



INSTRUCTION MANUAL

OM SW 2/10 OM SW 2/10+

Shortwave plus 50 MHz
Antenna switch



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IMPORTANT WARNINGS

+++++ HIGH RF VOLTAGE+++++

**Never use the antenna switch if it is not connected to a proper lightning grounding system. NEVER TOUCH the ANTENNA during transmission, because it may causes electric shock.
NEVER operate the antenna switch with open cover.**

WARNING

If you're using the antenna controller without hot switching protection never switch the antenna ports during transmission, because it can cause destruction of the antenna switch. OM Power automatic amplifiers are equipped with hot switching protection.

CAUTION

To avoid damage (which is not covered in warranty) read carefully this instruction manual about the installation, operation and safe usage of the antenna switch. If you have any questions, please consult your dealer.

Description

The antenna switch OM SW 2/10 is designed for remote antenna switching. It allows to connect one of maximally ten antennas to one of two common antenna ports TX-A and TX-B (outputs).

Antenna switch OM SW 2/10 was designed to cooperate with OM Power automatic power amplifiers OM2200A, OM2500A, OM4000A and the OM SW 2/10+, which is equipped with BCD decoder cooperating with OM2000A+ and OM4001A. It is possible to produce antenna switch with combination of OM SW2/10 and OM SW 2/10+ (one side controlled with BCD code)

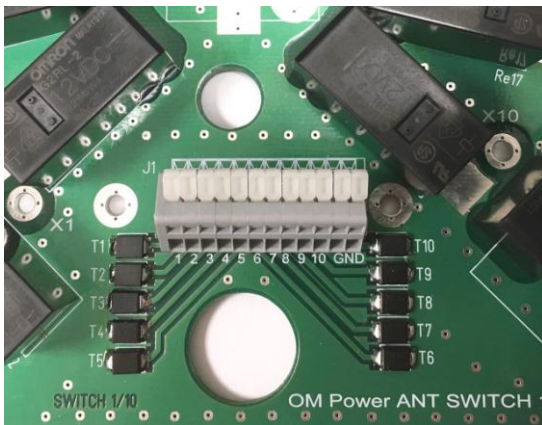
Of course, the antenna switch OM SW 2/10 and OM SW 2/10+ can be used independently from OM Power amplifiers, with various controllers.

Features

- Selecting one of maximum10 antennas
- Characteristic impedance is 50 ohm , frequency range up to 60 MHz
- Power rating - up to 5kw continuous carrier
- Teflon (PTFE) insulated SO239 connector
- Excellent VSWR and crosstalk isolation
- Only 20 ms switching time between ports
- Compatible with OM Power automatic amplifiers, without need of any additional devices.
- Compatible with any band decoder with 12V source voltage

- Compatible with Yaesu BCD code (5V logic)
- Unused antenna can be grounded as needed , opened, or loaded with characteristic impedance
- Dust and rain protected
- Easily mounted on the wall or tower
- The antenna switch is intended to be used either inside or outside

Connecting the switch OM SW 2/10

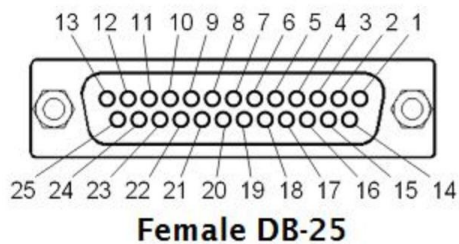


Antenna switch OM SW 2/10 can be connected directly to the automatic power amplifier OM2200A, OM2500A, OM4000A or other band decoders and antenna selectors providing +12 to +15 volts to select an antenna. Consumption is 100 mA. Terminals 1 to 10 on antenna switch should be connected to the OM Power automatic amplifier, antenna control connector (ANT & BPF SW), or other type of band decoder. Connect the

GND terminal to the ground of your controller!

Configure your automatic power amplifier or band decoder to activate the appropriate output for the desired antenna on each band!

ANT and BPF SW connector on OM2500A, OM4000A



1. antenna port 1
2. antenna port 2
3. antenna port 3
4. antenna port 4
5. antenna port 5
6. antenna port 6
7. antenna port 7
8. antenna port 8
9. antenna port 9
10. antenna port 10
11. COMMON port of ANT SW – connect +12V external power supply
12. NC

