

Product description

Cascadable single cable wideband multiswitch SRM940 is intended to distribute satellite and terrestrial signals for up to 32 satellite tuners or receivers on each outputs pair.

The multiswitch has 9 passive trunk lines: 8 for SAT IF and 1 for DTT.

The device ensures independent access for every subscriber to any SAT IF and DTT trunk line.

The multiswitch may be switched to Quattro SAT IF range input mode (for connecting 2 Quattro LNBs) by programmer PC102W.

SRM940 is a cascadable single cable multiswitch with 2 pairs of subscribers outputs (4 outputs total) and an active DTT path to subscriber output.

This multiswitch automatically detects Legacy/DiSEqC/SCR/dSCR commands from the receiver. The dSCR switches also feature fully automatic level control for SAT IF, negating the need for any gain or level adjustments in most installations.

Multiswitch is built into a zinc alloy die-cast housing for extreme interference immunity. The housing of multiswitch meets more stringent screening requirements according to EN50083-2, class A.

Control according to EN50494/EN50607 (SCR/dSCR) commands and compatible with Legacy STBs supporting DiSEqC commands.

Safety instructions

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

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

The external power supply must have a short circuit protection.

Any repairs must be made by skilled personnel.

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

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

The multiswitch must be fixed with steel screws Ø 4-5 mm. The screws are not included in the package.

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

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

The ventilation should not be impeded by covering the multiswitches with items, such as newspapers, tablecloths, curtains.

The mains socket of the 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 SRM940 multiswitch is intended only for indoor installation or installation in a suitable weatherproof outdoor cabinet. These multiswitches must not come into contact with moisture or be installed in areas of high humidity or heat.

Always mount the 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 multiswitch before connecting the power. This unit is not designed to be "HOT-SWAPPED" or connected to a live system.

Always be sure that connecting cables shield and 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 multiswitch or the connected system.

Always allow plenty of ventilation around the 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 multiswitch. Digital products can get hot to the touch and require a flow of air to avoid overheating.

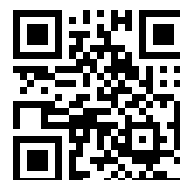
SRM940 multiswitch is designed to work with Ku band Wideband LNBs or Ku band Quattro LNBs (see chapter „**Configuration**“).

LNBs and other system equipment connected to the multiswitch SAT trunks inputs/outputs can be powered from the same power supply as the multiswitch (see chapter „**Installation instructions**“).

