

# NOMBREX

## R.F. GENERATOR — MODEL 31

### CIRCUIT:

The circuit design employs an R.F. transistor signal oscillator, the circuit characteristics being carefully chosen to ensure stable operation under varying conditions and temperatures. The R.F. signal is available either unmodulated, or alternatively modulated by a 400 cycles sine wave from a separate A.F. Modulator transistor. Printed circuit assembly is employed for stability and long-term reliability.

### RANGES:

The instrument gives continuous frequency coverage from 150 Kc/s to 350 Mc/s, in eight bands as below:—

- |                            |                             |
|----------------------------|-----------------------------|
| (1) 149 Kc/s to 438 Kc/s   | (5) 9.8 Mc/s to 34.1 Mc/s   |
| (2) 425 Kc/s to 1.25 Mc/s  | (6) 29.5 Mc/s to 69.0 Mc/s  |
| (3) 1.18 Mc/s to 3.83 Mc/s | (7) 56.0 Mc/s to 166.0 Mc/s |
| (4) 3.4 Mc/s to 10.75 Mc/s | (8) 118.0 Mc/s to 350 Mc/s  |

All signal ranges except No. 8 are on fundamentals

**ACCURACY:** Better than  $\pm 2$  per cent overall, but generally within  $\frac{1}{2}$  per cent to  $1\frac{1}{2}$  per cent on individual ranges and scale positions. Frequency shift with change of load or attenuator setting generally less than .2 per cent. Shift due to falling battery voltage less than .4 per cent down to 7.5V at which voltage battery should be renewed.

**OUTPUT LEVEL:** Average 100 mV into 75 ohms load on all ranges, dependent on range and frequency: A.F. output approximately 1 Volt R.M.S. at 400 c/s.

**OUTPUT IMPEDANCE:** Employing of necessity a miniature resistive attenuator the output impedance varies with attenuator setting, and is 400 ohms at maximum. Both R.F. and A.F. output sockets are D.C. isolated by capacitors rated 500 V DCW. The black lead clip is normally connected direct to the chassis of the receiver. The output attenuator does not operate on the A.F. output.

**BATTERY:** Employs standard 9 volt transistor battery, Ever-Ready PP4, Drydex DT4, or equivalent. Suitable U.S.A. or Continental alternative types are available in all overseas territories.

**EXTERNAL:** A miniature Jack Socket is fitted at rear of case. Using a standard 3/16in. 2-pole concentric Jack Plug the instrument may be operated from an external 9V battery or mains supply unit. **IMPORTANT:** The positive lead of the external supply must be connected to the end of the plug. Insertion of the Jack Plug automatically disconnects the internal battery.

**CONSUMPTION:** 3mA (Maximum) giving several months of battery life with normal usage. The battery should be replaced when it has fallen to the 7.5V minimum. Be sure to switch the instrument to "OFF" position when not in use to conserve battery. Rundown batteries, if left in the instrument, may leak and cause irreparable damage.

**FREQUENCY CONTROL:** Transparent hair-line cursor permitting adjustment to 1 per cent accuracy. All ranges are directly calibrated.

**RANGE SWITCH:** Eight-position switch, numbered to correspond with the ranges of the frequency scale.

**ATTENUATOR:** Operates on the R.F. Signal only, and is arbitrarily divided into ten uncalibrated divisions.

### ACCESS:

Instruments are supplied without battery fitted, to avoid deterioration. Access to fit or renew battery is by removing the back cover. Ensure that the battery is firmly gripped in the spring clip provided.

### GUARANTEE:

The instrument is Guaranteed for a period of twelve months from purchase date against any defect or faulty manufacture, provided that it has not been damaged by mis-use, has not been adjusted or serviced by anyone other than the manufacturer's service department or their appointed agent in U.K. or overseas.

