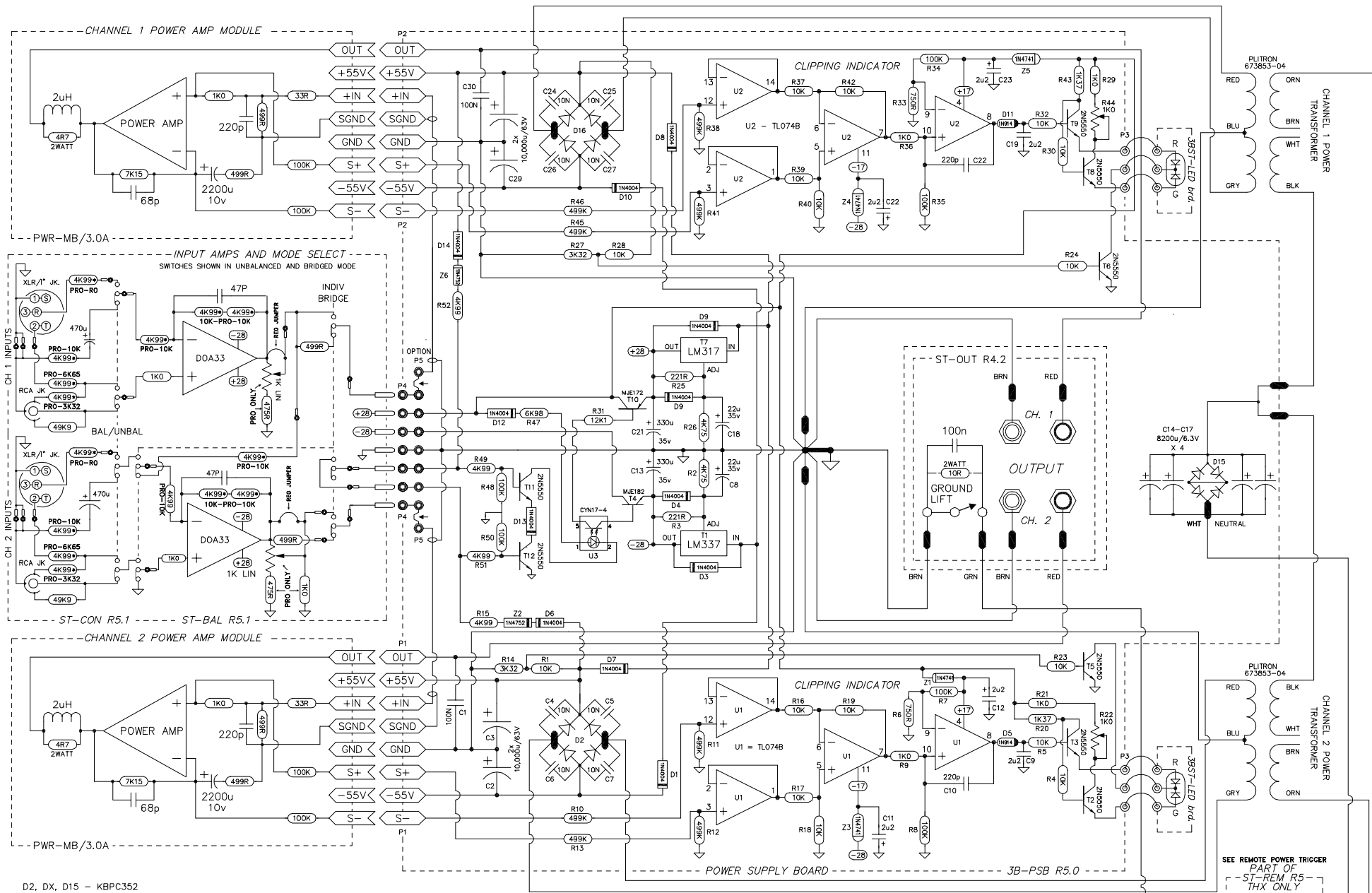


The logo for Bryston, featuring the word "BRYSTON" in a stylized, outlined font. The letter "B" is significantly larger than the other letters and contains two small square details. The text is white and set against a solid black rectangular background.

**BRYSTON**

# **POWER AMPLIFIER SCHEMATICS**

MODELS 3B, 4B, 5B, 7B, 8B, 9B & 14B  
September 2001



D2, DX, D15 - KBPC352

### CONNECTORS

- EDGE CONNECTOR
- BOARD EDGE FINGER
- QUICK DISCONNECT TABS/SOCKETS
- SOLDER PAD FOR FLATWIRE INTERCONNECT
- HEADER BOARD TO BOARD INTERCONNECT

### NOTES:

- 3BST(THX) R4.8 = LEXICON 212 R4.8
- ST-REM (REMOTE POWER ON/OFF) USED IN THX MODES ONLY
- \*"R" RESISTORS 0.1% SELECTED IN INPUT AMPS
- ST-PRO BAL INPUT HAVE GAIN OF 2
- ST-REG BAL INPUT HAVE UNITY GAIN
- UNBAL INPUTS ALWAYS HAVE GAIN OF 2

