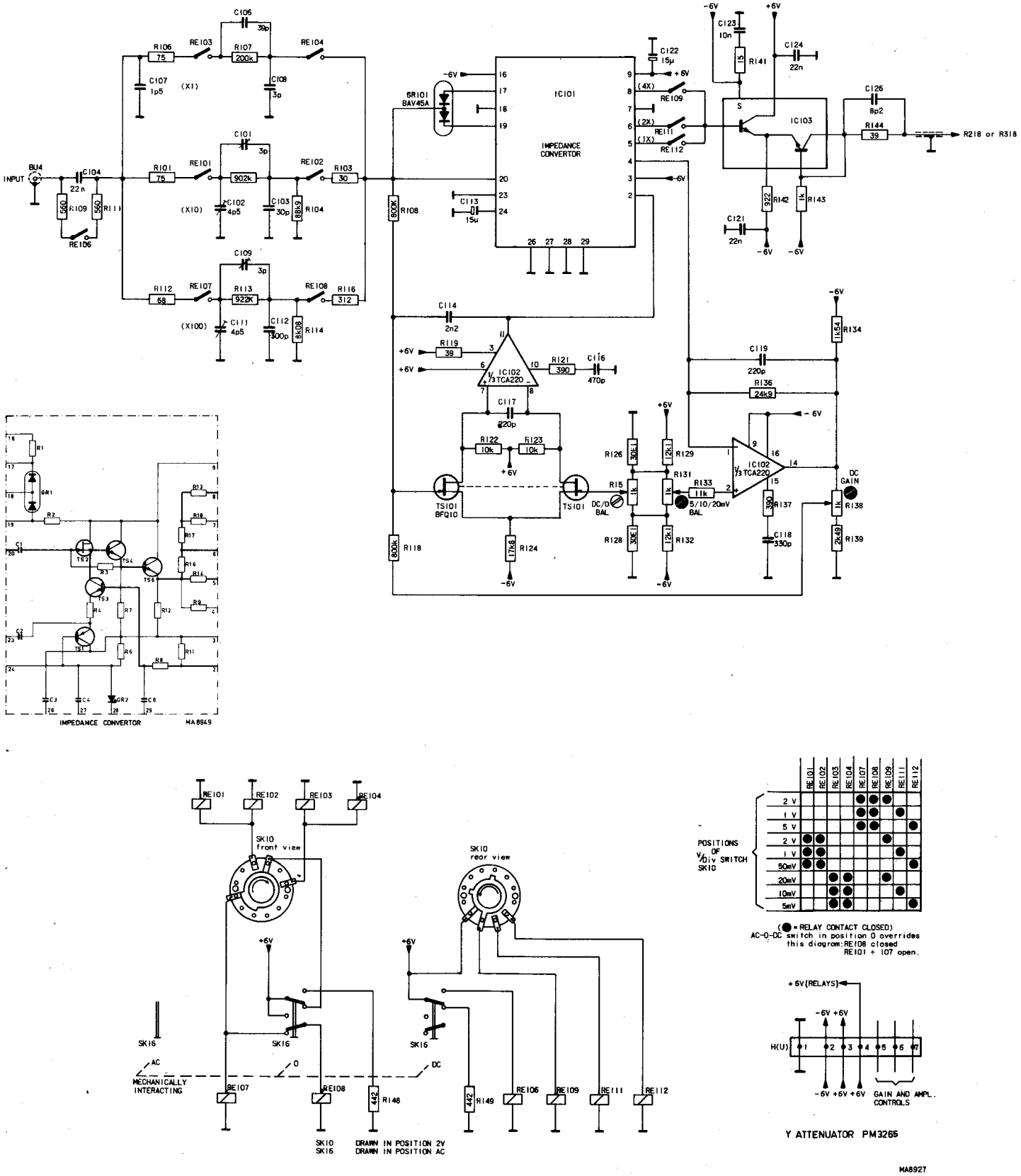


Fig. 3.26. Y Attenuator

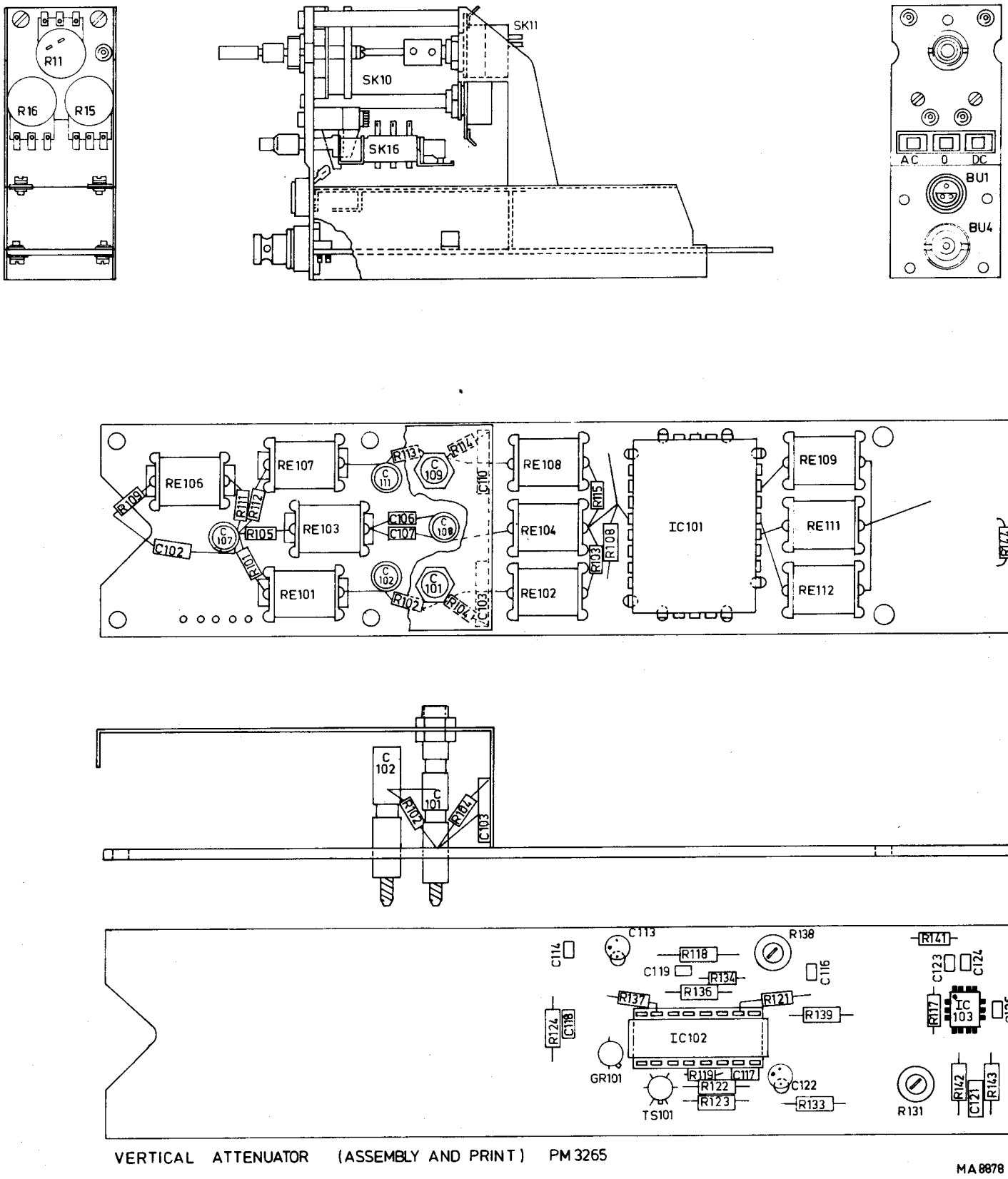


Fig. 3.27. Vertical attenuator (Assembly and print)

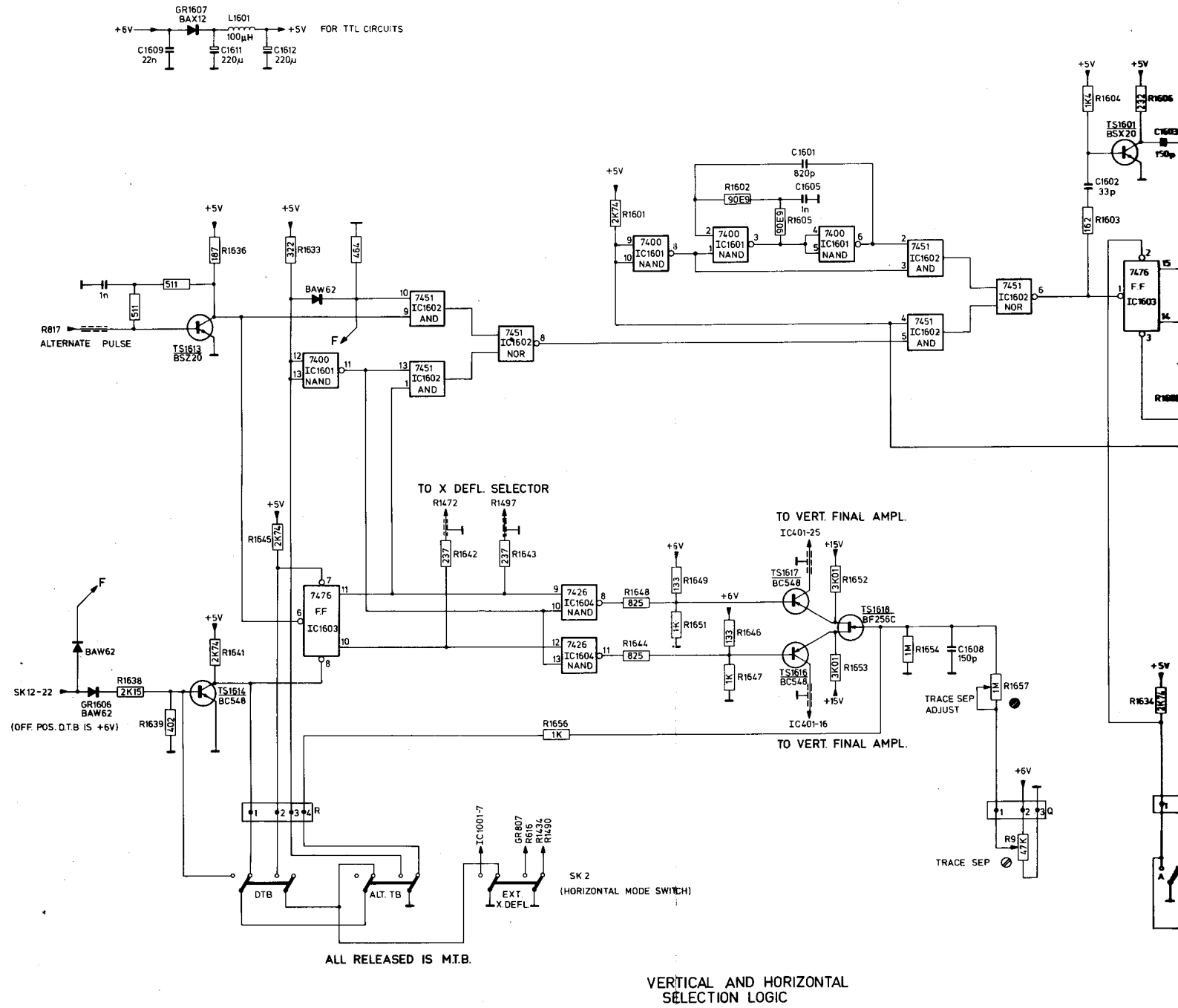
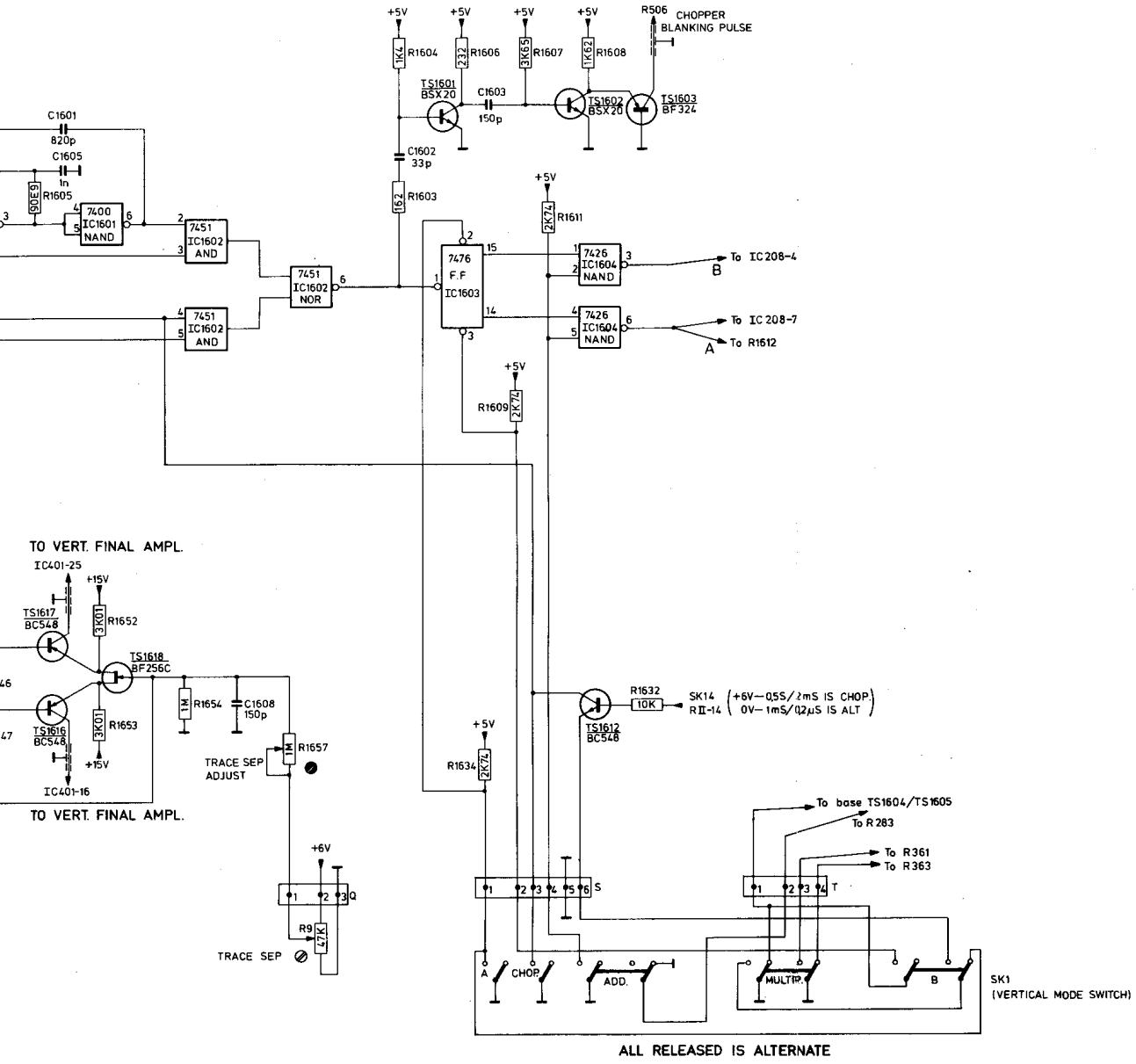
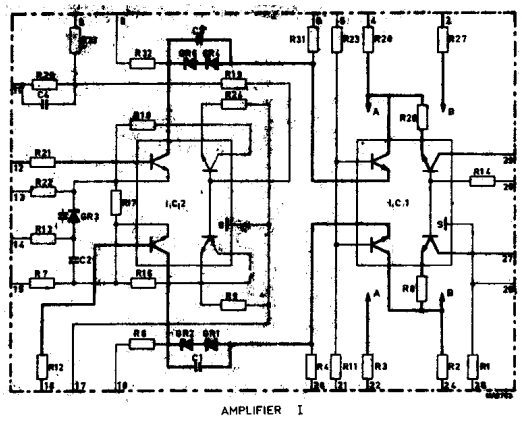


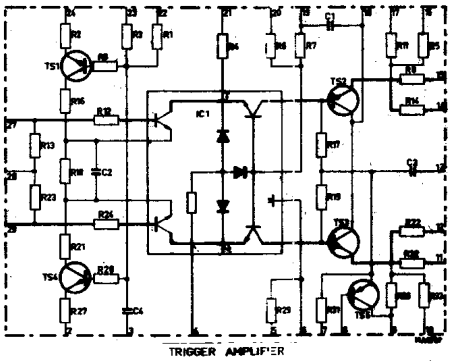
Fig. 3.28. Vertical and Horizontal selection logic

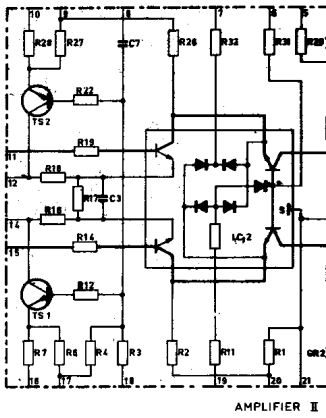


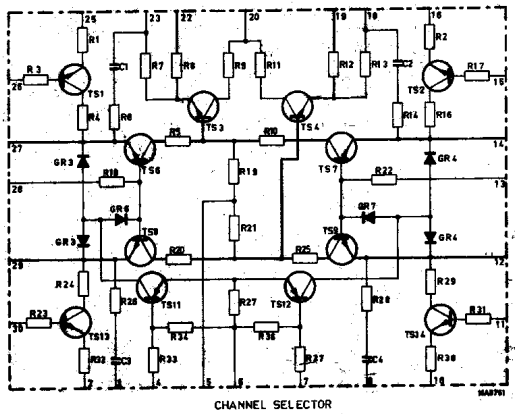
HORIZONTAL
LOGIC

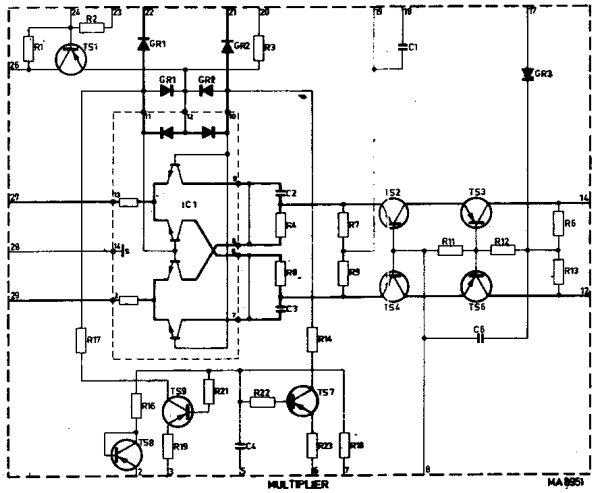
MA 8985

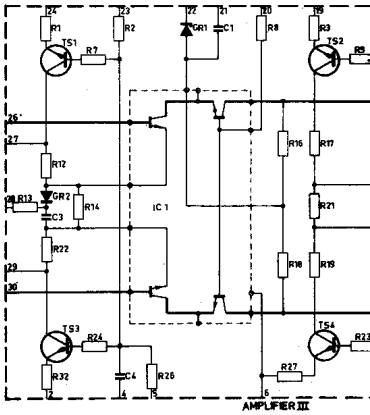












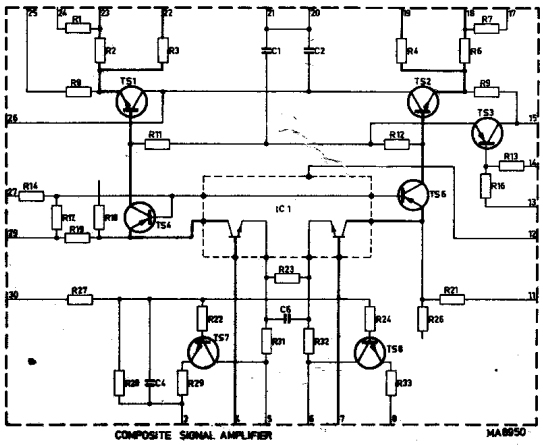
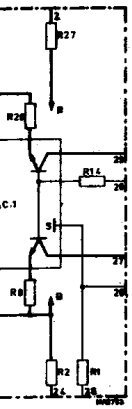
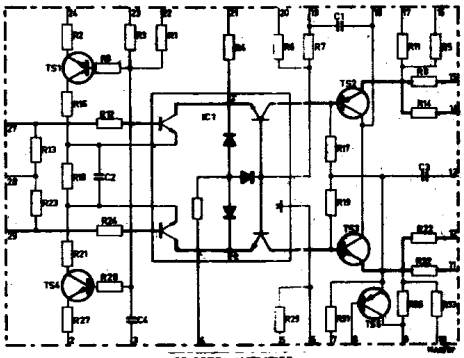
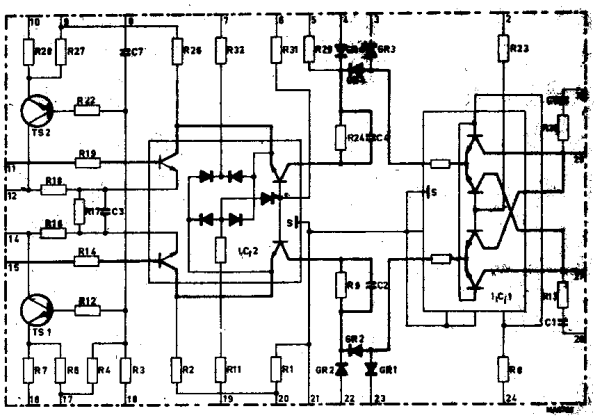
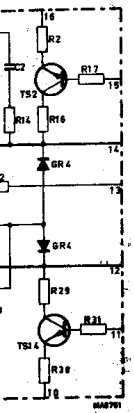


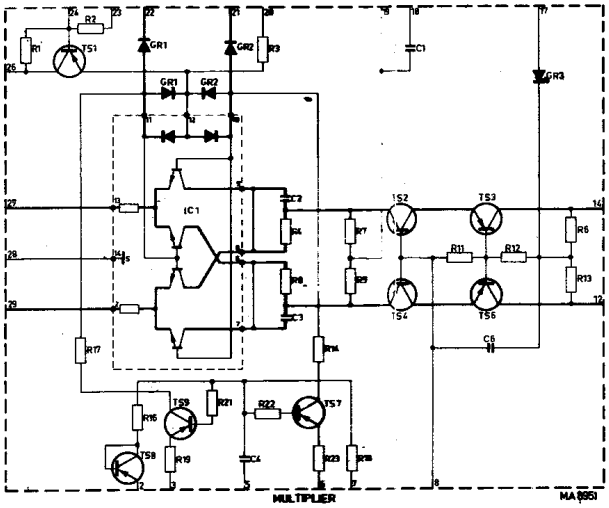
Fig. 3.29. Hybrid circuits intermediate amplifier