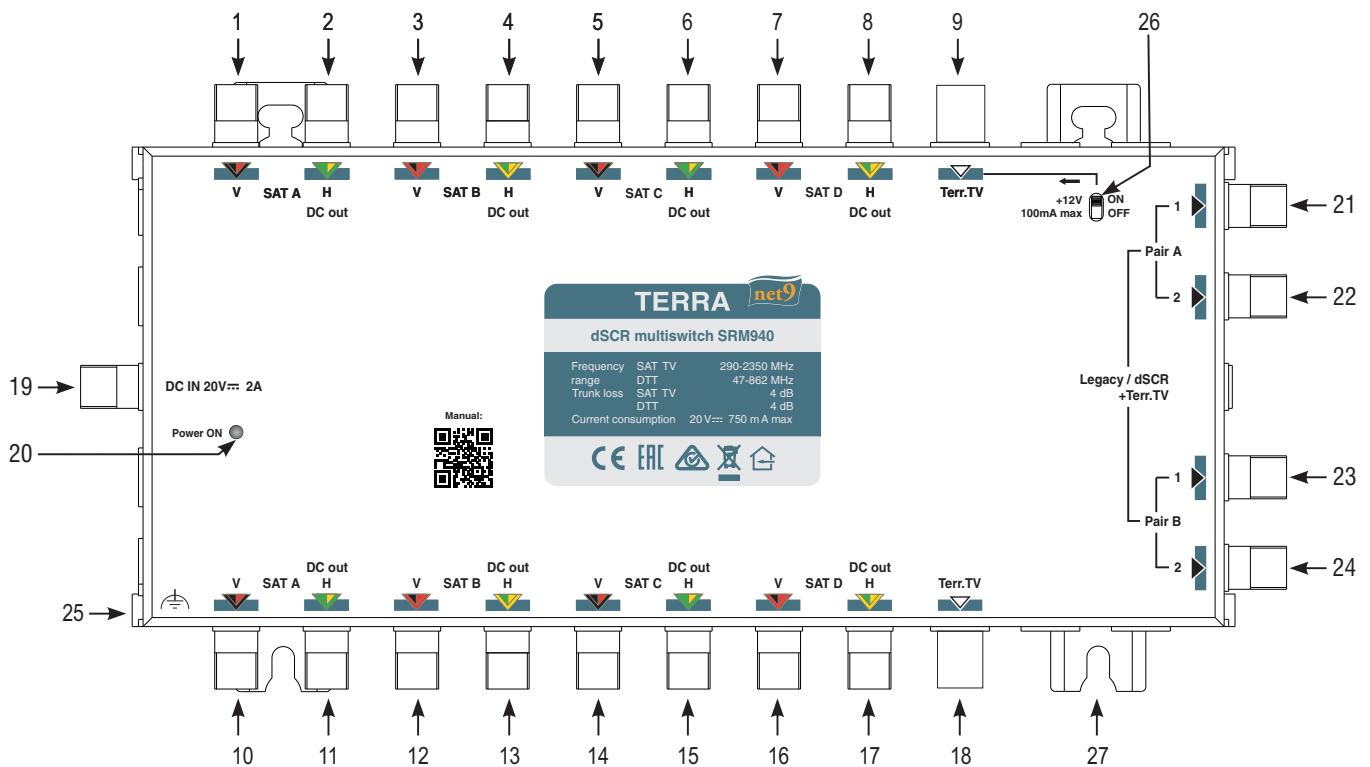


To avoid damage not covered by warranty **DO NOT EXCEED MAX. CURRENTS**.
See „**Technical characteristics**“ for max. current for external equipment.
Damage caused by current overload is not covered by the manufacturer's warranty.

Manual in .pdf



External view



- 1 - SAT A V trunk input (SAT A VLo trunk input in Quattro LNB IF range input mode)
- 2 - SAT A H trunk input (SAT A HLo trunk input in Quattro LNB IF range input mode)
- 3 - SAT B V trunk input (SAT A VHi trunk input in Quattro LNB IF range input mode)
- 4 - SAT B H trunk input (SAT A HHi trunk input in Quattro LNB IF range input mode)
- 5 - SAT C V trunk input (SAT A VLo trunk input in Quattro LNB IF range input mode)
- 6 - SAT C H trunk input (SAT A HLo trunk input in Quattro LNB IF range input mode)
- 7 - SAT D V trunk input (SAT A VHi trunk input in Quattro LNB IF range input mode)
- 8 - SAT D H trunk input (SAT A HHi trunk input in Quattro LNB IF range input mode)
- 9 - DTT trunk input
- 10 - SAT A V trunk output (SAT A VLo trunk output in Quattro LNB IF range input mode)
- 11 - SAT A H trunk output (SAT A HLo trunk output in Quattro LNB IF range input mode)
- 12 - SAT B V trunk output (SAT A VHi trunk output in Quattro LNB IF range input mode)
- 13 - SAT B H trunk output (SAT A HHi trunk output in Quattro LNB IF range input mode)
- 14 - SAT A V trunk output (SAT A VLo trunk output in Quattro LNB IF range input mode)
- 15 - SAT A H trunk output (SAT A HLo trunk output in Quattro LNB IF range input mode)
- 16 - SAT B V trunk output (SAT A VHi trunk output in Quattro LNB IF range input mode)
- 17 - SAT B H trunk output (SAT A HHi trunk output in Quattro LNB IF range input mode)
- 18 - DTT trunk output
- 19 - DC 20 V power input, connected directly to H lines (see „Installation instructions”)
- 20 - Power ON LED
- 21 - Legacy/dSCR output1 pair A (UB+DTT)
- 22 - Legacy/dSCR output2 pair A (UB+DTT)
- 23 - Legacy/dSCR output1 pair B (UB+DTT)
- 24 - Legacy/dSCR output2 pair B (UB+DTT)
- 25 - Functional grounding clamp
- 26 - DC to DTT line external equipment switch
- 27 - Mounting supports

All sockets are “F” type.

Figure 1. External view of the multiswitch SRM940

Installation instructions

Read the safety instruction first.

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

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

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

Disconnect RF cables or STBs from necessary outputs to reset to Legacy / **Start mode**.

