# Datasheet

## ACS 2004 N / Item.No.:5055



**4-way antenna switch with sequential preamplifier / power amplifier control.**

The antenna circuit system ACS 2004 N allows the connection of four different antennas across all amateur bands from 80m to 70cm via a single lead-out cable. It consists of a control unit AC 2004 as well as the water-protected outdoor unit AS 2004. Both devices communicate via just a single lead-out cable, which can additionally be used to switch on or off four independent preamplifiers separately for each antenna connection. For the first time in such a system, a complete sequential preamplifier control system wich, at the same time, controls possibly used power amplifiers in a sequence-controlled manner, is installed. Preamplifiers and amplifiers can be controlled by a PTT to ground or to +5 ... 12V.

**Standard connection:**

Using the enclosed connection diagram, up to four antennas are connected to the input sockets of the antenna switch AS 2004 wich has to be connected to the mast. The jacks should point downwarts, so that the unit is mounted water protected!
Preamplifiers are, if necessary, looped in between the respective antennas and the antenna switch in known manner. The AS 2004 and the internal control unit AC 2004 must now be connected via the lead-out cable.
Connect the TRX (PA) jack to a transeiver or a power amplifier. The system is ready for use when the operating voltage is applied. When using our preamplifiers, the wiring of the PTT switching inputs can be abandoned if, for example, tranceivers with output power are used which do not exceed the permissible load capacity of the HF-Vox with preamplifiers. When using separate power amplifiers of higher power, a PTT connection from the transceiver to the AC 2004 as well as from this to the PTT input of the power amplifier must be provided. A HF-Vox controller possibly present in the amplifier should be deactivated beforehand! The use of the PTT circuit has a further advantage: to protect the switching contacts in the HF relay and the preamplifiers used, switching to another antenna connection is prevented as long as the PTT button is activated!

**Extended connection:**

Here, the possibility is offered to distribute the RF output of the controller to different transceivers or amplifiers via external relays. The selection of the devices to be activated is then automatically made via the keys of the controller, which switch the control outputs 6 and 7 accordingly. Please refer to the corresponding wiring diagram. You should take care that the relays used can not only transmit the power of the amplifiers without problems. It is also advisable to control the damping of the relays, as otherwise the other transceivers can be easily destroyed!
At the PTT switch output point 5 of the controller, an open-collector transistor is available, which can switch a maximum current of 500 mA to ground. Switching outputs 6 and 7 can also switch a maximum current of 500 mA to ground to control the external relays for the PA selection. Only pre-amplifiers of the SP series can be used in this system. The power amplifiers which are not being used should be switched off.

*SSB-Electronic GmbH • Am Pulverhäuschen 4 • 59557 Lippstadt • Germany*

# Datasheet

## ACS 2004 N / Item.No.:5055

**Operation of the switching system:**

After switching on the operating voltage, a short test of the electrical connection to the remote antenna switch is carried out. If the wiring is correct, the power is switched on with the state of the delivery state: Antenna 1 is selected without activated remote power supply for preamplifier. In the case of an interruption between the indoor and outdoor unit, the LED for the preamplifier and the LED of the selected antenna connection flash slowly alternating. In case of a short circuit, the same LED's flash quickly.

**Wrong operation possible !**

When the preamplifier voltage is connected to an antenna connection which does not contain a preamlifier but also supplies an antenna with a grounded internal conductor, a short circuit is generated, which cannot be displayed.

Due to an internal overload protection, this voltage is switched off, but always switched on again every time the PTT is pressed. This generally results in a short-term maximum current. You should therefore keep an eye on the external wiring of AS 2004.

