



MS9/6ECU-4

MS9/10ECU-4

MS13/6ECU-4

MS13/10ECU-4

MS17/6ECU-4

MS17/10ECU-4

MS9/16ECU-12

MS9/20ECU-12

MS13/16ECU-12

MS13/20ECU-12

MS17/16ECU-12

MS17/20ECU-12

MS9/26ECU-17

MS9/30ECU-17

MS13/26ECU-17

MS13/30ECU-17

MS17/26ECU-17

MS17/30ECU-17

Dear Customer,

congratulations on the purchase of the EMP-Centauri product. Before its installation and putting into operation, read carefully the entire operation manual. Keep the purchase and rework (if any) records for future need.

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1) Field of Application, Warranty

The product is designed for the distribution of satellite (SAT), terrestrial (TERR); TV and radio signals. Its purpose is to allow connecting of multiple user to the common satellite antenna.

The manufacturer provides for E.LITE CLASS products extended 4 (four) years warranty from the date of purchase, see details in EMP-Centauri General trade conditions, published at manufacturer's website www.emp-centauri.cz.

It is prohibited to dismantle the product and make any interventions in it. Repairs or any interventions in the product may be performed only by EMP-Centauri company, or other companies authorized by EMP-Centauri.

2) Technical Specifications

Products MS9/6ECU-4, MS13/6ECU-4 and MS17/6ECU-4 are satellite multiswitches for distribution of terrestrial and satellite signals from up to 4 satellite positions to 6 users.

Products MS9/10ECU-4, MS13/10ECU-4 and MS17/10ECU-4 are satellite multiswitches for distribution of terrestrial and satellite signals from up to 4 satellite positions to 10 users.

Specification	MS9/6 ECU-4	MS13/6 ECU-4	MS17/6 ECU-4	MS9/10 ECU-4	MS13/10 ECU-4	MS17/10 ECU-4
Number of Inputs	9	13	17	9	13	17
Number of Outputs	6			10		
Frequency Range	TERR 40–862 MHz, SAT 950–2150 MHz					
Insertion Loss (avg.)	TERR 20 dB passive, 3 dB active, SAT 5 dB					
Isolation	H/V 20 dB, Low/High 25 dB, SAT/SAT 25 dB					
Maximum Input level ¹	TERR 105 dB, SAT 105 dB					
Max. Output Level ¹	TERR 102 dB, SAT 100 dB					
Current drawn ²	80 mA	90 mA	100 mA	80 mA	90 mA	100 mA
Dimensions (w,d,h)	18.6 x 14.6 x 5.1 cm					
Temperature Range	-25 – +60 °C					

Products MS9/16ECU-12, MS13/16ECU-12 and MS17/16ECU-12 are satellite multiswitches for distribution of terrestrial and satellite signals from up to 4 satellite positions to 16 users.

Products MS9/20ECU-12, MS13/20ECU-12 and MS17/20ECU-12 are satellite multiswitches for distribution of terrestrial and satellite signals from up to 4 satellite positions to 20 users.

Specification	MS9/16 ECU-12	MS13/16 ECU-12	MS17/16 ECU-12	MS9/20 ECU-12	MS13/20 ECU-12	MS17/20 ECU-12
Number of Inputs	9	13	17	9	13	17
Number of Outputs	16			20		
Frequency Range	TERR 40–862 MHz, SAT 950–2150 MHz					
Insertion Loss (avg.)	TERR 25 dB passive, 8 dB active, SAT 5 dB					

Specification	MS9/16 ECU-12	MS13/16 ECU-12	MS17/16 ECU-12	MS9/20 ECU-12	MS13/20 ECU-12	MS17/20 ECU-12
Isolation	H/V 20 dB, Low/High 25 dB, SAT/SAT 25 dB					
Maximum Input level ¹	TERR 105 dB, SAT 105 dB					
Max. Output Level ¹	TERR 97 dB, SAT 100 dB					
Current drawn ²	80 mA	90 mA	100 mA	80 mA	90 mA	100 mA
Dimensions (w,d,h)	18.6 x 24.5 x 5.1 cm					
Temperature Range	-25 – +60 °C					

Products MS9/26ECU-17, MS13/26ECU-17 and MS17/26ECU-17 are satellite multiswitches for distribution of terrestrial and satellite signals from up to 4 satellite positions to 26 users.