Diagram of DC paths

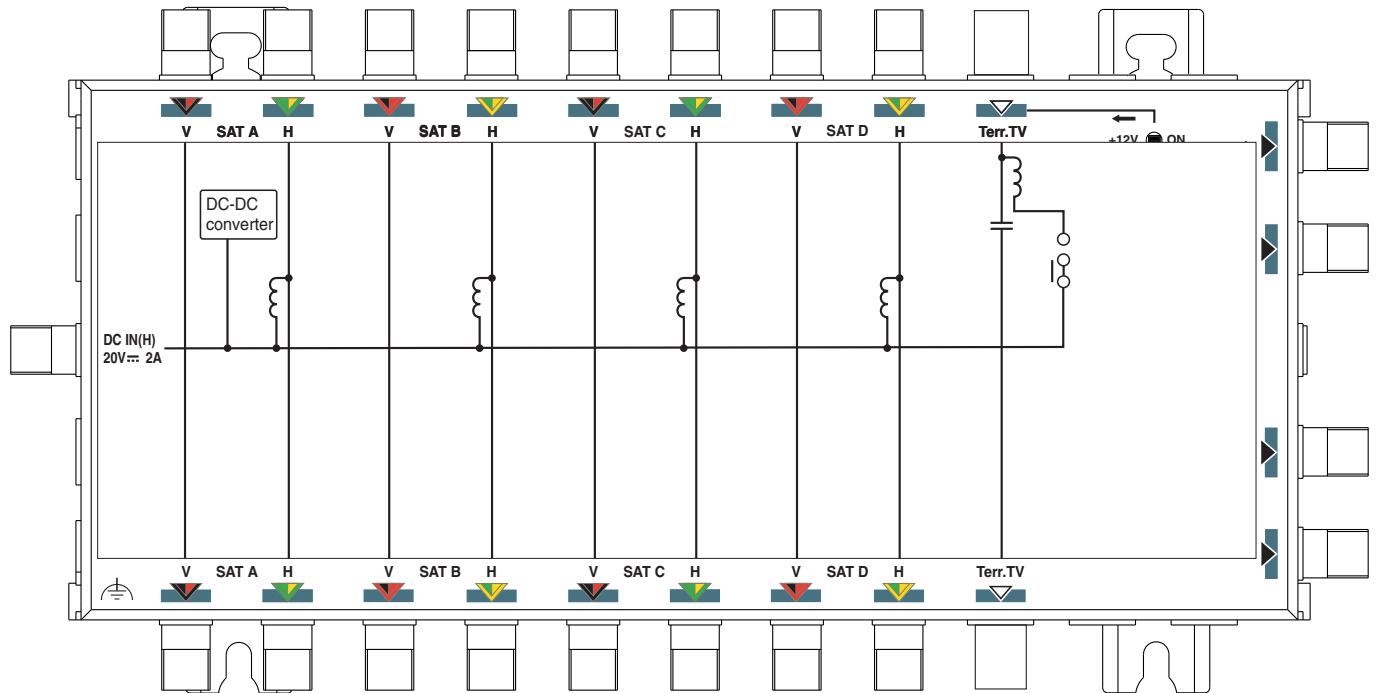


Figure 2. Diagram of DC paths

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. SAT IF inputs are configured to use 4 Ku-band wideband LNBs (SAT A/B/C/D, LNB LO=10.40 GHz / 10.41 GHz. See label on multiswitch rear side and package).
2. All 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. Output User Bands (UB) are the same in all subscriber outputs (see Table 2).
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			Marking: v.1			Marking: v.2		
		Bandwidth, MHz	Central frequency, MHz		Bandwidth, MHz	Central frequency, MHz		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 setting of the device can be changed using dedicated programmer and software

This multiswitch can be configured:

1. Up to 32 User Bands (UB) per pair outputs (total 64 UB) for use with STBs supporting DiSEqC commands according to standard EN50607 (dSCR).
2. Default settings **Dynamic mode** can be changed to **Static mode**.
3. Default setting Satellites A/B/C/D can be changed to Satellites A/B (for installation 2 Quattro LNBs (SAT A/B in the case Quattro LNB IF range input mode).


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

Output configuration must be the same per pair of outputs, but can be different in others pairs. Each pair of outputs is configured separately. Pay attention to the numbering of outputs.

See programmer user manual for more information.


Recommended accessories


1. Power supply PS202F
2. dSCR power inserter PI012
3. Multiswitch programmer PC102W

 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 with following norms of EU: EMC norm EN50083-2, safety norm EN IEC62368-1, RoHS norm EN50581.

 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.

Technical characteristics

Type		SRM940
Inputs		
Frequency range	SAT IF	290-2350 MHz
	DTT	47-862 MHz
Number of trunk inputs & outputs	SAT IF	8
	DTT	1
Input level	SAT IF	65-105 dB μ V
	DTT	90 dB μ V max. (16 MUX)
Terr. TV noise figure		< 8 dB
Outputs		
Number of tap outputs		4 (2 pair)
Trunk output loss	SAT IF	3 dB typical
	DTT	4 dB typical
Output frequency range		47-862 MHz / 950-2150 MHz
Tap output with combined DTT	user bands (dSCR mode)	32 max. per pair outputs, configurable
	user band bandwidth (dSCR mode)	20-60 MHz, configurable
	output level, AGC controlled (dSCR mode)	80 dB μ V, configurable
	output level, typical (legacy mode)	74 dB μ V
	DTT gain	0 dB
Decoupling	SAT IF inputs/SAT IF inputs	> 30 dB
	SAT IF inputs/Tap outputs	> 30 dB
	SAT IF / DTT	> 25 dB
General		
Return loss / impedance		> 10 dB / 75 Ω
DC pass through H trunk lines		3.2 A max., 1.2 A max. through one line
Current consumption	from DC input*	20 V 750 mA max.
	from STB	18 V 20 mA max.
Current pass from DC input	to H trunk lines	20 V 1.15 A max.
	to Terr.TV input, switchable	12 V 100 mA
Operating temperature range		-20° ÷ + 50° C
Dimensions/Weight (packed)		267x135x30 mm/0.8 kg

* without external DC feeding