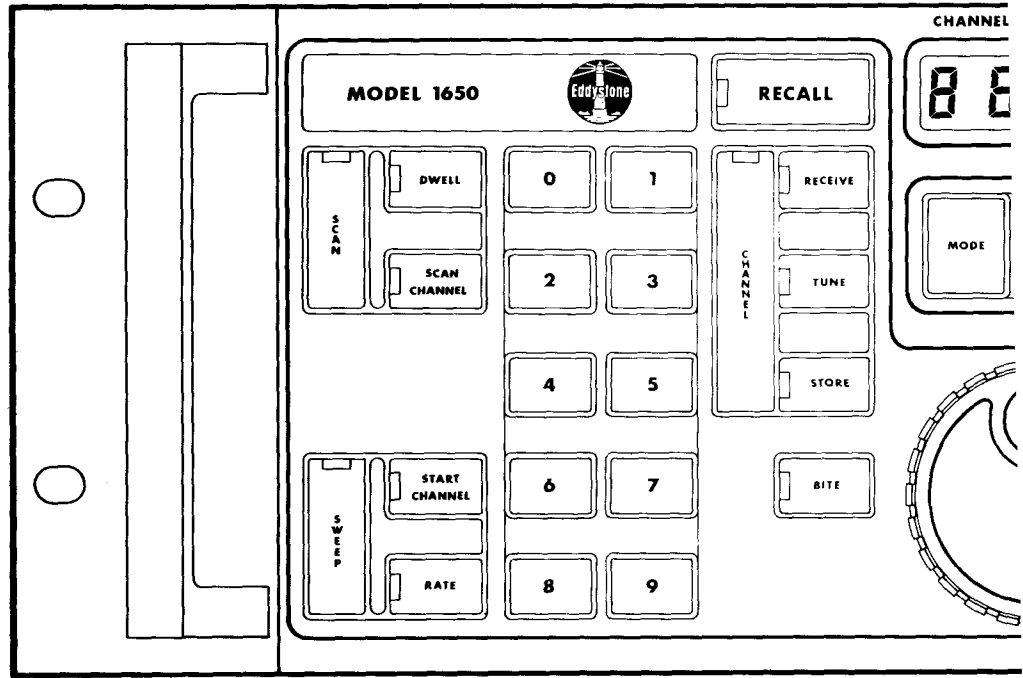
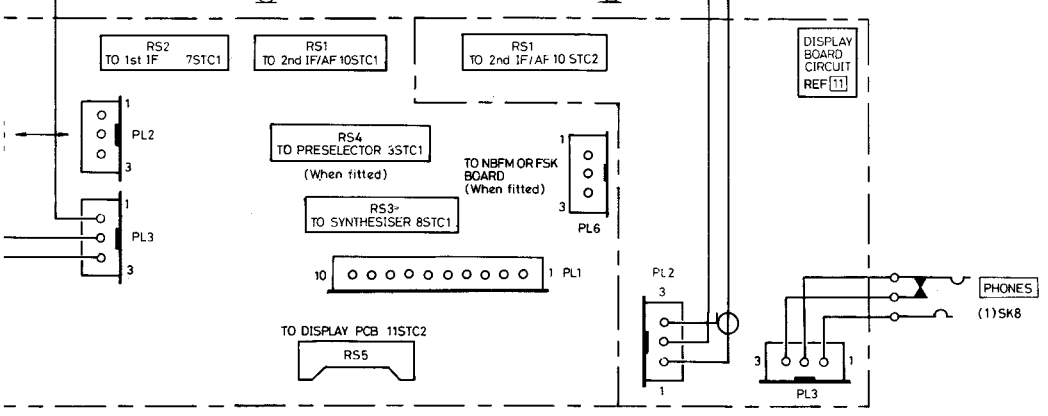
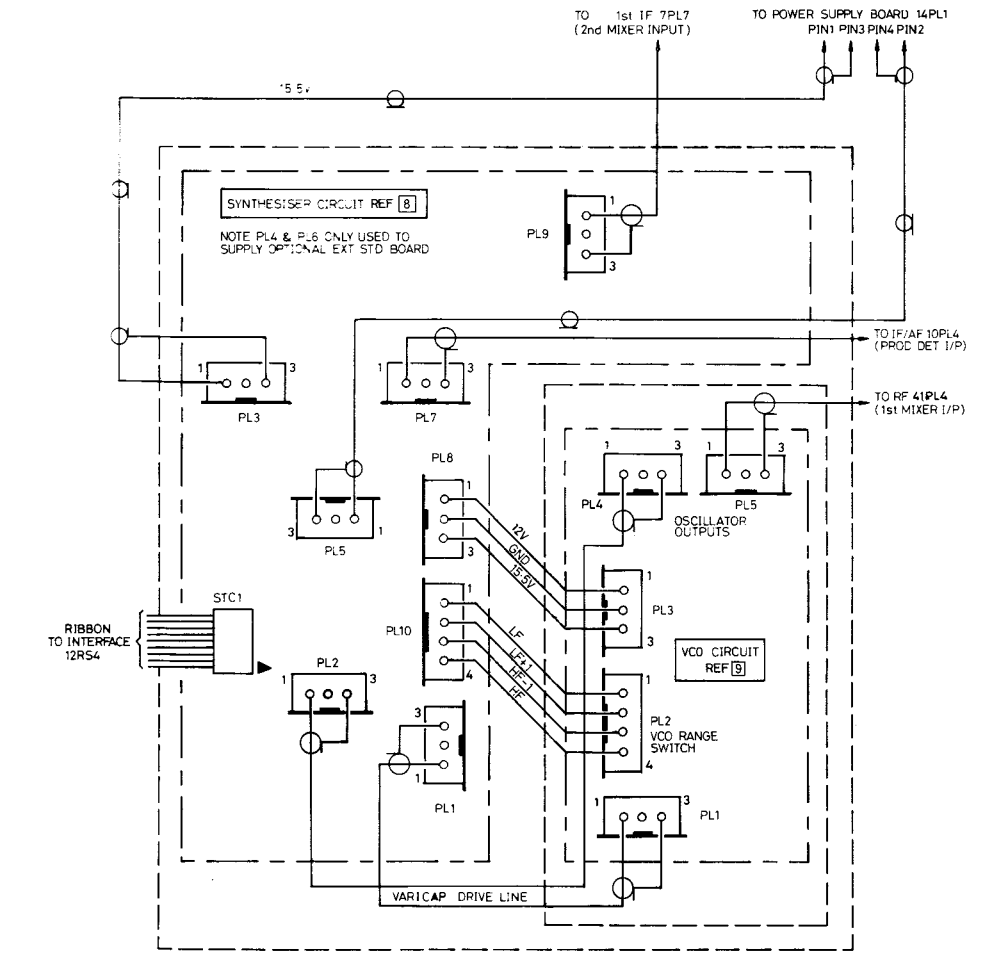
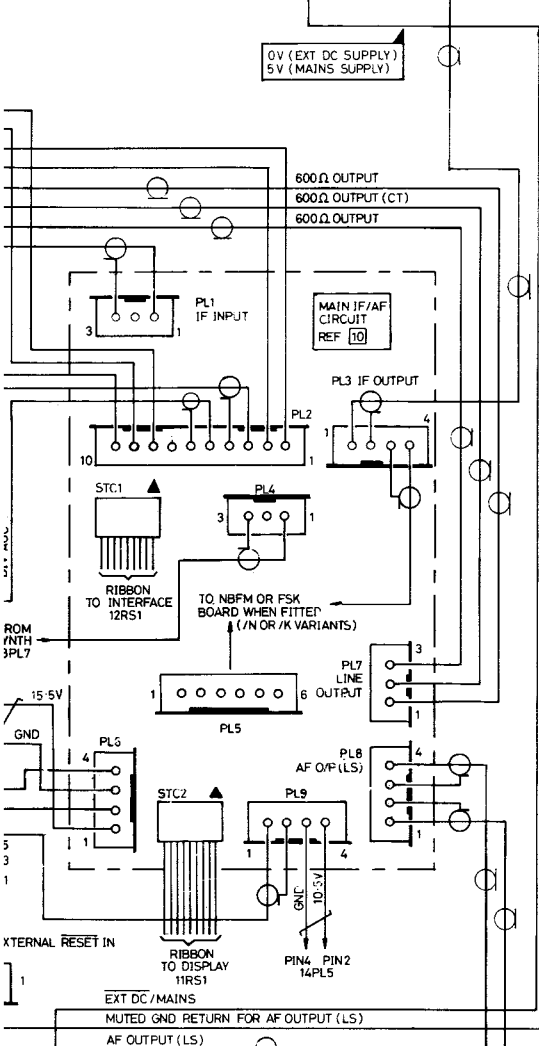
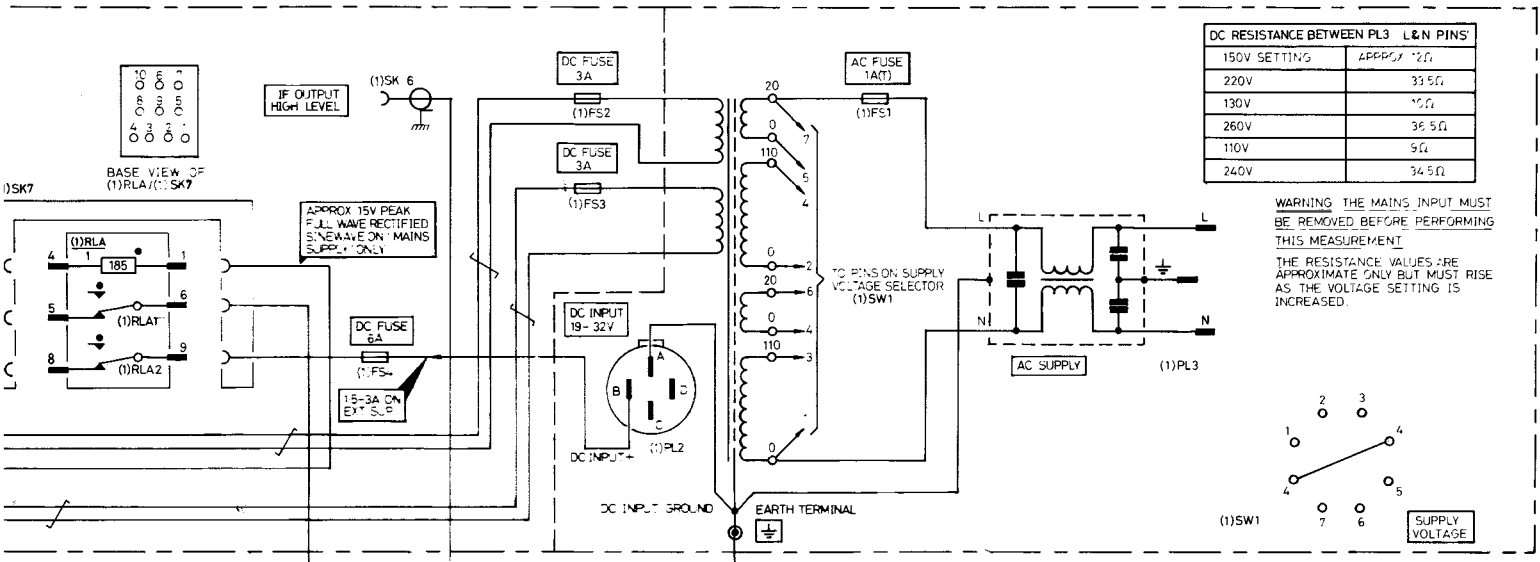


# FRONT PANEL LAYOUT

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EDDYSTONE RADIO LTD BIRMINGHAM B31 3PP ENGLAND	
DRG No	BP 2092
ISSUE 1	

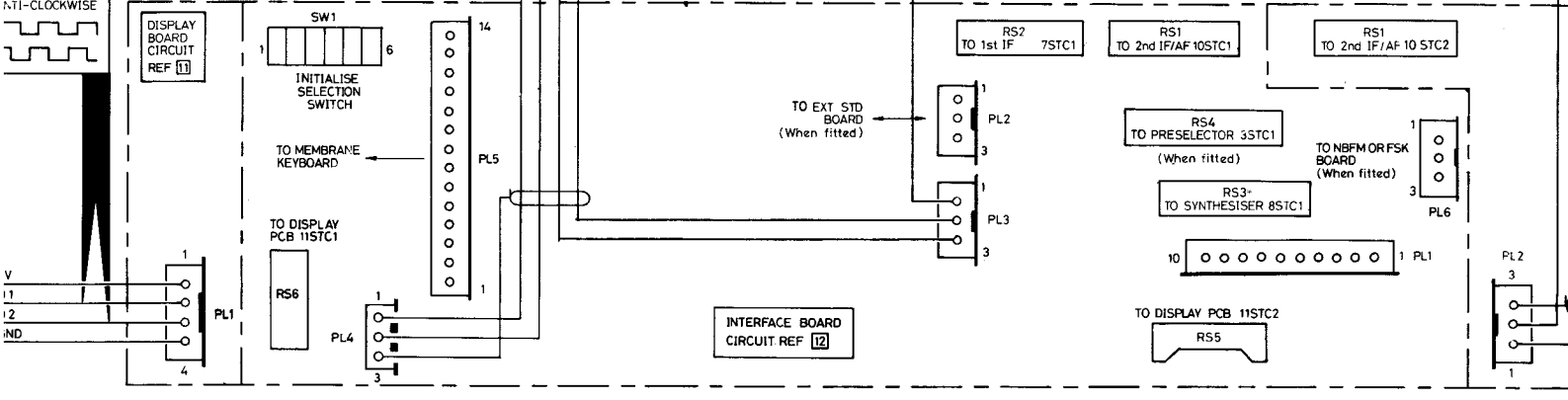
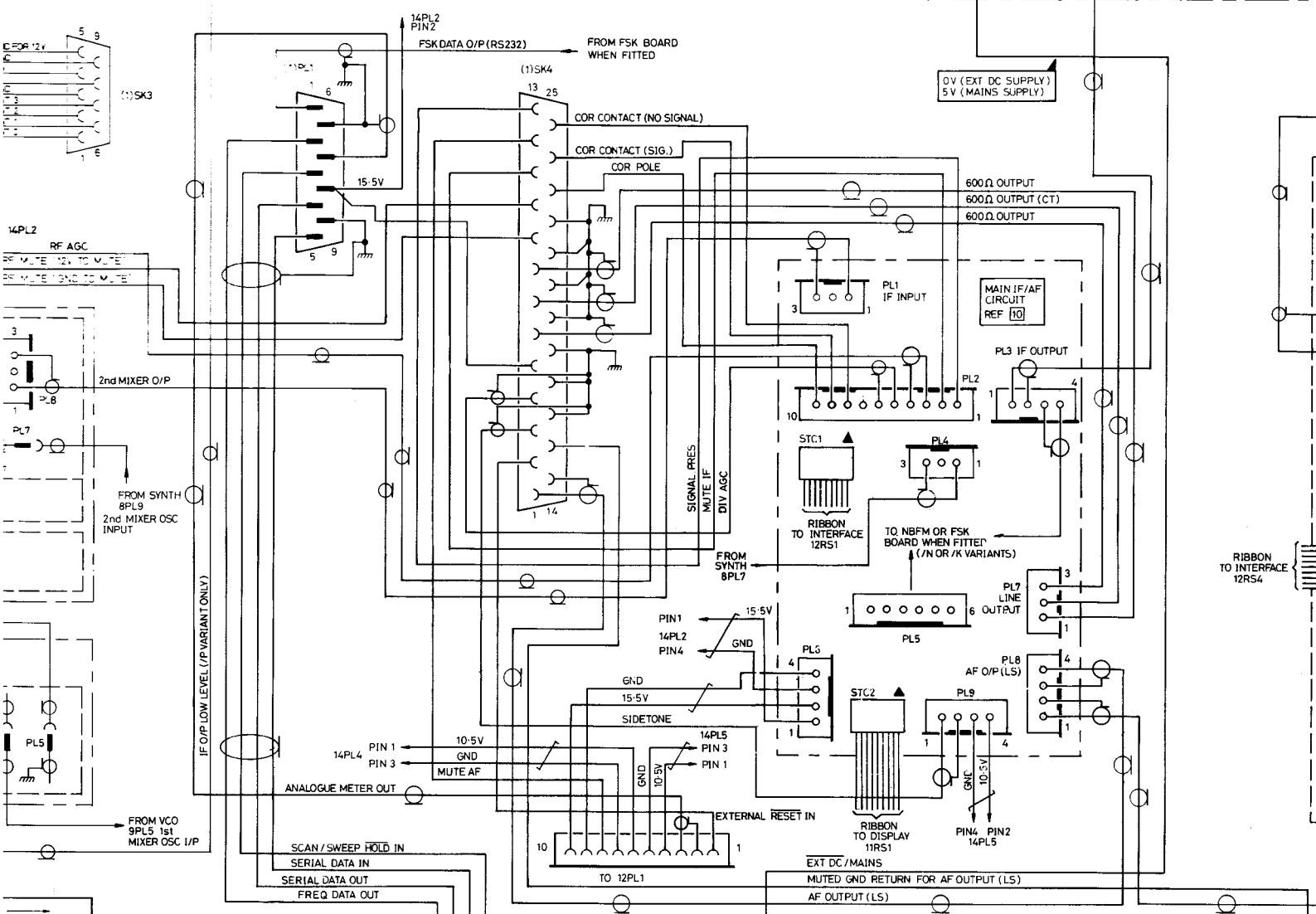
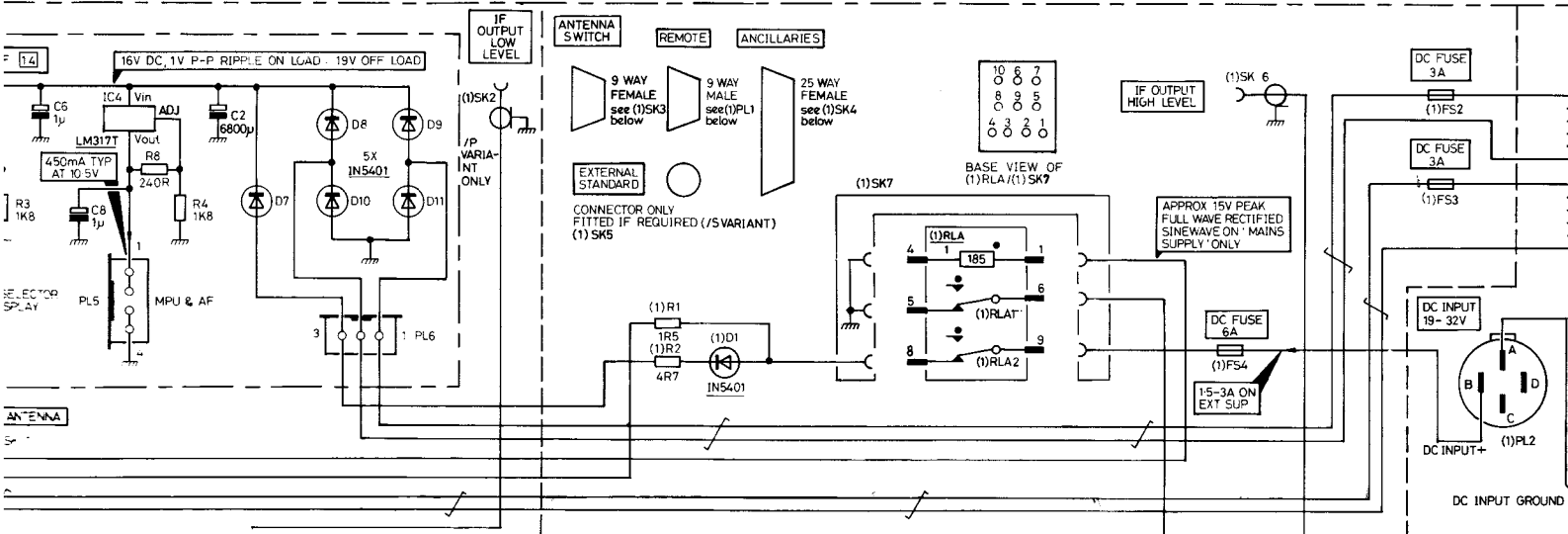