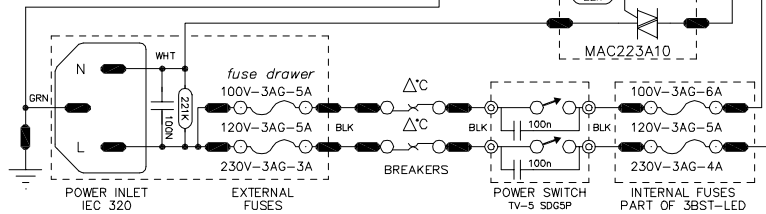


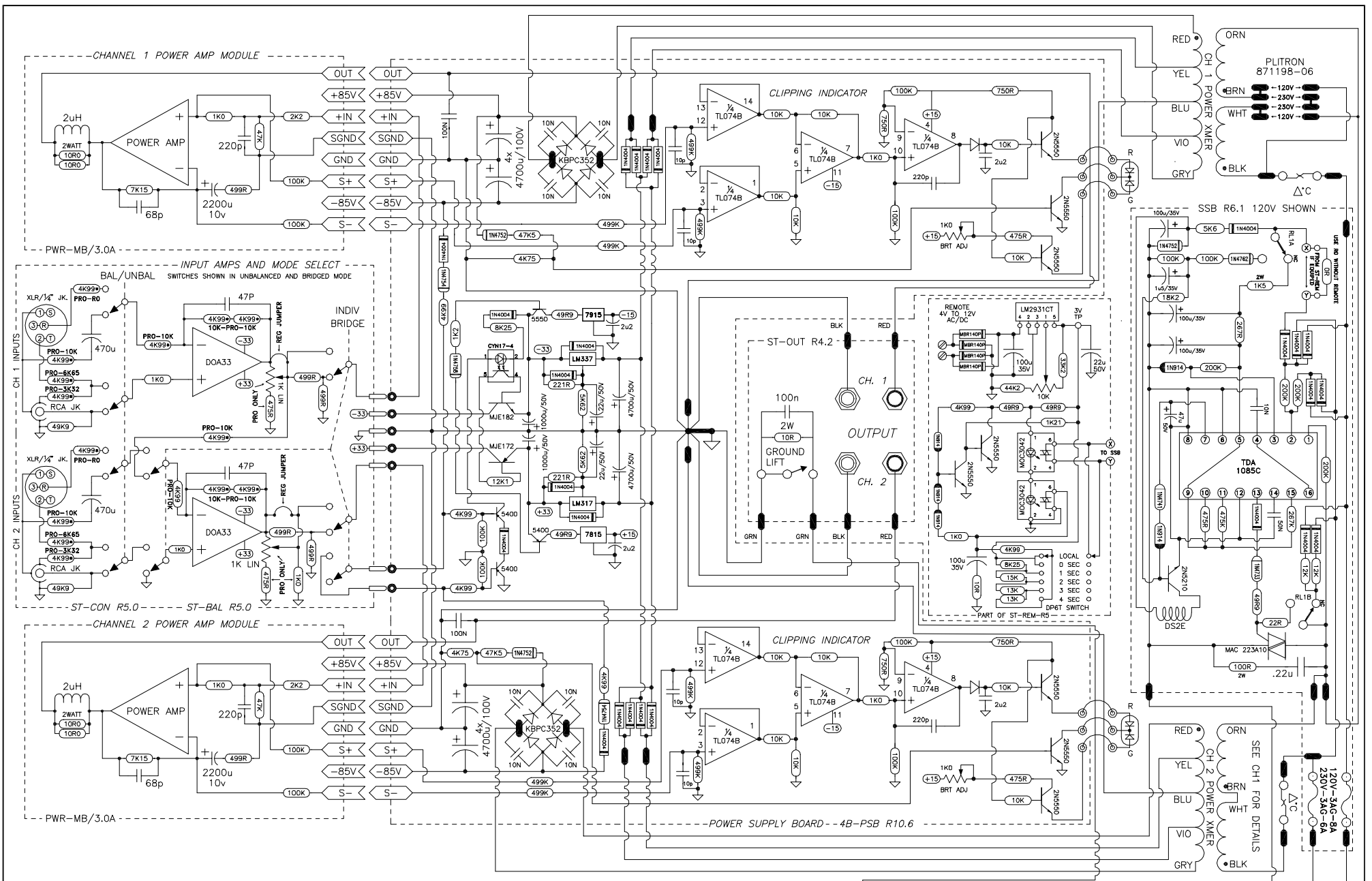
**BRYSTON** LTD  
 677 NEAL DR. PETERBOROUGH, ONTARIO CANADA K9J 7Y4  
 PHONE (705) 742-5325 FAX (705) 742-0882

## 3BST AMPLIFIER

OVERALL SCHEMATIC

FILE: 3BSC45 PART No: RE: 3B-PSB R5.0  
 DATE: JAN 97 DWG BY: ST REV: 5.0





### CONNECTORS

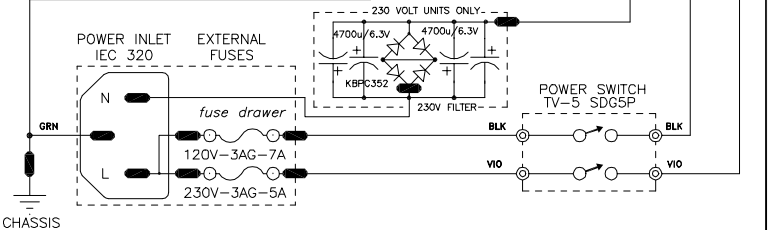
- EDGE CONNECTOR
- BOARD EDGE FINGER
- QUICK DISCONNECT TABS/SOCKETS
- SOLDER PAD FOR FLATWIRE INTERCONNECT
- HEADER INTERCONNECT

### NOTES:

- 4BST = LEXICON 225 AMPLIFIER
- ST-REM (REMOTE POWER ON/OFF) USED IN "THX" MODELS ONLY
- \*"R" RESISTORS 0.1% SELECTED IN INPUT AMPS
- ST-PRO BAL INPUTS HAVE GAIN OF 2
- ST-REG BAL INPUTS HAVE UNITY GAIN
- UNBAL INPUTS ALWAYS HAVE GAIN OF 2

**BRUYSTON LTD**  
677 NEAL DR. PETERBOROUGH, ONTARIO CANADA K9J 7Y4  
PHONE (705) 742-5325 FAX (705) 742-0882

## 4BST AMPLIFIER OVERALL SCHEMATIC



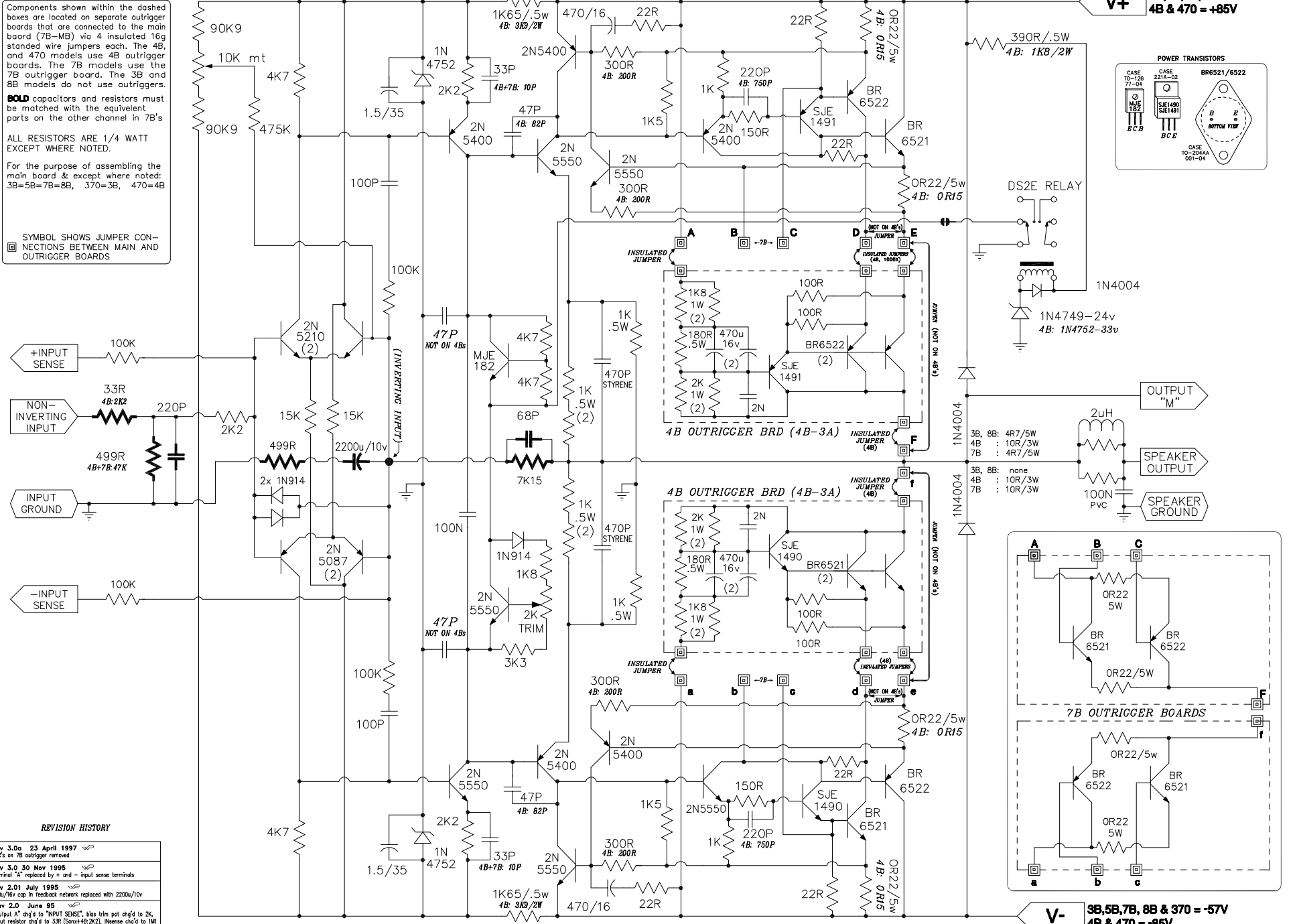
Components shown within the dashed boxes are located on separate outrigger boards that are connected to the main board (7B-MB) via 4 insulated 16g stranded wire jumpers each. The 4B and 470 models use 4B outrigger boards. The 7B models use the 7B outrigger board. The 3B and 8B models do not use outriggers.

