



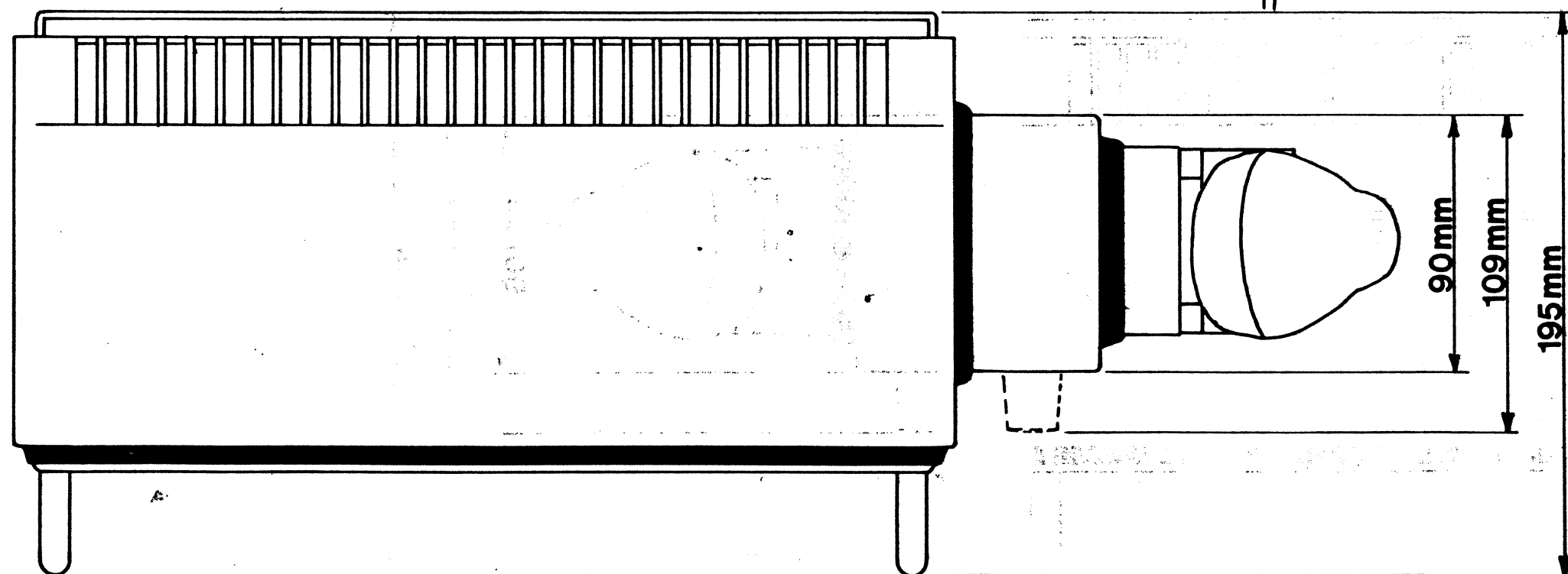
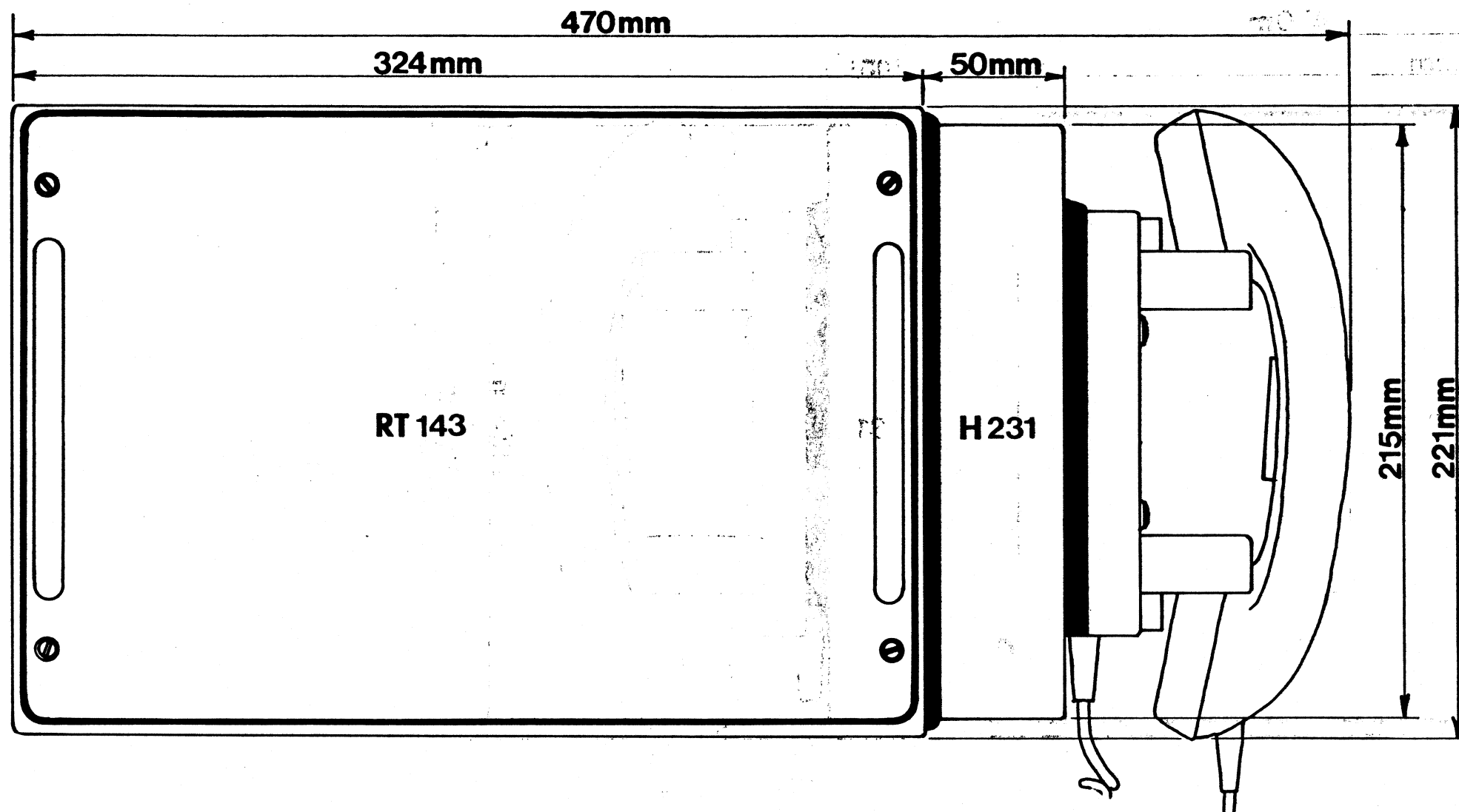
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