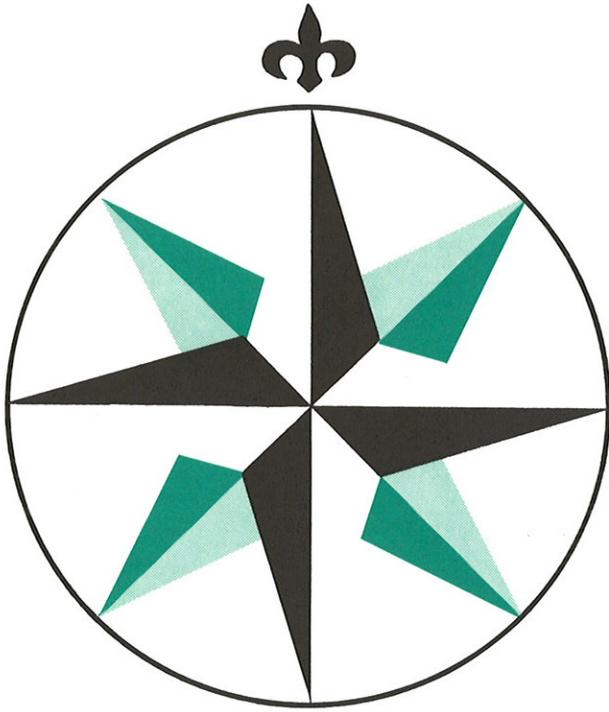


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Sailor

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**INSTRUCTION BOOK FOR
SAILOR PHONE PATCH UNIT H1224**



A/S S. P. RADIO · AALBORG · DENMARK

INSTRUCTION MANUAL
FOR
PHONE PATCH UNIT H1224

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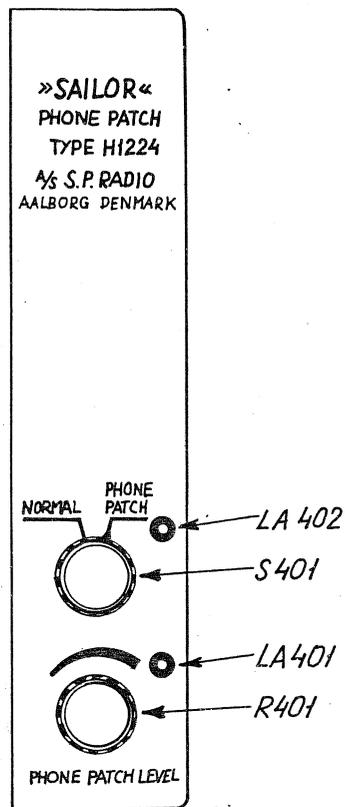
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APPLICATION

Phone Patch Unit H1224 can be used wherever you want to connect an SSB radiotelephone station Programme 1000 to a 600 ohm telephone system. E.g. when on board the ship you want to connect the interphone via the SSB radiotelephone stations and the coast station to a subscriber ashore.

The SSB radiotelephone has to work full duplex (one aerial for receiver and one aerial for transmitter is necessary).

CONTROLS



NORMAL:

The SSB radiotelephone works normally.
The internal telephone instrument works normally.

PHONE PATCH:

The SSB radiotelephone is connected to the telephone line.
The transmitter is keyed constantly.
The lamp LA402 lights constantly.

PHONE PATCH LEVEL:

The signal level from the telephone line can here be adjusted so that the transmitter will be modulated correctly.
The lamp LA401 flashes concurrently with the modulation when the level is adjusted correctly.

