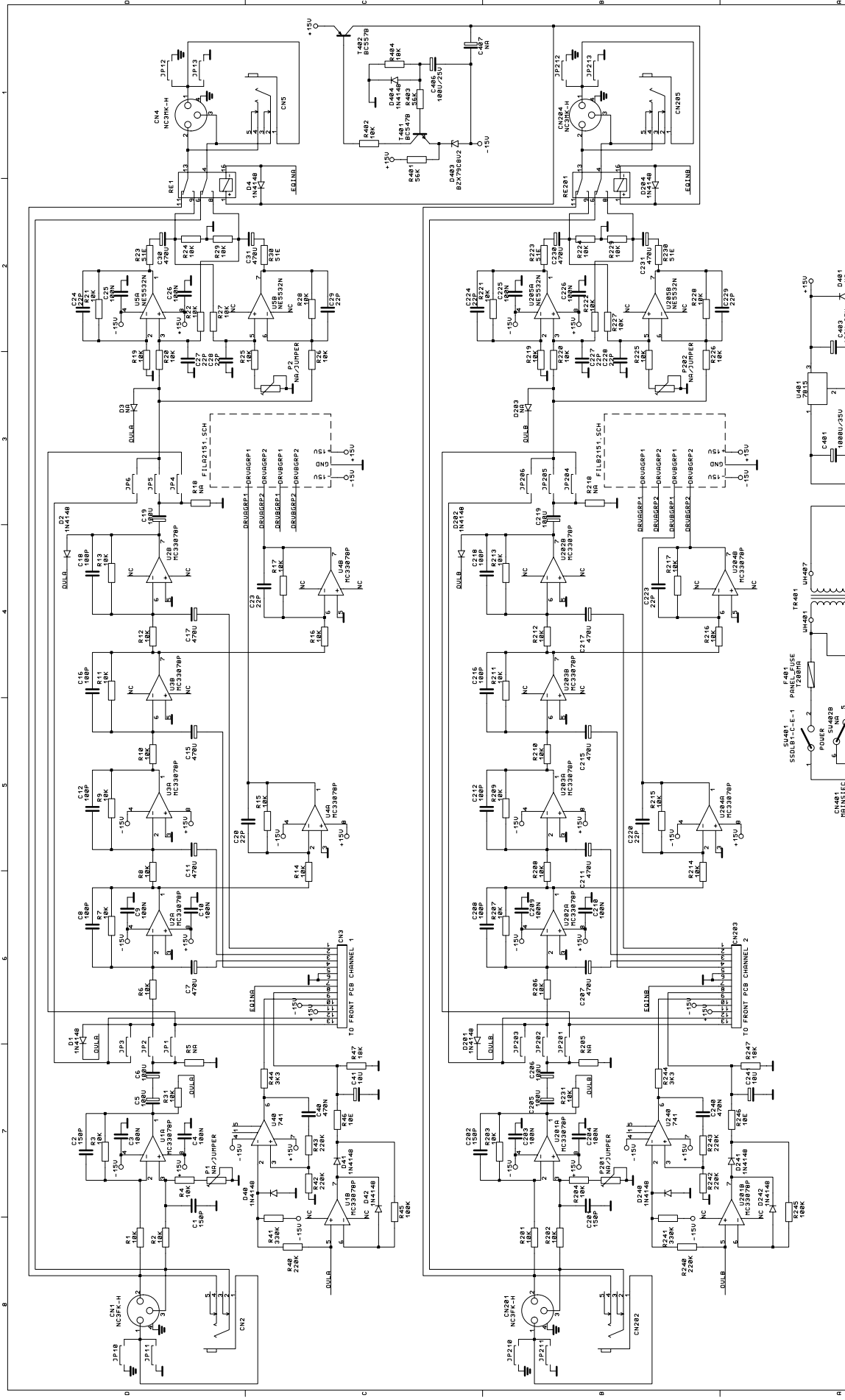
Rev. 2 Date: 27/01/95 Eng: E. B.