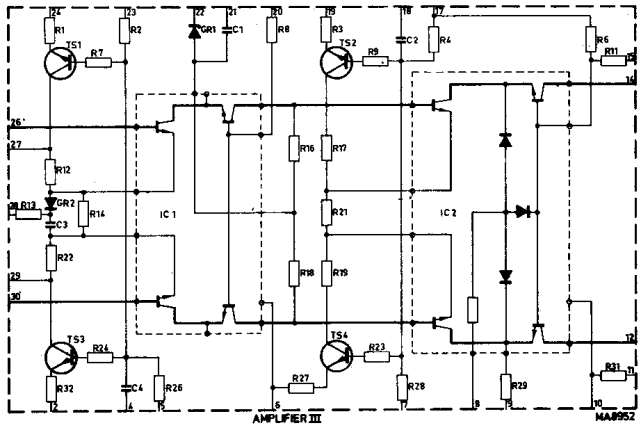


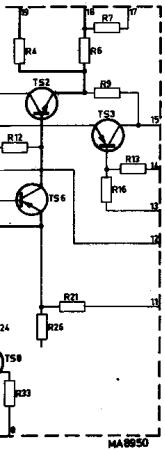












diate amplifier

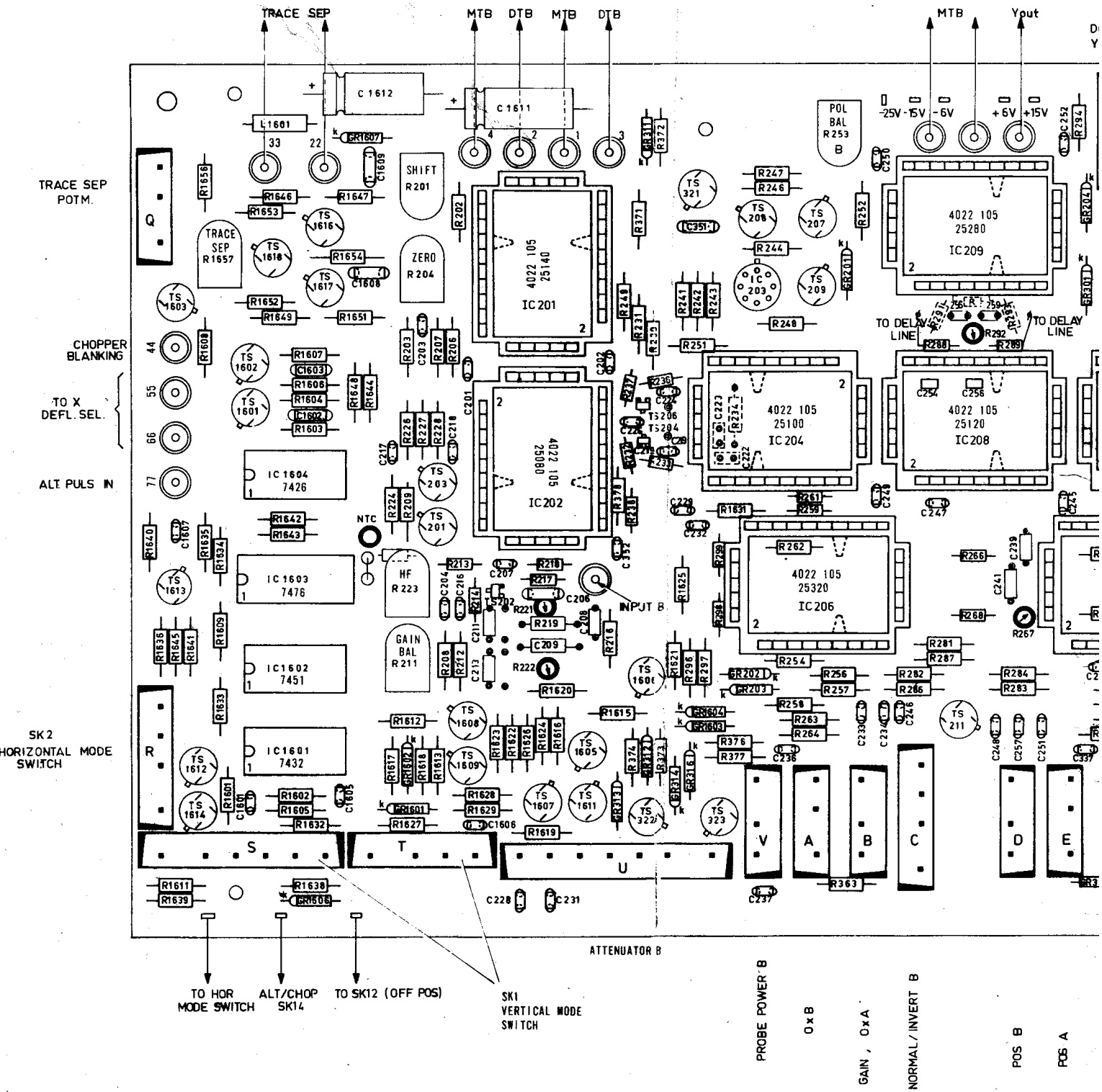
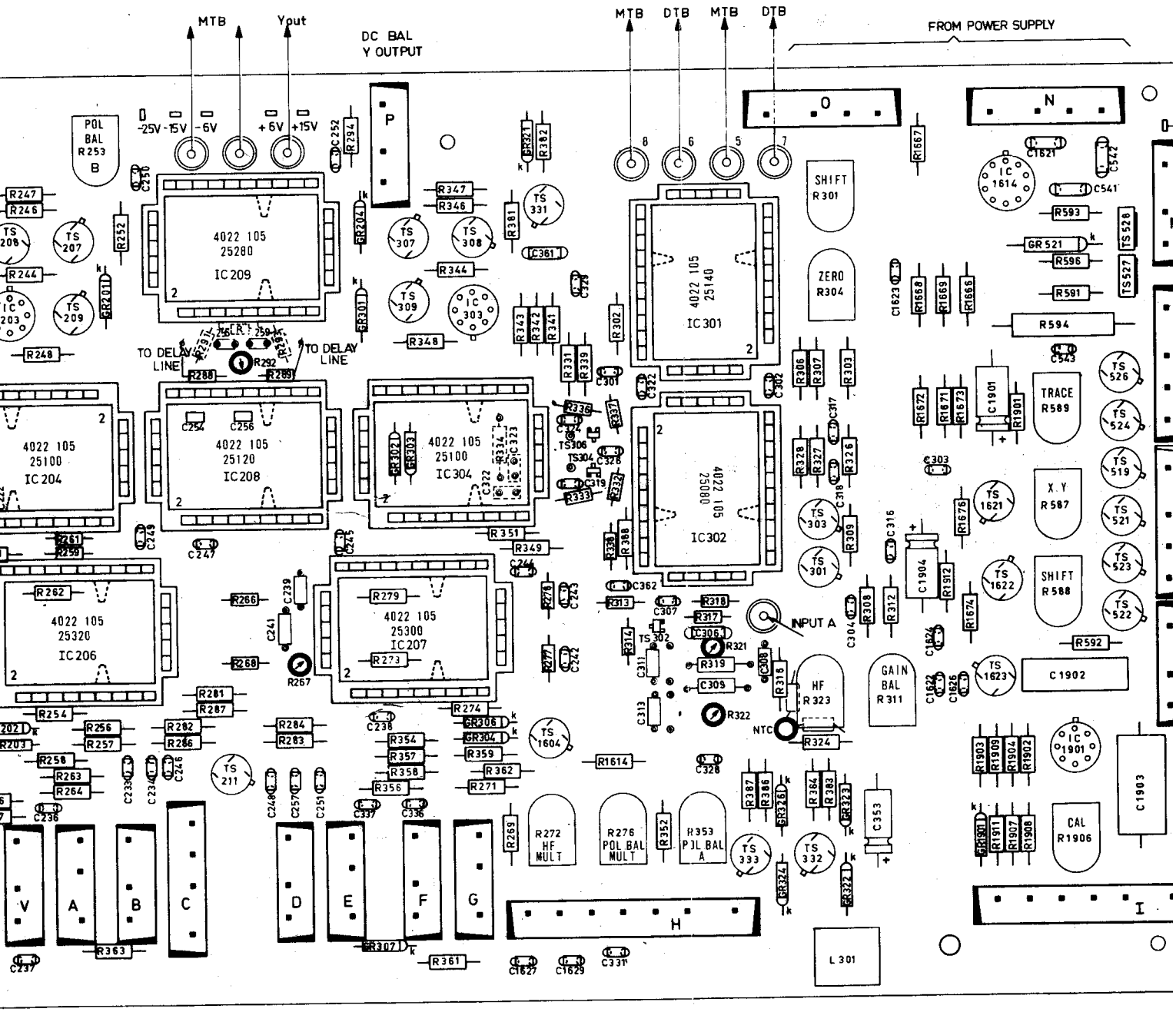