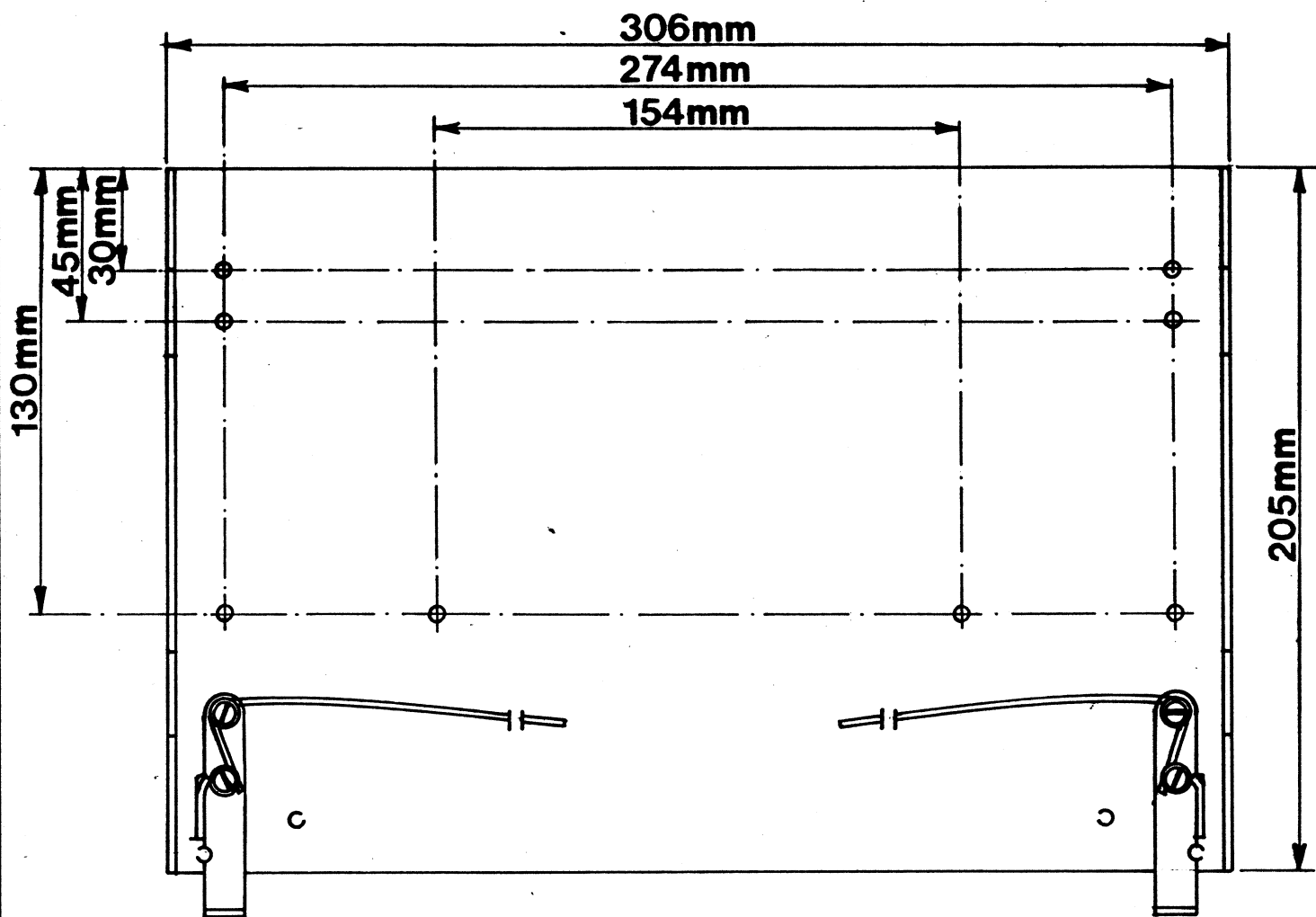
INSTRUCTION BOOK FOR
SAILOR PHONE PATCH UNIT H231