13. GND - connect-12V terminal of external power supply

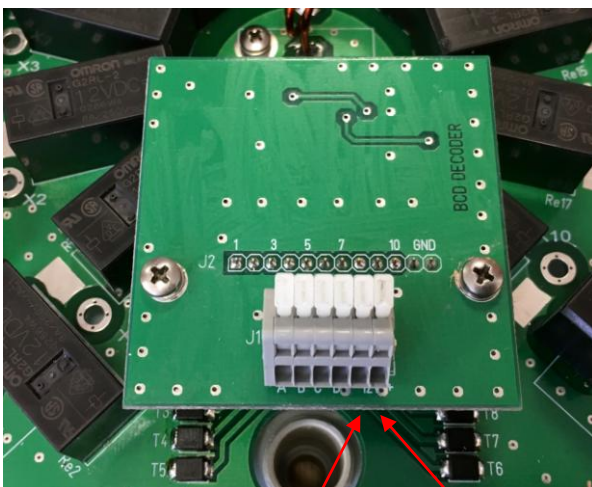
Connecting the switch OM SW 2/10+

Antenna switch OM SW 2/10+ is designed for OM Power amplifier OM2000A+, OM4001A and can be directly controlled without any additional device, or other type of BCD decoder. Selection of required antenna port is controlled with BCD code (5V logic compatible with YAESU BCD code).

Antenna BCD code table

D	C	B	A	Logic value	Antenna port
0	0	0	0	0	UNDEFINED
0	0	0	1	1	ANT 1
0	0	1	0	2	ANT 2
0	0	1	1	3	ANT 3
0	1	0	0	4	ANT 4
0	1	0	1	5	ANT 5
0	1	1	0	6	ANT 6
0	1	1	1	7	ANT 7
1	0	0	0	8	ANT 8
1	0	0	1	9	ANT 9
1	0	1	0	A	ANT 10
1	0	1	1	B	UNDEFINED
1	1	0	0	C	UNDEFINED
1	1	0	1	D	UNDEFINED
1	1	1	0	E	UNDEFINED
1	1	1	1	F	UNDEFINED

TERMINAL CONNECTION



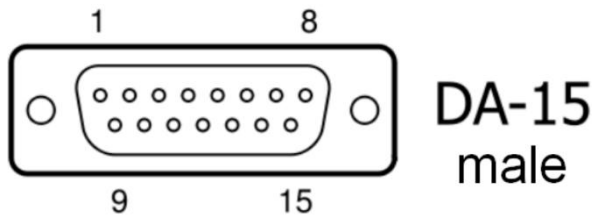
Connect terminals A,B,C and D on the antenna switch to the ANT/BPF connector on the OM2000A+, OM4001A power amplifier! (Connector OM2000A+ ANT/BPF see below) - Connect 12V terminal to the ground (PIN 6 or 7) and +12V terminal to pin 8 of ANT/BPF connector!

-12 V DC

+12 V DC

Configure your automatic power amplifier or band decoder to activate the appropriate output for the desired antenna on each band.

OM2000A+ , OM4001A ANT / BPF Connector - D-sub 15 male



- Pin 1 - ANT data D - output BCD code - bit 3 for antenna switching
- Pin 2 - ANT data C - output BCD code - bit 2 for antenna switching
- Pin 3 - ANT data B -- output BCD code - bit 1 for antenna switching
- Pin 4 - ANT data A - output BCD code - bit 0 for antenna switching
- Pin 5 - Not connected
- Pin 6 - GND
- Pin 7 - GND
- Pin 8 - +12V 100mA - output supply maximum 100mA for antenna BCD decoder, usable for supply external antenna switch OM SW 2/10+

Cable length and wire size

If the antenna switch is located some distance from the power amplifier or controller, it is necessary to use a cable of the appropriate length and wire size.

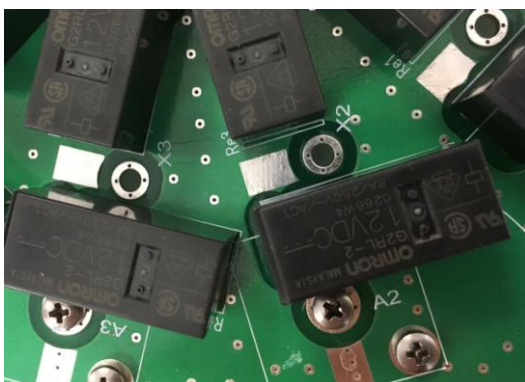
Cable length (m / ft)	Conductor Cross-section(mm ²)	AWG
100 / 300	0,14	26
200 / 600	0,25	24
300 / 1000	0,5	20

We recommend to use a shielded cable with a shield used as an added ground lead to reduce voltage losses. Connect one end of the cable to the terminals of the antenna switch and the other end to an appropriate connector on your OM Power automatic amplifier or controller.

OM SW 2/10 requires 2 cables with eleven conductors (ten antennas plus return/ground).

OM SW 2/10+ requires 2 cables with six conductors (A B C D ports, +12V and ground). It is convenient to use shielded 8 wire (four pair) cable and two – two wires parallel for 12V supply.

Unused antenna termination



Unused antennas are connected through relay to terminal X (See schematic of antenna switch). If needed, based on configuration of the antenna system, it is possible to leave port X unconnected, connected to the ground or loaded with a