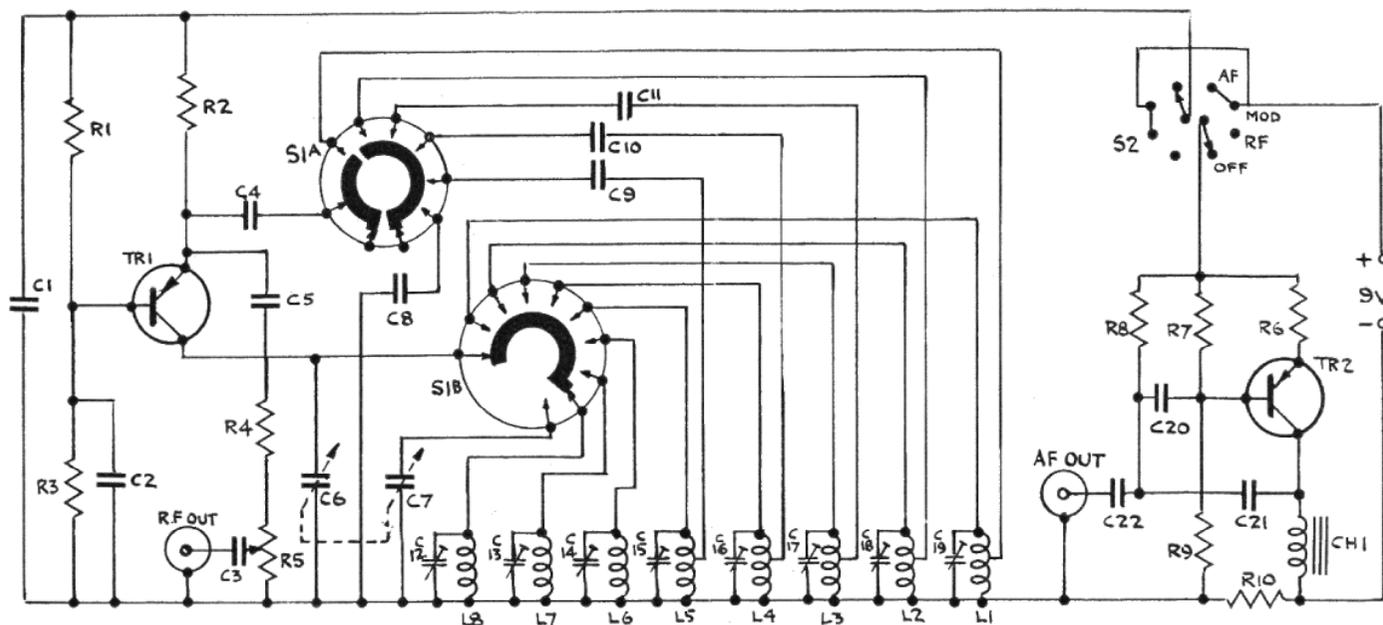
### SERVICE:

If the instrument should require service, unless otherwise arranged it should be returned, if purchased in U.K. to the Service Department of the manufacturer, or if purchased outside U.K. to the supplier from whom the instrument was purchased. It should be adequately packed, mailing charges pre-paid, and be accompanied by a letter clearly specifying the nature of the complaint. Retain the original carton and packing.

MANUFACTURED BY

**NOMBREX LTD. (INSTRUMENTS DIVISION)**

**EXMOUTH — DEVON — ENGLAND**



## R.F. GENERATOR 31 — PARTS LIST

Key	Value	Tol.	Part No.	Key	Value	Part No.
R1	150K	10%	21	S.1	Range Switch	2
R2	560	10%	20	S.2	Function Switch	1
R3	1M	10%	24	L1	Range Coil 1	41
R4	390	10%	19	L2	Range Coil 2	42
R5	400	10%	5	L3	Range Coil 3	43
R6	270	10%	20	L4	Range Coil 4	44
R7	12K	10%	23	L5	Range Coil 5	45
R8	6.8K	10%	22	L6	Range Coil 6	46
R9	150K	10%	25	L7	Range Coil 7	47
R10	560	10%	20A	L8	Range Coil 8	48
C1	.003uF	25%	51	TR.1	R.F. Transistor	12
C2	.01uF	25%	49	TR.2	A.F. Transistor	16
C3	.0047uF	25%	50	—	Case—Type A	7
C4	.01uF	25%	49	—	Battery Clip/Cover	7
C5	220pF	20%	53	—	Battery Connectors	13
C6-7	228 + 65pF	1%	3	—	Tuning Cursor	39
C8	10pF	10%	56	—	Control Knobs	14
C9	500pF	20%	55	—	Output Sockets	58
C10-11	.001uF	20%	54	—	Jack Socket	59
C12-19	0-20pF	20%	26	—	Test Lead	40
C20-22	.01uF	20%	49	—	Co-Axial Plug	15
CH.1	A.F. Choke	—	10	—	Ferrite Screw Cores	18