Products MS9/30ECU-17, MS13/30ECU-17 and MS17/30ECU-17 are satellite multiswitches for distribution of terrestrial and satellite signals from up to 4 satellite positions to 30 users.

Specification	MS9/26 ECU-17	MS13/26 ECU-17	MS17/26 ECU-17	MS9/30 ECU-17	MS13/30 ECU-17	MS17/30 ECU-17
Number of Inputs	9	13	17	9	13	17
Number of Outputs	26			30		
Frequency Range	TERR 40–862 MHz, SAT 950–2150 MHz					
Insertion Loss (avg.)	TERR 30 dB passive, 12 dB active, SAT 5 dB					
Isolation	H/V 20 dB, Low/High 25 dB, SAT/SAT 25 dB					
Maximum Input level ¹	TERR 105 dB, SAT 105 dB					
Max. Output Level ¹	TERR 93 dB, SAT 100 dB					
Current drawn ²	80 mA	90 mA	100 mA	80 mA	90 mA	100 mA
Dimensions (w,d,h)	18.6 x 33.0 x 5.1 cm					
Temperature Range	-25 – +60 °C					

Notes:

1/ Terr.: EN 50083-3/60dB IMA3 [dB μ V]; SAT: EN 50083-3/35dB IMA3 [dB μ V]

2/ at 18 V DC from satellite receiver

Common features: Multiswitch is powered from connected satellite receivers. External power supply for built-in terr. amplifier and LNBS (included in package) is connected through socket DC2.1. Its voltage appear at all SAT inputs, 9V voltage at TERR input. Terrestrial input is switchable passive/passive.

3) Product Takeover

Make sure that the product is not damaged and following accessories are enclosed:

- Multiswitch
- Power supply

In the case of damage or missing accessories please contact your dealer.

4) Product Storing and Installation

We recommend the device to be installed and serviced by the qualified technician.

The product must not be stored and installed:

- in the place with excessive humidity
- in the place with dropping or splashing water,
- in the place with excessive dust pollution, mechanical vibrations or impacts
- in the place out of temperature limits specified in the section 2) Technical Specifications
- close to heat sources (radiators or air ventilators, direct sunshine etc.)
- in the reach of children

Use the apparatus only in moderate climates (not in tropical climate).

Fix the product firmly on a wall or another hard and inflammable surface with screws and dowels, or to DIN rail using provided plastic holders.

The mains socket must be placed near the product. The mains plug shall remain readily operable.

The mains socket and plug must be easily available.

- the product shall be in no case held only by the connected cables
- ensure the free space at least 10 cm around the product for the sufficient air circulation
- do not cover the product (with curtains etc.)
- do not place any containers with liquids (vases, glasses etc.) or naked flame sources (lighted candle etc.) on the product or near the product

5) Product Connection

Connect the product in accordance with this manual and valid regulation in you country. Use high quality 75 Ω coaxial cable designed for satellite reception. The coaxial cables shall not be broken, the minimum bending radius should be 5 cm. Mount the F connectors (screw, crimp or compress type) on the ends of coaxial cables, in the case of using the screw F connectors proceed according to the following picture and instructions:



1. Remove the outer coaxial cable coating in the length of approx. 15 mm.
2. Roll up the metal shielding braid and the shielding foil underneath and cut the shielding with scissors to approx. 5 mm.
3. Remove approx. 10 mm of the inner plastic insulation (approx. 5 mm of the insulation remains in a place).
4. Carefully screw the F connector on the cable end until the plastic insulation levels with the F connector opening.
5. Check there is no short between the inner conductor of coaxial cable and F connector.

Connect the F connectors into the F sockets of product and fasten them with an appropriate force.

- Connect input F sockets marked "A" – "D" with LNBS outputs according to the next table:

marking of F socket of multiswitch	marking of outputs of quattro LNB
A	V/L or 12V/0kHz
B	H/L or 18V/0kHz
C	V/H or 12V/22kHz
D	H/H or 18V/22kHz

- Connect input F socket marked “TERR” with output of terrestrial antenna, eventually with output of terrestrial amplifier or channel processing equipment
- Connect output F sockets marked “1”, “2”, “3”... with wall sockets
- Connect DC2.1 socket marked “DC 12V” with power supply
- Connect connector marked with protective bounding symbol with protective bounding conductor, see section 9) Symbols Explanation.

