

TECHNICAL INSTRUCTION

RADIOTELEPHONE RADIOSTATION

RR 3906-4

Gdańskie Zakłady Elektroniczne UNIMOR  
Rzeźnicka 54/56, 80-822 Gdańsk-POLAND



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GZE 2180  
12/01/480



**LIST OF TECHNICAL INSTRUCTION MANUALS  
FOR THE EQUIPMENT**

1. **Technical Instruction Manual  
for EGD-02 Receiver** 1314.002-9 0001 Eu 03/02
2. **Repair Instructions for EGD-02 Receiver** 1314.002-90001 Ra 03



## 1. TECHNICAL DESCRIPTION

### 1.1. Application

The radiostation is designed for use mainly by maritime mobile services; it can also be used by land /shore/ services.

The radiostation is available in two versions:

a/ RR 3906-4/50W - rated output power 50W

b/ RR 3906-4/100W - rated output power 140W

The radiostation in the 50W version is provided for using in sea-going ships as a reserve radiotelephone equipment /range over 130 miles/.

The radiostation in the 100W version is also provided as a reserve radiotelephone equipment /supply from storage battery 24V/, furthermore, the radiostation can be used as a main equipment /range over 150 miles/ at mains supply via a separate Z 0278-1 power supply unit.

An AP10 rod aerial /10 m long rod/ is recommended for operation in conjunction with the transmitter, and an EAS-01 /02 or 03/ aerial for operation with the receiver.

The radiostation is arranged for operation with 24V cadmium-nickel alkaline storage batteries.

### 1.2. Component Parts and Design

The radiotelephone radiostation RR 3906-4 consists of:

- NR 2611-4/50W transmitter panel for radiostation in RR 3906-4/50W version.  
/NR 2611-4/100W transmitter panel for radiostation in RR 3906-4/100W version/.
- EGD-02 receiver panel
- Transmitting aeriels selector switch and receiving aeriels selector switch permanently fixed int the radiostation casing.

Additionally, the radiostation unit is fitted by the manufacturer with the following items:

- Technical Instructions IT-78/3906-4
- Spare parts CZ-3906-4



- Extensions 2-6 ZN-77/T18-143 sheet 1 (PW1-PG5)  
2-7 ZN-77/T18-143 sheet 1 (PW2-PG4)

to enable the equipment to be operated after removal of panels from casing.

At additional customer's order are available:

- Free-standing power supply unit Z 0278 in its own casing;
    - Supply unit Z 0278-2 for RR 3906-4/50W radiostation
    - Supply unit Z 0278-1 for RR 3906-4/100W radiostation
  - Synthesizer SW 2846-3 enabling the transmitter operating frequency to be set with a step every 100 Hz
  - Technical Instruction Manuals IT-78/3906-4
  - Additional h.f. amplifier of WA 0141 type for amplification of the receiver output power to the level of 3W.
  - Morse key 4518-0002-1.
  - RS 1014E type crystal resonators; the number and frequency as requested in the order.
  - duplex filters FD 1014
- For arrangement of principal units and elements inside the radiostation refer to the RI-3906-4 mimic diagram, sheet 1.
- The design of NR 2611-4 transmitting panel is shown in RP-3906-4 drawing, sheet 3.
- The design of other component equipment of the RR 3906-4 radiostation is described in Technical Instruction Manuals for this equipment.

### 1.3. Technical Data

#### 1.3.1. Mechanical Parameters

- Dimensions as per RP-3906-4, sheet 2
- Weight approx. 60 kg.



1.3.2. Electrical ParametersTransmitting Part

It. No.	Parameter	NR 2611-4/50W	NR 2611-4/100W
1	2	3	4
1.	Frequency range	1,6 - 8,5 MHz in bands 1; 2; 2A; 3; 4; 6; 8 MHz	
2.	Number of channels	11 channels in each 1; 3 MHz band 6 channels in each 4; 6; 8 band 22 channels in 2MHz band	
3.	Frequency tolerance	$\pm$ 100 Hz for intermediate waves $\pm$ 50 Hz for short waves $\pm$ 35 Hz in the entire range in case when a synthesizer is applied.	
4.	Output power : a/Mains supply using power supply unit Z 0278 - for bands 1 to 4MHz - for bands 6 and 8MHz  b/Battery supply - for bands 1 to 4MHz - for band 6 and 8MHz  c/Reduction in output power	$\geq 40W$ $\geq 40W$  $\geq 40W$ $\geq 40W$	$\geq 140W$ $\geq 140W$  $\geq 90W$ $\geq 90W$
5.	Antenna parameters - for bands 1 to 4MHz - for band 8MHz - for band 8MHz	$R = 4-10\Omega$ $R = 15-30\Omega$ $R = 100-300\Omega$	$C = 120-250 \text{ pF}$ $C = 300-600 \text{ pF}$ $X = \pm 100\Omega$
6.	Emissions	A1 , A3J, A3A, A3H	



UNIMOR		IT-78/3906-4		strona page seite stranica	7	stron pages seiten stranic	37
1	2	3	4				
7.	Operation mode	-simplex -duplex when using duplex filters PD 1014					
8.	Power consumption						
	Battery supply						
	- STAND-BY	approx. 40W		approx. 30W			
	-A3J speech	approx. 70W		approx. 120W			
	-A3H speech	approx. 100W		approx. 200W			
	Mains supply						
	- STAND-BY	approx. 180VA		approx. 300VA			
	- A3J speech	approx. 300VA		approx. 500VA			
	- A3H speech	approx. 320VA		approx. 540VA			

The transmitter is equipped—by manufacturer—with 2182 kHz channel remaining channels on customers request.

TRANSMITTING AERIALS SELECTOR SWITCH /S1/ accomplishes the following functions :

- a/ Earthing the transmitting aerial /with simultaneous transmitter operation interlocking/.
- b/ Connection of aerial to transmitter output with a dummy aerial with simultaneous isolation of transmitting aerial.

RECEIVING AERIALS SELECTOR SWITCH /S4/ accomplishes the following functions :

- a/ Earthing the receiving aerial
- b/ Receiving aerial isolation
- c/ Connection of aerial to receiver input

RECEIVER EGD-02 /Technical Instruction/

- Frequency range 1600 to 11999 kHz
- Setting by decade with a step of 1 kHz
- Clarifier/fine tuning/  $\pm 500$  Hz
- Frequency tolerance  $\pm 3 \cdot 10^{-6} / 10^{\circ}\text{C} + + 55^{\circ}\text{C} /$
- Emissions A2, ..A3
- A3J, A3H, A3A
- A2H /receipt of signals with upper sideband/



- Input impedance 50 Ohms or 75 Ohms
- Sensitivity 20  $\mu$ V for A3
- Output power greater than 4 mW for  
200 Ohms  
headphone output  
greater than 0,5W for  
45 Ohms
- internal loudspeaker  
output
- Supply voltage 24V
- Power consumption 10 to 15W /VA/



#### 1.4. Description of Operation


The electric circuit of the equipment is shown in the block diagram /Appendix No.1 - IT-78/3906-4/.

The radiostations in both versions 50W and 100W differ from each other in design of the transmitter panel NR 2611-4/50W or NR 2611-4/100W.

The operating principle and main electrical values are given in block diagram /Enclosure 2/.

The power stage is shown in two versions: 100W and 50W for two designs of the transmitter NR 2611-4/100W and NR 2611-4/50W respectively.

Figures given in  designate positions of S7 measurement switch, whereas figures in  designate h.f. voltage values.

In the 100W power stage the power values inscribed in the upper rectangle  are achieved at mains supply, whilst the values in the lower rectangle - at battery supply 24V.



#### 1.4.1. M342 L.F. Amplifier

The amplifier unit incorporates :

##### 1. L.f. amplifier

##### 2. Alarm generator

The aim of the l.f. amplifier is to form a low frequency signal through a band compression and filtration.

The l.f. signal arising from a carbon microphone is fed through an adjustable resistive attenuator /R15/ and follower /Y2/ to the amplitude compression circuit.

This circuit is assembled on a FET transistor /Y3/ which acts as a currentless attenuator controlled with voltage from a feed-back loop /Y7/. Afterwards, a signal of constant amplitude is amplified /Y4 and Y5/ and is fed - via follower /Y6/ - to the filter composed of two parts: high-pass /L1/ and low-pass /L2, L3/, which determine an audio band of the transmitter.

The aim of the alarm generator is to generate an alarm key radiotelephone signal.

Two generators 1300Hz /Y13/ and 2200Hz /Y16/ are keyed with a speed determined by operation of multivibrators /Y14, Y15/.

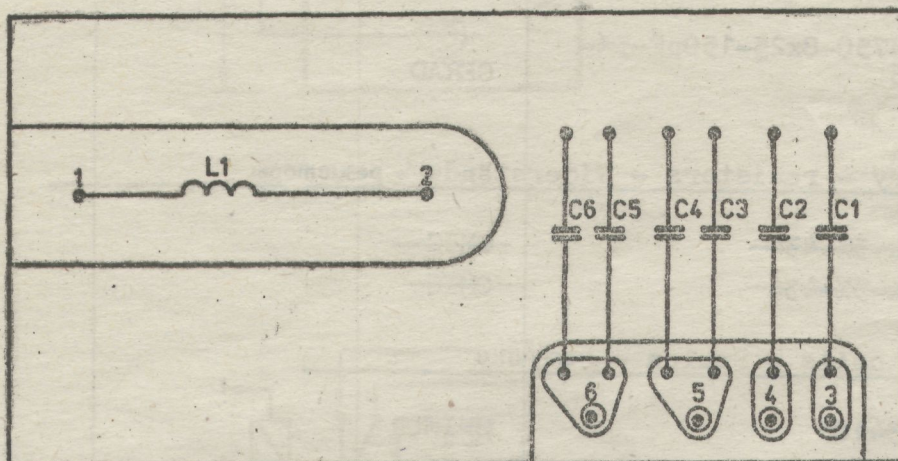
An appropriate time of alarm signal generation and time intervals are established by operation of a trigger.

Both output signals of the M342 unit are fed to the audio input of the M426 unit through S1 switch.

The alarm generator is switched on in ALARM position only whereas, the audio path is at that time inoperative.

During operation of the alarm generator the K1 relay of low frequency unit takes over a function of the microphone push-button, controlling the K4 relay /SHP-2611-4/ which controls the transmitter operation and interlocks the receiver when transmitting an alarm signal /contacts 8-9 of K4 relay opened/. During a break in transmitting alarm signals the receiver is unlocked /contacts 8-9 of K4 relay-closed/ and listening with the receiver is possible to be carried out.

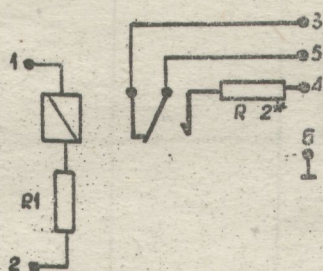
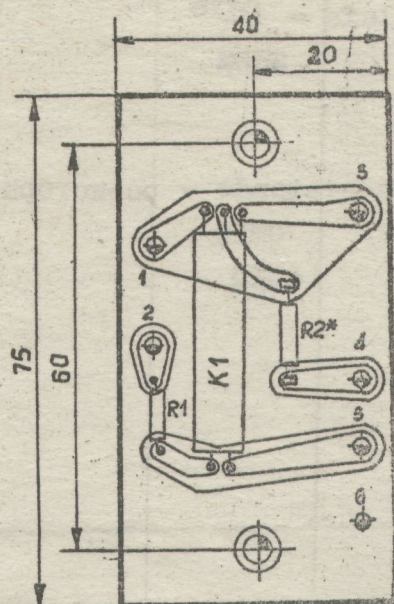






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Symbol Symbol Zeichen Символ	Oznaczenie Description Bezeichnung Обозначение	Producent Manufacturer Hersteller Продуцент	Indeks Index Index Указатель	UNIMOR UNIMOR UNIMOR UNIMOR	Uwagi Remarks Bemerkungen Примечания
<u>Kondensatory - capacitors - Kondensatoren - конденсаторы</u>					
C1	KCR-IB-N750-8x25-120pF-5%-1000V-656	CERAD			
C2	KCR-IB-N750-8x25-150pF-5%-1600V-656	CERAD			
C3	KCR-IB-N750-8x25-100pF-5%-1600V-656	CERAD			
C4	KCR-IB-N750-8x25-100pF-5%-1600V-656	CERAD			
C5	KCR-IB-N750-8x25-120pF-5%-1600V-656	CERAD			
C6	KCR-IB-N750-8x25-150pF-5%-500V-656	CERAD			
<u>Rezystory - resistors - Widerstände - резисторы</u>					
<del>R1</del>	<del>MLT-2-2k-5%-434</del>	<del>OMIG</del>			
<del>R2</del>	<del>MLT-2-2k-5%-434</del>	<del>OMIG</del>			
<u>Cewki - coils - Spulen - катушки</u>					
L1	2611 - 3410	UNIMOR			

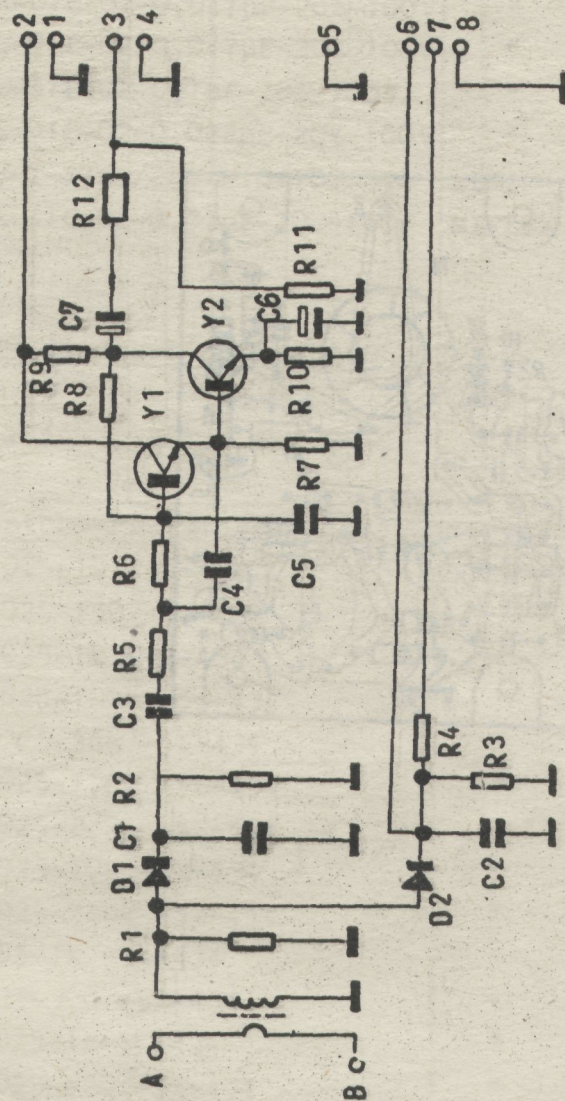




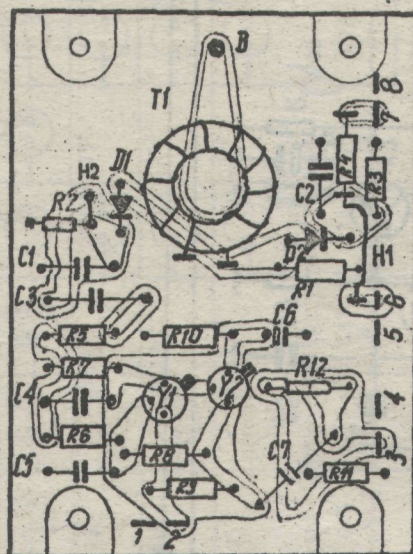


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K1	Przekaźniki - relays - Relais - реле SHX1RT-12V	SEEM			
R1	Rezystory - resistors - Widerstände - резисторы MLT-0,25W-750Ω -5%-434	OMIG			
R2	MLT-0,25W-7,5kΩ -5%-434	OMIG			





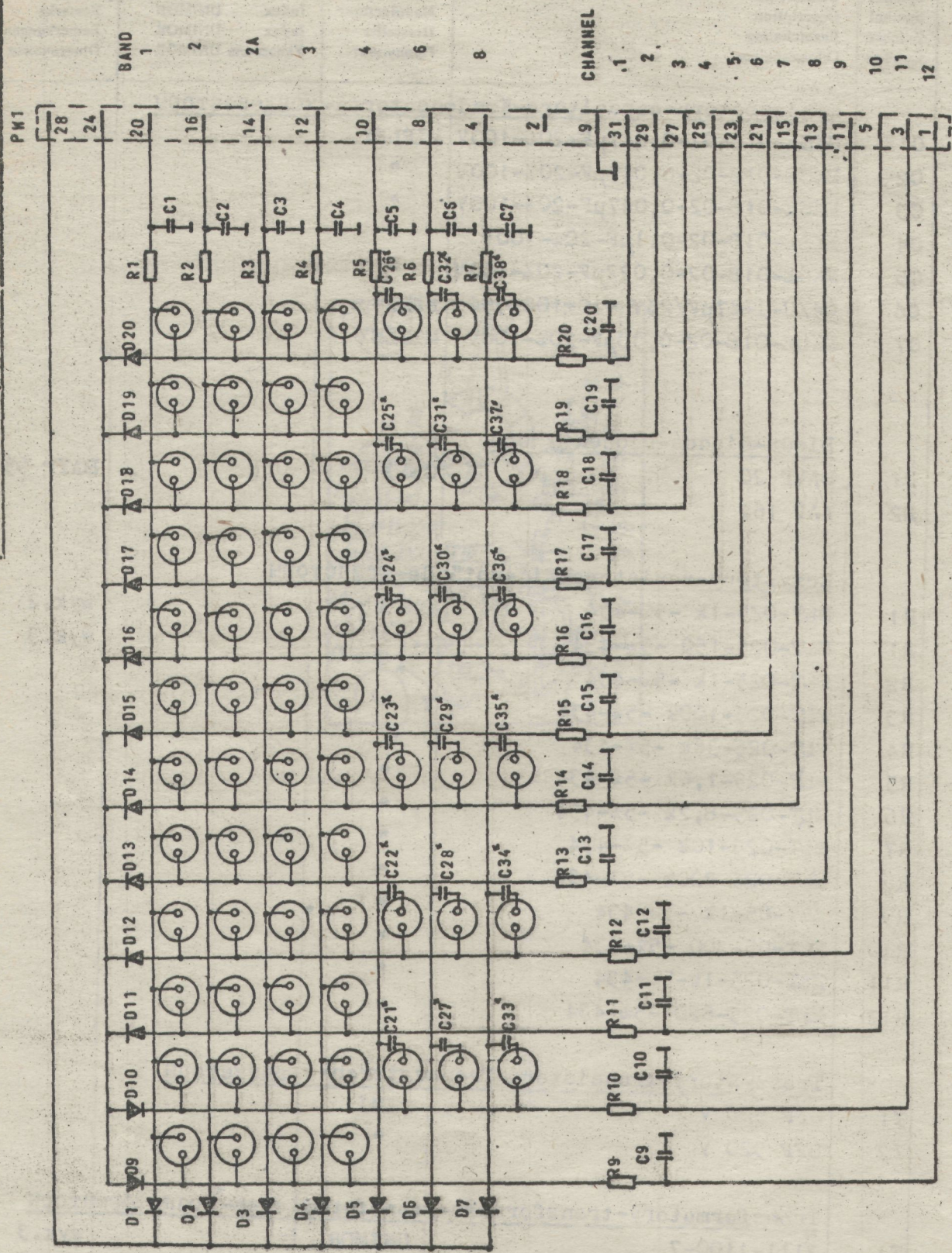






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Symbol Symbol Zeichen Символ	Oznaczenie Description Bezeichnung Обозначение	Producent Manufacturer Hersteller Продуцент	Indeks Index Index Указатель	UNIMOR UNIMOR UNIMOR UNIMOR	Uwagi Remarks Bemerkungen Примечания		
<u>Kondensatory-capacitors-Kondensatoren-КОНДЕНСАТОРЫ</u>							
C1	MKSE-018-02-0,047µF-20%-100V	MIFLEX					
C2	MKSE-018-02-0,047µF-20%-100V	"					
C3	MKSE-018-02-0,047µF-20%-100V	"					
C4	MKSE-018-02-0,1µF-20%-100V	"					
C5	MKSE-018-02-0,022µF-20%-100V	"					
C6	04/U-I-47µF/25V -10+100%554	ELWA					
C7	MKSE-018-02-0,33µF-20%-100V	MIFLEX					
<u>Diody-diodes-Dioden-ДИОДЫ</u>							
D1	BAVP 20	CEMI			BAYP 95		
D2	AAP 161	"					
<u>Rezystory-resistors-Widerstände-РЕЗИСТОРЫ</u>							
R1	MLT-025-1k -5%-434	OMIG			wyk.2		
R1	MLT-025-150 -5%-434	"			wyk.3		
R2	MLT-025-1k -5%-434	"					
R3	MLT-025-100k -5%-434	"					
R4	MLT-025-36k -5%-434	"					
R5	MLT-025-1,6k -5%-434	"					
R6	MLT-025-8,2k -5%-434	"					
R7	MLT-025-10k -5%-434	"					
R8	MLT-025-220k -5%-434	"					
R9	MLT-025-1k -5%-434	"					
R10	MLT-025-300 -5%-434	"					
R11	MLT-025-1k-5%-434	"					
R12	MLT-025-620 -5%-434	"					
<u>Tranzystory-transistors-Transistoren-ТРАНЗИСТОРЫ</u>							
Y1	BFP 520 V	CEMI					
Y2	BFP 520 V	"					
<u>Transformatory-transformers-Transformatoren-ТРАНСФОРМАТОРЫ</u>							
T1	2111-1100-7	UNIMOR			wyk.3		
T1	2111-1100-11	"			wyk.2		





M420



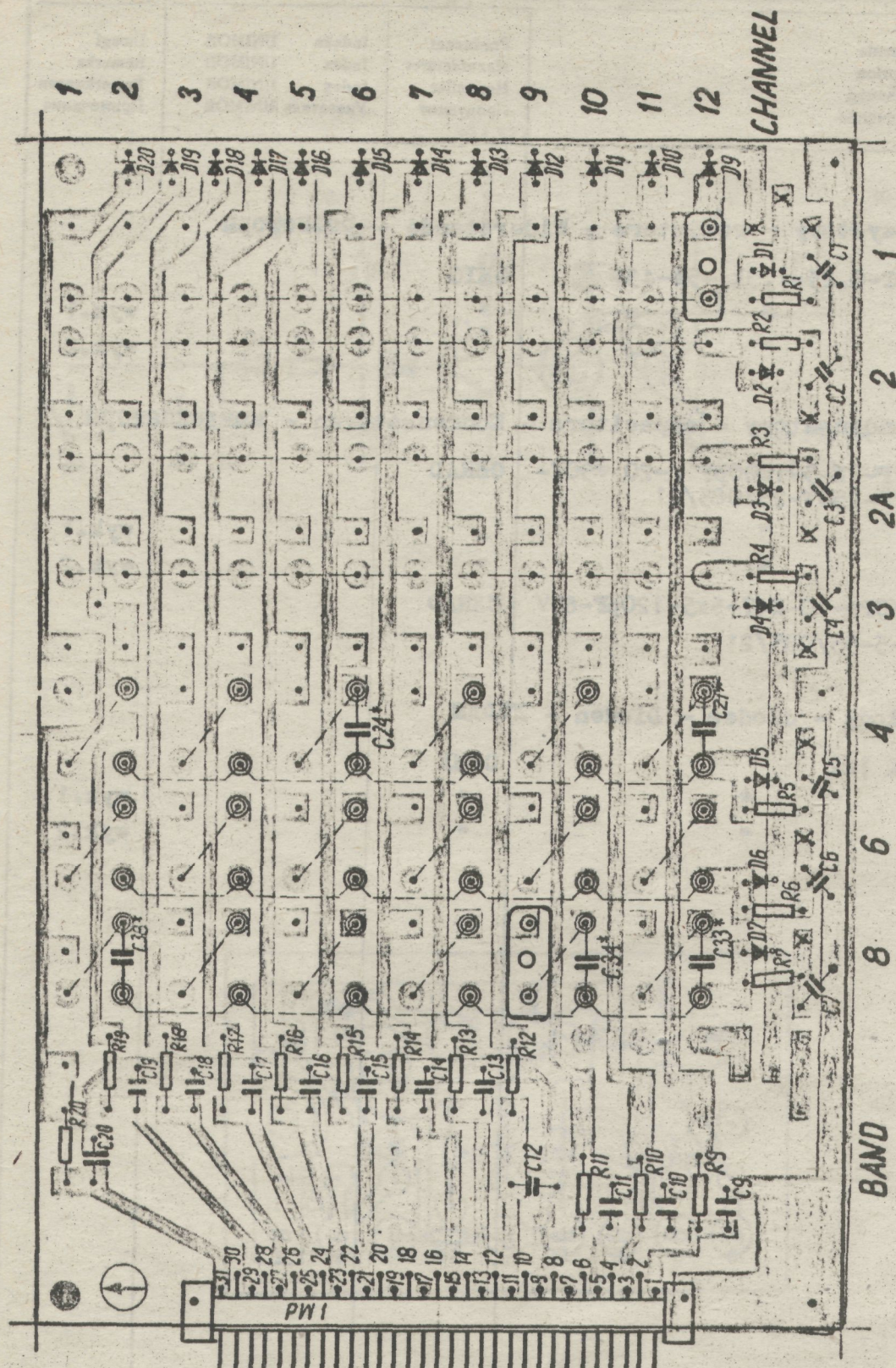
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Symbol Symbol Zeichen Символ	Opiszenie Description Bezeichnung Обозначение	Producent Manufacturer Hersteller Продуцент	Indeks Index Index Указатель	UNIMOR UNIMOR UNIMOR UNIMOR	Uwagi Remarks Bemerkungen Примечания		
	Rezystory - resistors - Widerstande - резисторы						
R1-R7	M&T-O, 25-1, 3k -5%-434	OMIG					
R9-R20	"	"				wyk.1	
R10-R20	"	"				wyk.2	
	Kondensatory - capacitors - Kondensatoren - конденсаторы						
C1-C7	KFP-2E-5-1000pF /-20 +50/- -250V-25/085/21	CERAD					
C9-C20	"	"				wyk.1	
C10-C20	"	"				wyk.2	
C21-C38	KCPm-1B-N47-5x5-120pF-63V -5-55/085/21	CERAD					
	Diody - diodes - Dioden - диоды						
D1-D7	BA 182	CEMI					
D9-D20	"	"				wyk.1	
D10-D20	"	"				wyk.2	

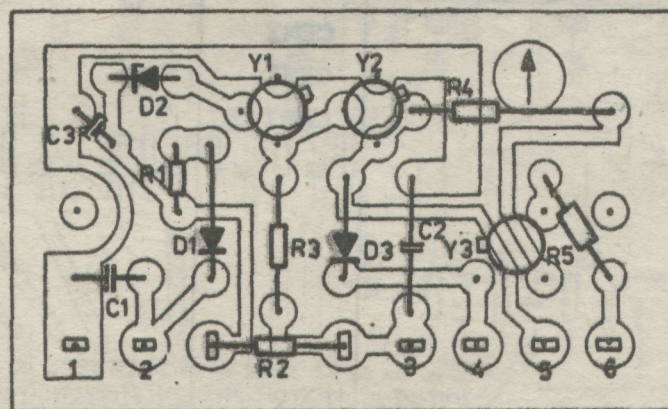
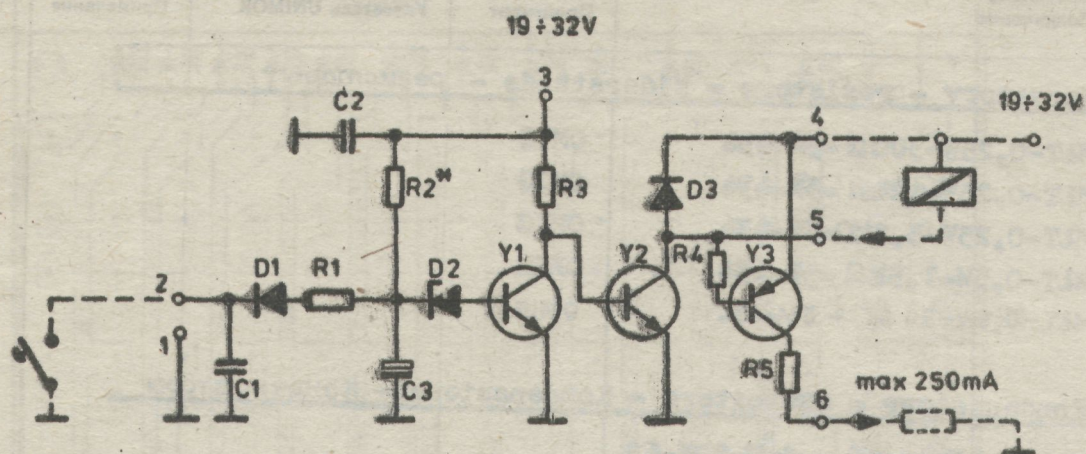


## Controls and Selected Elements of the M342 Unit.

TABLE 1.