A/S S. P. RADIO · AALBORG · DENMARK



Rettelser	S. P. RADIO AALBORG <i>Måskitse RT143 / H231</i>	Tegn.	28.7.82 WPK
		Kont.	
		Målestok	1:2



Rettelser	1/2 S. P. RADIO AALBORG <i>Monteringsplade (VHF)</i>	Tegn.	28.7.82 NPK
		Kont.	
		Målestok	1:2

INSTRUCTION MANUAL
FOR
PHONE PATCH UNIT H231

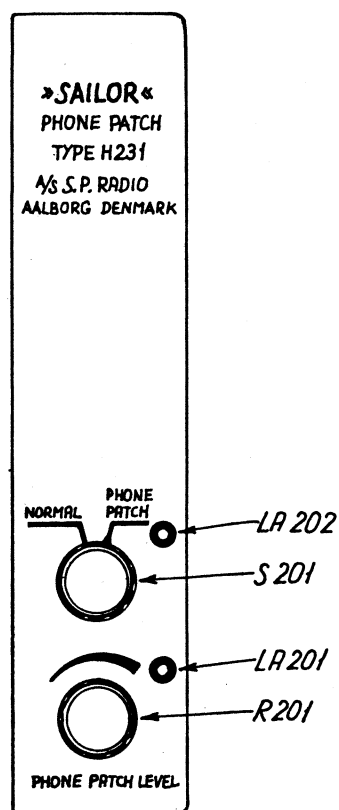
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APPLICATION

Phone Patch Unit H231 can be used wherever you want to connect a VHF set RT143 (modified) or RT143C (coast station) to a 600 ohm telephone system. E.g. when on board the ship you want to connect the internal telephone system via the VHF set and the coast station to a subscriber ashore, both VHF sets - i.e. the one on the ship and the one on the coast station - must have a Phone Patch Unit for connection to the telephone line.

CONTROLS



NORMAL:

The VHF set works normally.
The internal telephone instrument works normally.

PHONE PATCH:

The VHF set is connected to the telephone line.
The transmitter is keyed constantly.
The lamp LA202 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 LA201 flashes concurrently with the modulation when the level is adjusted correctly.

