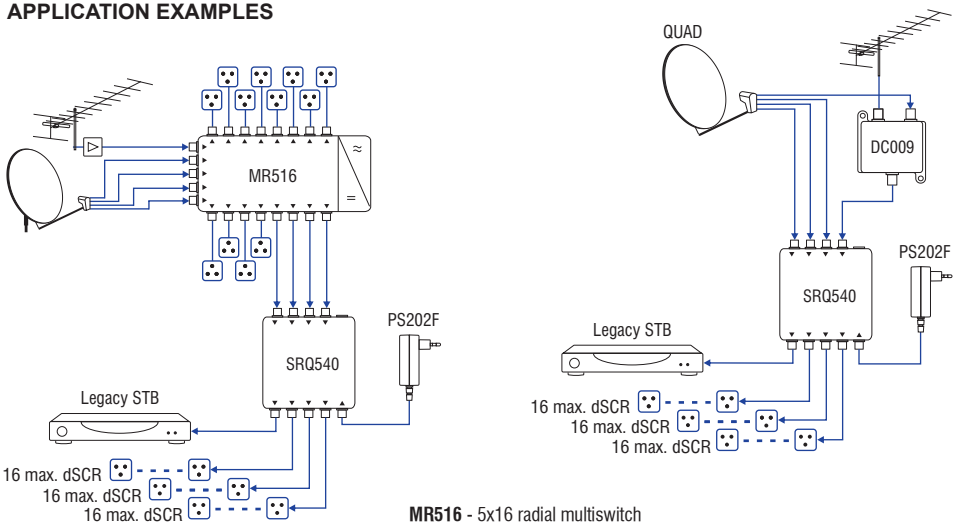
Technical characteristics

Input frequency range			V, Lo 950-1950 MHz; H, Lo 950-1950 MHz; V, Hi 1100-2150 MHz; H, Hi 47-2150 MHz
Output frequency range	SAT IF		950-2150 MHz
	Terr. TV		47-862 MHz
Supply voltage through	RF inputs		V, Lo - 12 V; H, Lo - 18 V; V, Hi - 12 V & 22 kHz; H, Hi - 17.5 V & 22 kHz
DC supply	per port*		H, Lo 200 mA max., V, Lo; V, Hi; H, Hi 100 mA max.
through RF inputs	total		500 mA max.
Number of inputs	SAT IF+ Terr. TV		4
Number of dSCR/legacy + Terr. TV outputs			4
Return loss / impedance			> 10 dB / 75 Ω
Input level	SAT IF		60-95 dBμV
	Terr. TV		IMD3=60 dB 96 dBμV max.
Terr. TV noise figure			6 dB
Output	user bands		32 max. per pair outputs, configurable
with combined DTT	user band bandwidth		20-60 MHz, configurable
	dSCR mode output level, AGC controlled		84 dBμV
	legacy mode output level		78 dBμV
	Terr. TV gain		4 dB
	Terr. TV output level		IMD3=60 dB 100 dBμV max.
Decoupling	inputs		> 30 dB
	inputs/outputs		> 30 dB
	SAT IF/ Terr. TV		> 25 dB
Current consumption	from DC input**		20 V 1.1 A max.
	from STB***	legacy mode	18 V 20 mA max.
		dSCR mode	13 V 10 mA max.
		legacy+ dSCR mode	18 V 20 mA max.
Operating temperature range			-20° ÷ + 50° C
Dimensions/Weight (packed)			114x135x30 mm/0.4 kg

* with short circuit protection ** with maximal external DC load, total 500 mA *** power supply 19 V-20 V connected at DC IN

APPLICATION EXAMPLES



MR516 - 5x16 radial multiswitch
PS202F - power supply
DC009 - diplexer

TERRA
Draugystes str. 22, LT-51256 Kaunas, Lithuania, tel.: +370 37 - 31 34 44, fax: +370 37 - 31 35 55
E-mail: sales@terraelectronics.com, http://www.terraelectronics.com

dSCR (Digital satellite cable router) adaptor/multiswitch SRQ540

Product description

Single cable adaptor/multiswitch SRQ540 is intended to connect to Legacy multiswitch (as well as Quattro or Quad LNB) and gives you the opportunity to change from legacy mode to SCR/dSCR mode and distribute satellite and terrestrial signals for up to 32 satellite tuners or receivers on each output pair.

The adaptor/multiswitch have 4 inputs, 2 pairs subscriber's outputs (4 outputs) and 2 signal processors (see chapter „**Installation instructions**").

The device ensures an independent access for every subscriber to any input.

This adaptor/multiswitch automatically detect SCR/dSCR mode or legacy format from the receiver. The device also features fully automatic SAT IF level control, negating the need for any gain or level adjustments in most installations. It's built into a zinc alloy die-cast housing for extreme interference immunity. The housing of adaptor/multiswitches meets more stringent screening requirements according to EN50083-2, class A.

Control according to EN50494/EN50607 (SCR/dSCR) as well as Legacy (+13 V/+18 V/22 kHz) commands.