Warnings: Use Quattro LNB only. Avoid short circuit at TERR input!

The wiring examples are shown in the section 10) Wiring Diagrams or at the website www.emp-centauri.cz.

6) Product Settings

Terrestrial input is switchable passive/active using rotary knob., see symbols at the sticker. In passive mode is return path available.

Connected satellite receiver must be properly set up to have access to all connected LNBs. Follow instruction manual for satellite receiver or TV set. The most common styles of setup are shown in the table:

SAT SYSTEM (LNB)	Setting style 1	Setting style 2	Setting style 3
A	DiSEqC 1.0: 1 of 4	DiSEqC 1.0: A	committed: AA
B	DiSEqC 1.0: 2 of 4	DiSEqC 1.0: B	committed: AB
C (if used)	DiSEqC 1.0: 3 of 4	DiSEqC 1.0: C	committed: BA
D (if used)	DiSEqC 1.0: 4 of 4	DiSEqC 1.0: D	committed: BB

7) Safety

Due to security reasons the product and wiring in which the product is connected, must be grounded properly. Use the terminal identified with the appropriate symbol to ground the product. Make sure the antennas are properly protected against lightning.



The product should be disconnected from the wiring immediately if it gets into contact with liquids (dropping water, spilled drinks etc.).

8) Product Maintenance

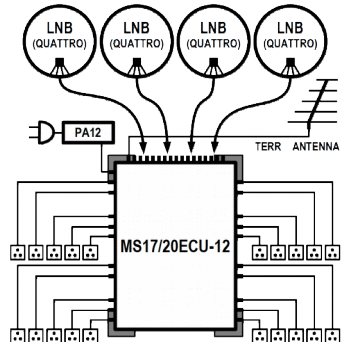
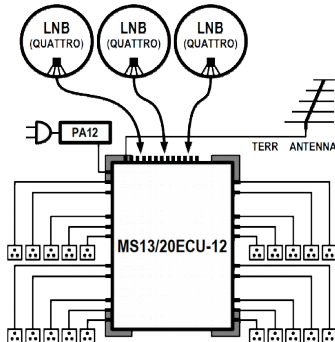
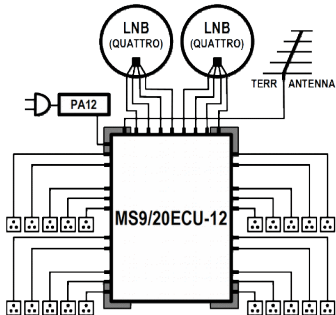
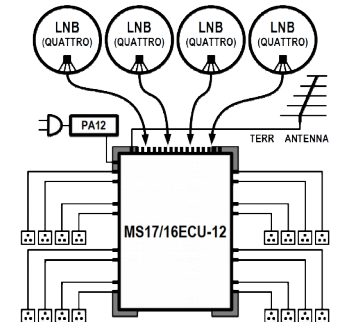
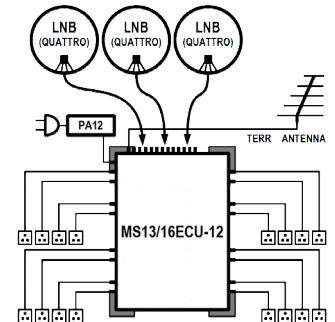
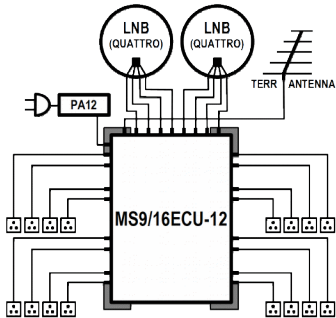
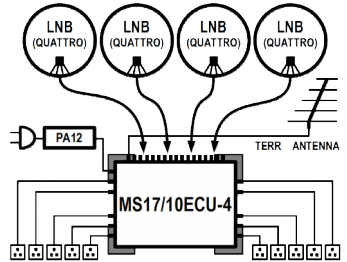
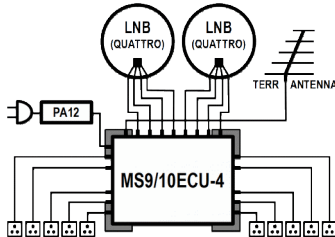
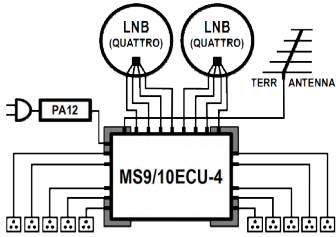
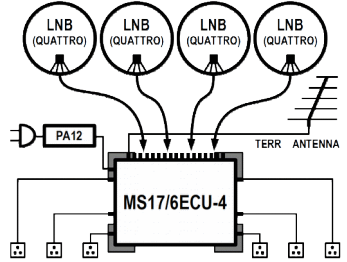
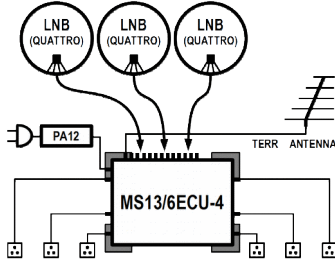
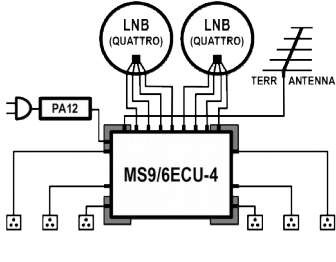
The maintenance operation is especially cleansing of the product. Use only dry cloth to clean the product and do not use any liquid agents.