DIRECTIONS FOR USE

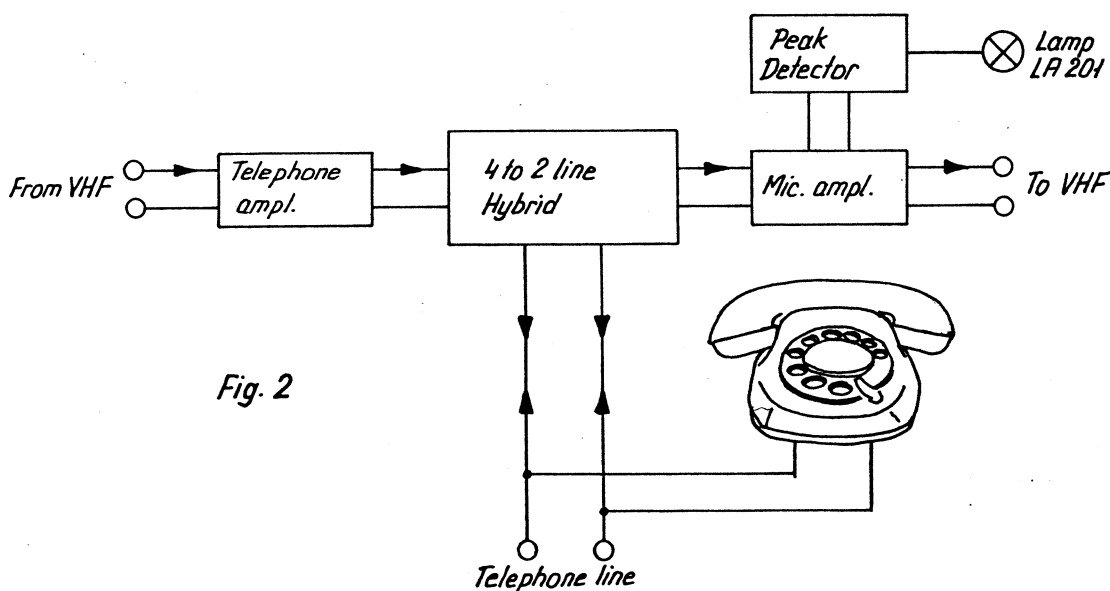
- a. Radio communication is established with the microtelephone from the VHF set.
- b. The number of the desired subscriber is dialed on the telephone.
- c. When telephone connection is established the function switch is set to Phone Patch and the telephone line is now connected to the VHF set. The microtelephone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

The operator can monitor the connection from the loudspeaker of the VHF set.

Phone Patch level is adjusted so that the lamp LA201 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.

PRINCIPLE OF OPERATION



The telephone amplifier consists of the transistors T101, T102 and T103. Gain adjustment with R103.

The microphone amplifier consists of the transistors T104, T105 and T106. Gain adjustment to ± 3 kHz deviating when lamp LA201 is just starting to light with R129.

The circuit to prevent cross talk from receiver to transmitter is performed with the transformers TR101 and TR102. Balance adjustment with R116.

The peak detector circuit consists of the transistors T107 and T108.