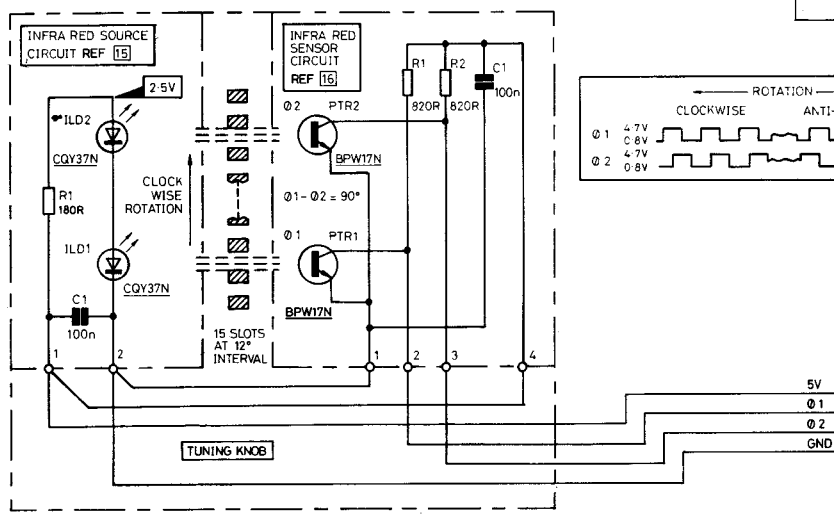
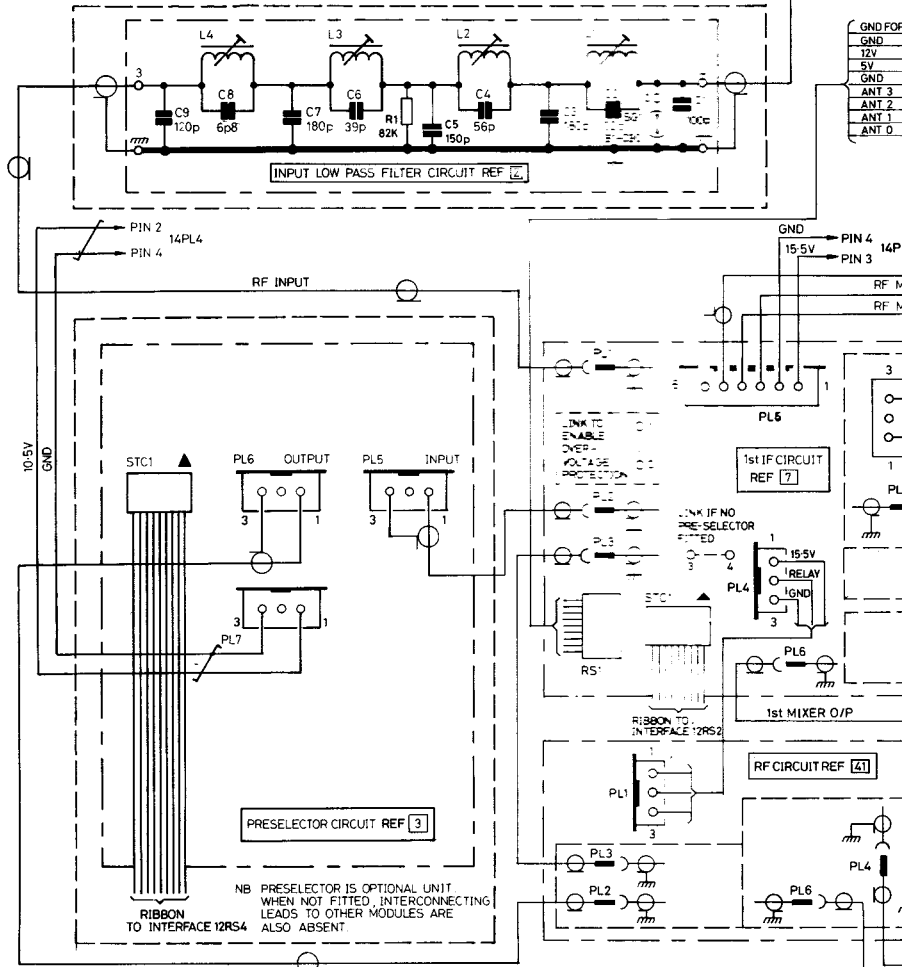
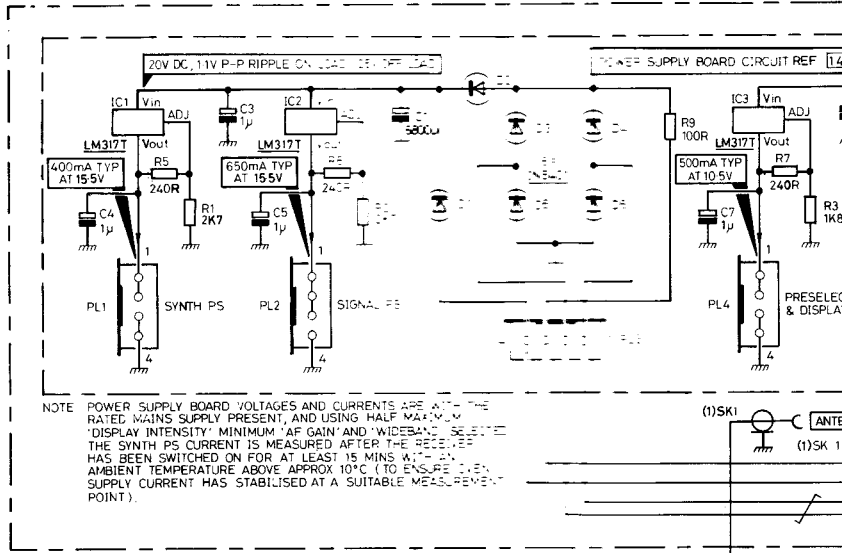
FRON



**1650 CIRCUIT REF [1]**  
**INTERCONNECTIONS and**  
**MISCELLANEOUS MODULES**

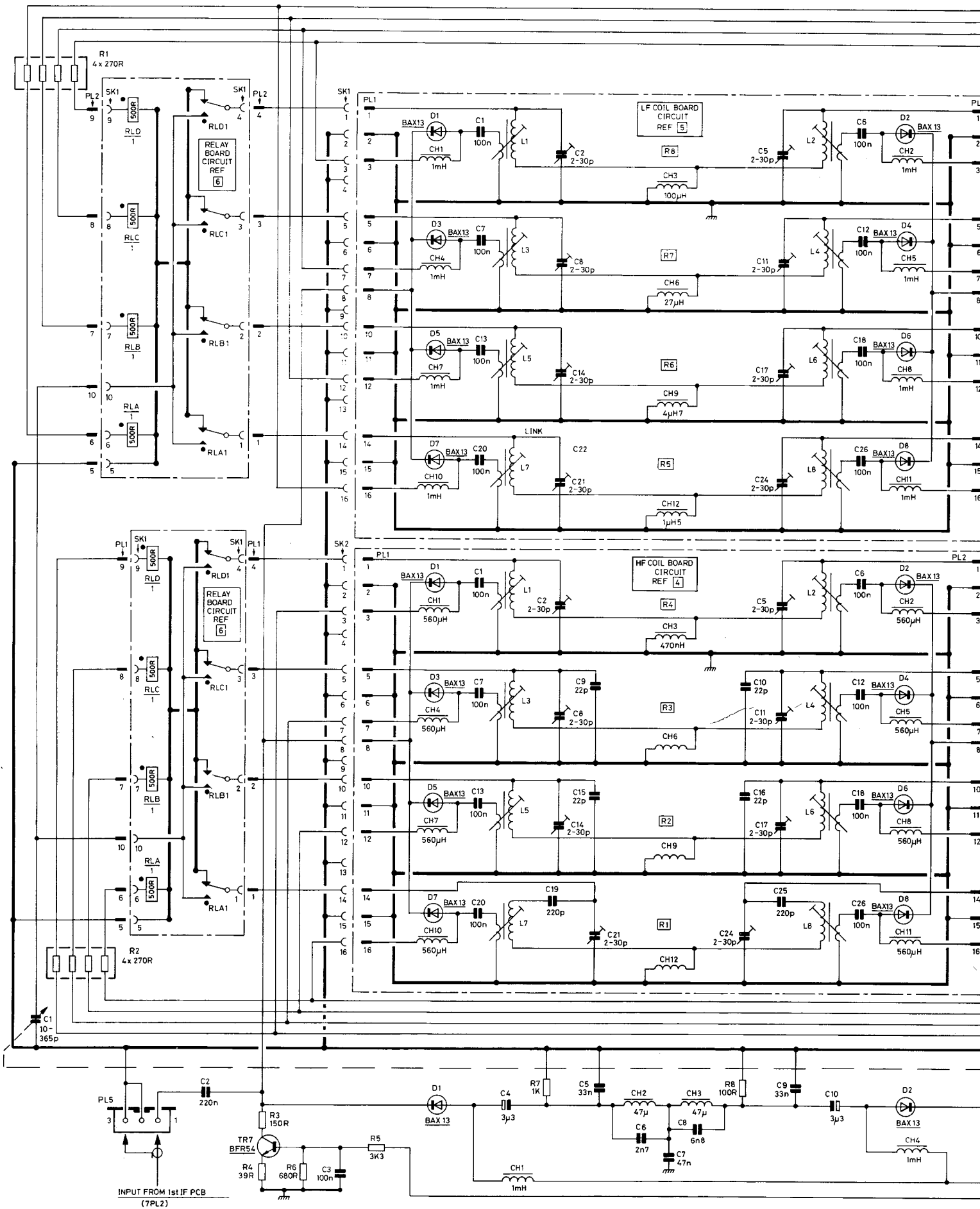
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 ENGLAND  
 DRG No **BP1978**