DIRECTIONS FOR USE

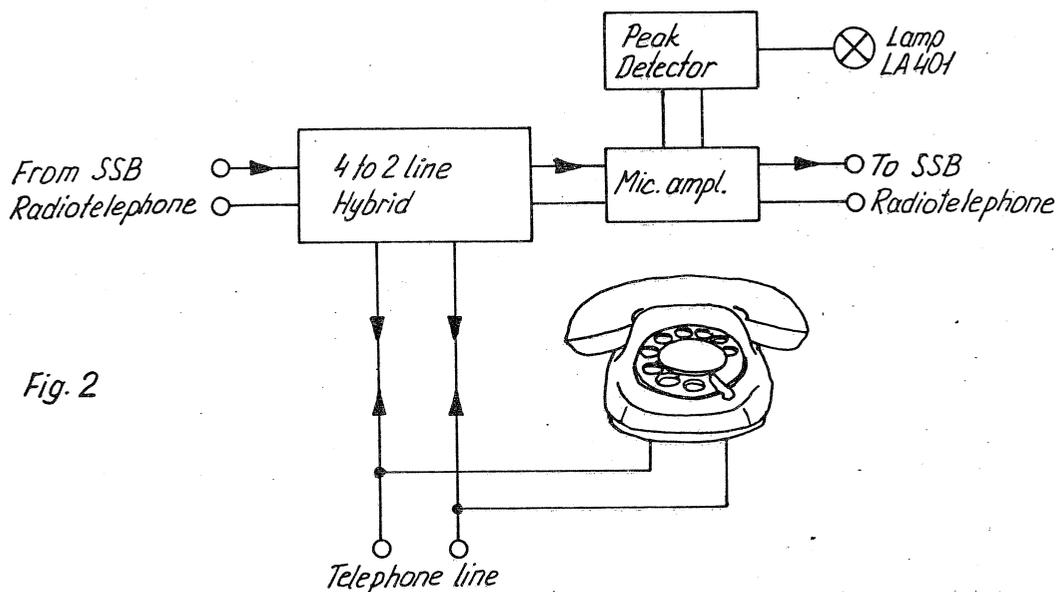
- a. Radiocommunication is established with the microtelephone from the SSB radiotelephone station.
- b. The number of the desired subscriber is dialed on the telephone.
- c. When telephone connection is established the function switch is set to Phone Patch and the telephone line is now connected to the SSB set. The microtelephone must be placed on the telephone cradle and the microtelephone of the SSB set can be placed in the holder.

Phone Patch level is adjusted so that the lamp LA401 flashes concurrently with the conversation. (Possible interruptions in the conversation can be made by means of the telephone instrument. Here it is possible to converse with each party).

- d. When the communication is finished the function switch is set to position NORMAL.

If there are problems with cross-talk! Read the deflection on the METER on the receiver. Set the AGC switch to pos. OFF. Turn the RF-GAIN so same deflection on the METER.

PRINCIPLE OF OPERATION

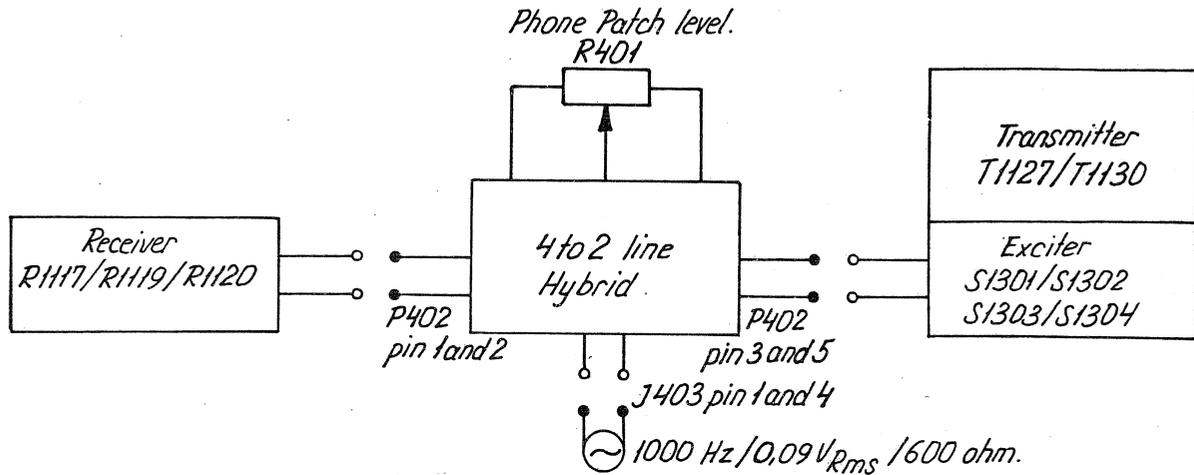


The microphone amplifier consists of the transistors T301, T302 and T303. Modulation level to transmitter is adjusted with R401. Modulation level is correct when lamp LA401 is just starting to light.

