

Aligning Instructions

1970

REMOVAL OF CHASSIS

1. Pull knobs and lay unit face down
2. Loosen three screws at case bottom and pull back part upward
3. Take off battery cover and remove batteries
4. Pull telescopic antenna
5. Loosen the screws marked by shaded squares in the dismantling sketch
6. Remove chassis carefully and desolder loudspeaker

D. C. ALIGNMENT (no signal, $U_B = 7.5 V$, AM-button pressed)

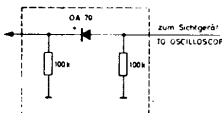
Adjustment of AF Push-Pull Stage

Connect Milliammeter in place of wire link to collector AC 188 k. Adjust quiescent current of AC 187 k and AC 188 k with R 59 (500 Ω) to 5.5 mA. Resolder wire link after completion of adjustment of quiescent current.

Adjustment of the IF Amplifier

Adjust with R 28 collector current of BF 240 (TV) to obtain a voltage of 1.3 V at the emitter resistor R 34.

FM-IF ALIGNMENT 10.7 MHz (unit in position FM, tone control at full treble, AFC off)

Alignment Sequence	Connection of Wobbulator Output	Connection of Wobbulator Scope	Alignment
Filter IV	to point 6 of F III	to point 6 in F IV (via test prod)	detune (b) (a) to maximum and symmetry
Filter III	to point 5 of F II		(c) and (d) to maximum and symmetry
Filter II	to point 5 of F I		(e) and (f) to maximum and symmetry
Filter I and IF circuit 9226-703	to variable capacitor of AM-input circuit		(g) and (h) to maximum and symmetry
Discriminator and AM-Suppression	to point 6 F III	to point 1/2 of F IV	(b) to symmetry. Now increase input signal so that the IF voltage at the base of T VI (BF 241) amounts to 50 mV. Adjust now with R 2 (in filter IV) at signal AM modulated (30 - 40%) to best AM suppression.
	to variable capacitor of AM-input circuit (without AM modulation)		correct (b) if necessary

AM-IF ALIGNMENT 460 kHz (button AM pressed)

Alignment Sequence	Connection of Wobbulator Output	Connection of Wobbulator Scope	Alignment
Filter III	to point 5 of F II	loose coupled with collector of BF 240 (F III point 12)	(I) to maximum and symmetry
Filter II	to point 5 of F I		(II) and (III) to maximum and symmetry
Filter I	to variable capacitor of AM-input circuit		(IV) and (V) to maximum and symmetry