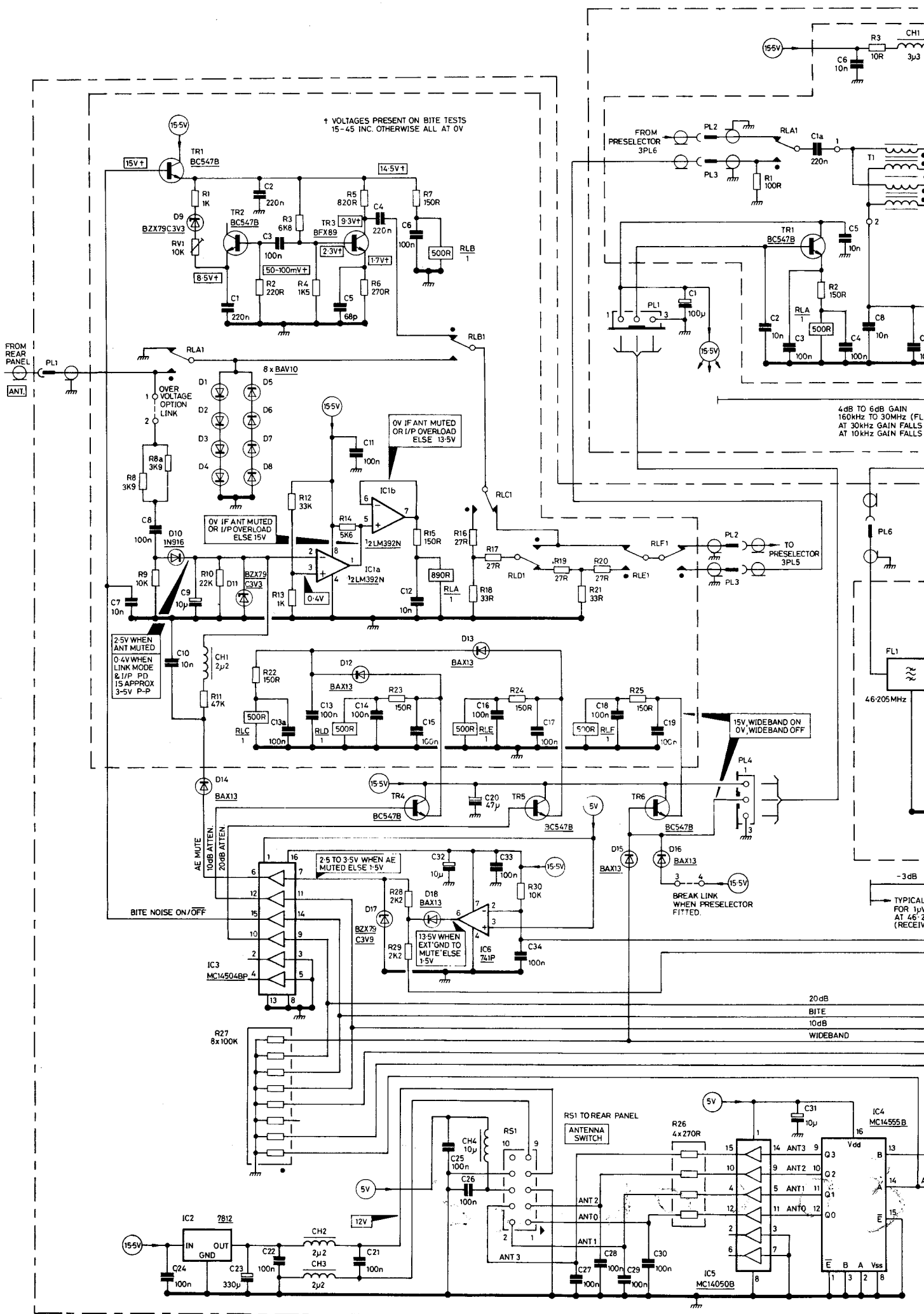




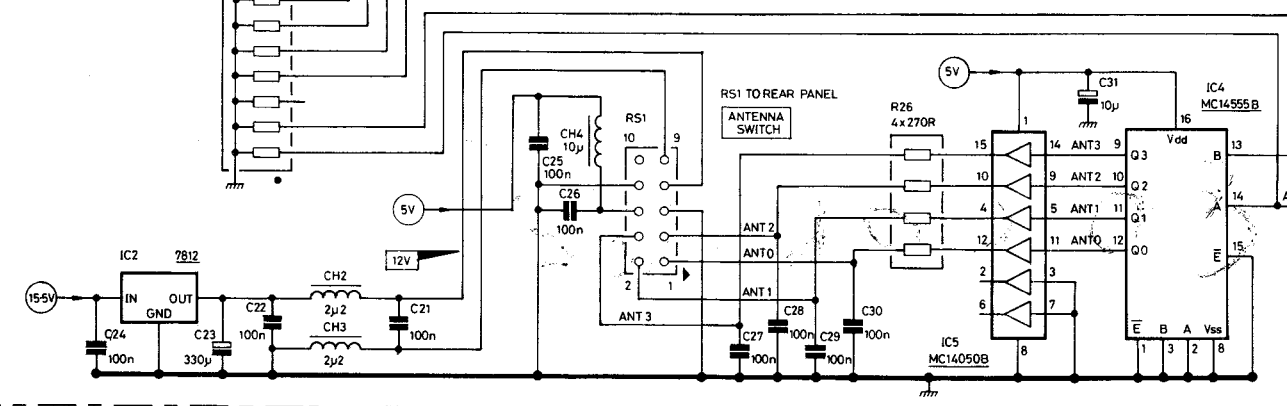
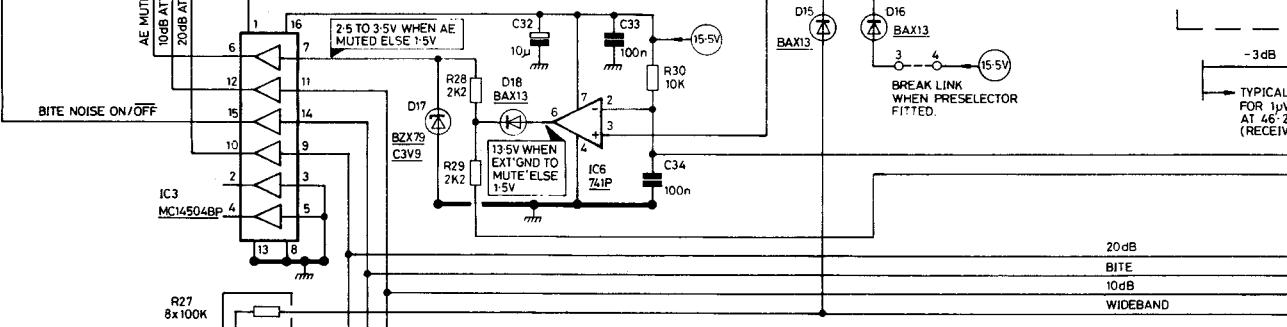
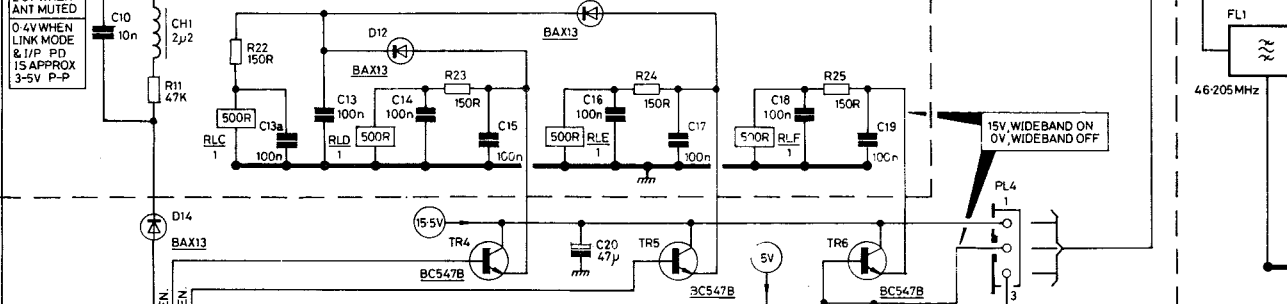
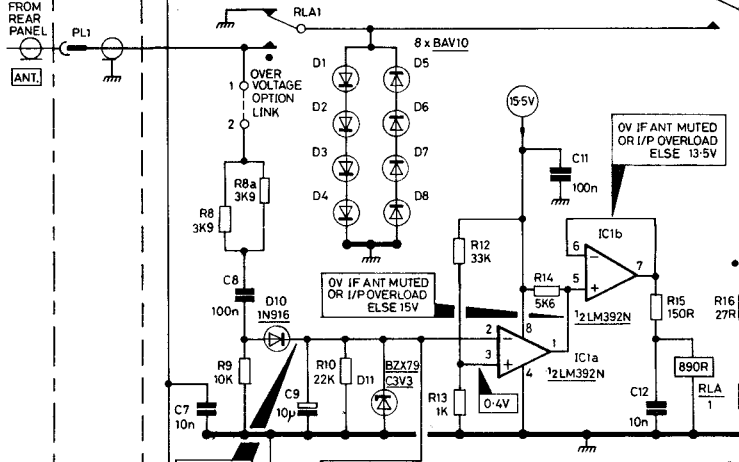
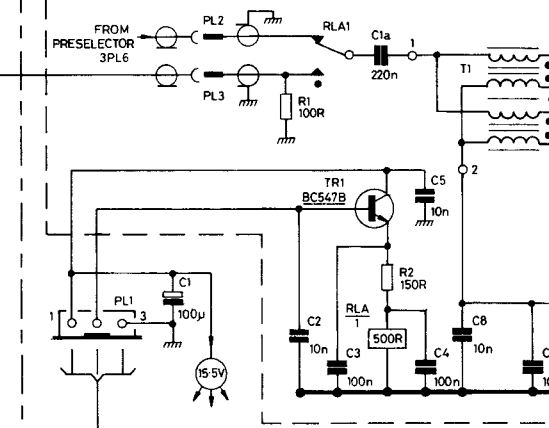
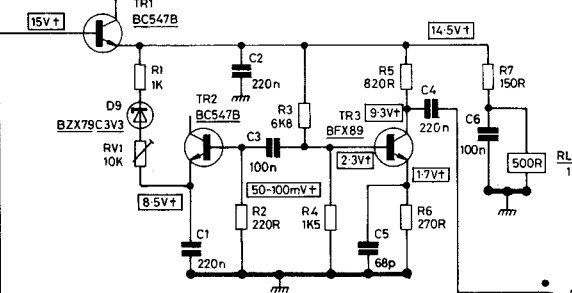


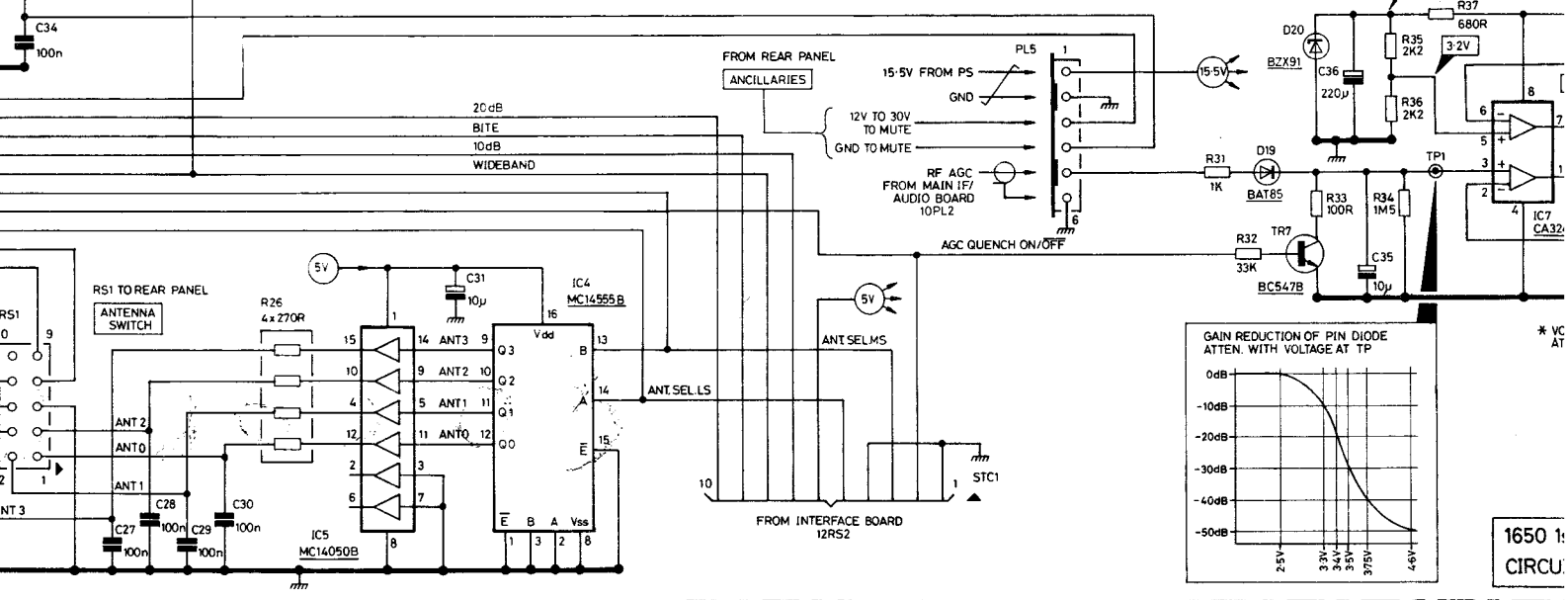
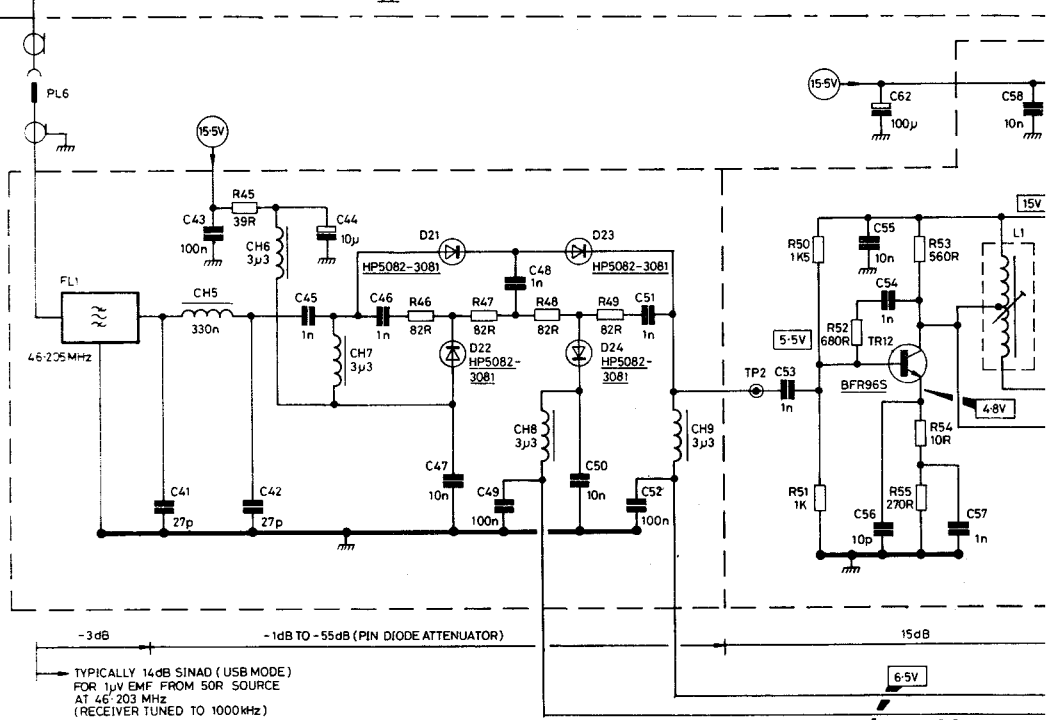
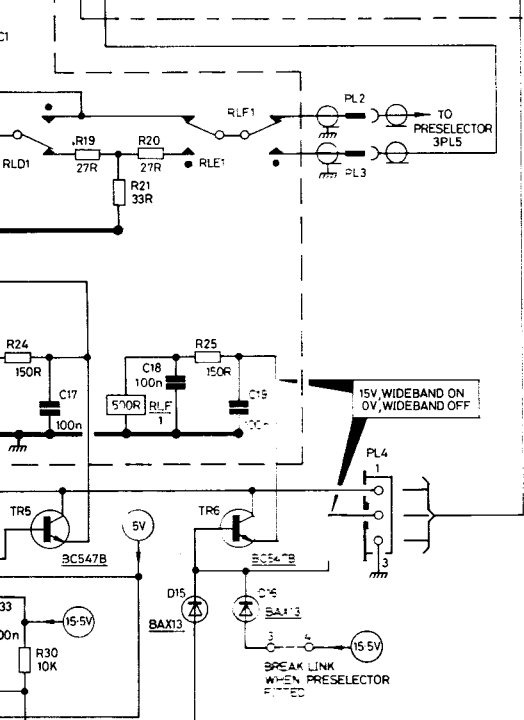
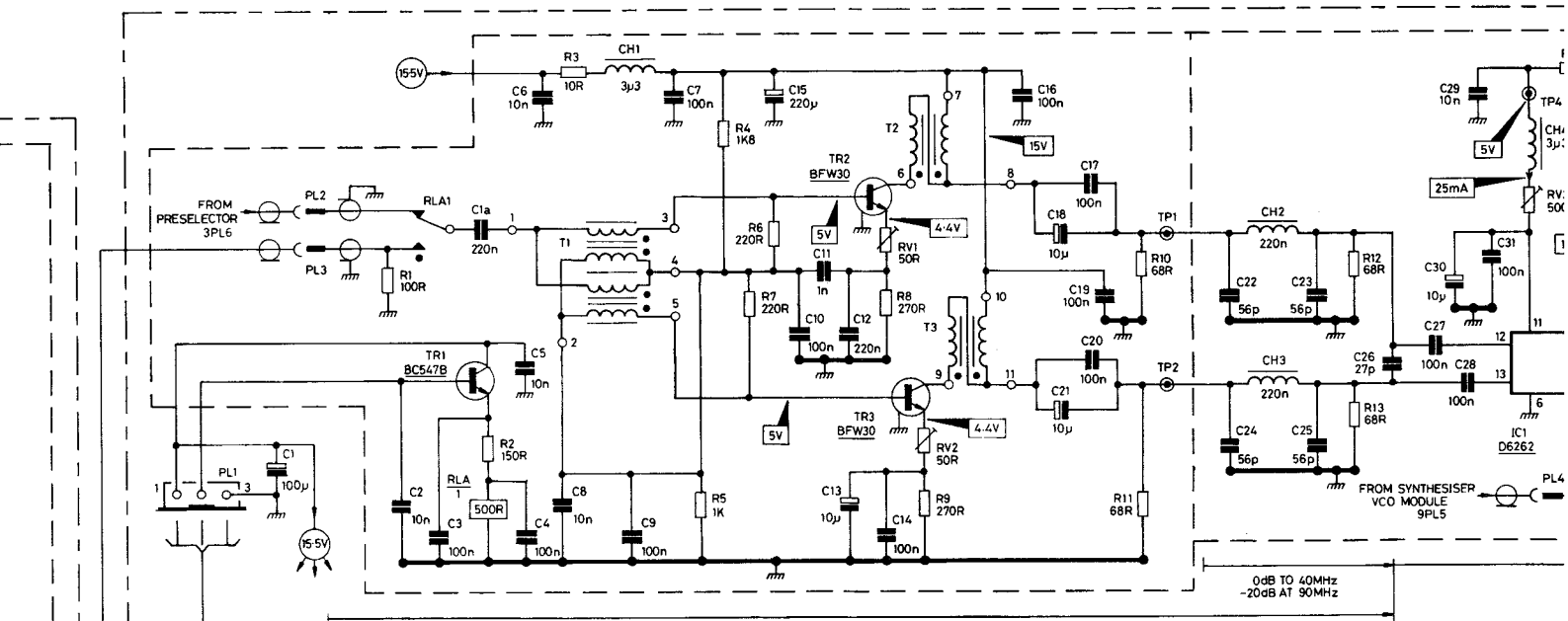


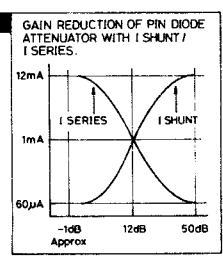
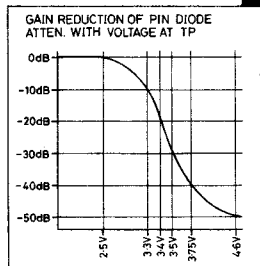
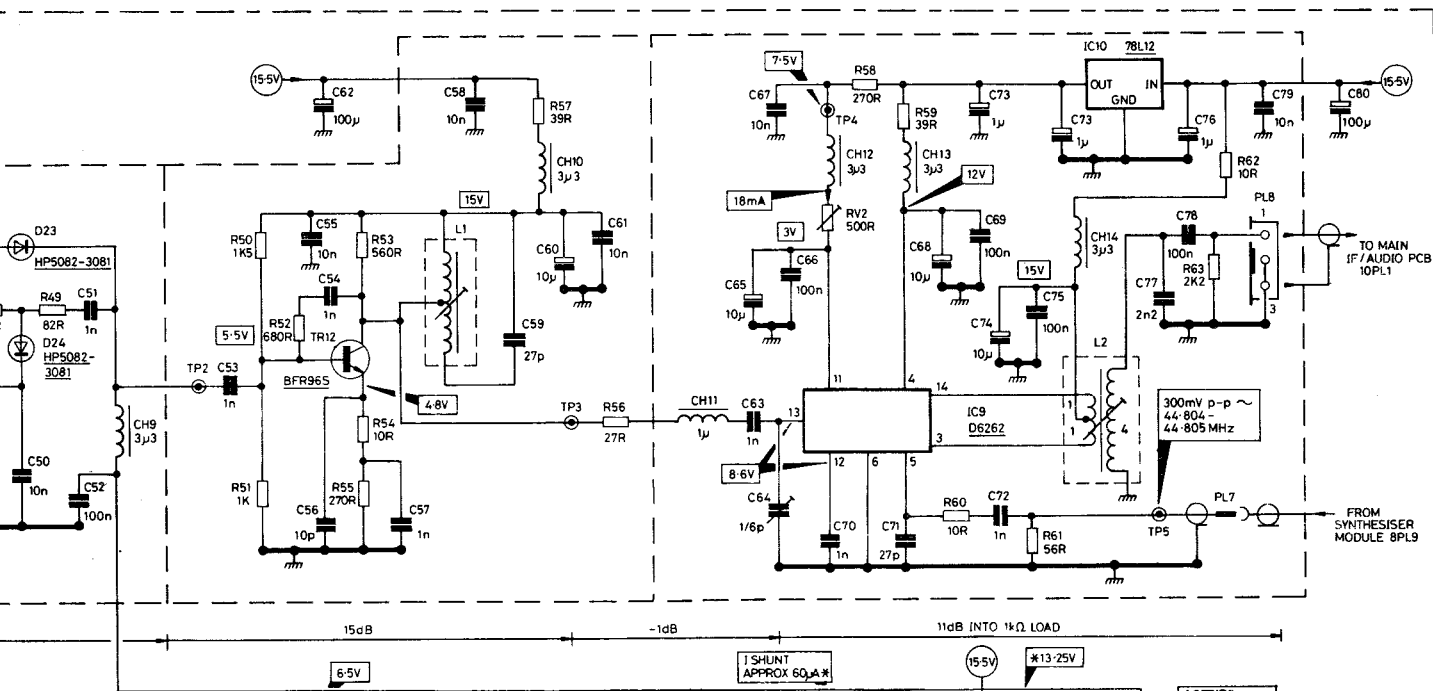
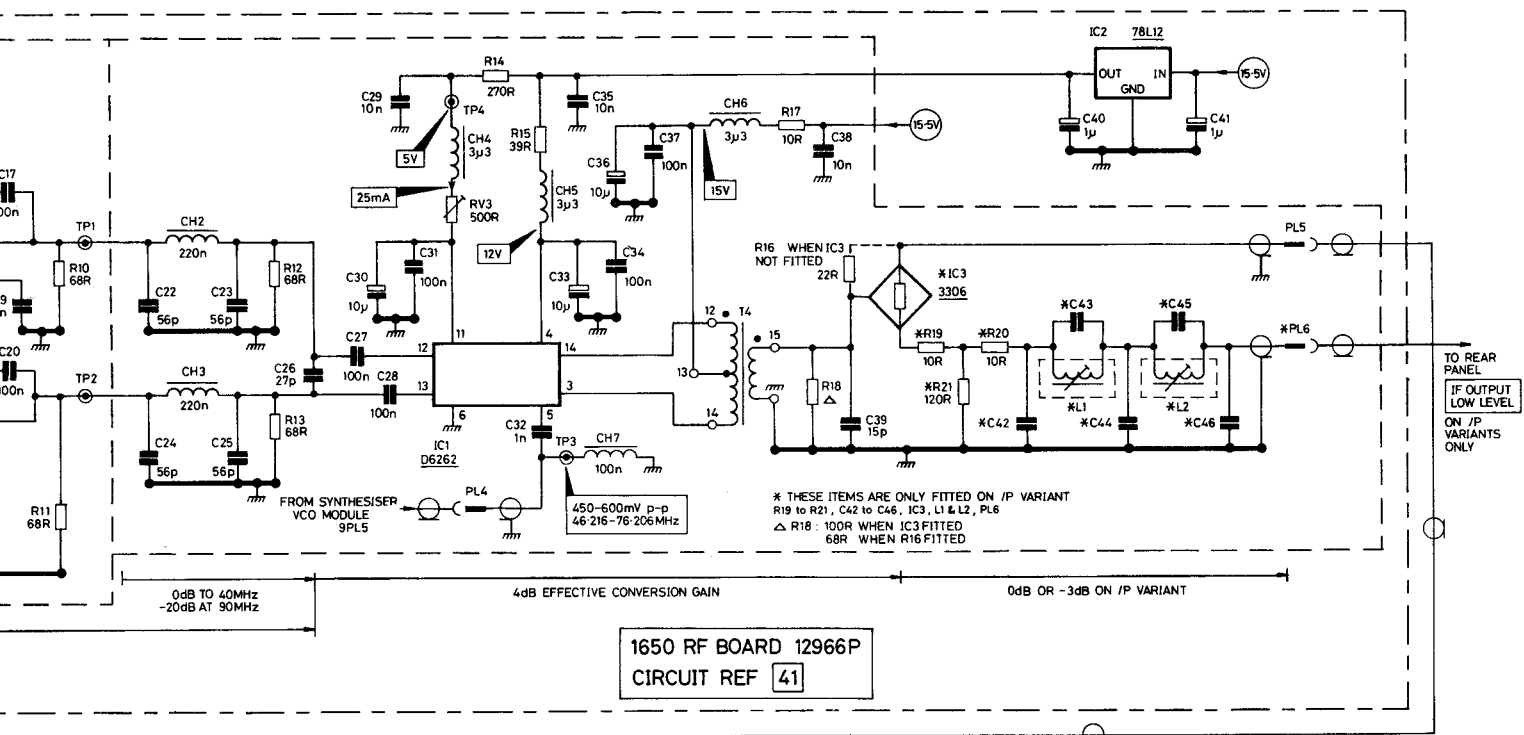