Fig. 3.30. Circuit board intermediate amplifier



ATTENUATOR A

GRATICULE ILLUMINATION AND CAL OUTPUT

PROBE POWER B

0 x B

GAIN , 0 x A

NORMAL / INVERT B

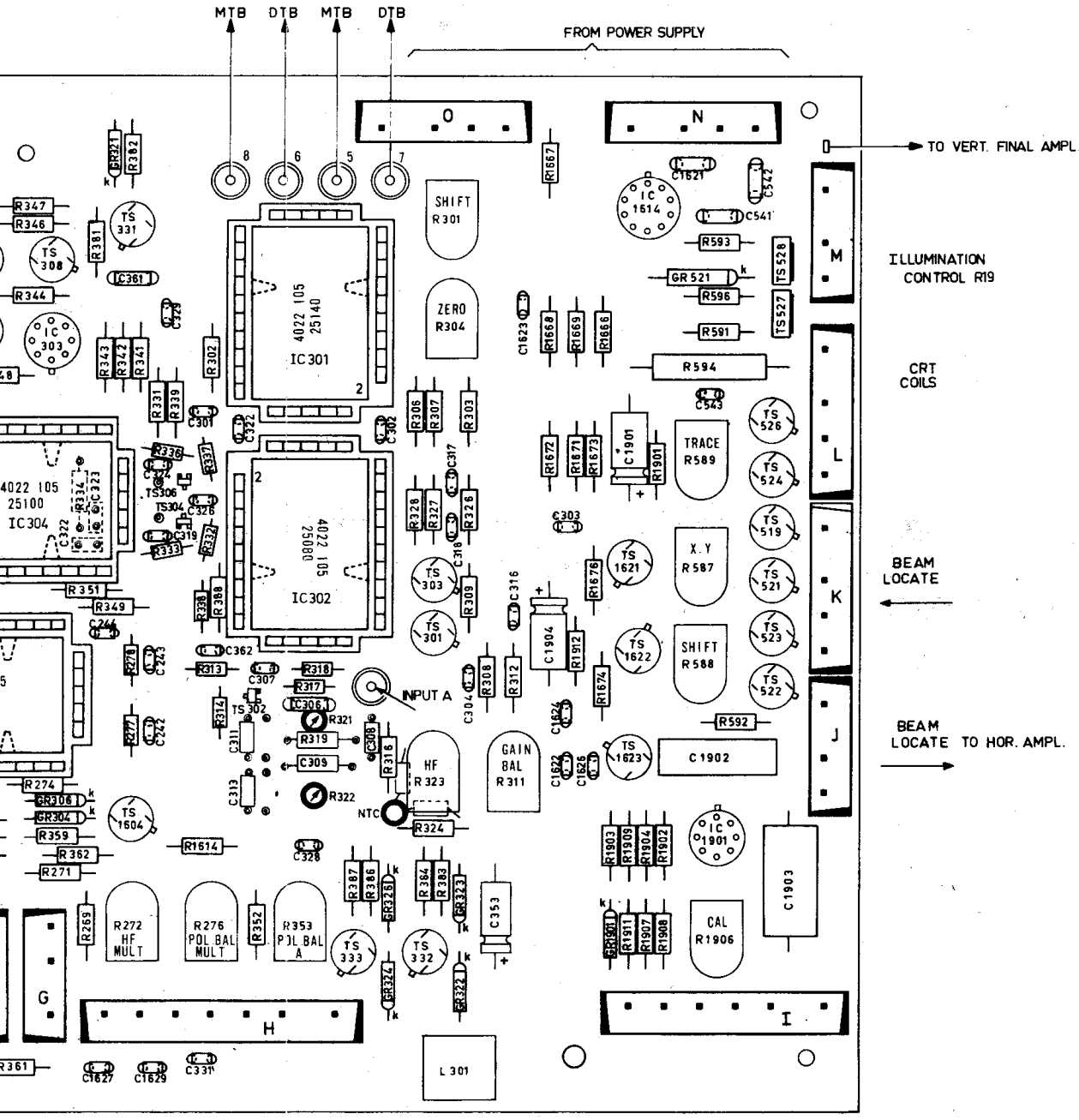
POS B

POS A

NORMAL / INVERT A

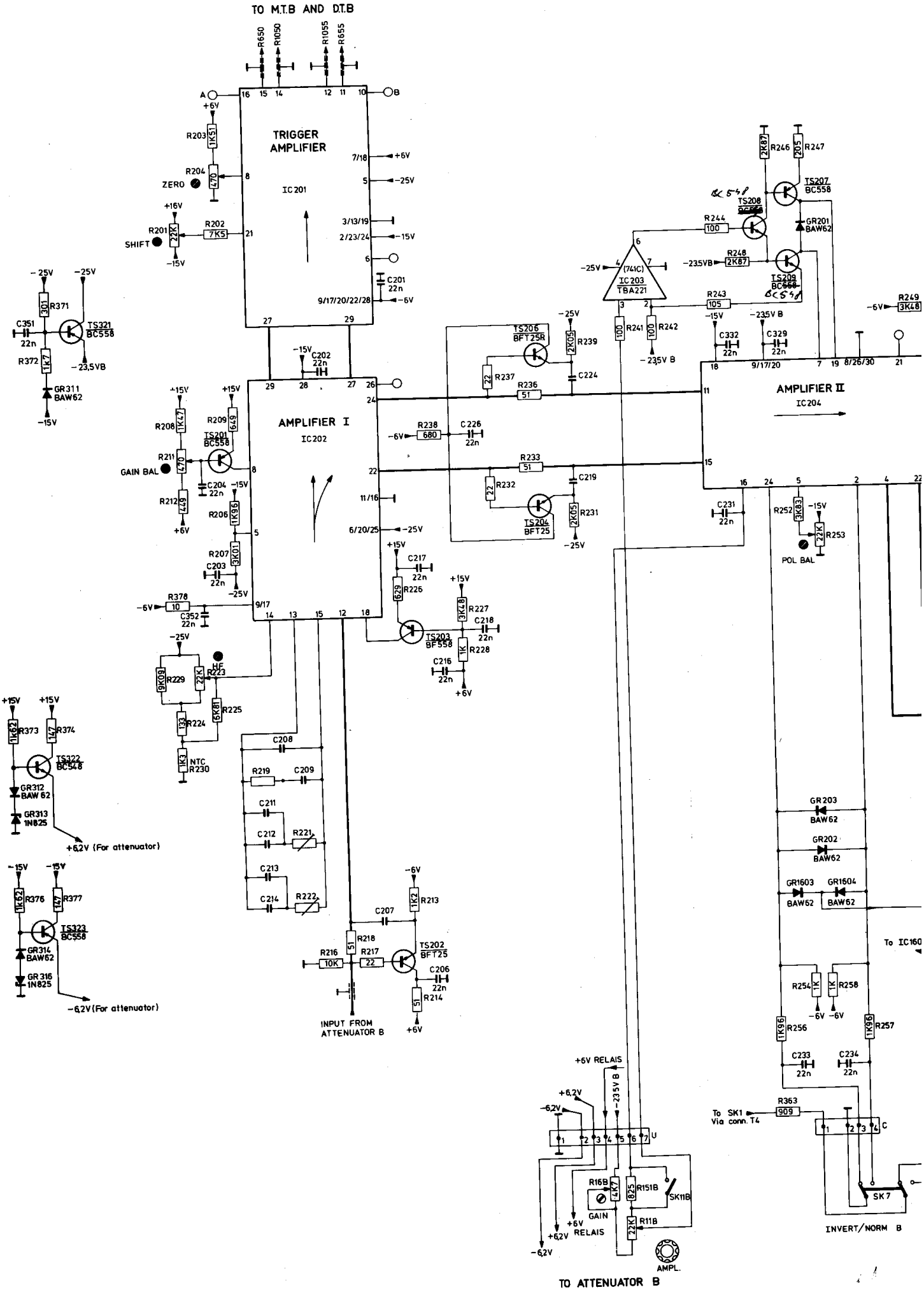
PROBE POWER A

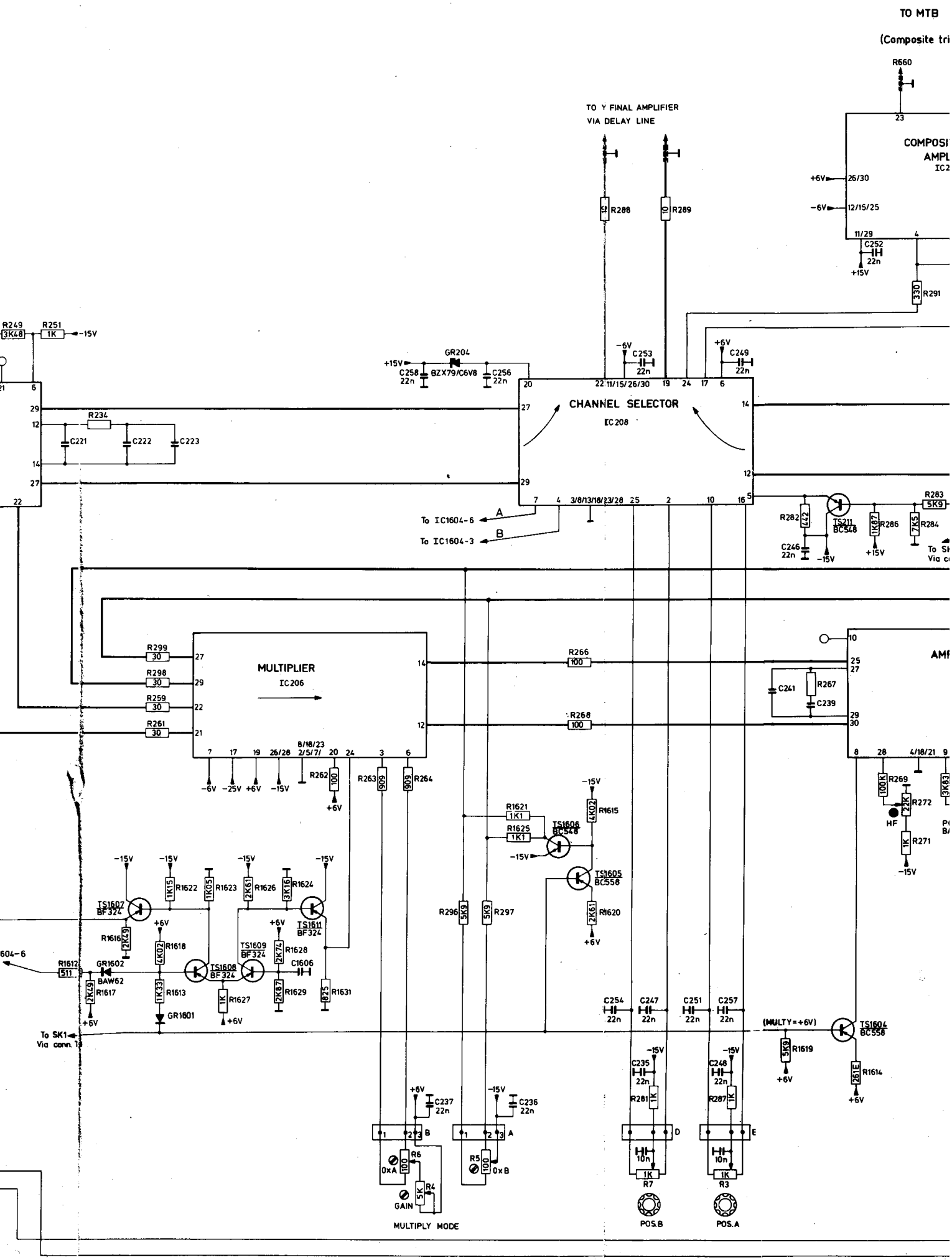
INTERMEDIATE AMPLIFIER PM3265

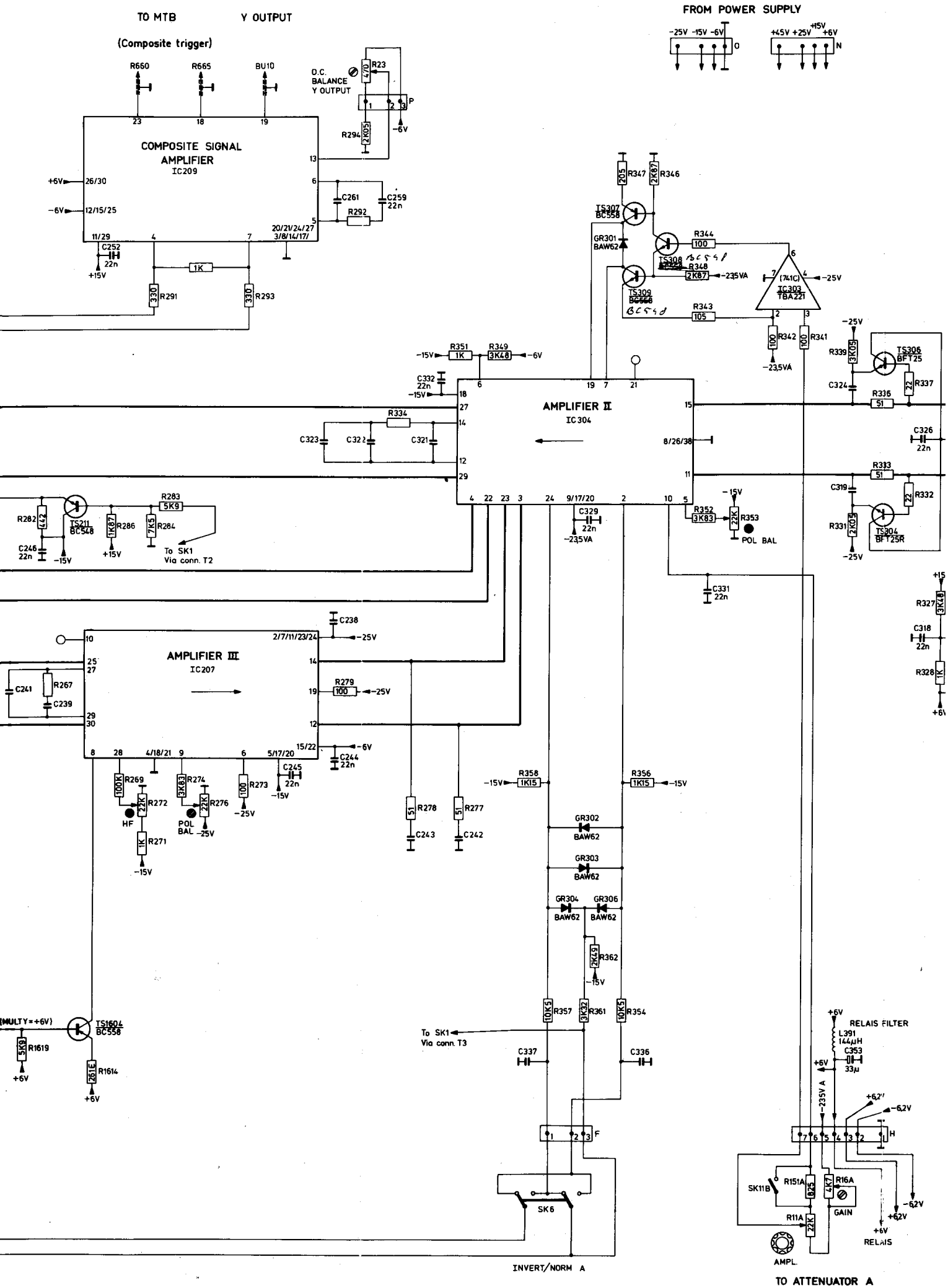


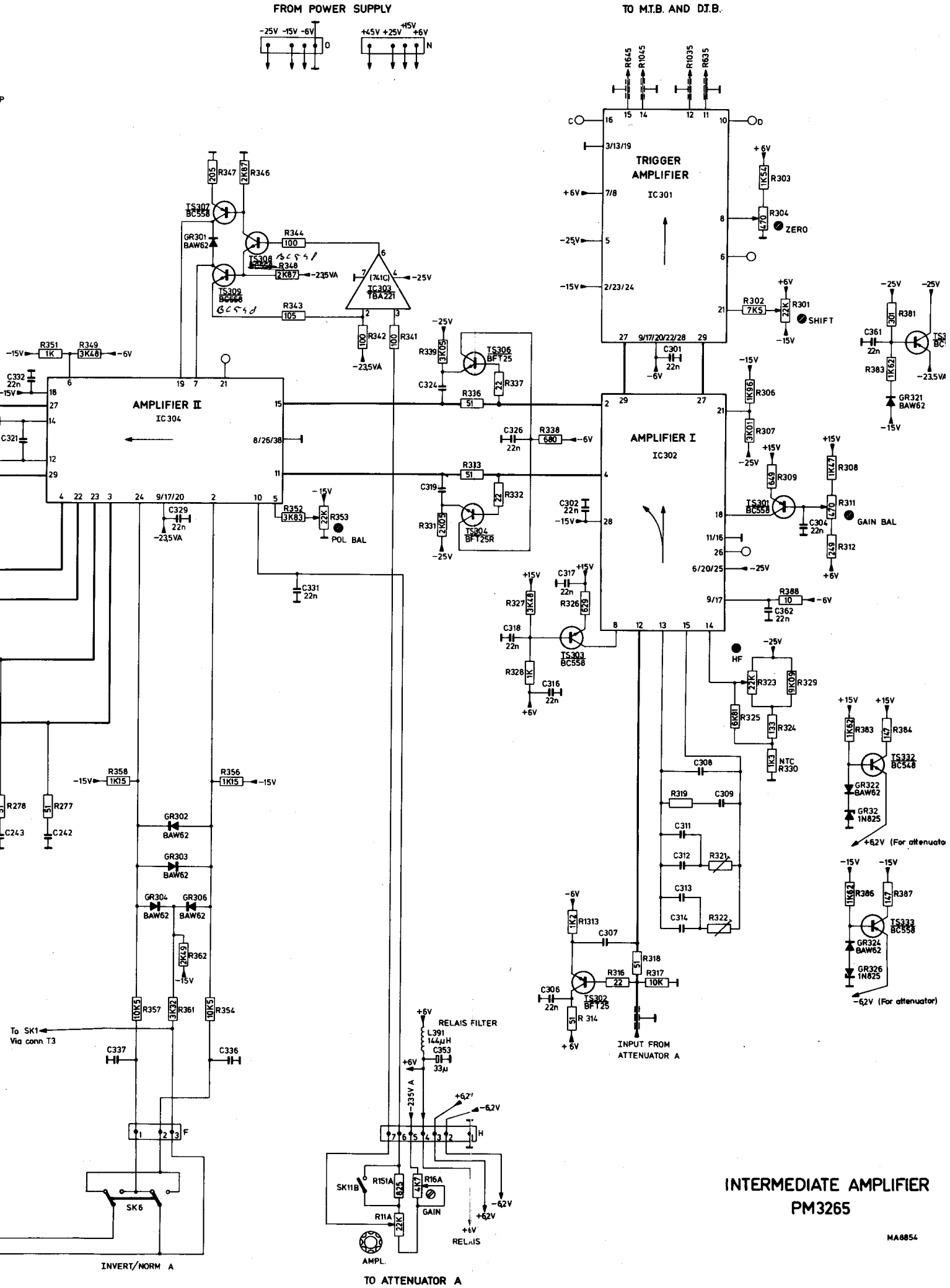
INTERMEDIATE AMPLIFIER PM3265

MA8884


TO M.T.B AND D.T.B
TRIGGER AMPLIFIER
IC201
AMPLIFIER I
IC202
AMPLIFIER II
IC204
IC203 TBA221
ZERO
SHIFT
GAIN BAL
HF
POL BAL
GAIN
INPUT FROM ATTENUATOR B
TO ATTENUATOR B
INVERT/NORM B
AMPL.
+6,2V (For attenuator)
-6,2V (For attenuator)
To IC160
To SK1 Via conn. T4


TO MTB
(Composite tri
TO Y FINAL AMPLIFIER
VIA DELAY LINE
R660
R288
R289
COMPOSI
AMPL
IC2
+6V
-6V
26/30
12/15/25
11/29
C252
22n
+15V
330
R291
R249
3K48
R251
1K
-15V
GR204
+15V
C258
22n
BZX79/C6V8
C256
22n
-6V
C253
22n
+6V
C249
22n
CHANNEL SELECTOR
IC208
R234
C221
C222
C223
To IC1604-6
A
To IC1604-3
B
R282
442
TS211
BC548
1K87
R286
7K5
R284
R283
5K9
C246
22n
-15V
+15V
To SI
Via c
MULTIPLIER
IC206
R299
30
R298
30
R259
30
R261
30
R266
100
R268
100
C241
R267
C239
R262
100
+6V
R263
909
R264
909
R269
100K
R272
2K2
HF
R271
1K
-15V
R1621
1K1
R1625
1K1
TS1606
BC548
R1615
4K02
TS1605
BC558
R1620
2K61
R296
5K9
R297
5K9
R1622
1K15
R1623
1K05
R1626
2K61
R1624
3K16
TS1607
BF324
TS1611
BF324
R1616
2K49
R1618
4K02
TS1609
BF324
TS1608
BF324
R1628
2K74
C1606
R1629
2K87
R1627
1K
R1631
825
R1612
511
GR1602
BAW62
R1617
2K49
R1613
1K33
GR1601
To SK1
Via conn. 1
C254
22n
C247
22n
C251
22n
C257
22n
(MULTY=+6V)
TS1604
BC558
5K9
R1619
261E
R1614
C235
22n
R281
1K
C248
22n
R287
1K
C237
22n
C236
22n
R6
100
0xA
R5
100
0xB
R4
5K
GAIN
10n
1K
R7
R3
MULTIPLY MODE
POS.B
POS.A

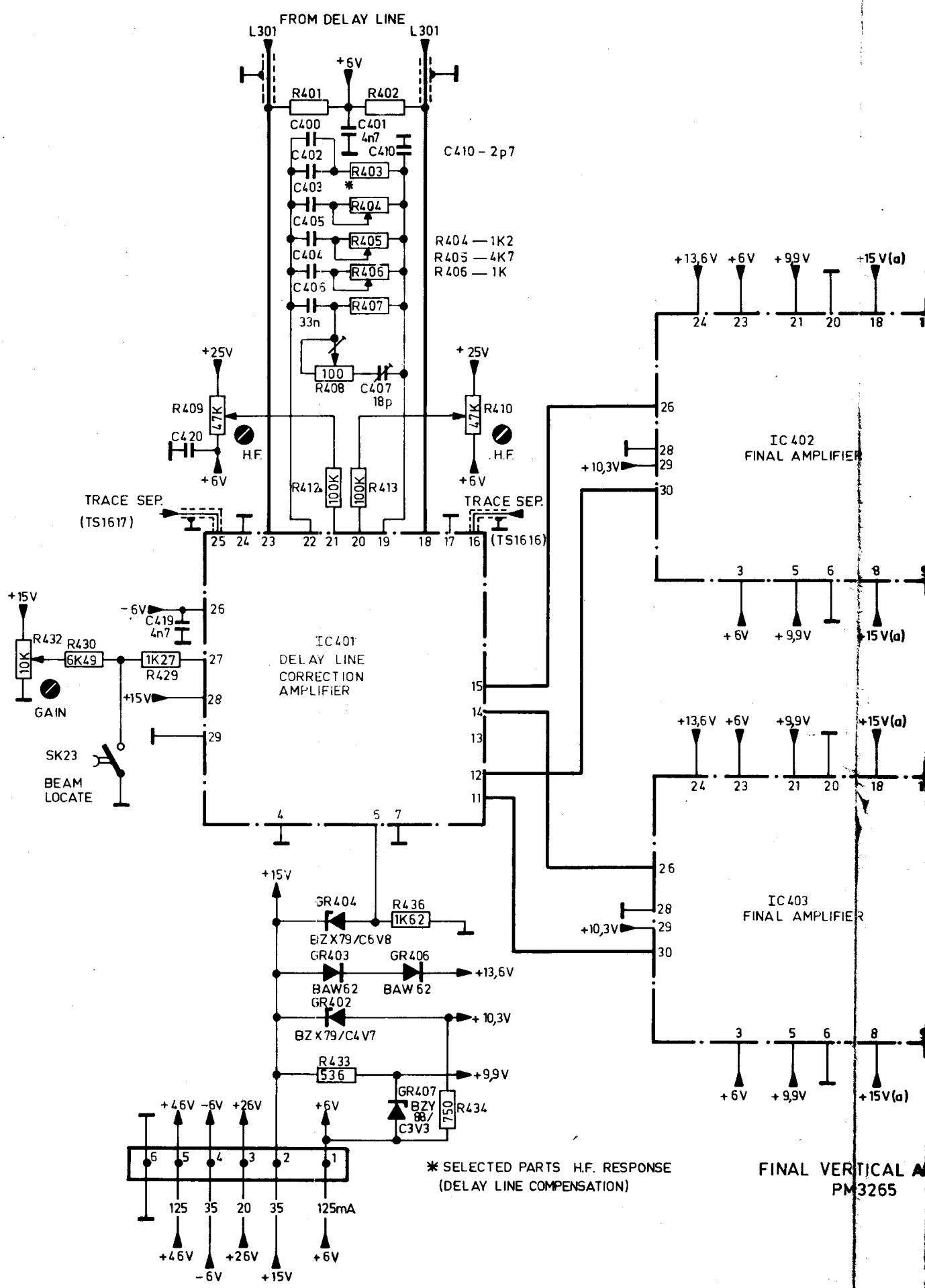

TO MTB
Y OUTPUT
(Composite trigger)
FROM POWER SUPPLY
-25V -15V -6V
+45V +25V +15V +6V
COMPOSITE SIGNAL AMPLIFIER
IC209
D.C. BALANCE Y OUTPUT
AMPLIFIER II
IC304
AMPLIFIER III
IC207
POL BAL
HF
To SK1 Via conn. T2
To SK1 Via conn. T3
RELAIS FILTER
GAIN
SK6
INVERT/NORM A
AMPL.
RELAIS
TO ATTENUATOR A



INTERMEDIATE AMPLIFIER
PM3265

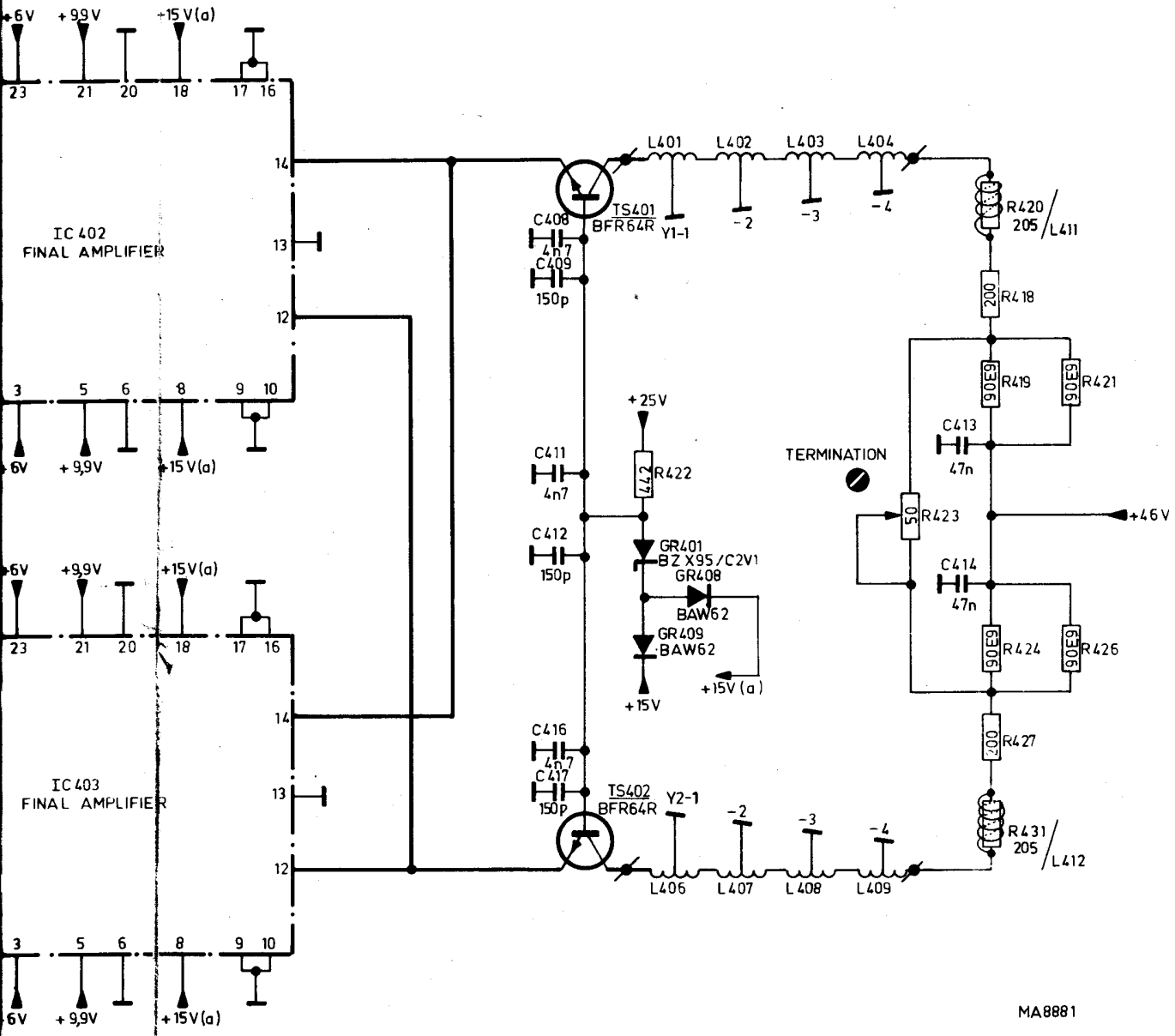
MA8854

Fig. 3.31. Intermediate amplifier



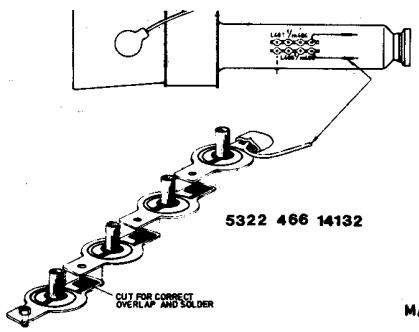
* SELECTED PARTS H.F. RESPONSE (DELAY LINE COMPENSATION)

FINAL VERTICAL A
PM3265



FINAL VERTICAL AMPLIFIER
PM3265

MA8881



L401/L404 and
L406/L409

Fig. 3.32. Final Y amplifier circuit

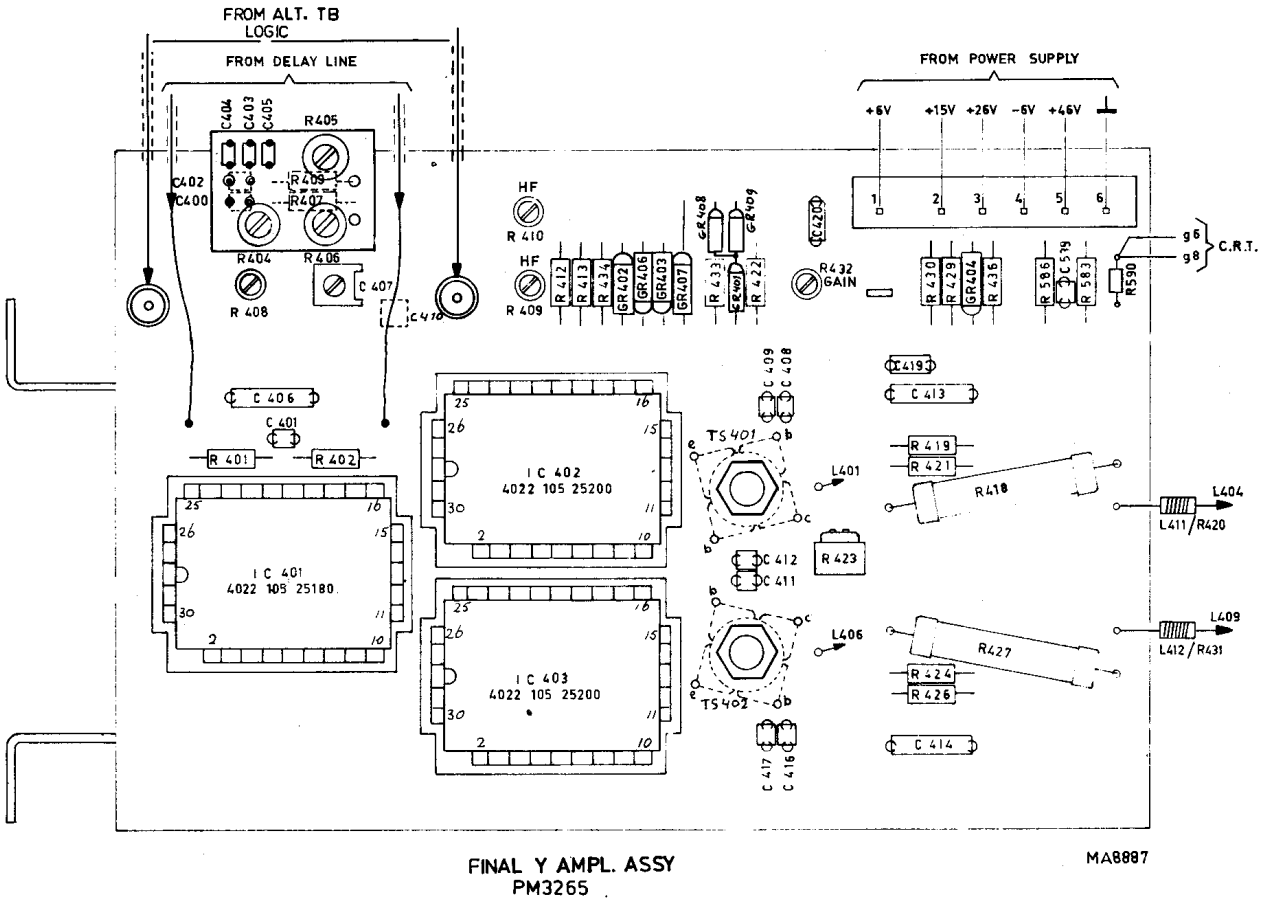
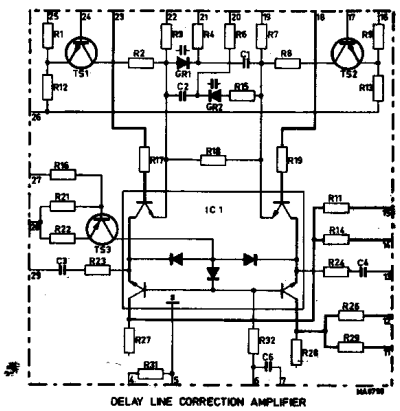


