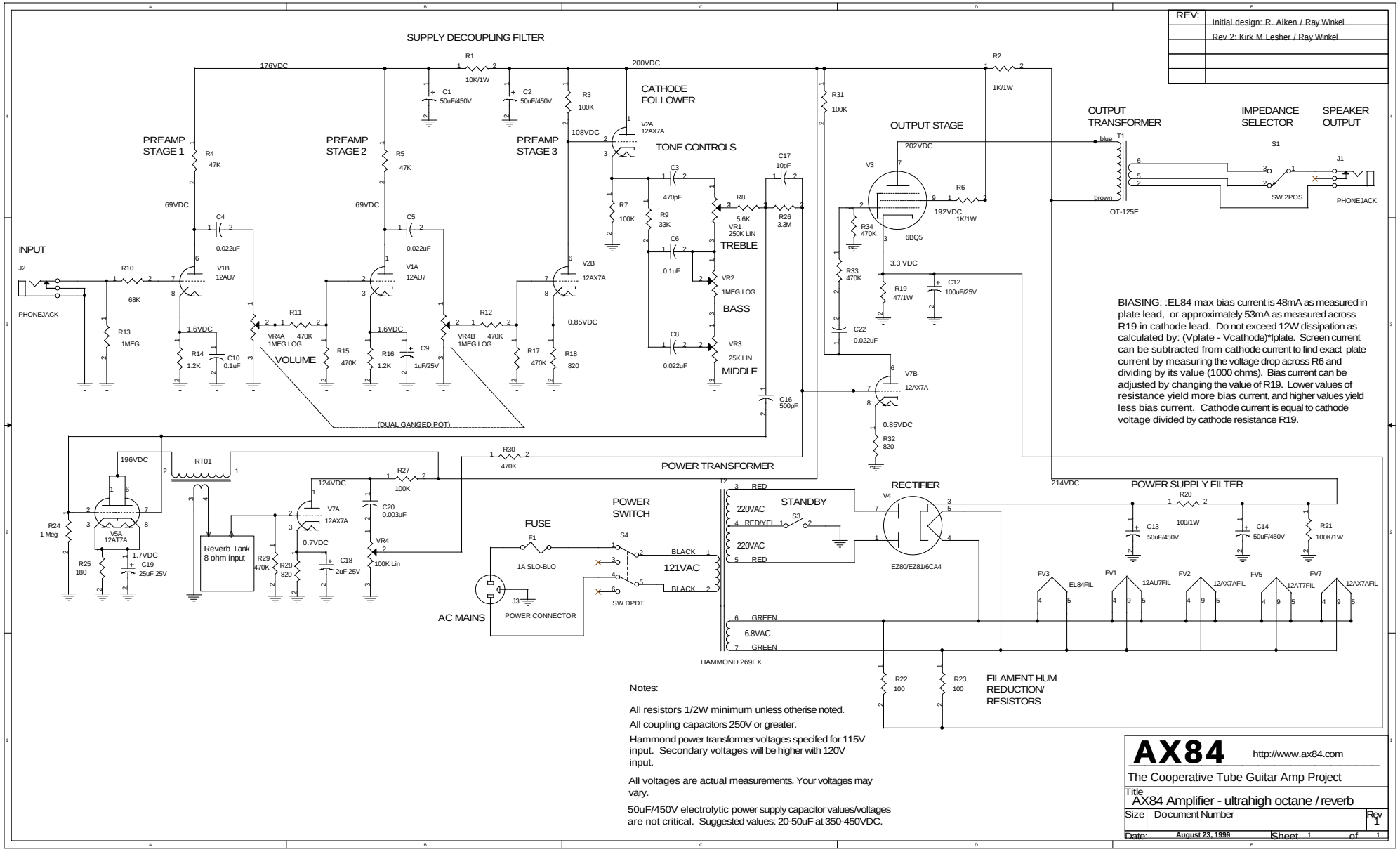
REV:
Initial design: R. Aiken / Ray Winkel
Rev 2: Kirk M Lesher / Ray Winkel
SUPPLY DECOUPLING FILTER
176VDC
200VDC
R1
10K/1W
C1
50uF/450V
C2
50uF/450V
R3
100K
CATHODE
FOLLOWER
V2A
12AX7A
108VDC
R2
1K/1W
R31
100K
OUTPUT STAGE
OUTPUT
TRANSFORMER
IMPEDANCE
SELECTOR
SPEAKER
OUTPUT
PREAMP
STAGE 1
PREAMP
STAGE 2
PREAMP
STAGE 3
R4
47K
R5
47K
69VDC
69VDC
TONE CONTROLS
C3
470pF
C17
10pF
R7
100K
R8
5.6K
VR1
250K LIN
TREBLE
R9
33K
C6
0.1uF
VR2
1MEG LOG
BASS
C8
0.022uF
VR3
25K LIN
MIDDLE
R26
3.3M
202VDC
V3
6BQ5
R6
192VDC
1K/1W
R34
470K
R33
470K
3.3 VDC
R19
47/1W
C12
100uF/25V
C22
0.022uF
V7B
12AX7A
0.85VDC
R32
820
T1
blue
brown
OT-125E
S1
SW 2POS
J1
PHONEJACK
INPUT
J2
PHONEJACK
R10
68K
V1B
12AU7
V1A
12AU7
V2B
12AX7A
C4
0.022uF
C5
0.022uF
1.6VDC
1.6VDC
0.85VDC
R11
VR4A 470K
1MEG LOG
R12
VR4B 470K
1MEG LOG
VOLUME
(DUAL GANGED POT)
R13
1MEG
R14
1.2K
C10
0.1uF
R15
470K
R16
1.2K
C9
1uF/25V
R17
470K
R18
820
C16
500pF
BIASING: :EL84 max bias current is 48mA as measured in plate lead, or approximately 53mA as measured across R19 in cathode lead. Do not exceed 12W dissipation as calculated by: (Vplate - Vcathode)*Iplate. Screen current can be subtracted from cathode current to find exact plate current by measuring the voltage drop across R6 and dividing by its value (1000 ohms). Bias current can be adjusted by changing the value of R19. Lower values of resistance yield more bias current, and higher values yield less bias current. Cathode current is equal to cathode voltage divided by cathode resistance R19.