Designation of Element	F u n c t i o n	Selection Criterion
R39	Adjustment of microphone path output level	75 mV at output /p.12/at input signal /p.6/above limitation threshold abt.400 mV
R15	Adjustment of input level from microphone level	Achieve transmitter control with a considerable exceeding of threshold at a full volume during transmission with a reduced power
R22	Adjustment of compression range	Obtaining of compression range: +10dB/2,5 dBm, -20dB/-6,0dB adopting the input signal/p.8/abt 400mV as a reference level
R46	Setting of alarm generator type interval	45 secs $\pm$ 5 secs
R50	Setting of alarm generator operating time	45 secs $\pm$ 5 secs
R57	Setting of 2200 Hz tone duration	250 msec $\pm$ 20 msec
R59	Setting of 1300 Hz tone duration	250 msec $\pm$ 20 msec
L5	Setting of frequency of tone 1300 Hz	1300 Hz $\pm$ 2 Hz
L6	Setting of frequency of tone 2200 Hz	2200 Hz $\pm$ 2 Hz
R68	Adjustment of amplitude ratio	Achieve equal amplitudes of both tones
R69	Adjustment of output level	50 mV, p.18

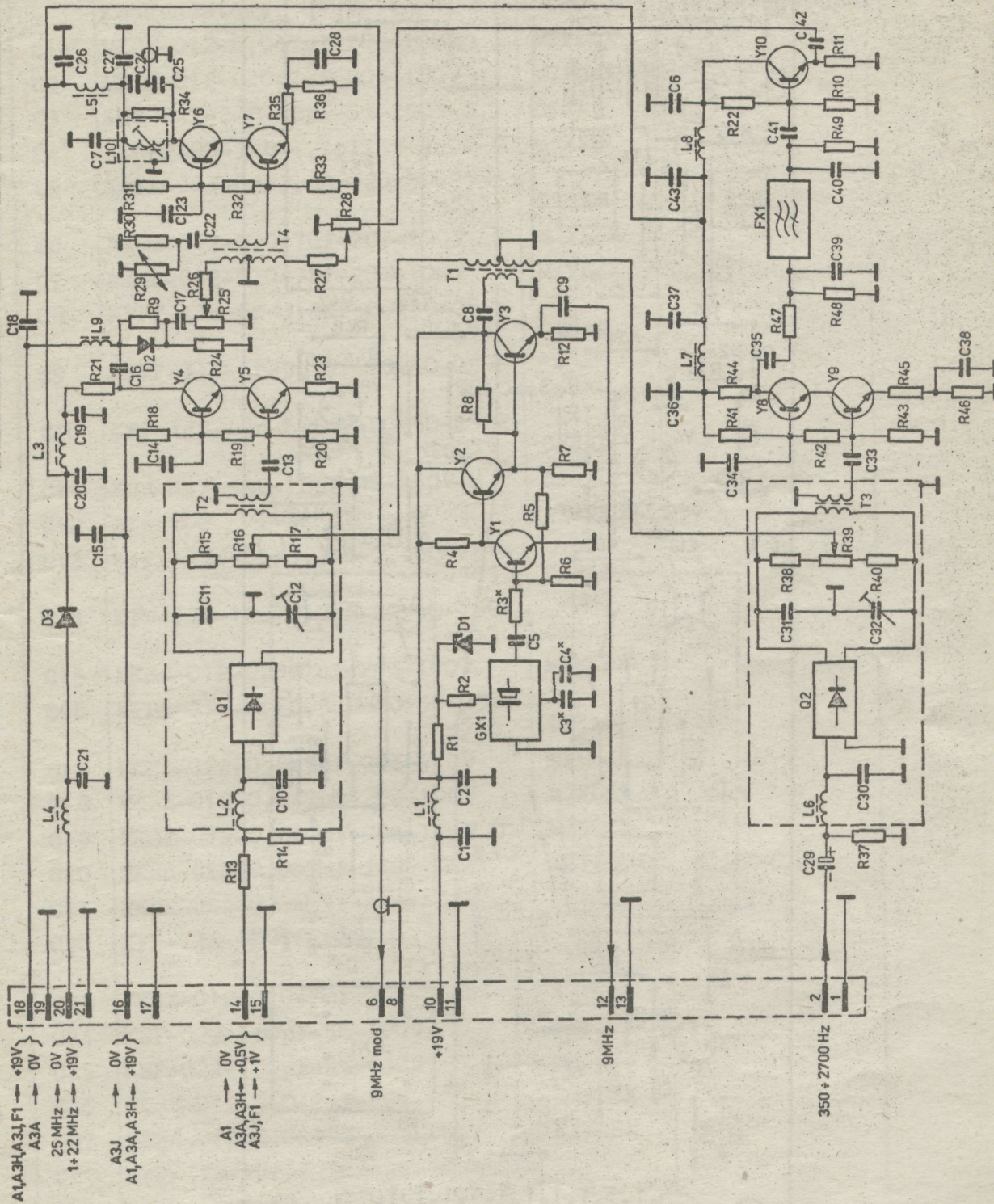




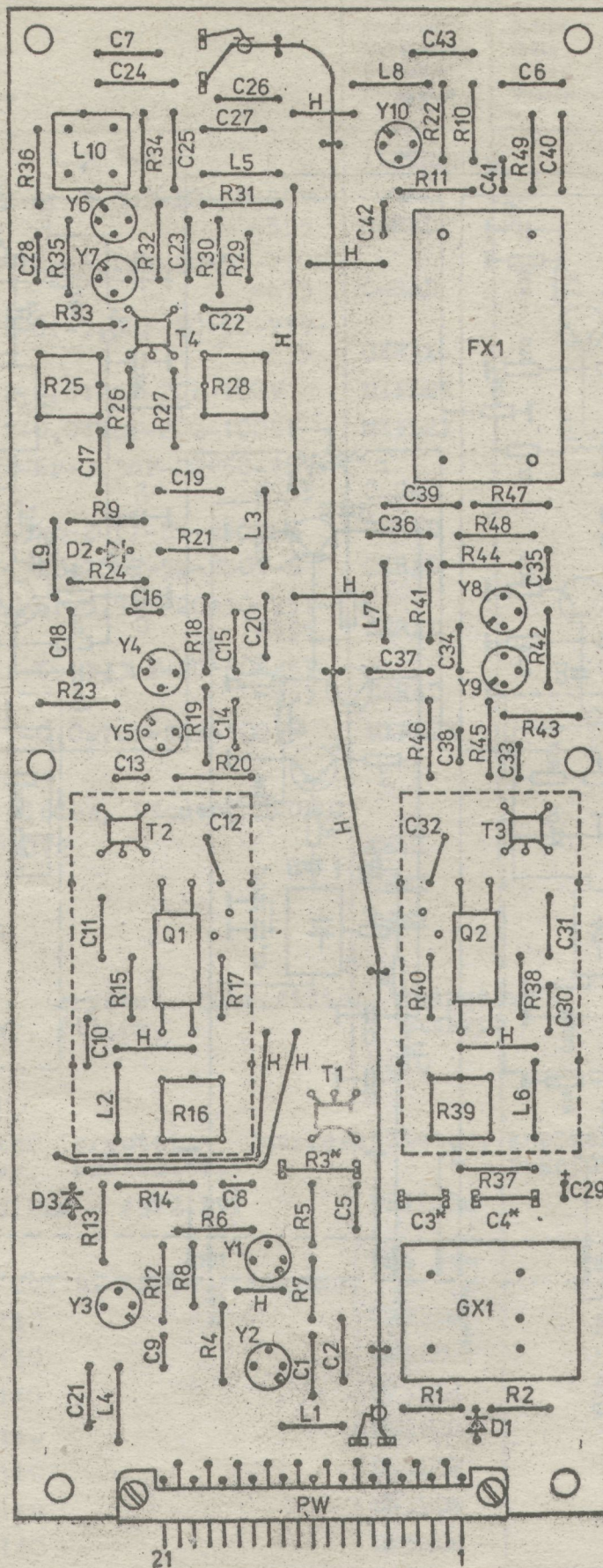


Symbol Symbol Zeichen Символ	Oznaczenie Description Bezeichnung Обозначение	Producent Manufacturer Hersteller Продуцент	Indeks Index Index Указатель	UNIMOR UNIMOR UNIMOR UNIMOR	Uwagi Remarks Bemerkungen Примечания
<u>Rezystory - resistors - Widerstände - резисторы</u>					
R1	MŁT-0,25W-300Ω -5%-434	OMIG			
R2 <sup>x</sup>	MŁT-0,25W-12kΩ -5%-434	OMIG			
R3	MŁT-0,25W-5,1kΩ -5%-434	OMIG			
R4	MŁT-0,5W-1,5kΩ -5%-434	OMIG			
R5	MŁT-0,5W-30Ω -5%-434	OMIG			
<u>Kondensatory - capacitors - Kondensatoren - Конденсаторы</u>					
C1	KFPm - 2C-10x10 - 1pF-20%-63 -455	CERAD			
C2	MKSE-018-01-0,047pF-20%-250V	MIFLEX			
C3	196D-10pF-25V- ± 20%	ELWA			
<u>Diody - diodes - Dioden - Дiodы</u>					
D1	BYP - 401 - 50	CEMI			
D2	BZP 630 C12	CEMI			
D3	BYP-401-50	CEMI			
<u>Tranzystory - transistors - Transistoren - транзисторы</u>					
Y1	BFP 520V	CEMI			
Y2	BFP 520V	CEMI			
Y3	BC 919	CEMI			









M426



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Symbol Symbol Zeichen Символ	Oznaczenie Description Bezeichnung Обозначение	Producent Manufacturer Hersteller Продуцент	Indeks Index Index Указатель	UNIMOR UNIMOR UNIMOR UNIMOR	Uwagi Remarks Bemerkungen Примечания		
	Kondensatory, capacitors, Kondensatoren, конденсаторы						
C1	MKSE-012-0,047uF-20%-100V	MIFLEX					
C2	MKSE-012-0,047uF-20%-100V	MIFLEX					
C3 <sup>x</sup>	KCR-N47-3x8-18pF-5%-250V-S	CERAD					
C4 <sup>x</sup>	KCR-P100-3x8-4,7pF-5%-250V-S	CERAD					
C5	KFPf-IIE-6r-3,3nF-20+50-25V- -555	CERAD					
C6	MKSE-012-0,047uF-20%-100V	MIFLEX					
C7	MKSE-012-0,047uF-20%-100V	MIFLEX					
C8	KFPf-IIE-6r-3,3nF-20+50-25V- -555	CERAD					
C9	KFPf-IIE-6r-3,3nF-20+50-25V- -555	CERAD					
C10	KFP-IIE-12r-6,8nF-20+50-250V- -655	CERAD					
C11	KCR-N47-3x8-18pF-5%-250V-S	CERAD					
C12	AT-4802 1-20 pF	AIRTRONIC					
C13	KFPf-IIE-6r-3,3nF-20+50-25V- -555	CERAD					
C14	KFP-IIE-12r-6,8nF-20+50-250V- -655	CERAD					
C15	MKSE-012-0,047uF-20%-100V	MIFLEX					
C16	KFPf-IIE-6r-3,3nF-20+50-25V- -555	CERAD					
C17	MKSE-012-0,047uF-20%-100V	MIFLEX					
C18	MKSE-012-0,047uF-20%-100V	MIFLEX					
C19	MKSE-012-0,047uF-20%-100V	MIFLEX					
C20	MKSE-012-0,047uF-20%-100V	MIFLEX					
C21	MKSE-012-0,047uF-20%-100V	MIFLEX					
C22	KFP-IIE-12r-6,8nF-20+50-250V- -655	CERAD					
C23	MKSE-012-0,047uF-20%-100V	MIFLEX					
C24	KSF-022-680pF-5%-100V	MIFLEX					
C25	KSF-022-150pF-5%-630V	MIFLEX					
C26	MKSE-012-0,047uF-20%-100V	MIFLEX					
C27	MKSE-012-0,047uF-20%-100V	MIFLEX					
C28	KFP-IIE-12r-6,8nF-20+50-250V- -655	CERAD					
C29	O4/U-3,3uF-10+100%-25V-554	ELWA					
C30	KFP-IIE-12r-6,8nF-20+50-250V- -655	CERAD					
C31	KCR-N47-3x8-18pF-5%-250V-S	CERAD					



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Symbol Symbol Zeichen Символ	Oznaczenie Description Bezeichnung Обозначение	Producent Manufacturer Hersteller Продуцент	Indeks Index Index Указатель	UNIMOR UNIMOR UNIMOR UNIMOR	Uwagi Remarks Bemerkungen Примечания		
C32	AT-4802 1-20 pF	AIRTRONIC					
C33	KFPf-IIE-6r-3, 3nF-20+50-25V- -555	CERAD					
C34	KFP-IIE-12r-6, 8nF-20+50-250V- -655	CERAD					
C35	KFPf-IIE-6r-3, 3nF-20+50-25V- -555	CERAD					
C36	MKSE-012-0,047uF-20%-100V	MIFLEX					
C37	MKSE-012-0,047uF-20%-100V	MIFLEX					
C38	KFPf-IIE-6r-3, 3nF-20+50-25V- -555	CERAD					
C39	KCR-N47-3x8-20pF-5%-250V-S	CERAD					
C40	KCR-N47-3x8-20pF-5%-250V-S	CERAD					
C41	KFPf-IIE-6r-3, 3nF-20+50-25V- -555	CERAD					
C42	KFPf-IIE-6r-3, 3nF-20+50-25V- -555	CERAD					
C43	MKSE-012-0,047uF-20%-100V	MIFLEX					
	Diody, Diodes, Dioden, ДИОДЫ:						
D1	BZF 630-C12	CEMI					
D2	BA 182	CEMI					
D3	BA 182	CEMI					
	Filtr crystal Quarzfilter, кварцевый kwarcowy, filter, ФИЛЬТР:						
FX1	9 MLS	TOYO					
	Generator crystal Quarzoszillator, кварцевый kwarcowy, oscilator, генератор:						
GX1	TCXO 9 MHz 4322.191	PHILIPS					
	Cewki, coils, Spulen, катушки:						
L1	2843-1140	UNIMOR					
L2	2843-1140	UNIMOR					
L3	2843-1140	UNIMOR					
L4	2843-1140	UNIMOR					
L5	2843-1140	UNIMOR					
L6	2843-1140	UNIMOR					
L7	2843-1140	UNIMOR					
L8	2843-1140	UNIMOR					

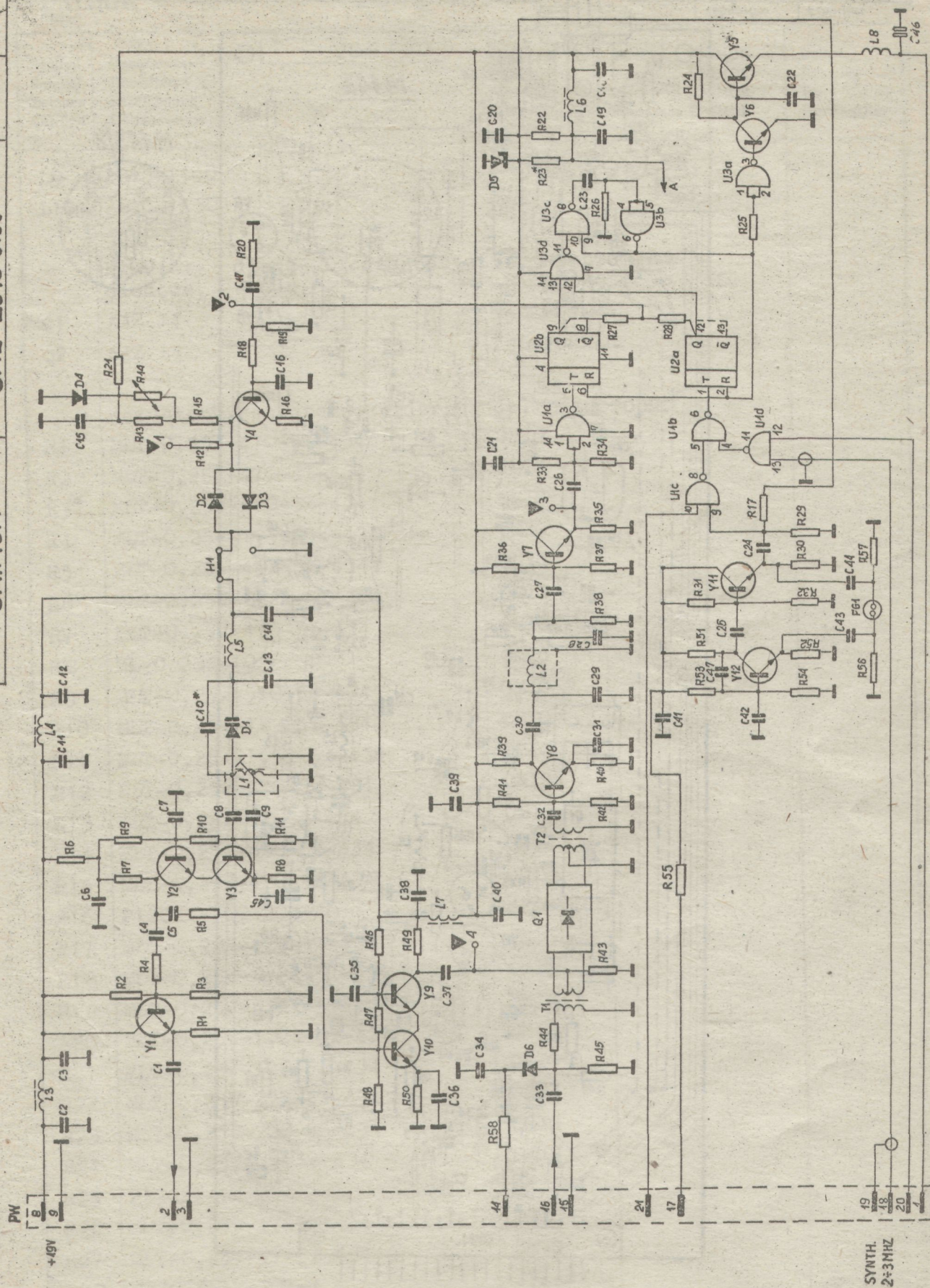


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Symbol Symbol Zeichen Символ	Oznaczenie Description Bezeichnung Обозначение	Producent Manufacturer Hersteller Продуцент	Indeks Index Index Указатель	UNIMOR UNIMOR UNIMOR UNIMOR	Uwagi Remarks Bemerkungen Примечания		
L9	2843-1140	UNIMOR					
L10	2843-1130-2	UNIMOR					
	Kwartety diode Diodenquartette, КВАРТЕТЫ diodowe, quads, ДИОДОВ:						
Q1	AAZ 14	TELEFUNKEN					
Q2	AAZ 14	TELEFUNKEN					
	Rezystory, resistors, Widerstände, резисторы:						
R1	MLT-0,25W-470-5%-434	OMIG					
R2	MLT-0,25W-470-5%-434	OMIG					
R3 <sup>x</sup>	MLT-0,25W-680-5%-434	OMIG					
R4	MLT-0,25W-1,5k-5%-434	OMIG					
R5	MLT-0,25W-43k-5%-434	OMIG					
R6	MLT-0,25W-8,2k-5%-434	OMIG					
R7	MLT-0,25W-470-5%-434	OMIG					
R8	ML-0,25W-10	OMIG					
R9	MLT-0,25W-510-5%-434	OMIG					
R10	MLT-0,25W-18k-5%-434	OMIG					
R11	MLT-0,25W-1,5k-5%-434	OMIG					
R12	MLT-0,25W-470-5%-434	OMIG					
R13	MLT-0,25W-1k-5%-434	OMIG					
R14	MLT-0,25W-680-5%-434	OMIG					
R15	MLT-0,25W-470-5%-434	OMIG					
R16	P12CXY-100-20%-A	SFERNICE					
R17	MLT-0,25W-470-5%-434	OMIG					
R18	MLT-0,25W-8,2k-5%-434	OMIG					
R19	MLT-0,25W-5,6k-5%-434	OMIG					
R20	MLT-0,25W-1,2k-5%-434	OMIG					
R21	MLT-0,25W-120-5%-434	OMIG					
R22	MLT-0,25W-22k-5%-434	OMIG					
R23	MLT-0,25W-220-5%-434	OMIG					
R24	MLT-C, 25W-3k-5%-434	OMIG					
R25	P12CXY-1k-20%-A	SFERNICE					
R26	MLT-0,25W-47-5%-434	OMIG					
R27	MLT-0,25W-47-5%-434	OMIG					
R28	P12CXY-1k-20%-A	SFERNICE					
R29	NTC-110-470	CEMI					
R30	MLT-0,25W-330-5%-434	OMIG					

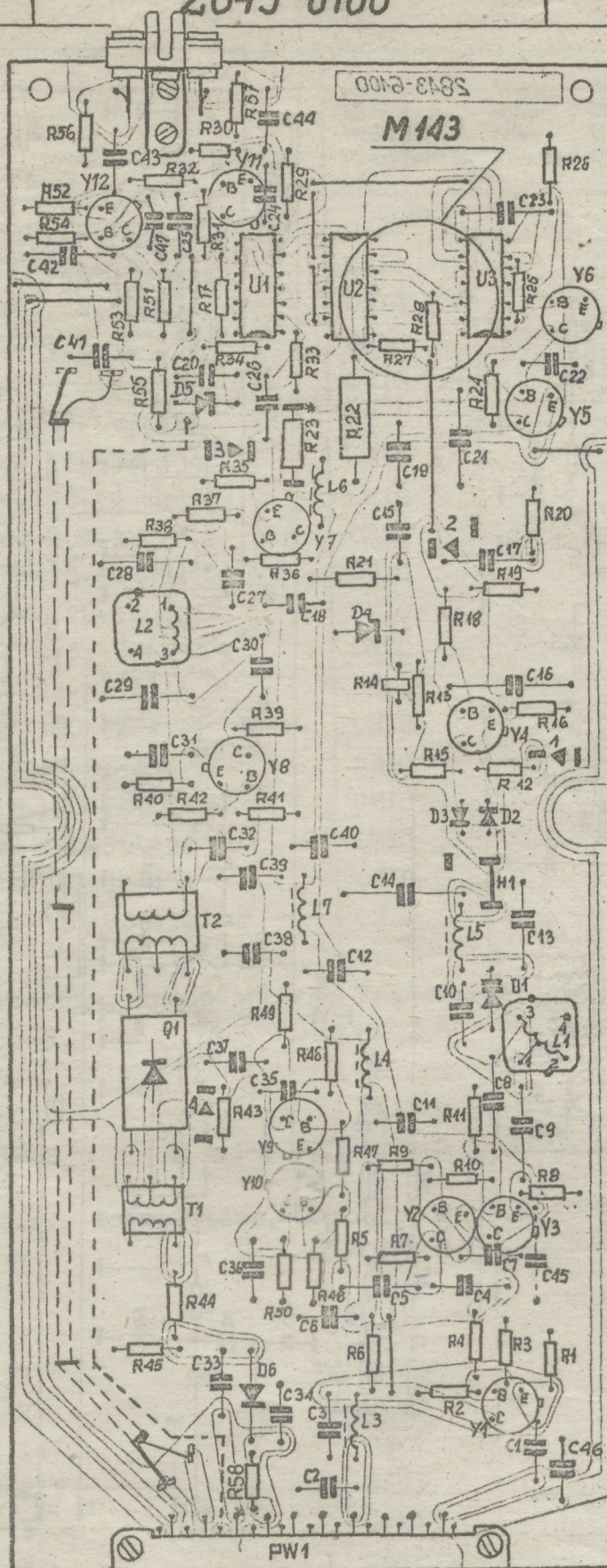


Symbol Symbol Zeichen Символ	Oznaczenie Description Bezeichnung Обозначение	Producent Manufacturer Hersteller Продуцент	Indeks Index Index Указатель	UNIMOR UNIMOR UNIMOR UNIMOR	Uwagi Remarks Bemerkungen Примечания
R31	MLT-O, 25W-8, 2k-5%-434	OMIG			
R32	MLT-O, 25W-6, 2k-5%-434	OMIG			
R33	MLT-O, 25W-1, 6k-5%-434	OMIG			
R34	MLT-O, 25W-4, 7k-5%-434	OMIG			
R35	ML-O, 25W-10	OMIG			
R36	MLT-O, 25W-240-5%-434	OMIG			
R37	MLT-O, 25W-1, 6k-5%-434	OMIG			
R38	MLT-O, 25W-470-5%-434	OMIG			
R39	P12CXY-100-20%-A	OMIG			
R40	MLT-O, 25W-470-5%-434	OMIG			
R41	MLT-O, 25W-8, 2k-5%-434	OMIG			
R42	MLT-O, 25W-5, 6k-5%-434	OMIG			
R43	MLT-O, 25W-2k-5%-434	OMIG			
R44	MLT-O, 25W-560-5%-434	OMIG			
R45	MLT-O, 25W-47-5%-434	OMIG			
R46	MLT-O, 25W-100-5%-434	OMIG			
R47	MLT-O, 25W-470-5%-434	OMIG			
R48	MLT-O, 25W-910-5%-434	OMIG			
R49	MLT-O, 25W-510-5%-434	OMIG			
	Transformatory, transformers, Transformatoren, трансформаторы:				
T1	2843-1150-3	UNIMOR			
T2	2843-1150-1	UNIMOR			
T3	2843-1150-1	UNIMOR			
T4	2843-1150-2	UNIMOR			
	Tranzystory, transistors, Transistoren, транзисторы:				
Y1	BFP 520 V	CEMI			
Y2	BFP 520 V	CEMI			
Y3	BFP 520 V	CEMI			
Y4	BFP 520 V	CEMI			
Y5	BFP 520 V	CEMI			
Y6	BFP 520 III	CEMI			
Y7	BFP 520 III	CEMI			
Y8	BFP 520 V	CEMI			
Y9	BFP 520 V	CEMI			
Y10	BFP 520 V	CEMI			

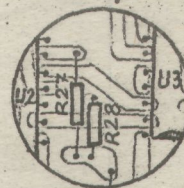








M143/2



M143



1.4.2. M426 SSB Generator

The aim of the unit is :

- to generate a high-stability 9 MHz signal/GX1-TCX0/ which is a main reference signal for the entire exciter frequency synthesis path
- to form a single side-band signal using a Q2 toroidal modulator and a LSB crystal filter
- to form a 9MHz carrier wave for A1, A3A, A3H, emissions /by unbalancing the Q toroidal modulator with a direct voltage.
- to form particular types of emissions on 9 MHz frequency by adding a suitably suppressed wave carrier.

The function of an adder is fulfilled by a T4 transformer.

TABLE 2.

## Controls and Selected Elements

Element designation	F u n c t i o n s	Selection criterion
C3/C4	Trimming of TCX0 generator	$f = 9.000.000\text{Hz} \pm 2\text{Hz}$ at $C3+C4 \leq 60 \text{ pF}$ /measurement in p.12/
R3	Setting of reference generator output level	0,9-1V on both symmetrical tags T1 at $R3 \geq 5600\text{ohms}$
R16/C12 R39/C32	Balancing of toroidal modulators	Maximum attenuation of 9 MHz carrier wave at A3J emissions/measurement in p.6/.
R25	Adjustment of carrier wave level	150 mV at A1 emissions /measurement in p.6/
R27	Adjustment of single side-band	150 mV at A3J emissions and at full compression of modulating signal /measurement in p.6/



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	Kondensatory, Capacitors, Kondensatoren, Конденсаторы						
C1	MKSE-012-0,047uF-20%-100V	MIFLEX					
C2	MKSE-012-0,047uF-20%-100V	MIFLEX					
C3	MKSE-012-0,047uF-20%-100V	MIFLEX					
C4	KSO-1-250V-G-100pF-5%	MIFLEX					
C5	KSO-1-250V-G-100pF-5%	MIFLEX					
C6	MKSE-012-0,047uF-20%-100V	MIFLEX					
C7	MKSE-012-0,047uF-20%-100V	MIFLEX					
C8	KSO-1-250V-G-510pF-5%	MIFLEX					1/
C9	KSO-1-250V-G-120pF-5%	MIFLEX					1/
C10	KCR-N750-3x8-39-5-160-3	CERAD					1/
C11	MKSE-012-0,047uF-20%-100V	MIFLEX					
C12	MKSE-012-0,047uF-20%-100V	MIFLEX					
C13	KSO-1-250V-G-200pF-5%	MIFLEX					1/
C14	KSO-2-500V-G-1000pF-5%	MIFLEX					
C15	MKSE-012-0,047uF-20%-100V	MIFLEX					
C16	KSO-2-500V-G-1000pF-5%	MIFLEX					
C17	KSO-1-250V-G-160pF-5%	MIFLEX					
C18	MKSE-012-0,047uF-20%-100V	MIFLEX					
C19	MKSE-012-0,047uF-20%-100V	MIFLEX					
C20	MKSE-012-0,047uF-20%-100V	MIFLEX					
C21	MKSE-012-1uF-20%-100V	MIFLEX					
C22	MKSE-012-0,047uF-20%-100V	MIFLEX					
C23	KSO-1-250V-G-100pF-5%	MIFLEX					
C24	MKSE-012-0,047uF-20%-100V	MIFLEX					
C25	KSO-1-250V-W-82pF-5%	MIFLEX					
C26	MKSE-012-0,047uF-20%-100V	MIFLEX					
C27	MKSE-012-0,047uF-20%-100V	MIFLEX					
C28	KSO-1-250V-G-110pF-5%	MIFLEX					
C29	KSO-1-250V-W-51pF-5%	MIFLEX					
C30	MKSE-012-0,047uF-20%-100V	MIFLEX					
C31	MKSE-012-0,1uF-20%-100V	MIFLEX					
C32	MKSE-012-0,047uF-20%-100V	MIFLEX					
C33	MKSE-012-0,047uF-20%-100V	MIFLEX					
C34	MKSE-012-0,047uF-20%-100V	MIFLEX					
C35	MKSE-012-0,01uF-20%-100V	MIFLEX					1/
C36	MKSE-012-0,01uF-20%-100V	MIFLEX					1/
C37	MKSE-012-0,047uF-20%-100V	MIFLEX					1/



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Symbol Symbol Zeichen Символ	Oznaczenie Description Bezeichnung Обозначение	Producent Manufacturer Hersteller Продукт	Indeks Index Index Указатель	UNIMOR UNIMOR UNIMOR UNIMOR	Uwagi Remarks Bemerkungen Примечания		
C38	MKSE-012-0,047uF-20%-100V	MIFLEX			1/		
C39	MKSE-012-0,047uF-20%-100V	MIFLEX					
C40	MKSE-012-0,047uF-20%-100V	MIFLEX					
C41	MKSE-012-0,047uF-20%-100V	MIFLEX					
C42	KSO-1-250V-G-750pF-5%-	MIFLEX					
C43	MKSE-012-0,047uF-20%-100V	MIFLEX					
C44	MKSE-012-0,047uF-20%-100V	MIFLEX					
C45	KSO-1-250V-W-51pF-5%	MIFLEX					
C46	MKSE-012-0,047uF-20%-100V	MIFLEX					
C47	KCR-N47-3x8-33-5-160-S	CERAD					
Diody, Diodes, Dioden, ДИОДЫ:							
D1	ZC826	FERRANTI					
D2	BA182	COSEM					
D3	BA182	COSEM					
D4	BZP630-C12	CEMI					
D5	BZP611-C5V1	CEMI					
D6	AAF161	CEMI					
Cewki, Coils, Spulen, Катушки:					1/		
L1	2843-1130-6	UNIMOR					
L2	2843-1130-5	UNIMOR					
L3	2843-1140	UNIMOR					
L4	2843-1140	UNIMOR					
L5	2843-1140	UNIMOR					
L6	2843-1140	UNIMOR					
L7	2843-1140	UNIMOR					
L8	2843-1140	UNIMOR					
Kwartet diodowy, Diode quads, Diodenquartette, Квартет диодов:							
Q1	AAZ14	TELEFUNKEN					
Rezystory, Resistors, Widerstände, Резисторы:					1/		
R1	MET-0,25W-510-5%-434	OMIG					
R2	MET-0,25W-9,1k-5%-434	OMIG					
R3	MET-0,25W-10k-5%-434	OMIG					
R4	MET-0,25W-100-5%-434	OMIG					
R5	MET-0,25W-680-5%-434	OMIG					



Symbol Symbol Zeichen Символ	Oznaczenie Description Bezeichnung Обозначение	Producent Manufacturer Hersteller Продуцент	Indeks Index Index Указатель	UNIMOR UNIMOR UNIMOR UNIMOR	Uwagi Remarks Bemerkungen Примечания
R6	MET-O, 25W-820-5%-434	OMIG			1/
R7	MET-O, 25W-510-5%-434	OMIG			1/
R8	MET-O, 25W-390-5%-434	OMIG			
R9	MET-O, 25W-9, 1k-5%-434	OMIG			
R10	MET-O, 25W-10k-5%-434	OMIG			
R11	MET-O, 25W-4, 3k-5%-434	OMIG			
R12	MET-O, 25W-10k-5%-434	OMIG			
R13	MET-O, 25W-390-5%-434	OMIG			
R14	NTC-110-470-20%	CEMI			
R15	MET-O, 25W-2k-5%-434	OMIG			
R16	MET-O, 25W-200-5%-434	OMIG			
R17	MET-O, 25W-3, 9k-5%-434	OMIG			
R18	MET-O, 25W-330-5%-434	OMIG			
R19	MET-O, 25W-5, 1k-5%-434	OMIG			
R20	MET-O, 25W-75-5%-434	OMIG			
R21	MET-O, 25W-620-5%-434	OMIG			
R22	MET-2W-240-5%-434	OMIG			
R23*	MET-O, 5W-2k-5%-434	OMIG			
R24	MET-O, 25W-2k-5%-434	OMIG			
R25	MET-O, 25W-1k-5%-434	OMIG			
R26	MET-O, 25W-470-5%-434	OMIG			
R27	MET-O, 25W-3k-5%-434	OMIG			
R28	MET-O, 25W-3k-5%-434	OMIG			
R29	MET-O, 25W-1k-5%-434	OMIG			
R30	MET-O, 25W-510-5%-434	OMIG			
R31	MET-O, 25W-5, 6k-5%-434	OMIG			
R32	MET-O, 25W-5, 6k-5%-434	OMIG			
R33	MET-O, 25W-3, 9k-5%-434	OMIG			
R34	MET-O, 25W-1k-5%-434	OMIG			
R35	MET-O, 25W-1k-5%-434	OMIG			
R36	MET-O, 25W-9, 1k-5%-434	OMIG			
R37	MET-O, 25W-10k-5%-434	OMIG			
R38	MET-O, 25W-1k-5%-434	OMIG			
R39	MET-O, 25W-430-5%-434	OMIG			
R40	MET-O, 25W-750-5%-434	OMIG			
R41	MET-O, 25W-15k-5%-434	OMIG			
R42	MET-O, 25W-5, 6k-5%-434	OMIG			
R43	MET-O, 25W-270-5%-434	OMIG			
R44	MET-O, 25W-270-5%-434	OMIG			V

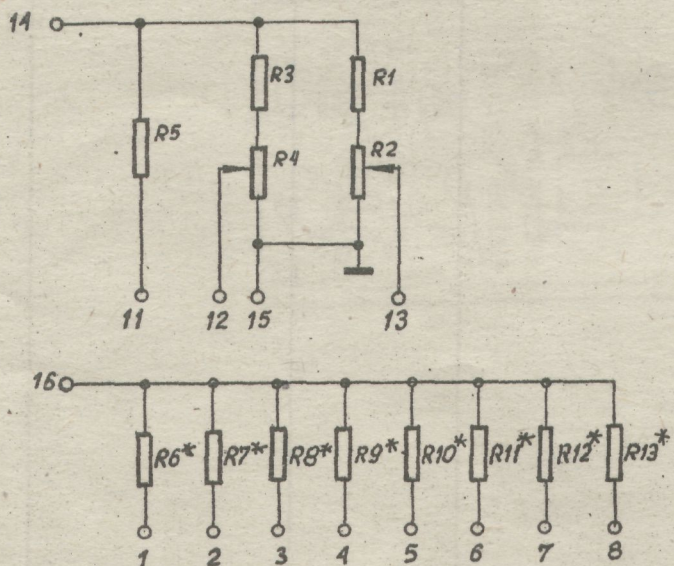
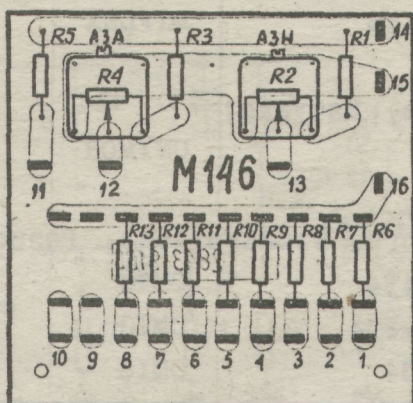


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Symbol Symbol Zeichen Символ	Oznaczenie Description Bezeichnung Обозначение	Producent Manufacturer Hersteller Продуцент	Indeks Index Index Указатель	UNIMOR UNIMOR UNIMOR UNIMOR	Uwagi Remarks Bemerkungen Примечания		
R45	MET-O, 25W-51-5%-434	OMIG					
R46	MET-O, 25W-4, 3k-5%-434	OMIG					
R47	MET-O, 25W-5, 6k-5%-434	OMIG					
R48	MET-O, 25W-1, 8k-5%-434	OMIG					
R49	MET-O, 25W-360-5%-434	OMIG					
R50	MET-O, 25W-100-5%-434	OMIG					
R51	MET-O, 25W-1k-5%-434	OMIG					
R52	MET-O, 25W-2, 7k-5%-434	OMIG					
R53	MET-O, 25W-51k-5%-434	OMIG					
R54	MET-O, 25W-56k-5%-434	OMIG					
R55	MET-O, 25W-750-5%-434	OMIG					
R56	MET-O, 25W-300-5%-434	OMIG					
R57	MET-O, 25W-300-5%-434	OMIG					
R58	MET-O, 25W-2, 2k-5%-434	OMIG					
Transformatory, Transformers, Transformatoren, Трансформаторы:							
T1	2843-1150-2	UNIMOR					
T2	2843-1150-7	UNIMOR					
Układy scalone, Integrated circuits, Integrierte Schaltungen, Интегральные схемы:							
U1	FJH131/7400	PHILIPS					
U2	FJJ121/7473	PHILIPS					
U3	FJH131/7400	PHILIPS					
Tranzystory, Transistors, Transistoren, Транзисторы:							
Y1	BFP520 V	CEMI					
Y2	BFP520 V	CEMI					
Y3	BFP520 V	CEMI					
Y4	BFP520 V	CEMI					
Y5	BFP520 V	CEMI					
Y6	BFP520 V	CEMI					
Y7	BFP520 V	CEMI					
Y8	BFP520 V	CEMI					
Y9	BFP520 V	CEMI					
Y10	BFP520 V	CEMI					
Y11	BFP520 V	CEMI					
Y12	BFP520 V	CEMI					