According to the standard ETSI EN 303 354 V.1.1.1, TERR TV band amplifier of multiswitch type is Launch, selectivity clasification 0.

Safety instructions

Installation of the adaptor/multiswitch must be done according IEC60728-11 and national safety standards.

The adaptor/multiswitch are powered from the stabilized power supply +20 V. This voltage is not dangerous to life.

External power supply must have a short circuit protection.

Any repairs must be made by qualified personnel.

To avoid damaging of the adaptor/multiswitch do not connect the supply voltage until all cables have been connected correctly.

The device shall be mounted in vertical position with RF input connectors on the top side on a wall or other non-flammable surface.

The adaptor/multiswitch must be fixed with steel screws Ø 4-4.5 mm. The screws are not included in a package.

Do not expose adaptor/multiswitch to moisture or splashing water and make sure no objects filled with liquids, such as vases, are placed near or on the unit.

Avoid placing the adaptor/multiswitch next to central heating components or direct sunlight and in areas of high humidity.

No naked flame sources, such as lighted candles, should be placed on adaptor/multiswitch.

If the adaptor/multiswitch has been kept in cold conditions for a long time, keep it in warm room no less than 2 hours before powering.

The ventilation should not be impeded by covering the adaptor/multiswitch with items, such as newspapers, table-cloths, curtains.

The mains socket of external power supply must be easily accessible.

IMPORTANT WARNINGS!

Before connecting any products to a system, it is essential to make sure the **system power supply is switched off**. Avoid short-circuit or overload of any power supply. Never "HOT-SWAP" any system components as this may result in damage to the newly introduced or existing components.

The SRQ540 adaptor/multiswitch is intended only for indoor installation or installation in a suitable weatherproof outdoor cabinet (in this case ensure good ventilation conditions). This adaptor/multiswitch must not come into contact with moisture or be installed in areas of high humidity or heat.

It's suitable for moderate and tropical climates.

Always mount the adaptor/multiswitch securely to a wall or bulkhead panel so it cannot hang or swing on its coaxial cables as this may strain the internal circuit board and components.

Always connect all of the coaxial cables to the adaptor/multiswitch before connecting the power. These units are not designed to be "HOT-SWAPPED" or connected to a live system.

Always be sure that connecting cables shield and adaptor/multiswitch functional grounding clamp have common potential before powering the system. Floating voltages can be created in an un-earthed system which may cause damage and can be dangerous.

Momentary short-circuit of any cables may be enough to damage the sensitive electronics within the adaptor/multiswitch or the connected system.

Always allow plenty of ventilation around the adaptor/multiswitch and do not allow it to be covered with materials such as loft insulation.

We recommend at least 5 cm of airspace around the adaptor/multiswitch. Digital products can get hot to the touch and require a flow of air to avoid overheating.

SRQ540 adaptor/multiswitch is designed work with Legacy multiswitches, Ku band Quattro or Quad LNBs (see chapter „**Installation instructions**" and „**Application examples**").

Legacy multiswitch or LNBs connected to the adaptor/multiswitch inputs are powered from the same power supply as the adaptor/multiswitch.

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To avoid damage not covered by the manufacturer's warranty **DO NOT EXCEED MAX. CURRENTS**. See **"Technical characteristics"** for max. currents for external equipment.

This product complies with the relevant clauses of the European Directive 2002/96/EC. The unit must be recycled or discarded according to applicable local and national regulations.

Equipment intended for indoor usage only.

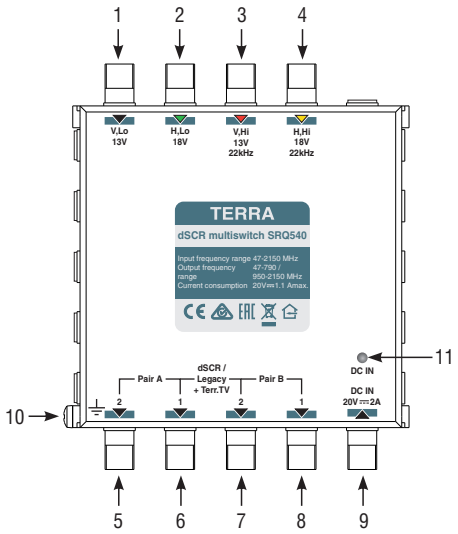
Functional grounding. Connect to the main potential equalization.

This product is in accordance to following norms of EU: EMC norm EN50083-2, safety norm EN60065, RoHS norm EN50581, RED norm ETSI EN 303 354.

This product is in accordance with Custom Union Technical Regulations: "Electromagnetic compatibility of technical equipment" CU TR 020/2011, "On safety of low-voltage equipment" CU TR 004/2011.

This product is in accordance with safety standard AS/NZS 60065 and EMC standards of Australia.