196VDC
RT01
R30
470K
POWER TRANSFORMER
T2
RECTIFIER
214VDC
POWER SUPPLY FILTER
R20
100/1W
C13
50uF/450V
C14
50uF/450V
R21
100K/1W
R24
1 Meg
V5A
12AT7A
R25
180
1.7VDC
C19
25uF 25V
Reverb Tank
8 ohm input
124VDC
V7A
12AX7A
R27
100K
C20
0.003uF
0.7VDC
R29
470K
R28
820
C18
2uF 25V
VR4
100K Lin
FUSE
F1
1A SLO-BLO
AC MAINS
J3
POWER CONNECTOR
POWER
SWITCH
S4
SW DPDT
121VAC
BLACK
BLACK
3 RED
220VAC
4 RED/YEL
220VAC
5 RED
STANDBY
S3
V4
EZ80/EZ81/6CA4
6 GREEN
6.8VAC
7 GREEN
HAMMOND 269EX
FV3
EL84FIL
FV1
12AU7FIL
FV2
12AX7AFIL
FV5
12AT7FIL
FV7
12AX7AFIL
R22
100
R23
100
FILAMENT HUM
REDUCTION/
RESISTORS
Notes:
All resistors 1/2W minimum unless otherise noted.
All coupling capacitors 250V or greater.
Hammond power transformer voltages specifed for 115V input. Secondary voltages will be higher with 120V input.
All voltages are actual measurements. Your voltages may vary.
50uF/450V electrolytic power supply capacitor values/voltages are not critical. Suggested values: 20-50uF at 350-450VDC.
AX84
http://www.ax84.com
The Cooperative Tube Guitar Amp Project
Title
AX84 Amplifier - ultrahigh octane / reverb
Size
Document Number
Rev
1
Date:
August 23, 1999
Sheet 1 of 1