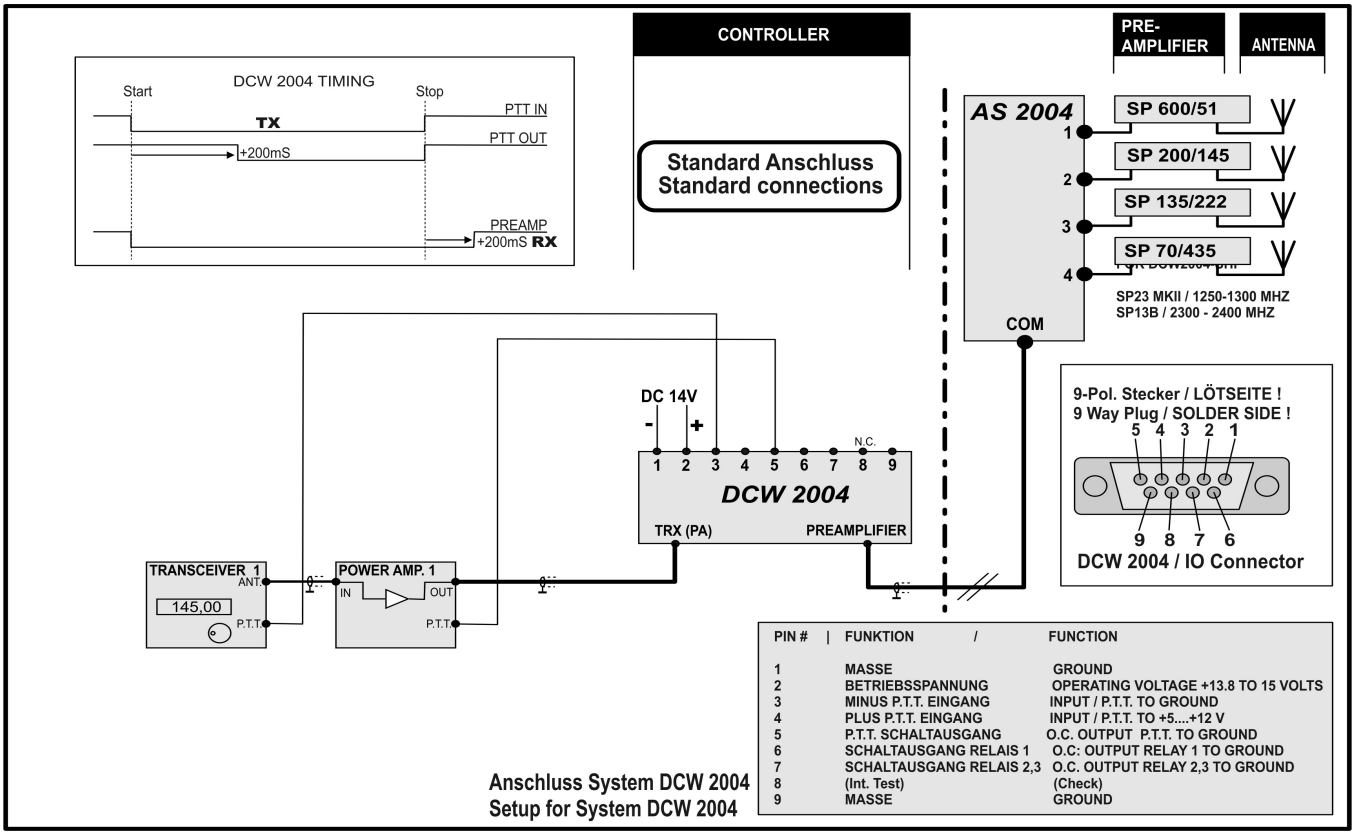
In the delivery state, the antenna socket 1 is activated without remote supply after the first switching-on. All settings changed afterwards are saved and are retained even without operating voltage.