Fig. 3.33. Final Y amplifier circuit board



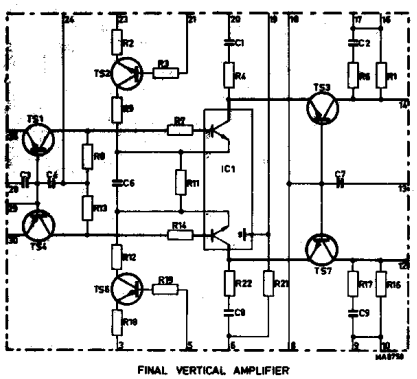


Fig. 3.34. Hybrid circuits final Y amplifier

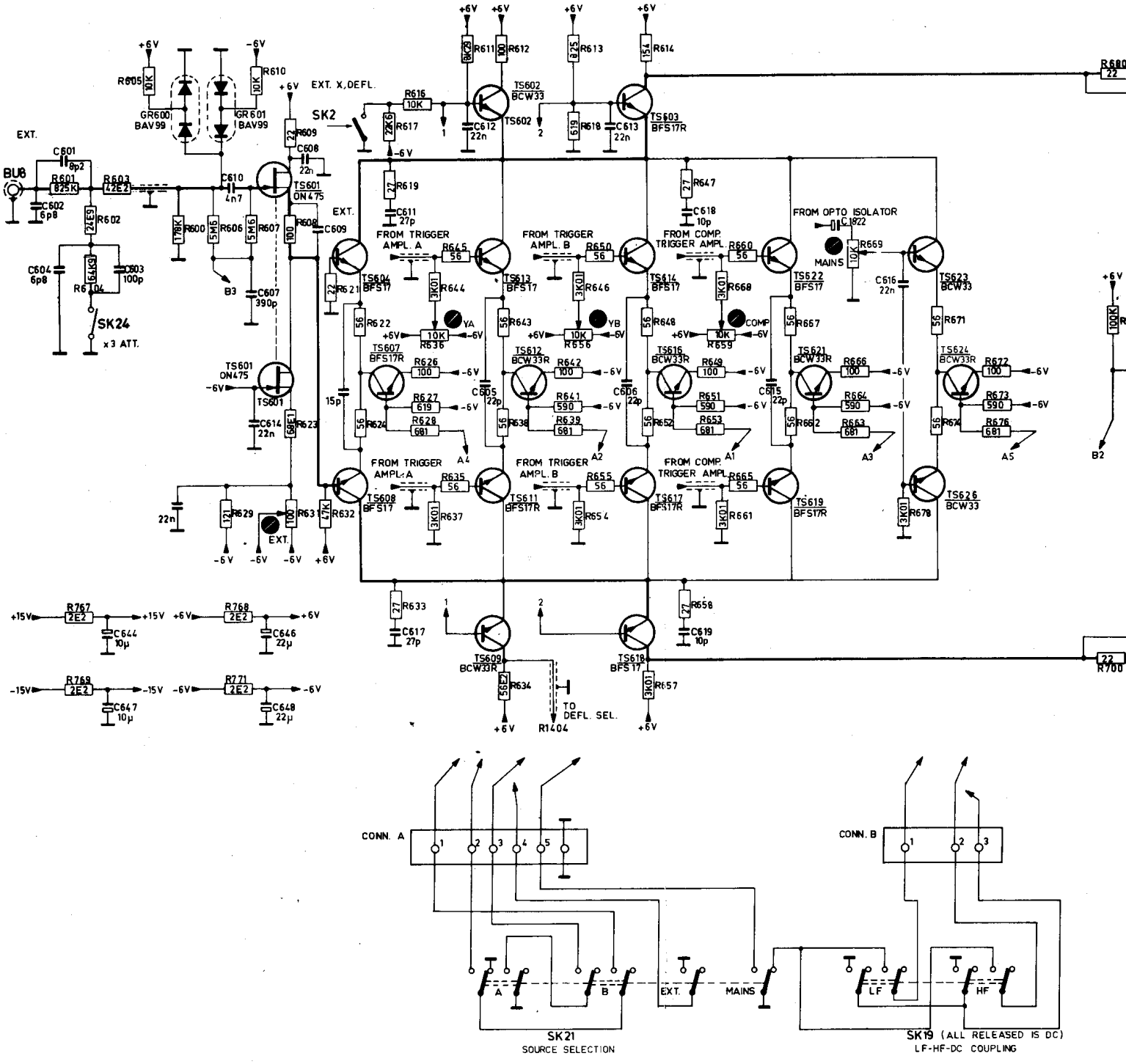
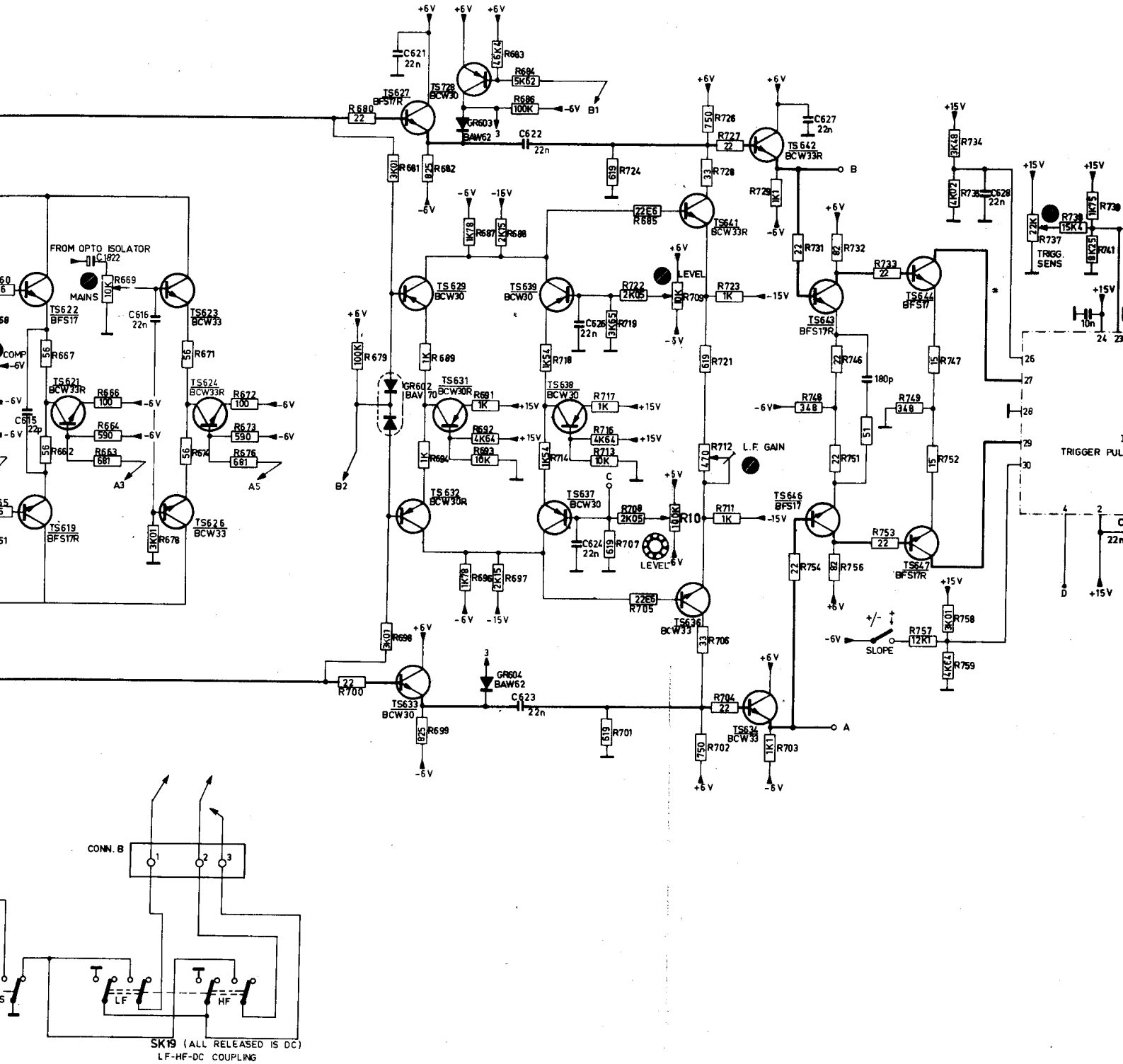
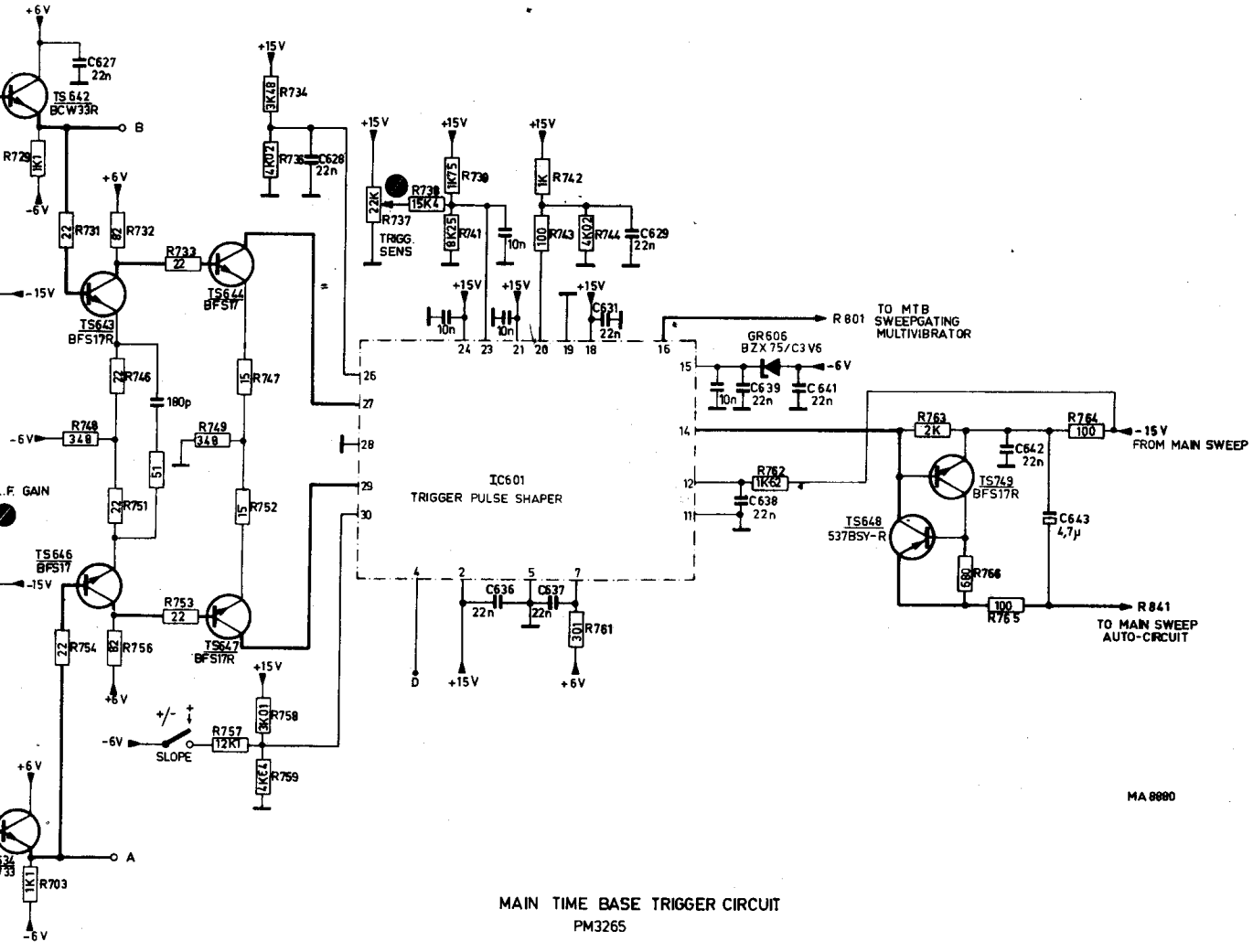


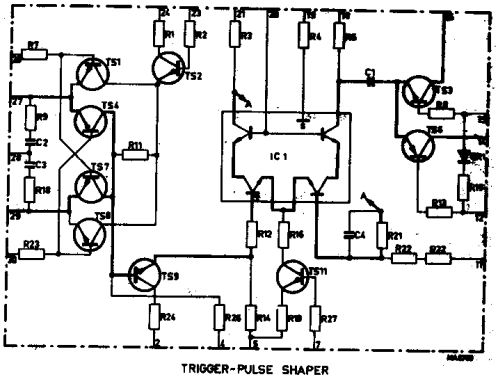
Fig. 3.35. MTB trigger circuit diagram



SK19 (ALL RELEASED IS DC)
LF-HF-DC COUPLING



MAIN TIME BASE TRIGGER CIRCUIT
PM3265



TRIGGER-PULSE SHAPER

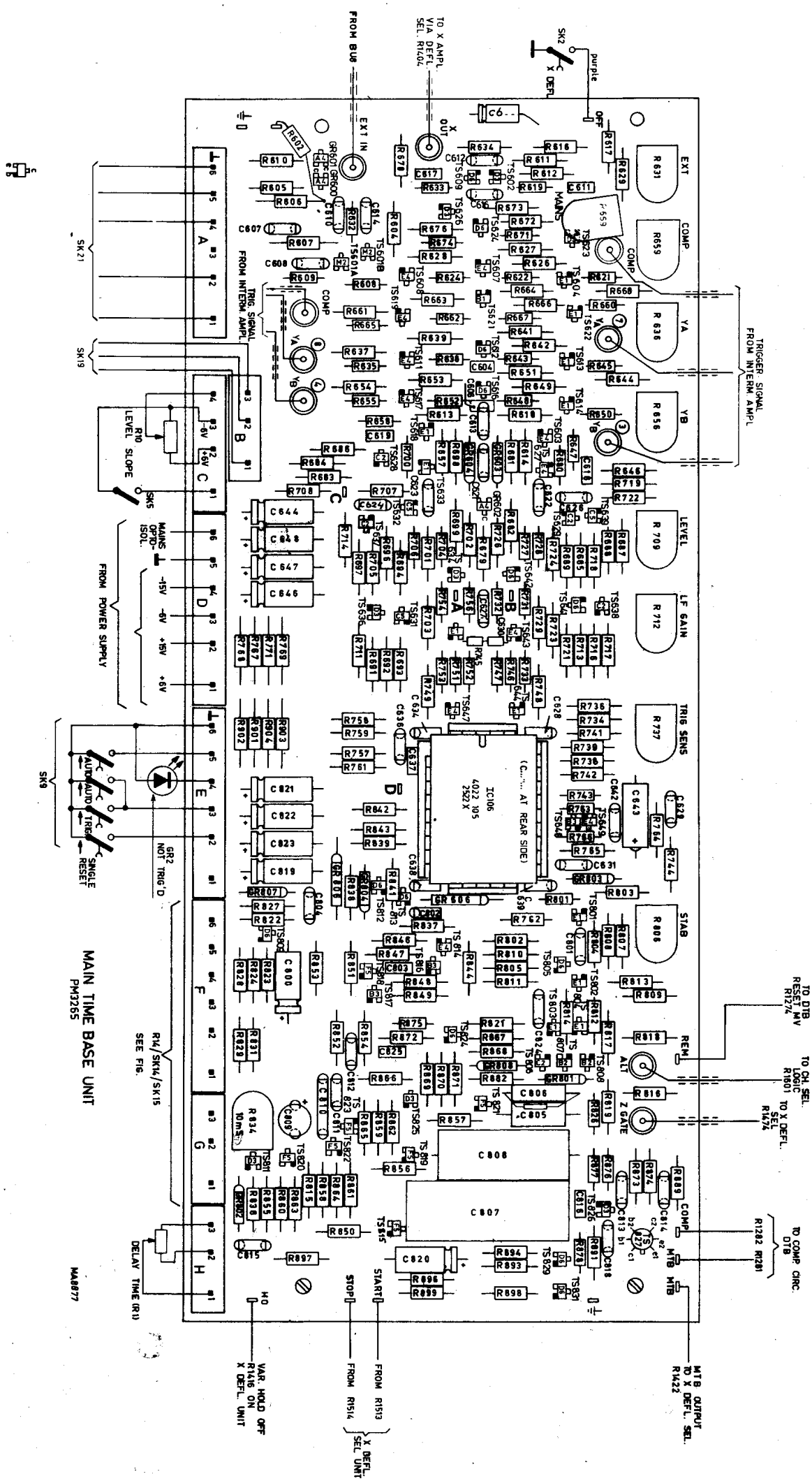


Fig. 3.36. MTB circuit board

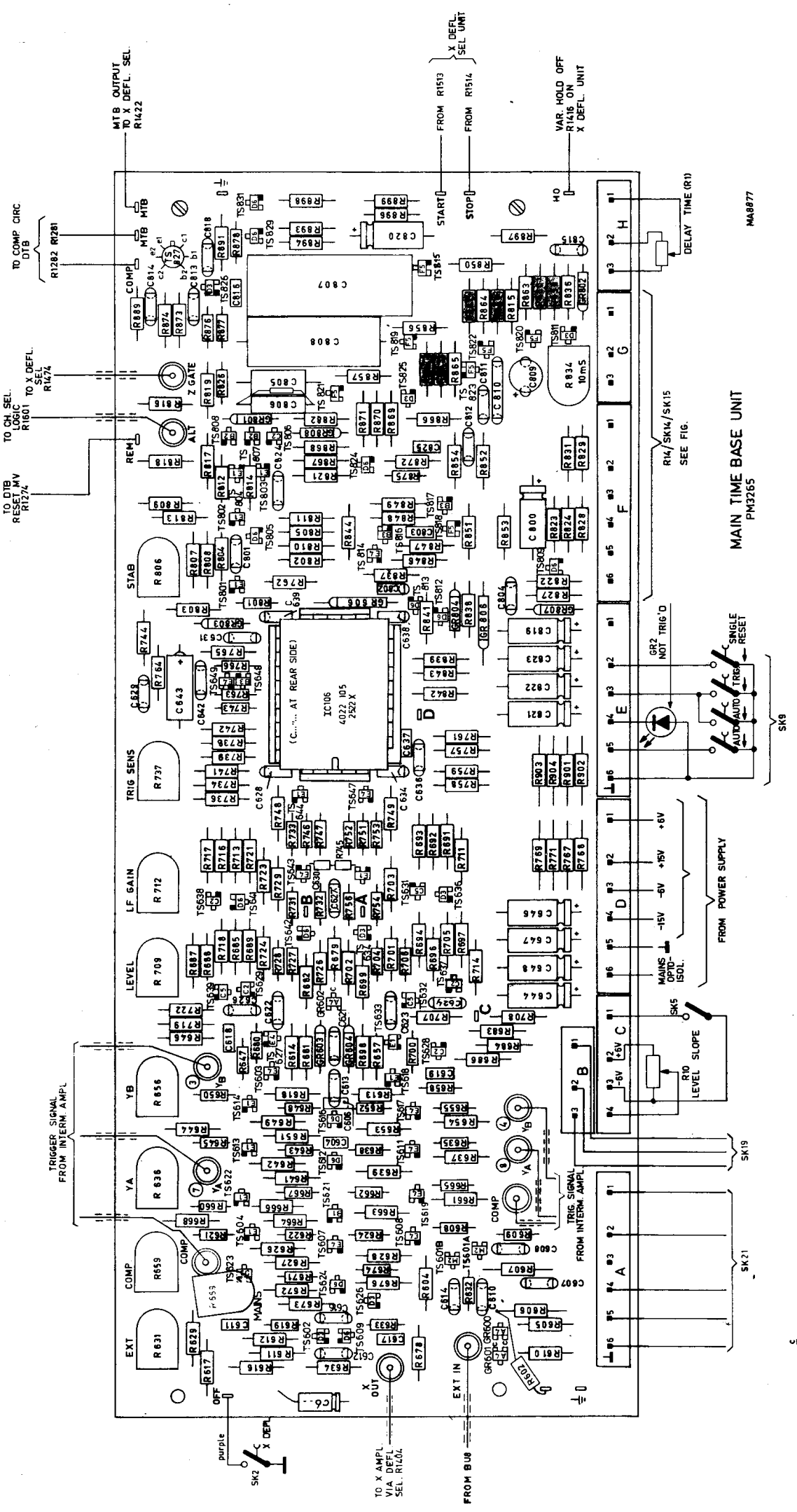
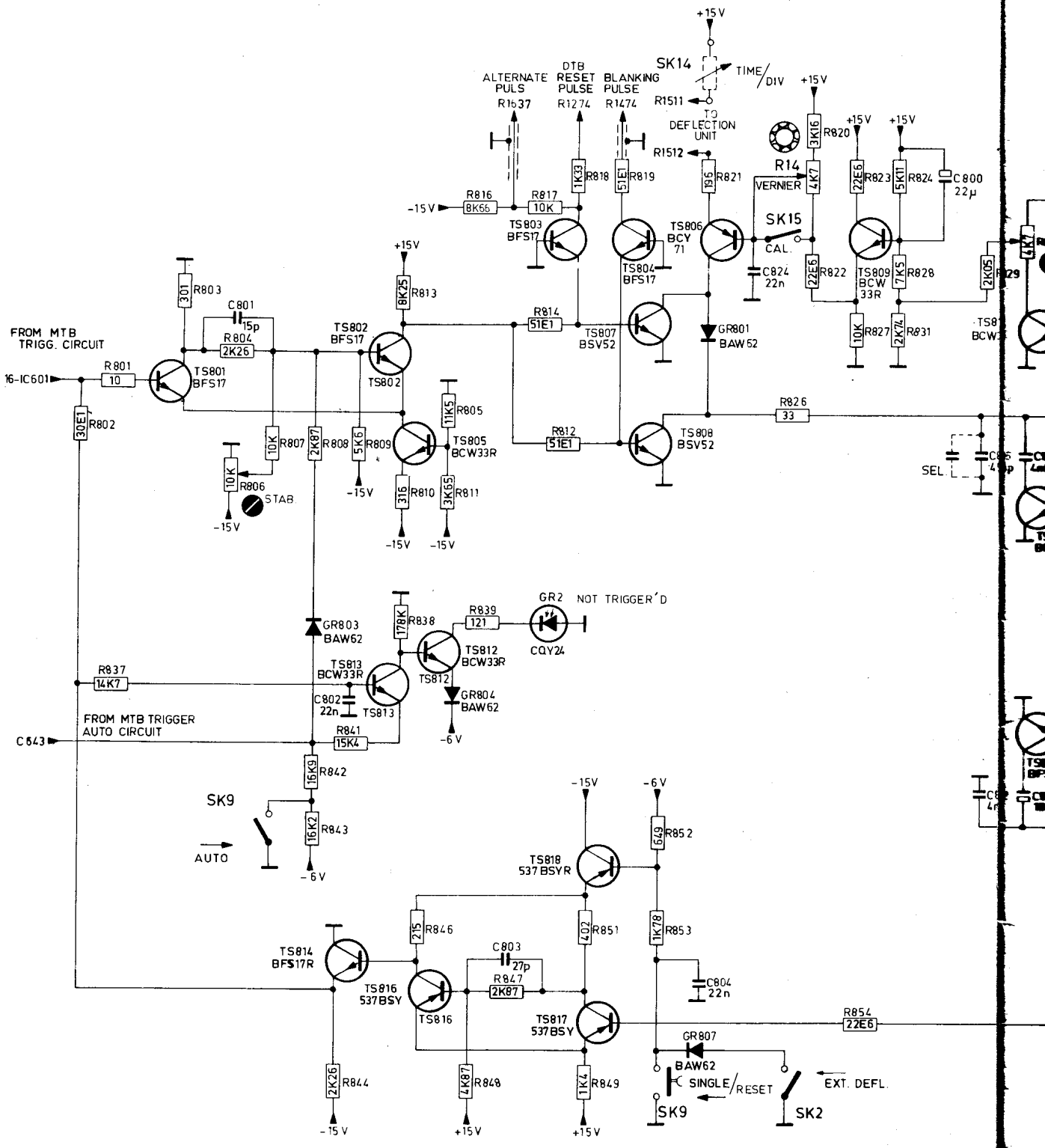
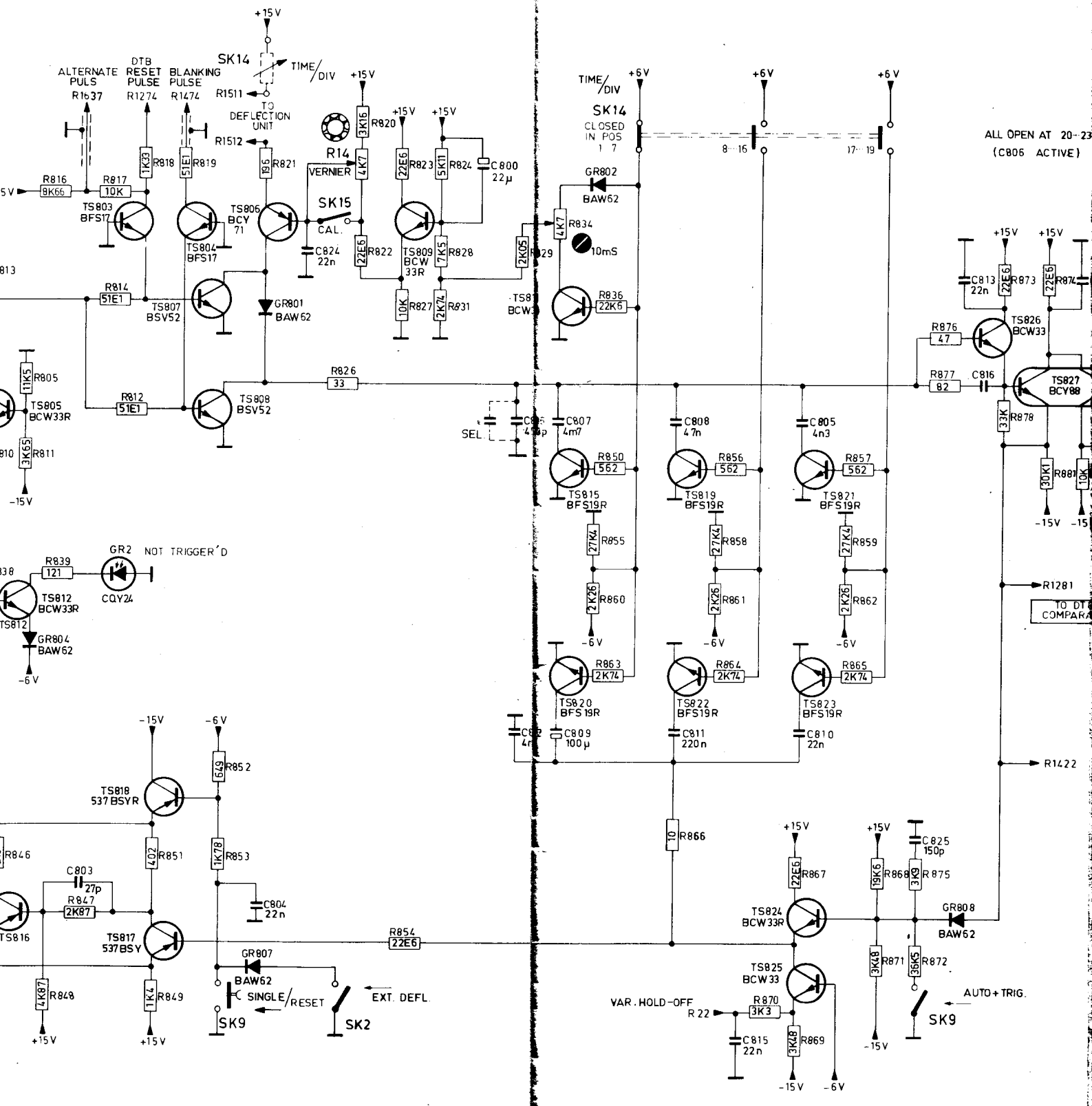


