MS5/32EEU-14 MS5/40EEU-14
MS9/32EEU-14 MS9/40EEU-14
MS13/32EEU-14 MS13/40EEU-14
MS17/32EEU-14 MS17/40EEU-14

MS5/52EEU-13 MS5/60EEU-13
MS9/52EEU-13 MS9/60EEU-13
MS13/52EEU-13 MS13/60EEU-13
MS17/52EEU-13 MS17/60EEU-13

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.

Content

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. The warranty shall not apply to the product used for other than the specified purpose. The user will be responsible for injury or material damage which may arise in consequence of any product use in contradiction with the manual.
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 MS5/32EEU-14, MS9/32EEU-14, MS13/32EEU-14 and MS17/32EEU-14 are satellite multi-switches for distribution of terrestrial and satellite signals from up to 4 satellite positions to 32 users.
Products MS5/40EEU-14, MS9/40EEU-14, MS13/40EEU-14 and MS17/40EEU-14 are satellite multi-switches for distribution of terrestrial and satellite signals from up to 4 satellite positions to 40 users.
Products MS5/52EEU-13, MS9/52EEU-13, MS13/52EEU-13 and MS17/52EEU-13 are satellite multi-switches for distribution of terrestrial and satellite signals from up to 4 satellite positions to 52 users.
Products MS5/60EEU-13, MS9/60EEU-13, MS13/60EEU-13 and MS17/60EEU-13 are satellite multi-switches for distribution of terrestrial and satellite signals from up to 4 satellite positions to 60 users.
All models allow adjustment of input signal levels. Terrestrial input can be operated as either passive or active. The devices are powered from external power supply (included in package) through socket DC2.1.

Specification	**MS5/32 EEU-14**	**MS9/32 EEU-14**	**MS13/32 EEU-14**	**MS17/32 EEU-14**	**MS5/40 EEU-14**	**MS9/40 EEU-14**	**MS13/40 EEU-14**	**MS17/40 EEU-14**
Number of Inputs	5	9	13	17	5	9	13	17
Number of Outputs	32				40			
Frequency Range	TERR 5–840 MHz passive, 40–840 MHz active, SAT 950–2150 MHz							
Insertion Loss TERR	27 ± 3 dB passive, 2 ± 3 dB gain active							
Insertion Loss SAT	10 dB (950 MHz) – 0 dB (2150 MHz)							
Level Adjustment Range	0 – 10 dB							
Isolation H/V & Low/High	25 dB min		20 dB min		25 dB min		20 dB min	
Isolation LNB (min)	—	30 dB	25 dB		—	30 dB	25 dB	
Maximum Input level	TERR 85 dBuV (act.), SAT 100 dBuV							
Max. Output Level	TERR 87 dBuV (act.), SAT 100 dBuV							
Current drawn (18 V DC) from each satellite receiver	55 mA	70 mA	85 mA	100 mA	55 mA	70 mA	85 mA	100 mA
Power Consumption*	5 W	7 W	9 W	11 W	5 W	7 W	9 W	11 W
Dimensions (w,d,h)	35.5 x 35.0 x 5.0 cm							
Temperature Range	−25 – +50 °C							

Specification	MS5/52 EEU-13	MS9/52 EEU-13	MS13/52 EEU-13	MS17/52 EEU-13	MS5/60 EEU-13	MS9/60 EEU-13	MS13/60 EEU-13	MS17/60 EEU-13
Number of Inputs	5	9	13	17	5	9	13	17
Number of Outputs	52				60			
Frequency Range	TERR 5–840 MHz passive, 40–840 MHz active, SAT 950–2150 MHz							
Insertion Loss TERR	27 ± 3 dB passive, 2 ± 3 dB gain active							
Insertion Loss SAT	10 dB (950 MHz) – 0 dB (2150 MHz)							
Level Adjustment Range	0 – 10 dB							
Isolation H/V & Low/High	25 dB min		20 dB min		25 dB min		20 dB min	
Isolation LNB (min)	—	30 dB	25 dB		—	30 dB	25 dB	
Maximum Input level	TERR 85 dBuV (act.), SAT 80 dBuV							
Max. Output Level	TERR 87 dBuV (act.), SAT 80 dBuV							
Current drawn (18 V DC) from each satellite receiver	55 mA	70 mA	85 mA	100 mA	55 mA	70 mA	85 mA	100 mA
Power Consumption*	5 W	7 W	9 W	11 W	5 W	7 W	9 W	11 W
Dimensions (w,d,h)	35.5 x 44.0 x 5.0 cm							
Temperature Range	−25 – +50 °C							