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Symbol Symbol Zeichen Символ	Oznaczenie Description Bezeichnung Обозначение	Producent Manufacturer Hersteller Продуцент	Indeks Index Index Указатель	UNIMOR UNIMOR UNIMOR UNIMOR	Uwagi Remarks Bemerkungen Примечания		
1/	M143/2						
	Kondensatory, Capacitors, Kondensatoren, Конденсаторы:						
C8	KSO-1-250V-G-470pF-5%	MIFLEX					
C9	KSO-1-250V-G-150pF-5%	MIFLEX					
C10	KCR-N750-3x8-22-5-160-S	CERAD					
C13	KM-016-02-2400pF-5%-500V-B	MIFLEX					
C35	MKSE-012-0,047uF-20%-100V	MIFLEX					
C36	MKSE-012-0,047uF-20%-100V	MIFLEX					
C42	KSO-1-250V-W-75pF-5%	MIFLEX					
	Cewka, Coil, Spule, Катушка:						
L1	2843-1130-7	UNIMOR					
	Rezystory, Resistors, Widerstände, Резисторы:						
R4	MLT-0,25W-910-5%-434	OMIG					
R5	MLT-0,25W-1,5k-5%-434	OMIG					
R6	MLT-0,25W-2k-5%-434	OMIG					
R7	MLT-0,25W-820-5%-434	OMIG					
R44	MLT-0,25W-2,7k-5%-434	OMIG					





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UNIMOR

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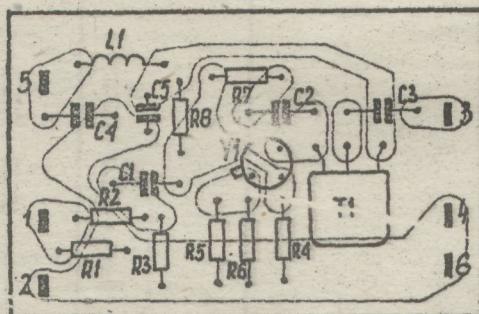
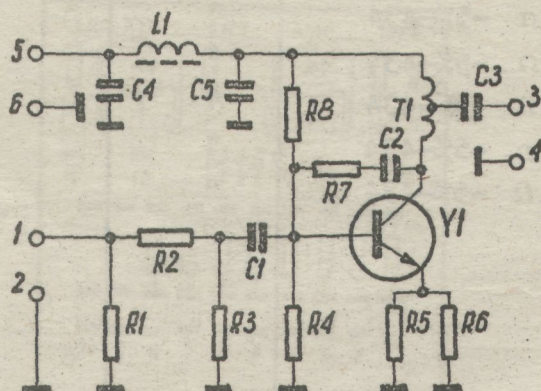
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Symbol Symbol Zeichen Символ	Oznaczenie Description Bezeichnung Обозначение	Producent Manufacturer Hersteller Производитель	Indeks Index Index Указатель	UNIMOR UNIMOR UNIMOR UNIMOR	Uwagi Remarks Bemerkungen Примечания
	Rezystory - resistors - Widerstände - РЕЗИСТОРЫ				
R1	MLT-0,25-8,2 kΩ -5%-434	OMIG			
R2	Potencjometr P12CXY-1kΩA-20%	SPERNICE			
R3	MLT-0,25-8,2 kΩ -5%-434	OMIG			
R4	Potencjometr P12CXY-1kΩA-20%	SPERNICE			
R5	MLT-0,25- 22 kΩ -5%-434	OMIG			
R6*	MLT-0,25- 27 kΩ -5%-434	OMIG			
R7*	MLT-0,25-9,1 kΩ -5%-434	"			
R8*	MLT-0,25- 820Ω -5%-434	"			
R9*	MLT-0,25-6,8 kΩ -5%-434	"			
R10*	MLT-0,25-3,3 kΩ -5%-434	"			
R11*	MLT-0,25-6,2 kΩ -5%-434	"			
R12*	MLT-0,25-3,3 kΩ -5%-434	"			
R13*	MLT-0,25-360 kΩ -5%-434	"			

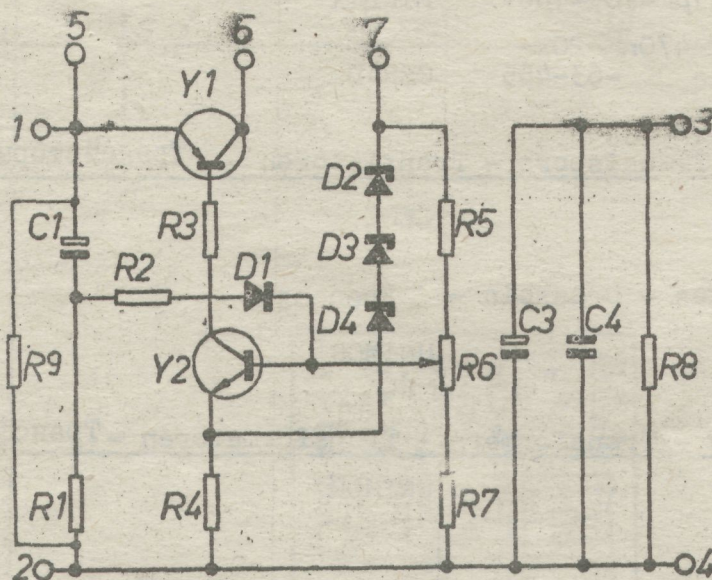
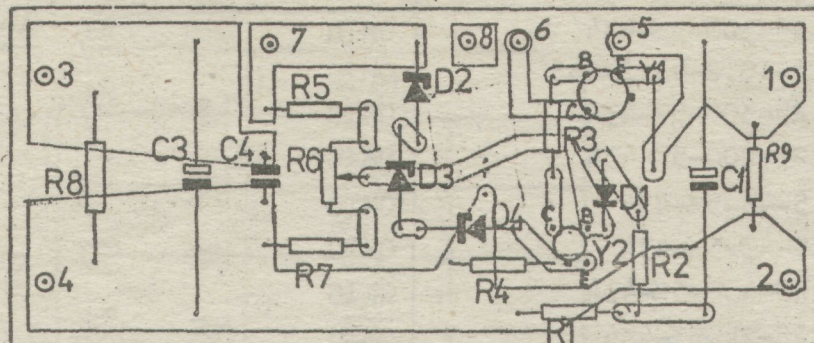






UNIMOR		2845-1400		strona page 2 seite страница	stron pages 2 seiten страниц
Symbol Symbol Zeichen Символ	Oznaczenie Description Bezeichnung Обозначение	Producent Manufacturer Hersteller Продуцент	Indeks Index Index Указатель	UNIMOR UNIMOR UNIMOR UNIMOR	Uwagi Remarks Bemerkungen Примечания
	<u>Rezystory - Resistors - Widerstände - Резисторы</u>				
R1	MLT-0,25-300-5%-434	OMIG			
R2	ML-0,25-18,2-4312-043	OMIG			
R3	MLT-0,25-300-5%-434	OMIG			
R4	MLT-0,25-200-5%-434	OMIG			
R5	MLT-0,5-43-5%-434	OMIG			
R6	MLT-0,5-43-5%-434	OMIG			
R7	MLT-0,25-430-5%-434	OMIG			
R8	MLT-0,25-2k-5%-434	OMIG			
	<u>Kondensatory - Capacitors - Kondensatoren - Конденсаторы</u>				
C1	MKSE-018-02-0,1 $\mu$ F-10%-100V	MIFLEX			
C2	MKSE-018-02-0,1 $\mu$ F-10%-100V	MIFLEX			
C3	MKSE-018-02-0,1 $\mu$ F-10%-100V	MIFLEX			
C4	MKSE-018-02-0,1 $\mu$ F-10%-100V	MIFLEX			
C5	KFPm-IIC-8x8-r-470nF-20%- -63-455	CERAD			
	<u>Tranzystory - Transistors - Transistoren - Транзисторы</u>				
Y1	BFYP 99	CEMI			
	<u>Dławiki - Chokes - Drosseln - Дроссели</u>				
L1	2843-1140	UNIMOR			
	<u>Transformatory - Transformers - Transformatoren - Трансформаторы</u>				
T1	2843-1150-15	UNIMOR			







1.4.3. M141-2 H.F. Amplifier

The aim of the amplifier unit is to obtain an output signal modulated in the band 1,6 to 9 MHz. The frequency of this signal is achieved by two frequency translations. The 9 MHz modulated signal from the M426 unit is subjected to transformation/Q1/-adding-with a channel generator signal. The received signal of frequency 38,2 to 39,2 MHz is fed to a resonance amplifier/Y1, Y2/with coupled circuits having a pass of 38,2 to 39,2 MHz. Then, the signal is subjected to re-translation/Q2/with a band general signal. The low-pass filter and the wide-band amplifier /Y6-Y9/determine the steadiness of the output signal from the unit. Releasing the key or the microtelephone pushbutton causes the wide-band amplifier to be interlocked by relieving a supply voltage from bases of transistors. The circuit assembled on Y10, Y11 transistors forms a telegraph sign. The M744 P.C. is a part of M141-3 one and it plays function of a D.C. voltage regulated attenuator. The D.C. voltage occurs on p.13. The attenuator cooperates with M735-P.C. enabling a desirable power level on every operating frequency band being set.

TABLE 3.

Controls and Selected Elements of the M141-3 Unit.

Element designation	F u n c t i o n s	Selected Criterion
R1	Adjust of output signal level	0,775V/50 ohms in p.4

1.4.4. M142-2 Band generator

The aim of the unit is:

- Generation of 6 selected frequencies:

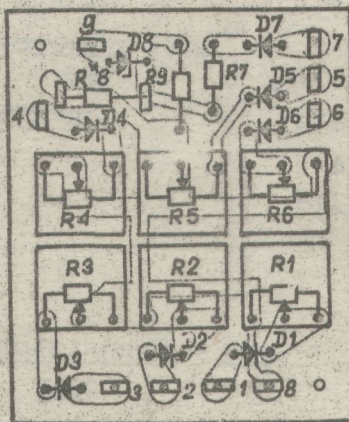
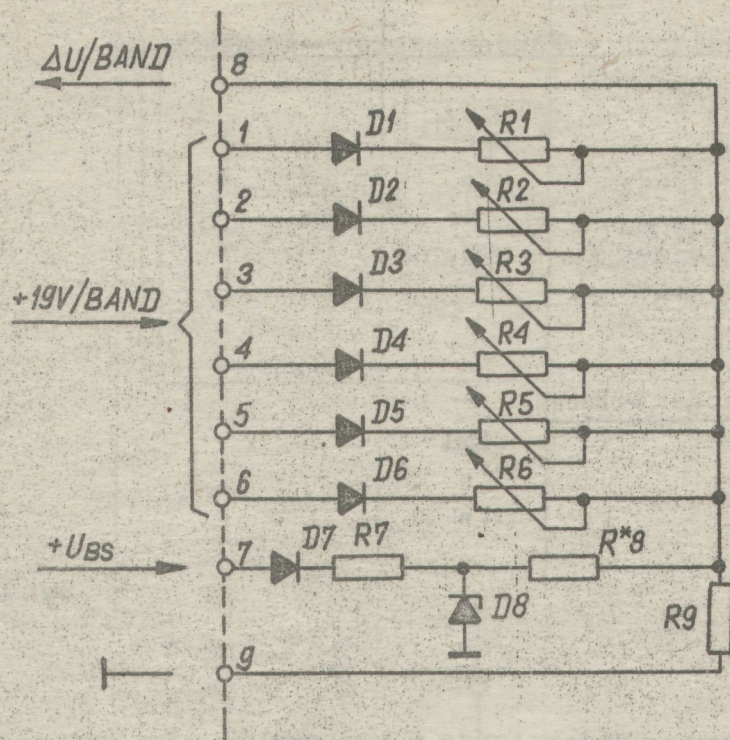
40,2, 41,2, 42,2, 43,2, 45,3, 47,2, MHz, which-when applied to Q2 mixer in the M141-2 unit - allow the required - output bands of the transmitter to be obtained, i.e. 1,2,2A, 2A,3, 4, 6, 8 MHz.

The real frequency of the band generator is set with S1 BAND switch.



UNIMOR		0278-1100		strona page seite страница	2	stron pages seiten страниц	2
Symbol Symbol Zeichen Символ	Oznaczenie Description Bezeichnung Обозначение	Producent Manufacturer Hersteller Продуцент	Indeks Index Index Указатель	UNIMOR UNIMOR UNIMOR UNIMOR	Uwagi Remarks Bemerkungen Примечания		
<u>Kondensatory - capacitors - Kondensatoren - Конденсаторы.</u>							
C1	02/E 220µF/40V-10+100% typ1 554	ELWA					
C3	02/E 220µF/40V-10+100% typ 1 554	"					
C4	KFPm-IIC-10x10-r-1µF-20%- -63V-455	CERAD					
<u>Diody - diodes - Dioden - Дiodы.</u>							
D1	BAVP 20	CEMI					
D2	BZP 611 C5V6	"					
D3	BZP 611 C5V6	"					
D4	BZP 611 C5V6	"					
D4	-	-			wyk. 2.		
<u>Rezystory - resistors - Widerstande - резисторы.</u>							
R1	MLT-0,5W-1k -5%-434	OMIG					
R2	MLT-0,5W-5,1k -5%-434	"					
R3	MLT-0,5W-5,1k -5%-434	"					
R4	MLT-0,5W-820 -5%-434	"					
R5	MLT-0,5W-270 -5%-434	"					
R6	P12CX1-1k -20%-A /SWV-1k -20%-523.1313/	SFERNICE /RFT/					
R7	MLT-0,5W-270 -5%-434	OMIG					
R8	MLT-2W-470 -5%-434	"					
R9	MLT-0,5W-6,2k -5%-434	"					
<u>Tranzystory - transistors - Transistoren - транзисторы.</u>							
Y1	BC 313	CEMI					
Y2	BC 107	"					







UNIMOR		2611 - 1920		strona page seite 2 страница	stron pages seiten 2 страниц
Symbol Symbol Zeichen Символ	Oznaczenie Description Bezeichnung Обозначение	Producent Manufacture Hersteller Продуцент	Indeks Index Index Указатель	UNIMOR UNIMOR UNIMOR UNIMOR	Uwagi Remarks Bemerkungen Примечания
	<u>Diody - diodes - Dioden - диоды</u>				
D1-D7	BAP 795	CEMI			
D8	BZP 630-C15	CEMI			
	<u>Rezystory - resistors - Widerstände - резисторы</u>				
R1-R6	Potencjometr SWV-523.1313- 10k-20%	NRD			
R7	MLT-0,25-1,5k-5%-434	TELPOD			
R8 <sup>x</sup>	MLT-0,25-15k-5%-434	TELPOD			
R9	MLT-0,25-3,3k-5%-434	TELPOD			



UNIMOR GDAŃSK			WYKAZ CZĘŚCI ZAPASOWYCH SPARE PARTS LIST ERSATZTEILLISTE ПЕРЕЧЕНЬ ЗАПАСНЫХ ДЕТАЛЕЙ			WCP-3906-4	
			RR-3906-4			Strona page Seite страница	Stron pages Seiten страницы
Lp Item Lfd и/и	Sztuk Pieces Stück Штук	Oznaczenie Description Bezeichnung Обозначение	Producent Manufacturer Hersteller Продуцент	Zamiennik Equivalent Equivalent Эквивалент		Uwagi Remarks Bemerkungen Примечания	
				Oznaczenie Description Bezeichnung Обозначение	Producent Manufacturer Hersteller Продуцент		
		Części zapasowe urządzeń składowych: Spare parts of components units: Ersatzteile für Zubehörgerate: Запасные детали составных устройств:					
1	1	CZ-2611-4	UNIMOR				
2.	1	1314.003-00001	NRD				WCP- -2611-4
		<u>Części mechaniczne - mechanical details - Mechanische Teile -</u> <u>МЕХАНИЧЕСКИЕ ДЕТАЛИ</u>					
3	2	Wkręt D 1130- -013-1	UNIMOR				
4	4	Nakrętka M4-6-J	PN-75/M-82144				Fe/Cd6c
5	4	Podkładka 4,3	PN-62/M-82007				Fe/Cd12c
6.	4	Podkładka spr. 4,1	PN-77/M-82008				Fe/Cd12c
		GZE 29211					



UNIMOR GDAŃSK			WYKAZ CZĘŚCI ZAPASOWYCH SPARE PARTS LIST ERSATZTEILLISTE ПЕРЕЧЕНЬ ЗАПАСНЫХ ДЕТАЛЕЙ			WCP-2611-4	
			NADAJNIK RADIOTELEFONICZNY NR 2611-4			Strona page Seite страница	Stron pages Seiten страниц
L.p. item Lfd n/n	szuk Pieces stück штук		Oznaczenie Description Bezeichnung Обозначение	Producent Manufacturer Hersteller Продуцент	Zamiennik Equivalent Equivalent Эквивалент	Uwagi Remarks Bemerkungen Примечания	
	NR-2611-4	50W					
	NR-2611-4	400W					
			<u>Diody - diodes - Dioden - ДИОДЫ</u>				
1	1	1	AAP 161	CEMI			
2	2	2	BAYP 95A	CEMI			
3	1	1	BYP 401-50	CEMI			
4	1	1	BZP 630-C12	CEMI			
5	1	1	BZP 611-C5V6	CEMI			
6	1	1	BZP 611-C5V1	CEMI			
7	3	3	BA 182	CEMI			
8	1	1	ZC 826	FERRANTI			
9	1	1	Kwartet dio- dowy AAZ 14	TELEFUNKEN			
10	1	1	CQYP 40	CEMI			
			<u>Tranzystory - transistors - Transistoren - Транзисторы</u>				
11	2	2	BC 107B	CEMI			
12	1	1	BC 177B	CEMI			
13	1	1	BC 109	CEMI			
14	1	1	BC 179	CEMI			
15	1	1	BC 313	CEMI			
16	1	1	BC 211	CEMI	2N 2270	RCA	
17	4	4	BFP 520V	CEMI			
18	1	1	BFP 520 III	CEMI			
19	1	1	2N 918				
20	1	1	2N 2218				
21	1	1	BFYP 99	CEMI			
22	1	1	2N 3055	SESCOSEM			SHP-2611-4
23	1	1	BEW 61	PHILIPS			
24	1	1	BLY 92A	PHILIPS			
25	1	-	BLX 14	PHILIPS			
26	-	1	BLX 15	PHILIPS			



UNIMOR GDAŃSK			WCP-2611-4			Strona page Seite страница	2	Stron pages Seiten страниц	2
L.p Item Lfd n/n	szuk Pieces Stück Штук		Oznaczenie Description Bezeichnung Обозначение	Producent Manufacturer Hersteller Продукт	Zamiennik Equivalent Equivalent Эквивалент		Producent Manufacturer Hersteller Продукт	Uwagi Remarks Bemerkungen Примечания	
	NR-26H4 50W	NR-26H4 100W			Oznaczenie Description Bezeichnung Обозначение				
			<u>Układy scalone - integrated - Integrierte - интегральные</u> <u>circuit - Schaltungen - схемы</u>						
27	1	1	UCA 6400 N	CEMI	FJH131/7400		PHILIPS		
28	1	1	UCA 6473 N	CEMI	FJJ 121/7473		PHILIPS		
			<u>Przekazniki - relays - Relais - реле</u>						
29	1	1	DR2C-12V	ALMA					
30	1	1	HO-0 2561/11- -1210-2xu/57 (2F) HALLER						
			<u>Zarówki - lamps - Glühlampen - лампы накаливания</u>						
31	8	8	T5,5-24V-50ma	HELIOS					
			<u>Podkładki - washers - Scheiben - шайбы</u>						
32	3	3	3,1 Cd6c	PN-77/M-82008					
33	4	4	4,1 Cd6c	PN-77/M-82008					
34	5	5	5,1 Cd6c	PN-77/M-82008					
35	3	3	3,2 Cd6c	PN-62/M-82007					
36	4	4	4,3 Cd6c	PN-62/M-82007					
			<u>Nakretki - nuts - Muttern - гайки</u>						
37	2	2	M3-6-I Cd6c	PN-75/M-82144					
38	2	2	M4-6-I Cd6c	PN-75/M-82144					
			<u>Wkręty - screws - Schrauben - винты</u>						
39	1	1	M4x6-4,8-I Cd6c	PN-74/M82209					
40	1	1	M3x14-4,8-I Cd6c	PN-74/M82227					
41	3	3	M4x12-4,8-I Cd6c	PN-74/M82227					
42	1	1	M2,5x6,4,8-I Cd6c	PN-74/M82209					
43	1	1	D-1130-007-X4	UNIMOR					
44	1	1	D-1130-007-2	UNIMOR					



UNIMOR GDAŃSK		WYKAZ CZĘŚCI ZAPASOWYCH SPARE PARTS LIST ERSATZTEILLISTE ПЕРЕЧЕНЬ ЗАПАСНЫХ ДЕТАЛЕЙ			WPB-3906-4	
		RR 3906-4			Strona page Seite страница	Stron pages Seiten страницы
Lp Item Lfd №/№	Sztuk Pieces Stück Штук	Oznaczenie Description Bezeichnung Обозначение	Producent Manufacturer Hersteller Продуцент	Zamiennik Equivalent Equivalent Эквивалент	Producent Manufacturer Hersteller Продуцент	Uwagi Remarks Bemerkungen Примечания
		<u>Wyłączniki przerzutowe-switches-Umschalter-</u>			<u>переключатели</u>	
1	1	TP-1-2-456	ELTRA		Opakowanie: Torba 80x120 ZN-77/T18 -116	
		<u>Części zapasowe urządzeń składowych:</u>				
		<u>Spare parts of components units:</u>				
		<u>Ersatzteile für Zubehörgeräte:</u>				
		<u>Запасные детали составных устройств:</u>				
1	1	1413.003-00001EL 13/4	NRD			
2	1	CZB-2611-4	UNIMOR		WPB-2611-4	
		<u>Części mechaniczne-mechanical details-Mechanische Teile -</u>				
		<u>механические детали</u>				
1	2	Wkręt D 1130-013- -1	UNIMOR			
2	2	Nakrętka M4-6-I	PN-75/M=82144		Fe/Cd6c	
3	2	Podkładka 4,3	PN-62/M=82007		Fe/Cd12c	
4	2	Podkładka spr. 4,1	PN-77/M=82008		Fe/Cd12c	
					Opakowanie j.w.	



UNIMOR GDAŃSK		WYKAZ CZĘŚCI ZAPASOWYCH SPARE PARTS LIST ERSATZTEILLISTE ПЕРЕЧЕНЬ ЗАПАСНЫХ ДЕТАЛЕЙ			WPB-2611-4	
		NR 2611-4			Strona page 1 Seite страница	Stron pages 3 Seiten страниц
L p Item Lid И/И	Sztuk Pieces Stück Штук	Oznaczenie Description Bezeichnung Обозначение	Producent Manufacturer Hersteller Продуцент	Zamiennik Equivalent Equivalent Эквивалент	Producent Manufacturer Hersteller Продуцент	Uwagi Remarks Bemerkungen Примечания
		<u>Diody - diodes - Dioden - Диоды</u>				
1	4	BA 182	CEMI			
2	3	BAVP 19	CEMI			
3	2	AAP 161	CEMI			
4	2	BAVP 20	CEMI			
5	2	BYP 401-50	CEMI			
6	2	CQYP 40	CEMI			
7	2	BZP 611 C5V1	CEMI			
8	2	BZP 630 C12	CEMI			
9	2	BZP 611 C5V6	CEMI			
10	2	ZC 826	FERRANTI			
11	2	AAZ 14	TELEFUNKEN	ZC 5800 QD	FERRANTI	
		<u>Tranzystory - transistors - Transistoren - Транзисторы</u>				
1	6	BFP 520V	CEMI			
2	3	BC 107 B	CEMI			
3	2	BC 109	CEMI			
4	2	BC 313	CEMI			
5	2	BC 179	CEMI			
6	2	BFP 520 III	CEMI			
7	2	BFYP 99	CEMI			
8	2	BC 177 B	CEMI			
9	2	BFW 61	PHILIPS			
10	2	BLY 92A	PHILIPS			
11	2	BLX 15	PHILIPS			NR2611-4 100W
11	2	BLX 14	PHILIPS			NR2611-4/ 50W
12	2	2N 3055	SESCOSEM			
13	2	2N 2218	COSEM			
14	2	2N 918	COSEM			
15	2	2N 2270	RCA			



UNIMOR G DAŃSK		WPB-2611-4			Strona page Seite 2 страница	Stron pages Seiten 3 страниц
Lp Item Lfd и/и	Sztuk Pieces Stück Штук	Oznaczenie Description Bezeichnung Обозначение	Producent Manufacturer Hersteller Продукт	Zamiennik Equivalent Equivalent Эквивалент	Producent Manufacturer Hersteller Продукт	Uwagi Remarks Bemerkungen Примечания
<u>Przekazniki - relays - Relais - реле</u>						
1	1	RU 40 - 24V=	REFA			
2	1	HO-0-2561/21-1210 -4xU/57 /2F/	HALLER			
3	1	RAN 30/27V=	REFA			
4	1	DR2C-12V	ALMA			
<u>Żarówki - lamps - Glühlampen - лампы накаливания</u>						
1	2	Żarówka telef.mi- niat.z trzonkiem T5,5 24V 0,05A	HELIOS			
<u>Wyłącznik - overload - Überumschalter - выключатель</u> <u>nadmiarowy - switch - максимального тока</u>						
1	1	WST-15A-24V	ELTRA			NR 2611-4/100W
1	1	WST-10A-24V	ELTRA			NR 2611-4/50W
<u>Wkładka mikrofonowa - microphone - Mikrofon - микрофон</u>						
1	1	MK-10 MB	TONSIL			
<u>Głośniki - loudspeakers - Lautsprecher - громко говорители</u>						
1	1	Wkładka słuchawkowa W66T	TONSIL			



UNIMOR GDAŃSK		WPB-2611-4			Strona page Seite 3 страница	Stron pages Seiten 3 страниц
Lp Item Lfd и/и	Sztuk Pieces Stück Штук	Oznaczenie Description Bezeichnung Обозначение	Producent Manufacturer Hersteller Продуцент	Zamiennik Equivalent Equivalent Эквивалент		Uwagi Remarks Bemerkungen Примечания
				Oznaczenie Description Bezeichnung Обозначение	Producent Manufacturer Hersteller Продуцент	
		<u>Układy - integrated - Integrierte - Интегральные</u> <u>scalone - circuits - Schaltungen - схемы</u>				
1	2	UCA 6400N	CEMI			
2	2	UCA 6473	CEMI			
		<u>Części - mechanical - Mechanische - механические</u> <u>mechaniczne - parts - Teile - детали</u>				
1	2	Podkładka 3,1 Cd6c	PN-77/M-82008			
2	2	Podkładka 4,1 Cd6c	PN-77/M-82008			
3	2	Podkładka 5,1 Cd6c	PN-77/M-82008			
4	2	Podkładka 3,2 Cd6c	PN-78/M-82007			
5	2	Podkładka 4,3 Cd6c	PN-78/M-82007			
6	2	Nakrętka M3-6-I Cd6c	PN-75/M-82144			
7	2	Nakrętka M4-6-I Cd6c	PN-75/M-82144			
8	2	Wkręt M4x6-4,8-I Cd6c	PN-74/M-82209			
9	2	Wkręt M3x14-4,8-I Cd6c	PN-74/M-82227			
10	2	Wkręt M4x12-4,8-I Cd6c	PN-74/M-82227			
11	2	Wkręt M2,5x6-4,8-I Cd6c	PN-74/M-82209			
12	2	Wkręt D-1130-007-4	UNIMOR			Opakowanie: 2 pudełka polistyr. 200x145x70
13	2	Wkręt D-1130-007-2	UNIMOR			

GZE 20236



- Generation of a stable signal having a frequency of 32,2 MHz for the control of Q1 mixer in the M143 unit. The 32,2 MHz signal is available by mixing the 40,2 - 47,2 MHz band generator signal with one of harmonics of 1 MHz signal being in the 8 to 15 MHz band, The 1 MHz signal is available by division /9:1/ of the 9 MHz high-stability signal. The 32,2 MHz frequency is selected from among other products of mixing by selective amplifier circuits /Y8-Y11/.

TABLE 4.

Controls and Selected Elements of the M142-2 Unit.

Element designation	F u n c t i o n	Selection Criterion
R55	Selection of supply voltage for integrated circuits	5V $\pm$ 0,1V on D12

1.4.5 M143 Channel Generator

The aim of the unit is :

- Generation of a stable signal in the band 2-3 MHz /Crystal generator operating in conjunction with the M420 crystal field/.
- Generation of a signal in the band 29,2-30,2 MHz in the circuit of the generator LC-tuned with a capacitance diode /D1/.
- Comparison of phase of 2-3 MHz signals from the crystal generator or from the synthesizer with 2-3 MHz signals obtained by frequency translation in the Q1 mixer.
- Automatic frequency control of the generator LC tuned with a phase discriminator signal  $\varphi/f$  so as to obtain the tuned generator accuracy corresponding to the accuracy of the crystal generator.

The frequency-stable signal of the tuned generator is fed as a Q1 mixer keying voltage in the M141-2 unit.



TABLE 5.

## Controls and Selected Elements of the M143 Unit

Element designation	Function	Selection Criterion
R23	Setting of supply voltage for integrated circuits	5V $\pm$ 0,1V on D5

1.4.6. M420 Crystal Field

The crystal field contains 62 jacks of crystal resonators arranged as follows :

4 bands; 1;2; 2A; 3 MHz - 11 channels in each band; the 12-th channel is not allocated

3 bands: 4; 6; 8 MHz - 6 channels in each band

The 2A band has been introduced to increase the number of channels up to 22 in the band 2-3 MHz.

The crystal resonator oscillation frequency is to be so determined that :

For intermediate waves  $f_{osc} = f_{carrier} + 2 \text{ MHz} - f_b$

where :  $f_{osc}$  - resonator oscillation frequency

$f_{carrier}$  - channel carrier frequency

$f_b$  - designation of band 1, 2, 3

For short waves  $f_{osc} = f_{carrier} + 2 \text{ MHz} - f_b - 200 \text{ Hz}$

where:

$f_b$  - designation of band 4, 6, 8

In view of the fact that tolerances for short-wave bands are narrowed, the preliminary frequency deviation is corrected by connection of the selected capacitor /C21-C38/ in series with a resonator.

The resonators are expected to be of RS 1014E type. Particular bands and channels are switched on by switching diodes controlled with voltage through S1 BAND switch and S2 CHANNEL switch.



TABLE 6.  
Controls and Selected Elements of the M420 Unit

Element designation	F u n c t i o n	Selection Criterion
C21-C38	Change in frequency of crystal resonator oscillations	$f_{\text{carrier}} \pm 5 \text{ Hz}$

#### 1.4.7. M146 Adjustment Unit

The adjustment unit incorporates :

- R2 and R4 potentiometers for establishing a carrier level of A3A and A3H emissions by applying suitable direct voltages to the carrier path input of the M426 unit.
- Permanent voltage divider for determining a carrier level of A1 emissions  $\sim 1V$  in p.12/.
- Selected resistors for establishing deflection of M1 meter pointer for particular measuring points.

TABLE 7.  
Controls and Selected Elements of the M146 Unit

Element designation	F u n c t i o n	Selection Criterion
R2	Setting of carrier level of A3H emission	abt. 0,5 in p.12/M426
R4	Setting of carrier level of A3A emission	abt. 0,5 in p. 12/M426
R1 - R7	Setting of M1 meter pointer swing	10-20 divisions for pos.6, 8 40-60 divisions for pos.2,4,5,7,9,10 50 divisions for pos.3



**1.4.8. M339-2 Stabiliser**

The aim of the unit is to transform voltage from storage battery into stabilised voltage + 19V/with a passibility to load to 2A/to supply the exciter units.

TABLE 8.

Selected Elements of the M339-2 unit

Element designation	Function	Selection Criterion
R6	Setting of exact values of stabilised voltage	19V + 0,2V - 0,5V

**1.4.9. M735 P.C.-Control Assembly**

The M735 P.C.-cooperates with M744 R.F.attenuator, being a part of M141-3 P.C.,

Trimming resistors marked R1 ÷ R6 enable an output power level being set on bands 1,2...÷8MHz.

Selected R8 resistor is to reduce an output power level of the transmitter when D.C.battery operation is applied.

**1.4.10 Power Amplifier**

A power amplifier - depending upon the transmitter output power-are the following items:

- a/ For RR3906-4/50W
  - control amplifier M171, two linear amplifier units M192-2
  - Adding circuit M175,
- b/ For RR3906-4/100W
  - Output amplifier M392, Control amplifier M446, Two linear amplifier units M172-3,
  - Adding circuit M412,

The poweramplifier is controlled with an output signal of the exiter through - switched on by S5 switch -abt.10 dB power reduction attenuator.