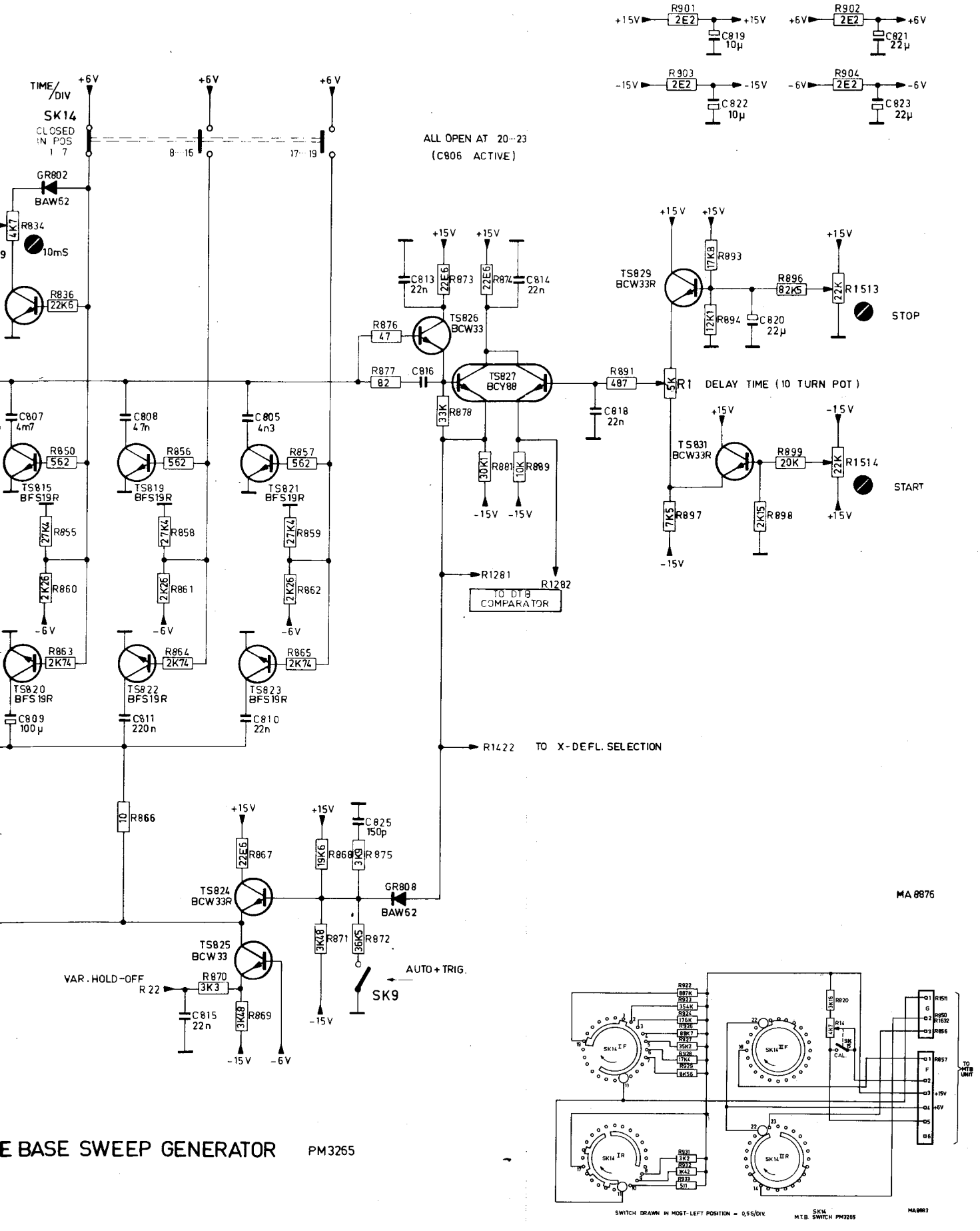
Fig. 3.37. MTB circuit board


+15V
SK14
TIME/DIV
ALTERNATE PULS
DTB RESET PULSE
BLANKING PULSE
R1637
R1274
R1474
R1511
TO DEFLECTION UNIT
R1512
R14 VERNIER
SK15 CAL.
R816 8K66
R817 10K
R818 1K33
R819 51E1
R821 196
R820 3K16
R823 22E6
R824 5K11
C800 22µ
TS803 BFS17
TS804 BFS17
TS806 BCY 71
TS809 BCW 33R
C824 22n
R822 22E6
R827 10K
R831 2K74
R828 7K5
2K05
FROM MTB TRIGG. CIRCUIT
16-IC601
R801 10
R802 30E1
R803 301
C801 15p
R804 2K26
TS801 BFS17
TS802 BFS17
R813 8K25
R814 51E1
TS807 BSV52
GR801 BAW52
R826 33
R812 51E1
TS808 BSV52
SEL
R805 11K5
TS805 BCW33R
R806 10K
STAB
R807 10K
R808 2K87
R809 5K6
R810 316
R811 3K65
GR803 BAW62
R838 178K
R839 121
GR2 NOT TRIGGER'D
CQY24
TS812 BCW33R
GR804 BAW62
R837 14K7
TS813 BCW33R
C802 22n
FROM MTB TRIGGER AUTO CIRCUIT
C643
R841 15K4
R842 16K9
SK9
AUTO
R843 16K2
TS818 537 BSYR
R852 649
R846 215
R851 402
R853 1K78
TS814 BFS17R
TS816 537BSY
C803 27p
R847 2K87
C804 22n
TS817 537BSY
R854 22E6
GR807 BAW62
SINGLE/RESET
EXT. DEFL.
SK9
SK2
R844 2K26
R848 4K87
R849 1K4
-15V
-6V
+15V

MAIN TI E B

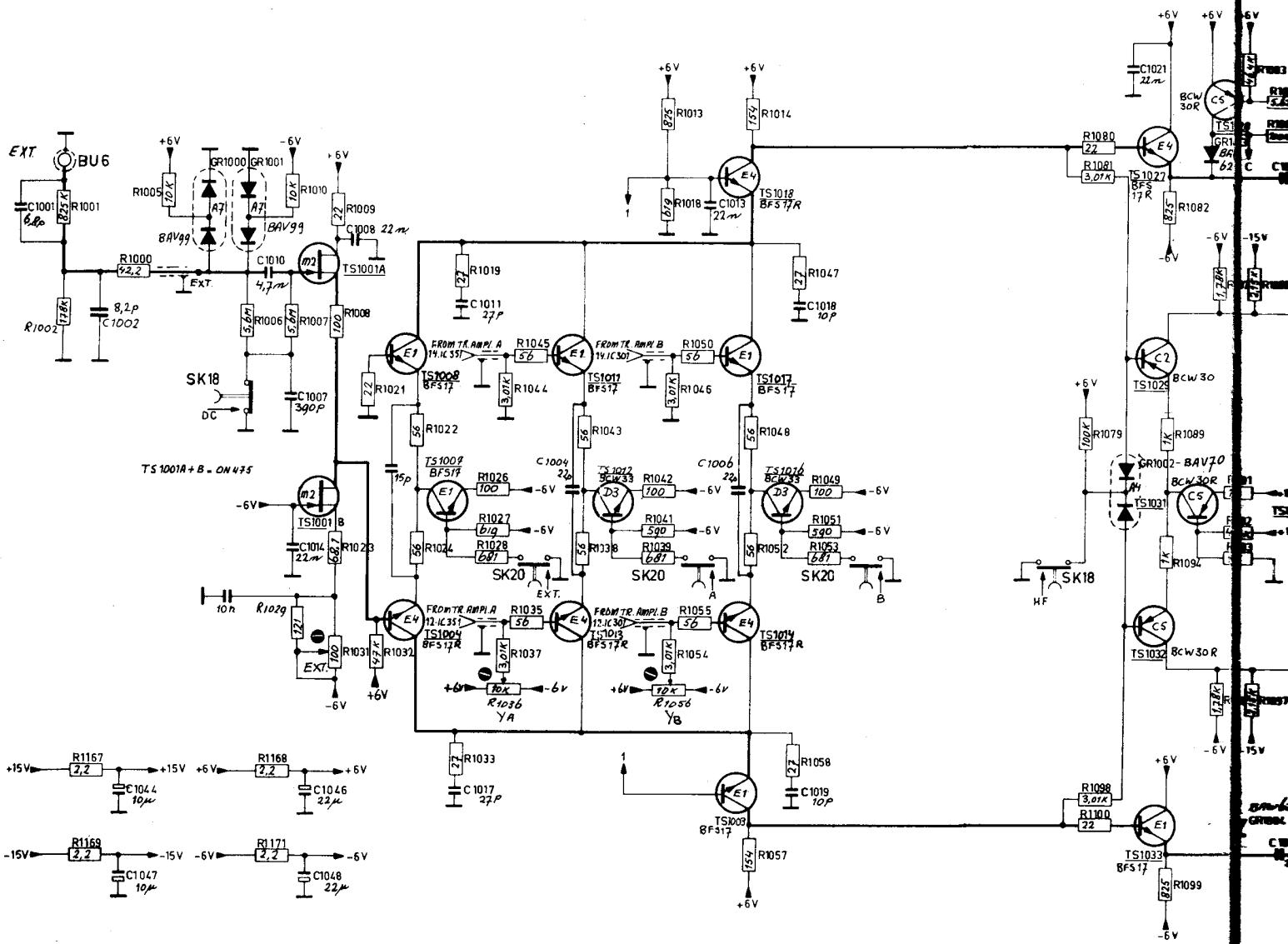


MAIN TIME BASE SWEEP GENERATOR PM3265



E BASE SWEEP GENERATOR PM3265

Fig. 3.38. MTB sweep circuit diagram


EXT.
BU6
C1001 6,8p
R1001 825K
R1002 178K
C1002 8,2p
R1000 42,2
EXT.
+6V
-6V
R1005 10K
R1010 10K
GR1000
GR1001
A7
A7
BAV99
BAV99
R1009 22
C1008 22n
C1010 4,7n
TS1001A
R1006 5,6M
R1007 5,6M
R1008 100
SK18
DC
C1007 390P
TS1001A+B = ON475
TS1001B
C1014 22n
R1023 68,1
10n
R1029 121
EXT.
100
R1031
147K
R1032
+6V
-6V
R1013 825
R1014 154
R1018 619
C1013 22n
TS1018 BFS17R
R1019 27
C1011 27P
R1047 27
C1018 10P
R1045 56
R1050 56
TS1008 BFS17
TS1011 BFS17
TS1017 BFS17
R1021 22
R1044 3,01K
R1046 3,01K
R1022 56
R1043 56
R1048 56
TS1009 BFS17
15p
R1026 100
R1042 100
R1049 100
C1004 22n
C1006 22n
R1027 big
R1041 590
R1051 590
R1024 56
R1038 56
R1052 56
R1028 681
R1039 681
R1053 681
SK20
EXT.
SK20
A
SK20
B
TS1004 BFS17R
R1035 56
R1055 56
TS1013 BFS17R
TS1014 BFS17R
R1037 3,01K
R1054 3,01K
10K
R1036
YA
10K
R1056
YB
R1033 27
C1017 27P
R1058 27
C1019 10P
TS1003 BFS17
R1057 154
R1167 2,2
R1168 2,2
R1169 2,2
R1171 2,2
C1044 10µ
C1046 22µ
C1047 10µ
C1048 22µ
C1021 22n
R1080 22
R1081 3,01K
TS1027 BFS17R
R1082 825
BCW30R
BCW30
TS1029
R1079 100K
R1089 1K
GR1002 BAV70
TS1031
R1094 1K
HF
SK18
TS1032 BCW30R
R1098 3,01K
R1100 22
TS1033 BFS17
R1099 825
2,21K
1,78K

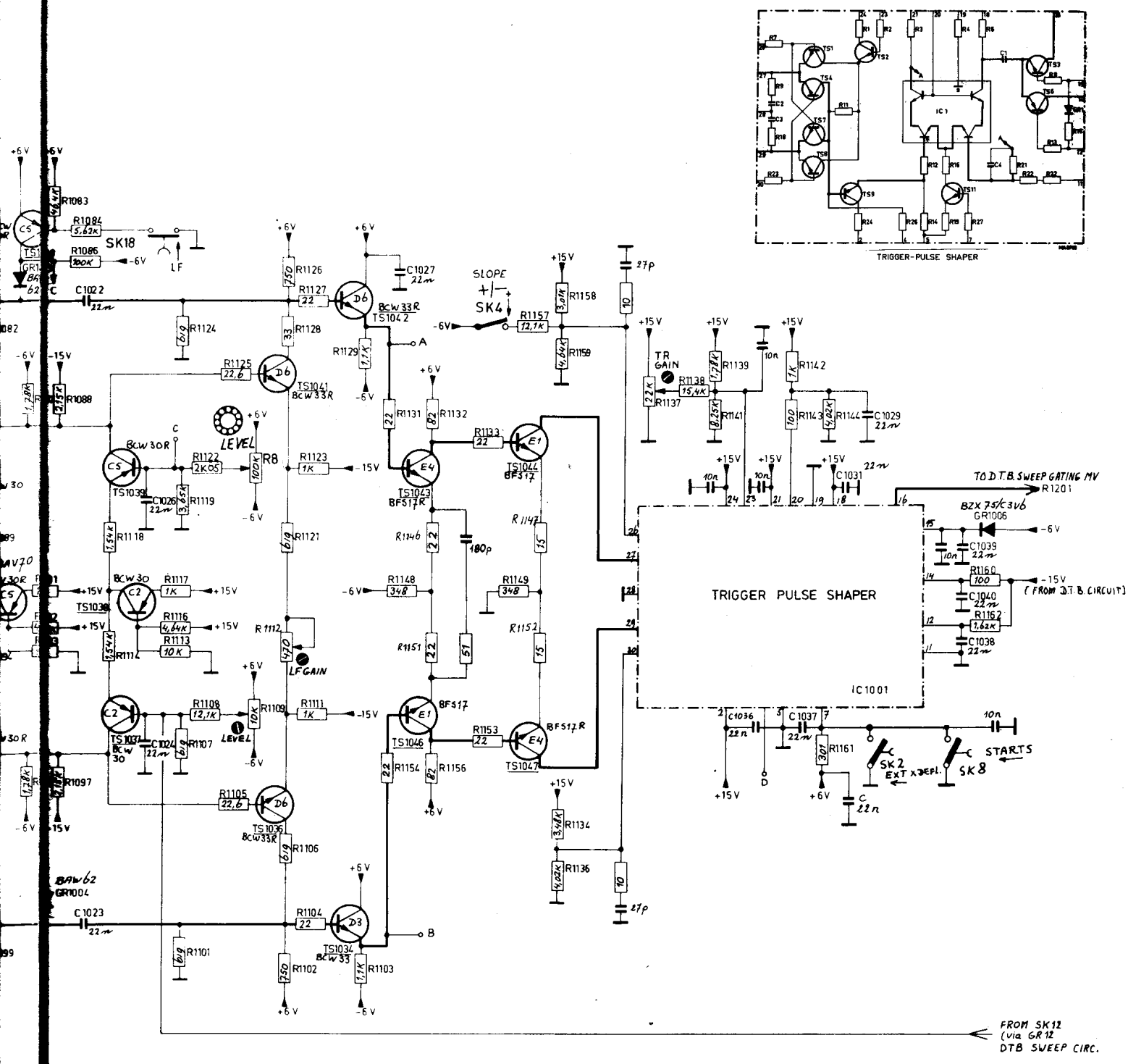


Fig. 3.39. DTB trigger circuit diagram

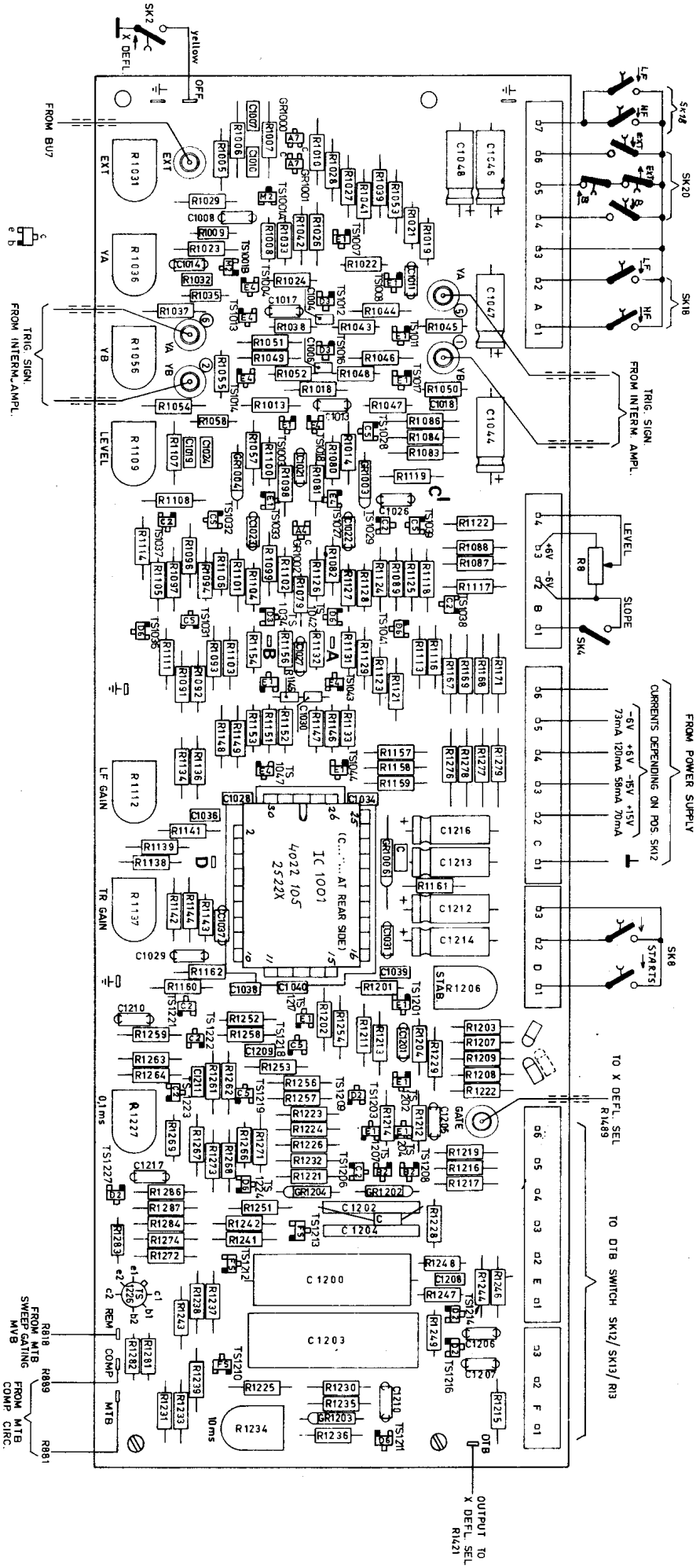


Fig. 3.40. DTB circuit board

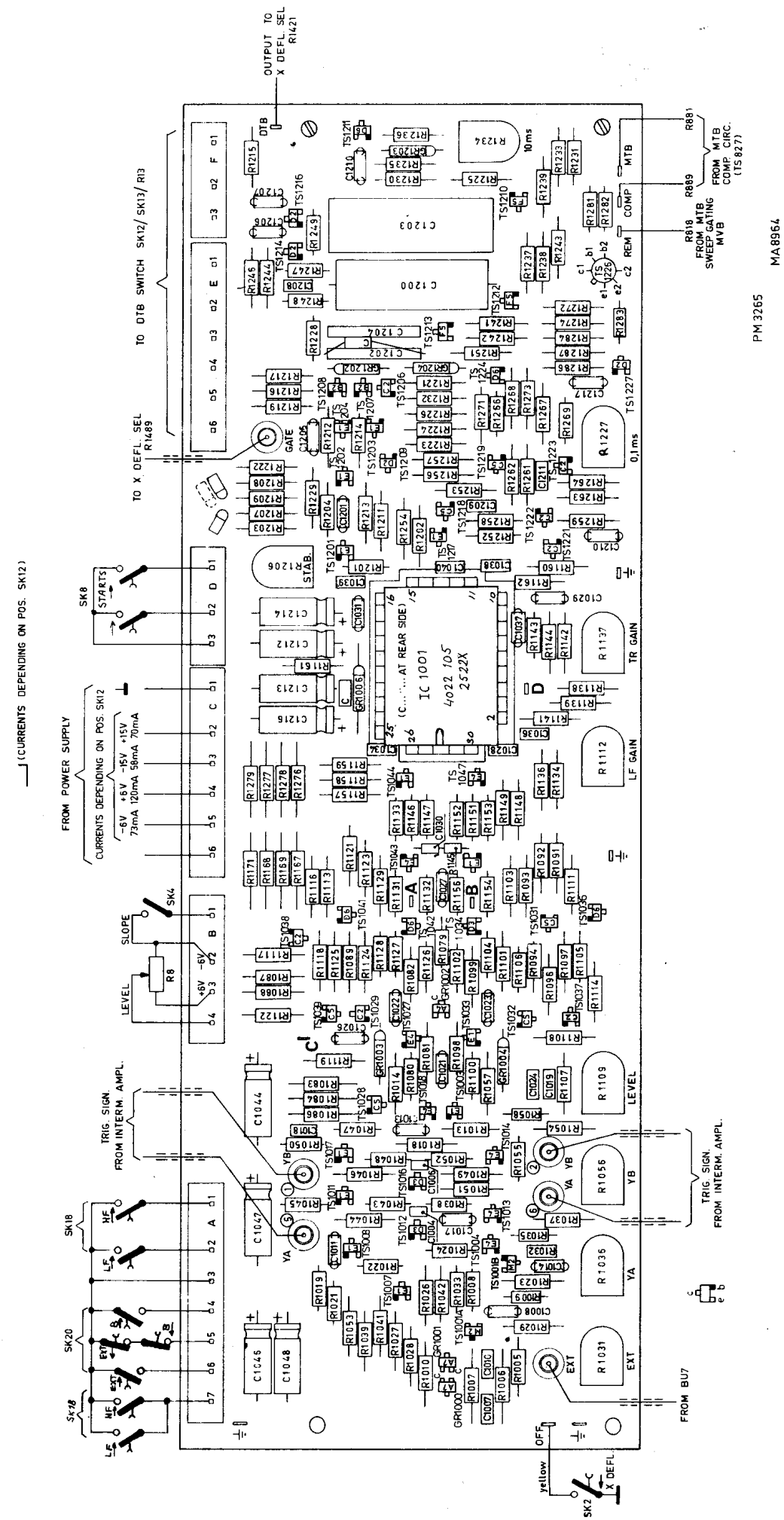
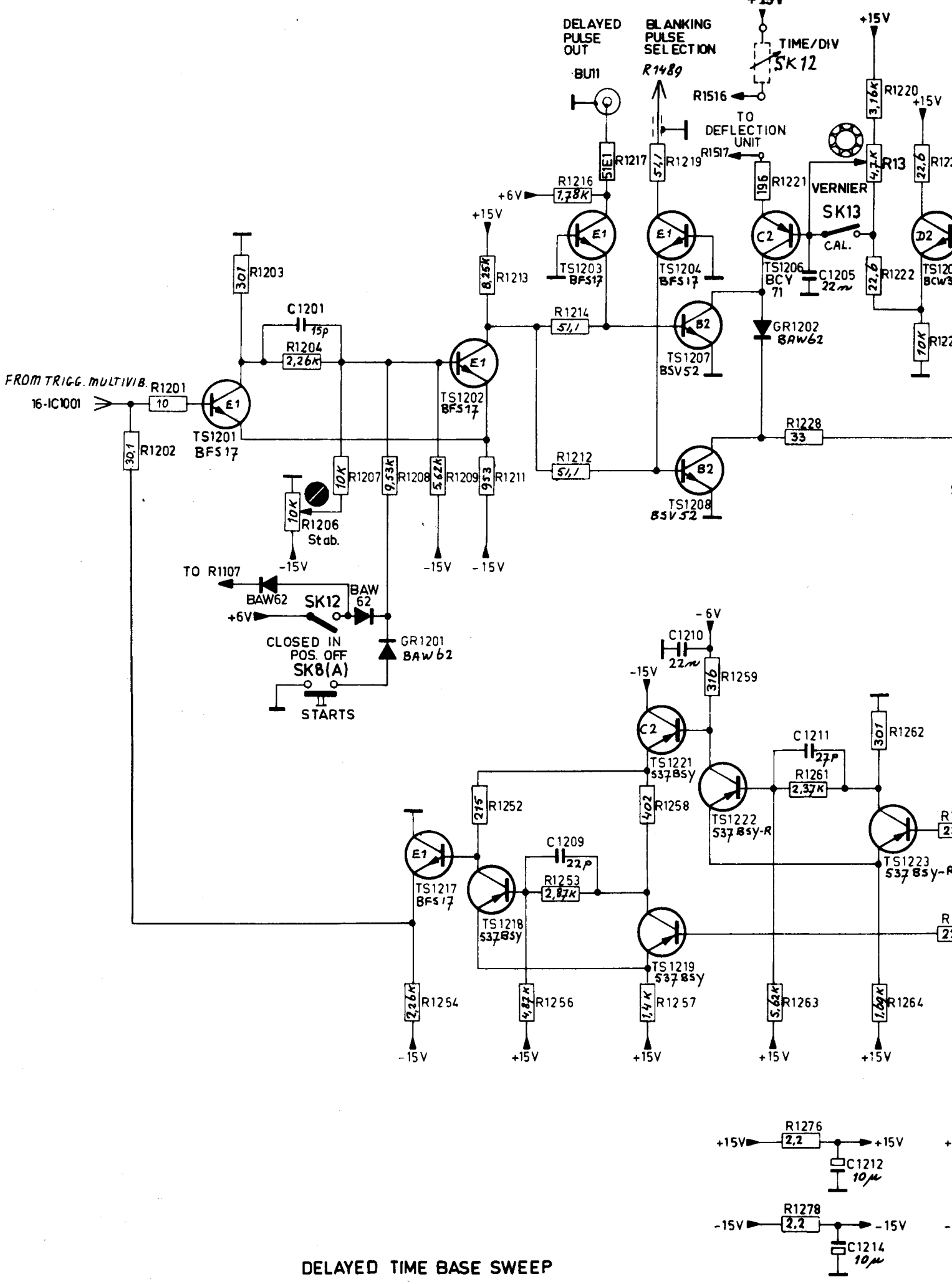
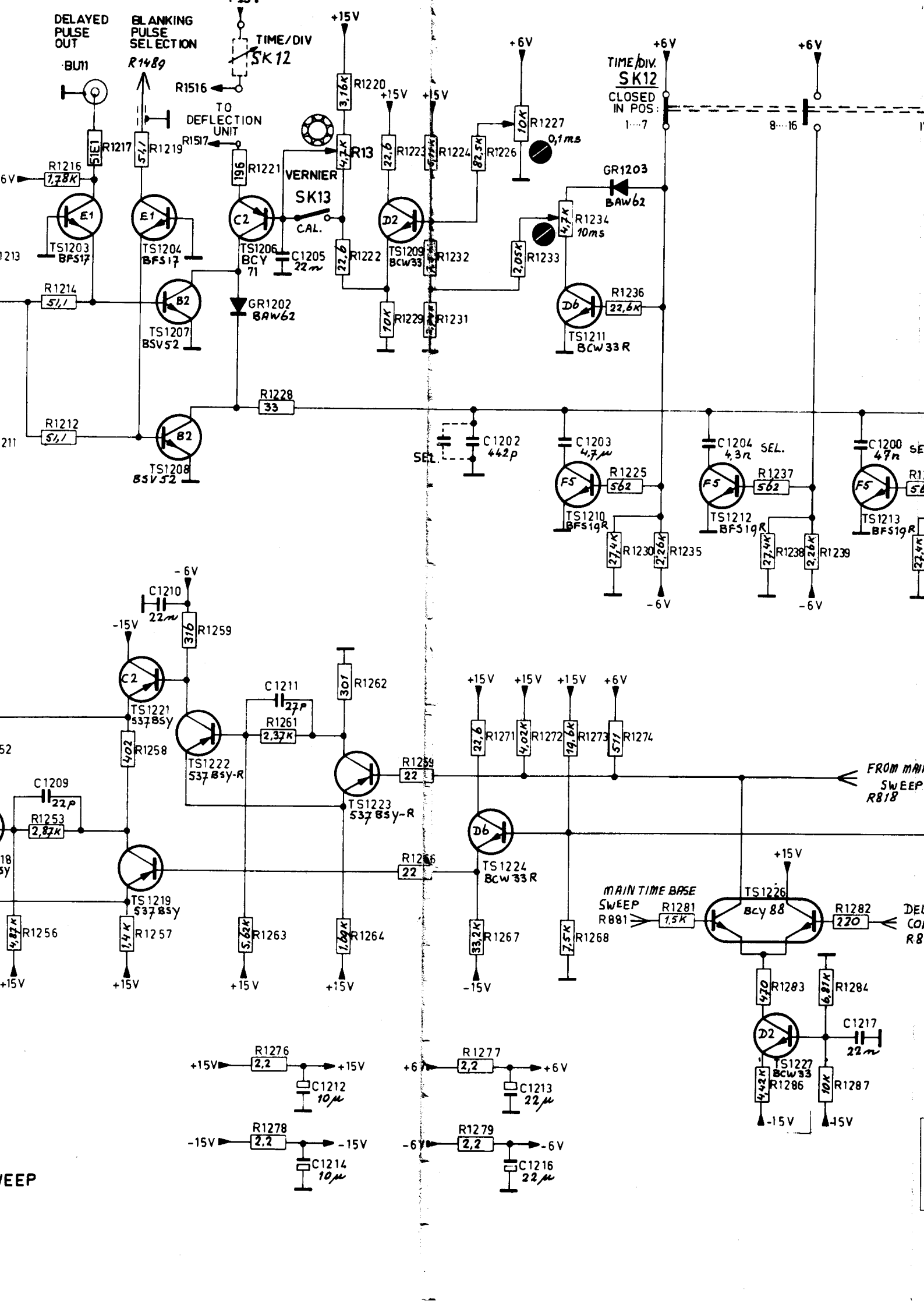