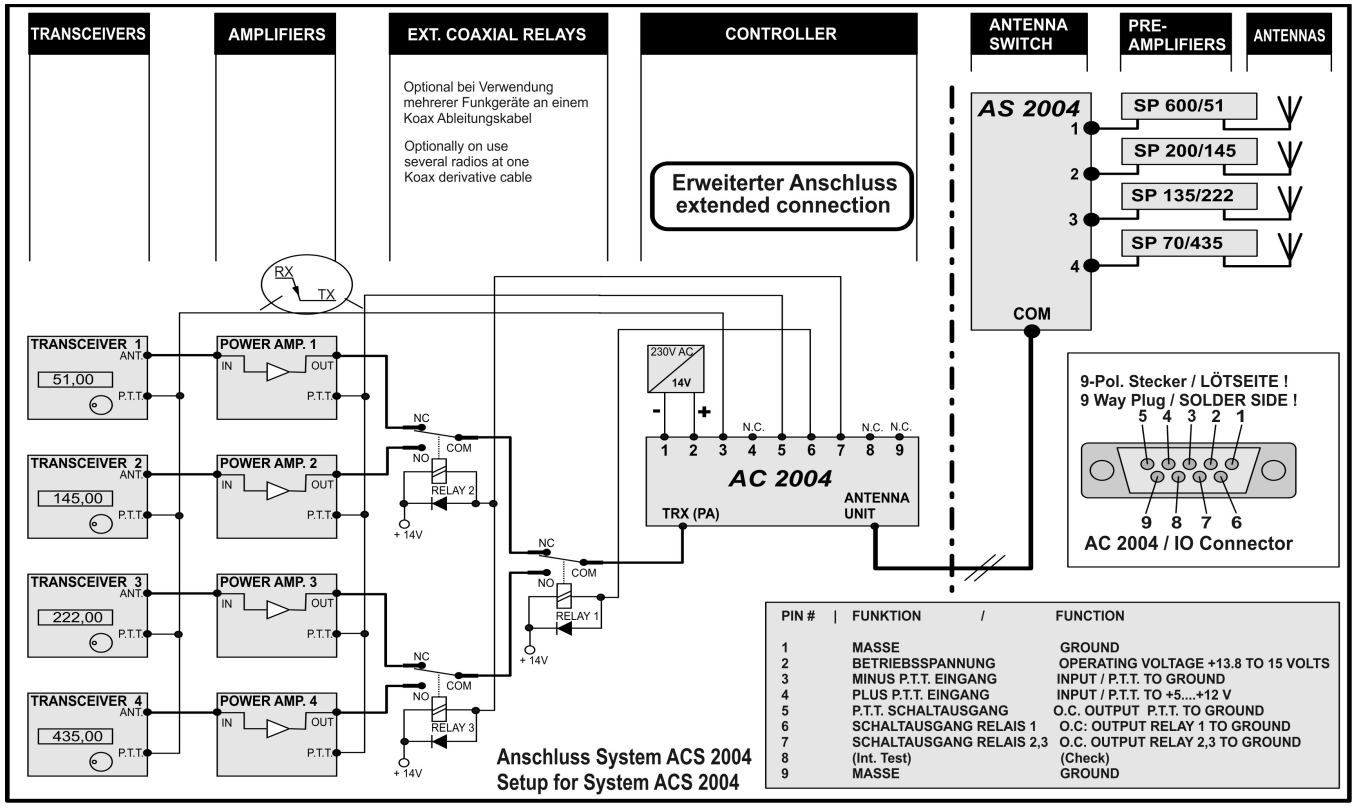
**Choice of the antennac-onnection:**

By shortly pressing the corresponding buttons 1 to 4, this connector is activated and the corresponding LED is lit. Logically the buttons 1-4 stand for antenna-sockets 1-4.

# Datasheet

## ACS 2004 N / Item.No.:5055



# Datasheet

## ACS 2004 N / Item.No.:5055

Choice of the antenna amplifier:

To switch the preamplifier operating voltage on or off for the desired connection, simply press and hold the corresponding button for approximately 2 seconds. This prevents voltage from being accidentally applied to an antenna connector that does not contain a preamplifier. The preamplifier LED always lights for the activated antenna connection. When the keys are switched on, it is thus immediately apparent on which connection a (looped in) pre-amplifier is supplied with voltage.

**Technical data:**

| | |
|---|---|
| Frequency range | 80m to 70cm, all amateur areas |
| Load capacity | 80m..10m/1.5KW PEP<br>6m + 2m per 800 W PEP,<br>70cm/600W PEP |
| Insertion loss | 80m to 10m < 0.1 dB<br>6m/0.15 dB,<br>2m/0.25 dB,<br>70cm/0.3 dB |
| Antenna inputs | 4 |
| Pre-amplifier voltage | 0,5A max. |
| PTT switching output for power amplifiers (point 5) | 0,5A/30V max.,<br>Open Collector |
| Relay outputs (points 6 + 7) | each 0,5A/30V max.,<br>Open-Collector |
| -PTT unput (point 3) | <2V |
| +PTT input (point 4) | <5V |
| Operating voltage | 12...15V recommended<br>13,8V...14,5V |
| Connection standard | N-connector female |
| Mast diameter (AS 2004) | 58mm max. |

**Notes on environmental protection**

Electrical and electronic devices may not be disposed of with household waste. This must be handed in separately at collecting points, or returned to the point of sale. Packaging materials must be separated and disposed of through the municipal waste by material type.

**Maintenance**

Do not open the unit. It does not contain any parts needing maintenance. If you need help regarding technical matters, please contact support@ssb-electronic.com. For a lowest possible noise figure of the complete system, set preamp to maximum gain.

**Safety, Warranty**

Not suitable for children! The packaging material and the device may contain small parts which may be swallowed. Repairs may only be performed by qualified personnel.,
Opening the device, or improper use will void any warranty claims. No guarantee will be given.
The device applies to the Low Voltage Directive 2006/95/EG, as well as to 2004/108/EG, 2002/96/EG, 1999/44/ EG.

**Declaration of Conformity**

The CE mark is a free trade mark. It does not guarantee any product features. The product does apply all relevant regulations within the scope of 94/62/EG.

Manufacturer is: SSB-Electronic GmbH,
Am Pulverhäuschen 4, 59557 Lippstadt/Germany

Technical changes are reserved. Contents of this document are the intellectual property of SSB-Electronic GmbH. Reproduction is only permitted with the express written approval.

**How to contact:**


| | |
|---|---|
| E-Mail: | support@ssb-electronic.com |
| Phone: | +49 (0) 2941-93385-0 |
| Internet: | www.ssb-electronic.com |