ALIGNMENT OF AM-OSCILLATOR AND INPUT CIRCUIT

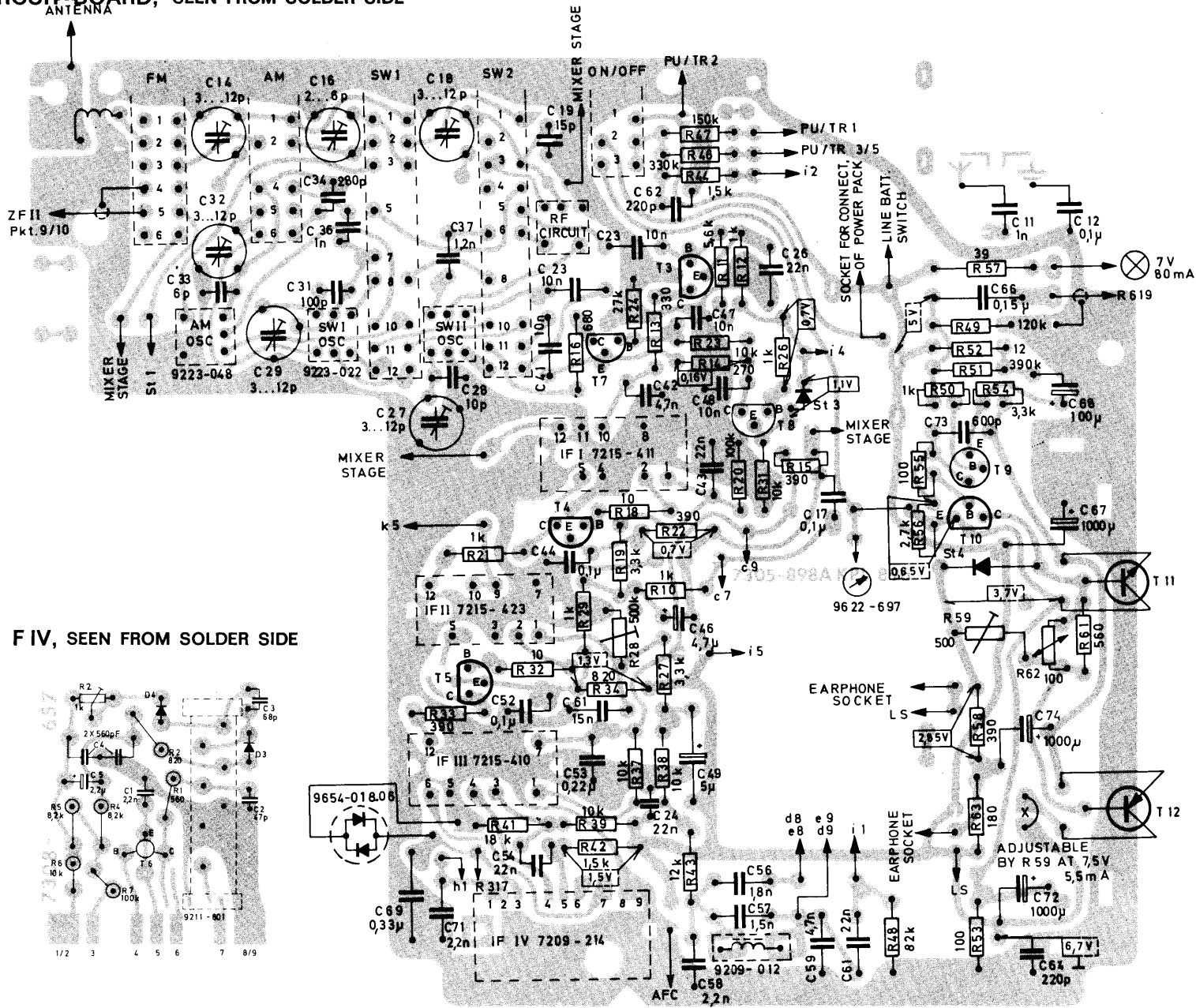
Range	Frequency (pointer position)	Oscillator	Input Circuit	Sensitivity	Oscillator Voltage	Remarks
AM	560 kHz	⑨ max.	⑪ max.	10 μF	70 - 80 mV	Carry out SW-alignment at desoldered telescopic antenna. Feed signal via 18 pF in telescopic antenna.
	1450 kHz	⑩ max.	⑫ max.	10 μF		
KW I	1.8 MHz	⑤ max.	⑦ max.	6 μF	60 - 80 mV	
	3.7 MHz	⑥ max.	⑧ max.	6 μF		
KW II	6.5 MHz	① max.	③ max.	4 μF	40 - 50 mV	
	15 MHz	② max.	④ max.	4 μF		

ALIGNMENT OF FM-OSCILLATOR AND IF CIRCUIT (FM button pressed, AFC off)

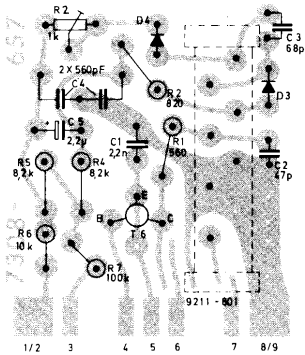
Generator Frequency (pointer position)	Oscillator	Intermediate Circuit	Oscillator Voltage (at emitter of BF 241)	Remarks
88 MHz	(A) max.	(C) max.	75 mV	The signal of the generator with an output resistance of 60 Ω is fed directly to the mixer stage
106 MHz	(B) max.	(D) max.		

To check the AFC, a signal of at least 2 μV must be applied at the input of the mixer stage. If the applied signal frequency alters by ± 75 kHz of the adjusted mid-frequency, an AF maximum at point 1/2 of F IV at switched on AFC should be obtained. If not, correct with core of secondary of F IV. At a load resistance of 60 Ω the fundamental oscillation should not exceed 2 mV after the alignment at the mixer stage input. The noise factor is 3.5-5 kTo.