M392 Output Amplifier

The aim of the output amplifier is preamplification of a signal from the exciter-prior to being fed to the power stage control amplifier.

The circuit operation is a wide-band one in the entire frequency range from 1,6 to 9 MHz.

M171 Control Amplifier

/used for RR 3906-4/50W/

It is a double-stage wide-band amplifier working in "A" class.

The first stage is assembled on BLY 92A transistor.

Current/voltage feed-back elements R3, R4, C2 ensure an equal characteristic within the whole frequency range.

The other stage of the amplifier is assembled on BLX14 amplifier. Elements R6, R8, T4, C7 are used to form a frequency characteristic.

The T4 element decreases the negative voltage feed-back, which causes the amplification in the upper frequency range to increase.

The control amplifier unit incorporates a power distribution circuit to control two linear amplifiers.

Selected resistors R1 and R5 are used to determine rest currents ensuring operation in "A" class.

The amplifier is interlocked when no voltage +24V is on tag 8.

TABLE 9.

Controls and Selected Elements of M171 Unit

Element designation	F u n c t i o n s	Selection Criterion
R1	Setting of rest current of Y1 transistor	$I_C = 350 \text{ mA} \pm 10 \text{ mA}$
R5	Setting of rest current of Y2 transistor	$I_C = 1,1 \text{ A} \pm 100 \text{ mA}$



M446 Control Amplifier/used in RR 3906-4/100W version/

The amplifier accomplishes the same functions as the M171 amplifier in the RR 3906-4/50W radiostation.

Differences as compared with the M171 amplifier are as follows :

- BLX 15 transistor is applied in the second stage of the amplifier.
- Additional matching transformer T3 is applied in the Y2 output circuit.
- The transistor stage is supplied with voltage  $U_T$ , and the circuit of transistor base differs in keyed stabilised voltage + 19V.

TABLE 10.

Controls and Selected Elements of the M426 Unit.

Element designation	F u n c t i o n	Selection Criterion
R1	Setting of rest current of Y1 transistor	$I_C = 480 \text{ mA}$ at $U_D = 24\text{V}$
R5	Setting of rest current of Y2 transistor	$I_C = 1,8\text{A}$ at $U_T = 30\text{V}$

2 x M172 Power Amplifier

The power amplifier is a wide-band push-pull amplifier working in the "B" class.

The symmetrical wide-band transformer is used for matching the transistor input resistance to the resistance of 50 ohms. Elements R1, C3, R3, C5, and R2, C4, R, C6 serve to compensate amplification drop and to compensate input resistance within the entire operating frequency range.

The T3 output transformer matches a low output impedance of transistors to output resistance equal to 50 ohms.



A circuit assembled on Y3 and Y4 transistors is used for polarization of bases of power transistors.

The Y3 transistor is located on a radiator close to power transistor, which enables strong thermal coupling to be ensured and temperature compensation to the emitter-base junctions of power transistors to be possible.

The R7 potentiometer is provided to set an appropriate power transistor rest current ensuring operation with inconsiderable distortions.

Owing to the fact that NR 2611-4 transmitter is made in two versions: 50W and 100W, the linear amplifiers are provided with BLX15 or BLX14 transistors respectively.

TABLE 11.

Controls and Selected Elements of the M172 Unit

Element designation	F u n c t i o n	Selection Criterion
R7	Setting of rest current of Y1 and Y2 transistors	$IC1 + IC2 = 200 \text{ mA} \pm 10 \text{ mA}$

#### M175 Adding Circuit

The unit is provided for adding a power obtained from two M172-2 modules.

The operation is correct provided that added signals in the same phase.

The R1 resistor serves for loading the amplifier in case when one of the modules is faulty.

#### M412 Adding Circuit

The unit is provided for adding a power obtained from two M172-3 modules.

The operation is correct provided that two added signals differ in phase by  $180^\circ$ .

The R1 to R19 resistors serve for loading the amplifier in case when one of the modules is faulty.



1.4.11 Antenna Coupler /Matching Unit/  
/SHP-2611-3000-2 and SHP-2611-3000-3/

The aim of the antenna coupler is to tune up and to match the aerial to the power amplifier output resistance/50 ohm/.

A set of coils L2 - L1 of stepwise switched over inductance  $\Delta L \approx 7 \mu\text{H}$  / and a variometer L3  $\Delta L = 10 \mu\text{H}$ /serve for tuning the aerial to intermediate waves /or partially short waves - depending on the antenna parameters/.

For short waves, tuning is accomplished with setting the S1 LOADING switch to 1,2, and 3 positions in the 3000-2 unit or to 11, 10, 9 positions in the 3000-3 unit - the L3 variometer operates at that time only.

In these positions - C1 and C2 capacitors render the antenna length to be electrically shortened, enabling the antenna to be tuned up.

A set of capacitors switched-on by S2 switch is provided for matching the aerial.

Matching for intermediate waves is obtained in "higher" positions of the switch.

With the operating frequency increase, lower capacitance values should be used.

For the bands of 6 and 8 MHz there is fed a supply of K1 relay which switches into operation an additional inductance L1 enabling the antenna resistance to be matched within 100 - 300 ohms.

The T1 current transformer incorporated in the M258 unit enables the antenna current  $I_A$  to be measured.

1.4.12. M258-3 Modulation Control Circuit

The aim of the unit is to provide listening-in of the radiotelephone alarm signal key operation by detection of the transmitter output signal.

In addition, the unit incorporates elements of detection circuit generating a signal proportional to the transmitter output current for control the M1 meter in measuring position "1".

The unit control signal is taken from T1 current transformer.



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<p style="text-align: center;">TABLE 12</p> <p style="text-align: center;">Controls and Selected Elements of the M258 Unit</p>			
Element designation	Functions	Selection Criterion	
R2	Listening-in of radiotelephone alarm signal,	Good audibility	

#### 1.4.13. M223 Relay Unit

The aim of the unit is to augment sensitivity of M1 meter at measurement of the transmitter output current for TUNE position of S5 switch.

#### 1.4.14 M682 Delay Circuit

The unit controls the K4 /SHP-2611-4/relay operation and that way a time shift /delay/ between blocking and unblocking time of receivers and transmitters is obtained.

R2,C3 time constant is to obtain a receiver blocking time ca 100 ms following a key-up or mike-off condition Y3 transistor is to realize a transmitter blocking state by controlling M446 driver unit - operation. Relay K4 - contacts, marked 8-9, 14-15 and 11-12 respectively, function as follows:

- 8-9 receiver blocking
- 14-15 short frequency-shift when transmitting /to avoid a whistle/ - see SHP-2846-3, M633-2
- 11-12 WA0141-2 Audio-amplifier, /external, option/blocking

#### 1.4.15 Operation of Component Equipment

The RR 3906-4/50W radiostation is supplied directly with 24V battery voltage or with 26V stabilised voltage from Z 0278-2 power supply unit.

The RR 3906-4/100W radiostation at operation from a storage battery is also supplied with 24V voltage, at operation from mains - via Z 0278-1 power supply unit. At operation from Z 0278-1 power supply unit the following voltage are supplied:

- U<sub>D</sub> stabilised voltage 24V/for supplying all transmitter circuit except power stages /M172/.



- $U_R$  /stabilised voltage 22V/for supplying a radiostation receiving part /receiver EGD-02/.

- $U_T$  /non-stabilised voltage abt. 35V/for supplying all power stages

At battery operation - each of the voltages:

$U_D$ ,  $U_R$  and  $U_T$  is supplied directly from a storage battery.

The EGD-02 receiver - in both versions of the radiostation can be supplied from a power supply unit /or from a battery/ or directly from 220V mains - depending on setting the supply mode selector switch.

Interworking between particular equipment of the radiostation is independent of the version.

The main element for control of the radiostation operation is K4 relay /SHP-2611-4/which accomplishes interlock of the transmitter power stage and interlock of the receiver.

In the rest position contacts 6, 7 of the K4 relay are open-the power amplifier is interlocked by transistor Y3 /M582/having off-state. Standard version of the radiostation is for simplex mode of operation. Sequence of Tx-Rx operation is controlled by PTT button or Morse Key position.

When a microphone press-button is pressed down/or Morse key-on/ due to 6-7/K4 relay/ contacts action, a receiver is blocked. The same time transmitter is unblocked /operating/through Y3 transistor being saturated.

During transmission of a radiotelephone alarm signal the function of the microtelephone button is taken over by K1 relay in the M342 unit of the NR 2622-4 transmitter. During interruptions in transmission of an alarm signal the receiver is unlocked and watch-keeping can be carried out.

Application of FD 1014 duplex filters supplied at additional order makes also possible operation in DUPLEX system.

At radiostation operation, regardless of the circuit and with various emission modes, the transmitter is interlocked automatically with setting the transmitting antenna switch to position - earthed serial by opening the S2



switch /SHP-3906-4/ being mechanically coupled therewith, as well as during manipulation with a tuning knob by opening the S8 switch /SHP-2611-4/ being mechanically coupled therewith. For detailed descriptions of operation for individual component equipment see technical descriptions of this equipment.

Where SW 2846-3 synthesizer is incorporated in the radio-station, it is switched on /the crystal field being simultaneously switched /off/ by setting the S2 CHANNEL, switch to position 12 /SYNTHESIZER/.

Setting the operating frequency consists in selection of a band /S2/ and a channel frequency with four switches in a decade system, which are fitted in the lower transmitter panel.



## 2. OPERATION

### 2.1. Description of Controls for RR 3906-4 Radiostation as per RP-3906-4, Sheet 1

S1 - Three-position, slide, transmitting aerial selector switch:

R.H. - aerial earthed

centre - antenna loads the transmitter

L.H. - aerial insulated, transmitter loaded with a dummy aerial.

S4 - Three-position receiving aeriels selector switch

R.H. - aerial earthed

centre - aerial connected to receiver input

L.H. - antenna insulated

PG6 - Morse key jack

S5 - Emergency lighting switch

### List of Controls for NR 2611-4 Transmitter acc.to RP-3906-4, Sheet 3.

1. Microtelephone jack

2. BAND selector switch

3. CHANNEL selector switch

4. Emission mode switch /A1, A3J, A3A, A3H, ALARM/

5. Power reduction switch /  $\times$  - tuning,  
0,1P - reduced power,  
P - full power/

7. Antenna matching switch /L/

8. Antenna tuning switch /T/

9. Antenna smooth tuning knob

10. Power supply switch /I/

12. Meter

13. Power stage supply current test button

14. Measurement selector switch /operating in conjunction with meter it. 12/.

Pos.1 - Antenna current measurement

Pos.2 - Exciter output signal measurement

Pos.3 - +19V stabilised voltage measurement

Pos.4 - Battery voltage measurement

Pos.5 - 40,2-47,2 Mhz signal measurement /in M141/

Pos.6 - Mode 9 Mhz signal measurement /in M141/



Pos.7 - 29,2 - 30,2 MHz signal measurement /in M141/

Pos.8 - 32,2 MHz signal measurement /in M143/

Pos.9 - 9 MHz signal measurement /in M142/

Pos.10 - 40,2 - 47,2 signal measurement /in M142/

The switch S7 is not provided for continuous manipulation and must be set in pos.1 during normal operation of the transmitter.

15 - Transmitter illumination switch

17 - Tuning plate

## 2.2. Switching On

Switching on, tuning and transmission can only be carried out with the transmitter loaded with antenna or dummy antenna.

Power supply switch /10/ set to / I / position - lamps illuminate the tuning plate and the meter with the illumination switch /15/ turned ON.

## 2.3. Transmitter Tuning

- Using switches /2/ and /3/ choose the desired transmission frequency.
- Set switch /5/ to extreme counterclockwise position ✕
- Set switches /7/ and /8/ according to description of columns L - and T - on plate /17/ for the selected frequency.
- Press in the microtelephone button and turn the knob /9/ until maximum deflection of the meter pointer is achieved.
- Using switch /4/ choose the required emission modes.

## 2.4. Operation

Carry out the procedure as above.

- Switch on receiver supply by turnign Sch801 EGD-02 to position I

CAUTION: Operation of the receiver is to be carried out as per factory instructions.

- Connect receiving serial to receiver input by setting the S4/3906-4 receiving serials selector switch in mid-position



- Connect transmitting aerial to transmitter output by setting the S1/3906-4 transmitting aerials selector switch to mid-position.

Illumination of the D8 test lamp in the transmitter panel will be indicative of switching the channel that is not allocated with a crystal resonator.

Simplex operation is provided for transmission and reception at the same frequency or at two various frequencies.

The transmitter and the receiver are alternately interlocked.

Passage from transmission to reception is effected with the microtelephone button.

## 2.5. Transmission using Radiotelegraph Automatic Keying Device

- a/ Tune up the transmitter acc. to 2.2 and 2.3
  - b/ Set switch /4/ to extreme clockwise position ALARM
- Operation of the key is effected in cycles:  
45 sec.transmission, 45 sec.break, etc.
- During breaks in transmission, listening for an alarm signal is to be carried out /if necessary/ and after any radio station answered - then the key operation should be interrupted by moving the switch /4/ to A3H or A3J position and a correspondence should be established.

## 2.6. Distress Operation

To transmit a radiotelephone alarm signal proceeds as follows:

- a/ Set power supply switch to / I / position
- b/ Set BAND switch to position "2" /marked with a red point/.
- c/ Set CH(ANNEL) selector switch to "1" position /marked with a red point/
- d/ Set /7/ switch to position as per column L of the label plate /for channel 2182 kHz/.
- e/ Set /8/ switch to position as per column T of the label plate /for channel 2182 kHz/.



- f/ Set other switches to positions marked with red colour.  
g/ Set the knob with a crank-handle to position corresponding to maximum deflection of the meter pointer.

h/ Tune up the radiostation receiver on 2182 kHz channel

## 2.7. Operation in Conjunction with a Synthesizer SW 2846-3

Tuning of the transmitter is carried out similarly as at operation with a crystal field /it.2.3./.

- Using band switch /2/ select the desired band
- set channel switch /3/ to pos. 12/SYNTHESIZER/
- set the desired operating frequency using decade switches fitted on the front panel of the radiostation under the receiver.

## 2.8. Earthing and Isolation of Aerials

- Receiving and transmitting aerials are to be earthed by moving S1 and S4 antenna switches to extreme clockwise position - during atmospheric discharges
- Receiving and transmitting aerials are to be isolated by moving S1 and S4 antenna switches to extreme counterclockwise position - for a period when bearings are carried out.


The state of connecting the aerial is symbolically illustrated on the front panel of the equipment.

## 2.9. Maintenance

### 2.9.1. Checking the Radiostation in Harbour

Prior to each departure from a harbour check operation of the transmitter on a frequency of 2182 kHz.

Set the S4 emission mode selector switch to ALARM position and the S1/RR 3906-4 transmitting aerials selector switch to counterclockwise position /the transmitter loaded with a dummy aerial/.

Set L and T switches to position L - ☐ , T - ☐ , and the knob  should be set in position corresponding to maximum deflection of the meter pointer.

Indications of the meter should correspond to normal antenna current and an audio signal composed of two tones transmitted alternately should be heard.



The signal should be transmitted in cycles : 45 secs transmission and 45 cycles interruption.

2.9.2. At least once a week the user should carry out an occasional survey.

During the survey carry out the following operation :

- Clean of dirt and dust
- Check securing of the equipment to wall and base
- Check and tighten nuts of the transmitting aerial, if necessary.
- Check condition of antenna insulators and clean them if necessary.
- Check battery supply voltage.

2.9.3. Periodical Survey

The survey should be carried out by an authorized service agency to the user's order or by the radiostation manufacturer.

The survey should be carried out at least twice within the first six months of service period and then every 6 to 12 months as well as after each repair to the transmitter.

The Inspecting agency should draw up a measurement report before and after adjustments to the transmitter are made.

The procedures to be carried out during the periodical survey :

- operations listed for the occasional survey
- checking the installation cable connections
- checking the transmitter operation as per 2.9.4.
- checking the parameters of component equipment for compliance with data specified in relevant technical descriptions and carrying out of adjustments and repairs.
- checking the antenna installation and earthing

In case when adjustments or repairs are carried out in the equipment connect the removed transmitting panel to the base using extensions.



2.9.4. Checking the Transmitter Operation

The transmitter operation should be checked with a dummy load attached to the transmitter output. the meter /M1/ with a switch /S7/ is provided for checking the transmitter operation. The switch /S7/ is actuated with a screw driver. Deflection of pointers of the meter /M1/ should correspond to data as per Table 13.

TABLE 13 (f=2182kHz)

Switch position	Meter sector	Operation condition	Emission type	R e m a r k s
1		T	A3H	Antenna current measurement w A.
		-	Alarm	Meter pointer should slightly oscillate around the initial deflection
		T	A3J	Deflection is variable depending on signal from microphone
2	Green	T	A1	Exciter output signals measurement
3	Red	TR	Any	Stabilised voltage 19V
4		TR	Any	+U <sub>T</sub> (5= 50V)
5	Green	TR	Any	Band generator
6	Yellow	T	A1	9 MHz modulated
7	Green	TR	Any	29,2 to 30,2 Mhz
8	Yellow	TR	Any	32,2 Mhz
9	Green	TR	Any	9 Mhz
10	Green	TR	Any	40,2 to 47,2 Mhz
1*	Green	T	A1	Power amplifiers current /F=2182 kHz U <sub>B</sub> = 25V/

X - to be measured with TEST switch

Condition "T" - Transmission is accomplished by depressing the microtelephone button for A3J, A3A, A3H type emissions



or by depressing the telegraph-key for A1 type emissions.

Condition "R"

- no transmission

After completion of examination set the switch to position "1" /antenna current/.

### 3. INSTALLATION

#### 3.1. Mechanical Installation

Mechanical installation of the equipment is shown in drg. RP-3906-4, Sheet 2.

##### 3.1.1. Installation of Transmitter Unit

The unit is to be fitted as per Fig.3 RP-3906-4, sheet 2 and secured to a base /floor, table/as per recommendations given hereunder :

- Drill two holes in the base/Fig.3 RP-3906-4, sheet 2/
- Withdraw cassettes /panels/from the casing as per 3.1.2.
- Fit the base and secure to the base using joining elements specified in Table 14. These elements are not supplied by the manufacturer/.

T A B L E 14.

Position	Part name	No.off
1.	Bolt M12	4
2.	Nut M12	4
3.	Washer 14	4

##### 3.1.2. Extraction and Insertion of Cassettes /Panels/ into Casing.

The casing is provided with guides to enable extraction and insertion of the cassettes.

A locking mechanism of the guides prevents the cassette to be accidentally moved in the casing when in withdrawn position.

The cassette/panel/ should be withdrawn from the casing /Fig.4 RP-3906-4, sheet 2/in the following order :

- Unscrew securing screws ①
- Withdraw the cassette from the casing until it offers



resistance for the first time (2)

- Release locking mechanism of guides by moving latches towards the direction indicated by arrow /A/ /EGD-02/ and /B/ /NR 2611-4/.
- Withdraw the cassette until it offers resistance for the second time (3)
- Disconnect a bundle of wires /in EGD-02 only/
- Withdraw the cassette from guides

The cassette is to be inserted into the casing in the reversed order.

### 3.1.3. Withdrawal of Other Units from the Casing

When it is necessary to remove duplex filters or transmitting aeriials switch proceed as follows :

- Withdraw cassettes from the casing as per 3.1.2
- Disconnect wire bundles
- Unscrew securing screws, Fig.2 RP-3906-4, sheet 1
- Remove the required unit

Duplex filters and antenna switch are withdrawable inwards the casing.

## 3.2. Electrical Installation

### 3.2.1. General

Installation connections are to be made by means of marine type multi-core screened cables. For permissible cross-section areas of the cables refer to installation drawings RI-3906-4, sheets 1 and 2.

Types of cables and connections are given in sheet 3, RJ-3906-4.

The maximum cross-section area <sup>of</sup> cable cores is :

- 10 mm<sup>2</sup> for low voltage supply cables
- 16 mm<sup>2</sup> for battery supply cables
- 4 mm<sup>2</sup> for other cables

Cable screening braids should be connected with each other and led to the earth screw.

The radiostation is arranged for operation with 24V cadmium-nickel alkaline storage battery of low internal resistance.



Capacitance of the battery should be less than 180 Ah.

An SN type medium-resistance cadmium-nickel alkaline battery is recommended to be used.

The manufacturer of the storage batteries are the United Electric Engineering Works "CENTRA" in Poznań.

For detailed information see SWW 1134-21 catalogue -Alkaline batteries /Catalogue Card 2-75/.

### 3.2.2. Installation Cable Connection

For detailed manufacture of installation for the radiostation supplied from storage battery see RI-3906-4, sheet 1.

If apart from the battery supply an additional radiostation supply from 220V A.C. mains is provided the Z 0278 type power supply unit should be used.

For connection between the power supply unit and the radiostation see RI-3906-4, sheet 2.

The Z 0278 power supply unit - apart from the radiostation supply - supplies :

- voltage  $24V / U_C /$  for radio direction finder. This voltage is supplied only after the transmitter supply is switched off.

In case of voltage decay in mains, the radio direction finder is supplied from a storage battery.

This voltage decays also after the transmitter is switched on.

- battery voltage for emergency lighting supply  $U_{RL}$
- battery voltage for the supply of additional loads  $/U_{BD}/$ .

For additional possibilities of using the power supply unit see its Technical Instructions.

Installation drawings RI - 3906-4, sheet 1 and 2 show the method of using S3 and S4 switches indicating isolation of both aeriels.

After the antenna selector switches are set the position "antenna isolated" - a short-circuit type signal occurs on terminals 7,8 of the P1/RR 3906-4 terminal strip, which can be used for signalling, the current restriction to 1A being maintained.



### 3.2.3. Connection and Installation of Receiving Aerial

For details regarding the installation and lead-in of the aerial refer to technical instructions of the receiver and installation drawings, RI-3906-4, sheet 1 and 2.

It is permissible to apply as an receiving aerial, types as followe

- EAS-01 /GDR/ - without any supporting mast
- EAS-03 with 3 m high supporter
- or EAS-06 with the mast 6 m high.

The aerial's manufacturer is: VEB Funkwerk Köpenick DDR-117 Berlin - or others aerial having equivalent parameters /i.e - wire aerial - with length 15 m ormo more.

The h.f.voltage  $40V_{r.m.s.}$  at the antenna lead-in terminals is a destructive one for receiver input circuits.

### 3.2.4. Connecting up and Installation of Transmitting Aerial

Mutual location of receiving and transmitting aeriels should be fixed after taking into aceount requirements detailed in 3.2.3.

The antenna lead-in is to be made so that requirements of installation drawings are followed.

To obtain the required transmitter range it is necessary to use an aerial of the following parameters:

a/ For intermediate waves:

- Capacitance  $C = 120 \text{ pF to } 250 \text{ pF}$
- & Resistance  $R = 4 \text{ to } 10 \text{ onms}$



b/ For bands 4 to 6 MHz

- Capacitance  $C = 300$  to  $600$  pF
- Resistance  $R = 15$  to  $30$  Ohms

c/ For bands 8 MHz

- Resistance =  $100$  to  $300$  ohms
- $X \leq \pm 100$  ohms

An AP-10 aerial manufactured by Mechanical Works at Swidnik - Poland should be applied to comply with the above requirements.

The antenna wire between the radiostation insulator and the antenna lead-in clamp should be screened.

The distance of the screen metal elements from the antenna wire should be as long as possible, thus :

- it should not be less than  $10$  cm for lead-in lengths not exceeding  $1,5$  m
- it should not be less than  $20$  cm for lead-in lengths greater than  $1,5$  m /up to  $2,5$  m/.

The screen should have no sharp protrusions projecting inwards /towards the antenna wire/.

An air change should be provided inside the screen by using ventilation holes,

The screen should be made from a non-magnetic material of good electric conductance.

### 3.2.5. Installation of External Loud-speaker

Loudspeaker with WA 0141 amplifier is to be installed as per RI-3906-4, sheet 1 or 2.

### 3.2.6. Transmitter tuning

The aim of the tuning is :

- a/ to determine for each operative channel /allocated with a quartz/an appropriate position of matching and tuning switches so as :
  - to obtain a non-distorted signal of the transmitter output current at operation with A3J emission and at the transmitter control with a two-tone signal/or at A3H emissions with a single-tone signal/.



- antenna current r.m.s. be at least :

RR 3906-4/50W      RR 3906-4/100W

for band 1,6 to 4 MHz,      1,25 A      2,0 A

for band 6 MHz      0,8 A      1,0 A

for band 8 MHz      0,3 A      0,5 A

The above values are determined for unmodulated signal A3H and for full output power of the transmitter.

At main supply /via Z 0278 power supply unit the above current values should rise by abt.20%.

b/ To inscribe figures corresponding to positions of matching and tuning switches in L and T columns respectively, in the transmitter frequency table and for channel 2182 kHz in para 2.6. of this Instruction Manual.

The frequency table is to be filled up in black colour for frequencies allocated to simplex operation, in green colour for the version arranged for operation in duplex system.

The measuring circuit enabling proper operation to be carried out should contain :

- Hot-wire ammeter of range 5A, 2A, 1A connected in series with the transmitting aerial lead-in.
- oscilloscope the input of which is coupled with the antenna lead so that the shape of the observed signal corresponds to the shape of the antenna current.
- audio generator generating a two-tone signal/1000Hz and 2000 Hz/ and a one-tone signal /1000 Hz/ connected in the place of the microtelephone.

The generator signal output level should be abt.0,5V /the transmitter should operate above the compression threshold/.

During tuning proceed in accordance with instructions given in the transmitter Operating Manual, similarly as when changing the operating channel.

Meter indications on the front transmitter panel should be an auxiliary element during tuning.



The meter is calibrated for a frequency of 2182 kHz and A3H emissions.

On completion of tuning carry out a test of modulation of the transmitter with microtelephone at A3J and A3H emissions as well as a test of radiotelephone alarm signals keying device at loading the transmitter with aerial and with dummy aerial.

After the radiostation is switched on and tuned up, take measurements of the voltage drop between the battery positive pole terminal and the  $U_T$  supply positive pole lead terminal/for radiostation 50W -  $U_D$ /in the radiostation casing.

The permissible voltage drop value is 1.0V with the full battery load, i.e. all the equipment supplied from battery are switched on and in operation /the transmitter is working with the full power and with A1 emission/.

In case when any greater voltage drop is found, the voltage should be restored to the desired value by increasing the supply cores section, by correction of condition of contacts at junctions or by reducing the supply cable length.

### 3.2.7. Switching the Receiver into Operation

For switching the receiver into operation refer to Instruction Manual for the EGD-02 receiver.

### 3.3. FINAL REMARKS

The manufacturer grants correct operation of the radiostation if during installation of same recommendations of this Instruction Manual were observed and if the radiostation was operated in compliance with the service instructions. The radiostation cannot be connected to improper supply voltages. The mains supply voltages should be within 220V,  $\pm 10\%$  and storage battery supply voltage within 24V  $\pm 15\%$  - 5%.

A short-term operation /several minutes/ at battery voltage of up to 30V is allowed.



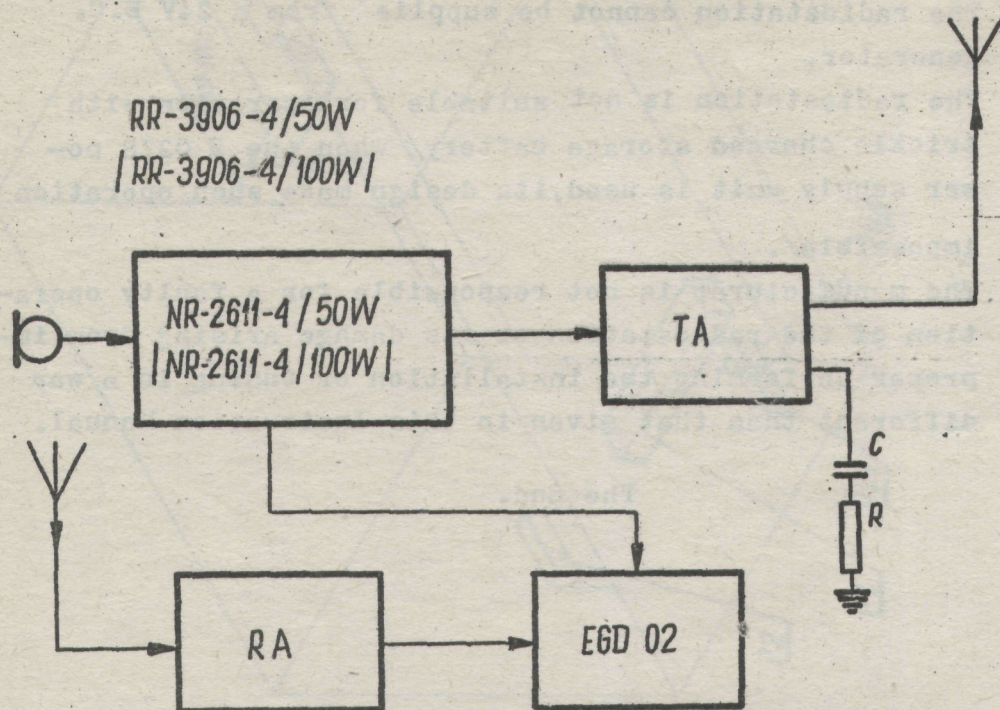
The radiostation cannot be supplied from a 24V D.C. generator.

The radiostation is not suitable for operation with trickle charged storage battery/ when the Z 0278 power supply unit is used, its design make such operation impossible/.

The manufacturer is not responsible for a faulty operation of the radiostation or its damage arising from improper performing the installation or tuning in a way different than that given in this Instruction Manual.

The End.





TA — Przełącznik anteny nadawczej.

— Transmitting aerial change-over switch.

— Sendeantennenschalter.

— Переключатель передающих антенн.

RA — Przełącznik anteny odbiorczej.

— Receiving aerial change-over switch.

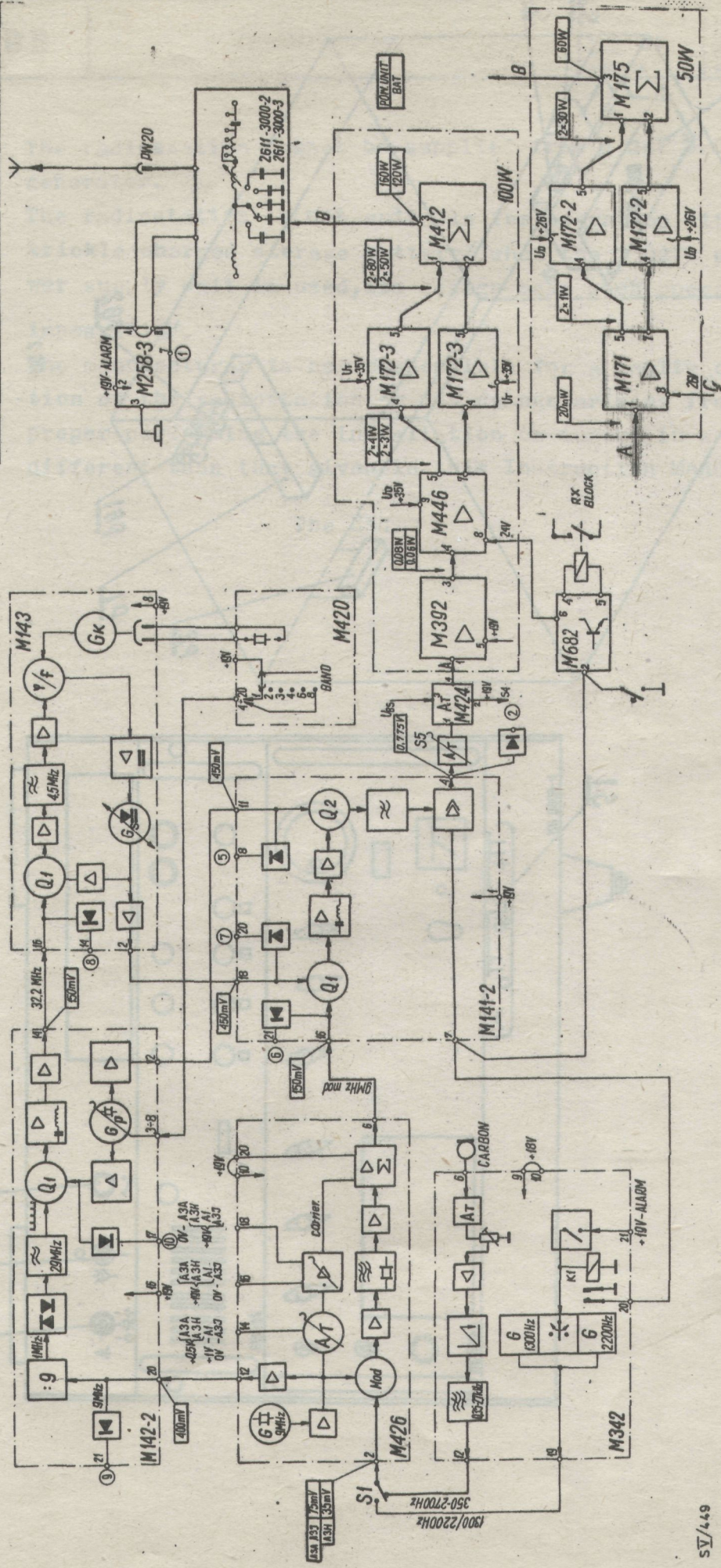
— Empfangsantennenschalter.

— Переключатель приемных антенн.