The circuit to prevent cross talk from receiver to transmitter is performed with the transformers TR301 and TR302. Balance adjustment with P301.

The peak detector circuit consists of the transistors T304 and T305.

ADJUSTMENT PROCEDURE



ADJUSTMENT AFTER INSTALLATION

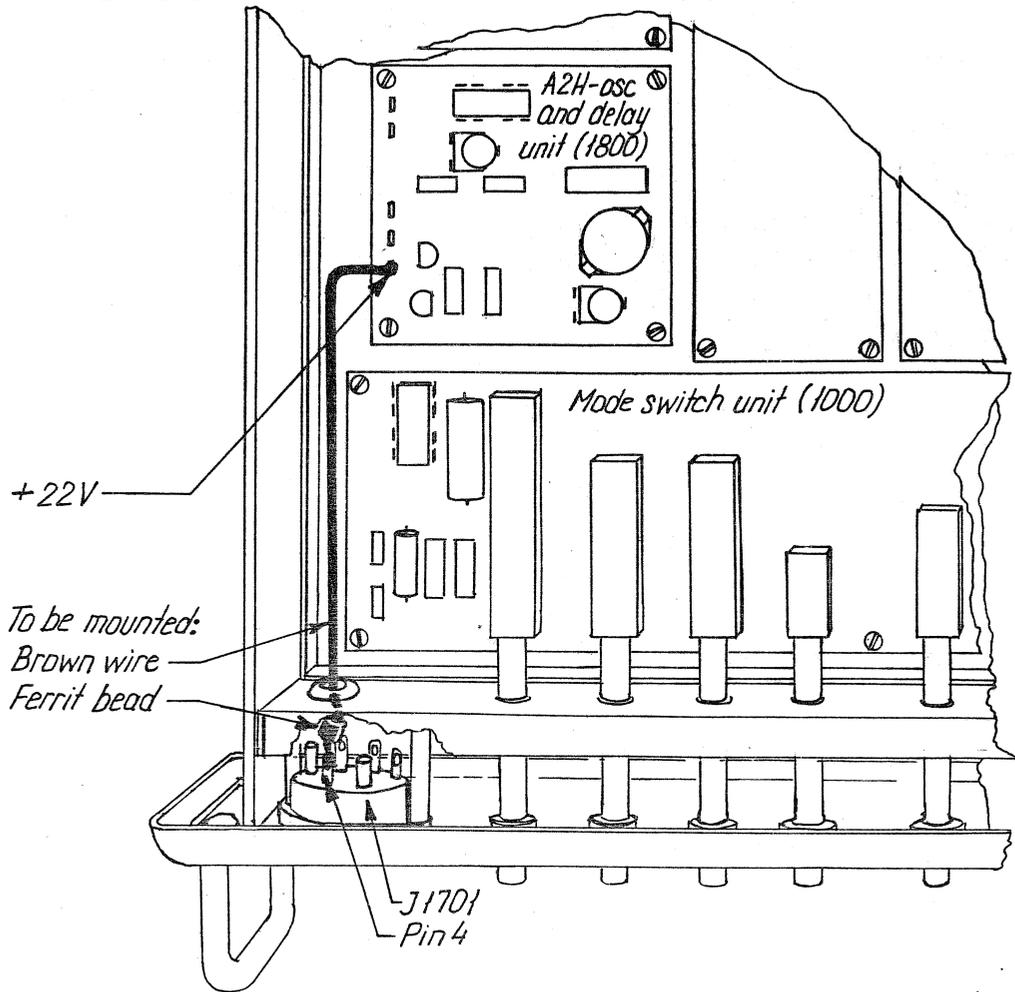
1. Switch on the receiver and transmitter.
2. Dial a telephone number and set function switch on H1224 to position Phone Patch. Place the handset on the cradle.
3. Check that the Phone Patch Level R401 can be set so the lamp LA401 is just starting to light when a signal from the telephone line is received.
4. Check that the balance potentiometer P301 is correct adjusted:
 - a. No signal must be received from the telephone line.
 - b. Press the noise generator on the receiver.
 - c. Set Phone Patch Level so the lamp LA401 is glowing.
 - d. Adjust P301 to min. light in lamp LA401.
 - e. If the lamp extinguishes then repeat point 3 and 4.