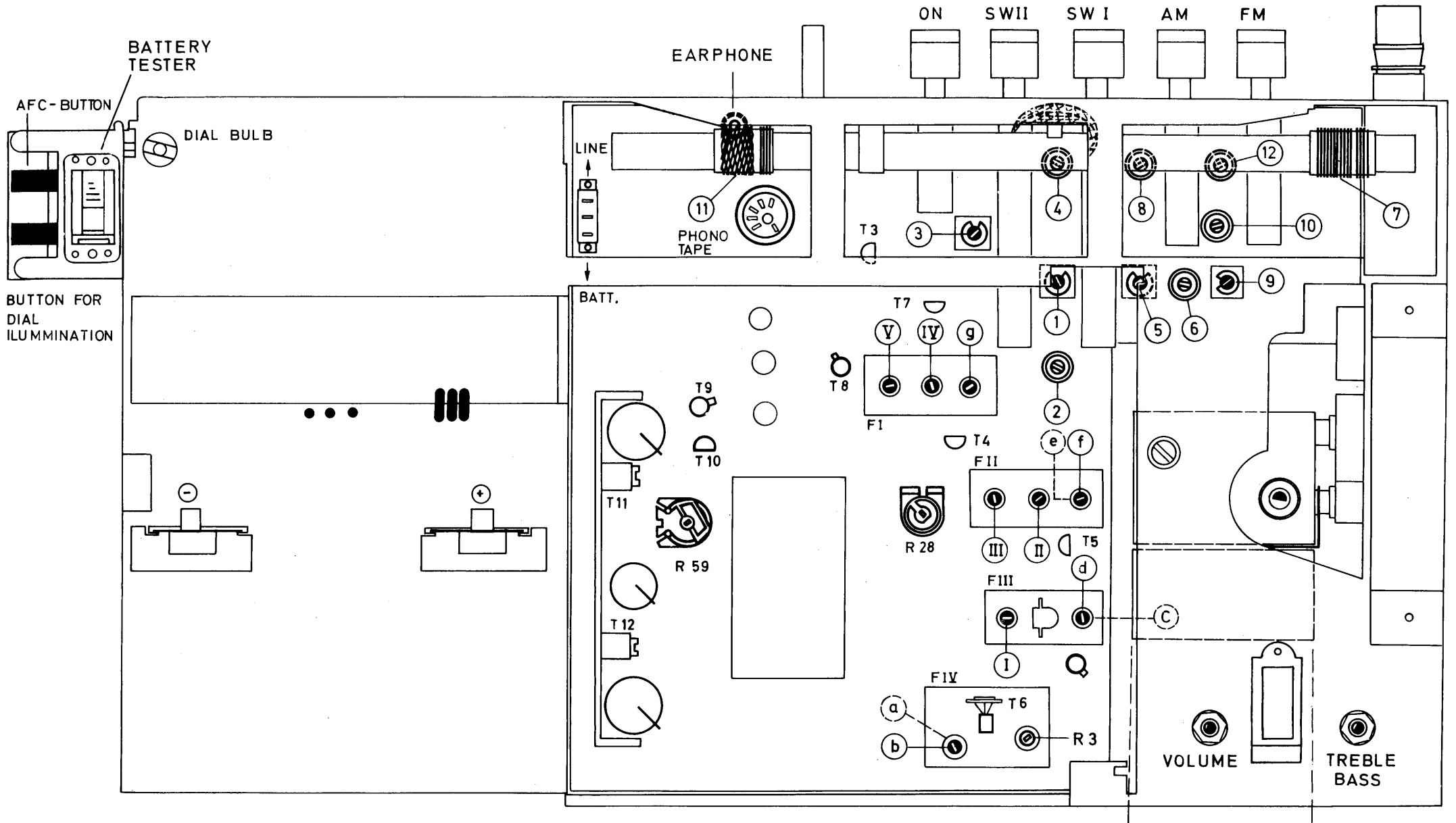
RF/AF PRINTED CIRCUIT BOARD, SEEN FROM SOLDER SIDE



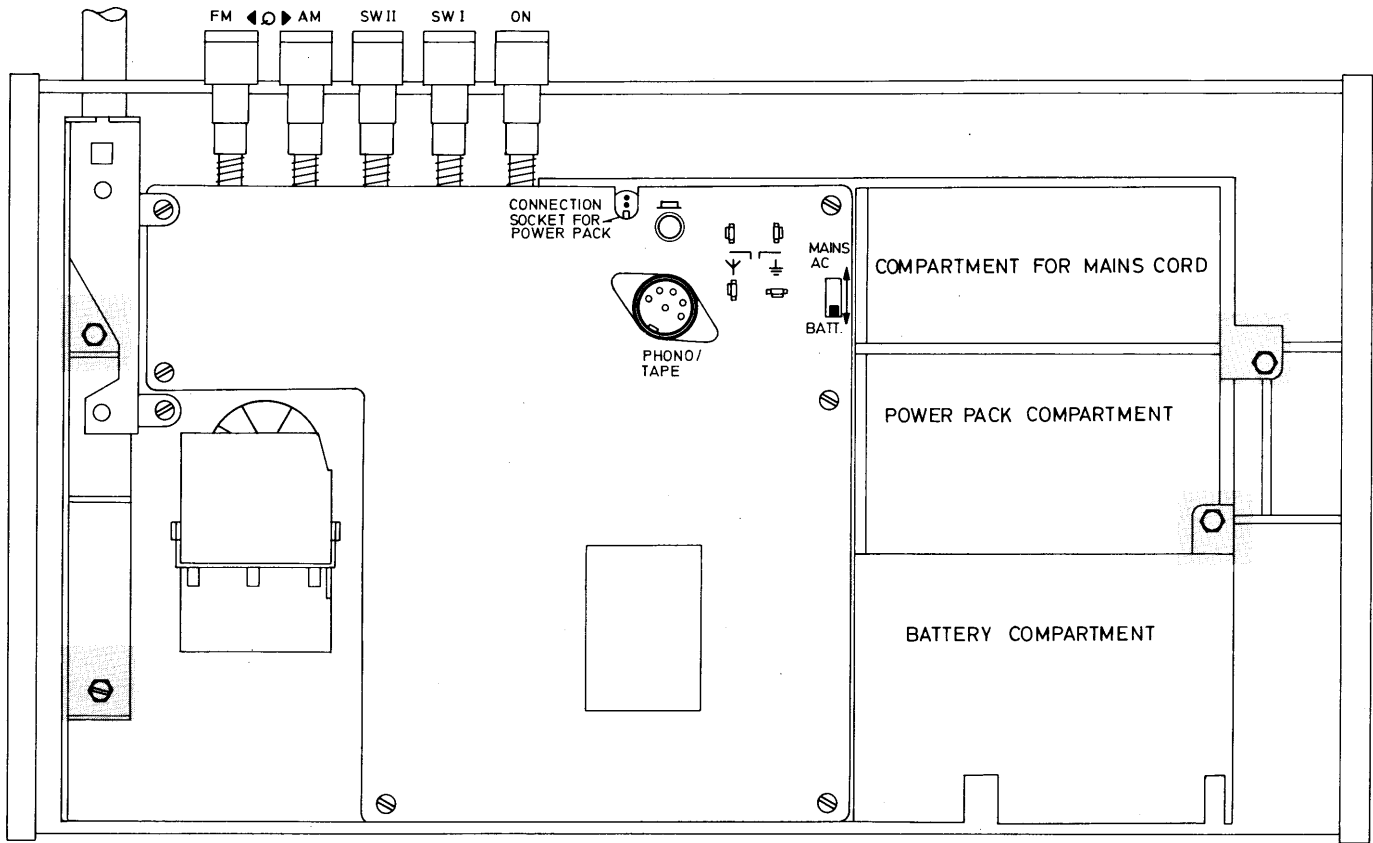
F IV, SEEN FROM SOLDER SIDE



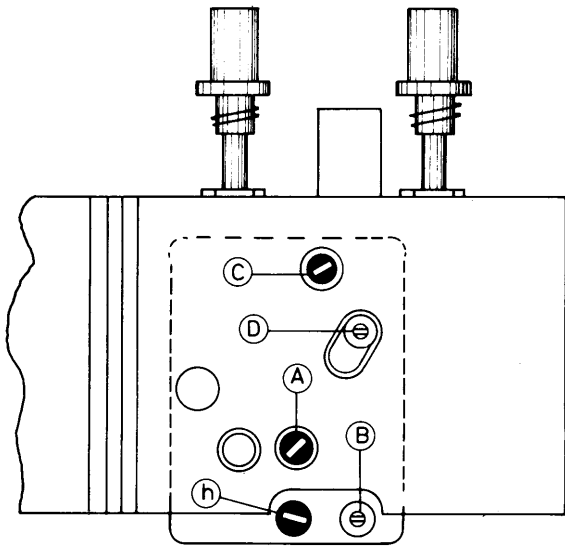
ALIGNMENT SCHEME



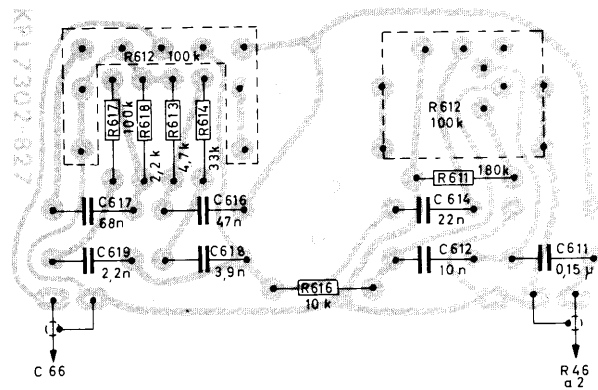
DISMOUNTING SKETCH



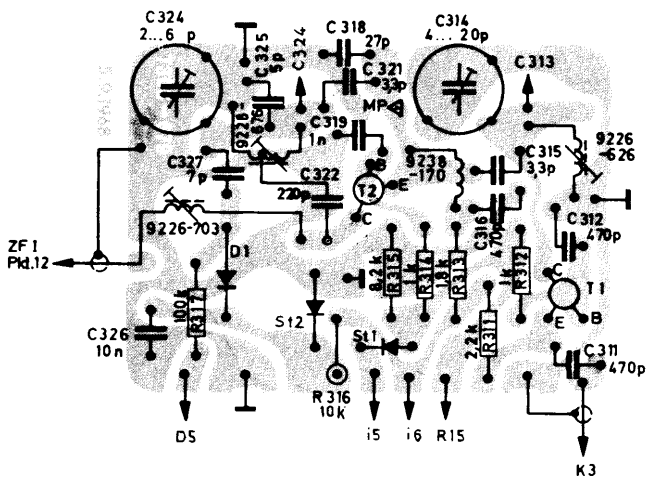
FM-MIXER STAGE, BOTTOM VIEW



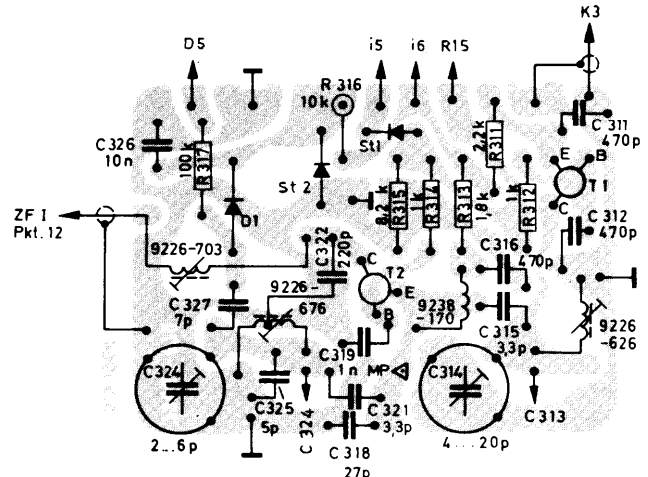