External view



1 - V,Lo (13 V) input
2 - H,Lo (18 V) input
3 - V,Hi (13 V+22 kHz) input
4 - H,Hi (18 V+22 kHz) input
5 - dSCR2 /Legacy output (pair A)
6 - dSCR1/Legacy output (pair A)
7 - dSCR2 /Legacy output (pair B)
8 - dSCR1/Legacy output (pair B)
9 - DC 20 V power input
10 - Functional grounding clamp
11 - Power ON indication LED

All sockets are “F” type.

Figure 1. External view of the multiswitch

Installation instructions

Read the safety instruction first.

Fit adaptor/multiswitch on mounting place and connect it (pay attention to the inputs and Quattro LNB outputs marking), connect the isolated 75 Ω loads to the unused output F sockets, power on adaptor/multiswitch.

WARNING! 1. The STBs connected to adapter/multiswitch does not feed the connected units.
2. Each adapter/multiswitch SRQ540 needs its own PSU.
3. Don’t overload PSU - check total system power consumption of adaptor/multiswitch and all other equipment connected.

Recommended for use is PS202F 20V PSU.

Then switch on receiver(s). The adaptor/multiswitch will begin the process of auto-detecting which type(s) of receiver(s) connected.

dSCR/Legacy outputs are configured to connect legacy STB (supports +13 V/+18V/22 kHz signals), but it switches to dynamic mode SCR/dSCR if receives a DiSEqC command according EN50494/EN50607.

Set the highest frequency UB for STB located nearest to the adaptor/multiswitch and lowest frequency for STB farthest to the adaptor/multiswitch. If you install less than max. possible STB’s use lowest frequencies first.

Disconnect RF cables or STB‘s from necessary output to reset it to Legacy/**Start mode**.

PIN code

All User Bands (UB) are protected by PIN Code to prevent the set of UB from being used / disturbed by another user (see Table 1).

Default settings

1. SRQ540 SAT IF inputs are configured to use Legacy multiswitch, Quattro LNB (LNB LO=9750/10600 MHz) or Quad LNB.
2. dSCR/Legacy outputs is configured to connect legacy STB (supports +13V/+18V/22 kHz signals), but it switches to **Dynamic mode** SCR/dSCR if receives a DiSEqC command according EN50494/EN50607. Output User Bands (UB) are the same in all subscriber outputs (see Table 1).
3. PIN Codes (see Table 1 and see chapter **"Configuration"**).
4. Only one UB plan is set depended of delivery region, if you need another plan (see chapter **"Configuration"** or contact TERRA UAB).

Table 1

User Band (UB)	PIN Code	Marking: v.0 Bandwidth, MHz	Central frequency, MHz		Marking: v.1 Bandwidth, MHz	Central frequency, MHz		Marking: v.2 Bandwidth, MHz	Central frequency, MHz	
			EN50494	EN50607		EN50494	EN50607		EN50494	EN50607
UB0								46	1210	1210
UB1	1	40	1210	1210	40	1210	no	46	1420	1420
UB2	2	40	1420	1420	40	1420	no	46	1680	1680
UB3	3	40	1680	1680	40	1680	no	46	2040	2040
UB4	4	40	2040	2040	40	2040	no	46	1006	1006
UB5	5	40	1284	1284	40	no	985	46	1057	1057
UB6	6	40	1516	1516	40	no	1050	46	1108	1108
UB7	7	40	1632	1632	40	no	1115	46	1159	1159
UB8	8	40	1748	1748	40	no	1275	46	no	1261
UB9	9	40	no	970	40	no	1340	46	no	1312
UB10	10	40	no	1010	40	no	1485	46	no	1363
UB11	11	40	no	1050	40	no	1550	46	no	1471
UB12	12	40	no	1090	40	no	1615	46	no	1522
UB13	13	40	no	1130	40	no	1745	46	no	1573
UB14	14	40	no	1170	40	no	1810	46	no	1624
UB15	15	40	no	1330	40	no	1875	46	no	1731
UB16	16	40	no	1370	40	no	1940			

Configuration

The default settings of the device can be changed using dedicated programmer and software.

This adaptor/multiswitch can be configured up to 32 User Bands (UB) per pair outputs for use with STB’s supporting DiSEqC commands according to standards EN50494/EN50607 (SCR/dSCR) as well as Legacy (+13 V/+18 V/22 kHz) commands. Default settings **Dynamic mode** can be changed to **Static mode**.

PC Windows software can be free downloaded from **www.terraelectronics.com**.

Output configuration must be the same per pair of outputs. Pay attention to the numbering of outputs.

Some possible outputs pair configurations shown in Table 3:

Table 3

Output 1	Output 2
8 SCR/dSCR UB + up to 24 dSCR UB + Terrestrial TV	Legacy + Terrestrial TV
8 SCR/dSCR UB + up to 24 dSCR UB, PIN protected + Terrestrial TV	Legacy + Terrestrial TV
Static mode (up to 32 converted transponders) + Terrestrial TV	Legacy + Terrestrial TV
8 SCR/dSCR UB + Static mode (24 converted transponders) + Terrestrial TV	Legacy + Terrestrial TV

See programmer user manual for more information.

Recommended accessories

1. Power supply PS202F
2. Programmer PC102W