ADJUSTMENT OF TRANSMITTER MODULATION LEVEL.

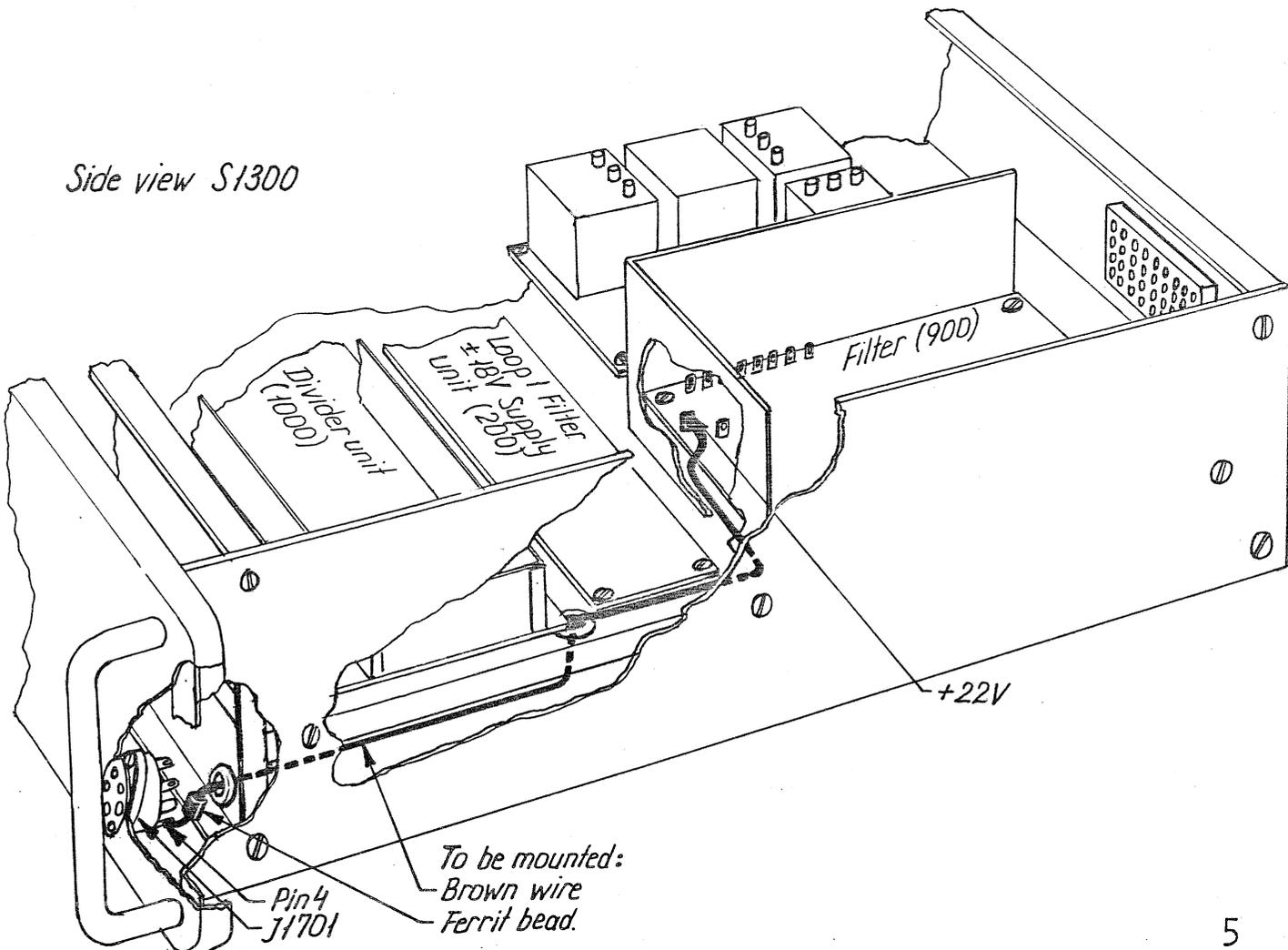
1. Switch on the receiver and transmitter.
2. Connect to J403 pin 1 and 4 an AF signal generator with 600 ohm impedance and an output level of 250 mV RMS (1000 Hz).
3. Measure on P403 pin 3 and 5 when they are connected to the transmitter 90 mV RMS (1000 Hz).
4. Adjust potentiometer P302 so the lamp LA401 is just starting to light.