* Power consumption of LNBs (3 W for each connected LNB) should be added to given value

3) Product Takeover

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

- power supply
- 75 Ω loads for the impedance matching of unused outputs (12 pcs for 32 & 40 outputs models, 20 pcs for 52 & 60 outputs models; others can be ordered from EMP-Centauri, code 1000066)
- plastic mounting foots for 35 mm DIN rail (3 pcs)

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 for the air circulation (space on sides and bellow the product should be at least 20 cm and the space over its top at least 50 cm).
- 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 convertors (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 10) Symbols Explanation.

The wiring examples are shown in the section 11) Wiring Diagrams or at the website www.emp-centauri.cz.

6) Product Settings

For SAT inputs, it is possible to change level of signals by means of attenuators. The minimum attenuation is in counterclockwise stop position, the maximum attenuation is in clockwise stop position. In addition, terrestrial input is switched to passive mode in clockwise stop position. The return path is available in the passive mode.
Set attenuators very gently, do not turn them behind stop positions by force.

Each 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 (if used)	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

Note: DiSEqC setting may be omitted for models MS5/32EEU-14, MS5/40EEU-14, MS5/52EEU-13 and MS5/60EEU-13.

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.
Connect all devices to power grid only after all connections are finished and checked.
The product works with the AC voltage, see section 2) Technical Specifications. Make sure, that the local AC voltage corresponds to the operating voltage of product.
No objects can be placed on the mains cord for prevent its damage or break. No hot objects should touch the mains cord.
While disconnecting the product from power grid, never pull the mains cord but the mains plug to prevent the mains cord damage. Pay attention that the mains plug holds tight in the mains socket. Loose mains plug or mains socket means the danger of fire.
Never disassemble the product connected to the power grid, you risk the danger of electrical shock.
Never work on the wiring (including satellite and terrestrial receivers, TVs) during or before a storm. A lightning stroke into the antenna may cause dangerous overvoltage in the product metallic parts.
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. **Always disconnect the product from the power grid and wiring before performing any maintenance of the product. If you have to enter places with a risk of fall, pay attention to your safety.**
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.

Check the state of power supply and its mains cord periodically. If the mains cord or the mains plug of product is damaged, it must be replaced by manufacturer or qualified technician to prevent any dangerous situation. Let the product serviced if the housing of power supply is damaged.
If not used for long time, disconnect the product from the power grid.

9) Troubleshooting

In the case the product does not work and LED of power supply is on:

- Check if the terrestrial and satellite antennas are correctly fixed, optimally set and connected to the product, satellite and terrestrial receivers turned on, plugged on and correctly set.
- Check the connector connections. The inner conductor of coaxial cable must be in contact with the inner conductor of F socket and the shielding of coaxial cable with F connector. Replace broken or interrupted coaxial cable.
- Sometimes the reset of the multiswitch microprocessor is enough to fix the problem. Pull out the power plug of the multiswitch and satellite receiver from power grid and then re-plug them a few seconds later.