**BOLD** capacitors and resistors must be matched with the equivalent parts on the other channel in 7B's

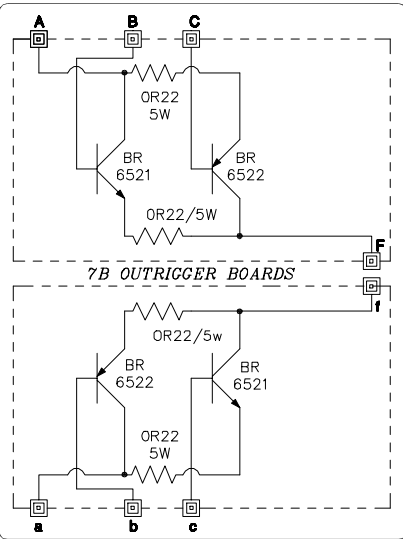
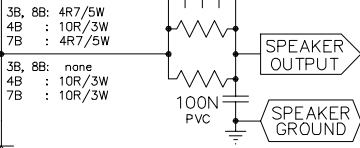
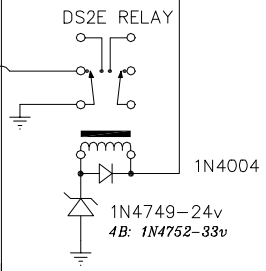
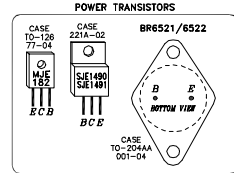
ALL RESISTORS ARE 1/4 WATT EXCEPT WHERE NOTED.

For the purpose of assembling the main board & except where noted: 3B=5B=7B=8B, 370=3B, 470=4B

