

NEW PRODUCTS FOR 2018



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dSCR system

40 mm dSCR LNB

- low noise converter with integrated dSCR multiswitch
- programable dynamic/static mode
- dish point function
- configurable by PC102W programmer
- connectors:
RF inputs/outputs - type F

LDS101

one dSCR output

LDS103

two dSCR outputs;
terrestrial TV input



PRELIMINARY
Technical specifications

TYPE		LDS101	LDS103
Ordering number		TBD*	TBD*
Input frequency range		10.7 - 12.75 GHz	
Noise figure, typical		1.0 dB	
LO frequency		10.40 GHz	
Conversion gain of the down converter		50 dB	
Image rejection		40 dB	
Cross-pol isolation, typical		22 dB	
Number of outputs		1	2
Output frequency range		950-2150 MHz	47-790 MHz / 950-2150 MHz
SAT IF output level, AGC**		84 dB μ V	
UB bandwidth**		20-60 MHz	
Number of UBs**		32 max.	2x16 max.
Control signals		according EN50494 / EN50607	
Terrestrial TV input	frequency range	-	47-790 MHz
	loss	-	2 dB
	DC current for external	-	100 mA max.
Current consumption		20 V 0.23 A	20 V 0.26 A
Power consumption***		4.6 W	5.2 W
Supply voltage		10 - 20 V	
Operating temperature range		-30° \pm + 60° C	
Dimensions/Weight (packed)		141x89x63 mm / 0.35 kg	

* the timeline for each product to be defined separately

** configurable by PC102W programmer

*** without external load (LDS103 only)

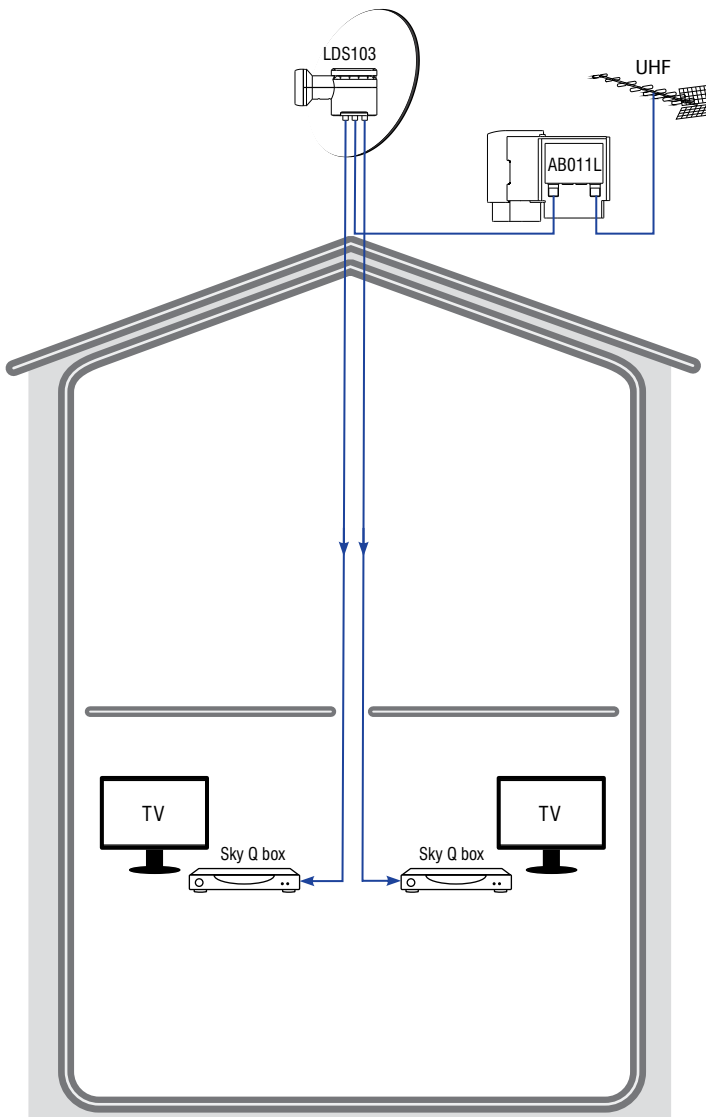


dSCR system Application diagram

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SAT TV content distribution in small residential house using dSCR technology equipment.