POTENTIOMETER BOARD, SEEN FROM SOLDER SIDE

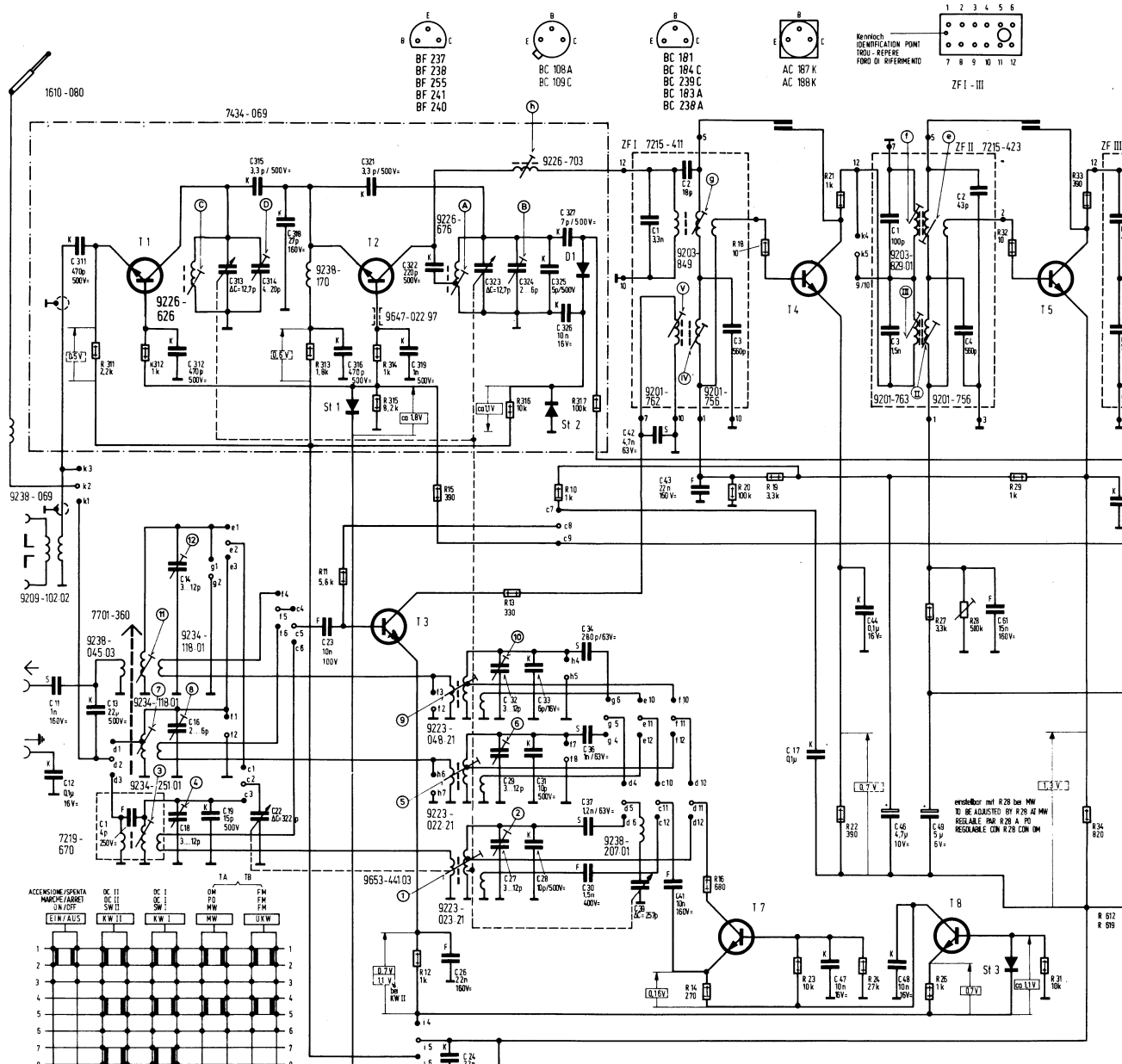


FM-MIXER STAGE, SEEN FROM SOLDER SIDE



FM-MIXER STAGE, SEEN FROM COMPONENT SIDE

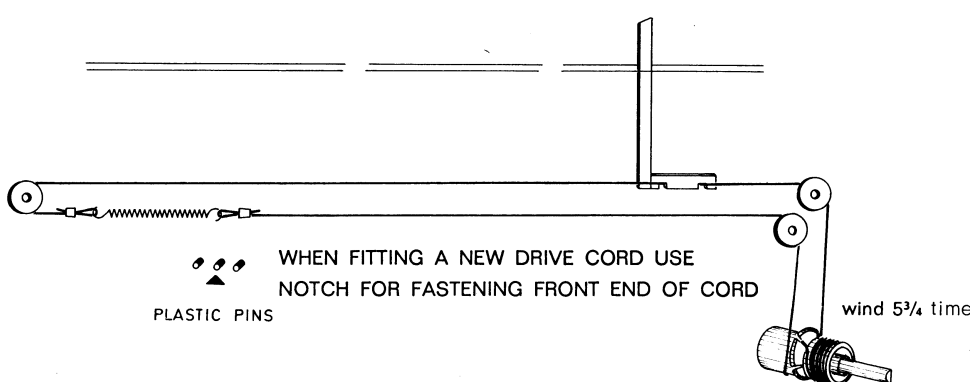




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|---|--|---|---|---|--|---|
| <p>Wellenbänder:
 MW - AM - PD - OM 510 1620 kHz/Mc
 KW I - SW I - OC I - DC I 1,6 4,8 MHz/Mc
 KW II - SW II - OC II - DC II 5,95 16 MHz/Mc