SYMBOL SHOWS JUMPER CONNECTIONS BETWEEN MAIN AND OUTRIGGER BOARDS



V+ 3B,5B,7B, 8B & 370 = +57V  
4B & 470 = +85V



V- 3B,5B,7B, 8B & 370 = -57V  
4B & 470 = -85V

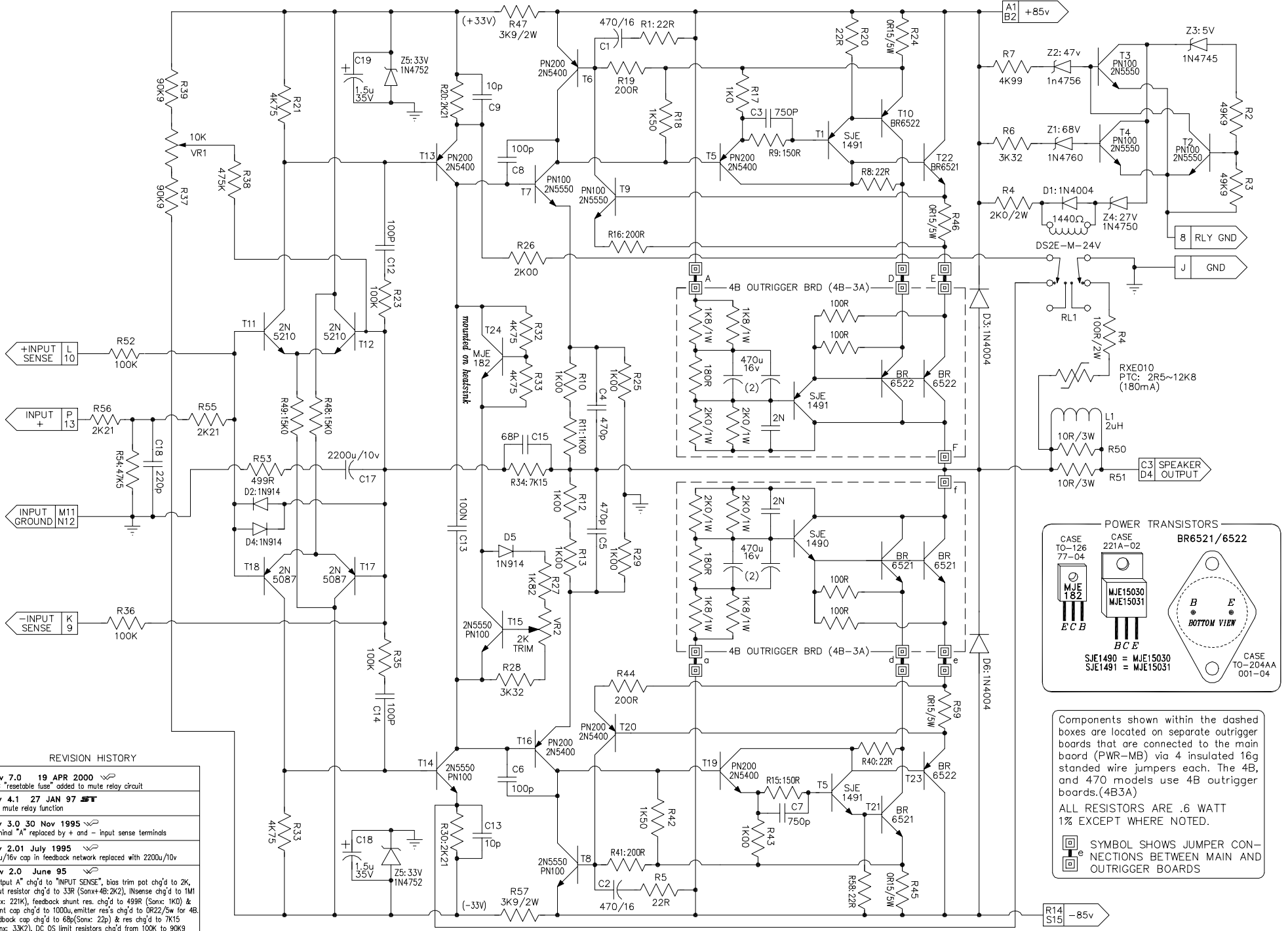
REVISION HISTORY

Rev 3.0a 23 April 1997	22R's on 7B outrigger removed
Rev 3.0 30 Nov 1995	Terminal "A" replaced by + and - input sense terminals
Rev 2.01 July 1995	470u/16v cap in feedback network replaced with 2200u/10v
Rev 2.0 June 95	"Output A" chgd to "INPUT SENSE", bias trim pot chgd to 2K, input resistor chgd to 33R (Sens+4B:2K2), in sense chgd to 1M1 (Sens: 221K), feedback short res. chgd to 499R (Sens: 110) & short cap chgd to 100u; emitter res's chgd to 3022/5w for 4B; feedback cap chgd to 68p(Sens: 22p) & res chgd to 7K15 (Sens: 33K2), DC OS limit resistors chgd from 100K to 90K9 and from 1M1 to 475K & DC OS injection chgd from non-lev to inverting input, low voltage limit chgd to 1K65/.5w (4B: 3K9/2w)
Rev 2.0 June 95	200K (2) in DC-0/S chgd to 100K; 2N5210 in bias chgd to 2N5550; output res chgd to 6W; output "A" added

**BRYSTON** Ltd.  
P.O. Box 2170, Peterborough, Ont., Canada K9J-7Y4 (705)742-5325

File: PWR-MESS  
Part No: PWR-MB-S/3.0a  
Date: 23 APRIL 97  
Revision: 3.0a  
By: [Signature]

**POWER AMPLIFIER MAIN BOARD SCHEMATIC for PWR-MB/3.0a**  
used in Bryston 3B, 4B, 5B, 7B, 8B, 370 & 470 amplifiers  
and in Lexicon 212, 225, 312, 412, & 501 amplifiers



**POWER TRANSISTORS**

CASE TO-126 77-04  
MJE 182  
E C B

CASE 221A-02  
MJE15030  
MJE15031  
B E  
BOTTOM VIEW

CASE TO-204AA 001-04

SJE1490 = MJE15030  
SJE1491 = MJE15031

Components shown within the dashed boxes are located on separate outrigger boards that are connected to the main board (PWR-MB) via 4 insulated 16g stranded wire jumpers each. The 4B, and 470 models use 4B outrigger boards.(4B3A)

ALL RESISTORS ARE .6 WATT  
1% EXCEPT WHERE NOTED.

⊠ SYMBOL SHOWS JUMPER CONNECTIONS BETWEEN MAIN AND OUTRIGGER BOARDS

**REVISION HISTORY**

Rev 7.0	19 APR 2000	PTC "resettable fuse" added to mute relay circuit
Rev 4.1	27 JAN 97	New mute relay function
Rev 3.0	30 Nov 1995	Terminal "A" replaced by + and - input sense terminals
Rev 2.01	July 1995	470u/16v cap in feedback network replaced with 2200u/10v
Rev 2.0	June 95	"Output A" chg'd to "INPUT SENSE", bias trim pot chg'd to 2K, input resistor chg'd to 33R (Sonn+4B:2K2), INsense chg'd to 1M1 (Sonn: 221K), feedback shunt res. chg'd to 499R (Sonn: 1K0) & shunt cap chg'd to 1000u,emitter res's chg'd to DR22/5w for 4B, feedback cap chg'd to 68p(Sonn: 22p) & res chg'd to 7K15 (Sonn: 33K2), DC OS limit resistors chg'd from 100K to 90K9 and from 1M1 to 475K & DC OS injection chg'd from non-inv to inverting input, low voltage limit chg'd to 1K65/.5w (4B: 3K9/2w)
Rev 2.0	June 95	200K (2) in DC-O/S chg'd to 100K; 2N5210 in bias chg'd to 2N5550; output res chg'd to 6W; output "A" added

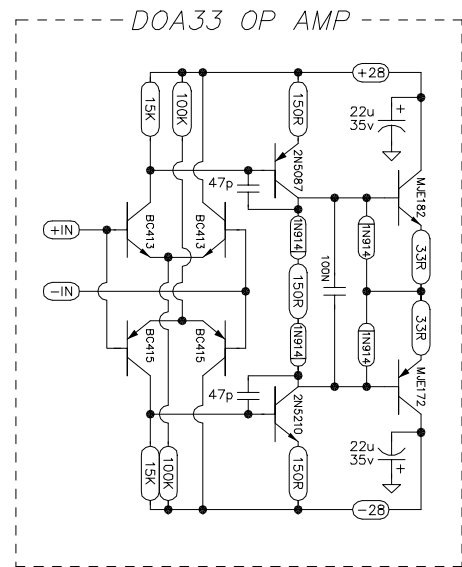
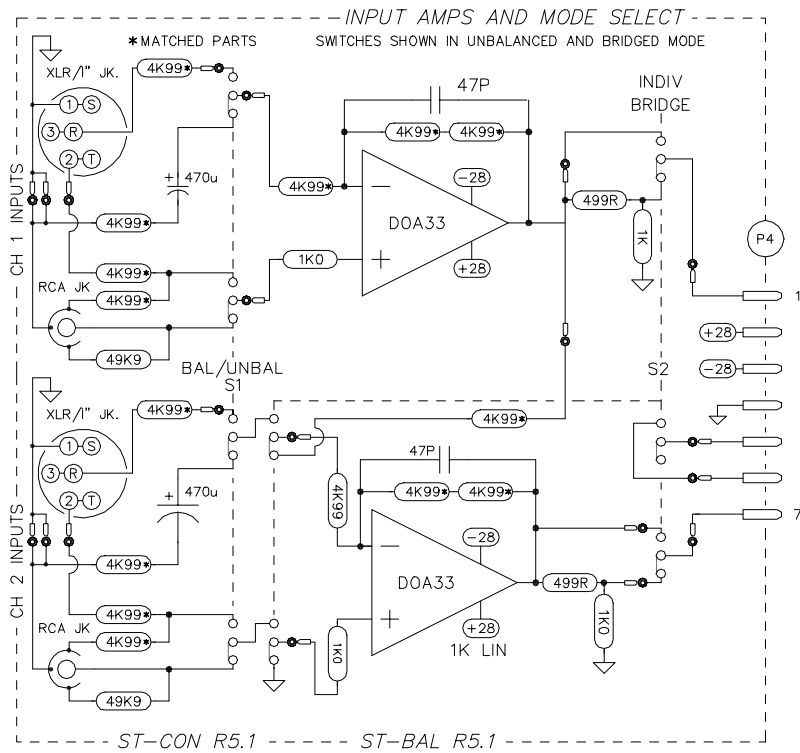
**BRUSTON** Ltd.  
P.O. Box 2170, Peterborough, Ont., Canada K9A-7Y4 (705)742-5325

File/Rev: PWR-MB7-Schematic/0.0  
Date: 19 April 2000  
Revision: 19 April 2000  
By: ST