MODIFICATION OF EXCITER S1300/S1301 FOR CONNECTION TO H1224

Bottom view S1301



Side view S1300



MOUNTING OF PHONE PATCH UNIT H1224

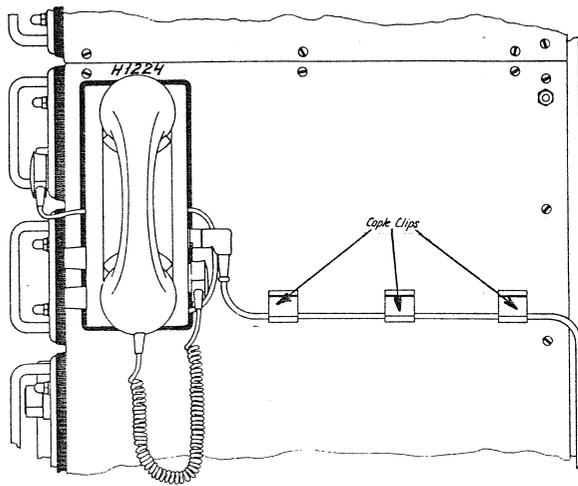


Fig. 4.

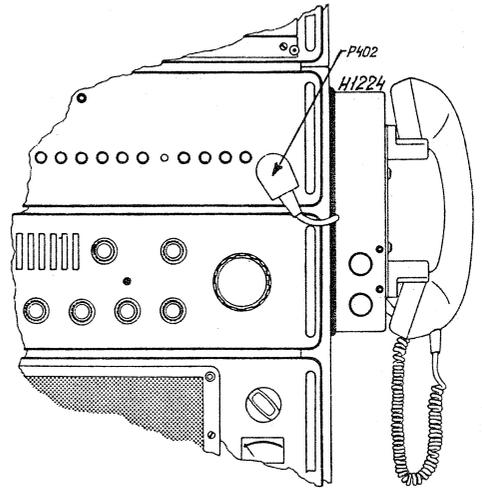


Fig. 5.

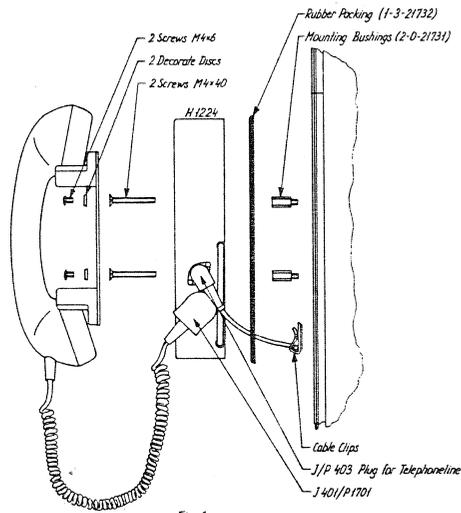


Fig. 6.

Mounting of Phone Patch Unit H1224 has to be carried out as shown on fig. 4, 5 and 6.

The telephone line is connected to P403 pin 1 and 4.

The internal telephone system is also connected to P403 pin 1 and 4.