LDS103 - dSCR LNB, [page 2](#)

AB011L - UHF masthead amplifier, see www.terraelectronics.com



5 cable dSCR system

Cascadable single cable multiswitches

Cascadable single cable multiswitches for the distribution of SAT IF and DTT signals over one cable to up to 32 receivers per pair outputs.

- wide band / quattro LNB IF range, switchable
- control according legacy/EN 50494/EN 50607
- configurable with programmer PC102W
- dedicated control/configuration port
- DC input for external power supplies
- current pass to H trunk lines, switchable
- powering from H/V lines
- status LED indication
- robust die-cast housing
- connectors:
RF inputs/outputs - type F
2xDC inputs - type F

SRM524

active DTT path, two dSCR outputs

SRM544

active DTT path, four dSCR outputs

SRM524T

passive DTT path, two dSCR outputs

SRM544T

passive DTT path, four dSCR outputs

AVAILABLE 4th quarter 2018



SRM524
SRM524T



SRM544
SRM544T



PRELIMINARY
Technical specifications

TYPE		SRM524	SRM544	SRM524T	SRM544T
Ordering number		03705	03706	03707	03708
Frequency range	SAT IF	290-2350 MHz			
	DTT	47-862 MHz		5-862 MHz	
Number of trunk inputs & outputs	SAT IF	4			
	DTT	1			
Number of tap outputs		2 (1 pair)	4 (2 pairs)	2 (1 pair)	4 (2 pairs)
Trunk output loss	SAT IF	< 4.0 dB			
	DTT	< 4.0 dB			
Return loss / impedance		> 10 dB / 75 Ω			
Input level per channel	SAT IF	65-95 dBμV			
	DTT	TBD		-	
Terr. TV noise figure		< 6 dB		-	
Tap output with combined DTT	user bands (dSCR mode)	32 max. per pair outputs, configurable			
	user band bandwidth (dSCR mode)	20-60 MHz, adjustable			
	dSCR mode output level, AGC controlled	84 dBμV, adjustable			
	legacy mode output level, typical	78 dBμV			
	DTT output level, AGC controlled	82 dBμV max. (8 DTT channels), adjustable		-	
Decoupling		-		12 dB	
DC pass through trunk lines	SAT IF inputs/SAT IF inputs	> 30 dB			
	SAT IF inputs/Tap outputs	> 30 dB			
	SAT IF / DTT	> 25 dB			
Current consumption	from DC inputs*, H/V trunk lines	20 V 290 mA max.	20 V 530 mA max.	20 V 250 mA max.	20 V 490 mA max.
	from STB	13 V 430 mA max.		13 V 390 mA max.	
Current pass from DC input to H/V trunk lines, switchable		20 V 1.71 A max.	20 V 1.47 A max.	20 V 1.75 A max.	20 V 1.51 A max.
Operating temperature range		-20° ÷ + 50° C			
Dimensions/Weight (packed)		134x135x30 mm/0.42 kg		134x135x30 mm/0.44 kg	

* without external DC feeding



5 cable dSCR system

Cascadable single cable multiswitches

Cascadable single cable multiswitch for the distribution of SAT IF and DTT signals over one cable to up to 32 receivers per pair outputs.

AVAILABLE 4th quarter 2018

5



- wide band / quattro LNB IF range, switchable
- control according legacy/EN 50494/EN 50607
- configurable with programmer PC102W
- dedicated control/configuration port
- 2xDC inputs for external power supplies
- current pass to H and V trunk lines, independent switching
- powering from H/V lines
- status LED indication
- robust die-cast housing
- connectors:
RF inputs/outputs - type F
2xDC inputs - type F