↑ VOLTAGES PRESENT ON BITE TESTS  
15-45 INC. OTHERWISE ALL AT 0V





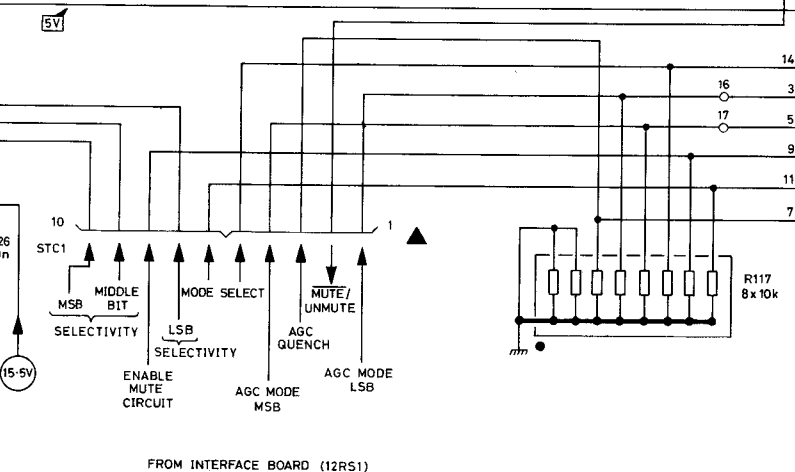
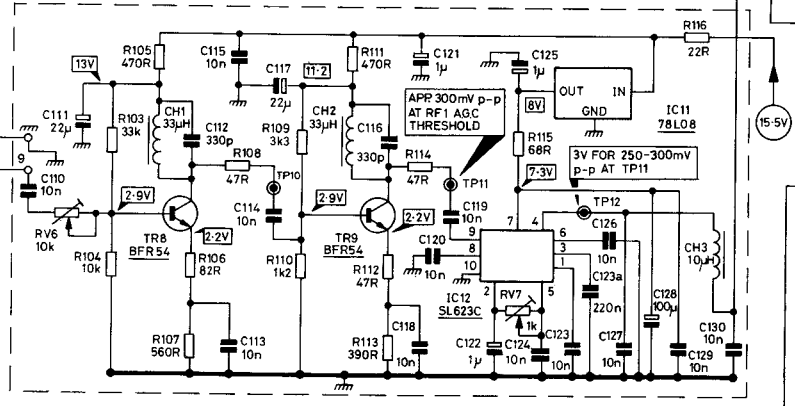
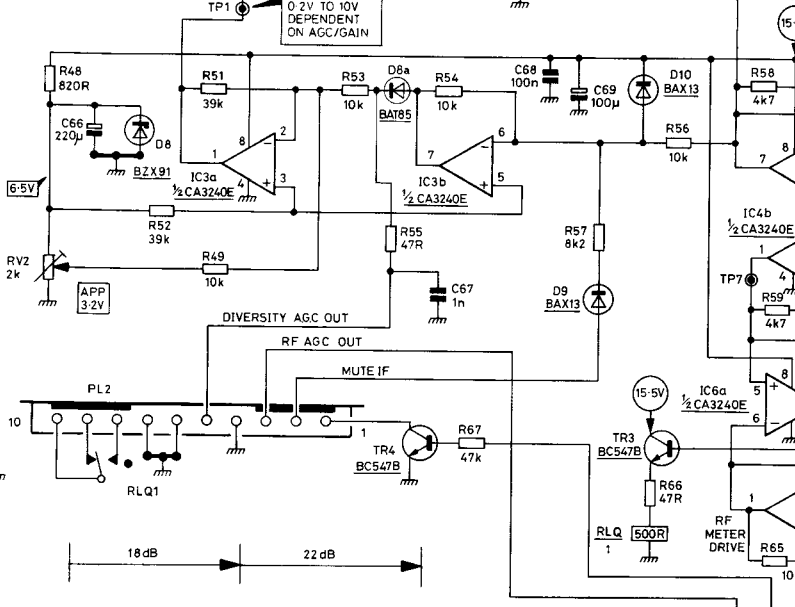
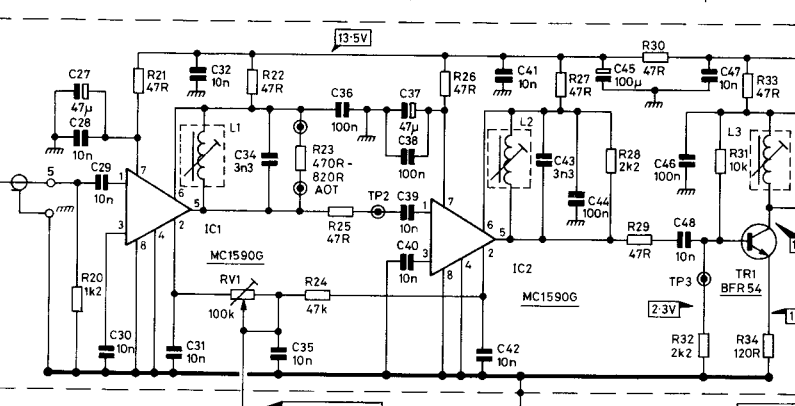
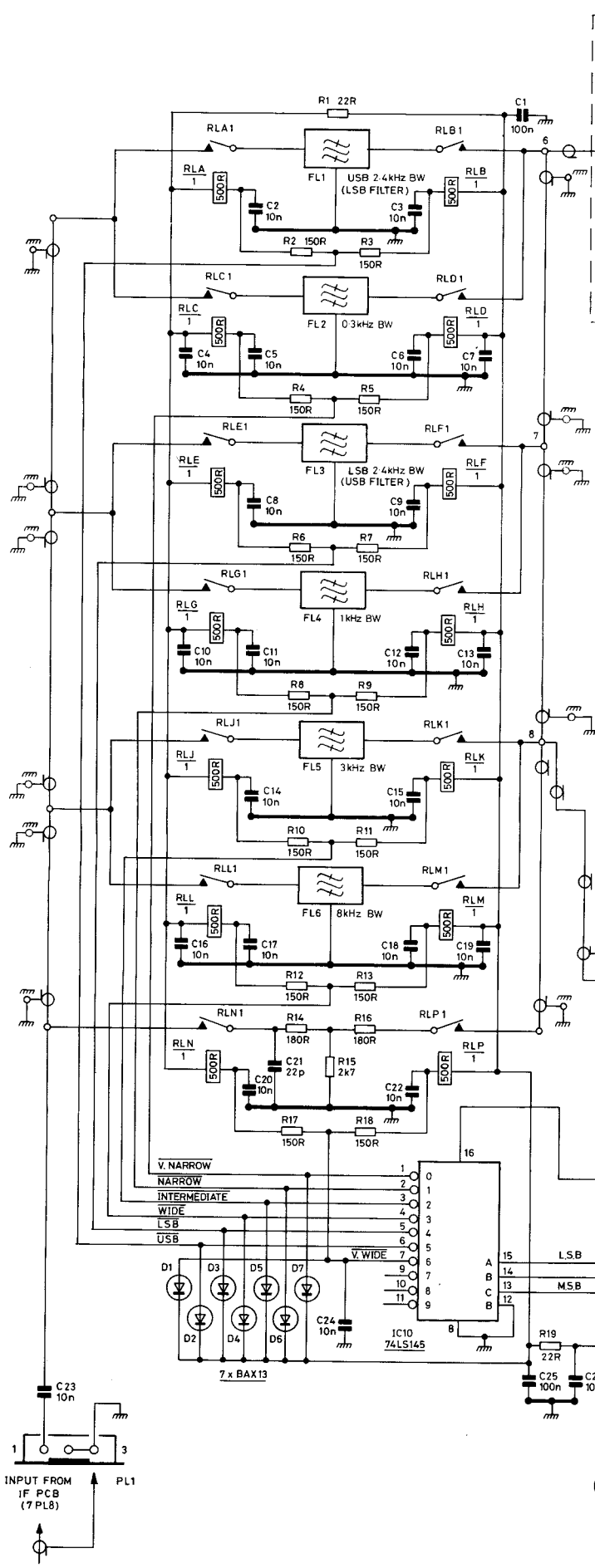


APPROX -3dB

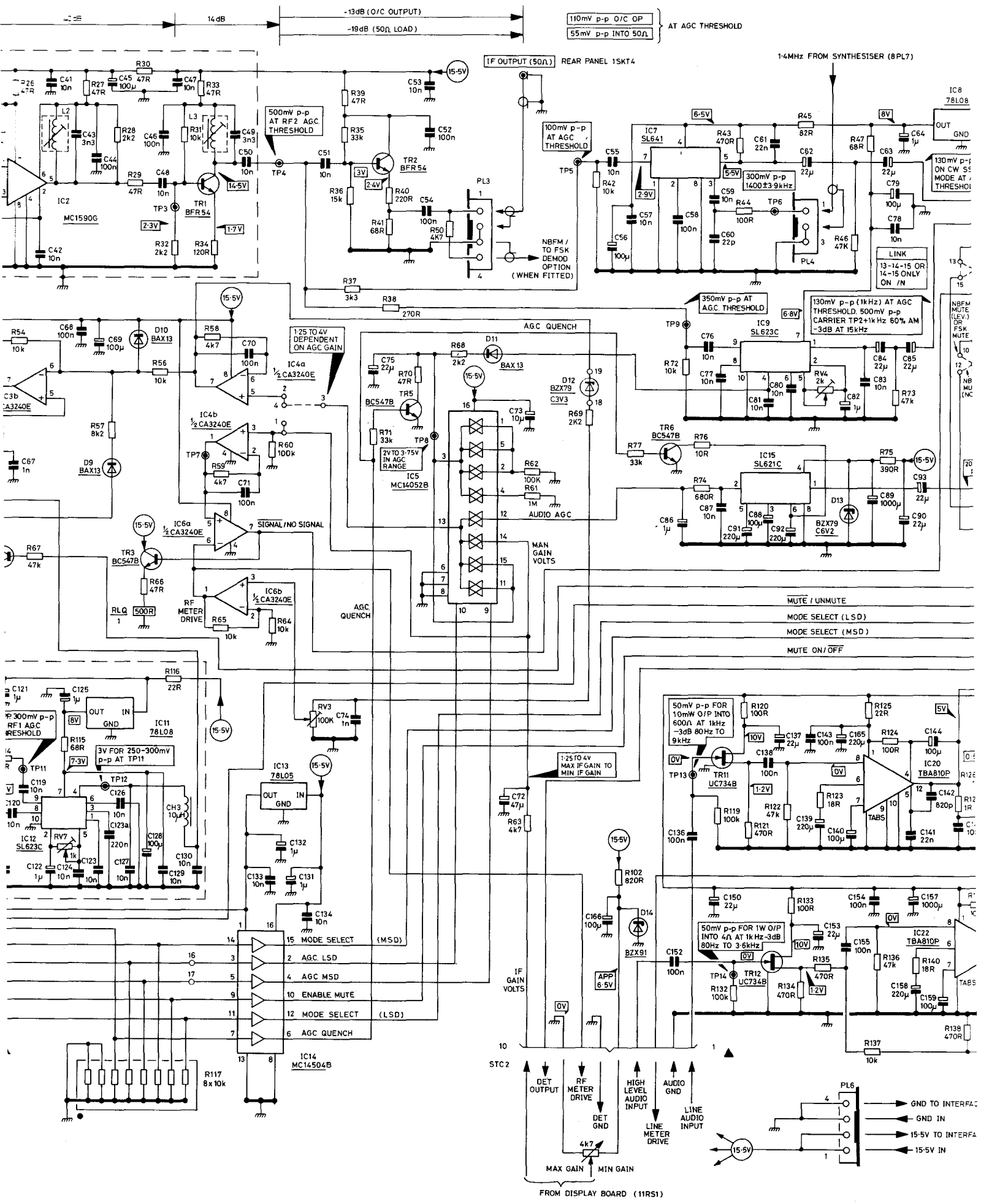
38dB

40dB

14dB

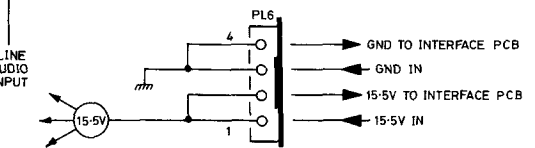
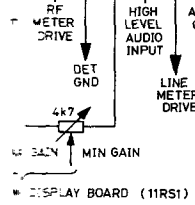
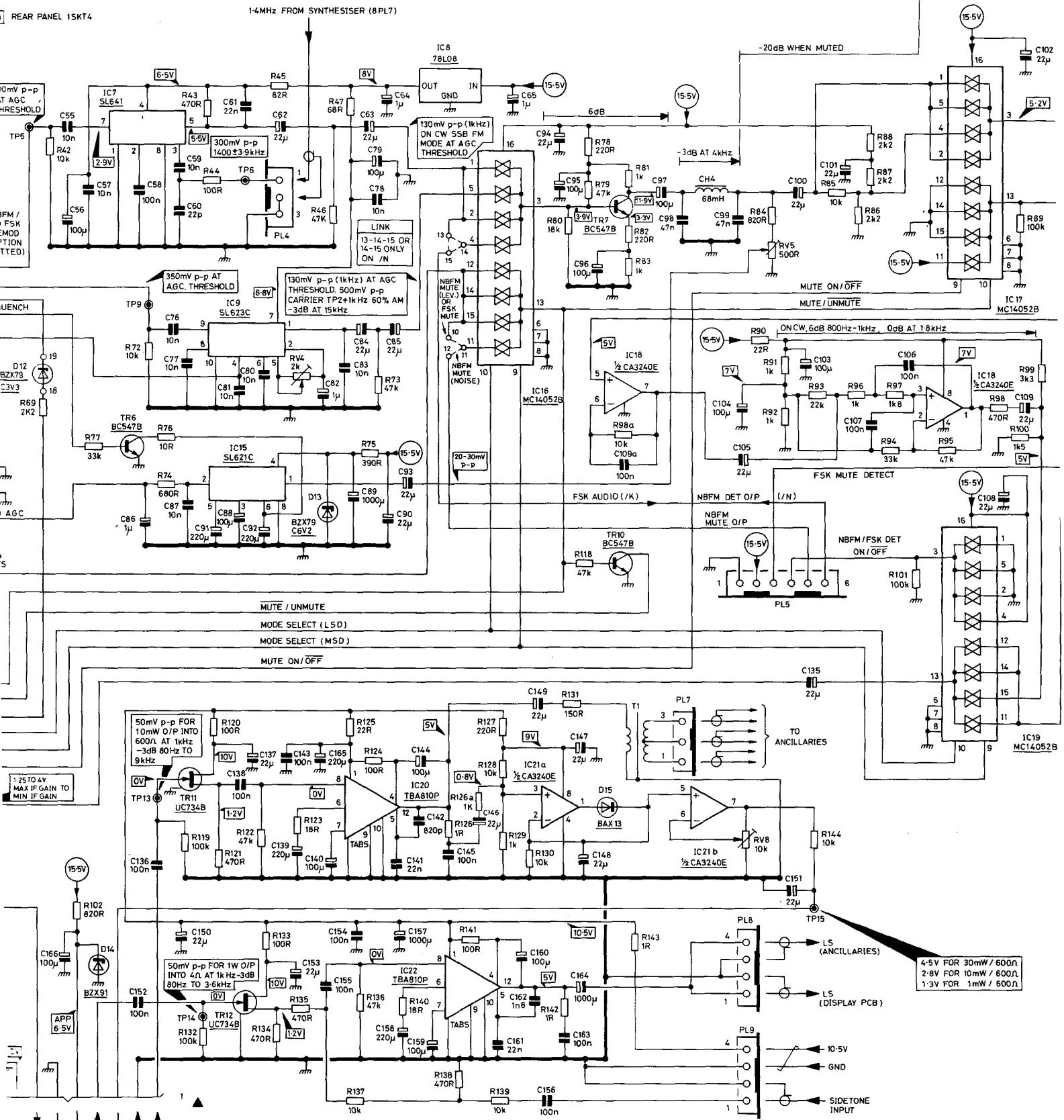


