

INSTRUCTIONS FOR THE USE OF THE LABGEAR COMPANION POWER UNIT  
AND MODULATOR FOR THE LG300 MKII TRANSMITTER

1. Unpack the Power Unit/Modulator carefully, and note the mains tap adjustment on the attached label. If this differs from the mains voltage in your district it is then necessary to re-select the tapping position on the lower Chassis.
2. Remove the back panel and make sure that all the valves are securely plugged into their sockets. Replace the back panel.
3. The ten inch co-axial cable can now be plugged in the lower chassis socket and the other end into the appropriate top chassis socket.
4. The other co-axial cable, approximately 2 yds long, should be plugged into the other top chassis socket and the other end into the transmitter co-axial socket.
5. The multi-core cable plug can now be fitted to the socket on the top chassis of the Power Unit/Modulator and the other end plugged into the Transmitter.
6. On the lower chassis there are two plugs; these should be withdrawn. The two pin plug is used for remote control operation, any type of mains 3 amp. switch may be connected across it. The three-pin plug is for the mains connection.
7. When using the LG 300 Transmitter with the Power Unit/Modulator, the filament mains transformer tap must always be on the 230V position irrespective of mains input voltage to the Power Unit/Modulator.
8. Switching on and Tuning up Procedure.
  - a) Switch on Mains switch and wait for filaments and heaters to attain their operating temperature.
  - b) Set both band switches to band required.
  - c) Set V.F.O. to frequency required.
  - d) Switch on exciter switch.
  - e) Check drive to 813 (R.H. Meter) and adjust "peak drive" and "increase drive" controls as necessary. Leave drive on for 1 to 2 minutes initially after which V.F.O. drift is negligible.
  - f) Now reduce drive to a low value (3-5mA) before applying H.V.
  - g) Turn righthand "loading" control fully clockwise.
  - h) Switch CW/PHONE switch on CW then switch on PA HT.
  - i) Resonate left hand "tuning" control (minimum reading on L.H. meter)
  - j) Adjust loading by turning counter clockwise the "loading" control and after each setting re-resonate P.A. tuning.
  - k) When the P.A. stage has been approximately adjusted, advance the drive to the working value (5-15mA). Low drive results in low harmonic output but more is required on 'phone than on C.W. to ensure linear modulation. Generally speaking the lowest drive which will yield satisfactory results should be used. There is nothing to be gained by exceeding 10mA although no damage will result up to full scale deflection of the grid current meter.

- 1) Now finally adjust the P.A. loading and tuning controls for a satisfactory anode voltage to anode current ratio. For 150 watt operation it is suggested 1000 volts be employed at 150mA. A wide deviation from this order of voltage to current ratio should be avoided for best results especially on telephony. It is not such an important factor on telegraphy.

#### Telephony.

The Modulator is capable of a maximum of 80 watts of audio. Although the LG 300 Transmitter itself can be operated at a high input level, 150 watts input on 'phone should not be exceeded when using the companion power unit/modulator. 150 watts input is represented by 150mA on the ANODE MILLIAMMETER.