In the case the product does not work and LED of power supply is off or blinks:

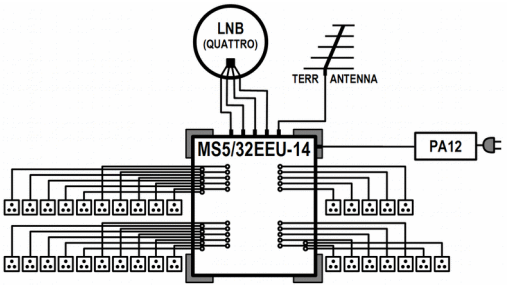
- Check that the product is connected to the power grid with AC voltage. If not, connect the product to the power grid with correct AC voltage.
- Disconnect the product from the power grid and check that there is no short-circuit on the input satellite coaxial cables, which prevents the power supplying of LNBs. If yes, remove short-circuit and re-plug the product into the power grid again.
- The power supply can fail temporarily in case of overload or overheating. The cause can be current consumption of devices connected to the satellite inputs of product which exceeds the specifications, see section 2) Product Specifications. The next cause can be the overheating of product in consequence of wrong installation, see section 4) Product Storing and Installation. Disconnect the product from the power grid, remove the cause, and re-plug the product into the power grid after a few minutes again.

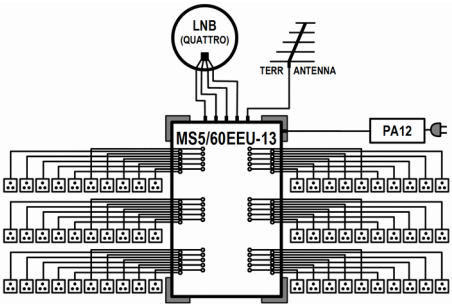
If the failure cannot be removed, please contact your distributor.

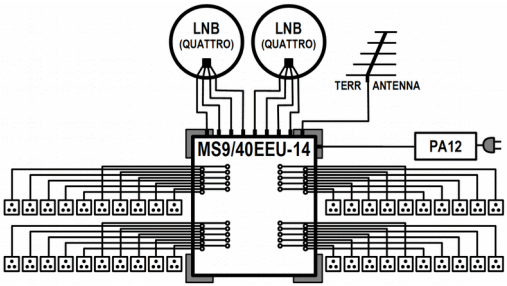
10) Symbols Explanation

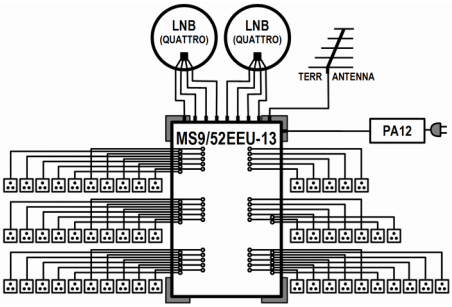
CE	certificate of conformity		
DIGITAL SATELLITE DiSEqC 2.0 EQUIPMENT CONTROL	international standard for digital satellite equipment control, number (1.0, 1.1, 1.2 or 2.0) determines DiSEqC version.		
	for indoor use only		class II device
	DC power supply		fuse protected
	protective bonding		safety transformer
	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.		