ADJUSTMENT PROCEDURE

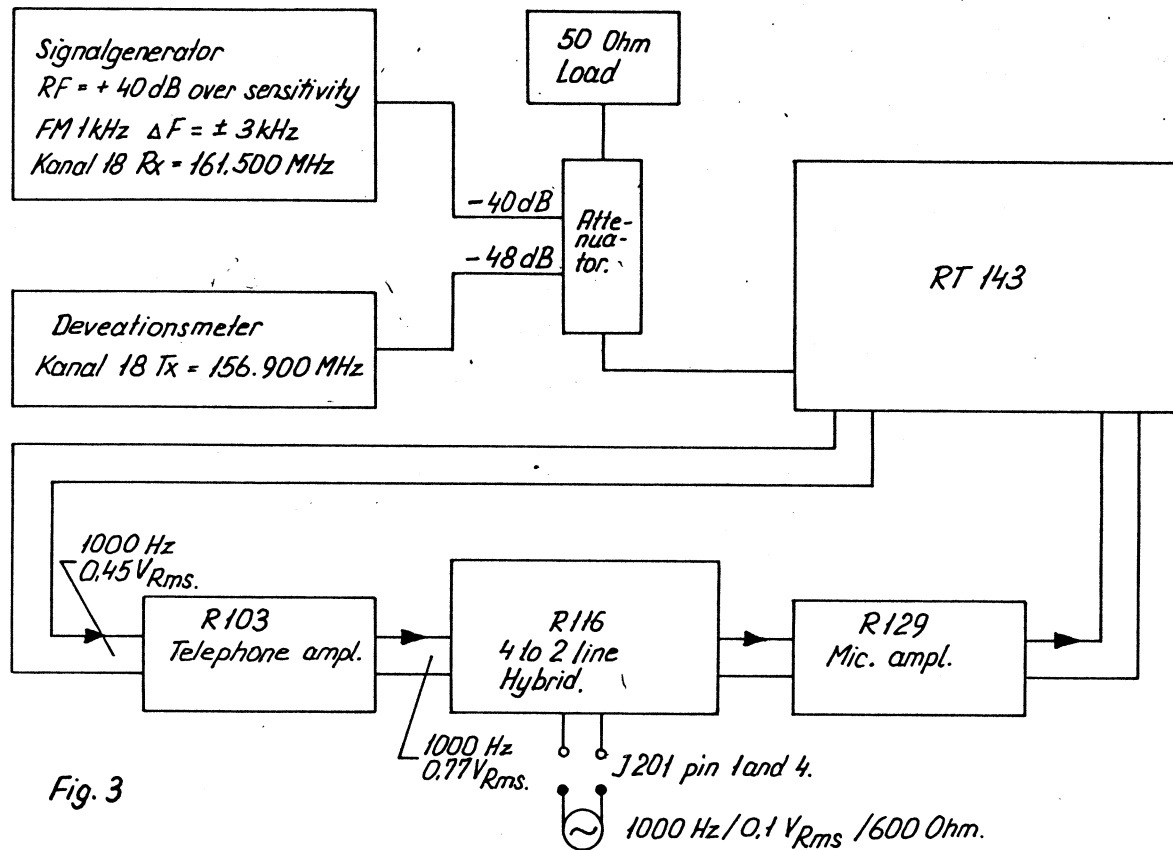


Fig. 3

For adjustment of Phone Patch Unit H231 connect the measuring instrument to the RT143 and H231 as shown on the drawing fig. 3.

Dial a telephone number and set function switch on H231 to position PHONE PATCH. Place the telephone handset on the cradle (the telephone line must not be modulated).

If you do not have a telephone line then use a 600 ohm resistor connected to J201 pin 1 and 4.

ADJUSTMENT OF TELEPHONE AMPLIFIER

With 0.45VRMS from RT143 to H231 adjust R103 to 0.77VRMS measured between R112 and TR101.

ADJUSTMENT OF BALANCE

With PHONE PATCH LEVEL R201 full C.W. (all to the right) adjust R116 to minimum deviation on the modulation meter.

ADJUSTMENT OF MICROPHONE AMPLIFIER

Connect a 600 ohm signal generator to J201 pin 1 and 4 (1000 Hz and 0.1VRMS/600 ohm).

Set the PHONE PATCH LEVEL R201 to a level so that the lamp LA201 is just starting to light.

Adjust R129 to ±3 kHz frequency deviation on RT143.

MODIFICATION OF RT143 FOR CONNECTION TO H231

Following modification on microtelephone plug J1302 has to be carried out.

Connect a wire from BASIS PRINT TRANSMITTER pin (+13.5V to collector of T1204) to microtelephone plug J1302 pin 6.

Connect a wire from AERIAL SWITCH RELAY pin (yellow and violet wire) to microtelephone plug J1302 pin 7.

NB! Phone Patch Unit H231 will automatically disable Dual Watch when H231 is set in position PHONE PATCH.