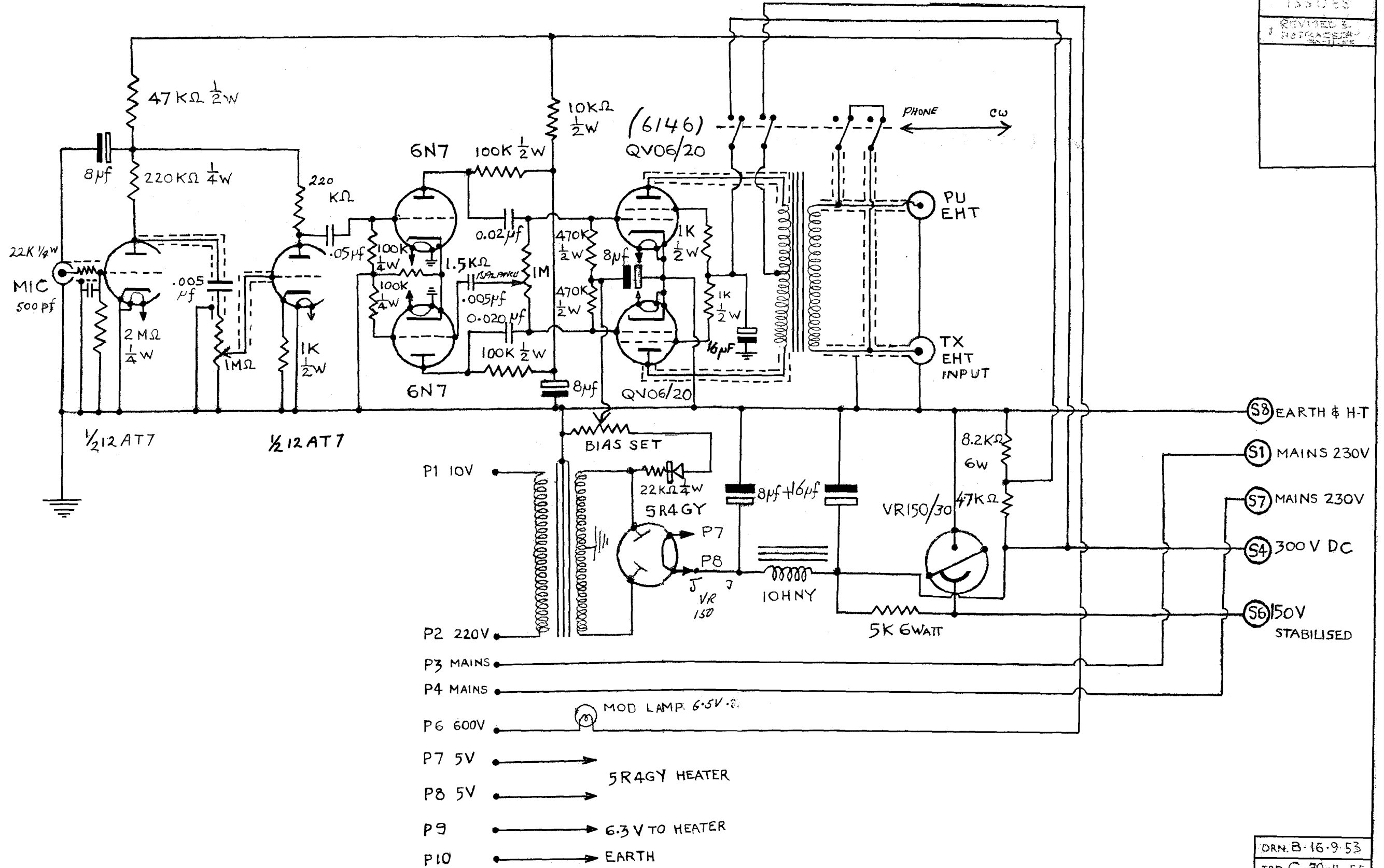
- a) Plug in microphone (any high impedance crystal type) and turn GAIN control fully anti-clockwise.
  - b) Switch CW/Phone switch to PHONE.
  - c) Speak into the microphone and turn GAIN control in a clockwise direction until adequate modulation is obtained. On no account use more gain than is necessary for about 95% modulation at 150 watts input, otherwise serious distortion will occur due to overloading the first stages of the modulator.
10. Netting - as in (10) of the LG 300 TX instructions (with CW/Phone switch set to C.W.)

#### Special Instructions

- 1) The method of switching ensures that an incorrect sequence of switching is avoided. e.g. it is impossible to switch on the PA HT before applying Exciter HT.
- 2) The remote control lead must be of a nature able to carry the mains voltages and should be preferably screened.
- 3) The Mains lead should also be screened and earthed at both ends.
- 4) ON NO ACCOUNT SHOULD THE CW/PHONE SWITCH BE LEFT IN THE PHONE POSITION WHILST TUNING UP OR WHEN THE PA HT SWITCH IS IN THE OFF POSITION.
- 5) Do not obstruct the ventilation; the perforated sections of the cabinet must be left clear.
- 6) If the modulation lamp burns out, it should be replaced by a 0.2A lamp from the back of the cabinet.
- 7) WARRANTY

This unit is guaranteed for a period of SIX months from date of purchase and any faults resulting, in our opinion, from defective materials or workmanship, will be rectified free of charge. This warranty does not cover any of the valves which may or may not be the subject of a valve manufacturer's guarantee.

All other warranties, implied or otherwise are expressly excluded.



- (S8) EARTH & HT
- (S1) MAINS 230V
- (S7) MAINS 230V
- (S4) 300 V DC
- (S6) 150V STABILISED

- P1 10V
- P2 220V
- P3 MAINS
- P4 MAINS
- P6 600V
- P7 5V
- P8 5V
- P9 6.3 V TO HEATER
- P10 EARTH

DRN. B-16-9-53  
 TRD. G-30-11-55  
 CKD. [Signature]  
**LABGEAR**  
 CAMBRIDGE

NOTE: EXPRES OTHERWISE STATED ALL TOLERANCE OF

CIRCUIT DIAGRAM POWER UNIT MODULATOR  
LOWER CHASSIS.

