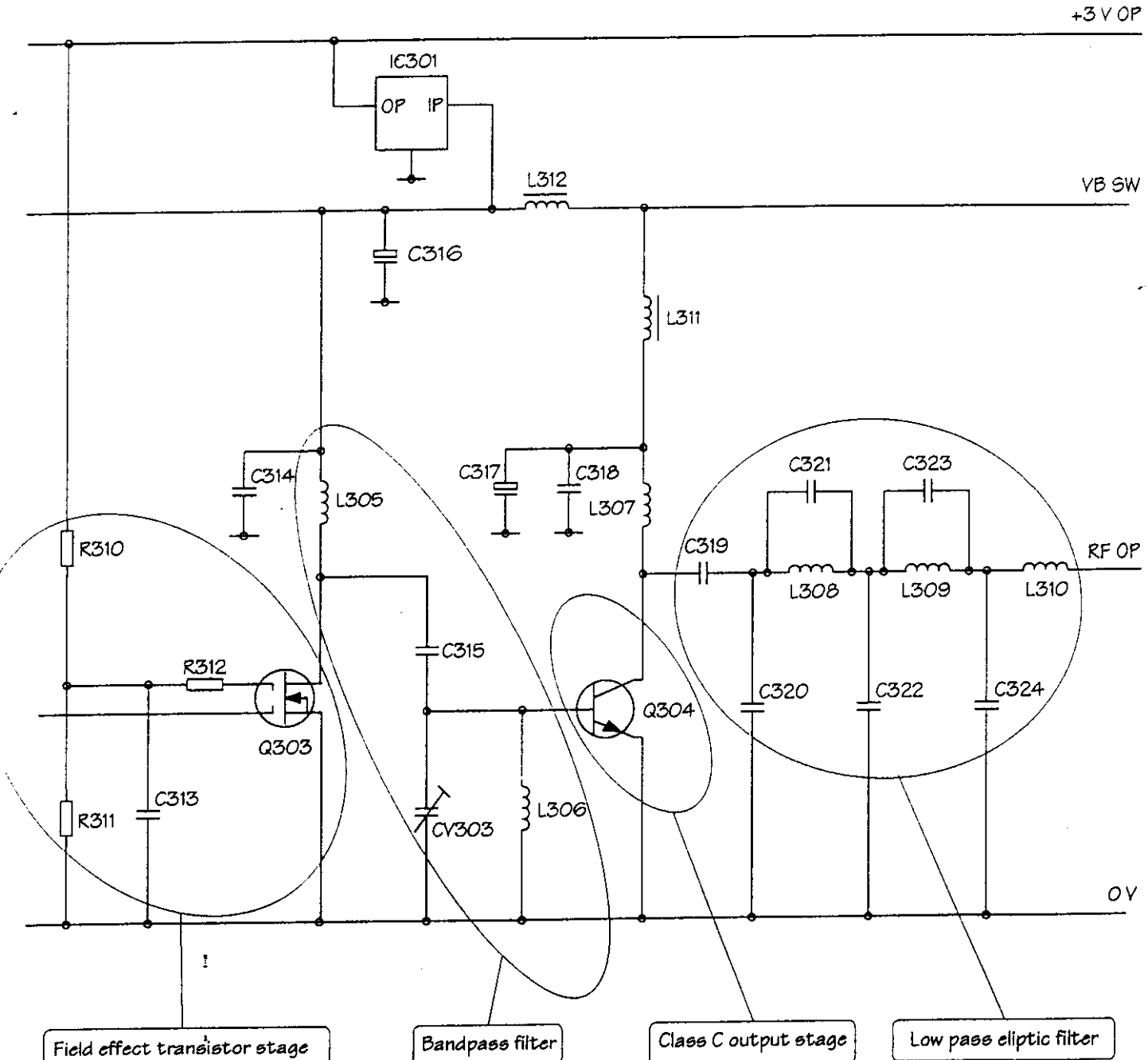
FCC ID: N4R6PM

TECHNICAL DESCRIPTION



Field effect transistor stage gives high isolation. This prevents reflections from varying loads (e.g., different types of aerial) from reaching the early stages.