FROM INTERFACE BOARD (12RS1)



FROM DISPLAY BOARD (11RS1)

110mV p-p O/C OP } AT AGC THRESHOLD  
 55mV p-p INTO 50Ω



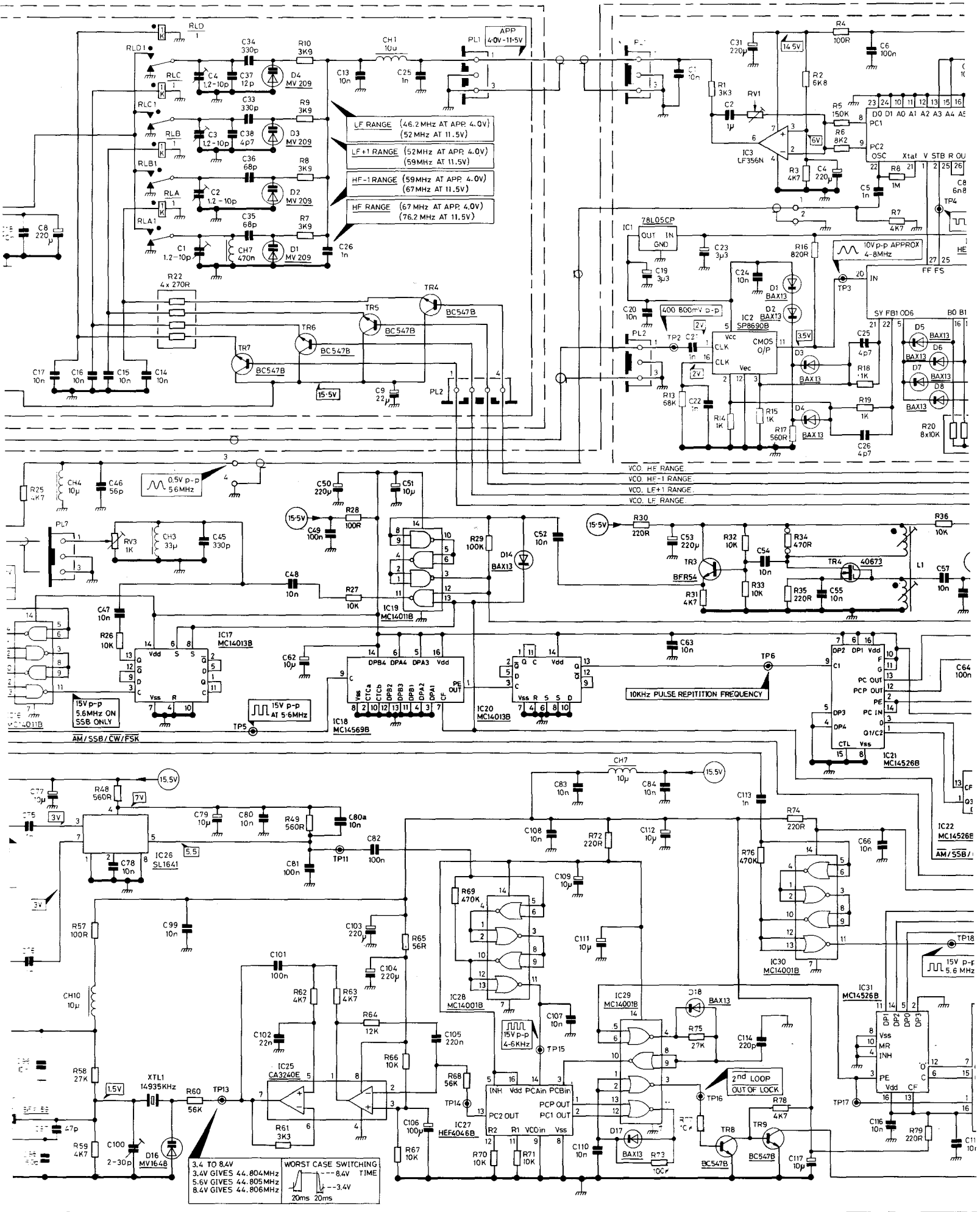
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 DRG No BP1976

1650 MAIN IF AUDIO BOARD  
 CIRCUIT REF 10 12921P

ISSUE 2

NOT LOCATED: C33





**LF RANGE** (46.2 MHz AT APPR. 4.0V)  
 (52 MHz AT 11.5V)  
**LF+1 RANGE** (52 MHz AT APPR. 4.0V)  
 (59 MHz AT 11.5V)  
**HF-1 RANGE** (59 MHz AT APPR. 4.0V)  
 (67 MHz AT 11.5V)  
**HF RANGE** (67 MHz AT APPR. 4.0V)  
 (76.2 MHz AT 11.5V)

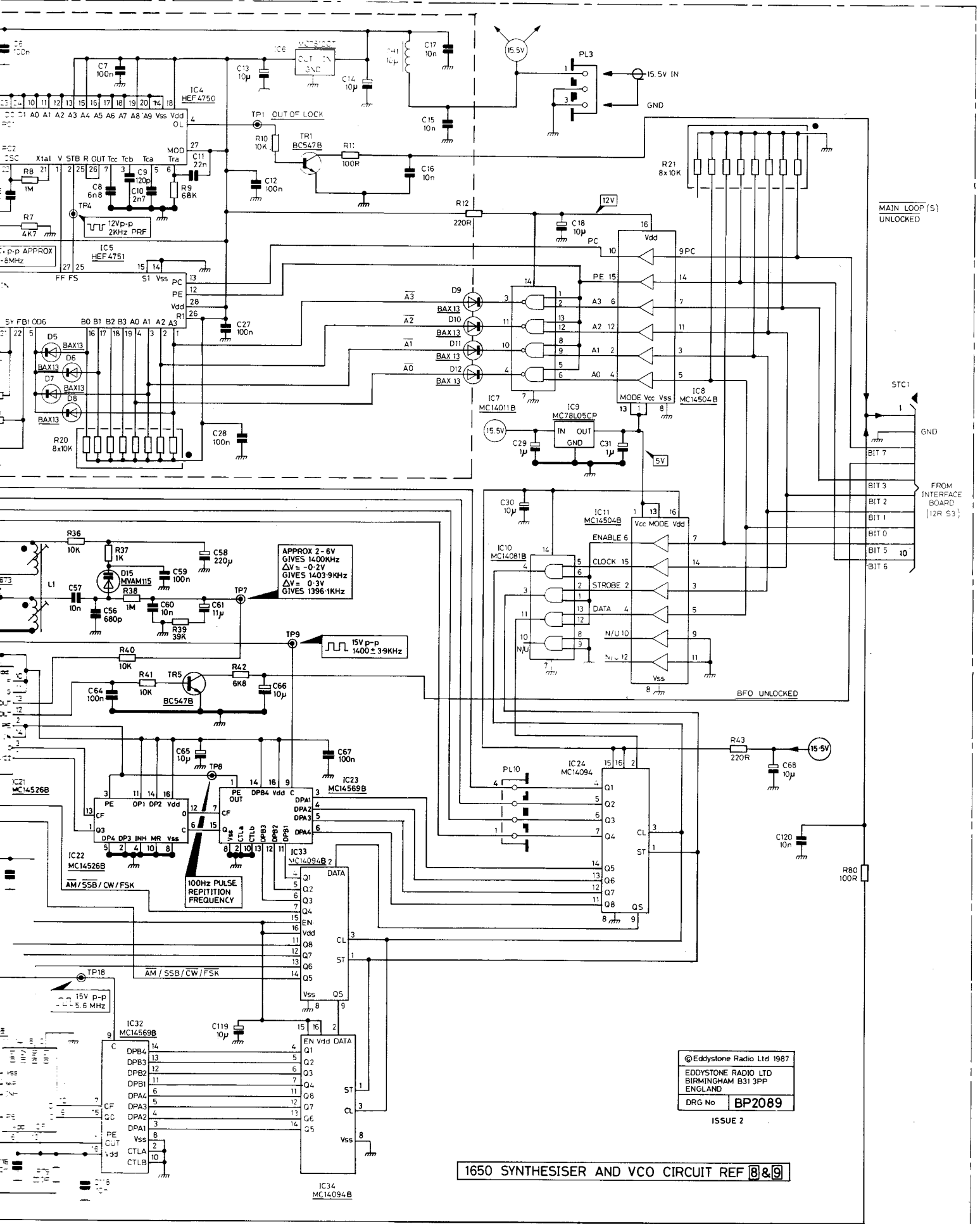
VCO HF RANGE  
 VCO HF-1 RANGE  
 VCO LF+1 RANGE  
 VCO LF RANGE

AM/SSB/CW/FSK  
 15V p-p 5.6 MHz ON SSB ONLY

10KHz PULSE REPETITION FREQUENCY

WORST CASE SWITCHING  
 3.4 TO 8.4V  
 3.4V GIVES 44.804 MHz  
 5.6V GIVES 44.805 MHz  
 8.4V GIVES 44.806 MHz  
 20ms 20ms





APPROX 2-6V  
GIVES 1400KHz  
 $\Delta f = -0.2V$   
GIVES 1403.9KHz  
 $\Delta f = 0.3V$   
GIVES 1396.1KHz

15V p-p  
1400 ± 39KHz

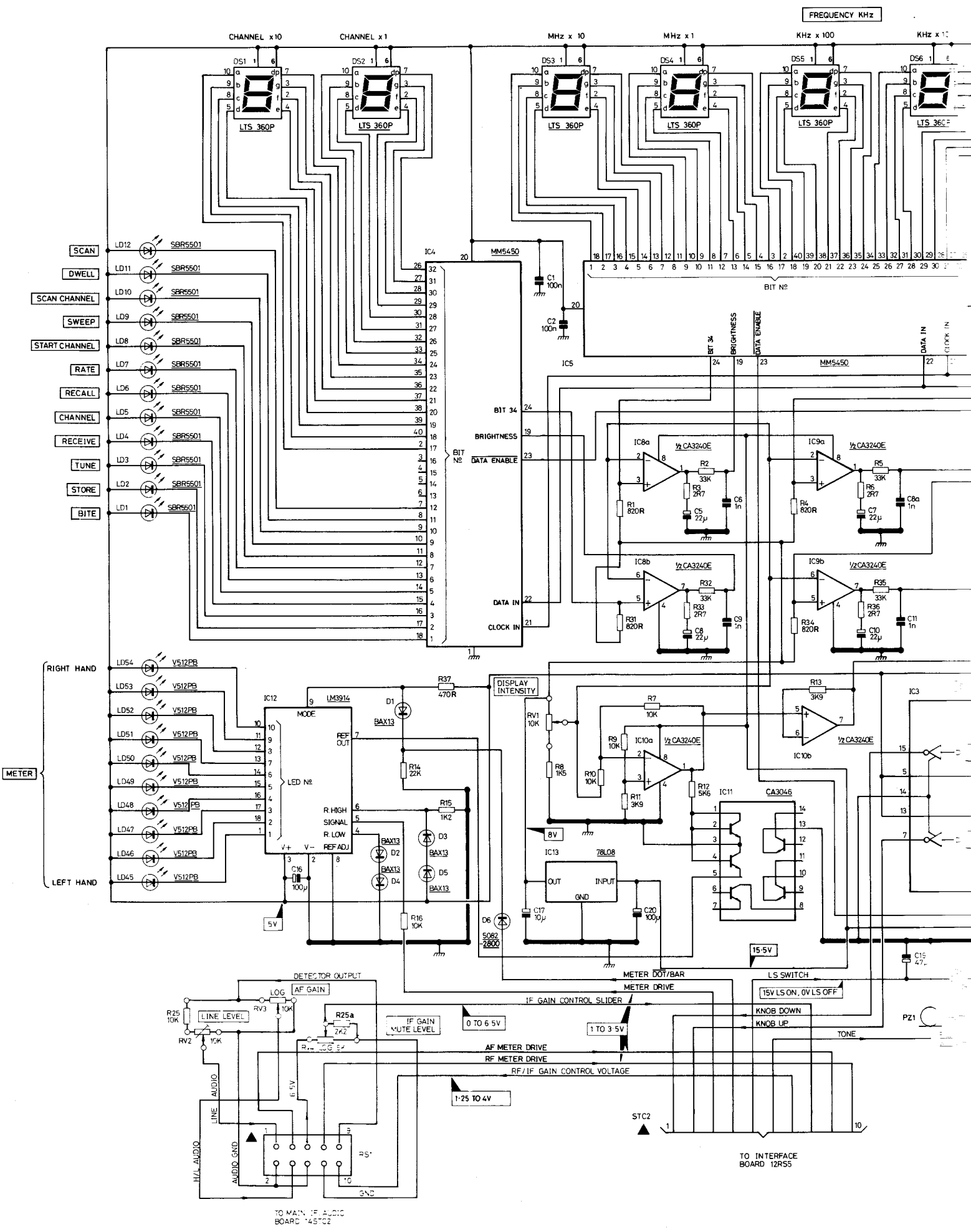
100Hz PULSE  
REPETITION  
FREQUENCY

15V p-p  
5.6 MHz

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ENGLAND  
DRG No BP2089

ISSUE 2

1650 SYNTHESISER AND VCO CIRCUIT REF 8 & 9



TO MAIN IF AUDIO BOARD 145°C2

TO INTERFACE BOARD 12RS5

FREQUENCY KHz

CHANNEL x10

CHANNEL x1

MHz x 10

MHz x 1

KHz x 100

KHz x 10

- SCAN LD12
- DWELL LD11
- SCAN CHANNEL LD10
- SWEEP LD9
- START CHANNEL LD8
- RATE LD7
- RECALL LD6
- CHANNEL LD5
- RECEIVE LD4
- TUNE LD3
- STORE LD2
- BITE LD1