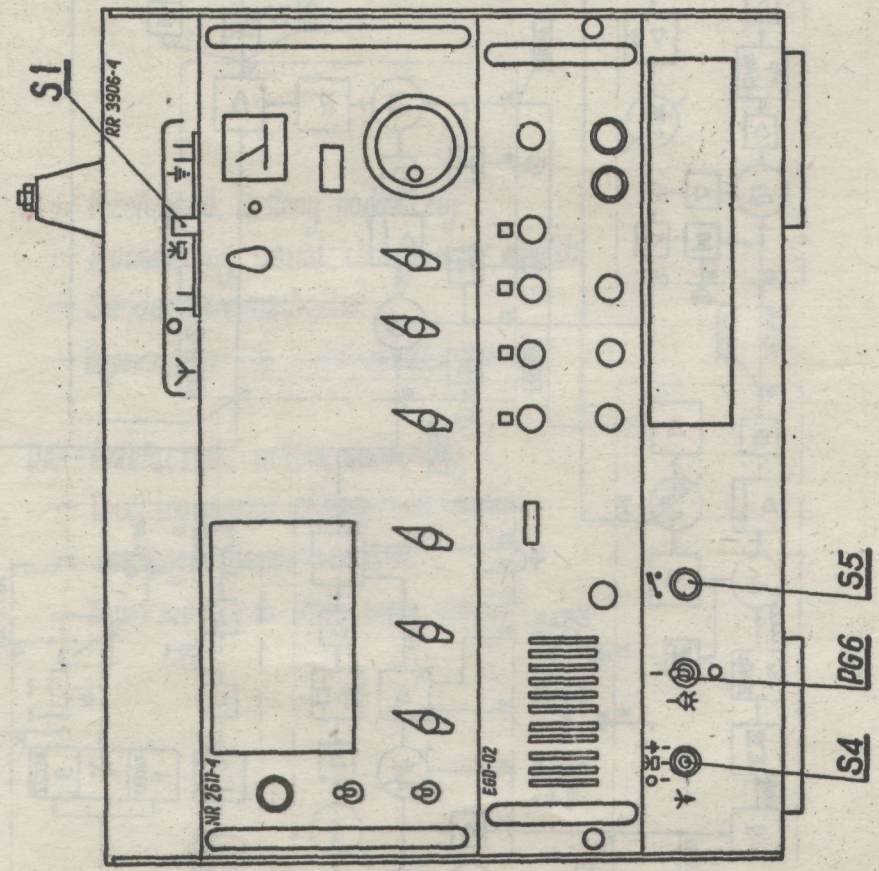
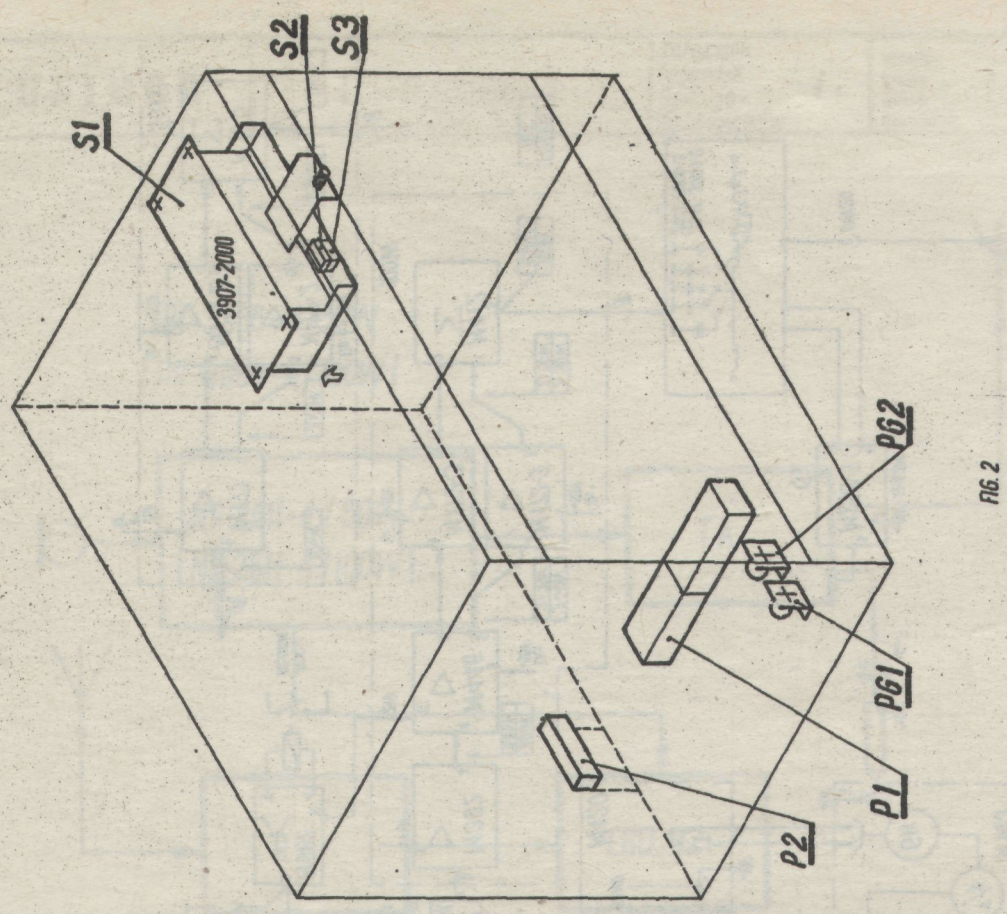


UNIMOR IT-78/3906-4

Знак	2	Символ	1	Символ	1
Знак	2	Символ	1	Символ	1
Знак	2	Символ	1	Символ	1
Знак	2	Символ	1	Символ	1
Знак	2	Символ	1	Символ	1









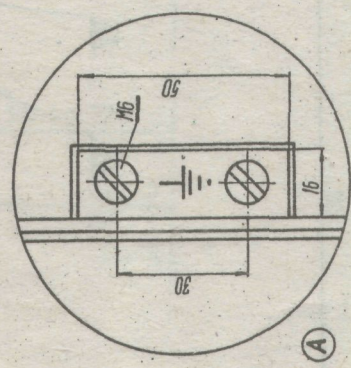
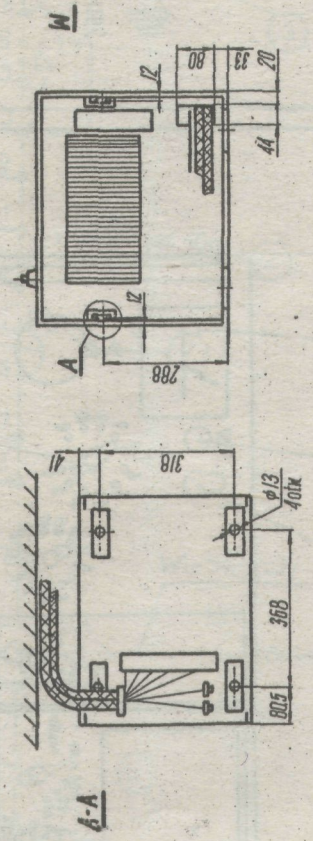
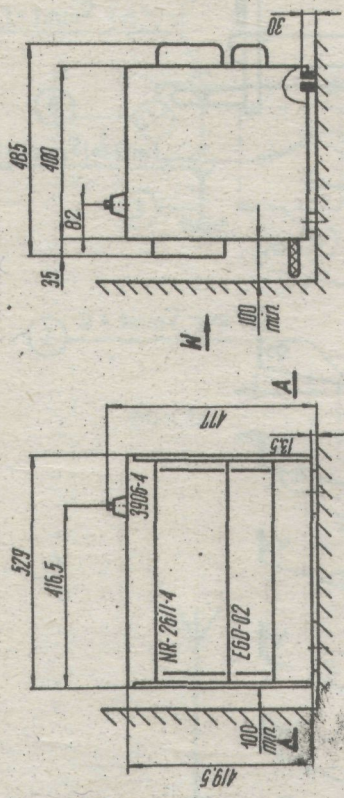


FIG. 3

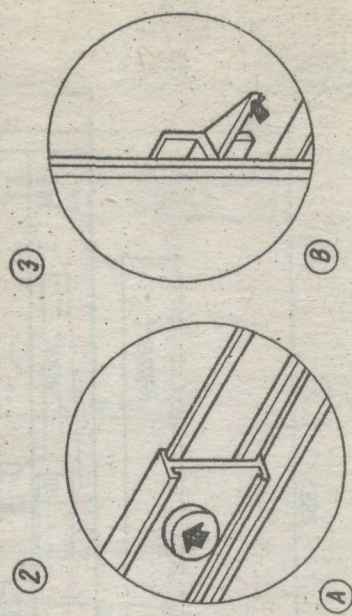
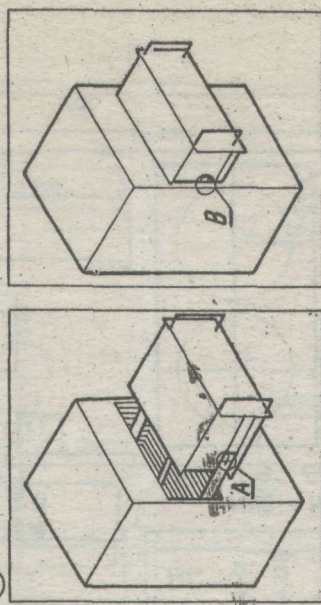
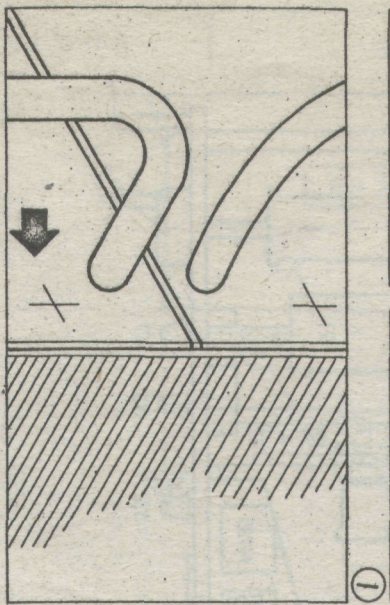
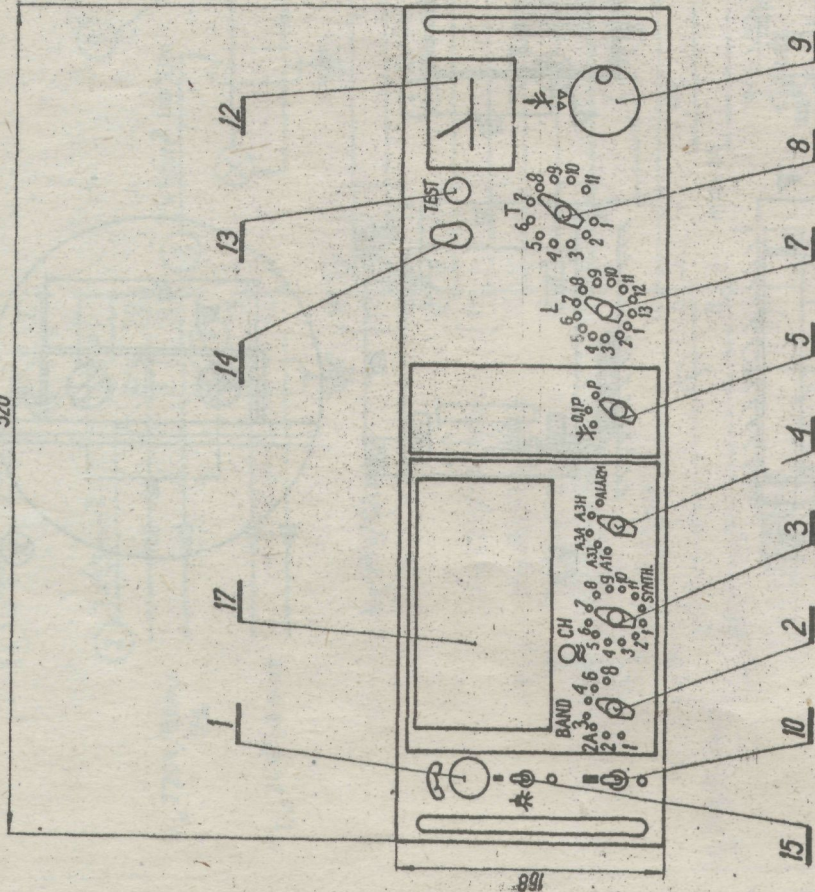


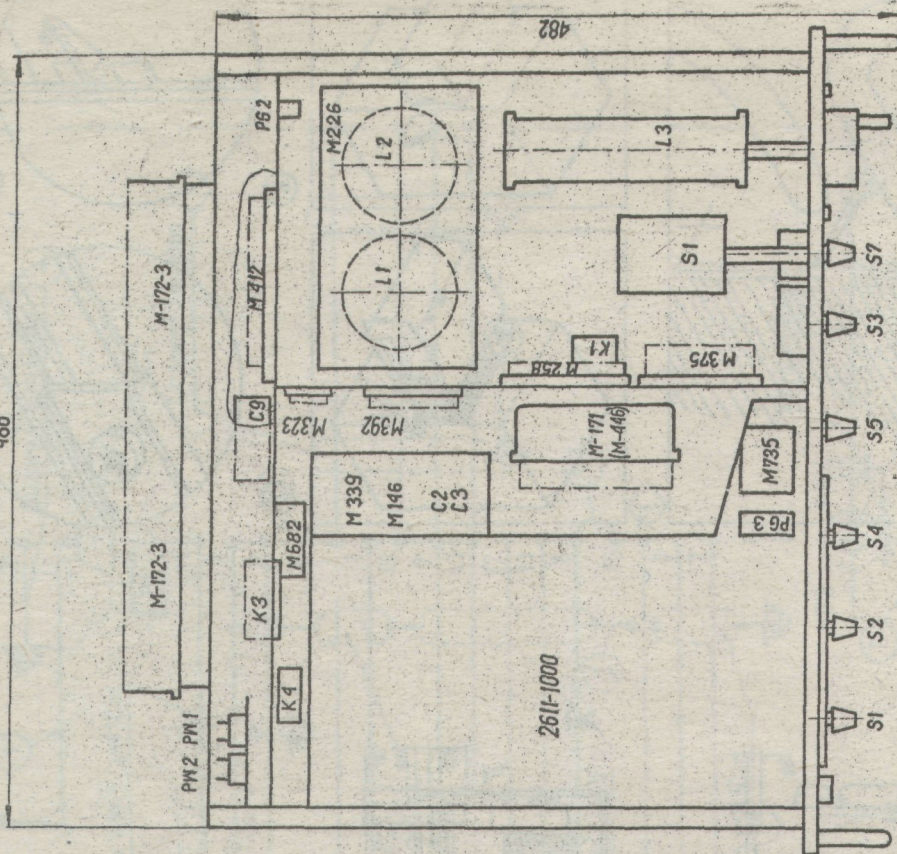
FIG. 4



520

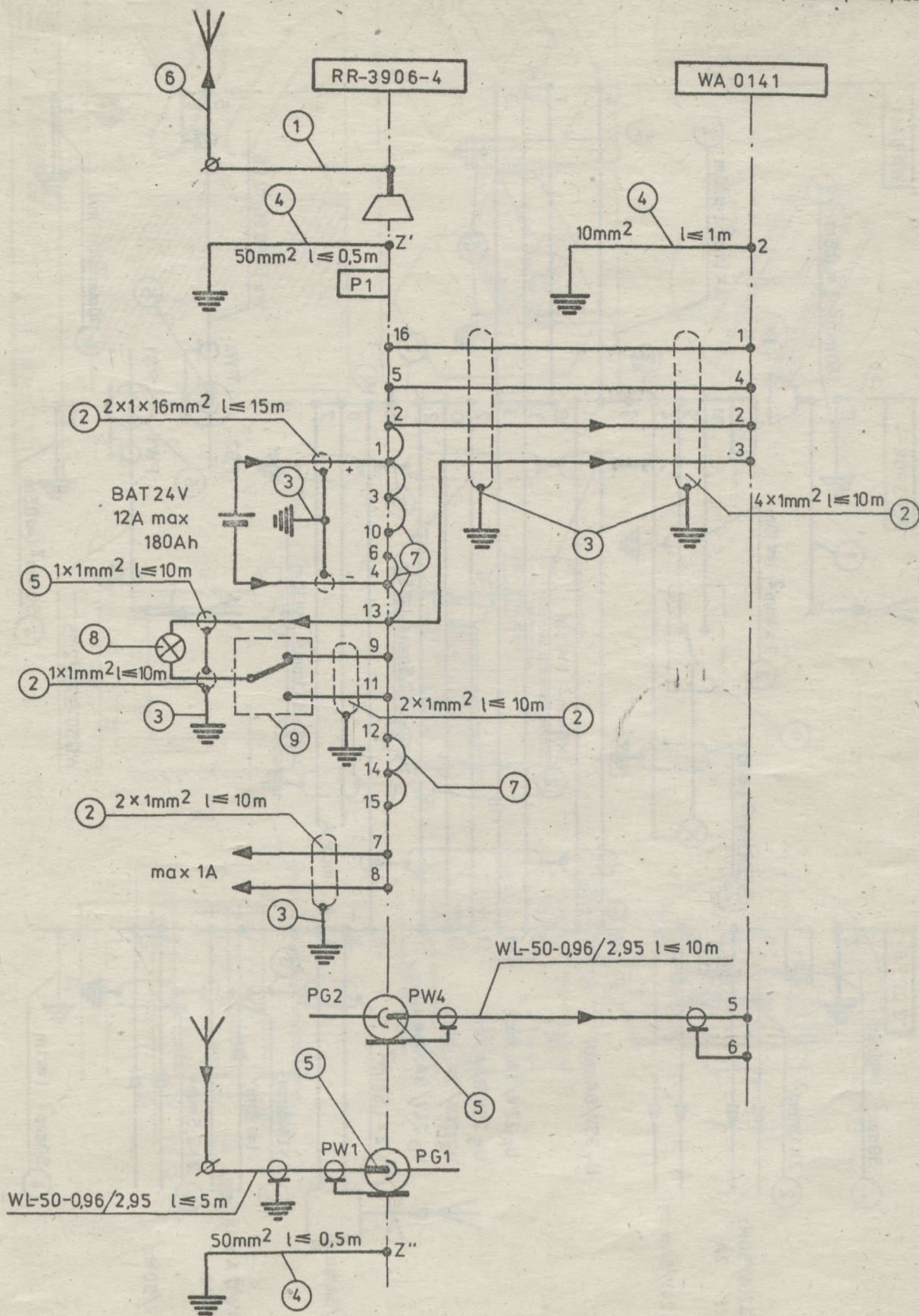


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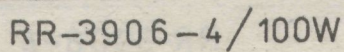


NR-2611-4

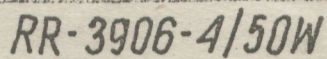












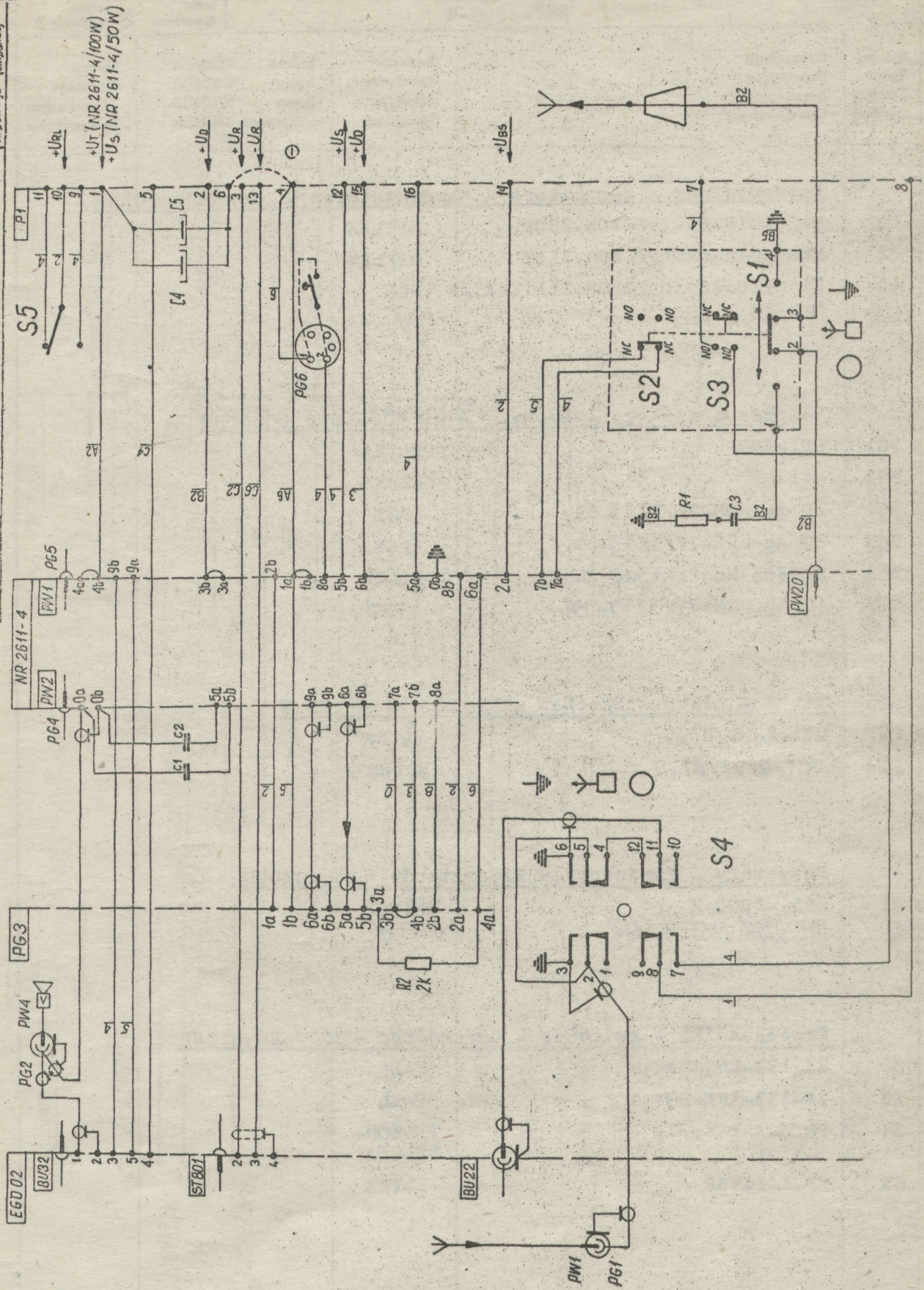


UNIMOR		RI-3906-4	strona page seite stranica 4	stron pages seiten stranic 4
Pos.	Subject	Remarks		
1.	Cord or tube Cu $\varnothing$ 6-12 mm $L \leq 2,5$ m or coaxial cable WD-50-50/17,9 without braided screen	remarks p.3.2.4.		
2.	Trunk zone cable	approximate areas and max currents value given in RI-3906-4 sheet 1 and 2		
3.	Screw the cables braided screen to the grounding bolt			
4.	Strit or cord Cu $L \leq 0,5$ m			
5.	Plug UC1-W1/R7,5	provided by the manu- facturer		
6.	Receiving antenna			
7.	Cu $\varnothing$ 1 mm <sup>2</sup>			
8.	Total power of emergency lighming lamps 20W			
9.	External swith of emrgency lighting			

#### REMARKS

1. An isulation state of transmitting and receiving antennas is shown by shorting of the clamps 7,8 of the terminal strip P1/RR 3906-4 /switches S3,S4/.
2. Before installing, terminal conductor with 16 mm<sup>2</sup> area connected to a terminal strip should be precisely inundated with tin, then filed around to reach the size enabling the terminal input.  
A transitory terminal strip D-1970-012-2 can be used for this purpose. It is provided by UNIMOR on the additional order.

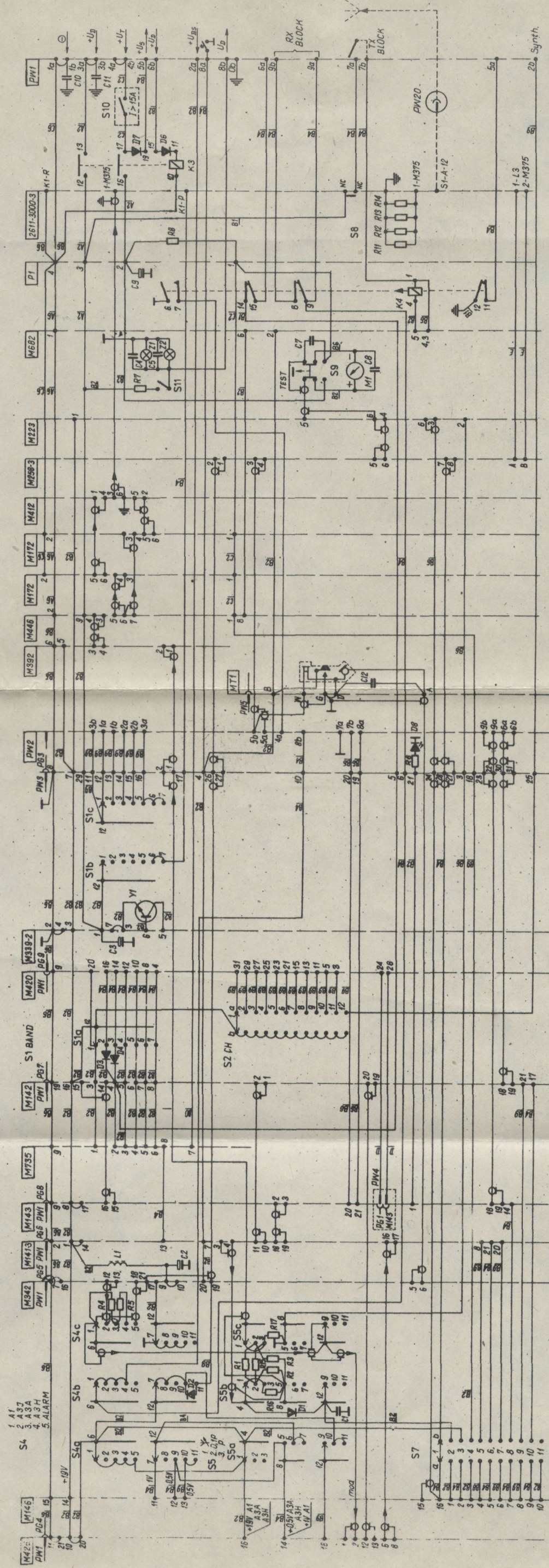




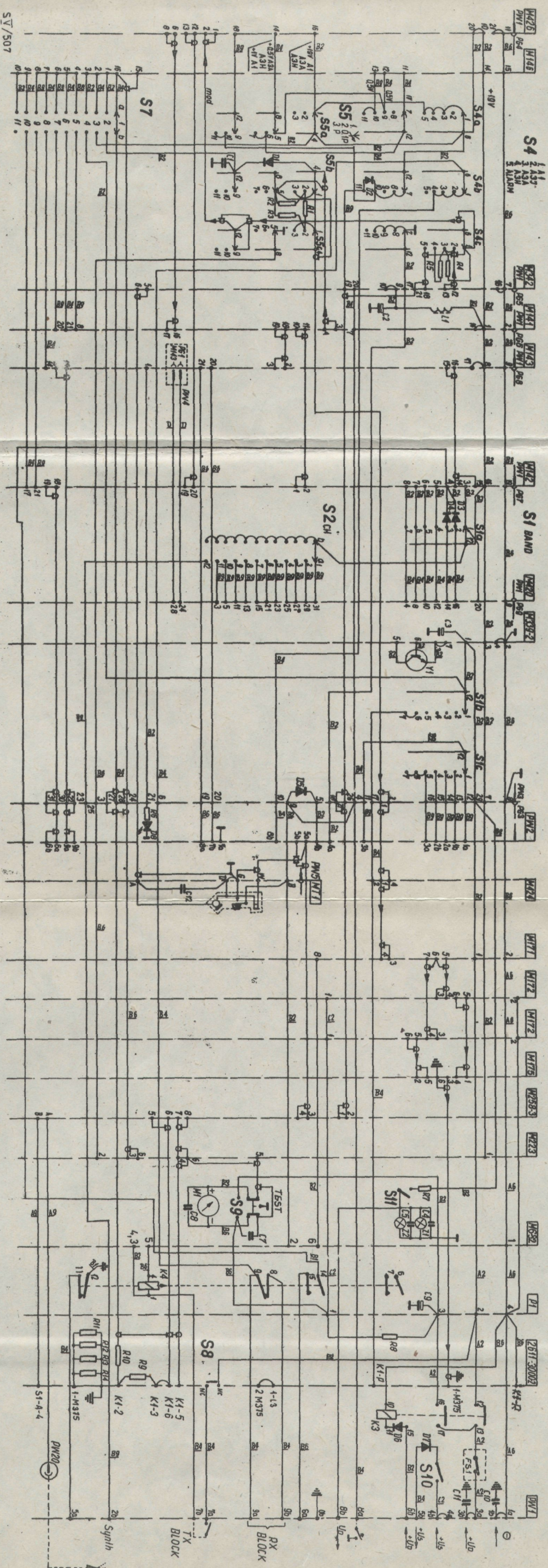


Symbol Symbol Zeichen Символ	Oznaczenie Description Bezeichnung Обозначение	Producent Manufacturer Hersteller Продуцент	Indeks Index Index Указатель	UNIMOR UNIMOR UNIMOR UNIMOR	Uwagi Remarks Bemerkungen Примечания
<u>Kondensatory - capacitors - Kondensatoren - КОНДЕНСАТОРЫ</u>					
C4	MKSE-018-01-1 $\mu$ F-20%-250V	MIFLEX			
C2	MKSE-018-01-1 $\mu$ F-20%-250V	MIFLEX			
C3	C160/10-20x80 TGL68-111 KER320	NRD			
C4 C5	02/T-1000 $\mu$ F-63V	ELWA			
<u>Gniazda - sockets - Buchsen - ИСПОЛНИТЕЛЬНЫЕ РОЗЕТКИ</u>					
PG1	UC1-G2	ELTRA			
PG2	UC1-G2	ELTRA			
PG4	20 Ag BN-77/3213-09	PZT			
PG5	20 Ag BN-77/3213-09	PZT			
PG6	Złącze kontaktowe ZW5/g	POLON			
PG3	12 Ag BN-77/3213-09	PZT			
<u>Wtyki - plugs - Stecker - ИСПОЛНИТЕЛЬНЫЕ ШПИКИ</u>					
PW1	UC1-2-W1/R7,5	ELTRA			
PW4	UC1-2-W1/R7,5	ELTRA			
<u>Rezystory - resistors - Widerstande - РЕЗИСТОРЫ</u>					
R1	2651-2000-2	UNIMOR			
R2	MKT-0,25W-2K52-5%-434	OMIG			
<u>Przełączniki - switches - Umschalter - ПЕРЕКЛЮЧАТЕЛИ</u>					
S2	83-133-54E-R34,4	FAEL			
S3	83-133-54E-R34,4	FAEL			
S4	Ptp5S-A-t-2p/2p	TELKOM- TELCZA			
S5	TP-1-2-456	ELTRA			











UNIMOR		SHP-2611-4A.		strona page seite 3 страница	stron pages seiten 6 страниц
Symbol Symbol Zeichen Символ	Oznaczenie Description Bezeichnung Обозначение	Producent Manufacturer Hersteller Продуцент	Index Index Index Указатель	UNIMOR UNIMOR UNIMOR UNIMOR	Uwagi Remarks Bemerkungen Примечания
<u>Zespoły-subassemblies-Bausteine- узлы</u>					
M426	2845-1500	UNIMOR			
M146-2	2843-9100	UNIMOR			
M342	2612-1100	UNIMOR			
M141-2	2611-1120	UNIMOR			
M142-2	2611-1130	UNIMOR			
M143	2843-6100	UNIMOR			
M420-2	2611-6700	UNIMOR			
M339-2	0278-1100	UNIMOR			
M392	2845-1400	UNIMOR			NR2611-4 100W
M171	2611-2100	UNIMOR			NR2611-4 50W
M446	2611-2600	UNIMOR			NR2611-4 100W
M172-2	2611-2200	UNIMOR			NR2611-4 50W
M172-2	2611-2200				
M172-3	2611-2200	UNIMOR			NR2611-4 100W
M172-3	2611-2200				
M412	2611-2350	UNIMOR			NR2611-4 100W
M175	2611-2300	UNIMOR			NR2622-4 50W
M258-3	2611-6600	UNIMOR			
M223	2611-6000	UNIMOR			
M418	2611-6800	UNIMOR			
M735	2611-1920	UNIMOR			
<u>Kondensatory - capacitors - Kondensatoren - конденсаторы</u>					
C1	MKSE-018-01-0,1 $\mu$ F-20%-250V	MIFLEX			
C2	02/T-KED-1500 $\mu$ F-40V-664	ELWA			
C3	02/T-KED-1500 $\mu$ F-40V-664	ELWA			
C4	MKSE-018-01-0,1 $\mu$ F-20%-250V	MIFLEX			
C5	MKSE-018-01-0,1 $\mu$ F-20%-250V	MIFLEX			
C7	MKSE-018-01-0,1 $\mu$ F-20%-250V	MIFLEX			
C8	MKSE-018-01-0,1 $\mu$ F-20%-250V	MIFLEX			
C9	02/T-KED-1000 $\mu$ F-63V-664	ELWA			
C10	MKSE-018-01-0,1 $\mu$ F-20%-250V	MIFLEX			
C11	MKSE-018-01-0,1 $\mu$ F-20%-250V	MIFLEX			
C12	MKSE-018-01-0,68 $\mu$ F-20%-250V	MIFLEX			



