

# Commander Zweitbesprechung R



**FunkTronic**  
Kompetent für Elektroniksysteme

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## Order Information

Ord.-Nr.	Description
412002	Commander Zweitbesprechung R, with call buttons for Call 1+2, with internal amplifier
412012	Commander Zweitbesprechung O, without call buttons, with internal amplifier

## Technical Data

### Commander Zweitbesprechung R

#### **Supply**

voltage	+12 V DC -25% +30%
current consumption	50 mA (max. 400 mA)

#### **Input Level (RX in)**

recommended for earphone AF	500 mV
input impedance	approx.. 5 kohm

#### **Output Level (TX out)**

ex factory set to	500 mV (at 200 ohm)
output impedance (while transmitting)	ca. 200 ohm
output impedance (while receiving)	high-resistance (open)

#### **Weight**

handset	approx. 200 g
rest	approx. 250 g

#### **Dimensions (incl. rest, without cable)**

width x depth x height	65 x 75 x 220 mm
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# Control Elements Commander Zweitbesprechung R



**Remark:** The Commander Zweitbesprechung is also available without call buttons.

## General Remarks

The Commander Zweitbesprechung R is a hand set designed for the use as a secondary device in addition to a BOS radio on the same radio circuit. The scope of delivery includes the handset with integrated Call1 and Call2 functions and the corresponding rest with a loudspeaker and volume control. An AF amplifier is also integrated into the rest.

A 10-pin terminal block inside the rest connects operating voltage, squelch, PTT output and AF in/output with the radio. Additionally, an external loudspeaker can be connected.

As the AF output is only open during transmission, several Commander Zweitbesprechung can be connected in parallel.

## **Status Display (yellow LED)**

The status display always lights, if the radio is operating.

## **Squelch Display (red LED)**

The squelch display lights up, while a carrier is detected by the radio receiver.

## **Transmission Display (green LED)**

The transmission display lights up during transmitter keying (PTT). The transmitter is keyed by pressing the PTT button inside the handset or one of the two Call buttons.

## **Conversation Handling**

By pressing the PTT button at the inner side of the handset, the transmitter is activated and ready to speak. You can hear the radio transmissions in the earphone and via the loudspeaker. The loudspeaker volume (internal and external) can be adjusted using the potentiometer at the side of the rest.

While PTT is keyed or while the handset is taken the loudspeaker can be muted (jumpers 6 and 9).

## **Volume**

Using the potentiometer on the left side of the rest, the volume of the internal and external loudspeakers can be adjusted. Using jumper 5 a minimum volume can be defined. The volume cannot be lower than this value even if the potentiometer is turned to very low values.

## **Tone Call Encoder**

The Commander Zweitbesprechung R has an internal tone call encoder for Call1 and Call2. These calls are transmitted by pressing the respective buttons on the upper side of the handset. The tone call is sent as long as the button is pressed.

Call 1 = 1750 Hz

Call 2 = 2135 Hz

## Adjusting the Microphone Level

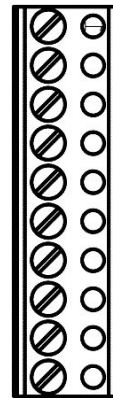
The microphone level of the handset is adjusted correctly ex factory. If you still wish to change it, the output level can be adjusted using the potentiometer near the microphone capsule at the outer side of the handset.

The rest includes an AF amplifier that can be configured for different operation modes. It supplies the int. and ext. loudspeaker with a maximum of 3 watt each. The used signal is derived from the earphone AF and hence is independent from volume settings of the radio. If necessary, the basic sensitivity can be adjusted with the poti inside the rest. Ex factory, a level of 500 mV is set.

The integrated AF amplifier can be muted for the internal and external loudspeaker. Muting is always active when PTT is keyed. Furthermore, muting is active while the handpiece is taken if jumper JP1 is closed (factory default).

## Pin Assignment Socket ST1

Pin	Funktion
1	AF input (transformer 200 or 600 ohm)
2	AF input (transformer 200 or 600 ohm)
3	PTT (semiconductor relay)
4	PTT (semiconductor relay)
5	GND
6	AF out
7	AF out
8	squelch oder hook - (JP2+3)
9	squelch oder hook + (JP2+3)
10	+ 12 volt operating voltage



socket ST1 is realized as a terminal strip inside the rest

## Function Squelch or Hook

To pins 8 and 9 of ST1 a squelch signal of the radio can be applied in order to display a carrier and to activate/deactivate the loudspeaker (factory default: JP2/JP3 closed at the bottom)

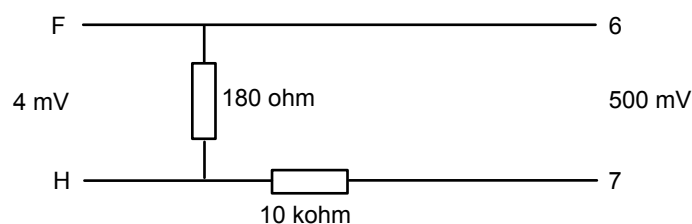
Alternatively, these pins can be used as an output of the hook status via a semiconductor relay (JP2/JP3 closed at the top)