Fig. 3.41. DTB circuit board



DELAYED TIME BASE SWEEP

PM3265


DELAYED PULSE OUT
BU11
BLANKING PULSE SELECTION
R1489
TIME/DIV
SK12
R1516
TO DEFLECTION UNIT
R1517
+15V
R1220
3,16K
R13
4,7K
VERNIER
SK13
CAL.
R1221
196
R1217
51E1
R1219
5,1
R1216
1,78K
TS1203
BFS17
TS1204
BFS17
TS1206
BCY 71
C1205
22n
R1222
22,6
R1223
22,6
R1224
6,19K
R1226
82,5K
R1227
10K
0,1ms
+6V
TIME/DIV.
SK12
CLOSED IN POS:
1···7
8···16
GR1203
BAW62
R1234
4,7K
10ms
R1233
2,05K
TS1209
BCW33
R1232
R1229
10K
R1231
R1236
22,6K
TS1211
BCW33R
R1214
5,1
TS1207
BSV52
GR1202
BAW62
R1228
33
R1212
5,1
TS1208
BSV52
C1202
442p
SEL.
C1203
4,7µ
R1225
562
TS1210
BFS19R
C1204
4,3n
SEL.
R1237
562
TS1212
BFS19R
C1200
47n
TS1213
BFS19R
27,4K
R1230
2,26K
R1235
27,4K
R1238
2,26K
R1239
-6V
C1210
22n
-15V
316
R1259
C1211
27P
R1261
2,37K
301
R1262
TS1221
537BSy
402
R1258
TS1222
537BSy-R
R1260
22
TS1223
537BSy-R
C1209
22P
R1253
2,87K
TS1219
537BSy
R1256
4,87K
R1257
1,4K
R1263
5,62K
R1264
1,69K
+15V
R1271
22,6
R1272
4,02K
R1273
19,6K
R1274
511
FROM MAIN SWEEP R818
TS1224
BCW33R
R1266
22
MAIN TIME BASE SWEEP R881
R1281
1,5K
TS1226
BCY88
R1282
220
R1267
33,2K
R1268
7,5K
R1283
470
R1284
6,81K
C1217
22n
TS1227
BCW33
R1286
4,42K
R1287
10K
R1276
2,2
C1212
10µ
R1277
2,2
C1213
22µ
R1278
2,2
C1214
10µ
R1279
2,2
C1216
22µ