Bandpass filter

Class C output stage

Low pass eliptic filter

CIRCUIT DESCRIPTION
VHF TALKBACK
TRANSMITTER
Type 010557

4 Alignment

4.1 Set the power supply to 3.6 V and connect it to the transmitter under test.

4.2 Select "NONE" on the fixture AF input switch.

4.3 Set the spectrum analyser to the channel frequency of the transmitter.

4.4 Set CV301 to give the carrier frequency ± 300 Hz on the frequency meter.

4.5 Check that a pure carrier is displayed on the spectrum analyser.

4.6 Adjust CV302 and CV303 for a maximum on the RF millivoltmeter and check that the RF output is +16 dBm.

4.7 Check that the carrier frequency is correct within 300 Hz.

5 Modulation

5.1 Select "SPEECH" on the AF input switch of the test fixture.

5.2 Set the audio oscillator to give a 1 kHz sine wave at 3 V_{P-P}

5.3 Check the modulation meter shows a deviation of at least ±2.5 kHz. Check that the modulation is reasonably sinusoidal.

DRAWINGS AND PARTS LISTS

010557/CD	Circuit diagram: 161 MHz 100 mW transmitter
010557/AY	PCB assembly: 161 MHz 100 mW transmitter
010557/PS	Parts schedule: 161 MHz 100 mW transmitter
M010910/-/CD	Tx. board test fixture

NOTE:

The parts schedule lists components, giving their part number, circuit reference, basic description and the total quantity (of the component) used in the circuit.

Components can be ordered by quoting the BTCL part number, description and the quantity required.

E.g., 215021, Capacitor 100 μF, 25 V Quantity 1

MAINTENANCE

1 General

The transmitter is designed to handle both analogue (audio) and data signals. The transmitter setting up procedure accounts for each.

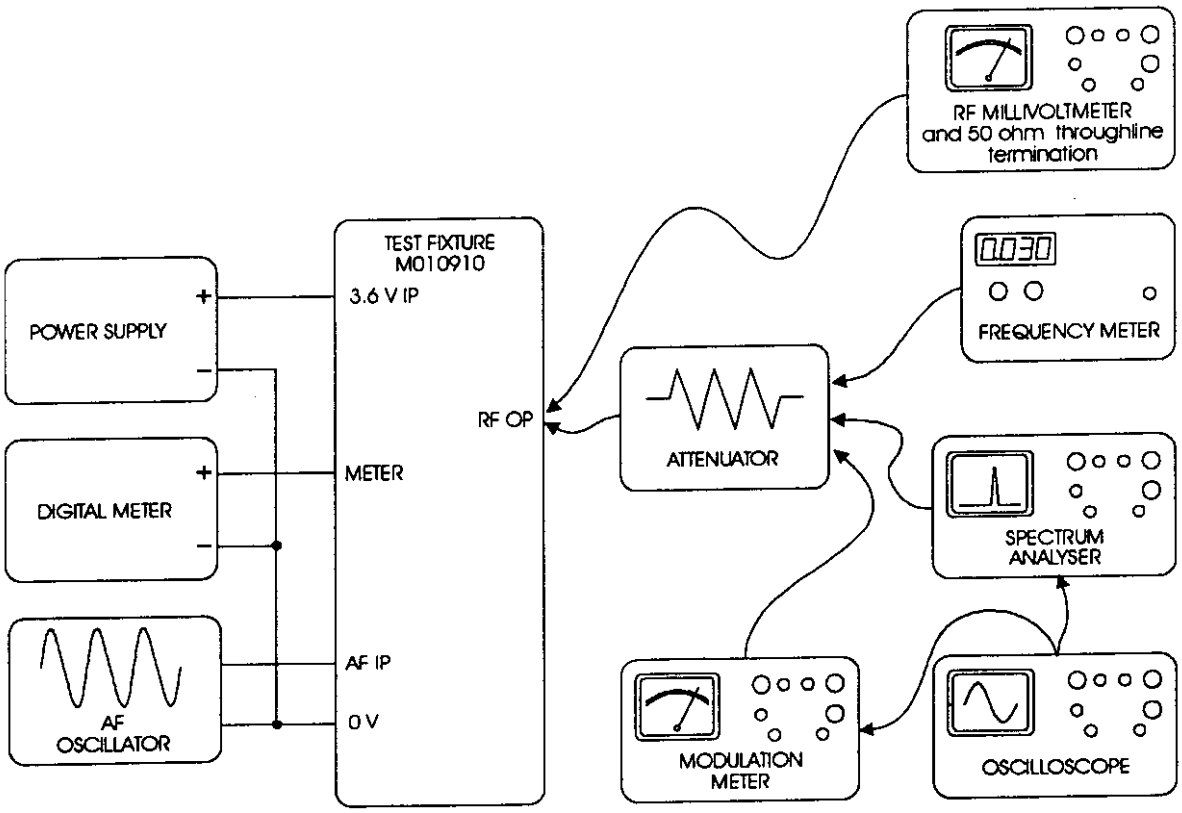
The type of signals transmitted depends on the application.