 LW - FM - FM 025 100 kHz/Mc
 ZF AM 450 kHz/Mc
 FM 107 MHz/Mc</p> | <p>HF - MF - Puffer
 SW II - INPUT CIRCUIT
 HF - BF - PLATINE
 MF - BF - PLASTICA</p> <p>WF - Drossel
 AF - CANDE
 SELF BF
 IMPEDENZA BF</p> | <p>KW II - Voltmeter
 SW II - INPUT CIRCUIT
 DC II - CIRCUIT D'ENTREE
 DC II - PNE. CIRCUIT</p> <p>MW - Oscillator
 AM - OSCILLATOR
 PD - OSCILLATOR
 OM - OSCILLATOR</p> | <p>KW I - Oscillator
 SW I - OSCILLATOR
 DC I - OSCILLATOR
 DC I - OSCILLATOR</p> <p>KW II - Oscillator
 SW II - OSCILLATOR
 DC II - OSCILLATOR
 DC II - OSCILLATOR</p> | <p>Antennadatenne Isp
 FERRITE ROD
 BATOINET - FERRITE COMPL.
 ANTENNA DI FERRITE COMPL.</p> <p>Mischteil
 MIXER STAGE
 MELANGEUR
 PARTE MISCELATRICE</p> | <p>WF - Reglerplatte
 AF - CONTROL BOARD
 PLAQUE DE REGULATION BF
 BF - PASTINA DI REGOLAZIONE</p> | <p>Änderungen vorbehalten
 ALTERATIONS RESERVED
