

U.H.F. RECEIVER UNI/642

The UNI/642 is the receiver section of the RC1L/506 and is suitable for unattended continuous operation. Tuning is continuous by means of a front panel control. Sound is produced by the intercarrier method and an intercarrier presence indicator is provided. Input signal strength is indicated by a d.c. output signal.

A.F.C. is obtained from the vision i.f. carrier; a muting switch is included in the a.f.c. circuit to allow quick indication of correct tuning.

The a.g.c. is line gated and obtained from sync tips. The control is applied directly to the first i.f. stage but is delayed to the r.f. stage. With the a.g.c. switch in the off position, the i.f. a.g.c. is also delayed to allow fixed gain working with aerial inputs between 2 mV and 5 mV. If the input level rises above 5 mV, normal a.g.c. action prevents overloading.

An A.B. Electronic Components tuner is used, with a.f.c. by means of a voltage-controlled capacitor diode.

The video detector circuit uses an in-phase synchronous demodulator which has a low distortion level. The alignment of the circuits associated with the demodulator is critical and the adjustments should not be disturbed.

A circuit diagram and descriptive block diagram are given in Figs. 1 and 2.

Maintenance

Routine maintenance is not required and the adjustment of preset circuits, inductor cores, etc., should not be altered. If any faults occur which affect the tuning or the quality of the vision or sound outputs, the receiver should be returned to Equipment Department for service.

REFERENCES

1. Designs Department Specification No.5.205(71)
2. Designs Department Technical Memorandum No.5.73

GENERAL SPECIFICATION**Tuner**

Frequency Coverage 467 MHz–86 MHz

Image Frequency Rejection greater than 53 dB

Adjacent Channel Rejection greater than 60 dB

Vision I.F. 39.5 MHz

Sound I.F. 33.5 MHz

Aerial Input Impedance 75 ohms unbalanced

I.F. Response

At 39.5 MHz –6 dB

38.5 MHz to 35 MHz 0 dB within 0.5 dB

At 33.5 MHz and 31.5 MHz –30 dB

At 41.5 MHz –40 dB

Noise Figure 5 dB nominal

A.F.C. Action (frequency error a.f.c. on/off)

500 MHz 1:8

800 MHz 1:11

Video Output Signal 1 V across 75 ohms

k-rating 3%

Differential-gain-Distortion 4%

Differential-phase Distortion 3°

Line Time Non-linearity 4%

Chrominance/Luminance Crosstalk 1%

Sound Signal/Noise Ratio 48 dB (unweighted)