Project: ZECK GF230 POTENTIOMETER PCB

SUMMIT ENGINEERING INC
 1000 Springdale Ave. SW
 TEL: (604) 683-1855 File: GF230P02.SCH
 Initial date: 16/11/93 Sheet: 1 Of: 1

NOTES: FOR ACTUAL COMPONENT VALUES REFER TO PARTS LIST

POWER ON INDICATOR



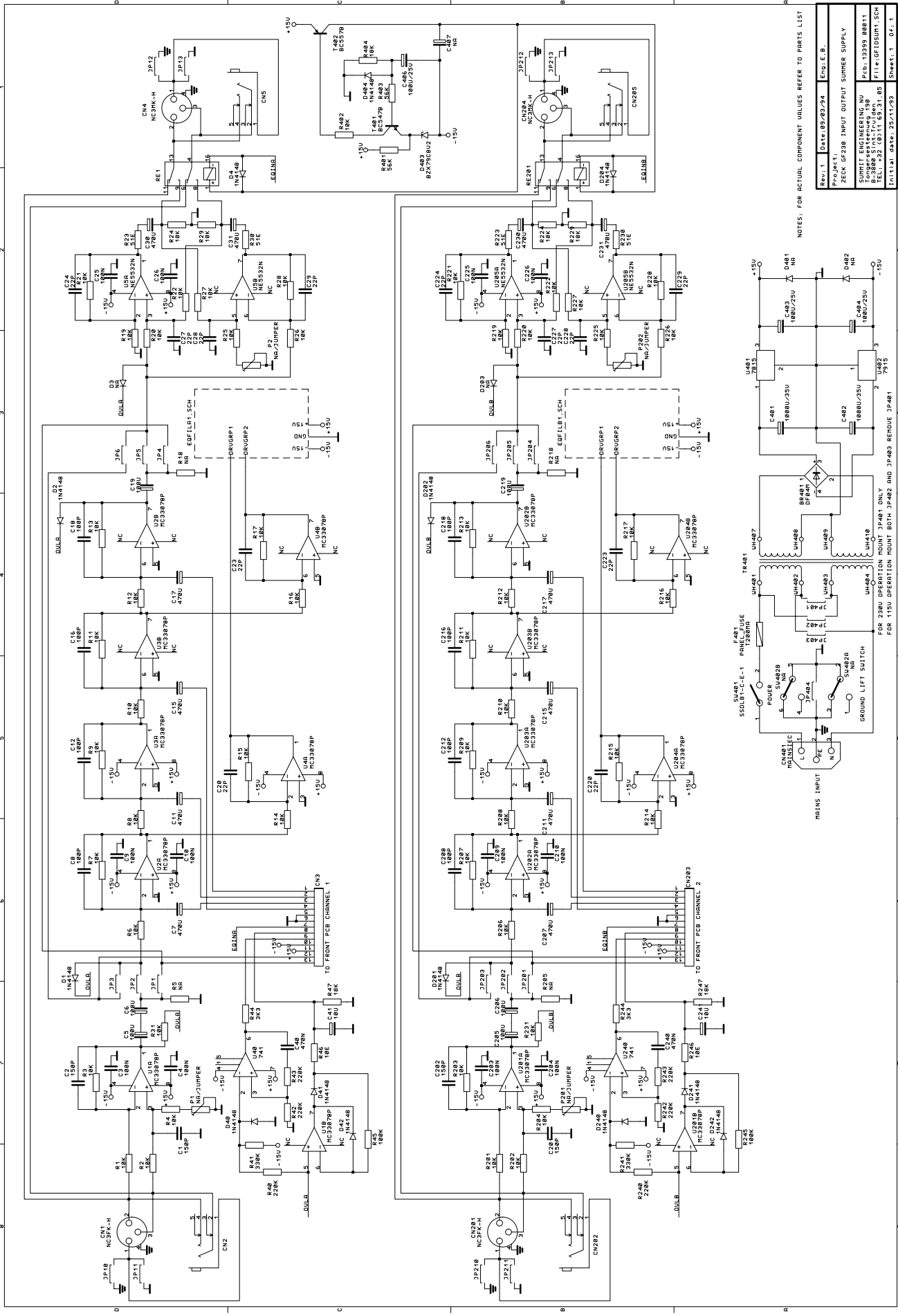
Rev. 1 Date 08/03/94 Eng. E. B.

Project: ZECK GP215 INPUT OUTPUT SUMMER SUPPLY

SUMMIT ENGINEERING, INC.
 1000 Springdale Ave. 150
 TEL: 412-631-6311 FAX: 412-631-85
 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

