

UP21 &
UP31

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SERVICE MANUAL

MODELS

UP21 & UP31

ISSUED: JUNE, 1962.

KOLSTER-BRANDES LIMITED
FOOTSCRAY SIDCUP KENT

SERVICE DEPOTS

41, BENT STREET,
CHEETHAM, MANCHESTER
Telephone: BLAckfriars 1751 (3 lines)

FOOTSCRAY,
SIDCUP, KENT
FOOtscray 7733 (6 lines)

87, McALPINE STREET,
GLASGOW
CENTral 1779



Service Manual

Models UP21, UP31

General Description

The UP21, UP31 are improved versions of the Transistor "Rhapsody" Models OP21/1, PP31/1.

The push button unit has been completely re-designed and incorporates the wave change and on/off switches in one unit.

The rod aerial, oscillator coil and tuning condenser have been improved and additional cabinet colours are available.

Transistor Complement

As for previous models, also including Texas transistors.

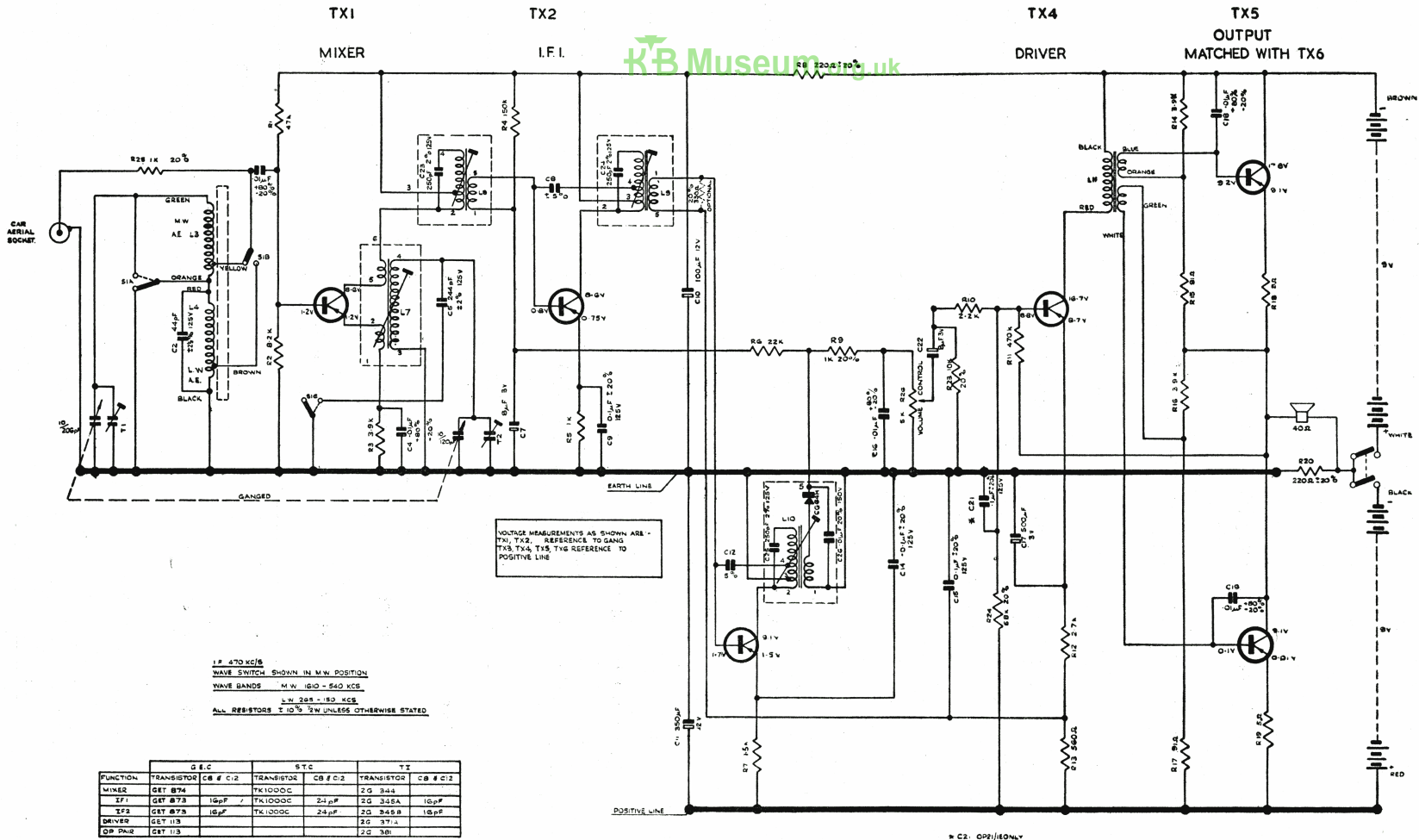
Alignment

See Back Page.

Spares

As for OP21/1, PP31/1 with the following exceptions:—

	Part No.
Cabinets—UP21 Starlight, Scarlet, Golden	684/4
UP31 Parchment with Maroon Band	& quote colour 682/4
Blue, Grey Check	& quote colour 682/210
Gang Condenser	682/132/1
Knobs—UP21 Starlight & Scarlet	682/132
UP31 Blue	682/57
UP21 Golden	9/25/1
UP31 all other colours	9/25/3
Oscillator Coil	13/67/1
Potentiometers Blue	13/67/3
Potentiometers White	682/30
Push Button Unit—Blue Buttons	682/31
White Buttons	682/22
Rod Aerial ($\frac{5}{8}$ " diameter Ferrite Rod)	682/22
or Rod Aerial ($\frac{5}{16}$ " diameter Ferrite Rod)	682/31
M.W. Aerial Coil for 682/31	682/22
L.W. Aerial Coil for 682/31	682/25



CIRCUIT DIAGRAM UP21, UP31

Equipment

1. A.M. Signal Generator covering the range 140 Kc/s to 1700 Kc/s.
2. Power Output Meter.
3. Shielded Test Coil (85 turns of enamel covered wire on 2" diameter former)

Procedure

1. All measurements made with signal modulated 30% at 400 C.P.s.
2. Progressively reduced signal input as the sensitivity increases with alignment maintaining approximately 50 mW. output.

I.F. Alignment

1. Set generator to 470 Kc/s. and connect via a 0.1 μ F. condenser to base of mixer transistor.
2. Set gang to minimum capacity.
3. Trim for maximum gain by adjusting cores in the following order:- 3rd, 2nd, 1st and then re-adjust if required.

R.F. Alignment

1. Connect signal generator to test coil.
2. The following operation should be carried out in the order indicated being repeated as necessary until scale accuracy, with maximum sensitivity, is attained

Operation	Input Frequency	Wave-band	Gang Position	Adjustment
1	540 Kc/s	M.W	180° (max. C)	Osc core
2	1610 Kc/s	M.W	0° (min. C)	Osc trimmer
3	Check operation 1.		—	—
4	600 Kc/s	M.W	—	Move M.W aerial coil for maximum gain.
5	1350 Kc/s	M.W	—	Adjust aerial trimmer for maximum gain.
6	225 Kc/s	L.W	—	Move L.W aerial coil for maximum gain.