Sound Frequency Response 25 Hz – 23 kHz
within 1 dB

Operating Temperature Range 0° – 50°

Chassis CH1/12A

Weight 1½ lb

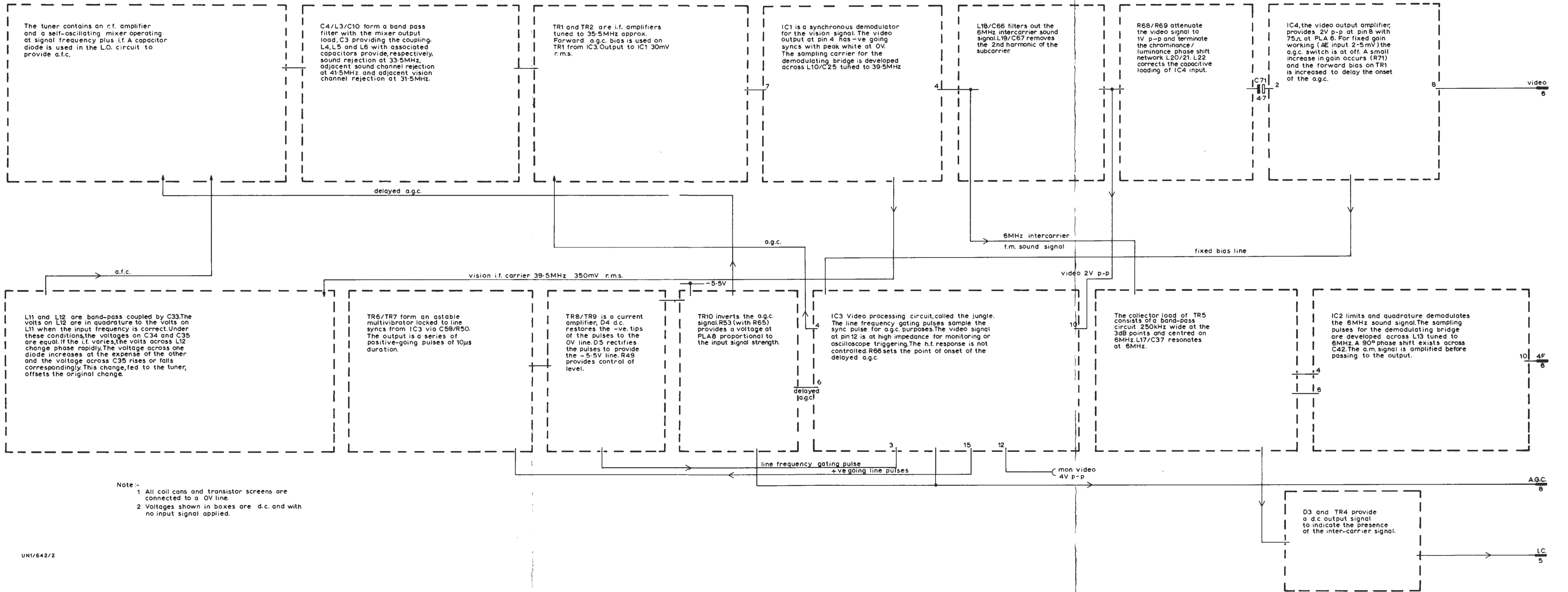
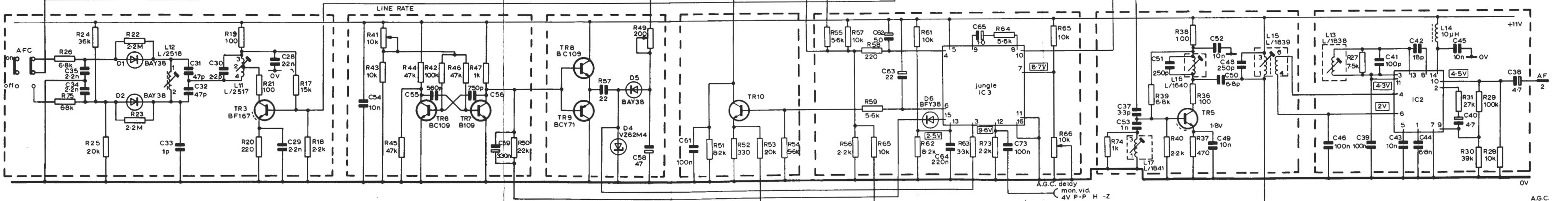
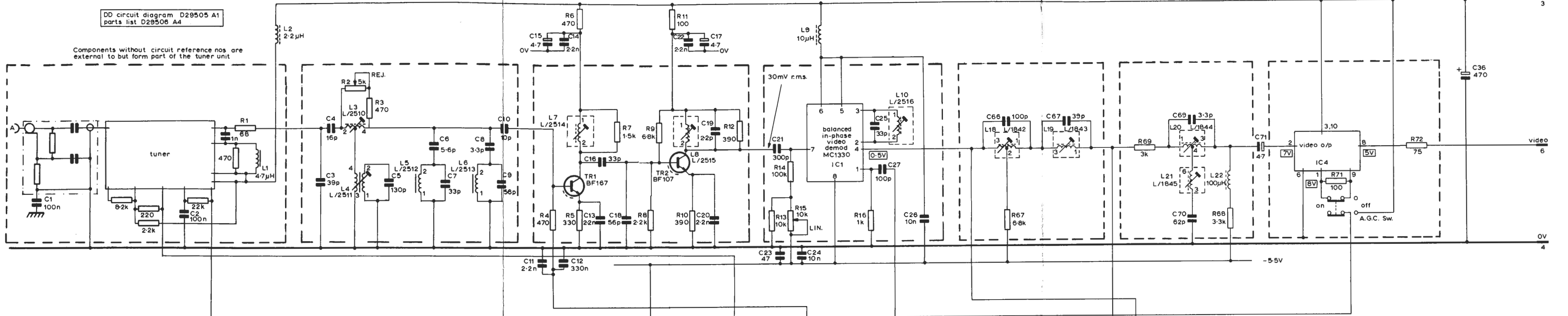


Fig. 2. UNI/642 Descriptive Block Diagram

DD circuit diagram D29505 A1
parts list D29506 A4

Components without circuit reference nos are
external to but form part of the tuner unit



Integrated Circuit and Transistor Terminations

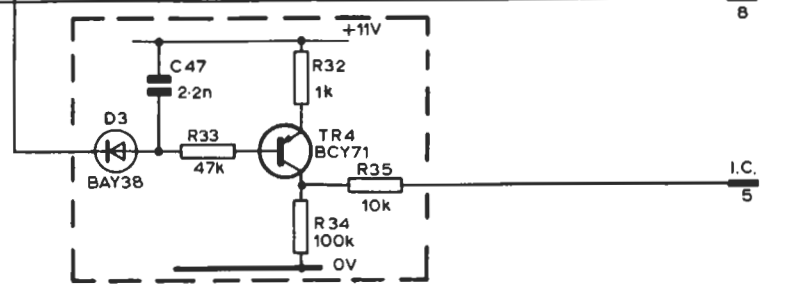
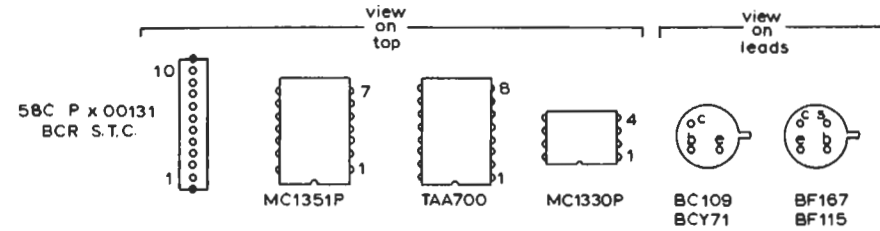


Fig.1. UNI/642 Circuit Diagram