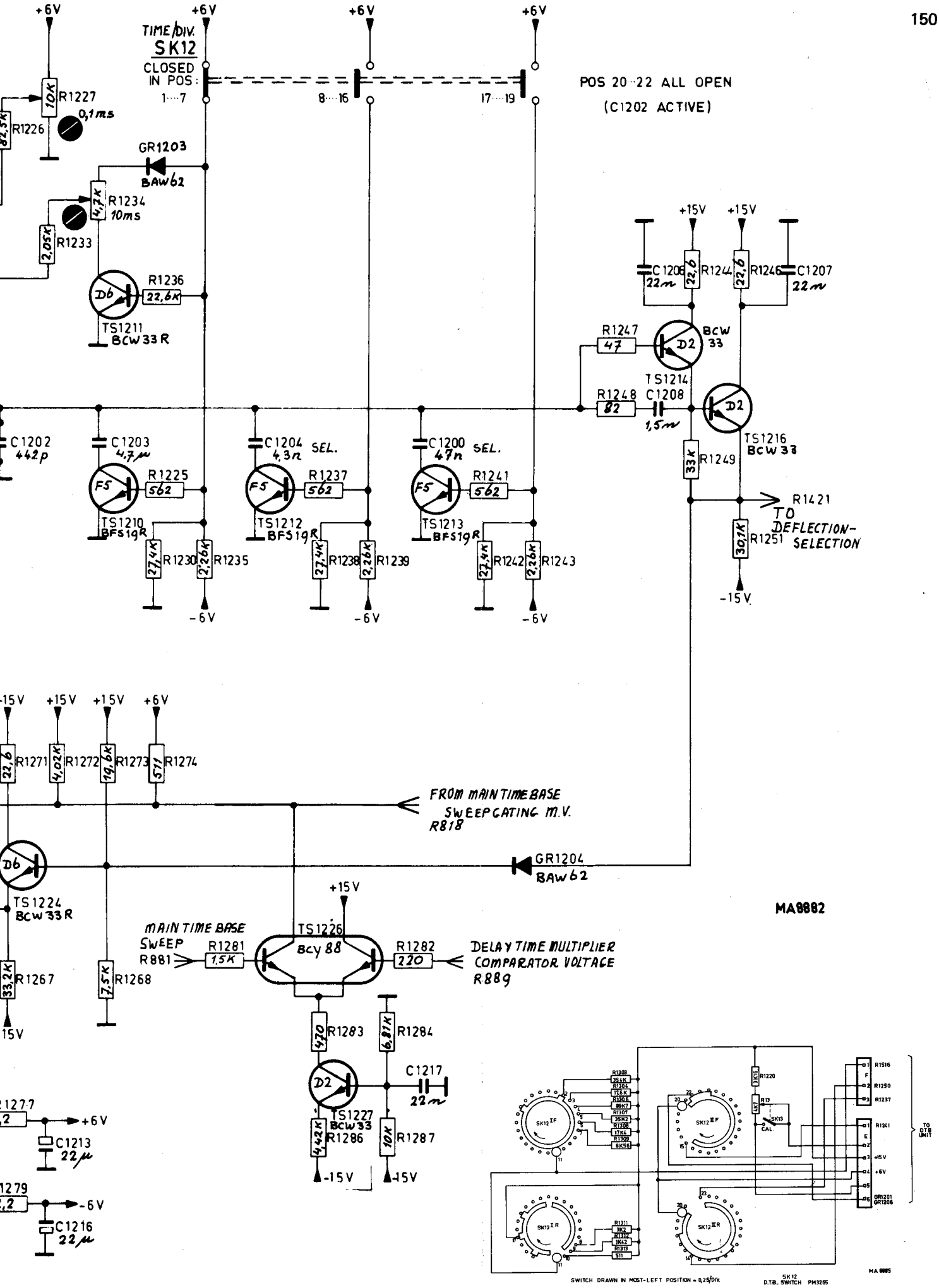


Fig. 3.42. DTB sweep circuit diagram

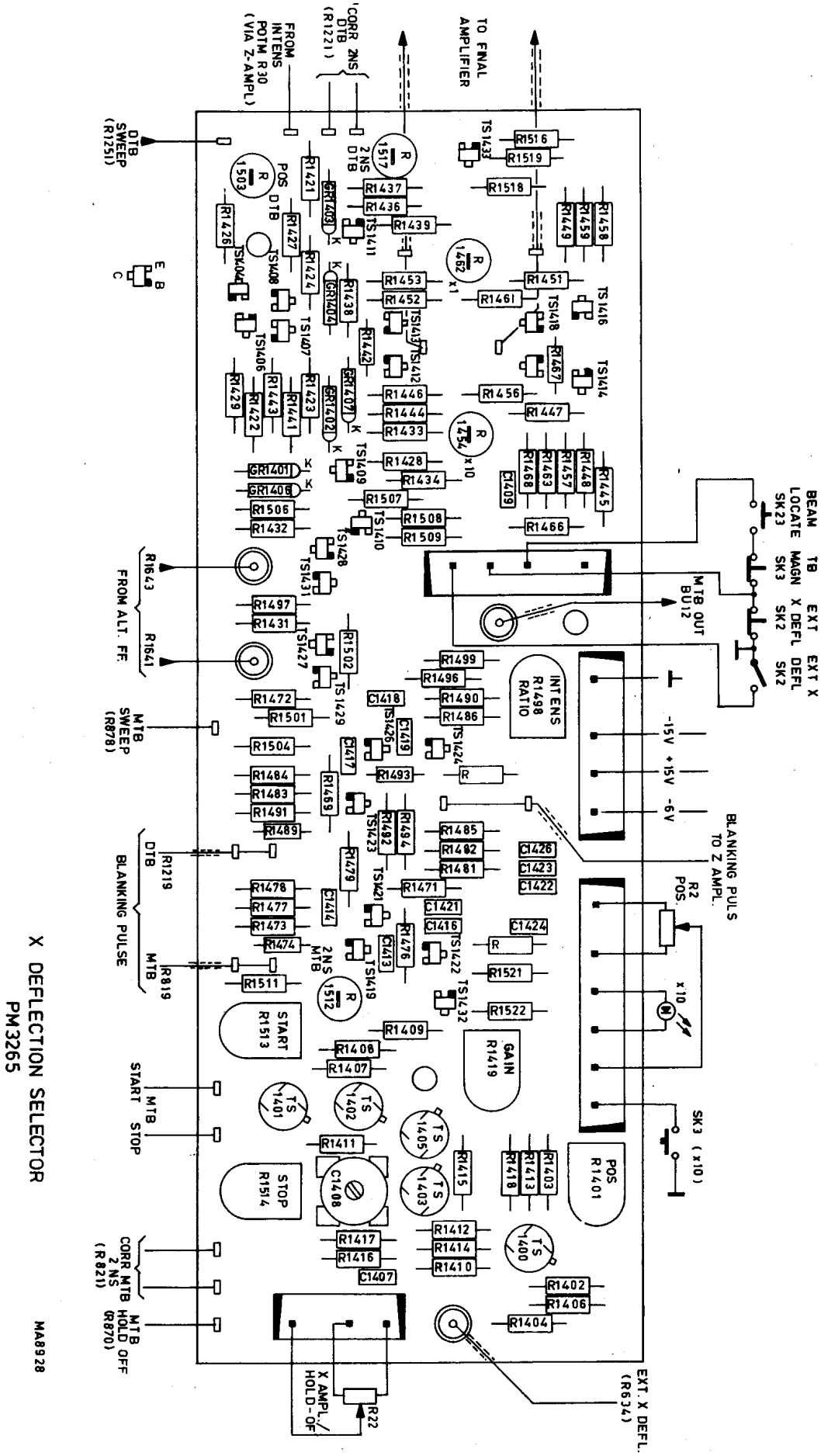


Fig. 3.44. Horizontal deflection selector circuit board

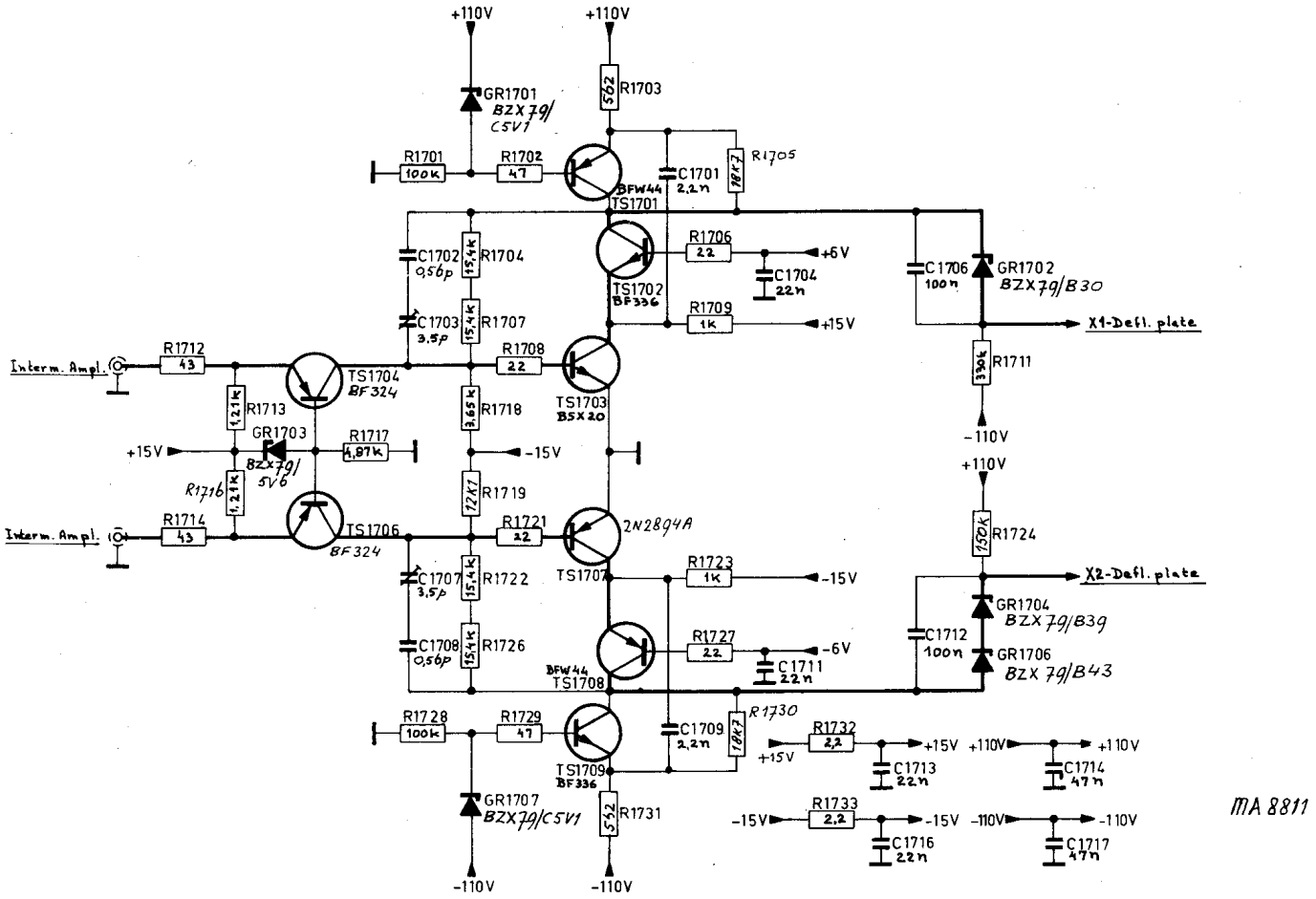


Fig. 3.45. Final X amplifier circuit diagram

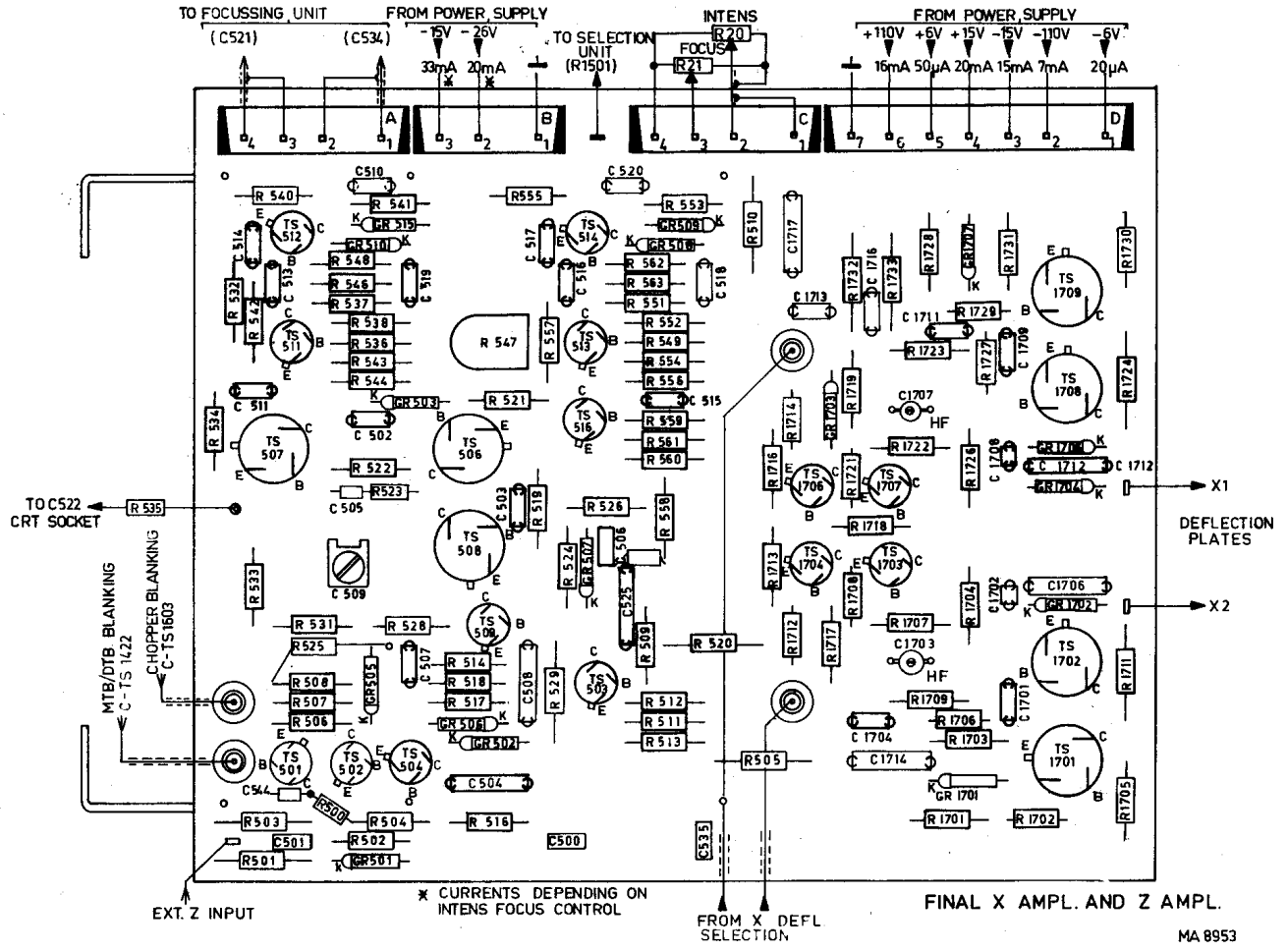
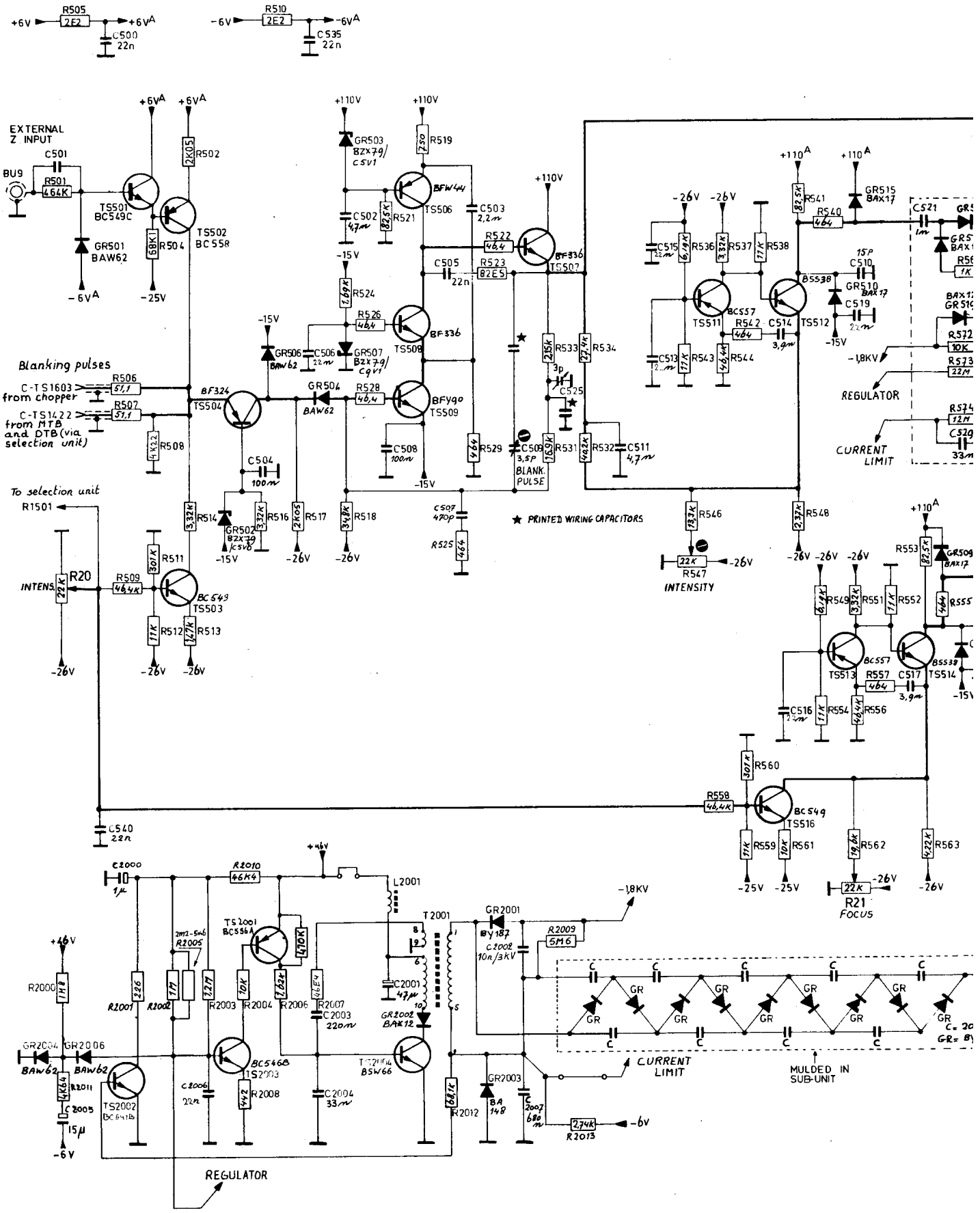
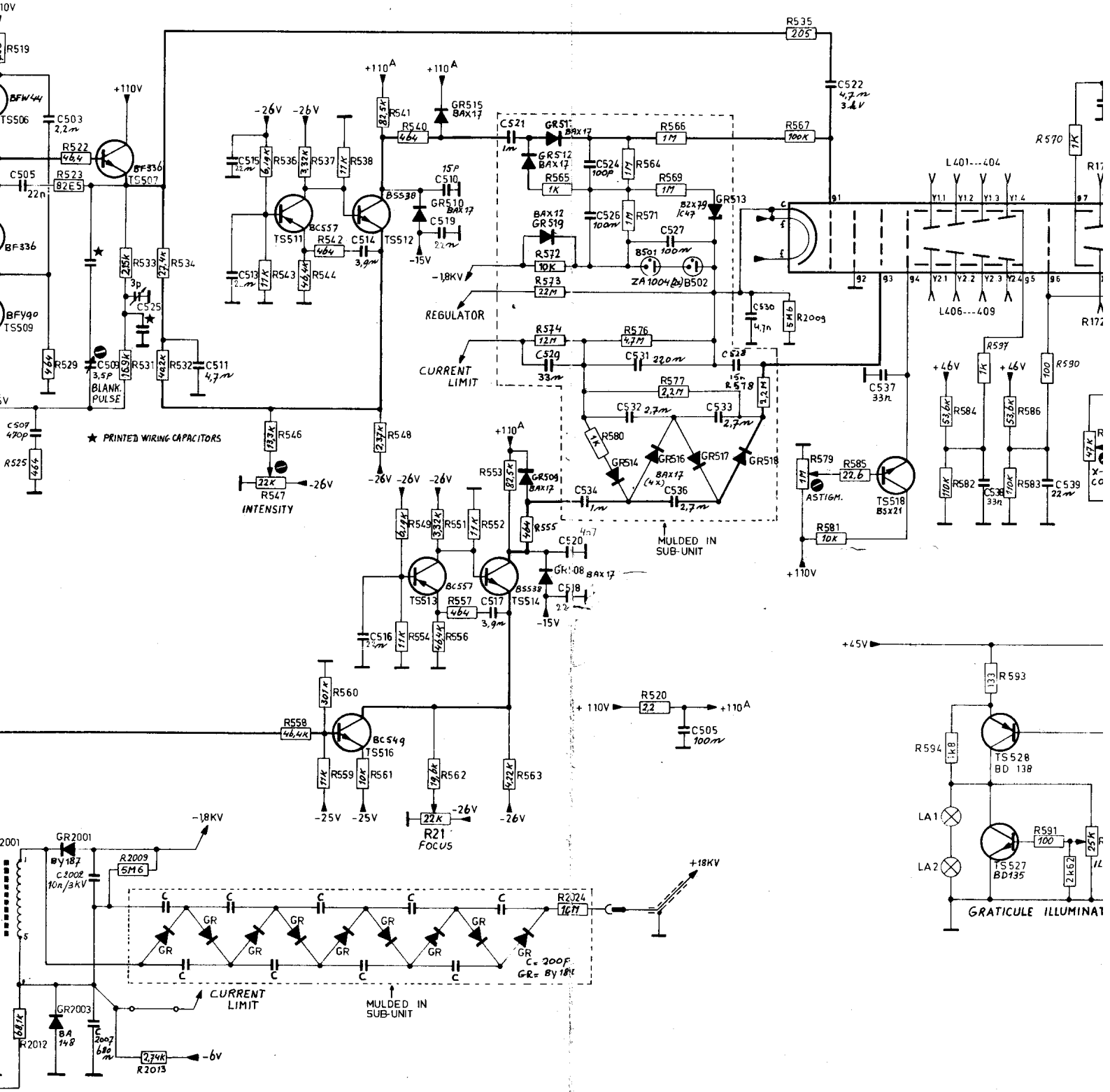
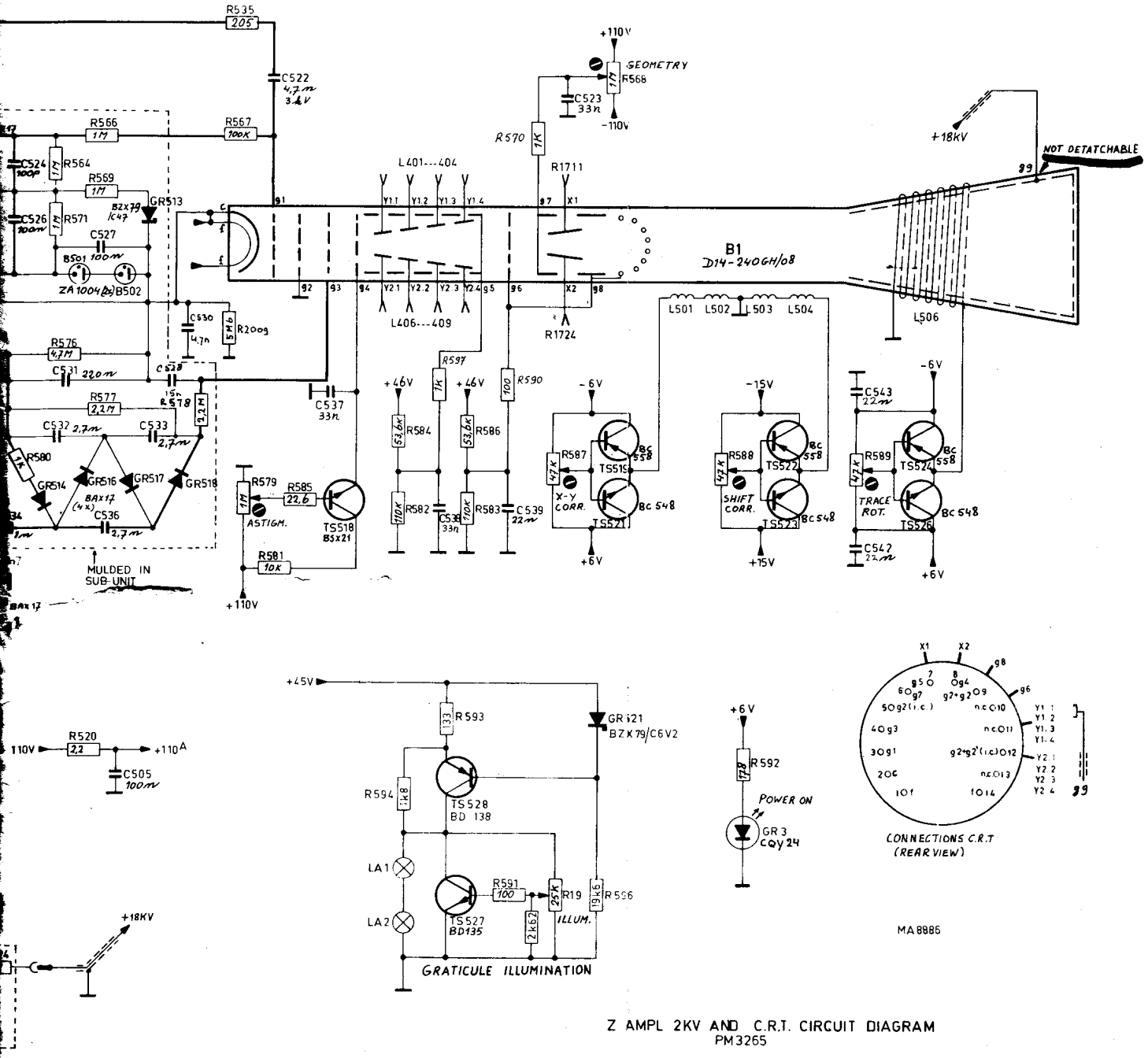


Fig. 3.46. Final X and Z amplifier board


EXTERNAL Z INPUT
BU9
C501
R501 464K
TS501 BC549C
TS502 BC558
R502 2K05
R504 68K1
GR501 BAW62
+6VA
-6VA
-25V
Blanking pulses
C-TS1603 from chopper
C-TS1422 from MTB and DTB (via selection unit)
R506 51,1
R507 51,1
R508 4K22
BF324 TS504
GR504 BAW62
R528 46,4
BFY90 TS509
GR506 BAW62
C506 22n
GR507 BZX79/C9V1
-15V
GR503 BZX79/C5V1
R519 750
BFW44 TS506
C502 4,7n
R521 82K5
C503 2,2n
R522 464
BF336 TS507
C505 22n
R523 82E5
R524 1,69K
R526 464
BF336 TS508
C508 100n
R529 464
C509 3,5P BLANK. PULSE
R531 16,9K
R532 402K
C511 4,7n
R533 215K
R534 27,4K
3p
C525
C504 100n
GR502 BZX79/C5V6
R514 3,32K
R516 3,32K
R517 2K05
R518 3,48K
C507 470p
R525 464
To selection unit
R1501
R20 22K INTENS.
R509 464K
R511 301K
TS503 BC549
R512 11K
R513 4,27K
-26V
★ PRINTED WIRING CAPACITORS
R546 78,7K
R547 22K INTENSITY
R548 2,37K
+110A
GR515 BAX17
R541 82,5K
R540 464
C521 1n
R536 6,19K
R537 3,32K
R538 11K
C515 22n
C513 22n
R543 11K
R544 46,4K
TS511 BC557
TS512 BS538
R542 464
C514 3,9n
C510 15P
GR510 BAX17
C519 22n
R543 11K
R544 46,4K
-1,8KV
REGULATOR
CURRENT LIMIT
R572 10K
R573 22K
R574 12K
C520 33n
R553 82,5K
GR509 BAX17
R549 6,19K
R551 11K
R552 464
R555
TS513 BC557
TS514 BS538
R557 464
C517 3,9n
C516 22n
R554 46,4K
R556
R560 301K
R558 46,4K
TS516 BC549
R559 11K
R561 10K
R562 19,6K
R563 4,22K
R21 22K FOCUS
C540 22n
+46V
C2000 1µ
R2010 46K4
L2001
T2001
TS2001 BC556A
R2005 2m2-5m6
R2000 1K8
R2001 226
R2002 1K1
R2003 12K1
R2004 10K
R2006 2,82K
R2007 46E4
C2003 220n
C2001 47µ 10
GR2008 BAX12
GR2001 BY182
C2002 10n/3KV
R2009 5M6
-1,8KV
GR2004 BAW62
GR2006 BAW62
R2011 4K64
C2005 15µ
-6V
TS2002 BC547B
BC546B TS2003
R2008 442
C2006 22n
C2004 33n
TS2004 BSW66
R2012 68K
GR2003 BA148
C2007 680n
2,74K R2013
CURRENT LIMIT
MULDED IN SUB-UNIT
REGULATOR


+110V
R519
BFW44
TS506
C503 2,2n
R522 464
BF336 TS507
C505 22n
R523 82E5
BF336
BF940 TS509
R529 464
C509 3,5P BLANK. PULSE
R531 16,9K
R532 402K
C511 4,7n
C507 470P
R525 464
★ PRINTED WIRING CAPACITORS
R546 133K
R547 22K INTENSITY
-26V
R548 237K
+110A
R535 205
C522 4,7n 3,4V
GR515 BAX17
R541 82,5K
R540 464
C521 1n
GR511 BAX17
GR512 BAX17
R565 1K
R566 1M
R567 100K
C524 100P
R564 1M
R569 1M
R570 1K
L401---404
L406---409
C515 22n
R536 6,49K
R537 3,32K
R538 11K
C510 15P
GR510 BAX17
C519 22n
TS511 BC557
TS512 BS338
R542 464
C514 3,9n
R543 11K
R544 46,4K
C513 22n
R533 215K
R534 27,4K
3p
C525
C526 100n
R571 1M
GR513 BZX79 /C47
C527
BS01 100n
ZA1004 (2x) B502
BAX12 GR519
R572 10K
-1,8KV
R573 22M
REGULATOR
C530 4,7n
R2009 5M6
R574 12M
R576 4,7M
C529 33n
C531 220n
C528 15n
CURRENT LIMIT
R577 2,2M
R578 3,2M
C532 2,7n
C533 2,7n
R580 1K
GR514
GR516
GR517
GR518
BAX17 (4x)
C534 1n
C536 2,7n
MULDED IN SUB-UNIT
C537 33n
R597 1K
R590 100
+46V
R584 53,6K
R586 53,6K
R582 110K
R583 110K
C538 33n
C539 22n
R579 1M
R585 22,6
ASTIGM.
TS518 BSX21
R581 10K
+110V
R553 82,5K
GR509 BAX17
R549 6,49K
R551 3,32K
R552 11K
R555 464
C520 4n7
GR508 BAX17
C518 22n
TS513 BC557
TS514 BS338
R557 464
C517 3,9n
-15V
C516 12n
R554 11K
R556 6,49K
R560 307K
R558 46,4K
BC549 TS516
R559 11K
R561 10K
R562 19,6K
R563 4,32K
-25V
-26V
R21 FOCUS
+110V
R520 2,2
+110A
C505 100n
+45V
R593 133
R594 1K8
TS528 BD 138
LA1
LA2
R591 100
TS527 BD135
25K
2K62
GRATICULE ILLUMINAT
-1,8KV
GR2001
BY187
C2002 10n/3KV
R2009 5M6
+18KV
R2024 16M
C= 200F
GR= BY187
CURRENT LIMIT
MULDED IN SUB-UNIT
GR2003
BA 148
C2007 680n
2,74K R2013
-6V
R2012 68K