- RIGHT HAND LD54
- LD53
- LD52
- LD51
- LD50
- LD49
- LD48
- LD47
- LD46
- LEFT HAND LD45

METER

DETECTOR OUTPUT

LOG AF GAIN

LINE LEVEL

RV2

RV3

RV2a

IF GAIN MUTE LEVEL

0 TO 6.5V

AF METER DRIVE

RF METER DRIVE

RF/IF GAIN CONTROL VOLTAGE

1.25 TO 4V

DISPLAY INTENSITY

RV1

R7

IC10a

R9

R10

R11

R12

IC11

CA3046

IC13

78L08

INPUT

GND

OUTPUT

C17

C20

8V

15-5V

METER DOT/BAR

METER DRIVE

IF GAIN CONTROL SLIDER

1 TO 3.5V

LS SWITCH

15V LS ON, 0V LS OFF

KNOB DOWN

KNOB UP

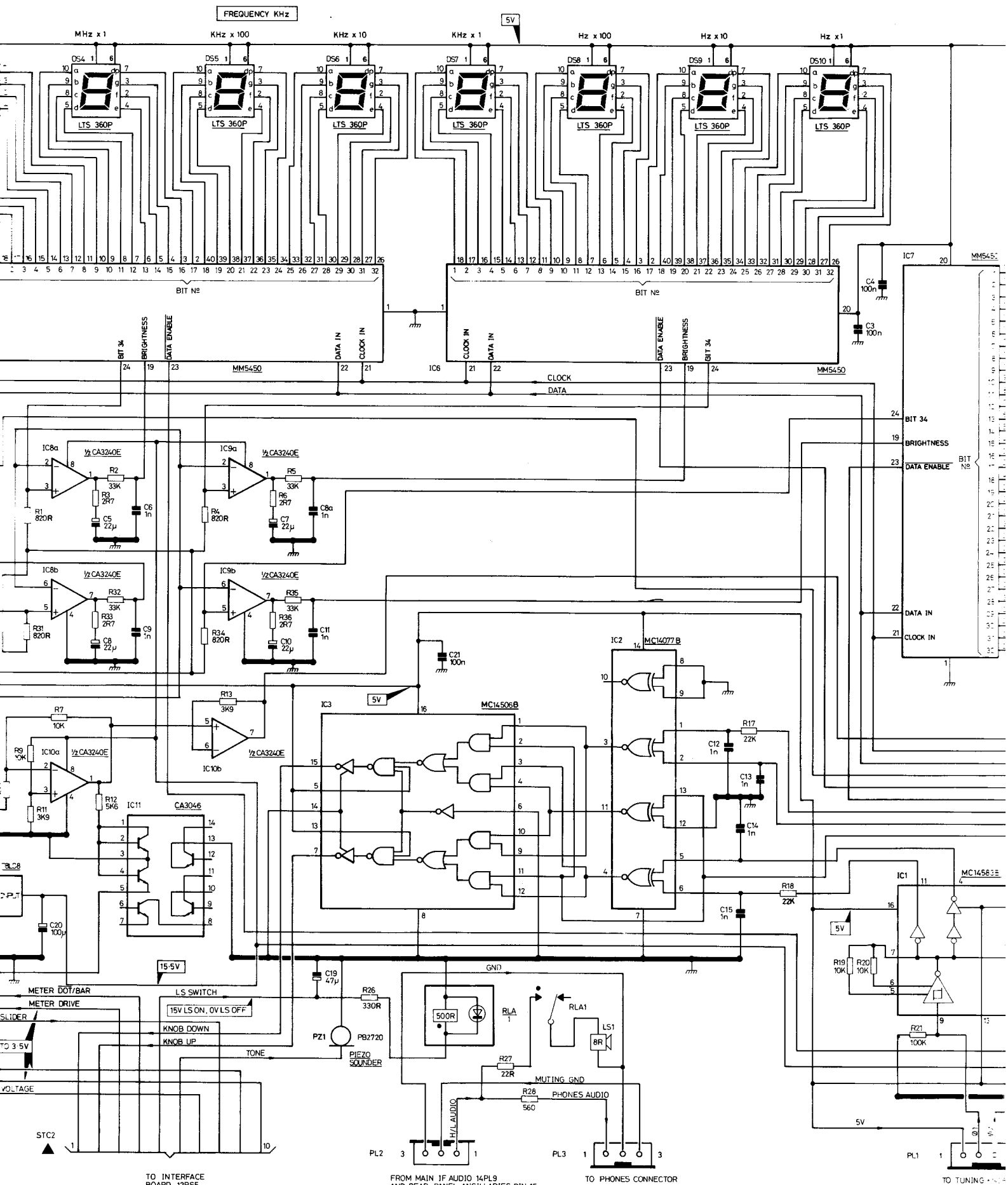
TONE

PZ1

STC2

1

10

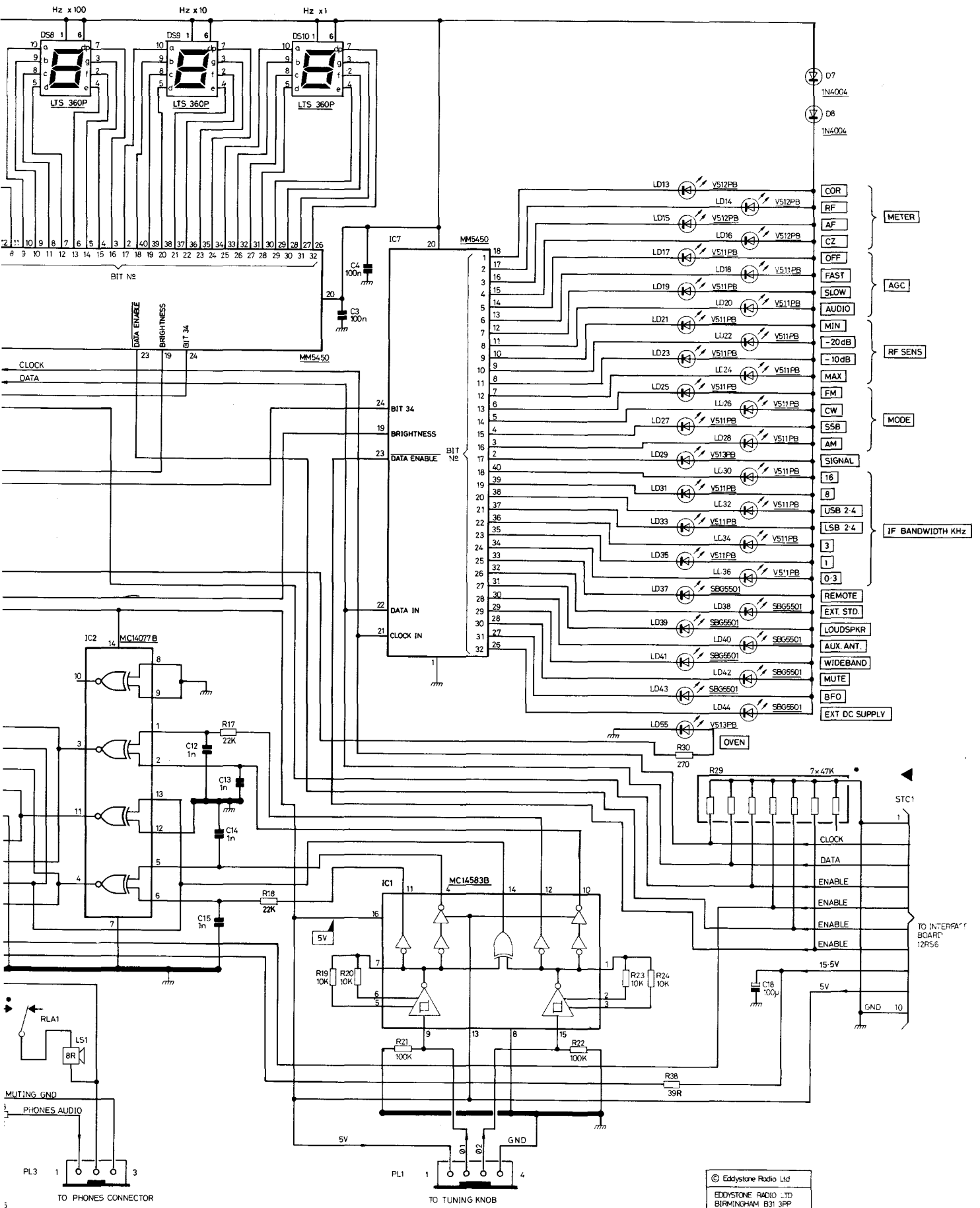


TO INTERFACE BOARD 12R55

FROM MAIN JF AUDIO 14/PL9 AND REAR PANEL ANCILLARIES PIN 15

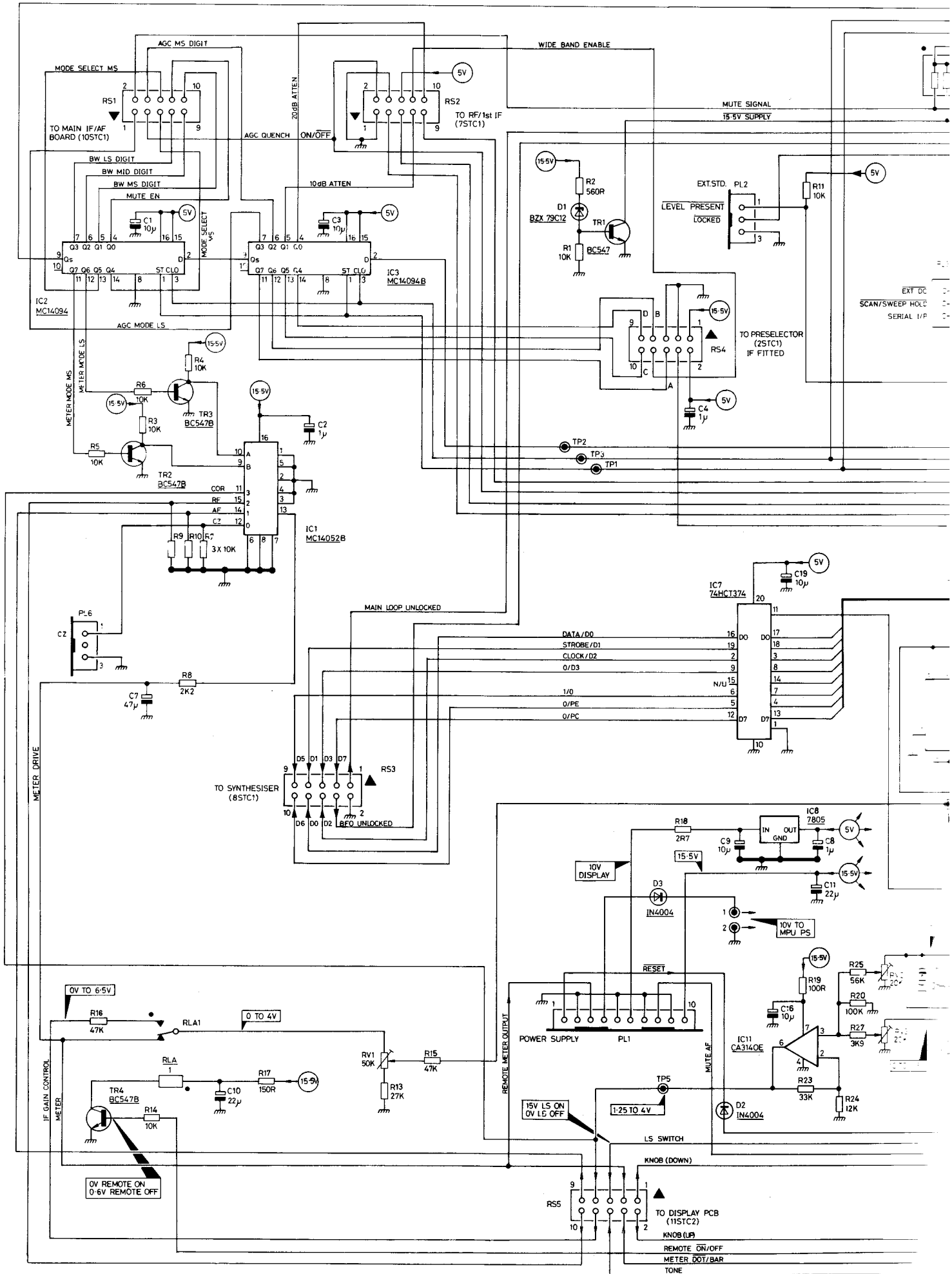
TO PHONES CONNECTOR

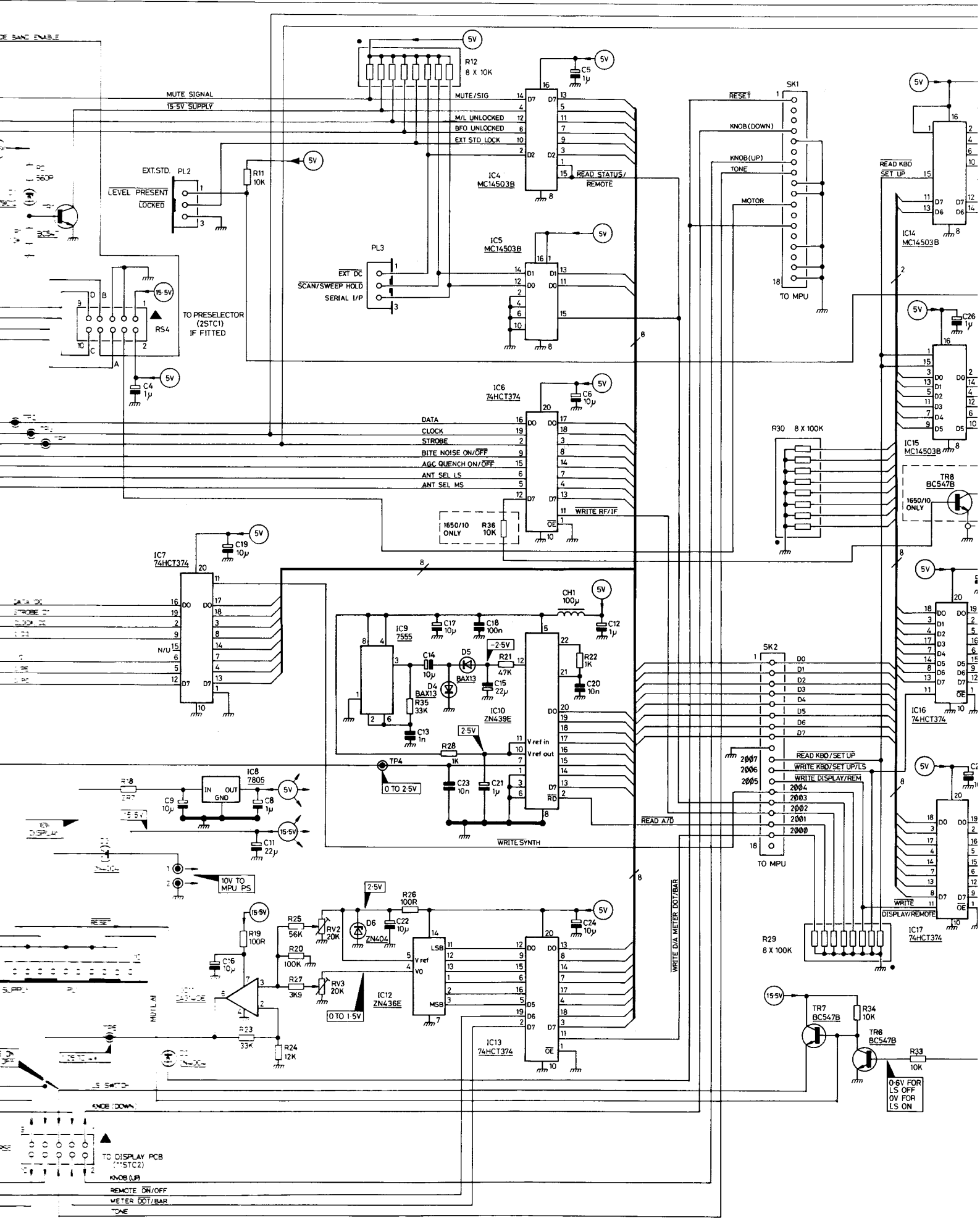
TO TUNING KNOB

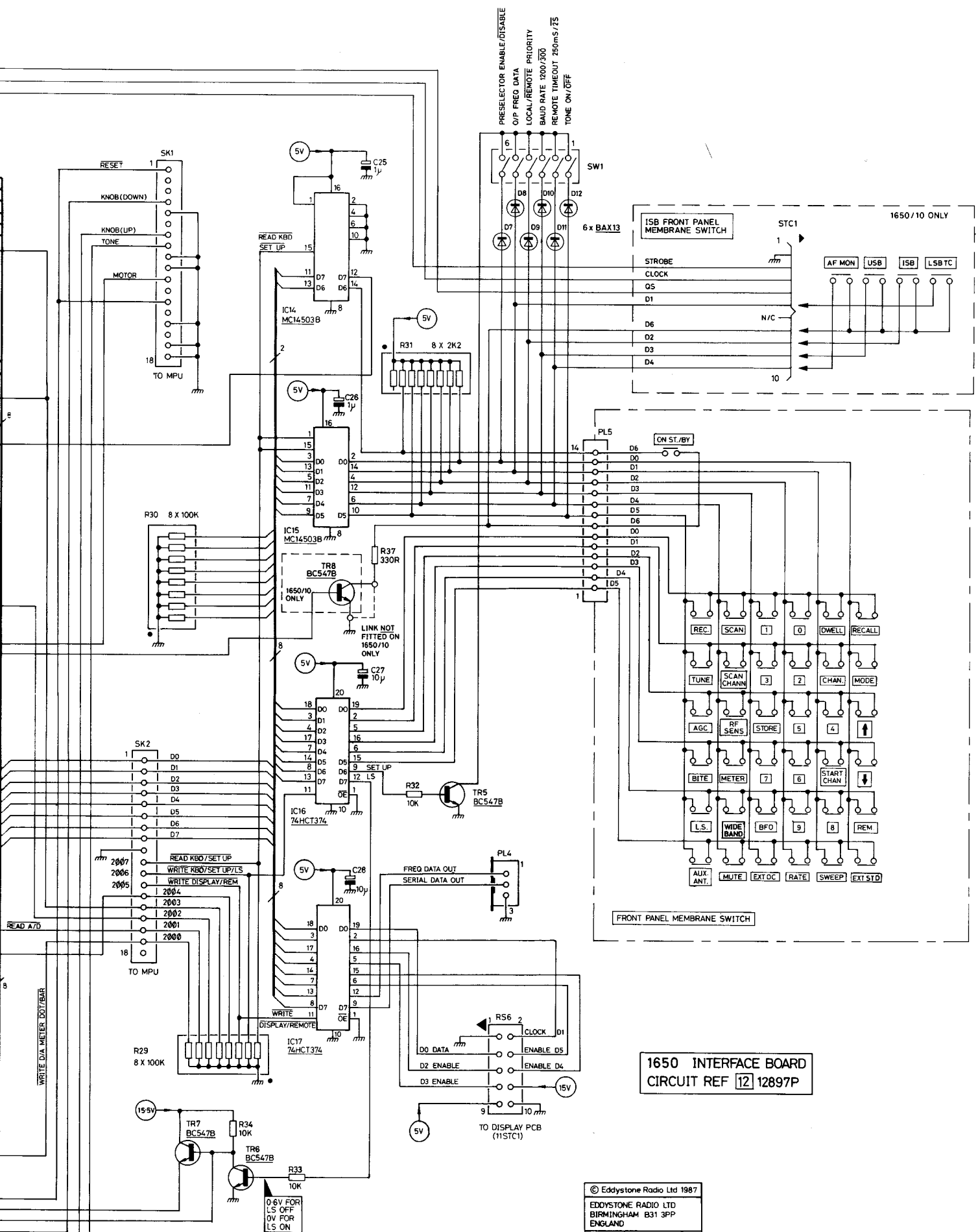