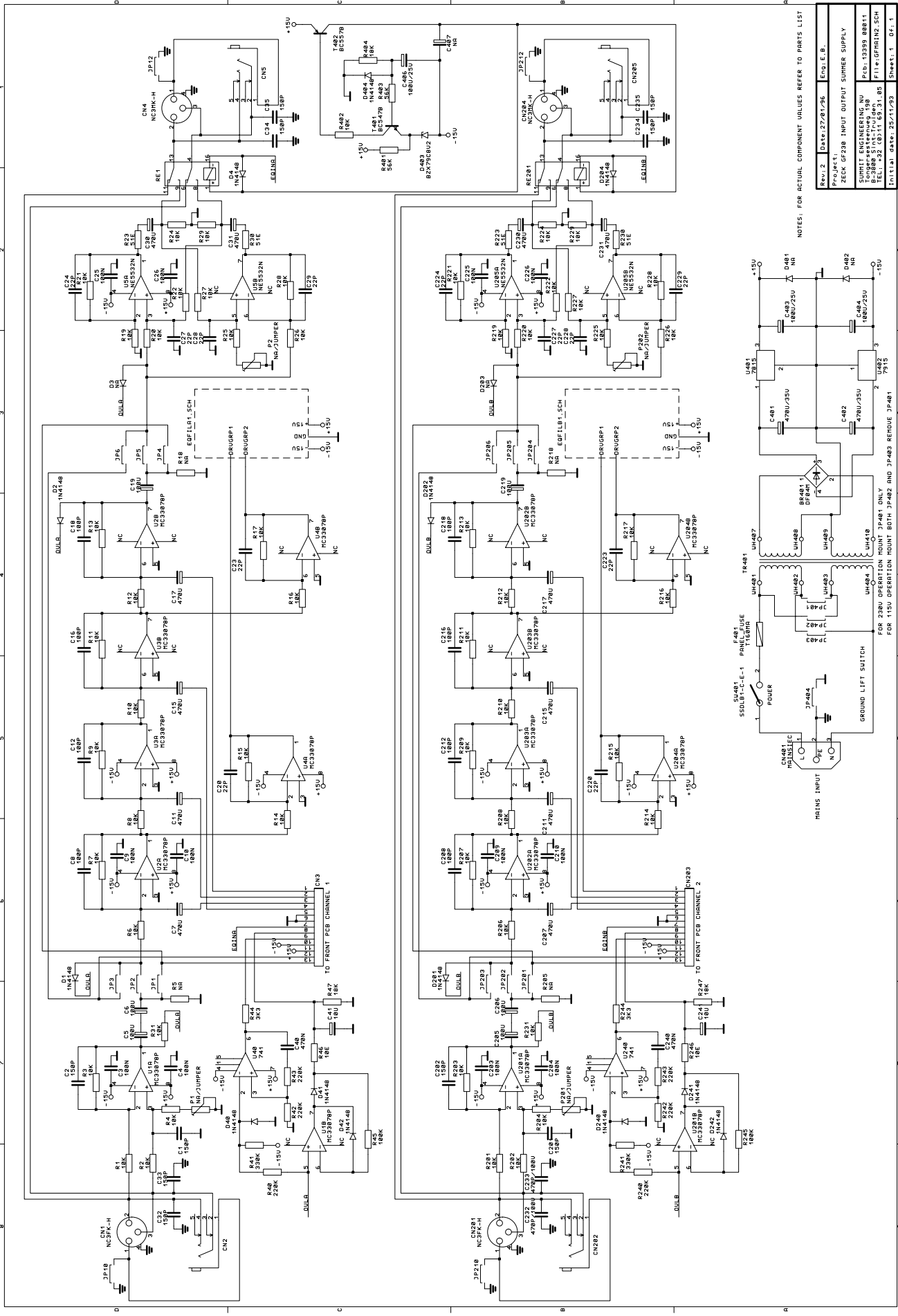


Rev. 1	Date: 09/02/94	Eng: E. B.
Project:		
ZECK GF230 INPUT OUTPUT SUMNER SUPPLY		
SUMMIT ENGINEERING, INC.		
Tempe, Arizona 85281		
TEL: (602) 941-6931, 6931-85		
File: GF230.DWT, SCH		
Initial Date: 25/11/93		
Sheet: 1 of 1		