Z AMPL 2KV AND C.R.T. CIRCUIT DIAGRAM
PM3265

Fig. 3.47. Z amplifier, 2 kV and CRT circuit diagram

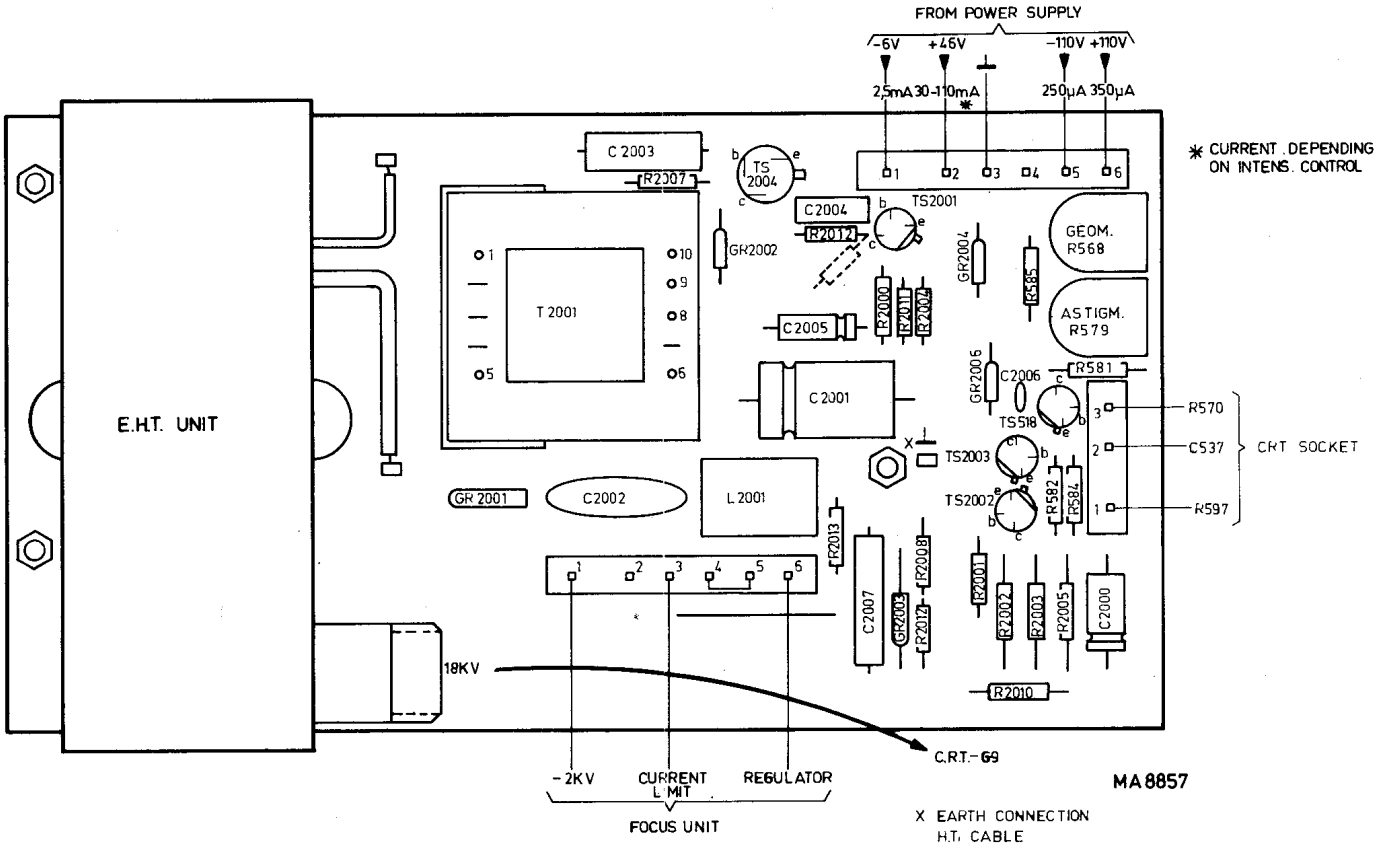


Fig. 3.48. 2 kV unit

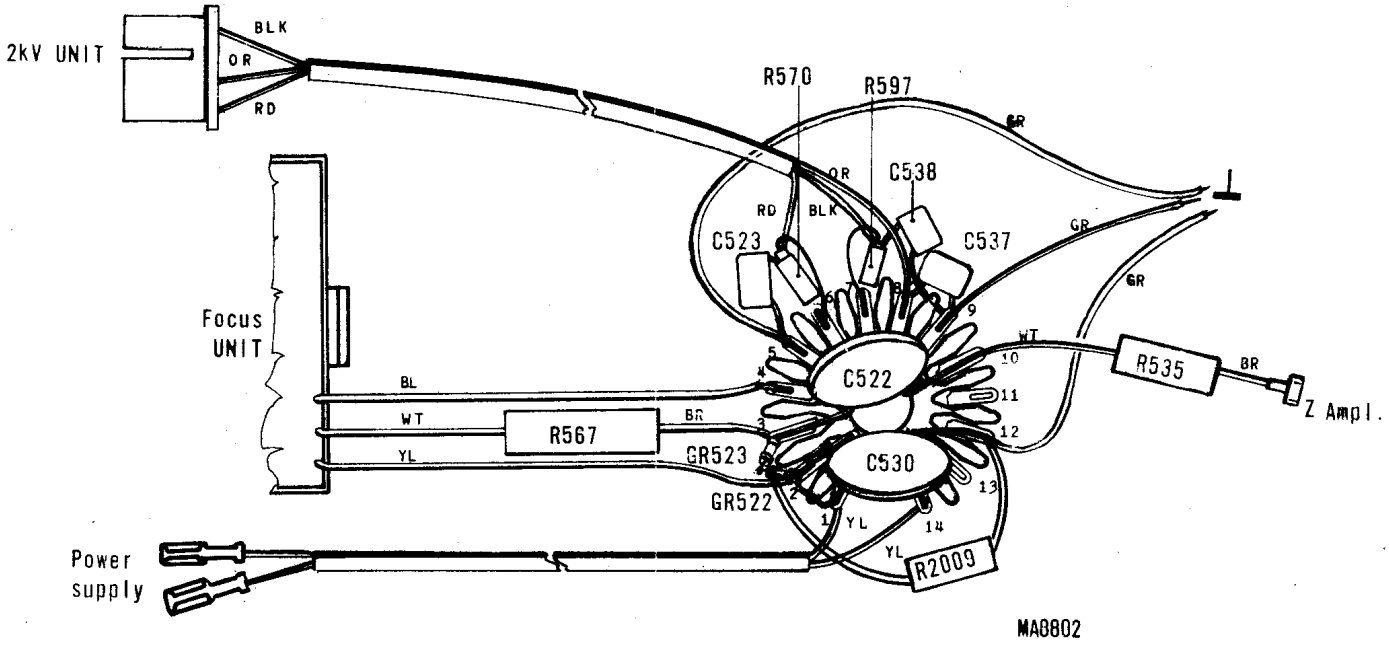


Fig. 3.49. CRT socket assembly

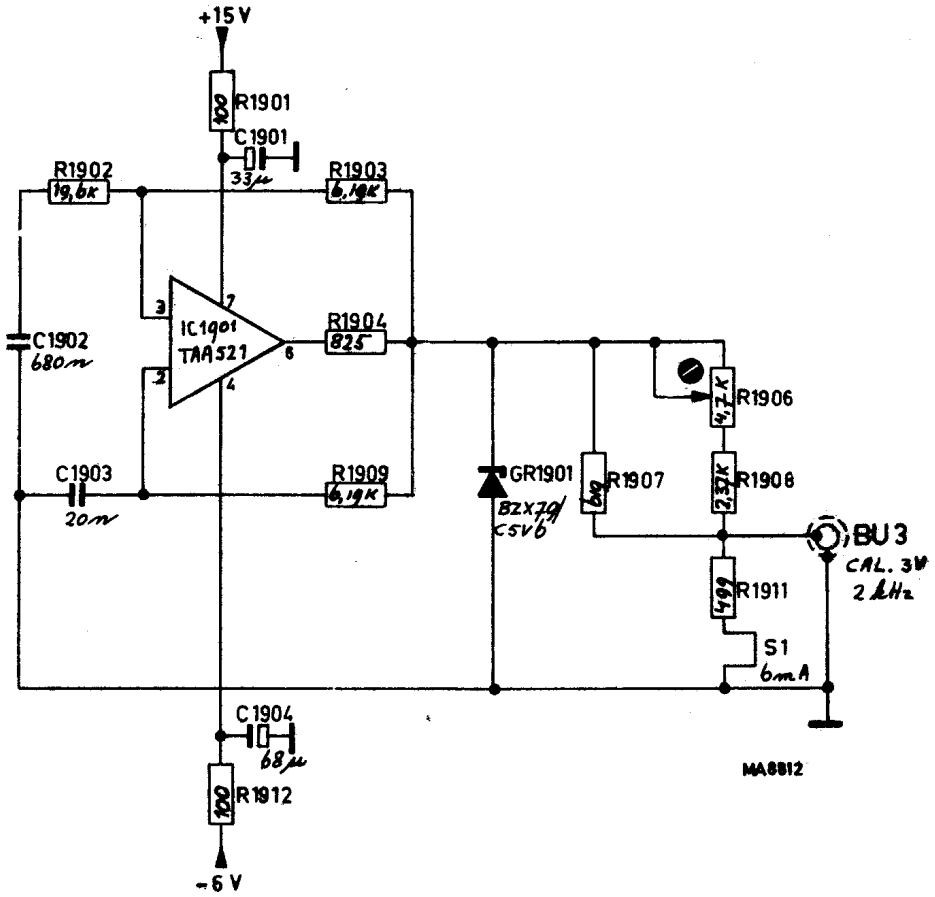


Fig. 3.50. Calibration circuit diagram

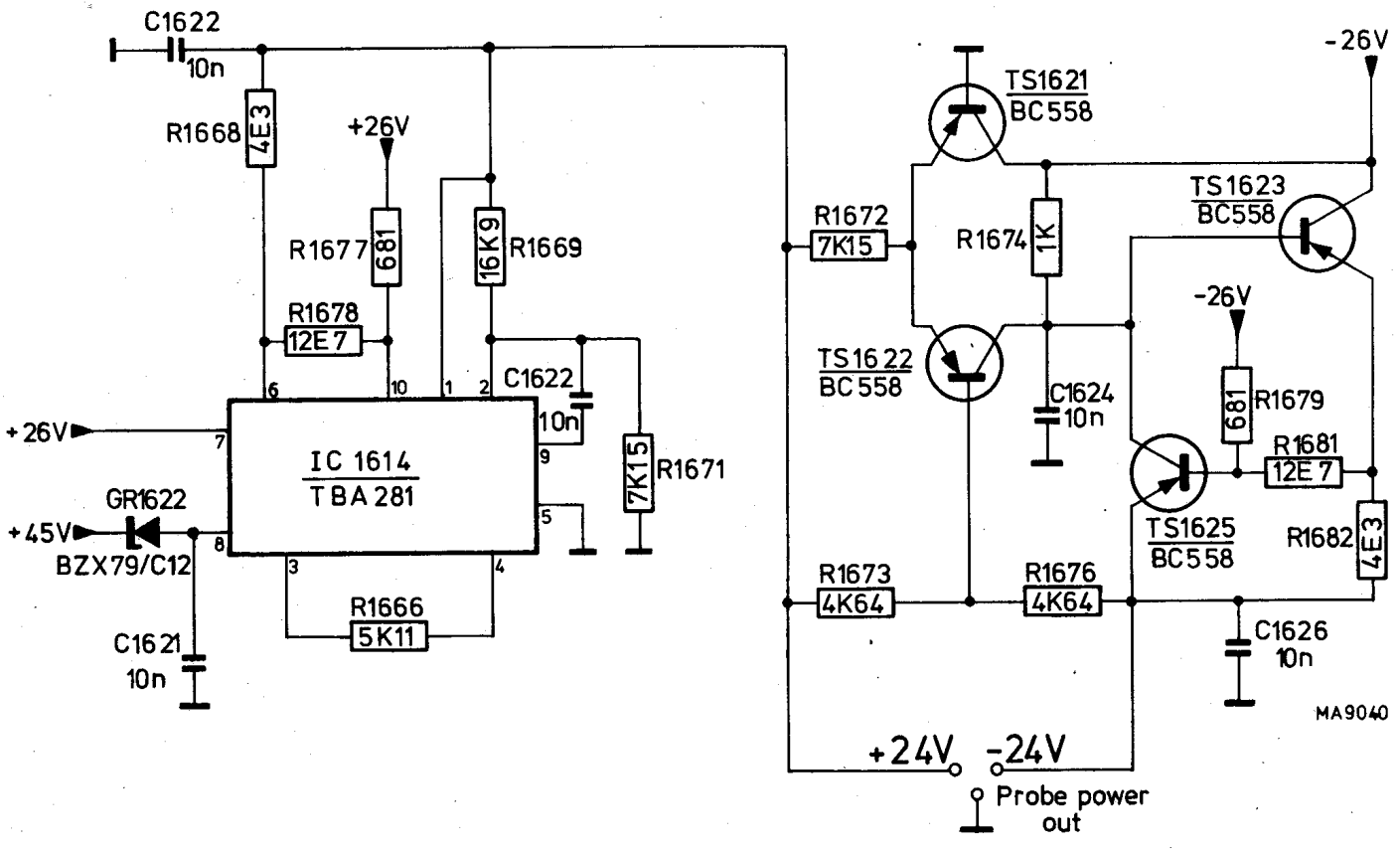
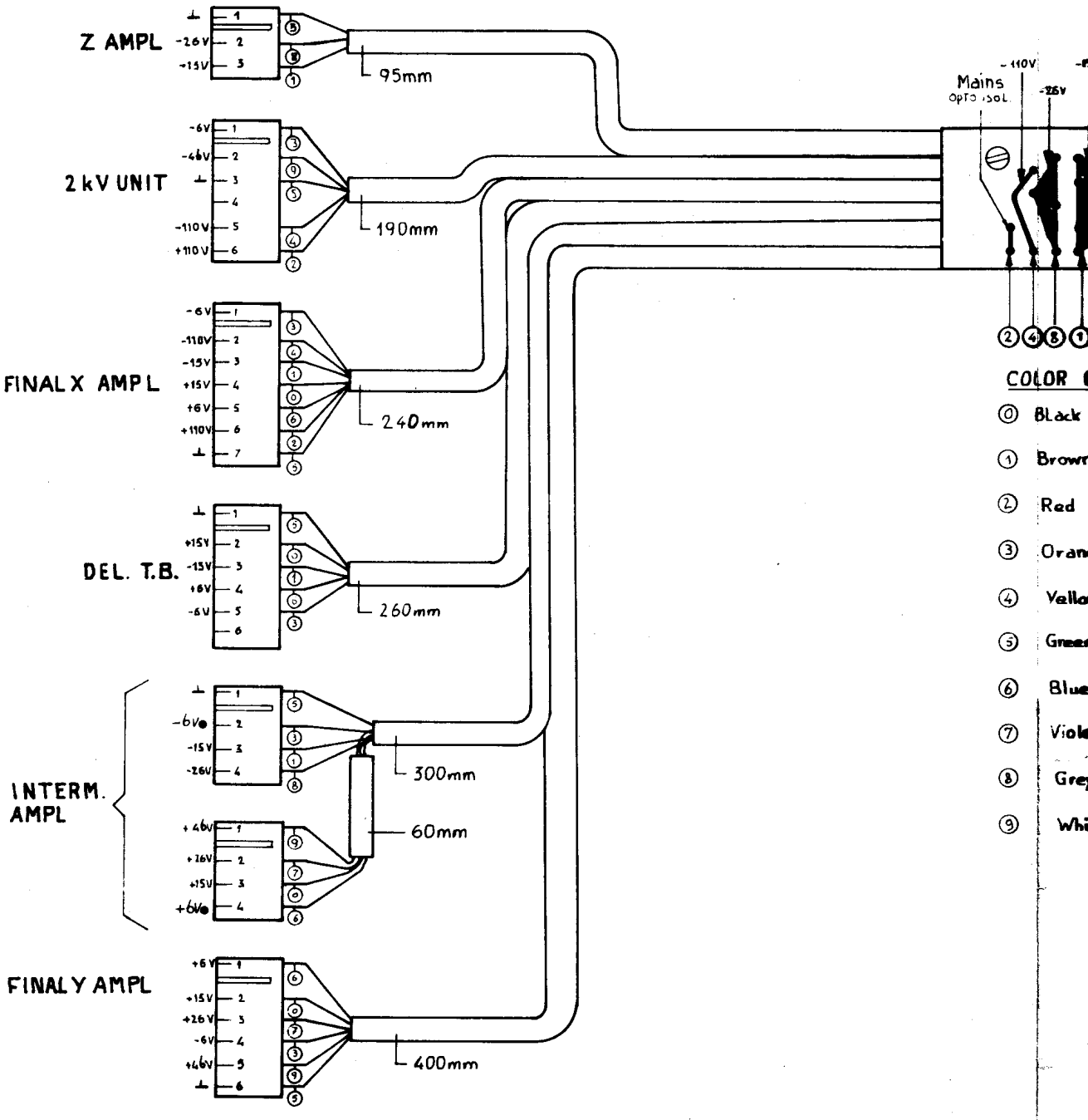
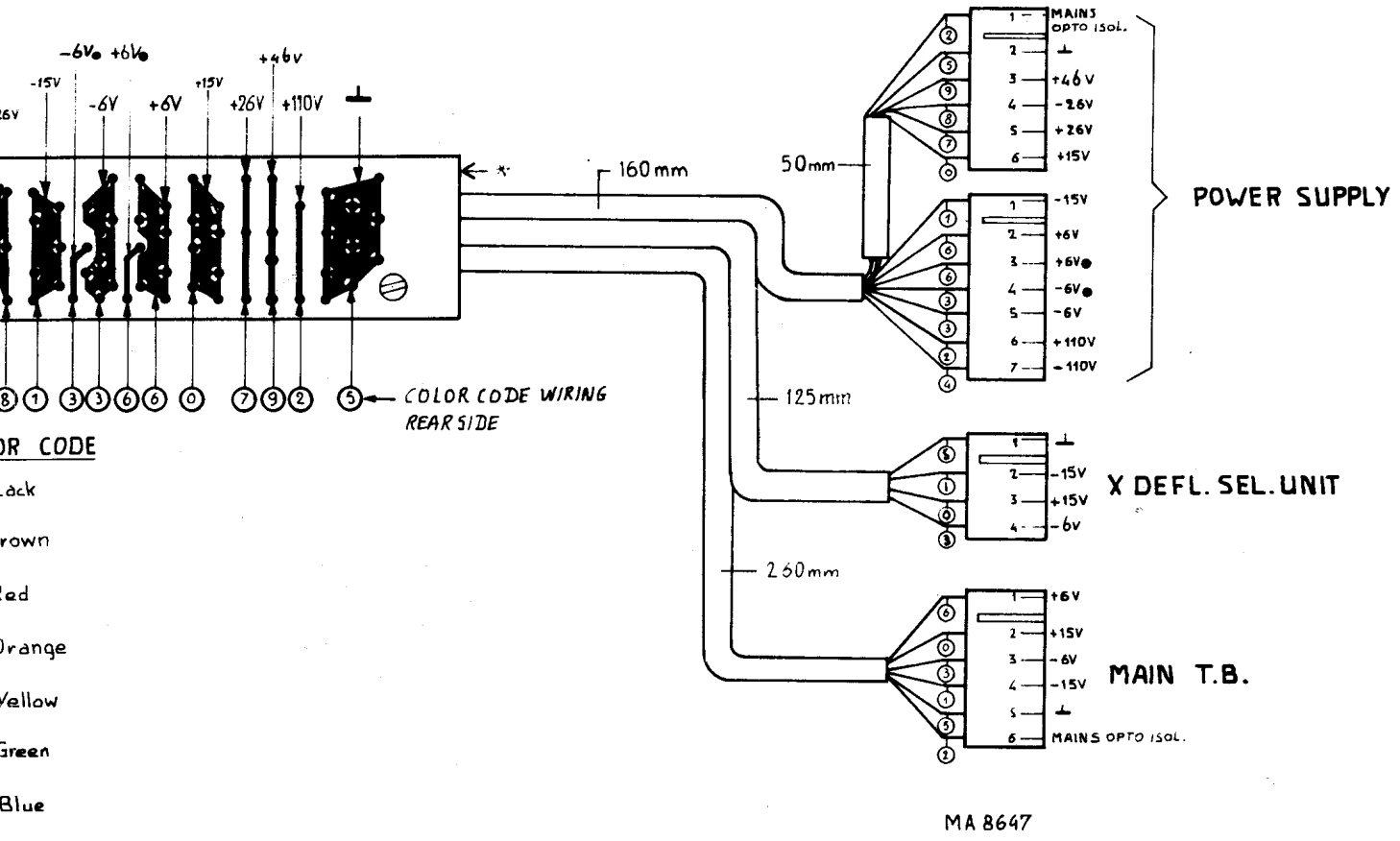


Fig. 3.51. Probe power circuit diagram


Z AMPL
-26V
+15V
95mm
2 kV UNIT
-6V
-46V
-110V
+110V
190mm
FINAL X AMPL
-6V
-110V
-15V
+15V
+6V
+110V
240mm
DEL. T.B.
+15V
-15V
+6V
-6V
260mm
INTERM. AMPL
-6V
-15V
-26V
300mm
+46V
+26V
+15V
+6V
60mm
FINAL Y AMPL
+6V
+15V
+26V
-6V
+46V
400mm
Mains
-110V
-26V
COLOR
0 Black
1 Brown
2 Red
3 Oran
4 Yello
5 Green
6 Blue
7 Viol
8 Grey
9 Whi



OR CODE

Black
Brown
Red
Orange
Yellow
Green
Blue
Violet
Grey
White

*CABLE LENGTH MEASURED TO P.C. BOARD

Fig. 3.52. Power distribution

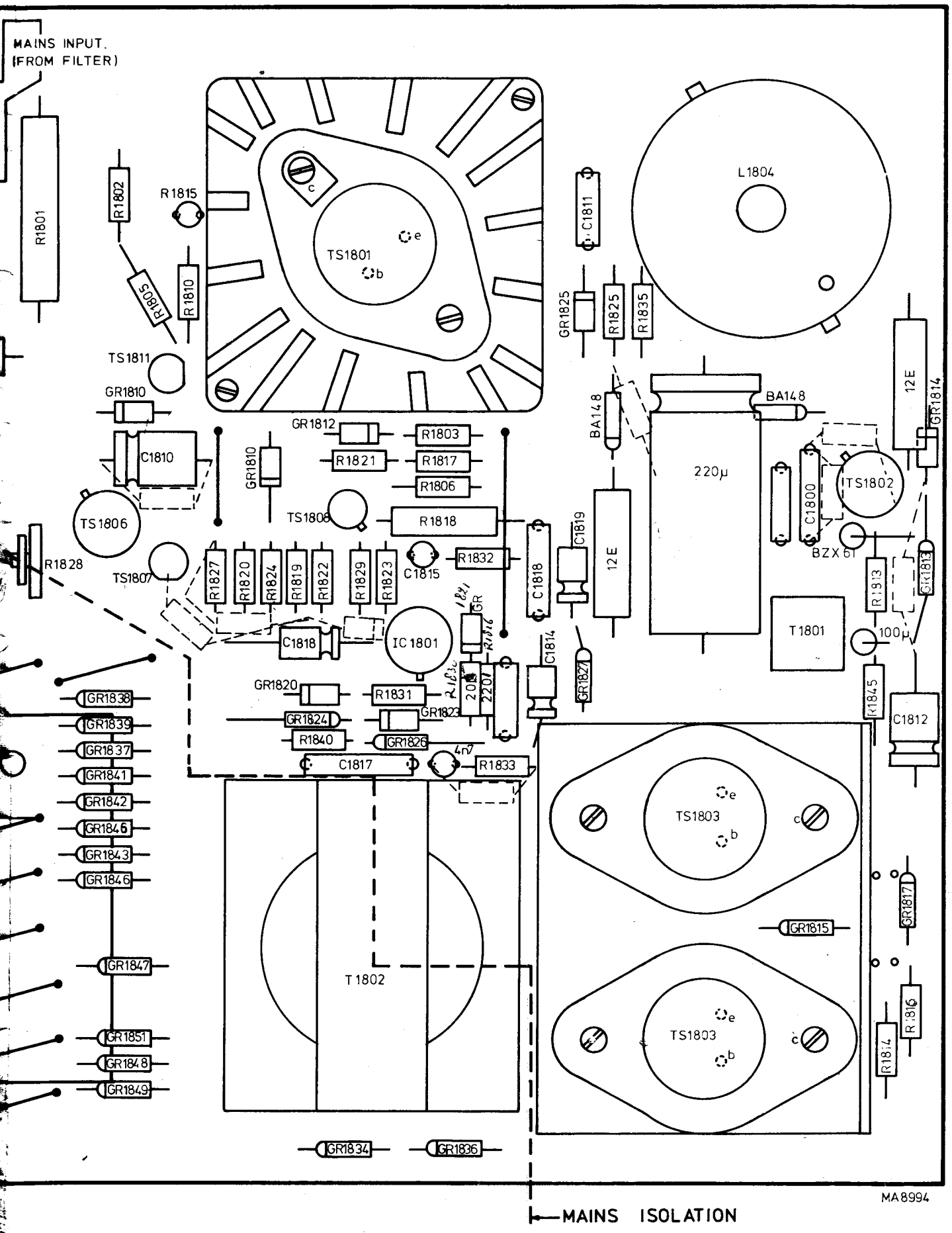
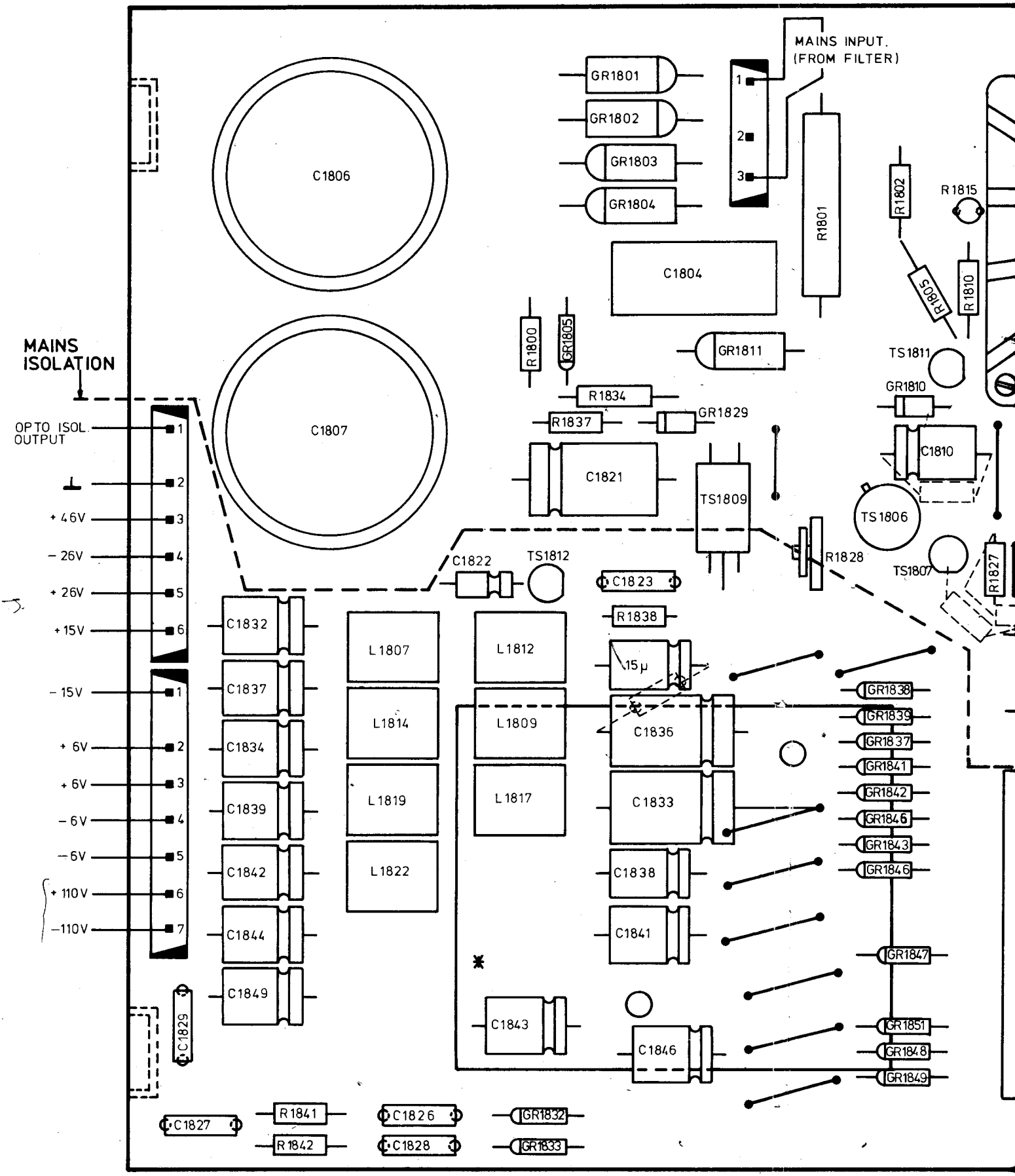


Fig. 3.54. Power supply circuit board



✱ C.R.T. HEATER SUPPLY

QUALITY REPORTING

CODING SYSTEM FOR FAILURE DESCRIPTION

The following information is meant for Philips service workshops only and serves as a guide for exact reporting of service repairs and maintenance routines on the workshop charts.
For full details reference is made to Information G1 (Introduction) and Information Cd 689 (Specific information for Test and Measuring Instruments).

LOCATION

□□□

Unit number
e.g. 000A or 0001 (for unit A or 1; **not 00UA or 00U1**)

or: Type number of an accessory (only if delivered with the equipment)
e.g. 9051 or 9532 (for PM 9051 or PM 9532)

or: Unknown/Not applicable
0000

COMPONENT/SEQUENCE NUMBER

□□□□□

Enter the identification **as used in the circuit diagram,** e.g.:

GR1003	Diode GR1003
TS0023	Transistor TS23
IC0101	Integrated circuit IC101
R0....	Resistor, potentiometer
C0....	Capacitor, variable capacitor
B0....	Tube, valve
LA....	Lamp
VL....	Fuse
SK....	Switch
BU....	Connector, socket, terminal
T0....	Transformer
L0....	Coil
X0....	Crystal
CB....	Circuit block
RE....	Relay
BA....	Battery
TR....	Chopper

CATEGORY

□

0 Unknown, not applicable (fault not present, intermittent or disappeared)
1 Software error
2 Readjustment
3 Electrical repair (wiring, solder joint, etc.)
4 Mechanical repair (polishing, filing, remachining, etc.)
5 Replacement
6 Cleaning and/or lubrication
7 Operator error
8 Missing items (on pre-sale test)
9 Environmental requirements are not met

Parts not identified in the circuit diagram:

990000	Unknown/Not applicable
990001	Cabinet or rack (text plate, emblem, grip, rail, graticule, etc.)
990002	Knob (incl. dial knob, cap, etc.)
990003	Probe (only if attached to instrument)
990004	Leads and associated plugs
990005	Holder (valve, transistor, fuse, board, etc.)
990006	Complete unit (p.w. board, h.t. unit, etc.)
990007	Accessory (only those without type number)
990008	Documentation (manual, supplement, etc.)
990009	Foreign object
990099	Miscellaneous