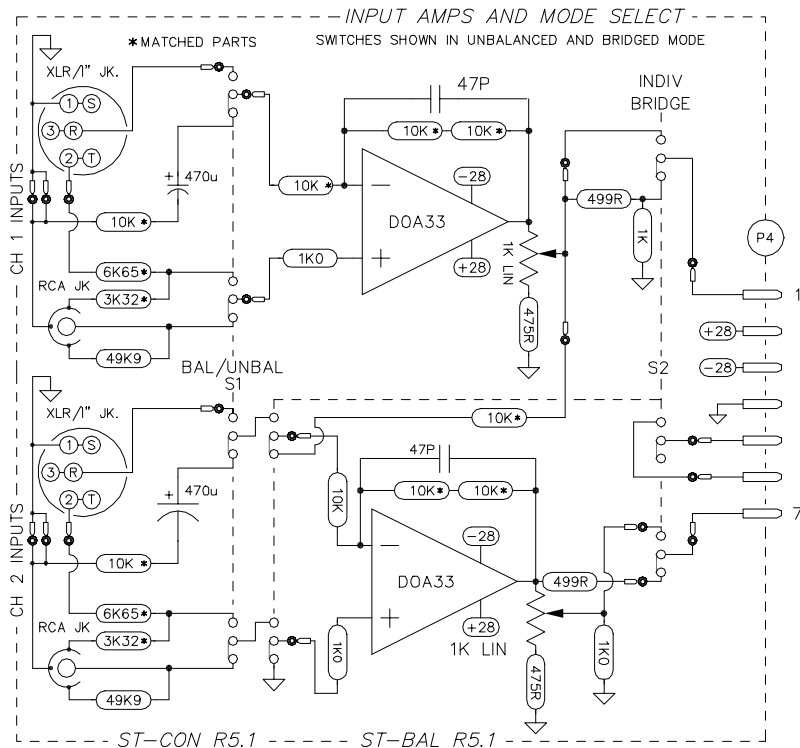
**4B POWER AMPLIFIER CHANNEL  
MAIN BOARD SCHEMATIC**

Circuitry located on printed circuit boards (PCB's) PWR-MB/7.0 and 4B-IIIa

## 4BST REG INPUT CONFIGURATION



## 4BST PRO INPUT CONFIGURATION



— = HEADER INTERCONNECT  
 ● = BOARD TO BOARD INTERCONNECT  
 S1 & S2 = 6PDT SLIDE SWITCH



**BRYSTON** LTD  
 677 NEAL DR. PETERBOROUGH, ONTARIO CANADA K9J 7Y4  
 PHONE (705) 742-5325 FAX (705) 742-0882

## 4BST INPUT SCHEMATIC

SCHEMATIC OF ST-BAL & ST-CON BOARDS

FILE: 4BINPUTSCH

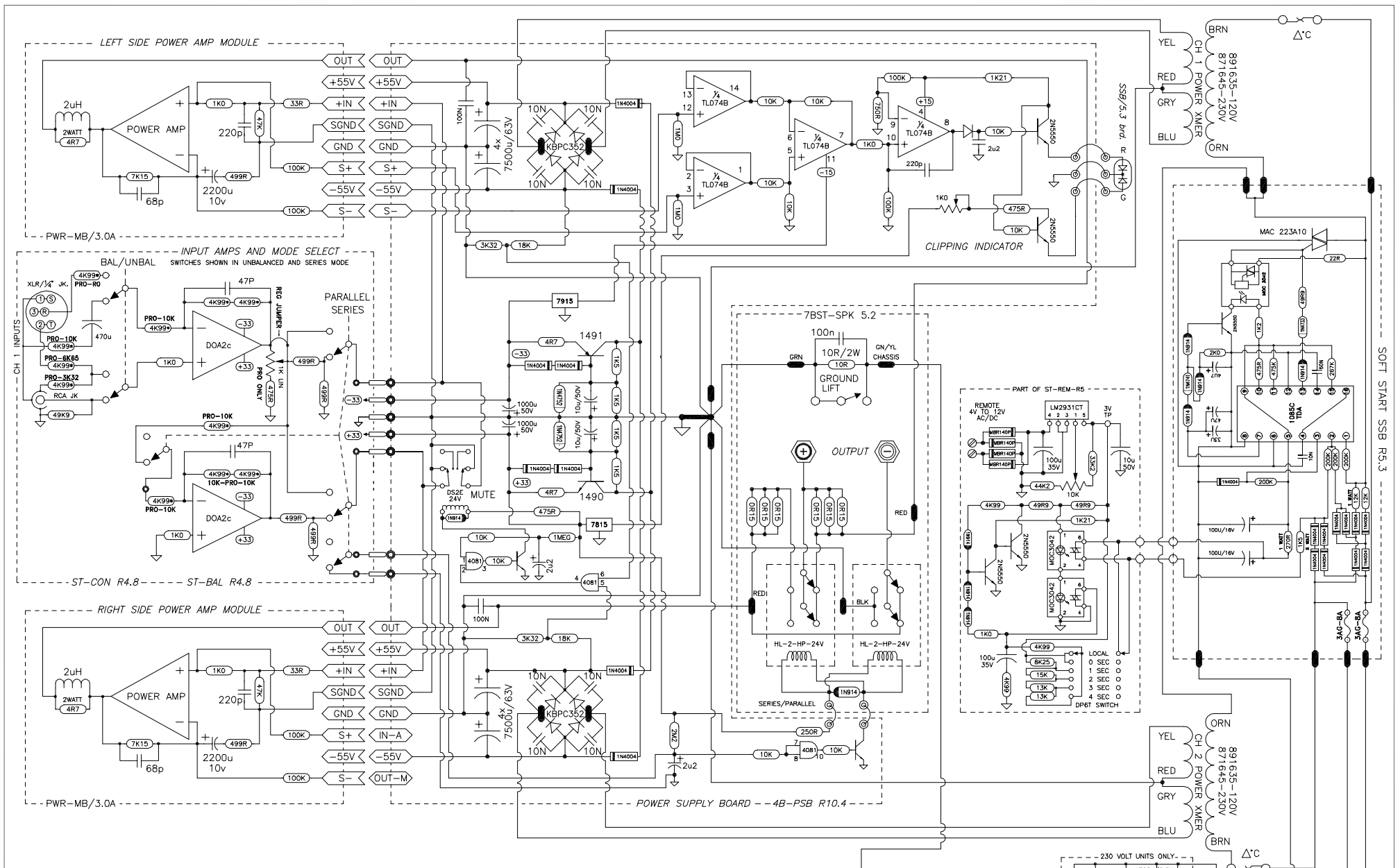
PART No: ST BAL R 5.1

DATE: MAY 97

DWG BY:

REV: 5.1





SOFT START SSB R5.3

**CONNECTORS**

- EDGE CONNECTOR
- BOARD EDGE FINGER
- QUICK DISCONNECT TABS/SOCKETS
- SOLDER PAD FOR FLATWIRE INTERCONNECT
- HEADER BOARD TO BOARD INTERCONNECT