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 ENGLAND  
 DRG No BP1996

1650 DISPLAY BOARD  
 CIRCUIT REF 11 11126P

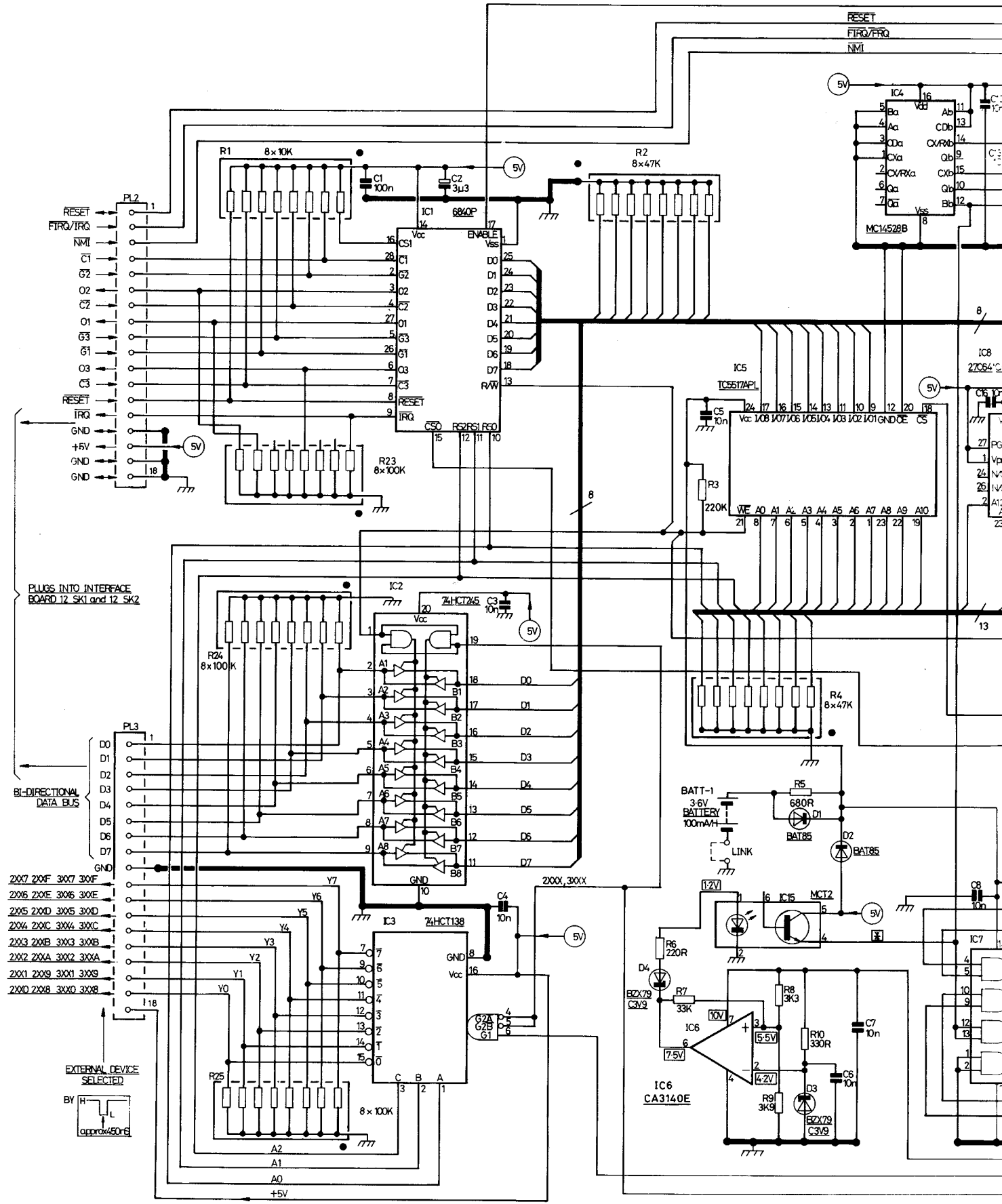






**1650 INTERFACE BOARD**  
CIRCUIT REF 12 12897P

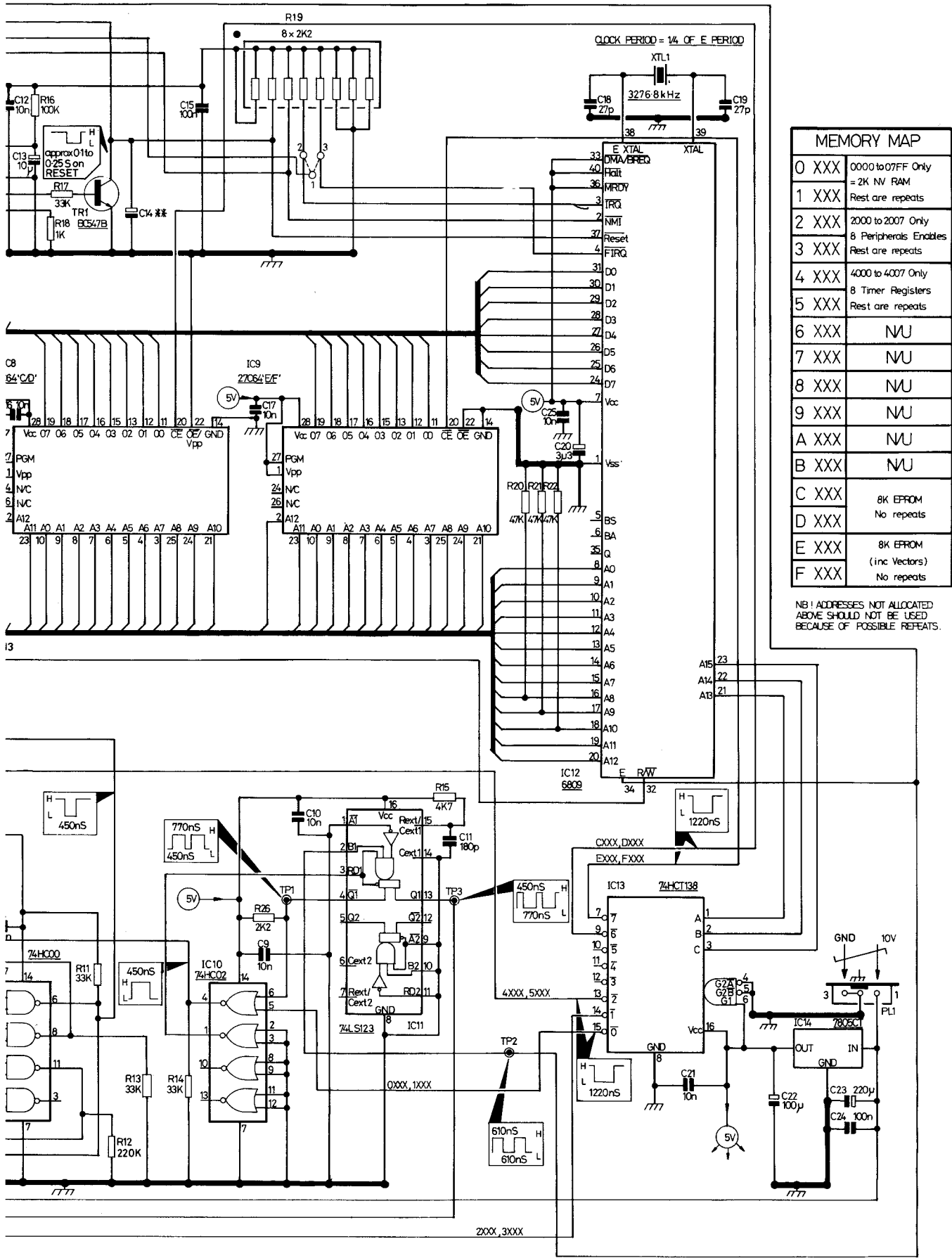
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 ENGLAND  
 DRG NO. **BP1992**  
 ISSUE 2



\* PIN 4 MCT 2 { GOES HIGH WHEN PCB I/P GOES LOW WHEN PCB I/P S

\*\* C14 FITTED ONLY TO SPECIAL REQUIREMENT





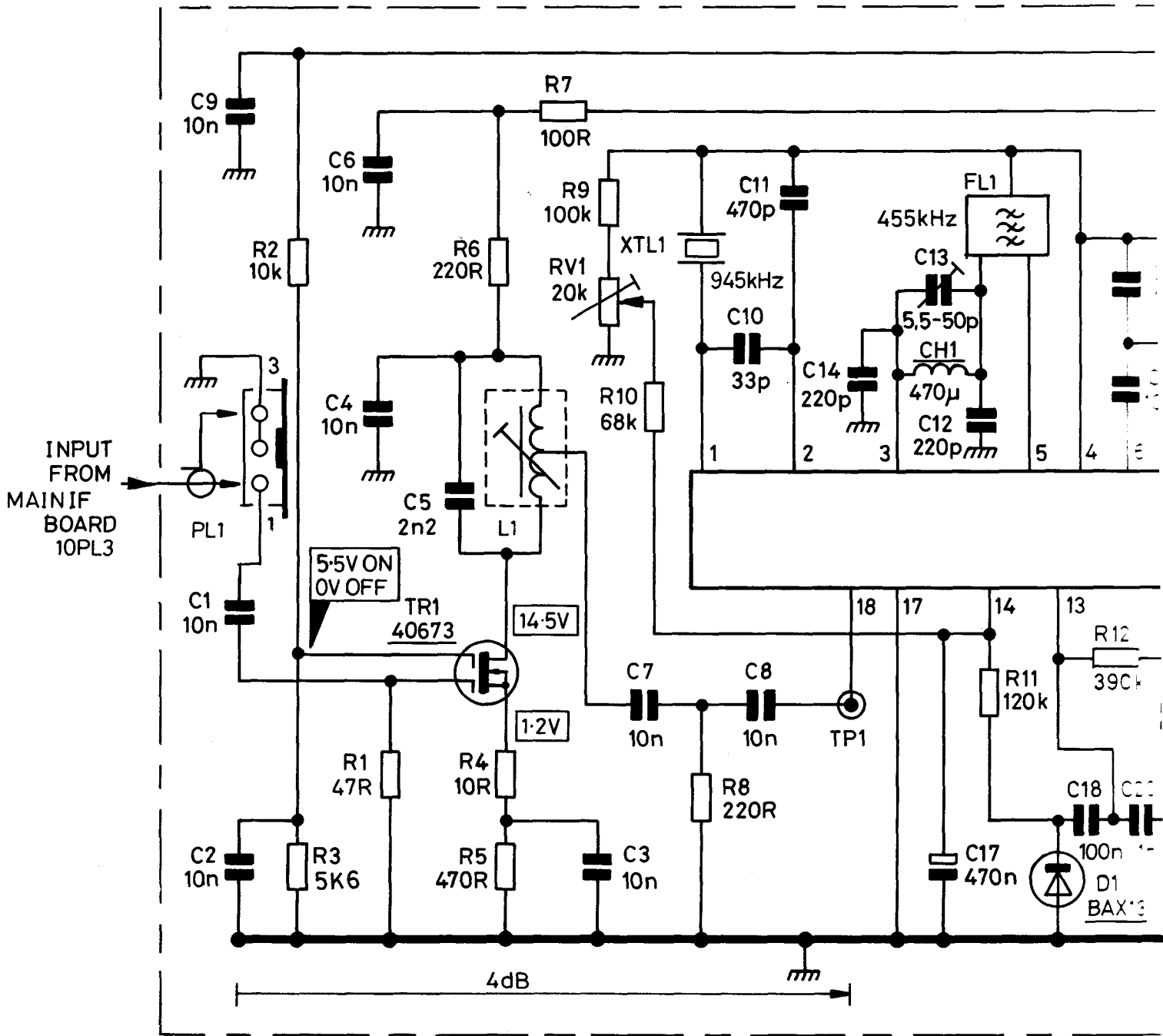
B 1/P SUPPLY EXCEEDS APPROX 8.4V } 0.5V HYSTERESIS  
 3 1/P SUPPLY FALLS BELOW 7.9V }

ELEMENTS

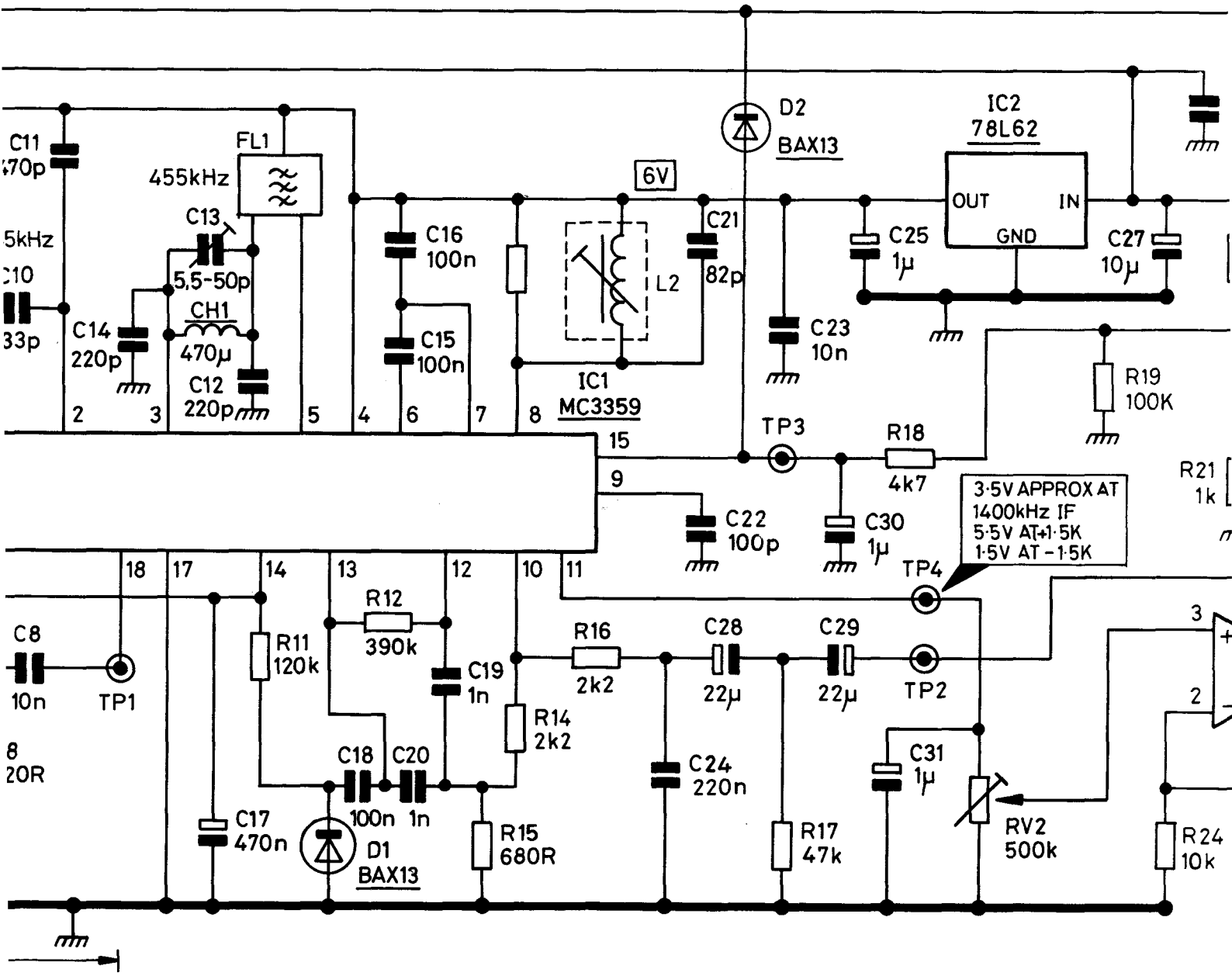
16K MICRO-COMPUTER BOARD  
 12367P CIRCUIT REF 13

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 EDDYSTONE RADIO LTD  
 BIRMINGHAM B31 3FP  
 ENGLAND  
 DRG NO BP1953