2 Equipment required

AF oscillator, Levell TG200DM
Dual beam oscilloscope with Y1 amplifier output facility with 1 MΩ probe
VHF frequency meter, Racal 9915
Modulation meter, Racal-Dana 9008A
RF millivoltmeter, Farnell TM8
Throughline termination, Farnell 93S30150
Spectrum analyser
Power supply
10 dB attenuator
Test fixture, M010910; see drawings section for circuit. (M010742 can also be used)

3 Setup

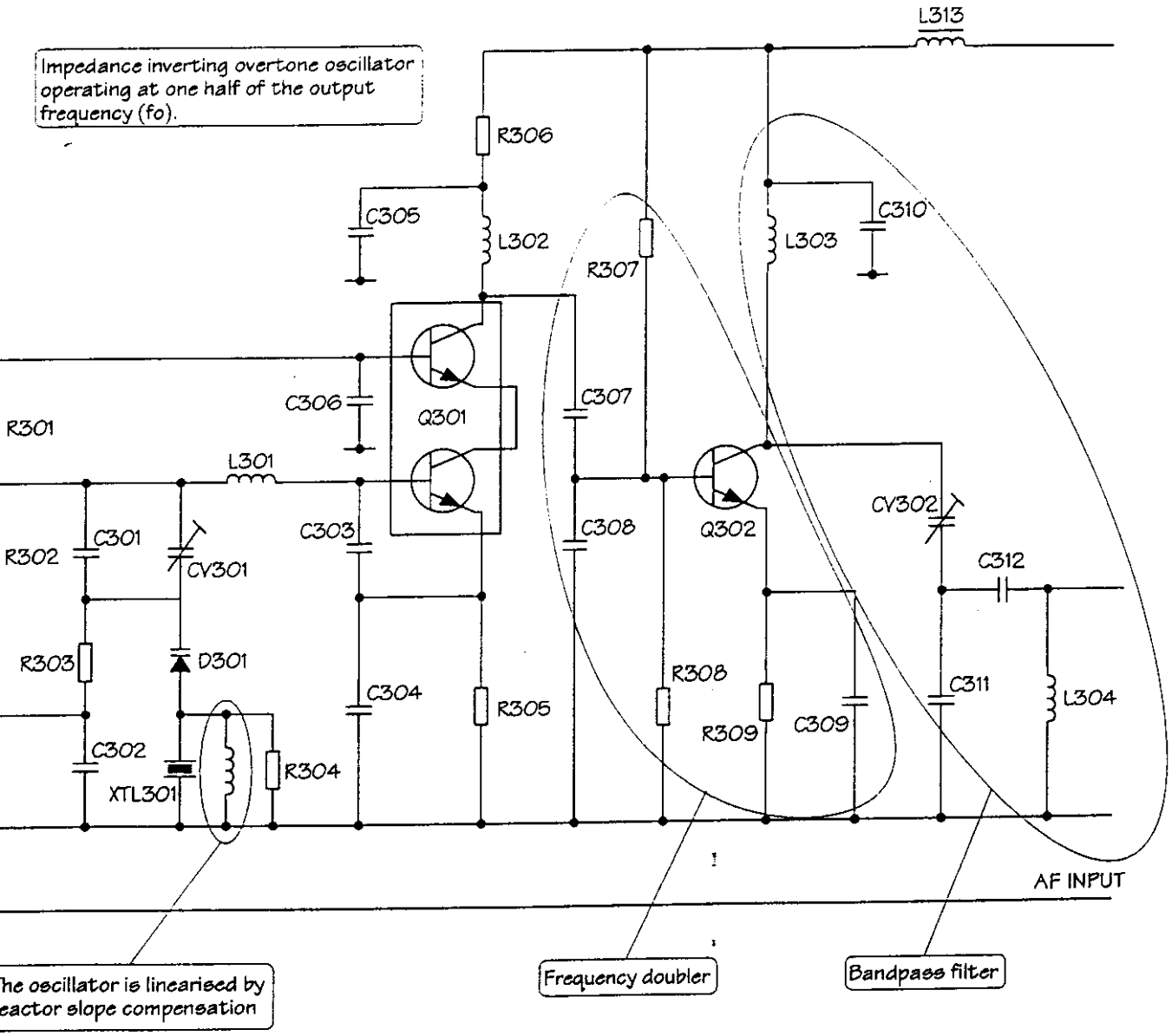
Place the transmitter in the test fixture and connect the test equipment as shown in the diagram:



datacall

Please refer to circuit diagram 010557/CD

+3 V OUTPUT



UIT DESCRIPTION
HF TALKBACK
RANSMITTER
Type 010557