**NOTES:**

7BST = LEXICON 501

ST-REM (REMOTE POWER ON/OFF) USED IN "THX" MODES ONLY

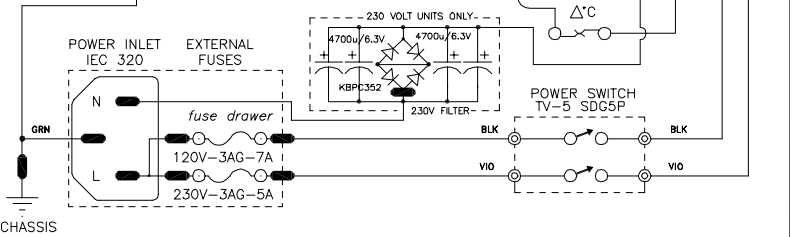
"\*" RESISTORS 0.1% SELECTED IN INPUT AMPS

ST-PRO BAL INPUT HAVE GAIN OF 2  
ST-REG BAL INPUT HAVE UNITY GAIN  
UNBAL INPUTS ALWAYS HAVE GAIN OF 2

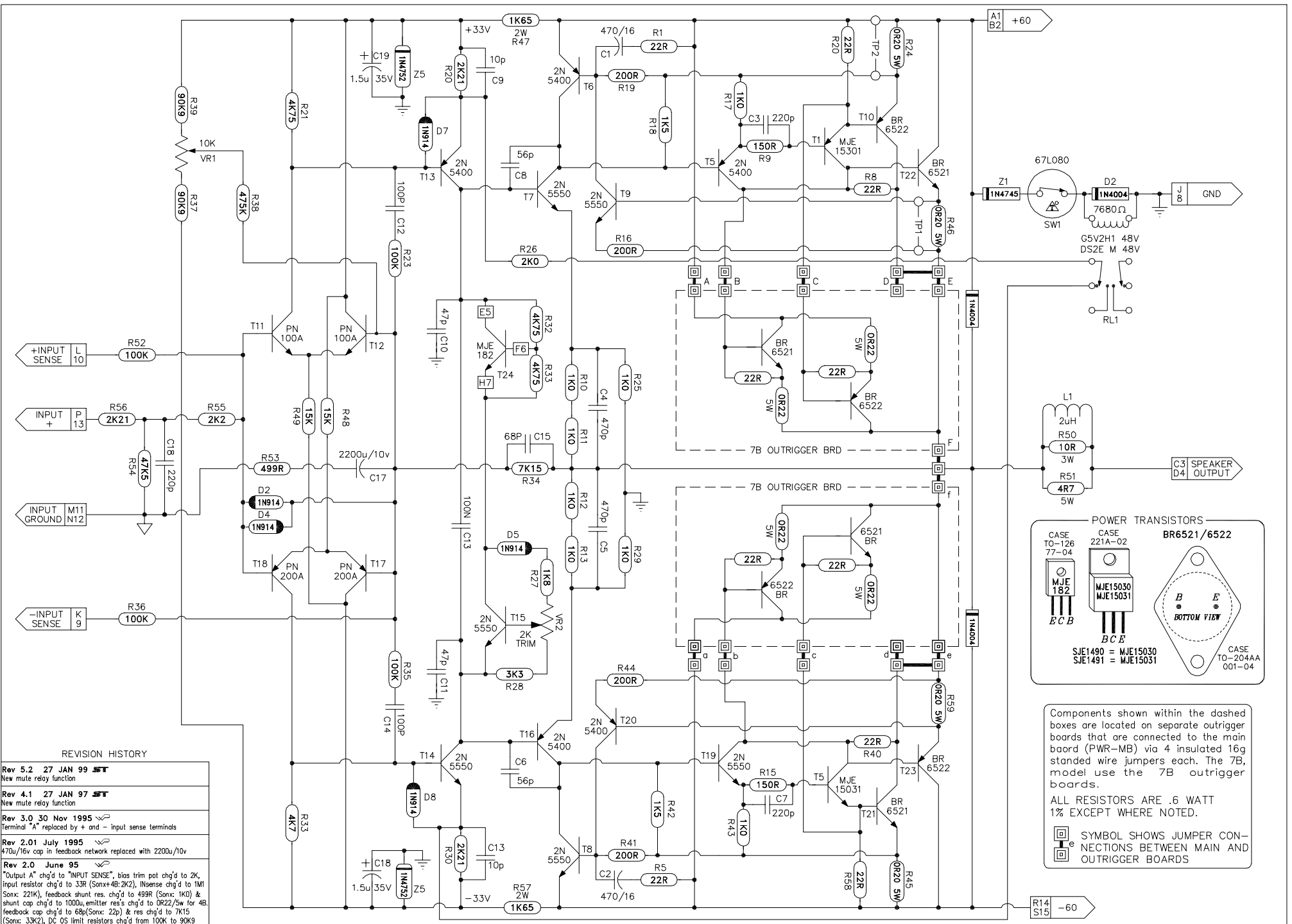
BRUYSTON LTD

677 NEAL DR. PETERBOROUGH, ONTARIO CANADA K9J 7Y4  
PHONE (705) 742-5325 FAX (705) 742-0882

7BST AMPLIFIER  
OVERALL SCHEMATIC







REVISION HISTORY

Rev 5.2	27 JAN 99	ST	New mute relay function
Rev 4.1	27 JAN 97	ST	New mute relay function
Rev 3.0	30 Nov 1995		Terminal "A" replaced by + and - input sense terminals
Rev 2.01	July 1995		470u/16v cap in feedback network replaced with 2200u/10v
Rev 2.0	June 95		"Output A" chg'd to "INPUT SENSE", bias trim pot chg'd to 2K, input resistor chg'd to 33R (Sonz+4B:2K2), INsense chg'd to 1M1 (Sonz: 221K), feedback shunt res. chg'd to 499R (Sonz: 1K0) & shunt cap chg'd to 1000u, emitter res's chg'd to 0R22/5w for 4B, feedback cap chg'd to 68p (Sonz: 22p) & res chg'd to 7K15 (Sonz: 33K2), DC OS limit resistors chg'd from 100K to 90K9 and from 1M to 475K & DC OS injection chg'd from non-inv to inverting input, low voltage limit chg'd to 1K65/.5w (4B: 3K9/2w)
Rev 2.0	June 95		200K (2) in DC-O/S chg'd to 100K; 2N5210 in bias chg'd to 2N5550; output res chg'd to 6W; output "A" added

**BRISTON** Ltd.  
P.O. Box 2170, Peterborough, Ont., Canada K9J-7Y4 (705)742-5325

File: **PWRSCH7B**  
Part No: **PWR-MB-S7.0**  
Revision: **MAY 2000**  
By: **ST**