MATL. :-

FINISH :-

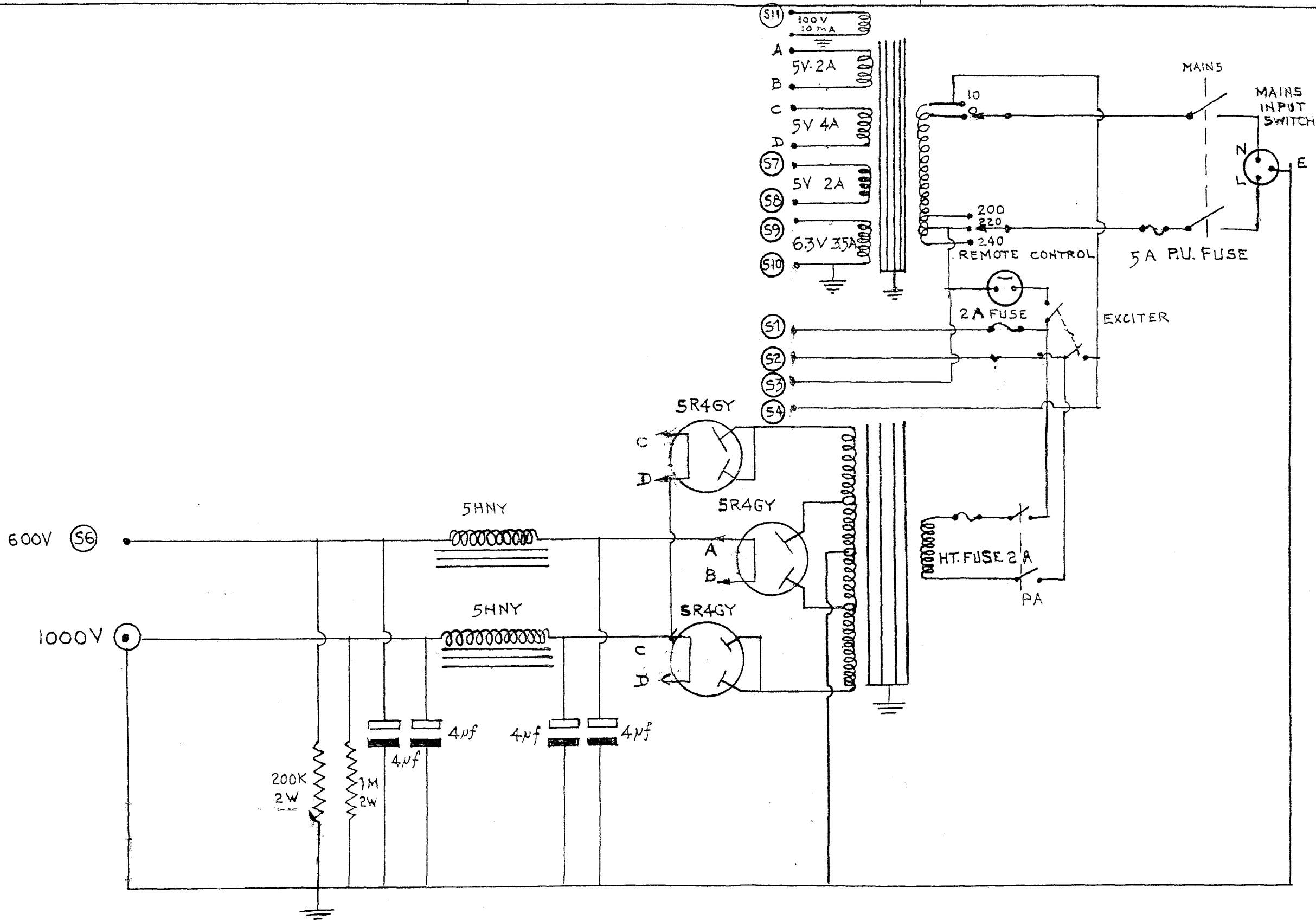
SH-2285

ISSUES

RETRACED WITH  
1 CHANGES Nov 18 55

2 EXCITER AND  
WORDS "MAINS"  
AND "PA" ADDED  
G-2-3-56

3 S11-100V  
10mA ADDED  
17-9-56 D.F.B.



NOTE:—UNLESS OTHERWISE STATED, A TOLERANCE OF  
IS TO BE WORKED TO ON ALL GIVEN DIMENSIONS

SCALE :-

SH 2285

DRN. JB. 17. 11 55

TRD. G-18-11-55

CKD. *[Signature]*

LABGEAR  
CAMBRIDGE  
ENGLAND