NOTES: FOR ACTUAL COMPONENT VALUES REFER TO PARTS LIST

FOR 230V OPERATION MOUNT JP481 ONLY

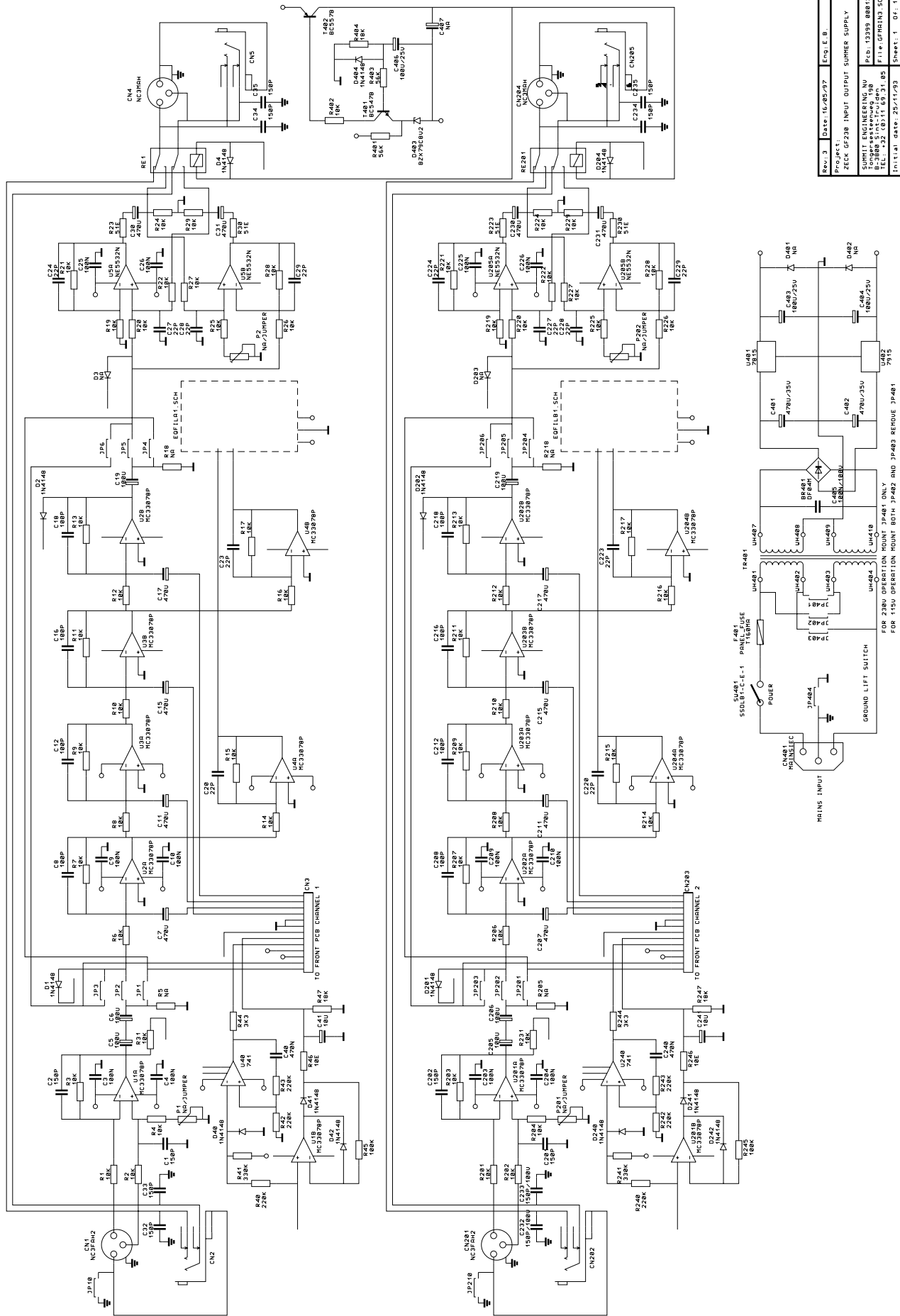
FOR 115V OPERATION MOUNT BOTH JP482 AND JP483 REMOVED JP481



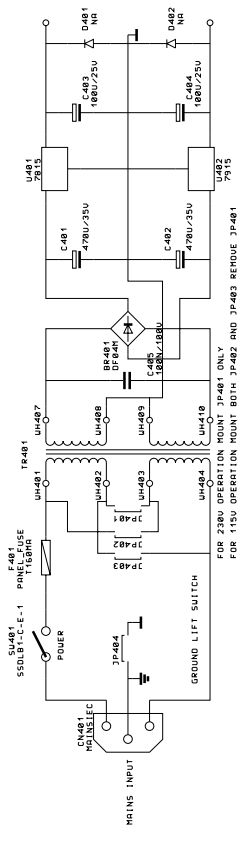
Rev. 2	Date: 27/01/96	Eng: E. B.
Project: ZECK GF230 INPUT OUTPUT SUMNER SUPPLY		
SUMMIT ENGINEERING INC 1000 Greenfield Ave. 150 Tel: 402-631-6531, 6531, 6531 File: GF230.SCH		
Initial Date: 25/11/93 Sheet: 1 of 1		

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. 3	Date: 16/05/97	Eng. E. B.
Project: ZECK GF230 INPUT OUTPUT SUMNER SUPPLY		
Supplier: SUMMIT ENGINEERING, No. 150, Longbridge Avenue, 150		
Tel.: 02 (0)11 69 31 85		
File: GF481NS.SCH		
Initial date: 25/11/93		
Sheet: 1 of 1		



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