

Alignment Instructions

Meersburg 11 · Breisgau 11 (12) · Bodensee 11

AM Alignment

- Eliminate AVC by applying about 4.5 volts from a low-resistance battery to test points R (—) and Y (+).
- Connect loudspeaker and output-meter to the output terminals.
- Turn treble control to left stop.

460 kc IF Alignment

- Press key AM and switch off Automatic.
- Connect a signal generator (460 kc, 30 % ampl. mod.) through a 0.01 mf. capacitor to the control grid of the mixer tube ECH 81.

Attention! The coupling of the IF transformers decreases by turning the screw counter-clockwise and increases by turning clockwise.

IF Transformer III

- Adjust coupling subcritical with K 504/5.
- Adjust both circuits with L 504 and L 505 to max.
- If necessary repeat 1) and 2).
- Adjust coupling critical with K 504/5 (max. output). Then couple subcritical until the voltage drops by 5 %.

IF Transformer II

- Adjust coupling subcritical with K 403/5.
- Adjust both circuits with L 403 and L 405 to max.
- If necessary repeat 1) and 2).
- Adjust coupling critical with K 403/5 (max. output). Then couple subcritical until the voltage drops by 5 %.

Control Transformer 460 kc

- Switch on Automatic.
- Connect zero-centre microammeter to test points M and Y.
- Connect DC voltmeter ($R_i \geq 0.5$ megohm, 30 volts full scale reading) to test points P and Y.
- Undertake the alignment at about 12 volts between P and Y.
 - The coupling screw K 605/7 is pre-aligned and set. **Do not adjust!**
 - Adjust primary circuit with L 605 to max. at voltmeter.
 - Adjust secondary circuit with L 607 to zero at microammeter.
 - If necessary repeat 2) and 3).

Attention! If the control transformer is properly aligned, the control motor must stand still. If now the signal generator is detuned a few kc plus or minus, the pointer must run to the right or left. Besides the scale reading of the microammeter should be same but opposite if the detuning has the same amount to each side.

IF Trap 460 kc

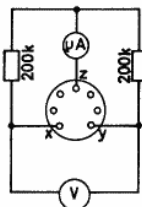
- Connect signal generator through dummy antenna (200 mmf. and 400 ohms in series) to antenna socket.
- Press key AM. Switch off ferrite antenna (turn to left or right stop).
- Adjust IF trap with L 1 to min.

Alignment of Oscillator and Preselection

Check: with pointer stop on right, pointer must be at corresponding point on the dial. The rotor of the variable capacitor must fit flush in the stator.

Connect signal generator through dummy antenna to antenna socket.

- Press key K. At 7.2 Mc adjust L 11 (osc.) and L 2 (ant.) to max.
- At 15.2 Mc adjust C 18 (osc.) and C 5 (ant.) to max.
- If necessary repeat 1a) and 1b).
- Switch on ferrite antenna. Couple signal generator loosely to ferrite antenna by means of a ferrite rod or a coil. Press key M. At 570 kc adjust L 13 (osc.) and L 4 (ant.) to max.
- At 1520 kc adjust C 19 (osc.) and C 6 (ant.) to max.
- If necessary repeat 2a) and 2b).
- Switch off ferrite antenna. Connect signal generator through dummy antenna to antenna socket. At 570 kc adjust L 9 to max.
- Press key L. At 190 kc adjust L 14 (osc.) and L 6 (ant.) to max.



FM Alignment

- Press key UK and switch off Automatic.
- Connect a voltmeter ($R_i \geq 0.5$ megohm, 10 volts full scale reading) to test points X and Y.
- Connect zero-centre microammeter to test points X, Y and Z.

IF Alignment 6.75 Mc

Connect signal generator (6.75 Mc, unmodulated, output cable matched) through 1000 mmf. to low side of C 206 and chassis. Detune C 206 until the noise voltage disappears at the voltmeter (for this set receiver to 92 Mc).

IF Transformer III (Ratio-Detector)

- Adjust coupling subcritical with K 501/3.
- Adjust primary circuit with L 501 to max. at voltmeter.
- Adjust secondary circuit with L 503 to zero at microammeter.

IF Transformer II

- Adjust coupling subcritical with K 401/2.
- Adjust both circuits with L 401 and L 402 to max. at voltmeter.
- If necessary repeat 1) and 2).
- Adjust coupling critical with K 401/2 (max. at voltmeter).

IF Transformer I

- Adjust coupling subcritical with K 250/1.
- Adjust both circuits with L 250 and L 251 to max. at voltmeter.
- If necessary repeat 1) and 2).
- Adjust coupling critical with K 250/1 (max. at voltmeter).

IF Transformer III (Ratio-Detector)

- Signal generator must now be 30 % ampl. mod.
- Tighten coupling with K 501/3 until the audio voltage at the output reaches its min. The voltage between test points X and Y should be about 10 volts.
 - Correct adjustment of primary circuit with L 501 to max. at voltmeter.
 - Correct adjustment of secondary circuit with L 503 to zero at microammeter.
 - If necessary repeat 1) to 3).

Control Transformer 6.75 Mc

- Switch on Automatic.
- Connect zero-centre microammeter to test points M and Y.
- Connect voltmeter ($R_i \geq 0.5$ megohm, 30 volts full scale reading) to test points P and Y.
- Align at about 30 volts at P-Y.
 - The coupling screw K 601/3-4 is pre-aligned and set. **Do not adjust!**
 - Adjust primary circuit with L 601 to max. at voltmeter.
 - Adjust secondary circuit with 603-4 to zero at microammeter.
 - If necessary repeat 1) to 3).

Attention! For checking the automatic see alignment of control transformer 460 kc.

Alignment of the FM Tuner

Connect VHF signal generator to dipole sockets.

- At 88 Mc adjust C 211 (osc.) and C 206 (r. f.) to max.
- At 98 Mc adjust L 206 (osc.) and L 204 (r. f.) to max. (L 206 by shifting the tuning rod, L 204 by shifting the core).
- At 92 Mc adjust L 202 to max. (by shifting the core).
- Cut off plate voltage of r. f. ampl. (unsolder connection B). Increase input voltage to about 0.5 millivolt.
 - Adjust neutralizing with C 204 to min.
 - Re-solder connection B.
 - For exact alignment repeat 1) and 2).

Re-Alignment of Control Transformer

If the control transformer became slightly detuned (pointer to the left or right of station), the transformer can easily be realigned without any technical gear:

- Switch on corresponding wave range.
- Tune to a strong station with Automatic on.
- Take a screw driver and turn carefully L 607 (for short, medium and long wave) or L 603-4 (for FM) until pointer is exactly on station (shown by magic eye).