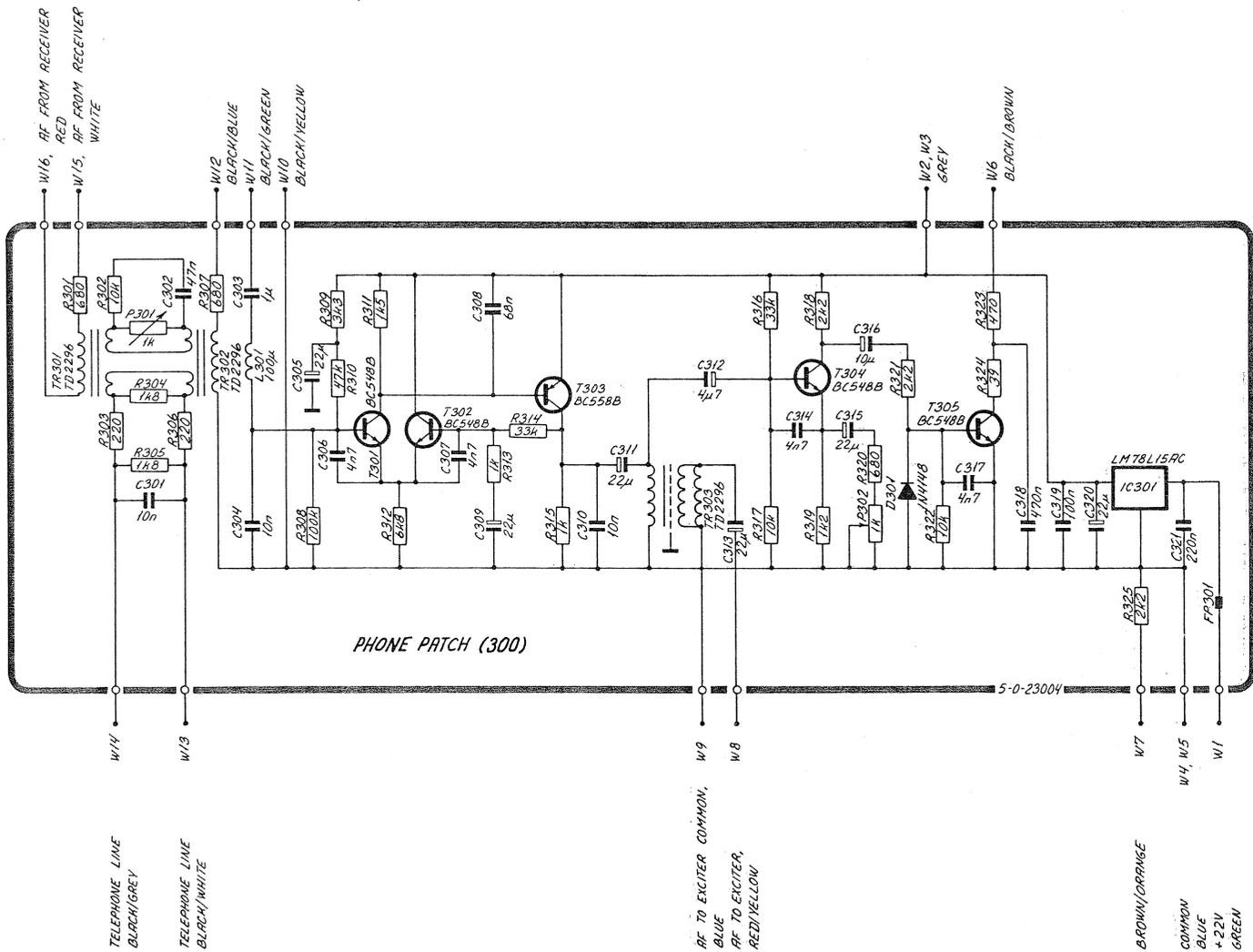
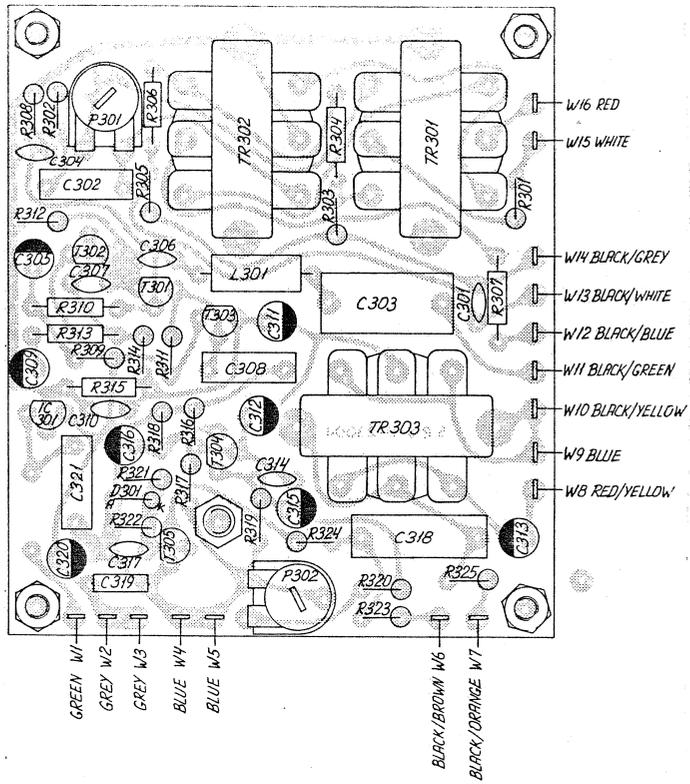