 MODIFICATIONS RESERVEES
 CON RISERVA DI MODIFICA</p> |
|---|--|---|---|---|--|---|

C:	311	14	312	313	314	315	316	317	318	319	320	321	322	27	324	33	325	326	327	328	42	39	41	43	17	47	44	46	48	49	51								
R:	311	312	313	314	315	316	317	318	319	320	321	322	24	26	323	29	32	28	31	34	36	32	14	16	18	20	19	21	23	22	24	26	27	28	32	29	31	33	34

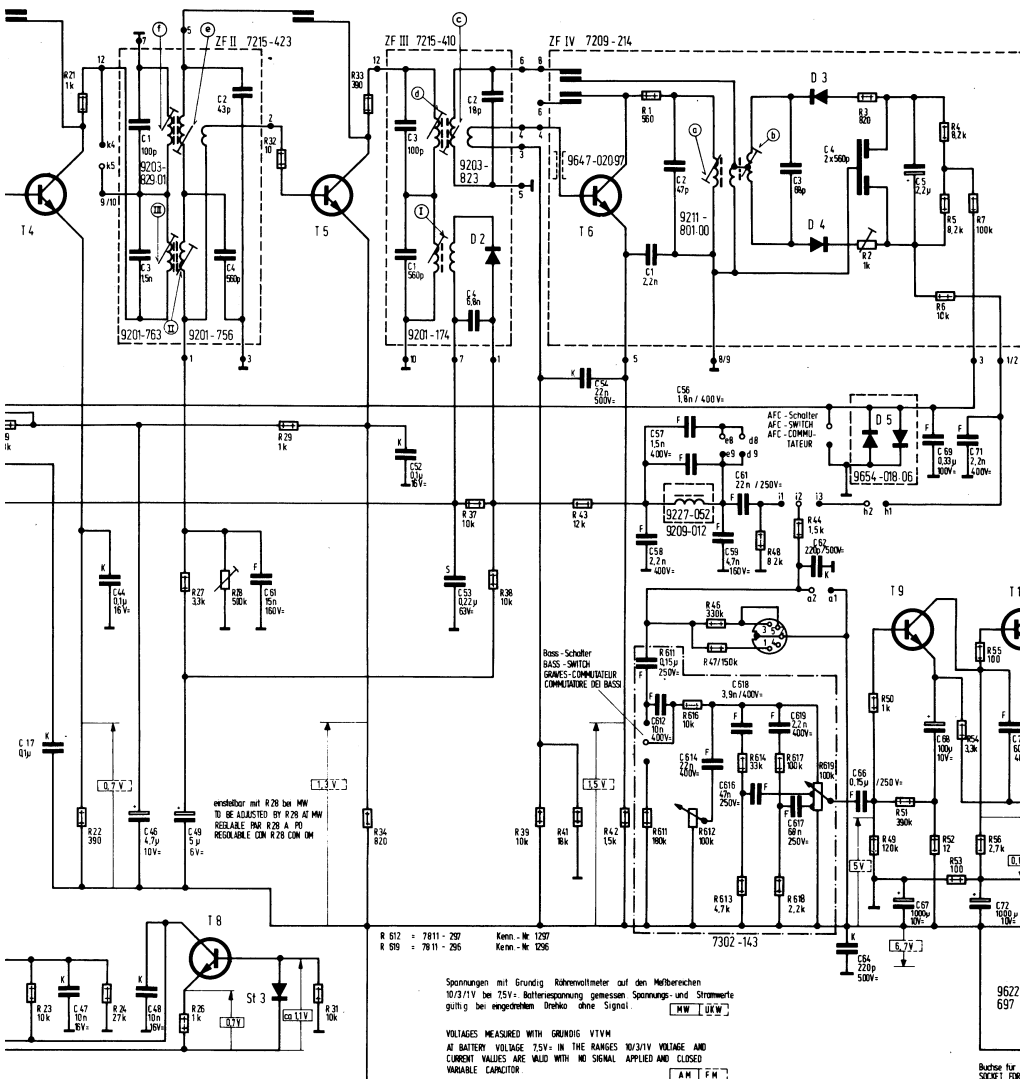
CORD GUIDANCE
 Length: approximately 35"