MOUNTING OF PHONE PATCH UNIT H231

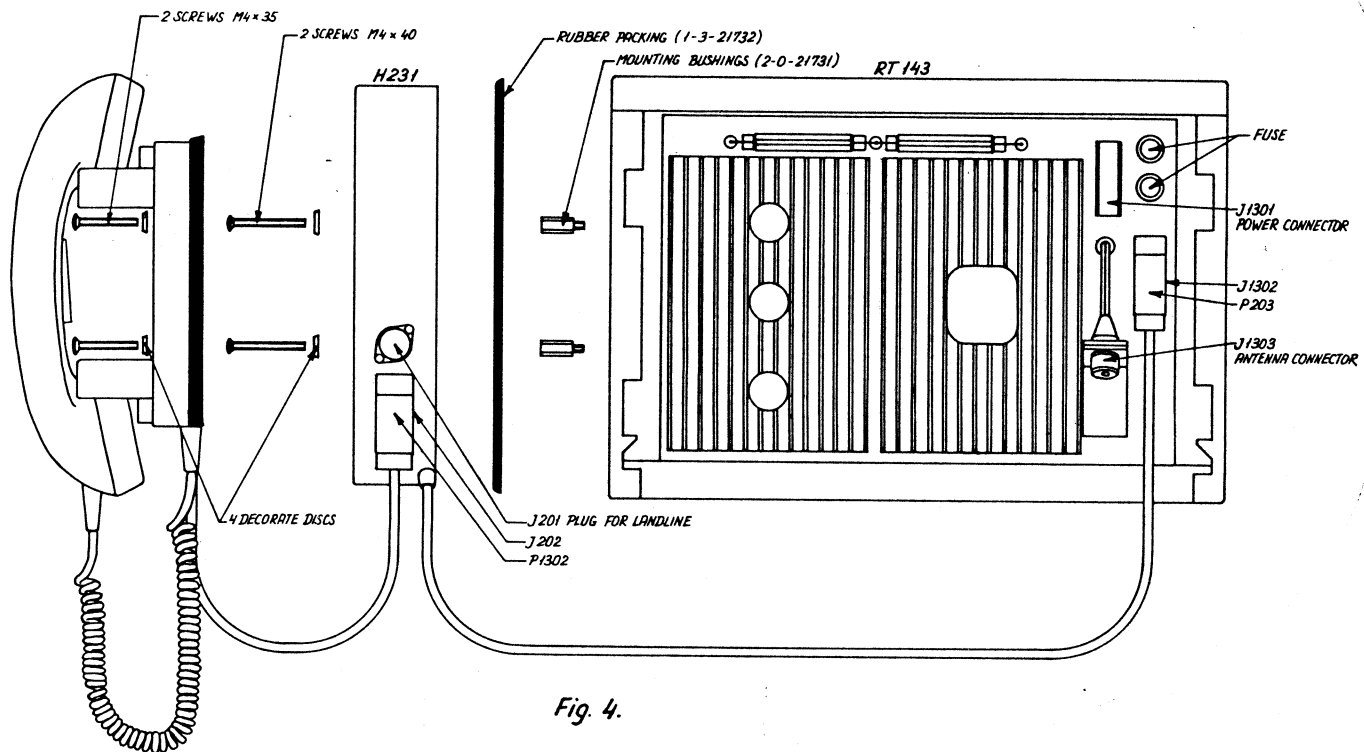


Fig. 4.

Mounting of Phone Patch Unit H231 has to be carried out as shown on fig. 4.

The telephone line is connected to P201 pin 1 and 4.

The internal telephone system is also connected to P201 pin 1 and 4.