Coaxial cables installed outdoors should be replaced once in a few years. Unscrew all F connectors and clean connector contacts, resp. shorten the coaxial cable by approx. 2 cm, every 2 years.

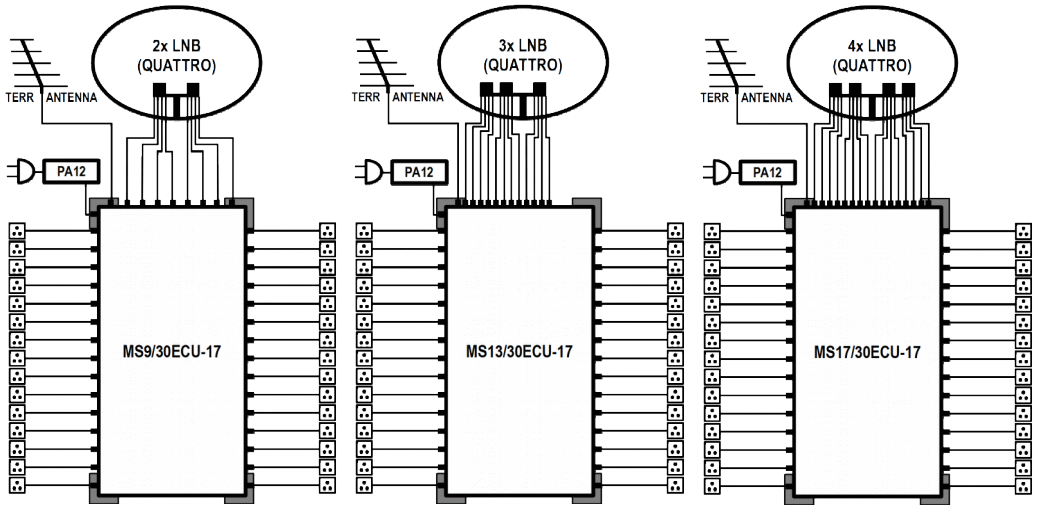
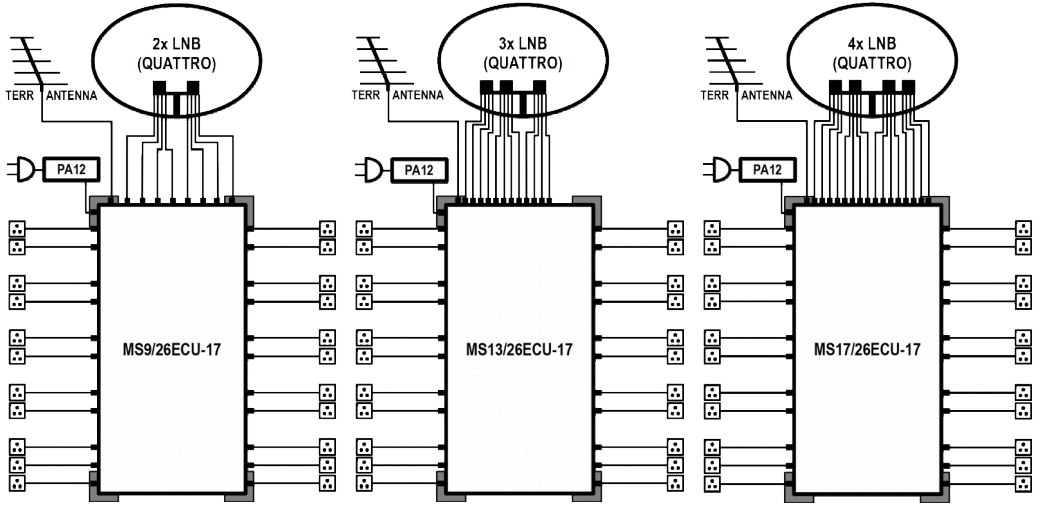
9) Symbols Explanation