PLASTIC PINS

WHEN FITTING A NEW DRIVE CORD USE NOTCH FOR FASTENING FRONT END OF CORD

wind 5/4 time



- 1 1 BF 255
 - 1 2 BF 241, BF 237
 - 1 3 BF 241, BF 237
 - 1 4 BF 241, BF 237
 - 1 5 BF 240, BF 238
 - 1 6 BF 241, BF 237
 - 1 7 BF 241, BF 237
 - 1 8 BC 108 A, BC 163 A, BC 238 A
 - 1 9 BC 106 C, BC 164 C, BC 239 C
 - 1 10 BC 181
 - 1 11 AC 187 K
 - 1 12 AC 188 K
- D 1 BA 124
 - D 2 1M 60, od AA 130
 - D 3 AA 112
 - D 4 AA 112
 - D 5 9654-018 06
 - St 1 BZ 102/2V1
 - St 2 2322 /574 /90002 Fa Valvo
 - St 3 2322 /574 /90002 Fa Valvo
 - St 4 EOC 3393

7219-670 MW I - Oszillator
 OC I - OSCILLATOR
 9223-048.21 MW II - Oszillator
 SW I - OSCILLATOR
 OC II - OSCILLATOR

7434-069 NF - Reglerplatte
 AF - CONTROL BOARD
 PLANE OF REGULATOR BF
 BF - PIASTRINA DI REGOLAZIONE

7302-143

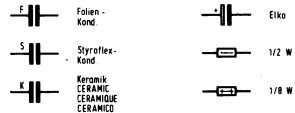
Spannungen im Grundig Voltmeter auf den Wertbereichen 10/31V bei 75V-Batteriespannung gemessen. Spannungs- und Stromwerte gültig bei angegebener Drehzahl ohne Signal. [M.W. U.K.W.]

VOLTAGES MEASURED WITH GRUNDIG VTMV AT BATTERY VOLTAGE 75V. IN THE RANGES 10/31V VOLTAGE AND CURRENT VALUES ARE VALID WITH NO SIGNAL APPLIED AND CLOSED VARIABLE CAPACITOR. [M.W. U.K.W.]

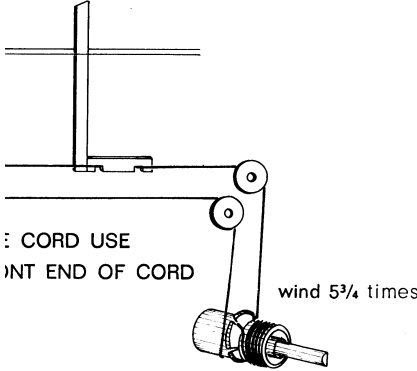
TENSIONS MESUREES AVEC GRUNDIG VOLTMETRE A LAMPES SUR LES CHAPES DE MESURE DE 10/31V ET UNE TENSION DE PILE 75V. LES VALEURS SONT VALABLES AVEC LE CONDENSATEUR VARIABLE ENMI FERME ET SANS SIGNAL D'ANTENNE. [M.W. U.K.W.]

TENSIONI DI LAMPADE MISURATE CON VOLTMETRO ELETTRONICO GRUNDIG SULLE PORTATE 10/31V CON TENSIONE DI BATTERIA DI 7,5V. I VALORI DELLE TENSIONI E DELLE CORRENTI SONO VALIDE CON ASSENZA DI SEGNALE E CONDENSATORE VARIABILE CHIUSO. [M.W. U.K.W.]

Änderungen vorbehalten
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 CON RISERVA DI MODIFICA



47	44	46	48	49	51	52	53	54	61	612	614	616	618	619	617	64	62	66	69	71	72	73	74														
20	19	21	23	22	24	26	27	28	32	29	31	33	34	37	38	39	41	43	42	61	616	613	614	617	618	619	50	53	54	55	56	58	59	61	57	62	63



Transistor 865 mariner

(14-1648-8341)