# 7B CHANNEL ASSEMBLY

**POWER TRANSISTORS**  
**BR6521/6522**

CASE TO-126 77-04  
MJE 182  
E C B

CASE 221A-02  
MJE15030  
MJE15031  
B C E

SJE1490 = MJE15030  
SJE1491 = MJE15031

CASE TO-204AA 001-04

**BOTTOM VIEW**

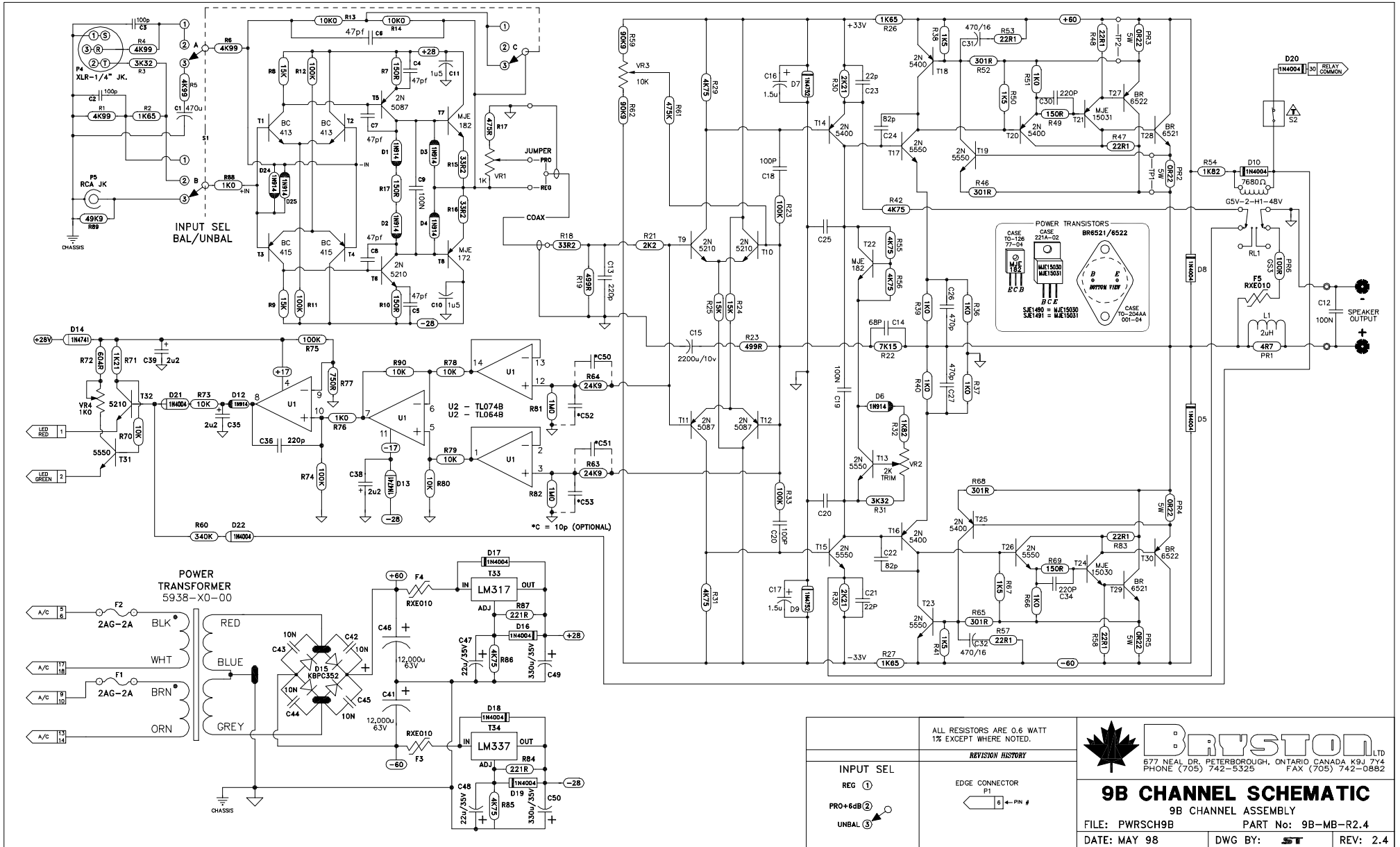
Components shown within the dashed boxes are located on separate outrigger boards that are connected to the main board (PWR-MB) via 4 insulated 16g stranded wire jumpers each. The 7B, model use the 7B outrigger boards.

ALL RESISTORS ARE .6 WATT 1% EXCEPT WHERE NOTED.


SYMBOL SHOWS JUMPER CONNECTIONS BETWEEN MAIN AND OUTRIGGER BOARDS

for the PWR-MB/7.0 PCB adapted for 7B amplifiers





ALL RESISTORS ARE 0.6 WATT 1% EXCEPT WHERE NOTED.	
<b>REVISION HISTORY</b>	
INPUT SEL	EDGE CONNECTOR P1
REG ①	① ← PN #
PRO+60B ②	
UNBAL ③	