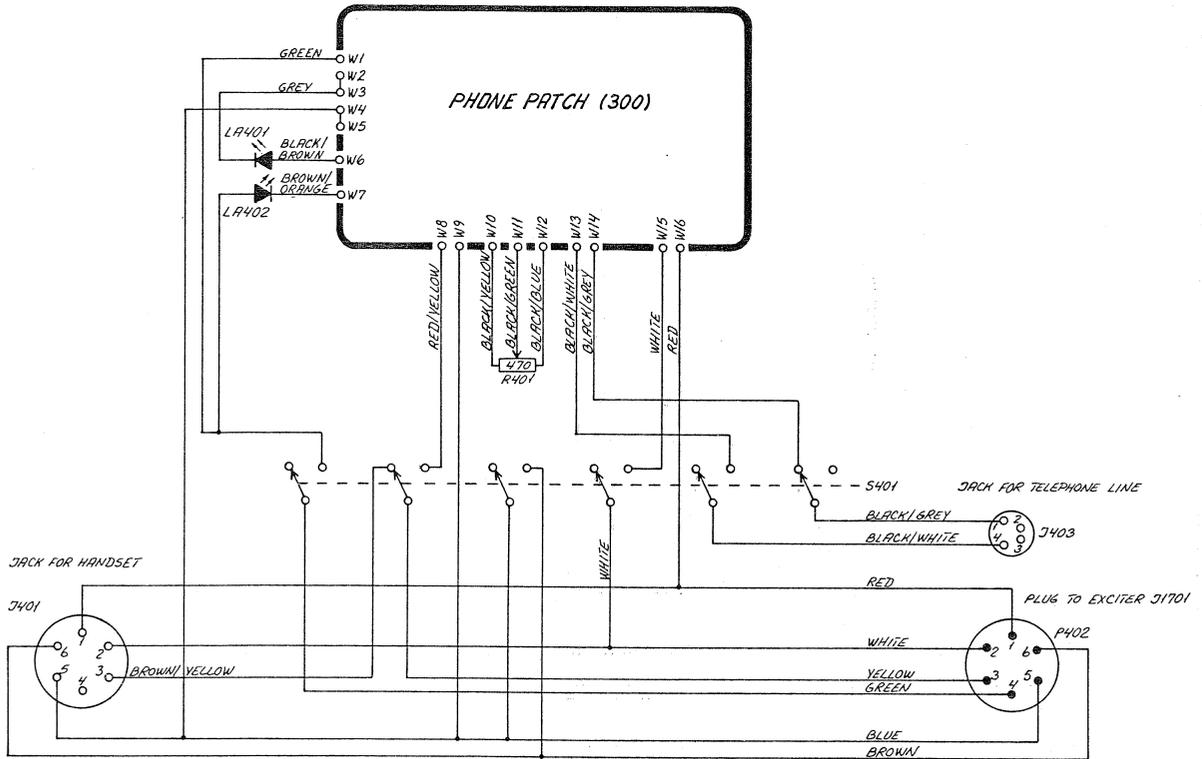