UNIMOR		SHP-2611-4A		strona page seite страница 4		stron pages seiten страниц 6	
Symbol Symbol Zeichen Символ	Oznaczenie Description Bezeichnung Обозначение	Producent Manufacturer Hersteller Продуцент	Indeks Index Index Указатель	UNIMOR UNIMOR UNIMOR UNIMOR	Uwagi Remarks Bemerkungen Примечания		
<u>Diody - diodes - Dioden - диоды</u>							
D1	AAP-161	CEMI					
D2	BAVP 20	CEMI					
D3	BAVP 20	CEMI					
D4	BAVP 20	CEMI					
<del>D5</del>	<del>BYP 401-50</del>	<del>CEMI</del>					
D6	BYP 401-50	CEMI					
D7	BYP 401-50	CEMI					
D8	CQYP 40	CEMI					
<u>Przekaźniki - relays - Relays - реле</u>							
K3	RU 40-24V	REFA					
K4	HO-0 2561/21-1210-4xu/57(2F) H-561-391-02	HALLER					
<u>Cewki - coils - Spulen - катушки</u>							
L1	2843-1*20-1	UNIMOR					
<u>Mierniki - meters - Messgeräte - измерительные приборы</u>							
M1	MER 72TM 0-100µA P-65-25-300K tabl.Fe 3mm	NERA					
<u>Mikrotelefon - handsets - Handapparate - микрофон</u>							
MT1	0135-0000/6	RADMOR			czarny		
<u>Rezystory-resistors-Widerstände- резисторы</u>							
R1	MLT-0,25W-51Ω -5%-434	TELPOD			}	NR2611-4 100W	
R2	MLT-0,25W-110Ω-5%-434	TELPOD					
R3	MLT-0,25W-110Ω-5%-434	TELPOD					
R4	MLT-0,25W-2,2kΩ-5%-434	TELPOD					
R5	MLT,025-470Ω -5%-434	TELPOD					
R6	MLT-0,25W-1,0kΩ -5%-434	TELPOD					
R7	RDCO-5W-100Ω -5%	TELPOD					
R8	D-2450-014-2	UNIMOR				NR2611-4 50W	
R9	D-2450-014-2/2 szt.równoległ	UNIMOR				NR2611-4 100W	
R9	MLT-0,25W-100kΩ -5%-434	TELPOD			}	NR-2611-4 50W	
R10	MLT-0,25W-20kΩ -5%-434	TELPOD					
R11-14	MLT-2W-8,2kΩ -5%-434	TELPOD					

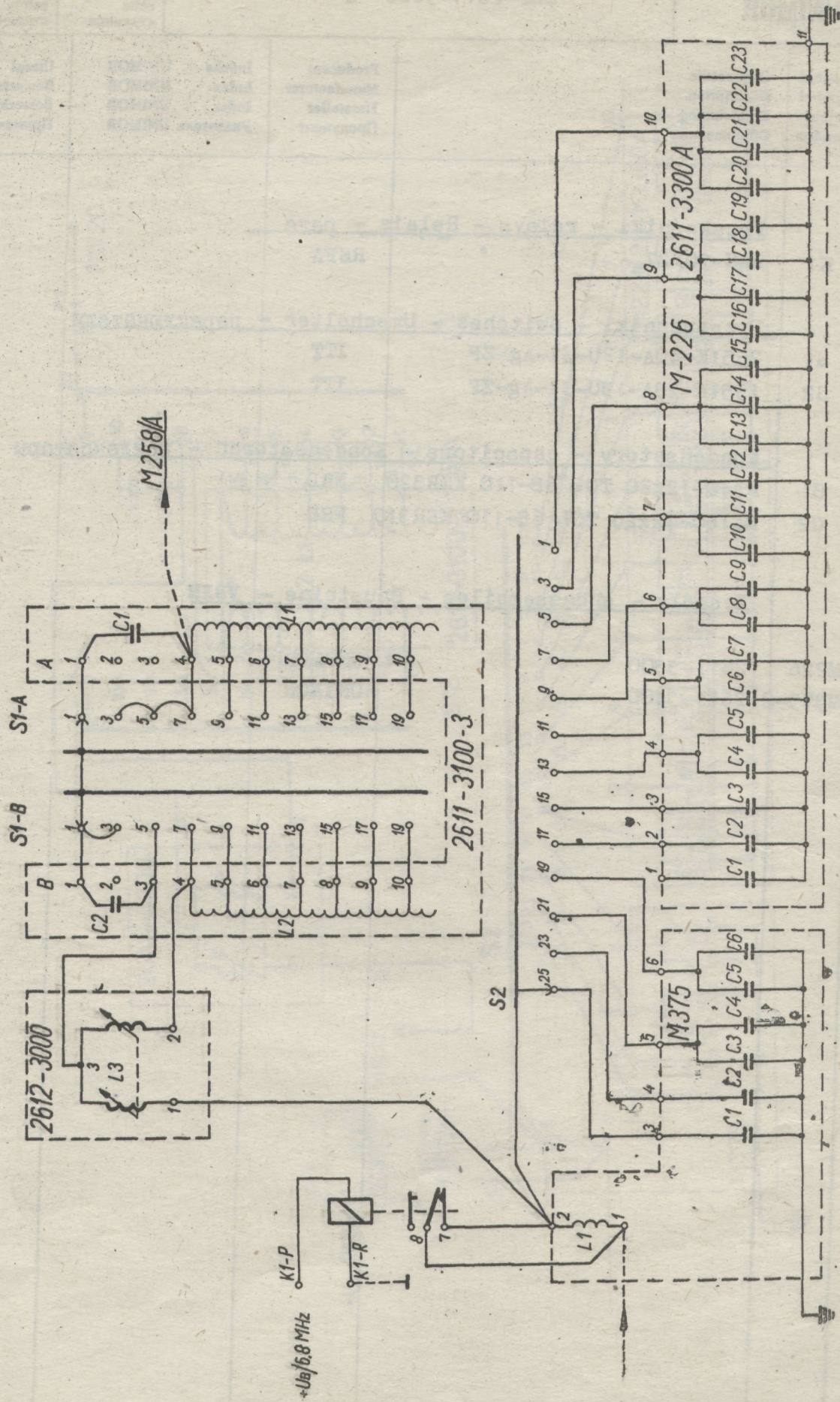


UNIMOR		SHP-2611-4A		strona page seite 5 страница		stron pages seiten 6 страниц	
Symbol Symbol Zeichen Символ	Oznaczenie Description Bezeichnung Обозначение	Producent Manufacturer Hersteller Продуцент	Indeks Index Index Указатель	UNIMOR UNIMOR UNIMOR UNIMOR	Uwagi Remarks Bemerkungen Примечания		
R1	MLT-0,25W-200Ω -5%-434	TELPOD			} NR2611-4 50W		
R2	MLT-0,25-62Ω -5%-434	TELPOD					
R3	MLT-0,25W-62Ω-5%-434	TELPOD					
R15	MLT-0,25W-51Ω -5%-434	TELPOD					
R16	MLT-0,25W-110Ω -5%-434	TELPOD					
R17	MLT-0,25W-110Ω -5%-434	TELPOD					
<u>Gniazda-sockets-Buchsen- штепсельные розетки</u>							
PG3	861 031 01 2 1 000 1	ELTRA					
PG4	861 021 01 2 1 000 1	ELTRA					
PG5	861 021 01 2 1 000 1	ELTRA					
PG6	861 021 01 2 1 000 1	ELTRA					
PG7	861 021 01 2 1 000 1	ELTRA					
PG8	861 021 01 2 1 000 1	ELTRA					
PG9	861 031 01 2 1 000 1	ELTRA					
<u>Wtyki - plugs - Stecker - штепсельные вилки</u>							
PW1	20 Ag BN-77/3231-09	PZT					
PW2	20 Ag BN-77/3231-09	PZT					
PW3	851 031 01 1 000 1	ELTRA					
PW4	2843-1160	UNIMOR					
PW5	P-62-45-000/I	RADMOR					
PW20	D-2420-329	UNIMOR					
<u>Przełączniki-switches-Umschalter- переключатели</u>							
S1	POW-S-P1-29-t-373a-250V-1A-566	ELTRA					
S2	P2G3 12P1N	ELTRA					
S4	POW-S-P1-29-t-352a-250V-1A-566	ELTRA					
S5	POW-S-P1-29-t-331a-250V-1A-566	ELTRA					
S7	P2G3 12P1N	ELTRA					
S8	83-133	FAEL			NR2611-4 50W		
S8	83-133 54E R34,4	FAEL			NR2611-4 100W		
S9	601-01-088-1	ELTRA					
S10	WST-15A-24V	ELTRA			NR2611-4 100W		
S10	TP-1-2-456	ELTRA			NR2611-4 50W		
S11	83 546-02	FAEL					



UNIMOR		SHP-2611-4A			strona page seite страница 6	stron pages seiten страниц 6
Symbol Symbol Zeichen Символ	Oznaczenie Description Bezeichnung Обозначение	Producent Manufacturer Hersteller Продуцент	Indeks Index Index Указатель	UNIMOR UNIMOR UNIMOR UNIMOR	Uwagi Remarks Bemerkungen Примечания	
	<u>Żarówki-lamps - Glühlampen - лампы накаливания</u>					
Z1	Żarówka telefoniczna miniaturowa z trzonkiem T5,5	HELIOS				
Z2	Żarówka telef. miniat. z trz. T5,5 24V 0,05A	HELIOS				
	<u>Tranzystory - transistors - Transistoren - транзисторы</u>					
Y1	2N 3055	SESCOSEM				
	<u>Bezpieczniki - fuses - Sicherungen - предохранители</u>					
FS1	WST-10A-24V	ELTRA			NR2611-4 50W	

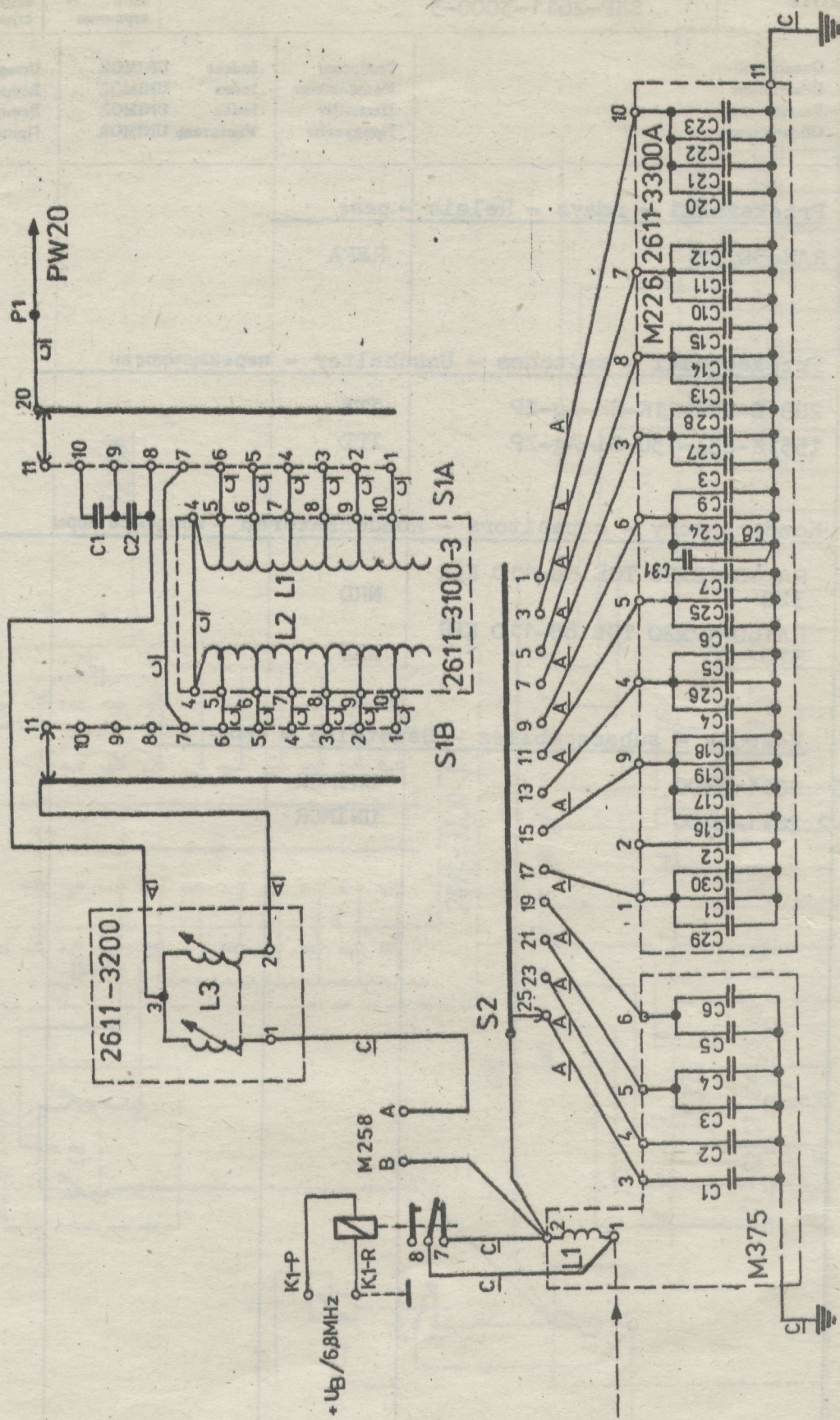






UNIMOR		SHP-2611-3000 -2		strona page 2 seite страница	stron pages 2 seiten страниц
Symbol Symbol Zeichen Символ	Oznaczenie Description Bezeichnung Обозначение	Producent Manufacturer Hersteller Продуцент	Indeks Index Index Указатель	UNIMOR UNIMOR UNIMOR UNIMOR	Uwagi Remarks Bemerkungen Примечания
K1	<u>Przekaźniki - relays - Relais - реле</u> RAN-30/27=	REFA			
	<u>Przełączniki - switches - Umschalter - переключатели</u>				
S1	2551K-40A-12U-Si-Ag-ZP	ITT			
S2	1551K-23A-13U-Si-Ag-ZP	ITT			
	<u>Kondensatory - capacitors - Kondensatoren - конденсаторы</u>				
C1	RA40-12x20 TGL 68-110 KLR320	NRD			
C2	RA160-12x20 TGL 68-110 KER310	NRD			
	<u>Zespoły - subassemblies - Bausteine - узлы</u>				
M226	2611-3300	UNIMOR			
M375-2	2611-3400	UNIMOR			



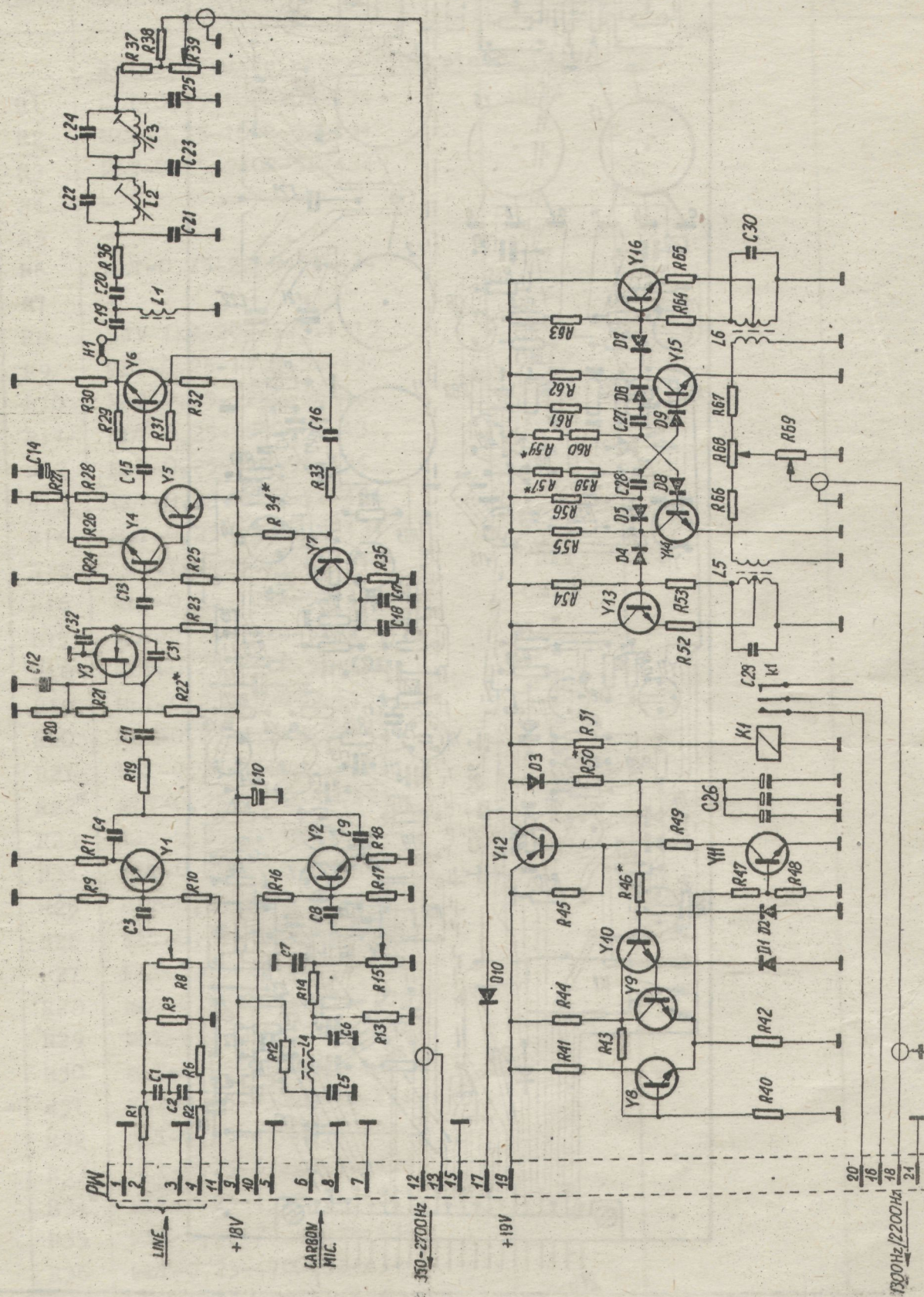


2611-3000-3

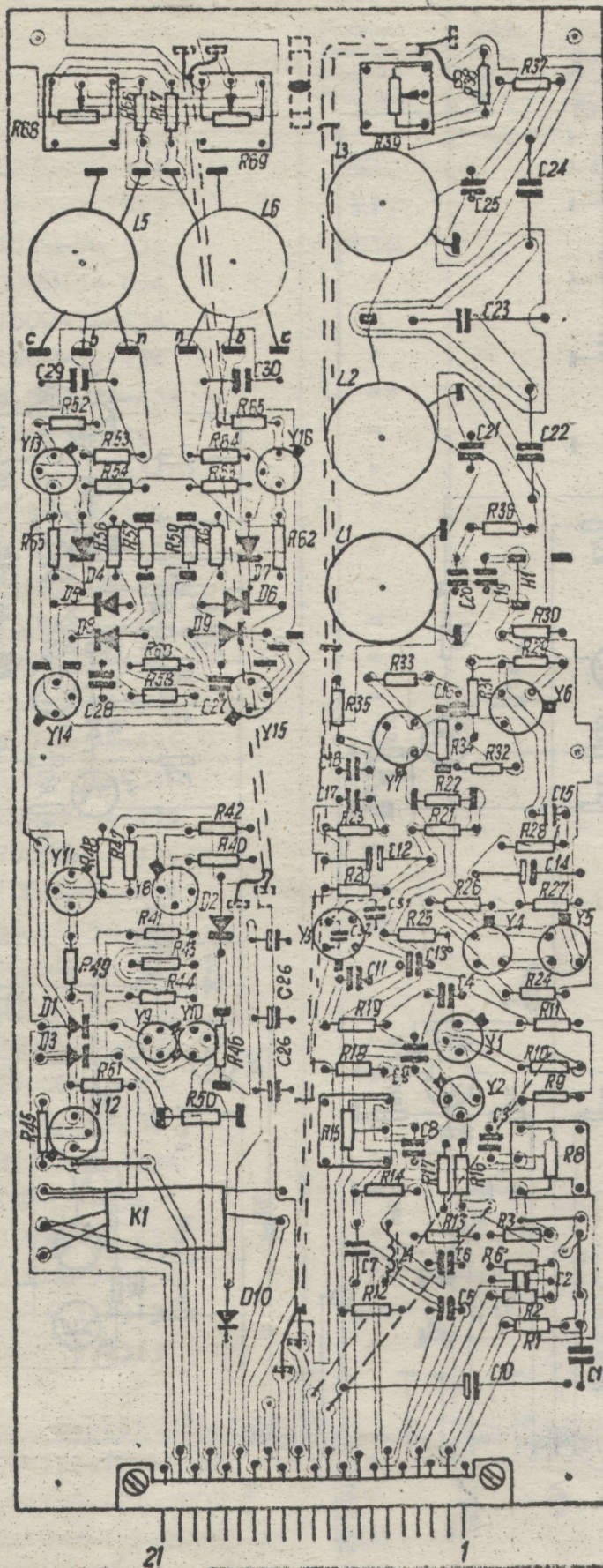


UNIMOR		SHP-2611-3000-3		strona page seite страница 2		stron pages seiten страниц 2	
Symbol Symbol Zeichen Символ	Oznaczenie Description Bezeichnung Обозначение	Producent Manufacturer Hersteller Продуцент	Indeks Index Index Указатель	UNIMOR UNIMOR UNIMOR UNIMOR	Uwagi Remarks Bemerkungen Примечания		
K1	<u>Przekaźniki - relays - Relais - реле</u>						
	RAN-30/27	REFA					
	<u>Przełączniki - switches - Umschalter - переключатели</u>						
S1	2881E-50A-11K-HK-Ag-ZP	ITT					
S2	1551K-23A-13U-S1-Ag-ZP	ITT					
	<u>Kondensatory - capacitors - Kondensatoren - конденсаторы</u>						
C1	RA 40-12x20 TGL 68-110 KER 320	NRD					
C2	RA160-12x20 TGL 68-110 KER 310	NRD					
	<u>Zespoły - subassemblies - Bausteine - узлы</u>						
M226	2611-3300	UNIMOR					
M-375-2	2611-3400	UNIMOR					









M342



UNIMOR		2612-1100		strona page 2 seite страница	stron pages 5 seiten страниц
Symbol Symbol Zeichen Символ	Oznaczenie Description Bezeichnung Обозначение	Producent Manufacturer Hersteller Продуцент	Indeks Index Index Указатель	UNIMOR UNIMOR UNIMOR	Uwagi Remarks Bemerkungen Примечания
	<u>Rezystory-resistors-Widerstande-РЕЗИСТОРЫ</u>				
R1	MLT-0,25-100Ω-5%-434	OMIG			
R2	MLT-0,25-100Ω-5%-434	"			
R3	MLT-0,25-240Ω-5%-434	"			
R4	-				
R5	-				
R6	MLT-0,25-220Ω-5%-434	"			
R7	-				
R8	SWV-1kΩ-20%-523.1313	RFT			
R9	MLT-0,25-15kΩ-5%-434	OMIG			
R10	MLT-0,25-12kΩ-5%-434	"			
R11	MLT-0,25-560Ω-5%-434	"			
R12	MLT-0,25-1kΩ-5%-434	"			
R13	MLT-0,25-200Ω-5%-434	"			
R14	MLT-0,25-100Ω-5%-434	"			
R15	SWV-1kΩ-20%-523.1313	RFT			
R16	MLT-0,25-12kΩ-5%-434	OMIG			
R17	MLT-0,25-15kΩ-5%-434	"			
R18	MLT-0,25-560Ω-5%-434	"			
R19	MLT-0,25-5,6kΩ-5%-434	"			
R20	MLT-0,25-4,7kΩ-5%-434	"			
R21	MLT-0,25-16kΩ-5%-434	"			
R22*	MLT-0,25-12kΩ-5%-434	"			
R23	MLT-0,25-120kΩ-5%-434	"			
R24	MLT-0,25-47kΩ-5%-434	"			
R25	MLT-0,25-68kΩ-5%-434	"			
R26	MLT-0,25-4,7kΩ-5%-434	"			
R27	MLT-0,25-4,7kΩ-5%-434	"			
R28	MLT-0,25-5,6kΩ-5%-434	"			
R29	MLT-0,25-180kΩ-5%-434	"			
R30	MLT-0,25-750Ω-5%-434	"			
R31	MLT-0,25-430kΩ-5%-434	"			
R32	MLT-0,25-470Ω-5%-434	"			
R33	MLT-0,25-6,2kΩ-5%-434	"			
R34*	MLT-0,25-43kΩ-5%-434	"			
R35	MLT-0,25-240kΩ-5%-434	"			
R36	MLT-0,25-470Ω-5%-434	"			
R37	MLT-0,25-1kΩ-5%-434	"			



UNIMOR		2612-1100		strona page 3 seite страница	stron pages 5 seiten страниц
Symbol Symbol Zeichen Символ	Oznaczenie Description Bezeichnung Обозначение	Producent Manufacturer Hersteller Продуцент	Indeks Index Index Указатель	UNIMOR UNIMOR UNIMOR UNIMOR	Uwagi Remarks Bemerkungen Примечания
R38	MLT-0,25-620Ω-5%-434	OMIG			
R39	SWV-1kΩ-20%-523.1313	RFT			
R40	MLT-0,25-15kΩ-5%-434	OMIG			
R41	MLT-0,25-390Ω-5%-434	"			
R42	MLT-0,25-750Ω-5%-434	"			
R43	MLT-0,25-100Ω-5%-434	"			
R44	MLT-0,25-5,6kΩ-5%-434	"			
R45	MLT-0,25-1kΩ-5%-434	"			
R46 *	MLT-0,25-68kΩ-5%-434	"			
R47	MLT-0,25-82kΩ-5%-434	"			
R48M	MLT-0,25-6,8kΩ-5%-434	"			
R49	MLT-0,25-6,8kΩ-5%-434	"			
R50 *	MLT-0,25-150kΩ-5%-434	"			
R51	MLT-0,25-620Ω-5%-434	"			
R52	MLT-0,25-1kΩ-5%-434	"			
R53	MLT-0,25-3,3kΩ-5%-434	"			
R54	MLT-0,25-62kΩ-5%-434	"			
R55	MLT-0,25-100kΩ-5%-434	"			
R56	MLT-0,25-200kΩ-5%-434	"			
R57 *	MLT-0,25-100kΩ-5%-434	"			
R58	MLT-0,25-300kΩ-5%-434	"			
R59 *	MLT-0,25-100kΩ-5%-434	"			
R60	MLT-0,25-300kΩ-5%-434	"			
R61	MLT-0,25-200kΩ-5%-434	"			
R62	MLT-0,25-100kΩ-5%-434	"			
R63	MLT-0,25-62kΩ-5%-434	"			
R64	MLT-0,25-3,3kΩ-5%-434	"			
R65	MLT-0,25-1kΩ-5%-434	"			
R66	MLT-0,25-3,6kΩ-5%-434	"			
R67	MLT-0,25-3,6kΩ-5%-434	"			
R68	SWV-1kΩ-20%-523.1313	RFT			
R69	SWV-1kΩ-20%-523.1313	"			
<u>Kondensatory-capacitors-Kondensatoren-конденсаторы</u>					
C1	MKSE-20-C,047μF-10%-250V	MIFLEX			
C2	MKSE-20-0,047μF-10%-250V	"			
C3	KFPmIIC-10x10-r-1μF-20-63-455	CERAD			

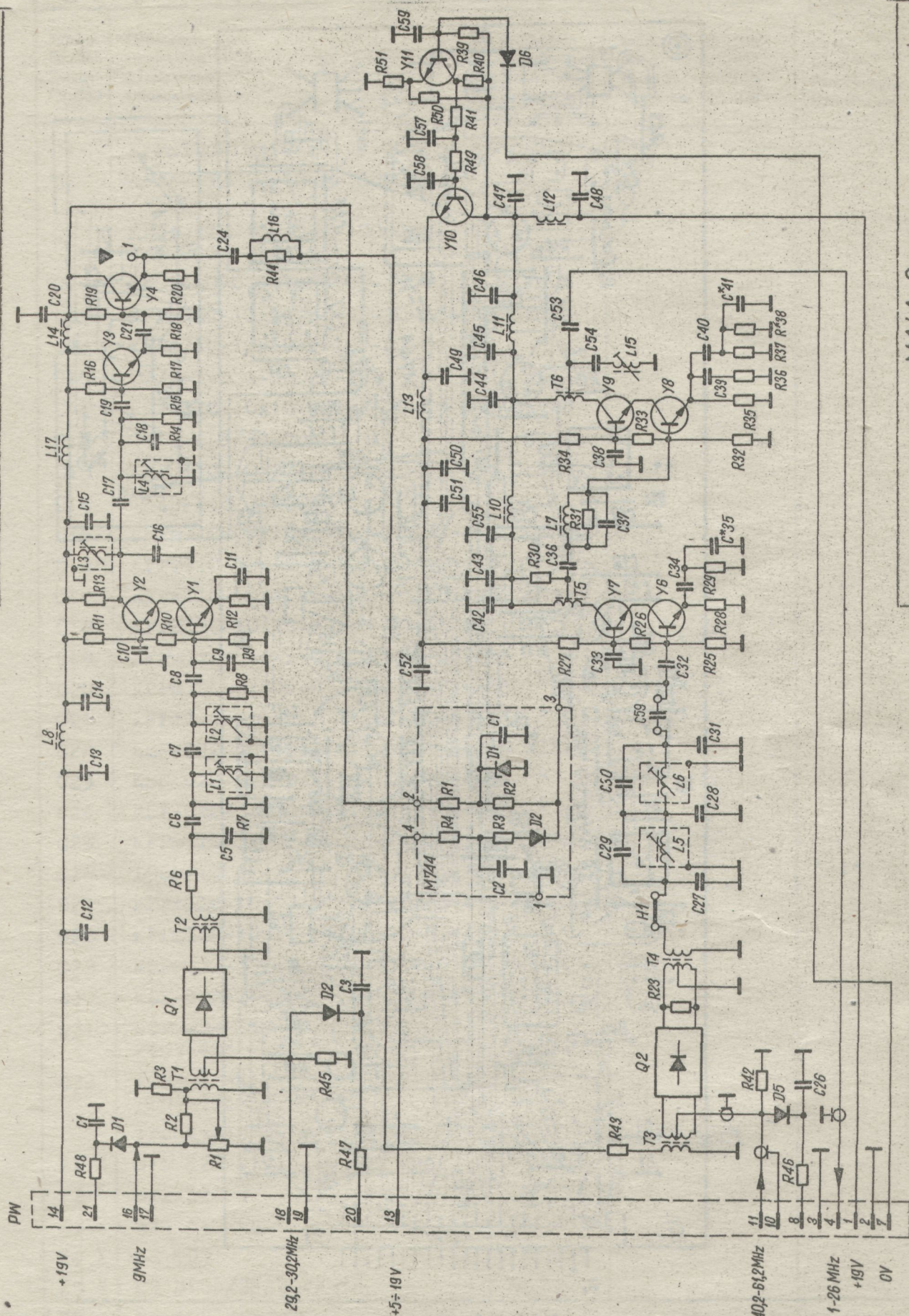


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Symbol Symbol Zeichen Символ	Oznaczenie Description Bezeichnung Обозначение	Producent Manufacturer Hersteller Продуцент	Indeks Index Index Указатель	UNIMOR UNIMOR UNIMOR UNIMOR	Uwagi Remarks Bemerkungen Примечания
C4	KFPmIIC-10x10-r-1 $\mu$ F-20-63-455	CERAD			
C5	KFPf-IIE-10x10-r-10000pF- /+50 $\pm$ 20/-25V-655	"			
C6	KFPf-IIE-10x10-r-10000pF- /+50-20/-25V-655	"			
C7	WKS-20-0,047 $\mu$ F-10 $\pm$ -250V	MIFLEX			
C8	KFPmIIC-10x10-r-1 $\mu$ F-20-63-455	CERAD			
C9	KFPmIIC-10x10-r-1 $\mu$ F-20-63-455	"			
C10	02/L-typ I-220 $\mu$ F-25V	ELWA			
C11	KFPmIIC-10x10-r-1 $\mu$ F-20-63-455	CERAD			
C12	164D-4,7/35-20%	ELWA			
C13	KFPmIIC-10x10-r-1 $\mu$ F-20-63-455	CERAD			
C14	164D-4,7/35-20%	ELWA			
C15	KFPmIIC-10x10-r-1 $\mu$ F-20 $\pm$ 63-455	CERAD			
C16	KFPmIIC-10x10-r-1 $\mu$ F-20-63-455	"			
C17	KFPmIIC-10x10-r-1 $\mu$ F-20-63-455	"			
C18	KFPmIIC-10x10-r-1 $\mu$ F-20-63-455	"			
C19	KFPmIIC-8x8-r-0,47 $\mu$ F-20-63-455	"			
C20	KFPmIIC-8x8-r-0,47 $\mu$ F-20-63-455	"			
C21	KFPmIIC-5x5-r-0,047 $\mu$ F-20-63-455	"			
C22	KSF-022-38040pF-0,5 $\pm$ -63V-B-465	MIFLEX			
C23	KSF-022-59920pF-1 $\pm$ -100V-B-465	"			
C24	KSF-022-38040pF-0,5 $\pm$ -63V-B-465	"			
C25	KFPmIIC-5x5-r-0,047 $\mu$ F-20-63-455	CERAD			
C26	196L-100 $\mu$ F-15V	ELWA			3szt.
C27	KFPmIIC-10x10-r-1 $\mu$ F-20-63-455	CERAD			
C28	KFPmIIC-10x10-r-1 $\mu$ F-20-63-455	"			
C29	KSF-022-33700pF-1 $\pm$ -63V-A-465	MIFLEX			
C30	KSF-022-11200pF-1 $\pm$ -63V-A-465	"			
C31	KCP -IB-N47-5-10 $\pm$ 0,5pF- -160V-455	CERAD			
C32	KCP -IB-N47-5-10 $\pm$ 0,5pF- -160V-455	"			
Tranzystory-transistors-Transistoren-транзисторы					
Y1	BFP 520 V	CEMI			
Y2	BFP 520 V	"			
Y3	BFW 61	PHILIPS			
Y4	BC 109	CEMI			
Y5	BC 313 /2N2904/	"			
Y6	BC 109	"			