## Connection to FuG8/9

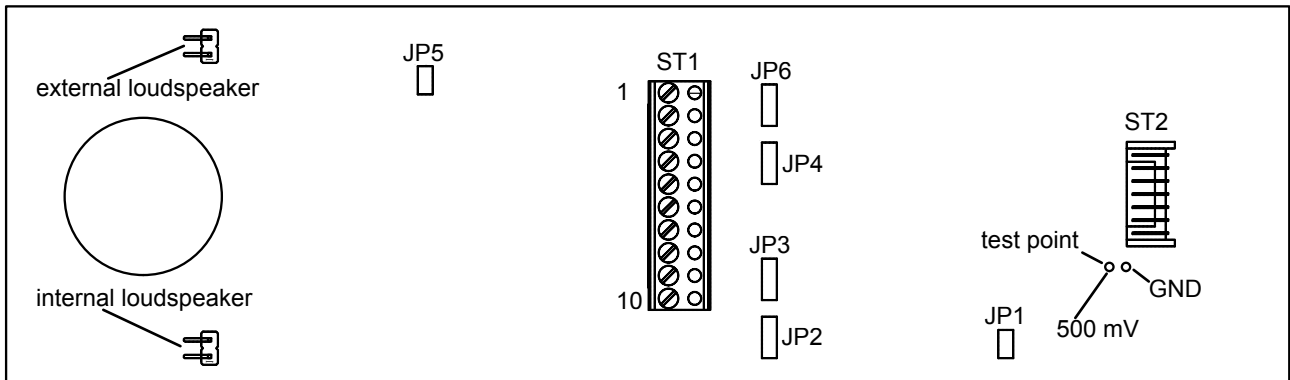
The connection is accomplished via a cable with BOS plug.

BOS plug	socket ST1
D	1
E	2
C	3
B	4
J	5
F	6
H	7
J	8
A	9
B	10

Inside the BOS plug a voltage divider has to be included, that reduces the nominal level from 500mV to 4mV.



# Jumper Layout



# Jumper Function

Jumper	Function	ex factory
JP1	open -> loudspeaker is not muted if handset is taken closed -> loudspeaker is muted if handset is taken - - - - -	default
JP2/JP3	closed at the top -> ST1 pin 8+9 function: hook closed at the bottom -> ST1 pin 8+9 function: squelch - - - - -	default
JP4	open -> AF input impedance higher than 10 kohm - - - - - closed at the top -> AF input impedance 600 ohm closed at the bottom -> AF input impedance 200 ohm	default
JP5	open -> minimum volume always present - - - - - closed -> no minimum volume	default
JP6	closed at the top -> mute if TX to GND closed at the bottom -> mute if TX to +12 volt - - - - - open -> no muting	default

The earphone is connected to socket **ST2**.

## **General Safety Information**

Please read the operating instructions carefully before installation and setup.

The relevant regulations must be complied to when working with 230V line voltage, two-wire-lines, four-wire-lines and ISDN-lines. It is also very important to comply to the regulations and safety instructions of working with radio installations.

### **Please comply to the following safety rules:**

- All components may only be mounted and maintained when power is off.
- The modules may only be activated if they are built in a housing and are scoop-proof.
- Devices which are operated with external voltage - especially mains voltage - may only be opened when they have been disconnected from the voltage source or mains.
- All connecting cables of the electronic devices must be checked for damage regularly and must be exchanged if damaged.
- Absolutely comply to the regular inspections required by law according to VDE 0701 and 0702 for line-operated devices.
- Tools must not be used near or directly at concealed or visible power lines and conductor paths and also not at and in devices using external voltage – especially mains voltage - as long as the power supply voltage has not been turned off and all capacitors have been discharged. Electrolytic capacitors can be still charged for a long time after turning off.
- When using components, modules, devices or circuits and equipment the threshold values of voltage, current and power consumption specified in the technical data must absolutely be complied to. Exceeding these threshold values (even if only briefly) can lead to significant damage.
- The devices, components or circuits described in this manual are only adapted for the specified usage. If you are not sure about the purpose of the product, please ask your specialized dealer.
- The installation and setup have to be carried out by professional personnel.

## **Returning of Old Equipment**

According to German law concerning electronic devices old devices cannot be disposed off as regular waste. Our devices are classified for commercial use only. According to § 11 of our general terms of payment and delivery, as of November 2005, the purchasers or users are obliged to return old equipment produced by us free of cost. FunkTronic GmbH will dispose of this old equipment at its own expense according to regulations.

Please send old equipment for disposal to:

**FunkTronic GmbH  
Breitwiesenstraße 4  
36381 Schlüchtern  
GERMANY**

**>>> Important hint:** freight forward deliveries cannot be accepted by us.

February 2<sup>nd</sup> , 2006

**Subject to change, Errors excepted**