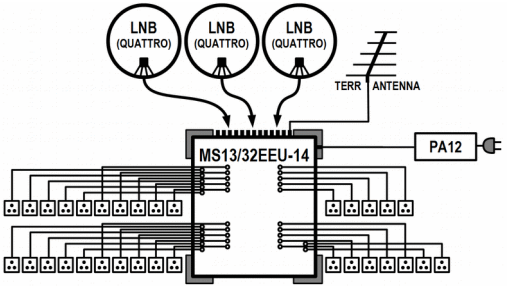
11) Wiring Diagrams

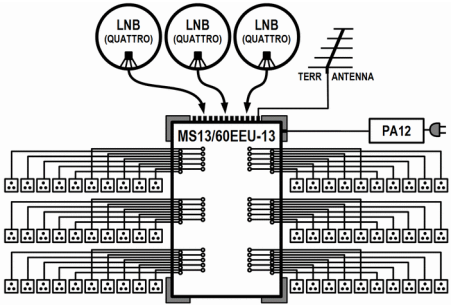


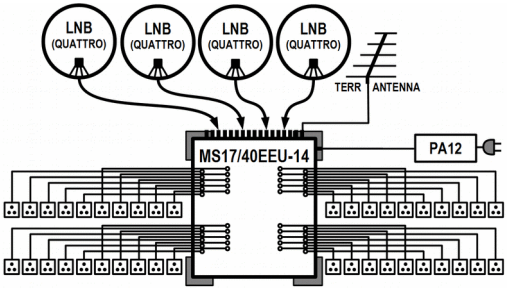


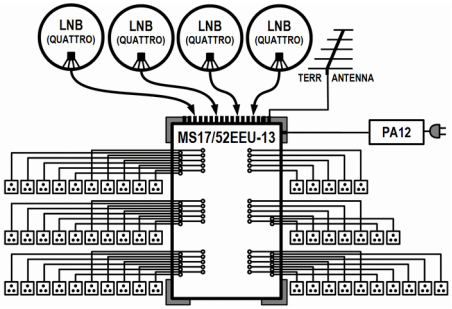




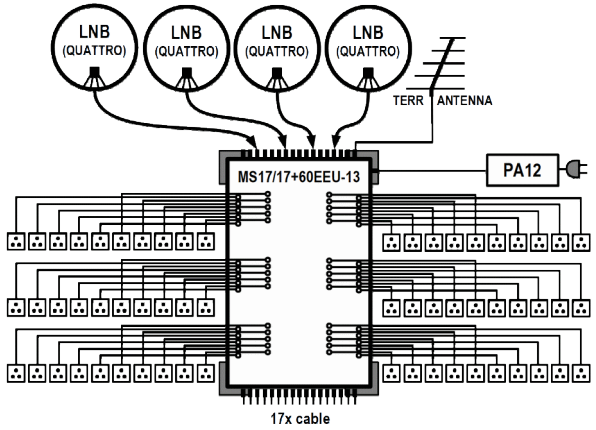


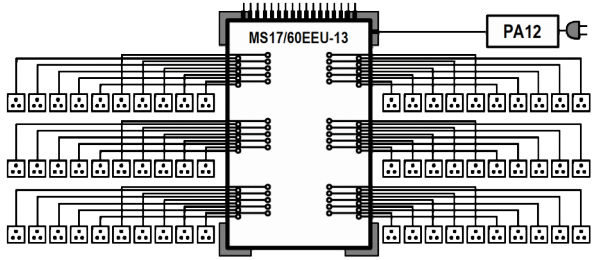


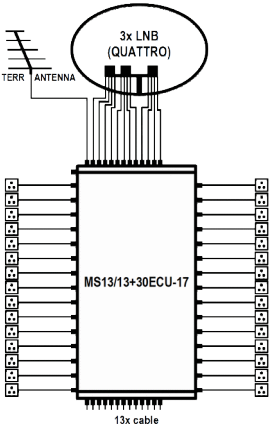


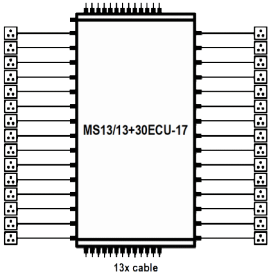


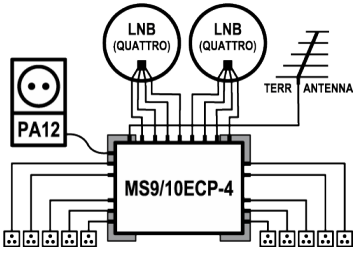
12) EMP-Centauri's Related Products

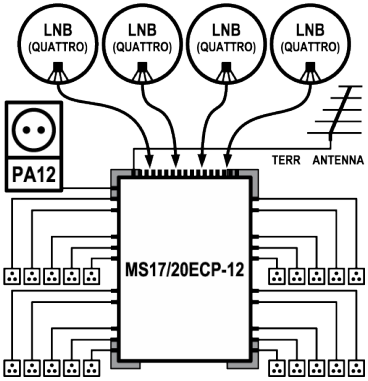


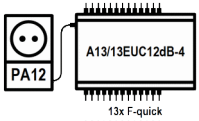


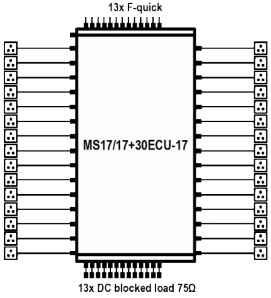












13) Contact

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