**BRYSTON** LTD.  
677 NEAL DR. PETERBOROUGH, ONTARIO CANADA K9J 7Y4  
PHONE (705) 742-5325 FAX (705) 742-0882




## 9B CHANNEL SCHEMATIC

9B CHANNEL ASSEMBLY

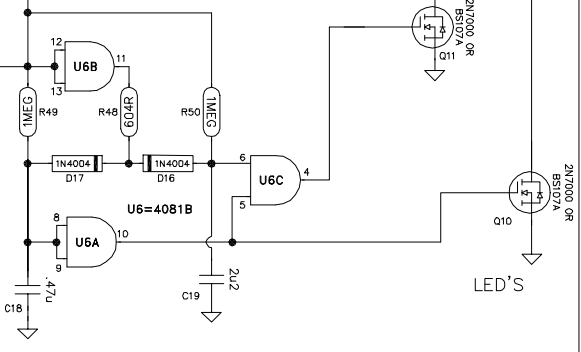
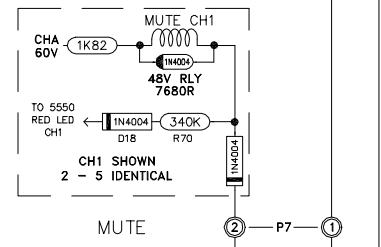
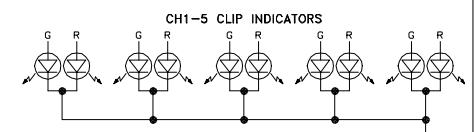
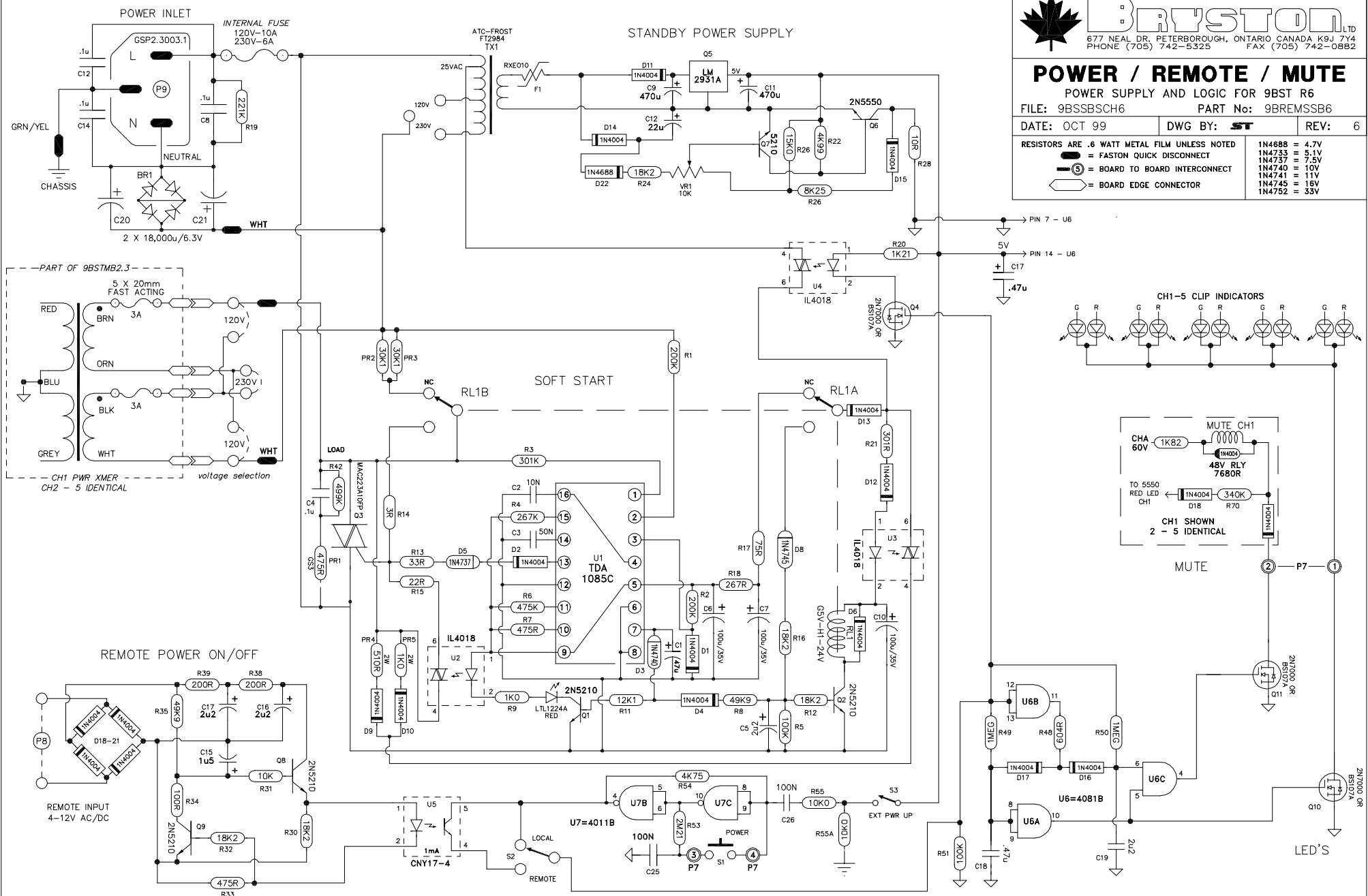
FILE: PWRSCH9B      PART No: 9B-MB-R2.4

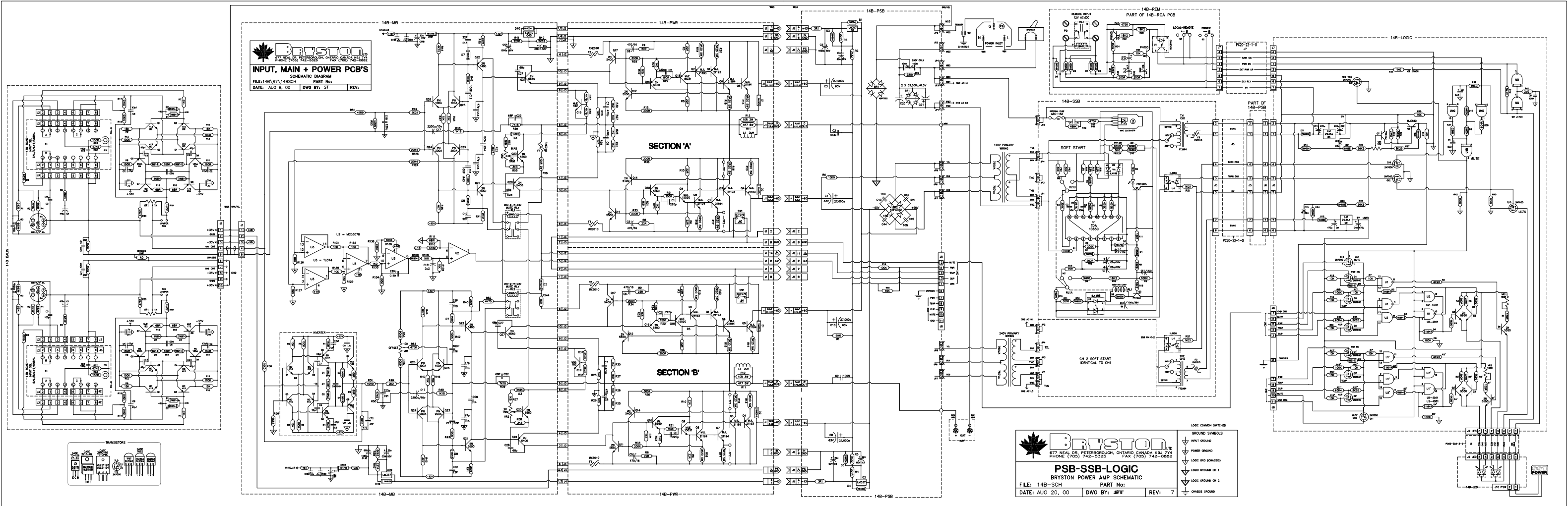
DATE: MAY 98	DWG BY: 	REV: 2.4
--------------	---	----------

**POWER / REMOTE / MUTE**  
 POWER SUPPLY AND LOGIC FOR 9BST R6  
 FILE: 9BSSBSCH6 PART No: 9BREMSSB6  
 DATE: OCT 99 DWG BY: **ST** REV: 6

RESISTORS ARE .6 WATT METAL FILM UNLESS NOTED  
 = FASTON QUICK DISCONNECT  
 = BOARD TO BOARD INTERCONNECT  
 = BOARD EDGE CONNECTOR

1N4688	= 4.7V
1N4733	= 5.1V
1N4737	= 7.5V
1N4740	= 10V
1N4741	= 11V
1N4745	= 15V
1N4752	= 33V





**BRYSTON**  
 817, 827, 835, 923, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000

**INPUT, MAIN + POWER PCB'S**  
 SCHEMATIC DIAGRAM PART No:  
 FILE: 14B/R7/14BSCH DATE: AUG 8, 00 DWG BY: ST REV: 1

**BRYSTON**  
 677 NEAL CR. PETERBOROUGH, ONTARIO CANADA K9J 7Y4  
 PHONE (705) 742-5325 FAX (705) 742-0842

**PSB-SSB-LOGIC**  
 BRYSTON POWER AMP SCHEMATIC  
 FILE: 14B-SCH PART No:  
 DATE: AUG 20, 00 DWG BY: JST REV: 7

LOGIC COMMON SWITCHED  
 GROUND SYMBOLS  
 INPUT GROUND  
 POWER GROUND  
 LOGIC GND (PHASED)  
 LOGIC GROUND CH 1  
 LOGIC GROUND CH 2  
 CHASSIS GROUND