	certificate of conformity
	According to EU directive, electric and electronic devices which are identified by one of the following symbols must not be disposed of together with municipal waste. When disposing of the old device, use local waste collection and separation systems.

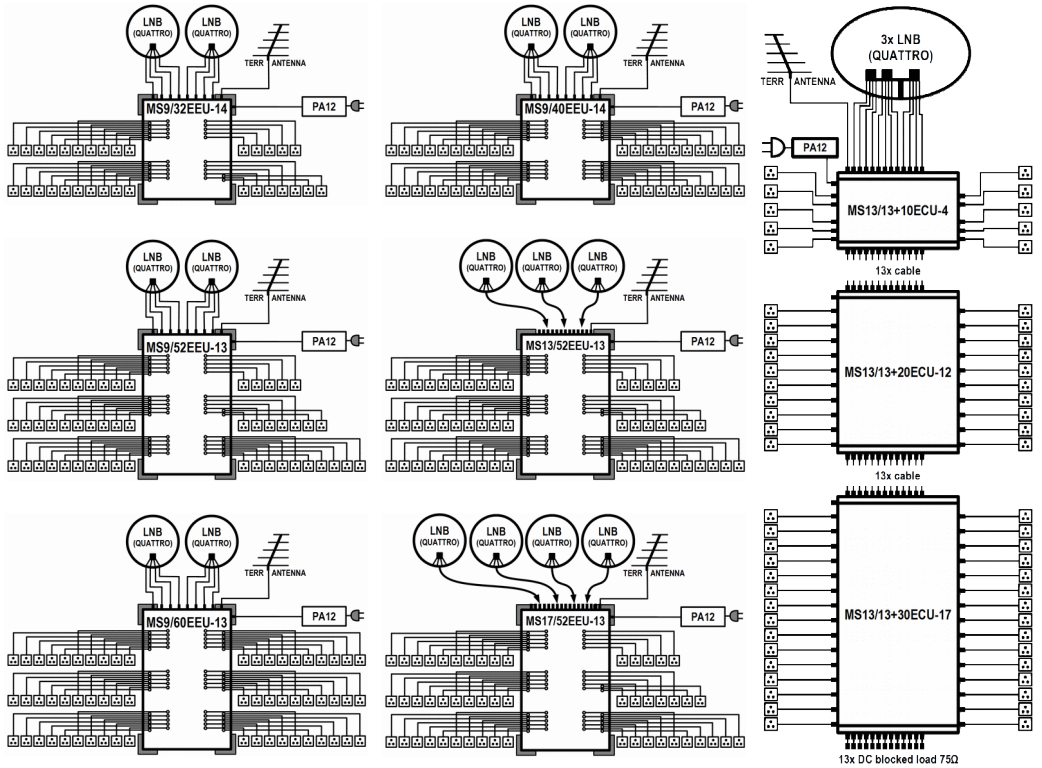
10) Wiring Diagrams



Wiring Diagrams - continued



11) EMP-Centauri's Related Products



12) Contact

Manufacturer: EMP-Centauri s.r.o.
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