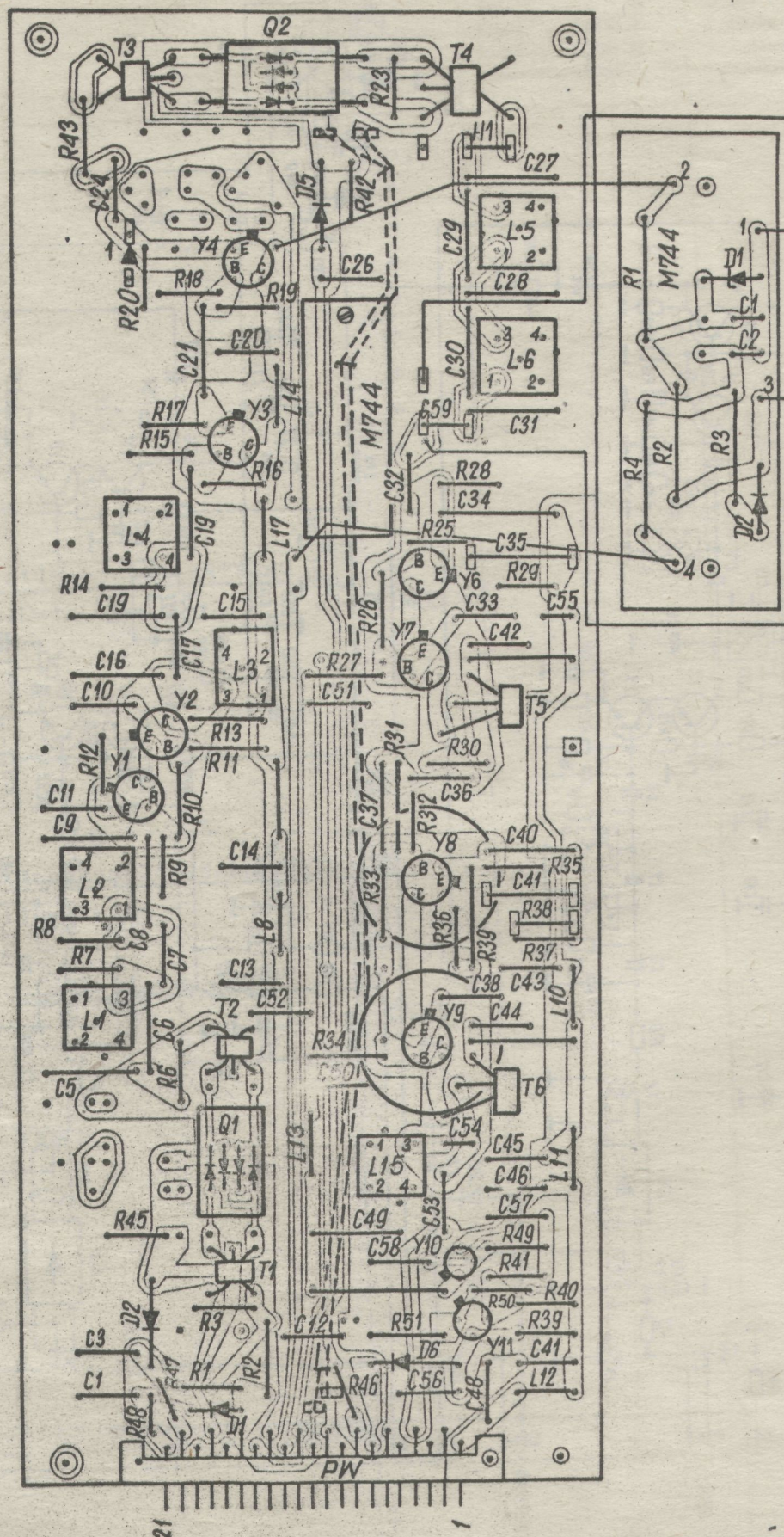


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Y7	BC 179	CEMI			
Y8	BC 107 B	"			
Y9	BC 107 B	"			
Y10	BC 107 B	"			
Y11	BC 107 B	"			
Y12	BC 177 B	"			
Y13	BC 107 B	"			
Y14	BC 107 B	"			
Y15	BC 107 B	"			
Y16	BC 107 B	"			
	<u>Cewki-coils-Spulen-катушки</u>				
L1	2843-1120-1	UNIMOR			
L2	2843-1120-2	"			
L3	2843-1120-2	"			
L4	-	"			
L5	2843-1120-3	"			
L6	2843-1120-3	"			
	<u>Dławiki-chokes-Drosseln-дроссели</u>				
L4	2843-1140-1	"			
	<u>Diody-diodes-Dioden-диоды</u>				
D1	BAVP 19	CEMI			
D2	BAVP 19	"			
D3	BAVP 19	"			
D4	BAVP 19	"			
D5	BAVP 19	"			
D6	BAVP 19	"			
D7	BAVP 19	"			
D8	BAVP 19	"			
D9	BAVP 19	"			
D10	BYP 401-50	"			
	<u>Przekazniki-relays-Relais-реле</u>				
K1	DR2C-12V	ALMA			









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	<u>Kondensatory-capacitors-Kondensatoren-</u>		<u>конденсаторы</u>		
C1	MKSE-018-02-0,047 $\mu$ F-20%-250V	MIFLEX			
C3	MKSE-018-02-0,047 $\mu$ F-20%-250V	MIFLEX			
C5	KSO-1-250V-G-120pF-5%	MIFLEX			
C6	KSO-1-250V-W-82pF-5%	MIFLEX			
C7	KCP-1B-N-5-3,9-D-500-455	CERAD			
C8	KSO-1-250V-W-82pF-5%	MIFLEX			
C9	KSO-1-250V-G-120pF-5%	MIFLEX			
C10	MKSE-018-02-0,01 $\mu$ F-20%-400V	MIFLEX			
C11	MKSE-018-02-0,01 $\mu$ F-20%-400V	MIFLEX			
C12	MKSE-018-02-0,047 $\mu$ F-20%-250V	MIFLEX			
C13	MKSE-018-02-0,047 $\mu$ F-20%-250V	MIFLEX			
C14	MKSE-018-02-0,047 $\mu$ F-20%-250V	MIFLEX			
C15	MKSE-018-02-0,047 $\mu$ F-20%-250V	MIFLEX			
C16	KSO-1-250V-W-51pF-5%	MIFLEX			
C17	KCP-1B-N-5-3,3-D-500-455	CERAD			
C18	KSO-1-250pF-W-51pF-5%	MIFLEX			
C19	KSO-1-250pF-G-100pF-5%	MIFLEX			
C20	MKSE-018-02-0,047 $\mu$ F-20%-400V	MIFLEX			
C21	KSO-1-250V-G-100pF-5%	MIFLEX			
C24	KCR-1B-N-3x8-20-J-500-658	MIFLEX			
C26	MKSE-018-02-0,047 $\mu$ F-20%-250V	MIFLEX			
C27	KSO-1-250V-W-51pF-5%	MIFLEX			
C28	KSO-1-250V-G-120pF-5%	MIFLEX			
C29	KCR-1B-N-3x12-47-J-400-658	CERAD			
C30	KCR-1B-N-3x12-47-J-400-658	CERAD			
C31	KCP-1B-N-6-15-J-160-455	CERAD			
C32	MKSE-018-02-0,047 $\mu$ F-20%-250V	MIFLEX			
C33	MKSE-018-02-0,047 $\mu$ F-20%-250V	MIFLEX			
C34	MKSE-018-01-0,1 $\mu$ F-20%-250V	MIFLEX			
C35 <sup>x</sup>	KSO-1-250V-G-330pF-5%	MIFLEX			
C36	MKSE-018-02-0,01 $\mu$ F-20%-400V	MIFLEX			
C37	KSO-1-250V-W-62pF-5%	MIFLEX			
C38	MKSE-018-02-0,047 $\mu$ F-20%-250V	MIFLEX			
C39	KSO-1-250V-G-510pF-5%	MIFLEX			
C40	MKSE-018-01-0,1 $\mu$ F-20%-250V	MIFLEX			



Symbol Symbol Zeichen Символ	Oznaczenie Description Bezeichnung Обозначение	Producent Manufacturer Hersteller Продуцент	Indeks Index Index Указатель	UNIMOR UNIMOR UNIMOR UNIMOR	Uwagi Remarks Bemerkungen Примечания
C41 <sup>x</sup>	KSO-1-250V-G-470pF-5%	MIFLEX			
C42	MKSE-018-02-0,047pF-20%-250V	MIFLEX			
C43	MKSE-018-02-0,047pF-20%-250V	MIFLEX			
C44	MKSE-018-02-0,047pF-20%-250V	MIFLEX			
C45	MKSE-018-02-0,047pF-20%-250V	MIFLEX			
C46	MKSE-018-02-0,047pF-20%-250V	MIFLEX			
C47	MKSE-018-02-0,047pF-20%-250V	MIFLEX			
C48	MKSE-018-02-0,047pF-20%-250V	MIFLEX			
C49	MKSE-012-1pF-20%-100V	MIFLEX			
C50	MKSE-018-02-0,047pF-20%-250V	MIFLEX			
C51	MKSE-018-02-0,047pF-20%-250V	MIFLEX			
C52	KFP-2E-12-6n8-S-250-655	CERAD			
C53	MKSE-018-02-0,047pF-20%-250V	MIFLEX			
C54	KCP-1B-N-5-6,8-D-250-655	CERAD			
C55	KFPm-2C-10x10-1pF-M-63-455	CERAD			
C56	MKSE-018-02-0,1pF-20%-100V	MIFLEX			
C57	MKSE-018-02-0,1pF-20%-100V	MIFLEX			
C58	MKSE-018-02-0,1pF-20%-100V	MIFLEX			
C59	KFPm-2C-5x5-100nF-M-63-455	MIFLEX			
<u>Diody - diodes - Dioden - диоды</u>					
D1	D9I	ZSRR			
D2	D9I	ZSRR			
D5	D9I	ZSRR			
D6	BYP401-50	CENI			
<u>Cewki - coils - Spulen - катушки</u>					
L1	2843-1130-3	UNIMOR			
L2	2843-1130-3	UNIMOR			
L3	2843-1130-3	UNIMOR			
L4	2843-1130-3	UNIMOR			
L5	2843-1130-3	UNIMOR			
L6	2843-1130-3	UNIMOR			
L8	2843-1140	UNIMOR			
L10	2843-1140	UNIMOR			
L11	2843-1140	UNIMOR			



Symbol Symbol Zeichen Символ	Oznaczenie Description Bezeichnung Обозначение	Producent Manufacturer Hersteller Продуцент	Index Index Index Указатель	UNIMOR UNIMOR UNIMOR UNIMOR	Uwagi Remarks Bemerkungen Примечания
L12	2843-1140	UNIMOR			
L13	2843-1140	UNIMOR			
L14	2843-1140	UNIMOR			
L15	2843-1130-2	UNIMOR			
L17	2843-1140	UNIMOR			
L18	2843-1130-9	UNIMOR			
	Kwartety diode - Diodenquartette - квартет diodowe - quads				
Q1	ZC5800	FERRANTI			
Q2	ZC5800	FERRANTI			
	Rezystory - resistors - Widerstände - резисторы				
R1	Potencjometr SWV-526.1313- -100 -20%	NRD			
R2	MLT-0,25-100-5%-434	TELPOD			
R3	MLT-0,25-150-5%-434	TELPOD			
R6	MLT-0,25-1k-5%-434	TELPOD			
R7	MLT-0,25-3k-5%-434	TELPOD			
R8	MLT-0,25-3k-5%-434	TELPOD			
R9	MLT-0,25-3,3k-5%-434	TELPOD			
R10	MLT-0,25-3,3k-5%-434	TELPOD			
R11	MLT-0,25-3k-5%-434	TELPOD			
R12	MLT-0,25-1k-5%-434	TELPOD			
R13	MLT-0,25-2k-5%-434	TELPOD			
R14	MLT-0,25-3k-5%-434	TELPOD			
R15	MLT-0,25-10k-5%-434	TELPOD			
R16	MLT-0,25-10k-5%-434	TELPOD			
R17	MLT-0,25-1k-5%-434	TELPOD			
R18	MLT-0,25-10k-5%-434	TELPOD			
R19	MLT-0,25-10k-5%-434	TELPOD			
R20	MLT-0,25-510-5%-434	TELPOD			
R23	MLT-0,25-680-5%-434	TELPOD			
R25	MLT-0,25-1k-5%-434	TELPOD			
R26	MLT-0,25-2,2k-5%-434	TELPOD			
R27	MLT-0,25-1,8k-5%-434	TELPOD			
R28	MLT-0,25-270-5%-434	TELPOD			

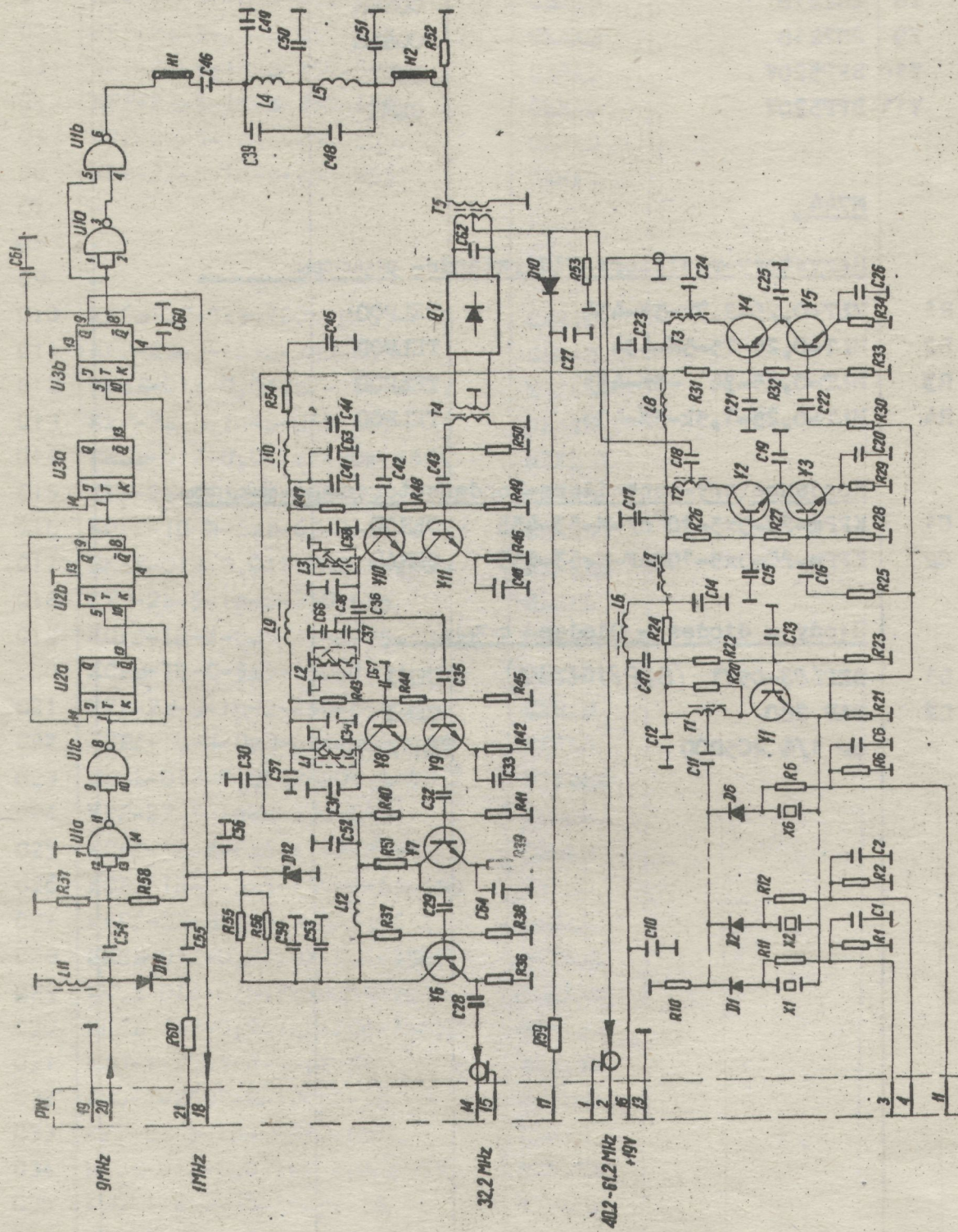


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R29	ML-0,25-20	TELPOD			
R30	MLT-0,25-100-5%-434	TELPOD			
R31	MLT-0,5-1k-5%-434	TELPOD			
R32	MLT-0,25-680-5%-434	TELPOD			
R33	MLT-0,25-470-5%-434	TELPOD			
R34	MLT-0,25-390-5%-434	TELPOD			
R35	MLT-0,25-100-5%-434	TELPOD			
R36	MLT-0,25-33-5%-434	TELPOD			
R37	ML-0,25-10	TELPOD			
R38	ML-0,25-20	TELPOD			
R39	MLT-0,25-15k-5%-434	TELPOD			
R40	MLT-0,25-2k-5%-434	TELPOD			
R41	MLT-0,25-18k-5%-434	TELPOD			
R42	MLT-0,25-56-5%-434	TELPOD			
R43	MLT-0,25-75-5%-434	TELPOD			
R45	MLT-0,25-82-5%-434	TELPOD			
R46	MLT-0,25-2,2k-5%-434	TELPOD			
R47	MLT-0,25-2,2k-5%-434	TELPOD			
R48	MLT-0,25-510-5%-434	TELPOD			
R49	MLT-0,25-16k-5%-434	TELPOD			
R50	MLT-0,25-2k-5%-434	TELPOD			
R51	MLT-0,25-150-5%-434	TELPOD			
<u>Transformatory-transformers-Transformatoren - транзисторы</u>					
T1	2843-1150-2	UNIMOR			
T2	2843-1150-2	UNIMOR			
T3	2843-1150-2	UNIMOR			
T4	2843-1150-6	UNIMOR			
T5	2843-1150-9	UNIMOR			
T6	2843-1150-9	UNIMOR			
<u>Tranzystory-transistors-Transistoren- транзисторы</u>					
Y1	BFP520V	CEMI			
Y2	BFP520V	CEMI			
Y3	BFP520V	CEMI			
Y4	BFP520V	CEMI			
Y6	2N2218	COSEM			
Y7	2N2218	COSEM			

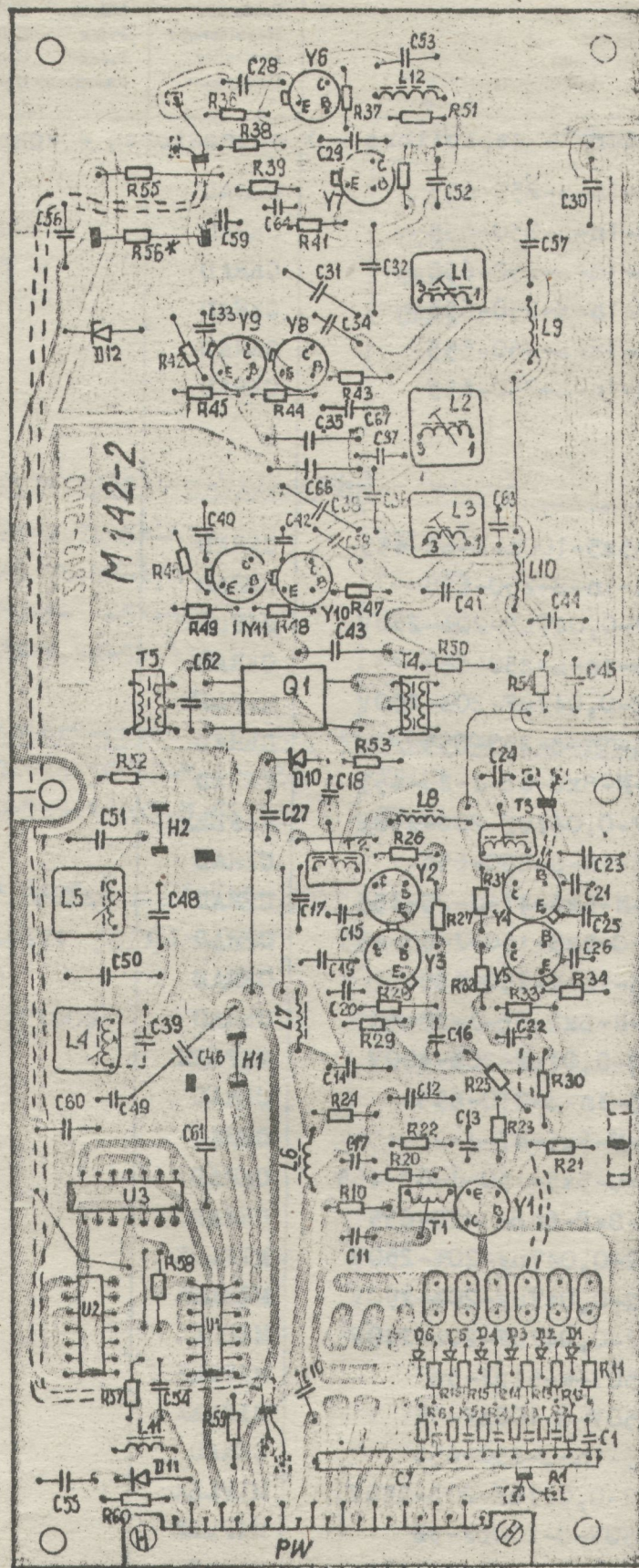


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Y8	2N2218	COSEM			
Y9	2N2218	COSEM			
Y10	BFP520V	CEMI			
Y11	BFP520V	CEMI			
	<u>M744</u>				
	<u>Rezystory-resistors-Widerstände- резисторы</u>				
R1	MLT-0,25-2,7k-5%-434	TELPOD			
R2	MLT-0,25-75-5%-434	TELPOD			
R3	MLT-0,25-24 -5%-434	TELPOD			
R4	MLT-0,25-1,5k-5%-434	TELPOD			
	<u>Kondensatory-capacitors-Kondensatoren- конденсаторы</u>				
C1	KFPm-2C-5x5-10 <sup>0</sup> nF-M-63-455	CERAD			
C2	KFPm-2C-5x5-100nF-M-63-455	CERAD			
	<u>Diody - diodes - Dioden- диоды</u>				
D1	BZP603-C5V1 (BZP611-C5V1)	CEMI			
D2	BAP 280	CEMI			
	or 1/4 2C5800	FERRANTI			









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	Kondensatory - capacitors - Kondensatoren - конденсаторы:				
C1	KFP-2E-5-1n-S-250-655	CERAD			
C2	KFP-2E-5-1n-S-250-655	CERAD			
C3	KFP-2E-5-1n-S-250-655	CERAD			
C4	KFP-2E-5-1n-S-250-655	CERAD			
C5	KFP-2E-5-1n-S-250-655	CERAD			
C6	KFP-2E-5-1n-S-250-655	CERAD			
C7	-				
C8	-				
C9	-				
C10	KFPm-2C-5x5-100n-M-63-455	CERAD			
C11	KFP-2E-5-1n-S-250-655	CERAD			
C12	MKSE-012-0,047uF-20%-250V	MIFLEX			
C13	KFP-2E-5-1n-S-250-655	CERAD			
C14	MKSE-012-0,047uF-20%-250V	MIFLEX			
C15	KFP-2E-5-1n-S-250-655	CERAD			
C16	KCPf-1B-N-8x8-68-J-25-455	CERAD			
C17	MKSE-012-0,047uF-20%-250V	MIFLEX			
C18	KFP-2E-5-1n-S-250-655	CERAD			
C19	KCPf-1B-N-6x6-47-J-25-455	CERAD			
C20	KCPm-1B-C-5x5-150-J-63-455	CERAD			
C21	KFP-2E-5-1n-S-250-655	CERAD			
C22	KCPf-1B-N-8x8-68-J-25-455	CERAD			
C23	MKSE-012-0,01uF-20%-400V	MIFLEX			
C24	KFP-2E-5-1n-S-250-655	CERAD			
C25	KCPf-1B-N-6x6-47-J-25-455	CERAD			
C26	KCPm-1B-C-5x5-150-J-63-455	CERAD			
C27	KFPf-2E-8x8-6n8-S-25-655	CERAD			
C28	MKSE-012-0,047uF-20%-250V	MIFLEX			
C29	MKSE-012-0,047uF-20%-250V	MIFLEX			
C30	MKSE-012-0,047uF-20%-250V	MIFLEX			
C31	KSO-1-250V-W-51pF-5%	MIFLEX			
C32	KSO-1-250V-G-100pF-5%	MIFLEX			
C33	KFP-2E-5-1n-S-250-655	CERAD			
C34	MKSE-012-0,047uF-20%-250V	MIFLEX			
C35	KSO-1-250V-G-100pF-5%	MIFLEX			
C36	KCP-1B-N-5-2p7-D-500-455	CERAD			
C37	KSO-1-250V-G-120pF-5%	MIFLEX			



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C38	KSO-1-250-G-110pF-5%	MIFLEX									
C39	KCP-1B-N-6-18-J-160-455	CERAD									
C40	MKSE-012-0,047uF-20%-250V	MIFLEX									
C41	MKSE-012-0,047uF-20%-250V	MIFLEX									
C42	KFP-2E-5-1n-S-250-655	CERAD									
C43	KSO-1-250V-G-100pF-5%	MIFLEX									
C44	MKSE-012-0,047uF-20%-250V	MIFLEX									
C45	MKSE-012-0,047uF-20%-250V	MIFLEX									
C46	KSO-1-250V-G-620pF-5%	MIFLEX									
C47	KFPm-2C-5x5-47n-M-63-455	CERAD									
C48	KCPf-1B-N-6x6-56-J-25-455	CERAD									
C49	KSO-1-250V-G-120pF-5%	MIFLEX									
C50	KSO-1-250V-G-200pF-5%	MIFLEX									
C51	KSO-1-250V-W-68pF-5%	MIFLEX									
C52	KFPf-2E-8x8-6n8-S-25-655	CERAD									
C53	MKSE-012-0,047uF-20%-250V	MIFLEX									
C54	MKSE-012-0,047uF-20%-250V	MIFLEX									
C55	MKSE-012-0,047uF-20%-250V	MIFLEX									
C56	MKSE-012-0,047uF-20%-250V	MIFLEX									
C57	MKSE-012-0,047uF-20%-250V	MIFLEX									
C58	MKSE-012-0,047uF-20%-250V	MIFLEX									
C59	KFPm-2C-5x5-100n-M-63-455	CERAD									
C60	MKSE-012-0,047uF-20%-250V	MIFLEX									
C61	KSO-1-250V-G-360pF-5%	MIFLEX									
C62	KCPf-1B-N-6x6-47-J-25-455	CERAD									
C63	KFPm-2C-5x5-100n-M-63-455	CERAD									
C64	KFPm-2C-5x5-10n-M-63-455	CERAD									
C65	KCP-1B-N-5-3p3-D-500-455	CERAD									
C66	KSO-1-250V-G-620pF-5%	MIFLEX									
C67	KFP-2E-1n-S-250-655	CERAD									
Diody - diodes - Dioden - Диоды:											
D1	BA 182	CEMI									
D2	BA 182	CEMI									
D3	BA 182	CEMI									
D4	BA 182	CEMI									
D5	BA 182	CEMI									
D6	BA 182	CEMI									



UNIMOR		2611-1130		strona page seite страница	4	stron pages seiten страниц	7
Symbol Symbol Zeichen Символ	Oznaczenie Description Bezeichnung Обозначение	Producent Manufacturer Hersteller Продуцент	Indeks Index Index Указатель	UNIMOR UNIMOR UNIMOR UNIMOR	Uwagi Remarks Bemerkungen Примечания		
D7	-						
D8	-						
D9	-						
D10	AAP 161	CEMI					
D11	AAP 161	CEMI					
D12	BZP 611 C5V1	CEMI					
Cewki - coils - Spulen - Катушки:							
L1	2843-1130-8	UNIMOR					
L2	2843-1130-8	UNIMOR					
L3	2843-1130-8	UNIMOR					
L4	2843-1130-2	UNIMOR					
L5	2843-1130-10	UNIMOR					
L6	2843-1140	UNIMOR					
L7	2843-1140	UNIMOR					
L8	2843-1140	UNIMOR					
L9	2843-1140	UNIMOR					
L10	2843-1140	UNIMOR					
L11	2843-1140	UNIMOR					
L12	2843-1140	UNIMOR					
Kwartet diodowy - diode quad - Diodenquartet - Квартет диодов							
Q1	ZC 5800 QD	FERRANTI					
Rezystory - resistors - Widerstände - Резисторы:							
R1	MLT-0,125W-100k-5%-434	TELPOD					
R2	MLT-0,125W-100k-5%-434	TELPOD					
R3	MLT-0,125W-100k-5%-434	TELPOD					
R4	MLT-0,125W-100k-5%-434	TELPOD					
R5	MLT-0,125W-100k-5%-434	TELPOD					
R6	MLT-0,125W-100k-5%-434	TELPOD					
R7	-						
R8	-						
R9	-						
R10	MLT-0,25W-3,3k-5%-434	TELPOD					
R11	MLT-0,25W-1,5k-5%-434	TELPOD					
R12	MLT-0,25W-1,5k-5%-434	TELPOD					
R13	MLT-0,25W-1,5k-5%-434	TELPOD					



Symbol Symbol Zeichen Символ	Oznaczenie Description Bezeichnung Обозначение	Producent Manufacturer Hersteller Продуцент	Indeks Index Index Указатель	UNIMOR UNIMOR UNIMOR UNIMOR	Uwagi Remarks Bemerkungen Примечания
R14	MLT-O, 25W-1, 5k-5%-434	TELPOD			
R15	MLT-O, 25W-1, 5k-5%-434	TELPOD			
R16	MLT-O, 25W-1, 5k-5%-434	TELPOD			
R17	-				
R18	-				
R19	-				
R20	MLT-O, 25W-1k-5%-434	TELPOD			
R21	MLT-O, 25W-330-5%-434	TELPOD			
R22	MLT-O, 25W-39k-5%-434	TELPOD			
R23	MLT-O, 25W-39k-5%-434	TELPOD			
R24	MLT-O, 25W-910-5%-434	TELPOD			
R25	MLT-O, 25W-120-5%-434	TELPOD			
R26	MLT-O, 25W-4, 7k-5%-434	TELPOD			
R27	MLT-O, 25W-4, 7k-5%-434	TELPOD			
R28	MLT-O, 25W-3, 3k-5%-434	TELPOD			
R29	MLT-O, 25W-330-5%-434	TELPOD			
R30	MLT-O, 25W-120-5%-434	TELPOD			
R31	MLT-O, 25W-4, 7k-5%-434	TELPOD			
R32	MLT-O, 25W-4, 7k-5%-434	TELPOD			
R33	MLT-O, 25W-3, 3k-5%-434	TELPOD			
R34	MLT-O, 25W-330-5%-434	TELPOD			
R35	-				
R36	MLT-O, 25W-1k-5%-434	TELPOD			
R37	MLT-O, 25W-18k-5%-434	TELPOD			
R38	MLT-O, 25W-18k-5%-434	TELPOD			
R39	MLT-O, 25W-430-5%-434	TELPOD			
R40	MLT-O, 25W-18k-5%-434	TELPOD			
R41	MLT-O, 25W-5, 6k-5%-434	TELPOD			
R42	MLT-O, 25W-150-5%-434	TELPOD			
R43	MLT-O, 25W-4, 7k-5%-434	TELPOD			
R44	MLT-O, 25W-4, 7k-5%-434	TELPOD			
R45	MLT-O, 25W-3, 3k-5%-434	TELPOD			
R46	MLT-O, 25W-150-5%-434	TELPOD			
R47	MLT-O, 25W-4, 7k-5%-434	TELPOD			
R48	MLT-O, 25W-4, 7k-5%-434	TELPOD			
R49	MLT-O, 25W-3, 3k-5%-434	TELPOD			
R50	MLT-O, 25W-75-5%-434	TELPOD			
R51	MLT-O, 25W-1k-5%-434	TELPOD			