DIAGRAM PHONE PATCH H1224



INTERCONNECTION DIAGRAM H1224

Symbol	Description	Manufact.	
R301	Resistor 680 ohm $\pm 5\%$	Philips	2322 106 33681
R302	Resistor 10kohm $\pm 5\%$	Philips	2322 106 33103
R303	Resistor 220 ohm $\pm 5\%$	Philips	2322 211 13221
R304	Resistor 1.8kohm $\pm 5\%$	Philips	2322 211 13182
R305	Resistor 1.8kohm $\pm 5\%$	Philips	2322 106 33182
R306	Resistor 220 ohm $\pm 5\%$	Philips	2322 106 33221
R307	Resistor 680 ohm $\pm 5\%$	Philips	2322 211 13681
R308	Resistor 100kohm $\pm 5\%$	Philips	2322 106 33104
R309	Resistor 3.3kohm $\pm 5\%$	Philips	2322 106 33332
R310	Resistor 47kohm $\pm 5\%$	Philips	2322 211 13473
R311	Resistor 1.5kohm $\pm 5\%$	Philips	2322 106 33152
R312	Resistor 6.8kohm $\pm 5\%$	Philips	2322 106 33682
R313	Resistor 1kohm $\pm 5\%$	Philips	2322 211 13102
R314	Resistor 33kohm $\pm 5\%$	Philips	2322 106 33333
R315	Resistor 1kohm $\pm 5\%$	Philips	2322 211 13102
R316	Resistor 33kohm $\pm 5\%$	Philips	2322 106 33333
R317	Resistor 10kohm $\pm 5\%$	Philips	2322 106 33103
R318	Resistor 2.2kohm $\pm 5\%$	Philips	2322 106 33222
R319	Resistor 1.2kohm $\pm 5\%$	Philips	2322 106 33122
R320	Resistor 680 ohm $\pm 5\%$	Philips	2322 106 33681
R321	Resistor 2.2kohm $\pm 5\%$	Philips	2322 106 33222
R322	Resistor 10kohm $\pm 5\%$	Philips	2322 106 33103
R323	Resistor 470 ohm $\pm 5\%$	Philips	2322 106 33471
R324	Resistor 39 ohm $\pm 5\%$	Philips	2322 106 33390
R325	Resistor 2.2kohm $\pm 5\%$	Philips	2322 106 33222
P301	Preset potentiometer 1kohm	Noble	TM8 KV2-1S
P302	Preset potentiometer 1kohm	Noble	TM8 KV2-1S
C301	Capacitor ceramic 10 nF	KCK	HE-70SJ-YF-103Z
C302	Capacitor polyester 47 nF/100V	Philips	2222 344 24473
C303	Capacitor polyester 1 uF/100V	Philips	2222 344 24105
C304	Capacitor ceramic 10 nF	KCK	HE-70SJ-YF-103Z
C305	Capacitor electrolytic 22 uF/25V	ROE	EKI 00AA 222E
C306	Capacitor ceramic 4.7 nF	KCK	HE-80SJ-YD-472M
C307	Capacitor ceramic 4.7 nF	KCK	HE-80SJ-YD-472M
C308	Capacitor polyester 68 nF/100V	Philips	2222 344 41683
C309	Capacitor electrolytic 22 uF/25V	ROE	EKI 00AA 222E
C310	Capacitor ceramic 10 nF	KCK	HE-70SJ-YF-103Z
C311	Capacitor electrolytic 22 uF/25V	ROE	EKI 00AA 222E

<i>Symbol</i>	<i>Description</i>	<i>Manufact.</i>	
C312	Capacitor electrolytic 4.7 uF/50V	ROE	EKI 00AA 147H
C313	Capacitor electrolytic 22 uF/25V	ROE	EKI 00AA 222E
C314	Capacitor ceramic 4.7 nF	KCK	HE-80SJ-YD-472M
C315	Capacitor electrolytic 22 uF/25V	ROE	EKI 00AA 222E
C316	Capacitor electrolytic 10 uF/35V	ROE	EKI 00AA 210F
C317	Capacitor ceramic 4.7 nF	KCK	HE-80SJ-YD-472M
C318	Capacitor polyester 470 nF/100V	Philips	2222 344 24474
C319	Capacitor polyester 100 nF/100V	Siemens	B32560-D1104-K
C320	Capacitor electrolytic 22 uF/25V	ROE	EKI 00AA 222E
C321	Capacitor polyester 220 nF/100V	Philips	2222 344 24224
D301	Diode silicon	Philips	1N4 148
T301	Transistor	Philips	BC548B
T302	Transistor	Philips	BC548B
T303	Transistor	Philips	BC558B
T304	Transistor	Philips	BC548B
T305	Transistor	Philips	BC548B
IC301	Voltage regulator 15V	National	LM78L 15AC
L301	Choke 100 uH 0.22A	Ferroperm	1582
TR301	Transformer	Tradania	TD2296
TR302	Transformer	Tradania	TD2296
TR303	Transformer	Tradania	TD2296
FP301	Ferrite bead	Kaschke	K3/1200/0.1Hz/4/2/7A