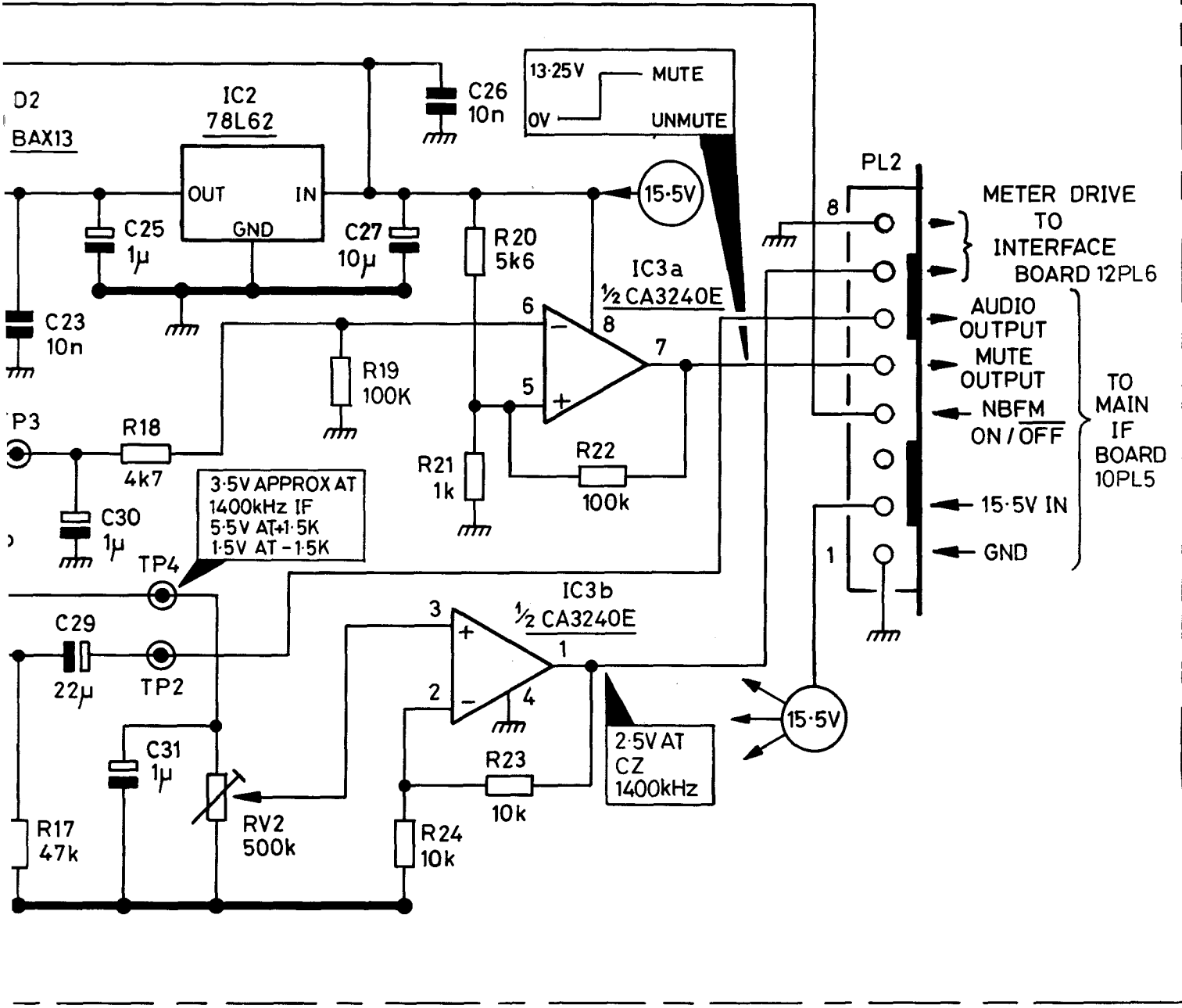
ISSUE 2



1650 MHz  
 CIRCUIT  
 FITTED



1650 NBFM BOARD 12922P  
 CIRCUIT REF 40  
 FITTED ON /N OPTIONS



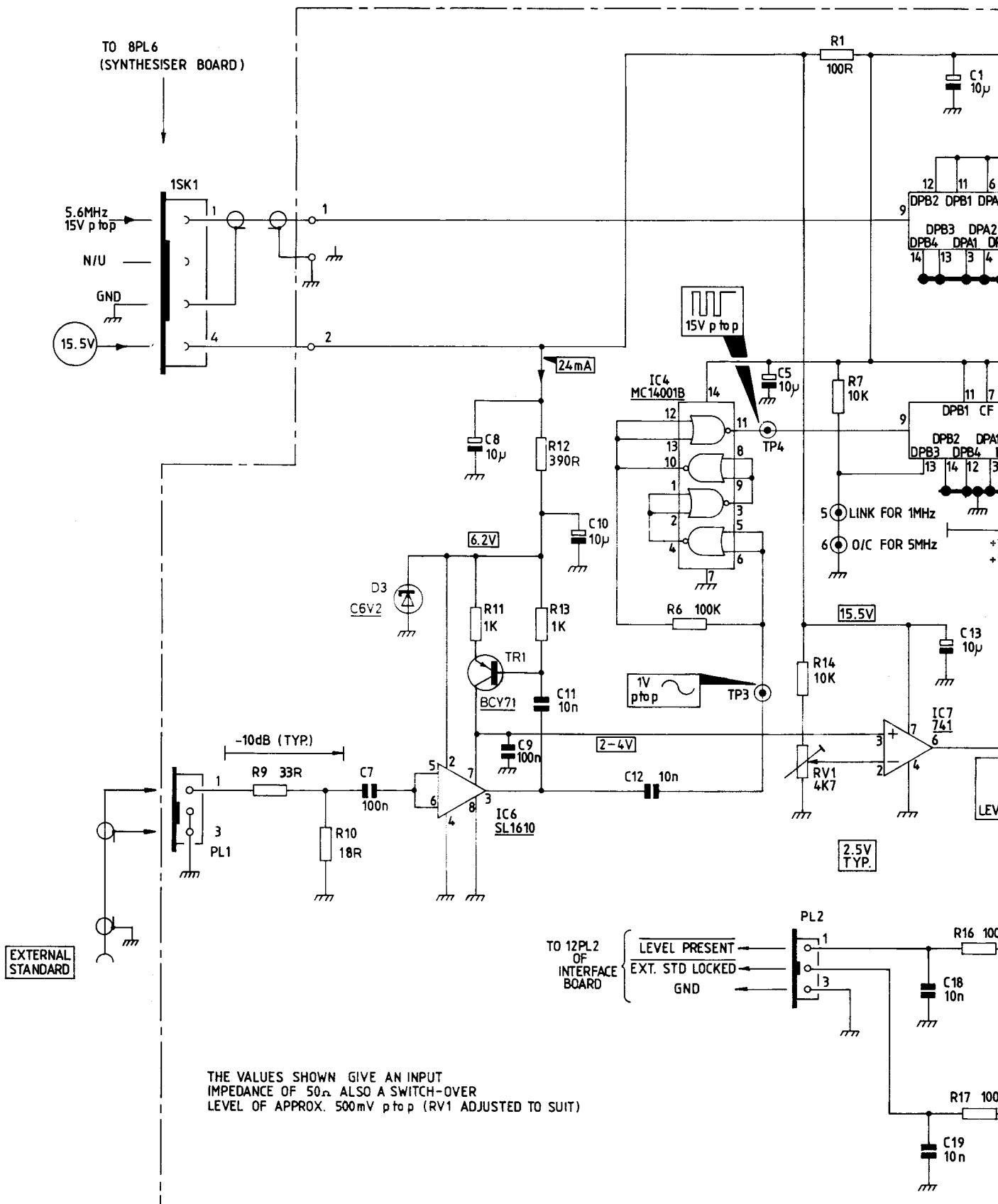
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EDDYSTONE RADIO LTD  
BIRMINGHAM B31 3PP  
ENGLAND

DRG No **BP1977**

ISSUE 2

P



TO 8PL6  
(SYNTHESISER BOARD)

5.6MHz  
15V ptp

N/U

GND

15.5V

1SK1

1

4

2

24mA

C8  
10µ

R12  
390R

6.2V

C10  
10µ

D3  
CV2

R11  
1K

R13  
1K

TR1  
BCY71

C11  
10n

15V ptp

IC4  
MC14001B

12

13

10

1

2

4

7

R6  
100K

TP4

C5  
10µ

R7  
10K

5

LINK FOR 1MHz

6

O/C FOR 5MHz

15.5V

R14  
10K

C13  
10µ

IC7  
741

3

2

4

7

6

2.5V  
TYP.

RV1  
4K7

EXTERNAL  
STANDARD

TO 12PL2  
OF  
INTERFACE  
BOARD

LEVEL PRESENT

EXT. STD LOCKED

GND

PL2

1

3

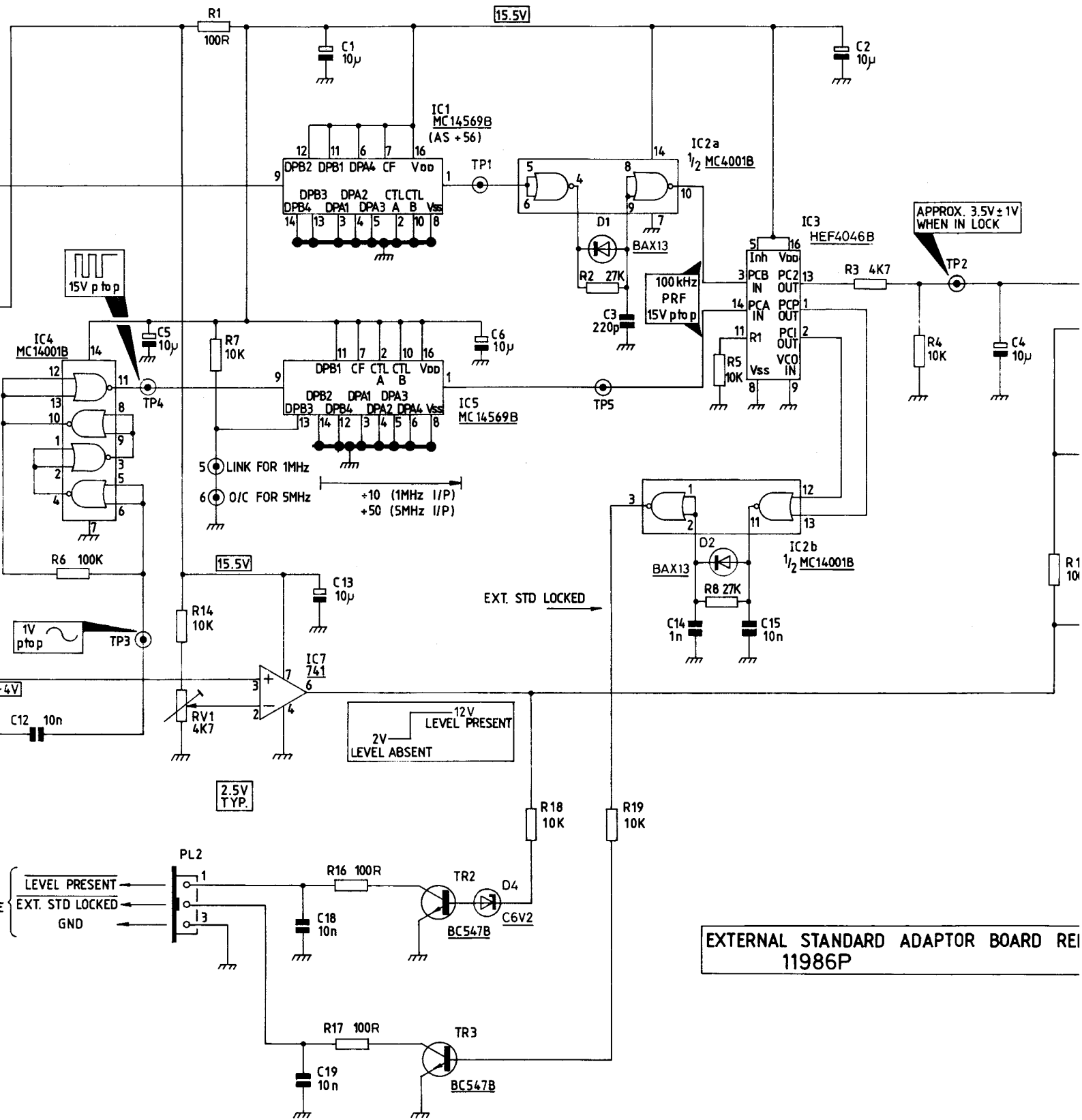
R16  
100

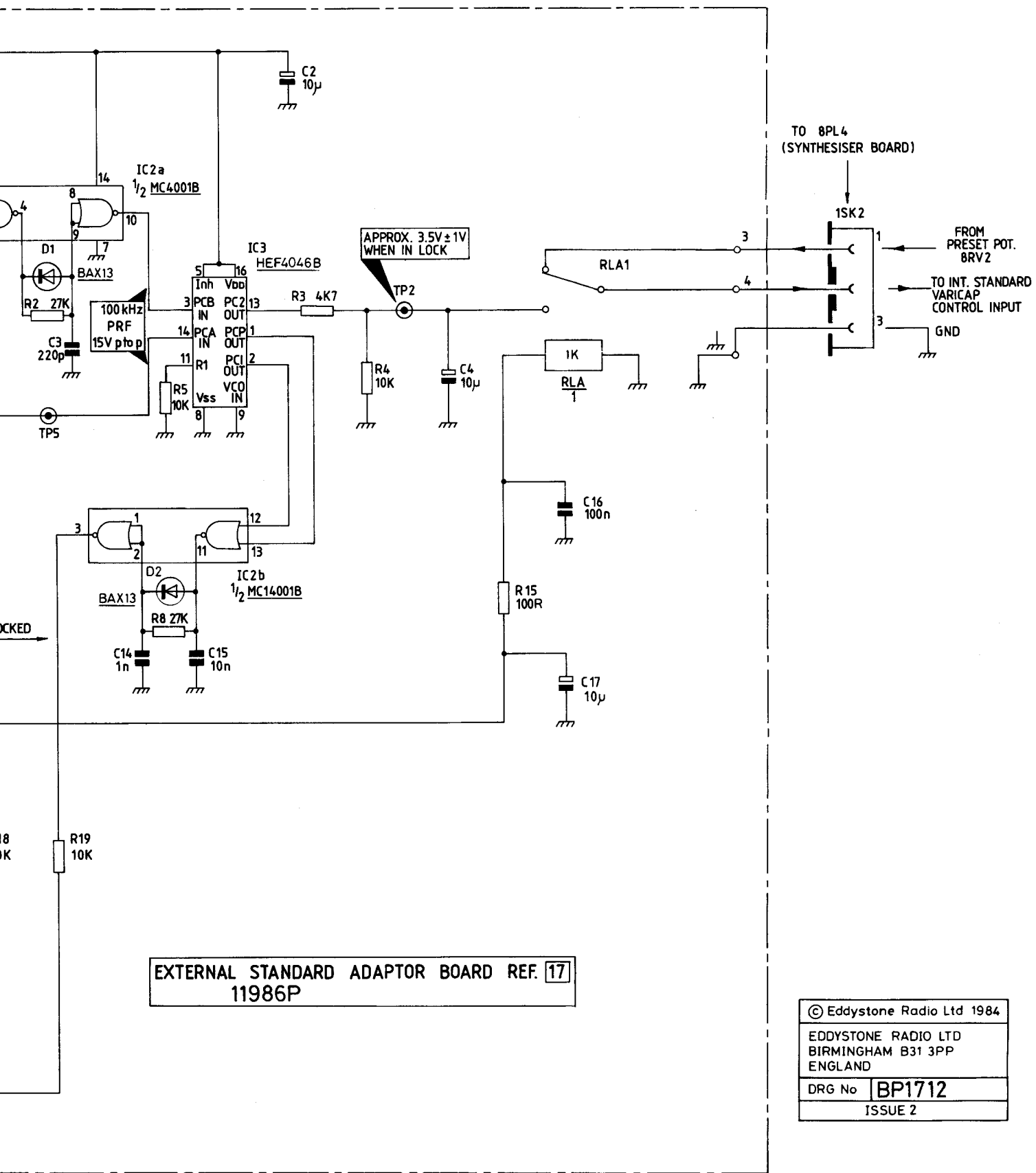
C18  
10n

R17  
100

C19  
10n

THE VALUES SHOWN GIVE AN INPUT  
IMPEDANCE OF 50Ω ALSO A SWITCH-OVER  
LEVEL OF APPROX. 500mV ptp (RV1 ADJUSTED TO SUIT)





EXTERNAL STANDARD ADAPTOR BOARD REF. 17  
11986P

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 ENGLAND  
 DRG No **BP1712**  
 ISSUE 2

## APPENDIX A

### A.1 COMPONENT HANDLING

Lead bending. Component leads need in general, to be bent to enable the device to be fitted. The bend should be made so that the radius of the bend is not less than the diameter of the lead (or the thickness of the lead in the case of flat leads), and the lead should be supported between the body of the component and the bend. The bend should be at least 2mm (approx 1/16") from the component.

Soldering. A soldering iron having a bit temperature not exceeding 245°C may be used. The soldered joint should be completed within 5 seconds. Overheating may damage the component.

Heat Sinks. Certain devices which are required to dissipate power are fitted with heat sinks. When replacing these devices, the heat sinking arrangement should be carefully reproduced, e.g. thermal conducting compound may be used. If an insulating washer has been used, this should be replaced and thermal conducting compound applied to both sides.

MOS Devices. These have an exceptionally high input resistance and they are susceptible to damage when exposed to high electrical charges. To avoid possible damage the following procedures should be followed:

1. Devices should be stored and transported in contact with a conductive material.
2. Soldering iron, bench surface, tools etc., should all be earthed. The operator should be earthed using a 1M ohm series resistor.
3. The equipment should be switched off when devices or boards are inserted or removed.
4. Nylon clothing should not be worn.

Anti-static precautions take an added importance in dry weather (relative humidity less than 30%).



## HOLGER NIELSON METHOD OF ARTIFICIAL RESPIRATION

It is essential to commence artificial respiration without delay.

**DO NOT TOUCH THE VICTIM WITH YOUR BARE HANDS** until the circuit is broken.

**SWITCH OFF.** If this is not possible, **PROTECT YOURSELF** with dry insulating material and pull the victim clear of the conductor.

1. Lay patient face downwards with the forehead resting on the hands, placed one above the other.



2. Remove false teeth, tobacco or gum from patient's mouth; make sure the tongue is free by firm blows between the shoulders with the flat of the hand.

3. Kneel on one knee at patient's head, one foot by the patient's elbow.

4. Place palms of your hands on patient's shoulder blades—Fig. A.



5. Rock forward until arms are vertical, the pressure should be light and without force (22–30 lb. is sufficient); this should take  $2\frac{1}{2}$  seconds— Fig. B.

6. Release the pressure by allowing the hands to slide down the arms to the patient's elbow (approximately 1 second) then raise the patient's arms and shoulders slightly pulling at the same time by swinging backwards (approximately  $2\frac{1}{2}$  seconds)—Fig. C, lower the patient's arms—Fig.D, and return your hands to the patient's shoulder blades.



7. Repeat the movements taking 7 seconds for each complete respiration.

8. While artificial respiration is continued, have someone else—

- (a) Loosen patient's clothing.
- (b) Keep patient warm.

9. If patient stops breathing, continue artificial respiration. Four hours or more may be required



10. Do not give liquids until patient is conscious.

Send for medical assistance if possible.

## A.2 FIRST AID IN CASE OF ELECTRIC SHOCK

The Royal Life Saving Society recommends the **Expired Air** method of artificial respiration for use in any case of electric shock. It is comparatively simple and produces the best and quickest results when correctly applied. It also has an important advantage over the accepted manual methods in that it can be carried out in awkward situations in confined spaces, such as might well be encountered at sea.

However, where there is a facial injury, or if the patient is trapped in a face downwards position, it might be necessary to use a manual method of artificial respiration: of this type the **Holger Nielson** method is considered the most satisfactory

Directions for applying both methods are therefore given.

### EXPIRED AIR METHOD OF ARTIFICIAL RESPIRATION

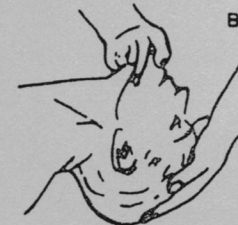
It is essential to commence artificial respiration without delay.

**DO NOT TOUCH THE VICTIM WITH YOUR BARE HANDS** until the circuit is broken.

**SWITCH OFF.** If this is not possible, **PROTECT YOURSELF** with dry insulating material and pull the victim clear of the conductor.

1. Lay the patient on his back and, if on a slope, have the stomach slightly lower than the chest.
2. Make a brief inspection of the mouth and throat to ensure that they are clear of obvious obstruction.
3. Give the patient's head the maximum backwards tilt so that the chin is prominent, the mouth closed and the neck stretched to give a clear airway—Fig. A.
4. Open your mouth wide, make an airtight seal over the nose of the patient and blow. The operator's cheek or the hand supporting the chin can be used to seal the patient's lips—Fig. B, or if the nose is blocked, open the patient's mouth using the hand supporting the chin; open your mouth wide and make an airtight seal over his mouth and blow—Fig. C. This may also be used as an alternative to the mouth-to-nose technique.
5. After exhaling, turn your head to watch for chest movement whilst inhaling deeply in readiness for blowing again—Fig. D.
6. If the chest does not rise, check that the patient's mouth and throat are free of obstruction and the head is tilted backwards as far as possible. Blow again.

Send for medical assistance if possible.



#### 7. Cleaning Solutions

Certain solutions give off flammable or toxic fumes, e.g., trichloroethylene and its derivatives. Do not smoke and avoid inhalation of vapours.

#### 8. Disposal of Faulty Components

Certain components contain toxic materials which may be released if the component is broken or disposed of carelessly, e.g., semi conductor devices containing poisonous metallic compounds; electrolytic capacitors containing poisonous organic compounds.

### TREATMENT FOR BURNS

1. No attempt should be made to remove clothing adhering to the burn.
2. If other help is available, or as soon as artificial respiration is no longer required, cover the burn with a dry dressing.
3. Oil or grease in any form should not be applied.
4. Warm, weak, sweet tea may be given when the patient is able to swallow.

These instructions are approved by The Royal Life Saving Society. A handbook and charts dealing with Artificial Respiration can be obtained from the Society at 14 Devonshire Street, London, W.1.

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