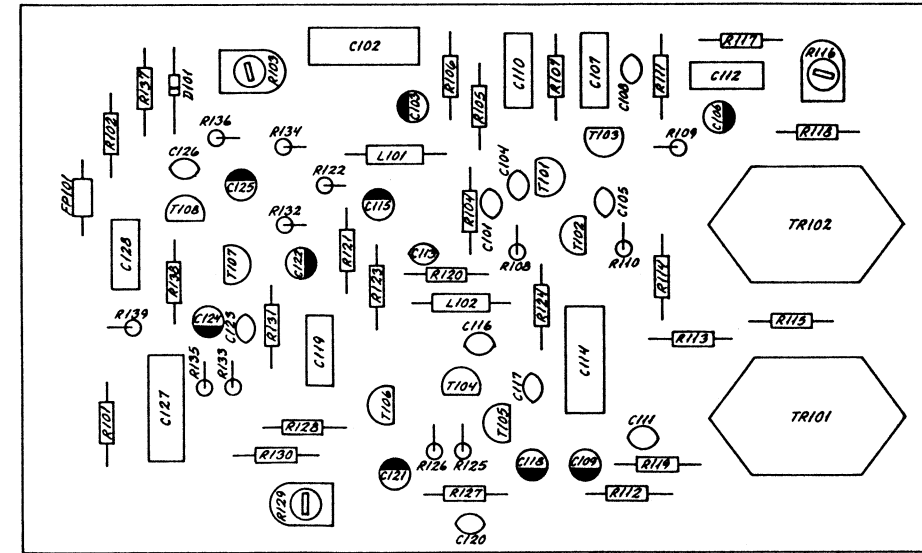
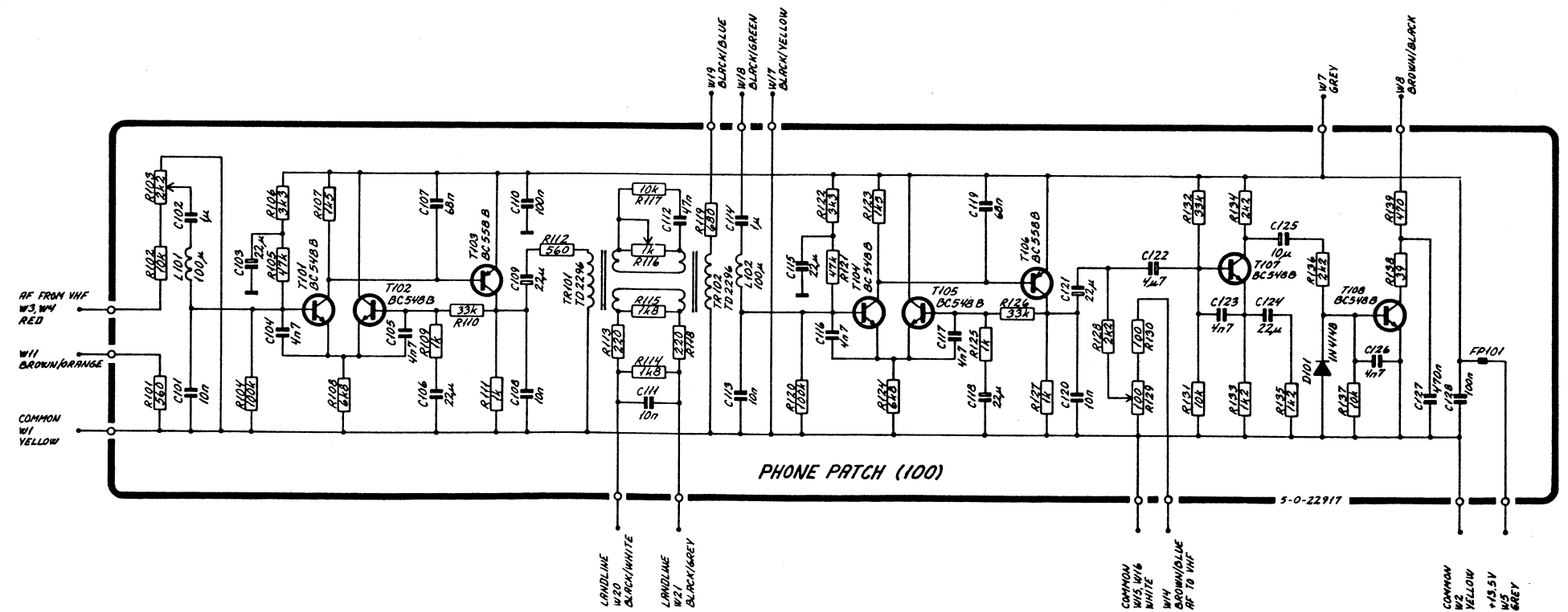
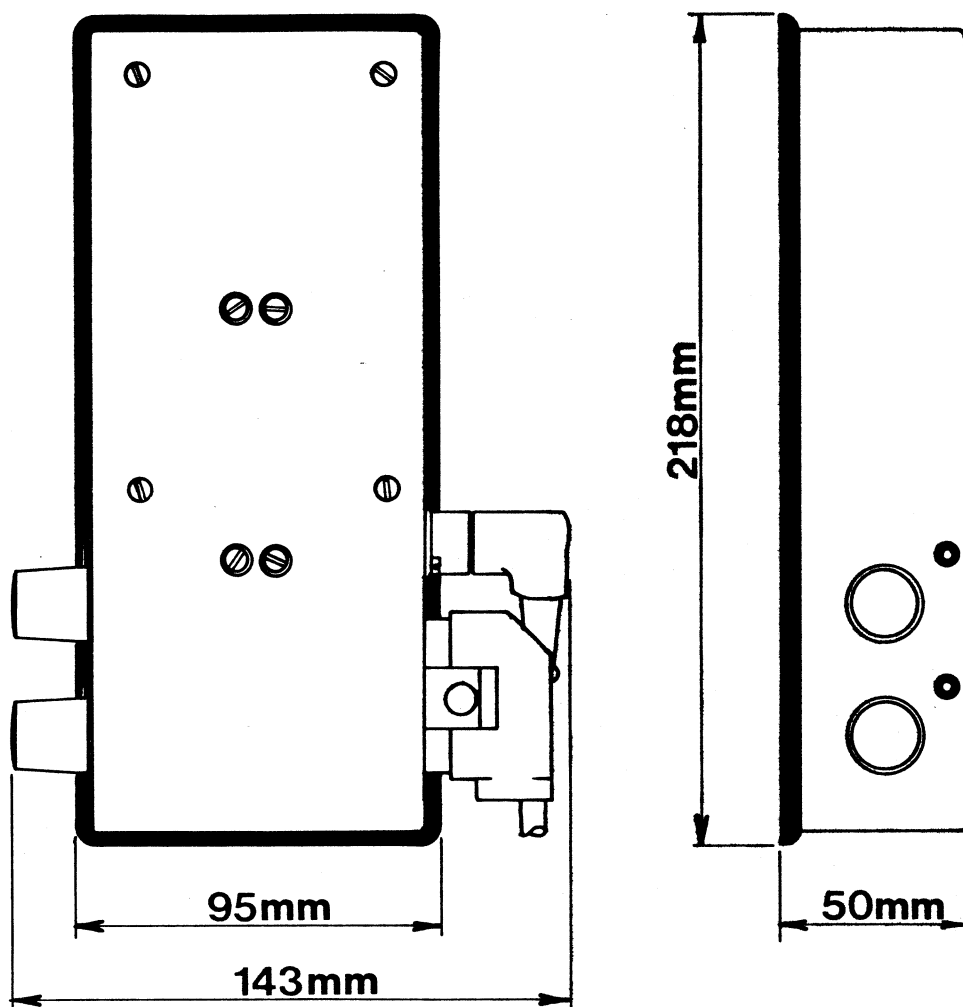