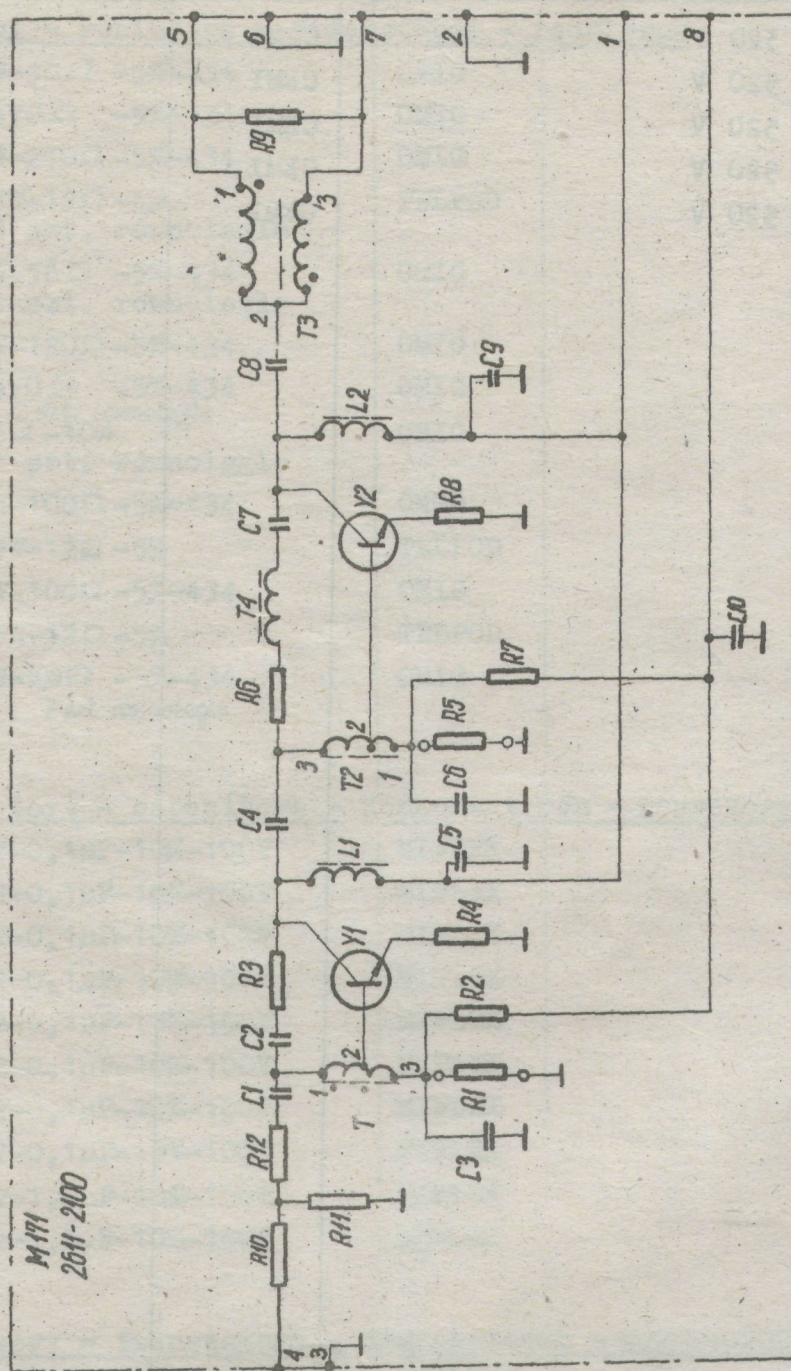


UNIMOR		2611-1130		strona page seite страница	6	stron pages seiten страниц	7
Symbol Symbol Zeichen Символ	Oznaczenie Description Bezeichnung Обозначение	Producent Manufacturer Hersteller Продуцент	Indeks Index Index Указатель	UNIMOR UNIMOR UNIMOR UNIMOR	Uwagi Remarks Bemerkungen Примечания		
R52	MLT-0,25W-75-5%-434	TELPOD					
R53	MLT-0,25W-120-5%-434	TELPOD					
R54	MLT-0,25W-560-5%-434	TELPOD					
R55	MLT-2W-240-5%-434	TELPOD					
R56 <sup>x</sup>	MLT-0,5W-1,2k-5%-434	TELPOD					
R57	MLT-0,25W-1k-5%-434	TELPOD					
R58	MLT-0,25W-3,9k-5%-434	TELPOD					
R59	MLT-0,25W-2,2k-5%-434	TELPOD					
R60	MLT-0,25W-2,2k-5%-434	TELPOD					
	Transformatory - transformers - Transformatoren - Трансформаторы						
T1	2843-1150-8	UNIMOR					
T2	2843-1150-8	UNIMOR					
T3	2843-1150-8	UNIMOR					
T4	2843-1150-1	UNIMOR					
T5	2843-1150-5	UNIMOR					
	Układy scalone - integrated circuits - Integrierte Schaltungen - Интегральные схемы:						
U1	UCA 6400 N	CEMI					
U2	UCA 6473 N	CEMI					
U3	UCA 6473 N	CEMI					
	Rezonatory kwarcowe - crystals - Quarze - Кварцевые резонаторы:						
X1	RS 3204 40,2 MHz	OMIG					
X2	RS 3204 41,2 MHz	OMIG					
X3	RS 3204 42,2 MHz	OMIG					
X4	RS 3204 43,2 MHz	OMIG					
X5	RS 3204 45,2 MHz	OMIG					
X6	RS 3204 47,2 MHz	OMIG					
	Tranzystory - transistors - Transistoren - Транзисторы:						
Y1	2N918	SESCOSEM					
Y2	BFP 520 V	CEMI					
Y3	BFP 520 V	CEMI					
Y4	BFP 520 V	CEMI					
Y5	BFP 520 V	CEMI					
Y6	BFP 520 V	CEMI					



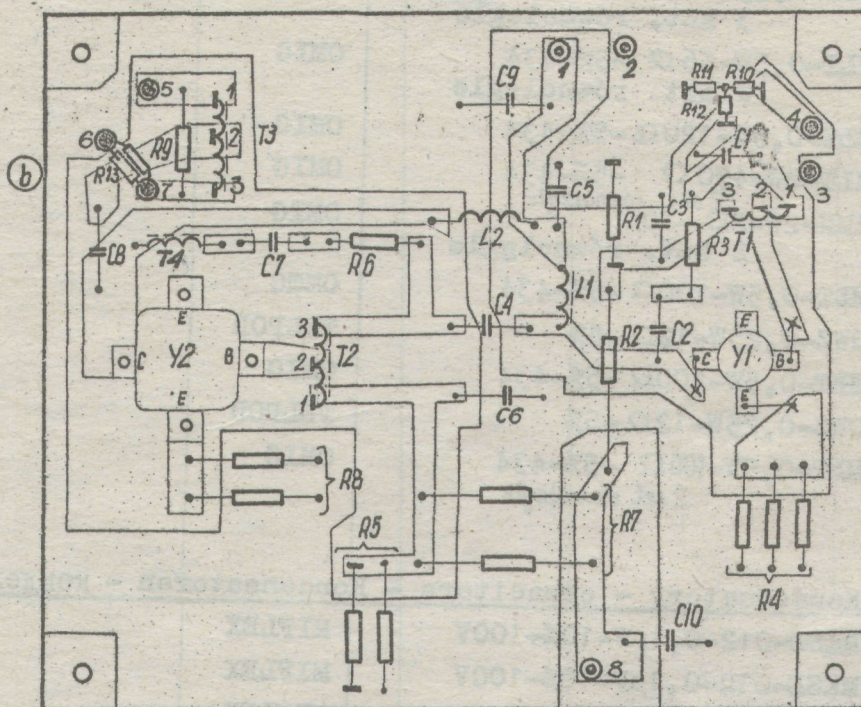
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Symbol Symbol Zeichen Символ	Oznaczenie Description Bezeichnung Обозначение	Producent Manufacturer Hersteller Продуцент	Indeks Index Index Указатель	UNIMOR UNIMOR UNIMOR UNIMOR	Uwagi Remarks Bemerkungen Примечания		
Y7	BFP 520 V	CEMI					
Y8	BFP 520 V	CEMI					
Y9	BFP 520 V	CEMI					
Y10	BFP 520 V	CEMI					
Y11	BFP 520 V	CEMI					



M171  
26H-2100

M171





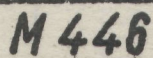


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Symbol Symbol Zeichen Символ	Oznaczenie Description Bezeichnung Обозначение	Producent Manufacturer Hersteller Продуцент	Indeks Index Index Указатель	UNIMOR UNIMOR UNIMOR UNIMOR	Uwagi Remarks Bemerkungen Примечания		
Rezystory - resistors - Widerstände - РЕЗИСТОРЫ							
R1	MET-0,5W-30Ω -5%-434	OMIG					
R2	MET-2W-470Ω -5%-434	OMIG					
R3	MET-0,5W-270Ω -5%-434	OMIG					
R4	OWZ-0,25W-12Ω -5% 3 szt. równolegle	TELPOD					
R5	MET-0,5W-56Ω -5%-434 2 szt. równolegle	OMIG					
R6	MET-0,5W-120Ω -5%-434	OMIG					
R7	MET-2W-470Ω -5%-434 2 szt. równolegle	OMIG					
R8	RMN-2W-2Ω -10% 2 szt. równolegle	OMIG					
R9	MET-0,5W-100Ω -5%-434	OMIG					
R10	OWZ-0,25W-12Ω -5%	TELPOD					
R11	MET-0,5W-100Ω -5%-434	OMIG					
R12	OWZ-0,25W-12Ω -5%	TELPOD					
R13	MET-0,5W-100Ω -5%-434 2 szt. równolegle	OMIG			M171-2		
Kondensatory - capacitors - Kondensatoren - КОНДЕНСАТОРЫ							
C1	MKSE-012-0,1μF-10%-100V	MIFLEX					
C2	MKSE-012-0,1μF-10%-100V	MIFLEX					
C3	MKSE-012-0,1μF-10%-100V	MIFLEX					
C4	MKSE-012-0,1μF-10%-100V	MIFLEX					
C5	MKSE-012-0,1μF-10%-100V	MIFLEX					
C6	MKSE-012-0,1μF-10%-100V	MIFLEX					
C7	MKSE-012-0,1μF-10%-100V	MIFLEX					
C8	MKSE-012-0,1μF-10%-100V	MIFLEX					
C9	MKSE-012-1,0μF-10%-100V	MIFLEX					
C10	MKSE-012-1,0μF-10%-100V	MIFLEX					
Tranzystory - transistors - Transistoren - ТРАНЗИСТОРЫ							
Y1	BLY-92A	PHILIPS					
Y2	BLX-14	PHILIPS					
Transformatory - transformers - Transformatoren - ТРАНСФОРМАТОРЫ							
T1	2821-1210-6	UNIMOR					
T2	2821-1210-4	UNIMOR					

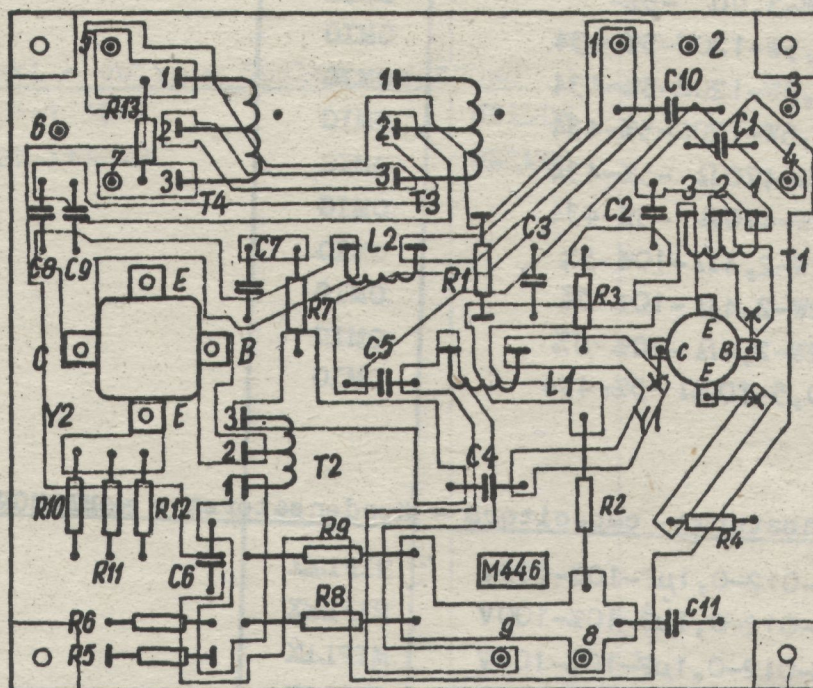


UNIMOR		2611-2100		strona page seite страница 3	stron pages seiten страниц 3
Symbol Symbol Zeichen Символ	Oznaczenie Description Bezeichnung Обозначение	Producent Manufacturer Hersteller Продуцент	Indeks Index index Указатель	UNIMOR UNIMOR UNIMOR UNIMOR	Uwagi Remarks Bemerkungen Примечания
T3	2512-1100-8	UNIMOR			
T4	2843-1150-13	UNIMOR			
T4	2843-1150-14	UNIMOR			M171-2
	<u>Cewki - coils - Spulen - катушки</u>				
L1	2821-1110-1	UNIMOR			
L2	2821-1110-2	UNIMOR			











UNIMOR		2611-2600		Strong page series 1960-1964	2	Strong pages series 1960-1964	3
Symbol Symbol Zeichen Символ	Oznaczenie Description Bezeichnung Обозначение	Producent Manufacturer Hersteller Исполнитель	Indeks Index Index Указатель	UNIMOR UNIMOR UNIMOR UNIMOR	Uwagi Remarks Bemerkungen Примечания		
Rezystory - resistors - Widerstände - РЕЗИСТОРЫ							
R1*	MET-0,5W-30Ω -5%-434	OMIG					
R2	MET-2W-470Ω 5%-434	OMIG					
R3	MET-0,5W-270Ω -5%-434	OMIG					
R4	RMN-1W-3,9Ω -5%	OMIG					
R5*	MET-0,5W-120Ω -5%-434	OMIG					
R6	MET-0,5W-120Ω -5%-434	OMIG					
R7	MET-0,5W-120Ω -5%-434	OMIG					
R8	MET-2W-470Ω -5%-434	OMIG					
R9	MET-2W-470Ω -5%-434	OMIG					
R10	RMN-2W-2,4Ω -10%-5%	OMIG					
R11	RMN-2W-2,4Ω -10%-5%	OMIG					
R12	RMN-2W-2,4Ω -10%-5%	OMIG					
R13	MET-0,5-100Ω -5%-434	OMIG					
Kondensatory - capacitors - Kondensatoren - КОНДЕНСАТОРЫ							
C1	MKSE-012-0,1μF-10%-100V	MIFLEX					
C2	MKSE-012-0,1μF-10%-100V	MIFLEX					
C3	MKSE-012-0,1μF-10%-100V	MIFLEX					
C4	MKSE-012-0,1μF-10%-100V	MIFLEX					
C5	MKSE-012-0,1μF-10%-100V	MIFLEX					
C6	MKSE-012-0,1μF-10%-100V	MIFLEX					
C7	MKSE-012-0,1μF-10%-100V	MIFLEX					
C8	MKSE-012-0,1μF-10%-100V	MIFLEX					
C9	MKSE-012-0,1μF-10%-100V	MIFLEX					
C10	MKSE-012-1,0μF-10%-100V	MIFLEX					
C11	MKSE-012-1,0μF-10%-100V	MIFLEX					
Tranzystory - transistors - Transistoren - ТРАНЗИСТОРЫ							
Y1	BLY-92A	PHILIPS					
Y2	BLX-15	PHILIPS					

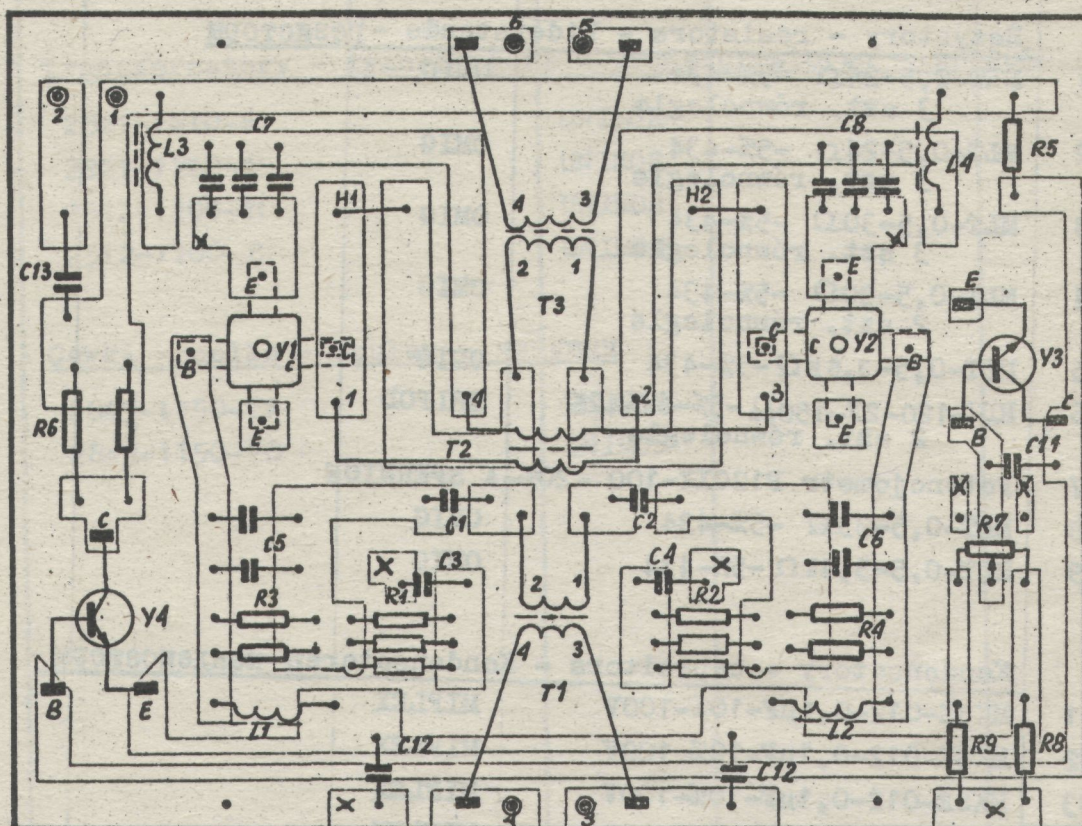


UNIMOR		2611-2600		Strona page seite страница		3		Stron pages Seiten страницы		3	
Symbol Symbol Zeichen Символ	Oznaczenie Description Bezeichnung Обозначение	Producent Manufacturer Hersteller Производитель	Indeks Index Index Указатель	UNIMOR UNIMOR UNIMOR UNIMOR	Uwagi Remarks Bemerkungen Примечания						
<u>Transformatory - transformers - Transformatoren - трансформаторы</u>											
T1	2821-1210-6	UNIMOR									
T2	2821-1210-4	UNIMOR									
T3	2512-1100-11	UNIMOR									
T4	2512-1100-8	UNIMOR									
<u>Cewki - coils - Spulen - катушки</u>											
L1	2843-1150-17	UNIMOR									
L2	2843-1150-18	UNIMOR									









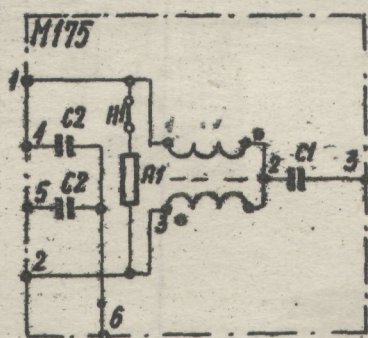
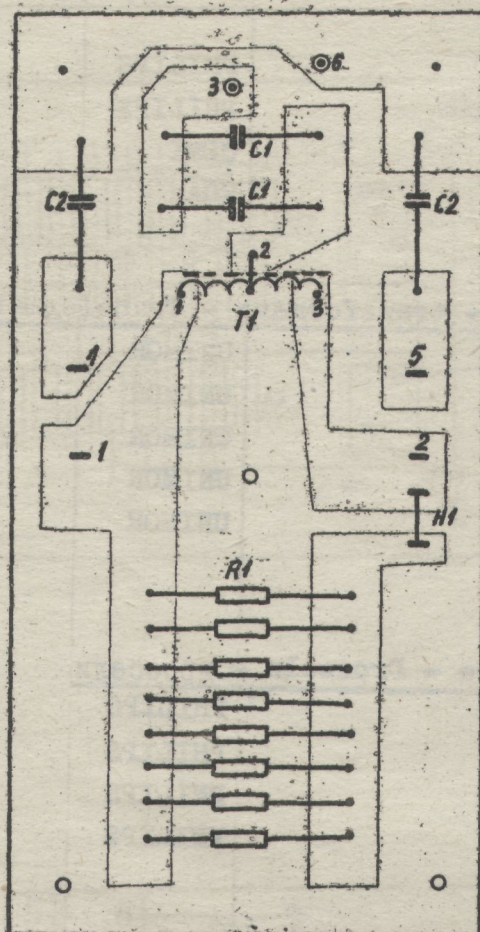


Symbol Symbol Zeichen Символ	Oznaczenie Description Bezeichnung Обозначение	Producent Manufacturer Hersteller Продуцент	Indeks Index Index Указатель	UNIMOR UNIMOR UNIMOR UNIMOR	Uwagi Remarks Bemerkungen Примечания
<b>Rezystory - resistors - Widerstände - резисторы</b>					
R1	MLT-0,5-24Ω -5%-434 3 szt. równoległe	OMIG			
R2	MLT-0,5-24Ω -5%-434 3 szt. równoległe	OMIG			
R3	MLT-0,5-30Ω -5%-434 3 szt. równoległe	OMIG			
R4	MLT-0,5-30Ω -5%-434 2 szt. równoległe	OMIG			
R5	MLT-0,5-3,6kΩ -5%-434	OMIG			
R6	RDC-120-2F-150Ω -5%-6W-426 2 szt. równoległe	TRIPOD			
R7	Potencjometr P12CXY-100 -20%-A	SERNICE			
R8	MLT-0,5-33Ω -5%-434	OMIG			
R9	MLT-0,5-5,1kΩ -5%-434	OMIG			
<b>Kondensatory - capacitors - Kondensatoren - конденсаторы</b>					
C1	MKSE-012-0,1μF-10%-100V	MIFLEX			
C2	MKSE-012-0,1μF-10%-100V	MIFLEX			
C3	MKSE-012-0,1μF-10%-100V	MIFLEX			
C4	MKSE-012-0,1μF-10%-100V	MIFLEX			
C5	KSF-022-1500pF-5%-B-100V 2 szt. równoległe	MIFLEX			
C6	KSF-022-1500pF-5%-B-100V	MIFLEX			
C7	MKSE-012-0,1μF-10%-100V 3 szt. równoległe	MIFLEX			
C8	MKSE-012-0,1μF-10%-100V 3 szt. równoległe	MIFLEX			
C11	MKSE-012-0,1μF-10%-100V	MIFLEX			
C12	MKSE-012-0,1μF-10%-100V 2 szt. równoległe	MIFLEX			
C13	MKSE-012-1,0μF-10%-100V	MIFLEX			
<b>Tranzystory - transistors - Transistoren - транзисторы</b>					
Y1	BLX-14	PHILIPS			
Y1	BLX-15	PHILIPS			M172-3



UNIMOR		2611-2200		strona page seite страница	3	stron pages seiten страниц	3
Symbol Symbol Zeichen Символ	Oznaczenie Description Bezeichnung Обозначение	Producent Manufacturer Hersteller Продуцент	Indeks Index Index Указатель	UNIMOR UNIMOR UNIMOR UNIMOR	Uwagi Remarks Bemerkungen Примечания		
Y2	BLX-14	PHILIPS			M172-3		
Y2	BLX-15	PHILIPS					
Y3	BC-107 B	CEMI					
Y4	2N2270	RCA					
Transformatory - transformers - Transformatoren - трансформаторы							
T1	2611-2220-1	UNIMOR			M172-3		
T1	2611-2220-5	UNIMOR					
T2	2821-1120	UNIMOR					
T3	2611-2220-2	UNIMOR			M172-2		
T3	2611-2220-3	UNIMOR					
Dławiki - chokes - Drosseln - дроссели							
L1	4312 020 36640	PHILIPS					
L2	4312 020 36640	PHILIPS					
L3	4312-020 36640	PHILIPS					
L4	4312 020 36600	PHILIPS					

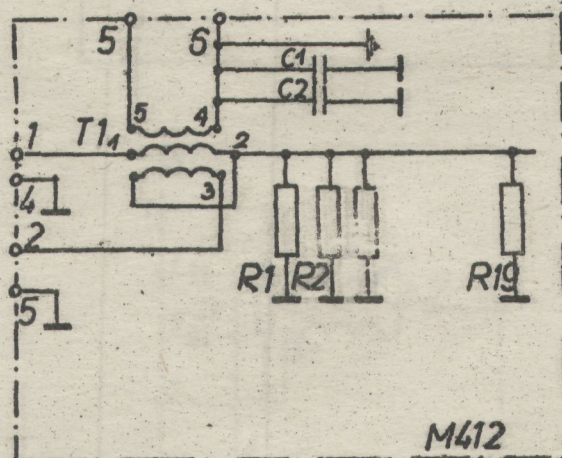
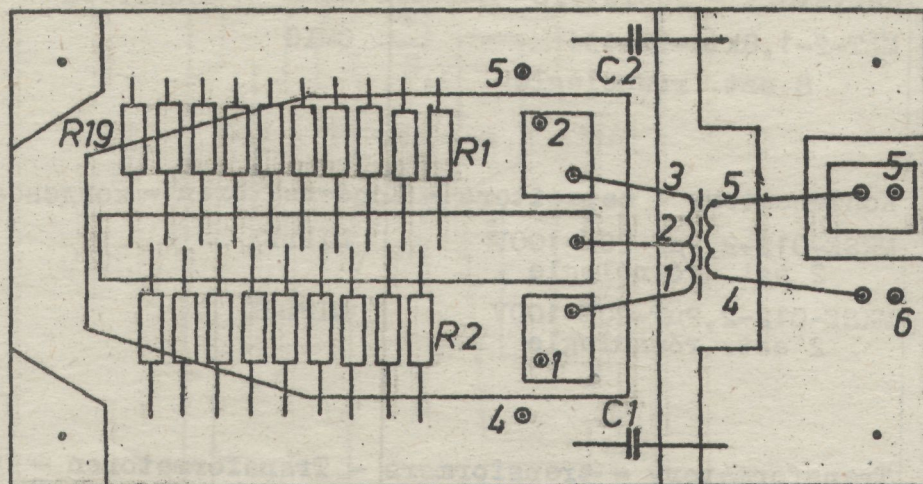






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Symbol Symbol Zeichen Символ	Oznaczenie Description Bezeichnung Обозначение	Producent Manufacturer Hersteller Продуцент	Indeks Index Index Указатель	UNIMOR UNIMOR UNIMOR UNIMOR	Uwagi Remarks Bemerkungen Примечания		
R1	Rezystory - resistors - Widerstände - MET-2-1,8k $\Omega$ -5%-434 8 szt. równolegle	OMIG	резисторы				
C1	Kondensatory - capacitors - Kondensatoren - конденсаторы MKSE-012-2,2 $\mu$ F-20%-100V 2 szt. równolegle	MIFLEX					
C2	MKSE-012-2,2 $\mu$ F-20%-100V 2 szt. równolegle	MIFLEX					
T1	Transformatory - transformers - Transformatoren - трансформаторы 2512-1100 $\mu$ 9	UNIMOR					



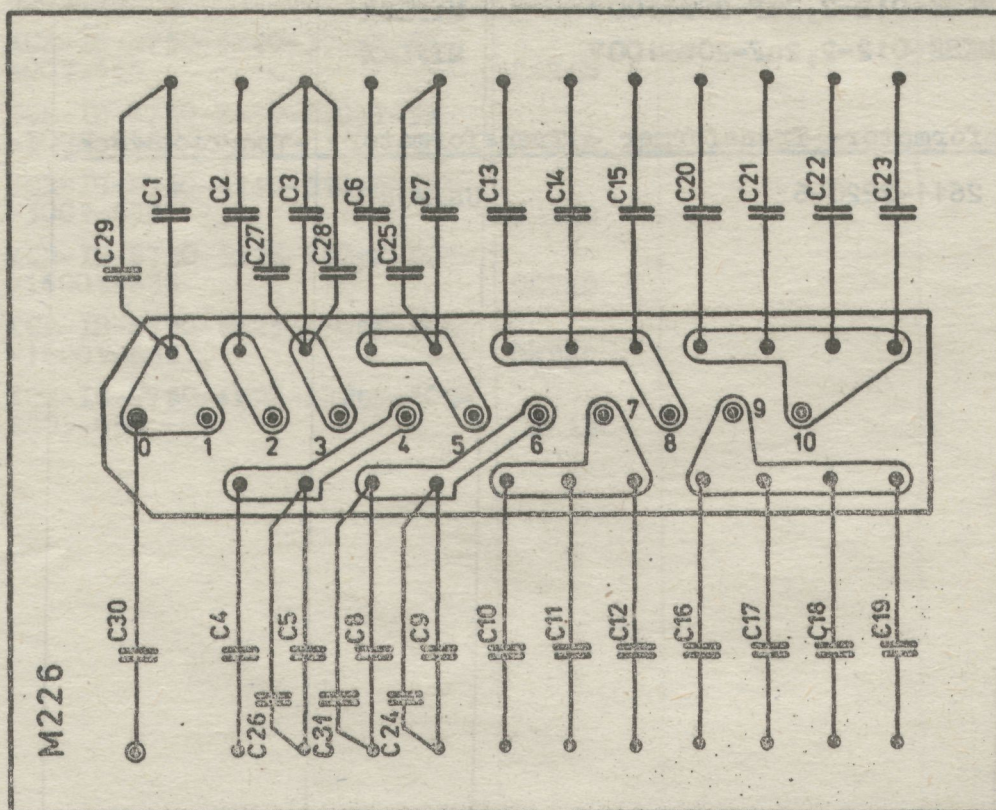


M412



UNIMOR		2611-2350		strona page seite 2 страница	stron pages seiten 2 страниц
Symbol Symbol Zeichen Символ	Oznaczenie Description Bezeichnung Обозначение	Producent Manufacturer Hersteller Продуцент	Indeks Index Index Указатель	UNIMOR UNIMOR UNIMOR UNIMOR	Uwagi Remarks Bemerkungen Примечания
<u>Rezystory - resistors - Widerstände - резисторы</u>					
R1-R19	MT-2-470 -5%-434	OMIG			
<u>Kondensatory - capacitors - Kondensatoren - конденсаторы</u>					
C1	MKSE-012-2,2uF-20%-100V	MIFLEX			
C2	MKSE-012-2,2uF-20%F100V	MIFLEX			
<u>Transformator- Transformer - Transformator - трансформаторы</u>					
T1	2611-2220-6	UNIMOR			







UNIMOR		2611-3300		strona page seite страница	2	stron pages seiten страниц	3
Symbol Symbol Zeichen Символ	Oznaczenie Description Bezeichnung Обозначение	Producent Manufacturer Hersteller Продукт	Indeks Index Index Указатель	UNIMOR UNIMOR UNIMOR UNIMOR	Uwagi Remarks Bemerkungen Примечания		
<u>Kondensatory - capacitors - Kondensatoren - конденсаторы</u>							
C1	KCR-IB-N750-8x25-150pF-10%- -1600V-656	CERAD					
C2	KCR-IB-N750-5x50-820pF-5%- -500V-656	CERAD					
C3	KCR-IB-N750-5x50-820pF-5%- -500V-656	CERAD					
C4	KCR-IB-N750-4x40-390pF-5%- -500V-656	CERAD					
C5	KCR-IB-N750-4x20-220pF-10%- 250V-656	CERAD					
C6	KCR-IB-N750-5x40-470pF-5%- -500V-656	CERAD					
C7	KCR-IB-N750-4x40-390pF-5%- -500V-656	CERAD					
C8	KCR-IB-N750-5x40-470pF-5%- 500V-656	CERAD					
C9	KCR-IB-N750-5x40-470pF-5%- 500V-656	CERAD					
C10	KCR-IB-N750-5x50-1000pF-5%- 500V-656	CERAD					
C11	KCR-IB-N750-5x50-1000pF-5%- 500V-656	CERAD					
C12	KCR-IB-N750-5x50-1000pF-5%- 500V-656	CERAD					
C13	KCR-IB-N750-5x50-820pF-5%- 500V-656	CERAD					
C14	KCR-IB-N750-5x50-820pF-5%- 500V-656	CERAD					
C15	KCR-IB-N750-5x50-820pF-5%- 500V-656	CERAD					
C16	KCR-IB-N750-4x40-390pF-5%- -500V-656	CERAD					
C17	KCR-IB-N750-8x25-150pF-10%- 1600V-656	CERAD					
C18	KCR-IB-N750-8x25-150pF-10%- -1600V-656	CERAD					
C19	KCR-IB-N750-8x25-150pF-10%- -1600V-656	CERAD					
C20	KCR-IB-N750-5x50-1000pF-5%- -500V-656	CERAD					
C21	KCR-IB-N750-5x50-1000pF-5%- -500V-656	CERAD					



UNIMOR		2611-3300		strong page seite страница	3	strong pages seiten страниц	3
Symbol Symbol Zeichen Символ	Oznaczenie Description Bezeichnung Обозначение	Producent Manufacturer Hersteller Продуцент	Indeks Index Index Указатель	UNIMOR UNIMOR UNIMOR UNIMOR	Uwagi Remarks Bemerkungen Примечания		
C22	KCR-IB-N750-5x50-1000pF-5%- -500V-656	CERAD					
C23	KCR-IB-N750-5x40-470pF-5%- -500V-656	CERAD					
C24	KCR-IB-N750-5x40-470pF-5%- -500V-656	CERAD					
C25	KCR-IB-N750-5x40-470pF-5%- -500V-656	CERAD					
C26	KCR-IB-N750-4x40-390pF-5%- -500V-656	CERAD					
C27	KCR-IB-N750-5x50-820pF-5%- -500V-656	CERAD					
C28	KCR-IB-N750-4x40-390pF-5%- -500V-656	CERAD					
C29	KCR-IB-N750-8x25-150pF-10%- -1600V-656	CERAD					
C30	KCR-IB-N750-8x25-150pF-10%- -1600V-656	CERAD					
C31	KCR-IB-N750-4x20-220pF-10%- -250V-656	CERAD					