DIAGRAM PHONE PATCH H231



<i>Symbol</i>	<i>Description</i>	<i>Manufact.</i>	
C101	Capacitor ceramic 10 nF	KCK	HE-70SJ-YF-103Z
C102	Capacitor polyester 1 uF/100V	Philips	2222 344 24105
C103	Capacitor electrolytic 22 uF/25V	ROE	EKI 00AA 222E
C104	Capacitor ceramic 4,7 nF	KCK	HE-80SJ-YD-472M
C105	Capacitor ceramic 4,7 nF	KCK	HE-80SJ-YD-472M
C106	Capacitor electrolytic 22 uF/25V	ROE	EKI 00AA 222E
C107	Capacitor polyester 68 nF/100V	Philips	2222 344 41683
C108	Capacitor ceramic 10 nF	KCK	HE-70SJ-YF-103Z
C109	Capacitor electrolytic 22 uF/25V	ROE	EKI 00AA 222E
C110	Capacitor polyester 100 nF/100V	Philips	2222 344 24104
C111	Capacitor ceramic 10 nF	KCK	HE-70SJ-YF-103Z
C112	Capacitor polyester 47 nF/100V	Philips	2222 344 24473
C113	Capacitor ceramic 10 nF	KCK	HE-70SJ-YF-103Z
C114	Capacitor polyester 1 uF/100V	Philips	2222 344 24105
C115	Capacitor electrolytic 22 uF/25V	ROE	EKI 00AA 222E
C116	Capacitor ceramic 4,7 nF	KCK	HE-80SJ-YD-472M
C117	Capacitor ceramic 4,7 nF	KCK	HE-80SJ-YD-472M
C118	Capacitor electrolytic 22 uF/25V	ROE	EKI 00AA 222E
C119	Capacitor polyester 68 nF/100V	Philips	2222 344 41683
C120	Capacitor ceramic 10 nF	KCK	HE-70SJ-YF-103Z
C121	Capacitor electrolytic 22 uF/25V	ROE	EKI 00AA 222E
C122	Capacitor electrolytic 4,7 uF/50V	ROE	EKI 00AA 210F
C123	Capacitor ceramic 4,7 nF	KCK	HE-80SJ-YD-472M
C124	Capacitor electrolytic 22 uF/25V	ROE	EKI 00AA 222E
C125	Capacitor electrolytic 10 uF/35V	ROE	EKI 00AA 147H
C126	Capacitor ceramic 4,7 nF	KCK	HE-80SJ-YD-472M
C127	Capacitor polyester 470 nF/100V	Philips	2222 344 24474
C128	Capacitor polyester 100 nF/100V	Philips	2222 344 24104
D101	Diode silicon	Philips	1N4148
T101	Transistor	Philips	BC548B
T102	Transistor	Philips	BC548B
T103	Transistor	Philips	BC558B
T104	Transistor	Philips	BC548B
T105	Transistor	Philips	BC548B
T106	Transistor	Philips	BC558B
T107	Transistor	Philips	BC548B
T108	Transistor	Philips	BC548B

<i>Symbol</i>	<i>Description</i>		<i>Manufact.</i>	
TR101	Transformer		Tradania	TD2296
TR101	Transformer		Tradania	TD2296
L101	Choke	100 uF 0,22A	Ferroperm	1582
L101	Choke	100 uH 0,22A	Ferroperm	1582



Rettelser	S. P. RADIO AALBORG	Tegn.	5.8.82 NPK
		Kont.	
	Målskilse H231/H1224	Målestok	1:2
		4-0-23295	