SRM564

active DTT path, six dSCR outputs

SRM584

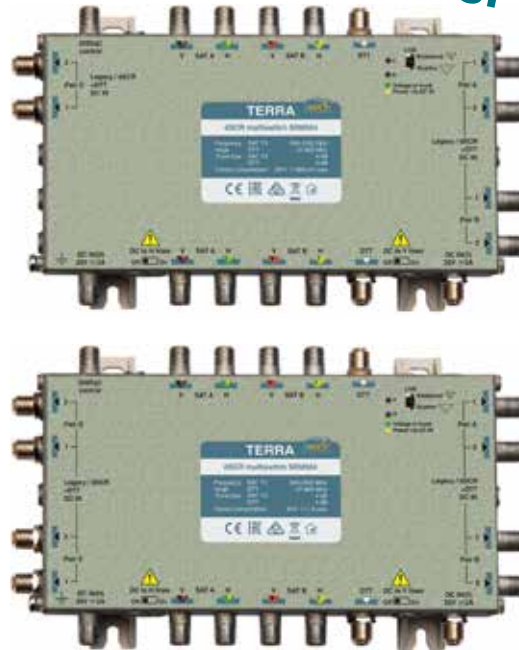
active DTT path, eight dSCR outputs

SRM564T

passive DTT path, six dSCR outputs

SRM584T

passive DTT path, eight dSCR outputs



SRM564
SRM564T

SRM584
SRM584T

PRELIMINARY
Technical specifications

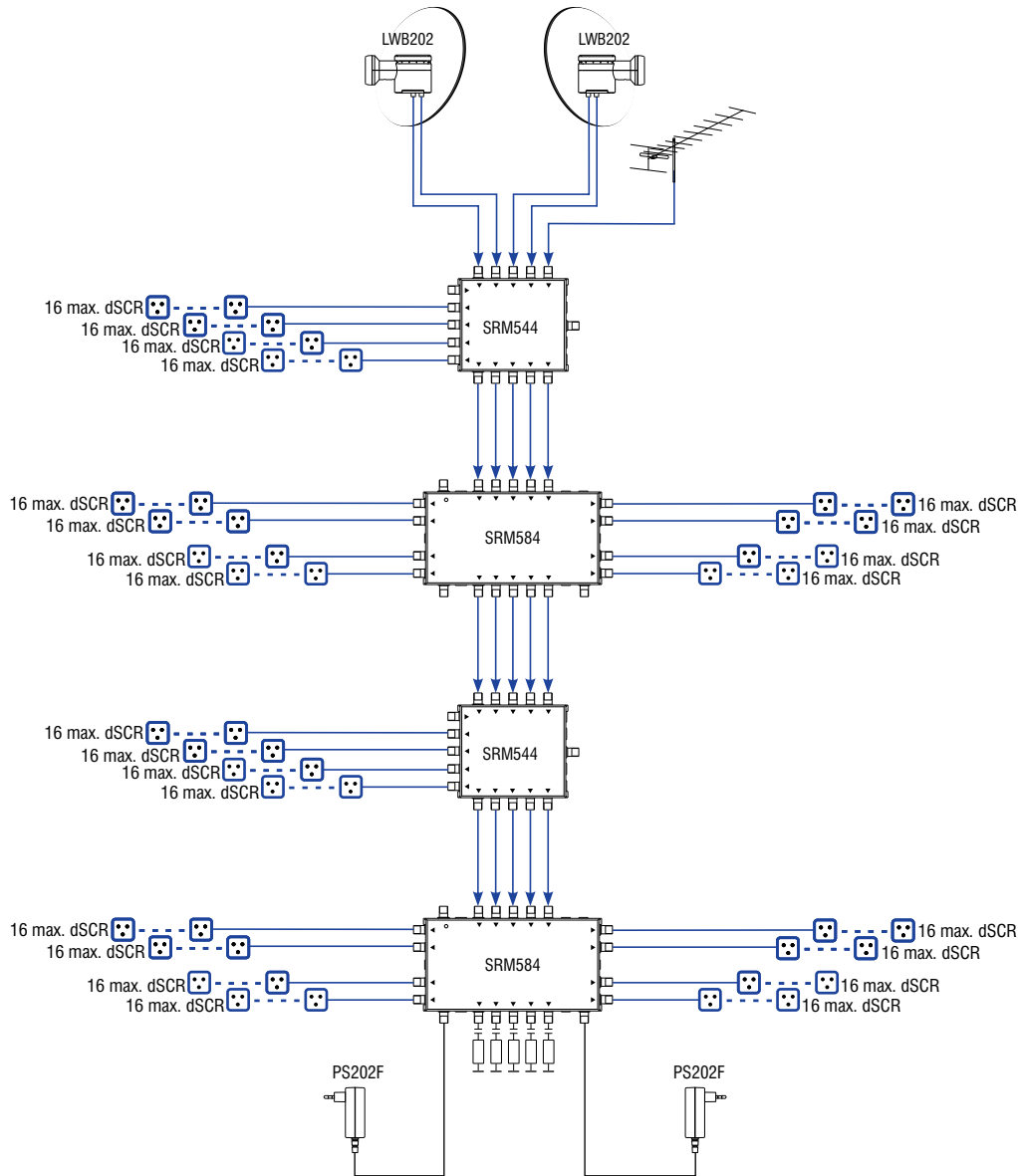
TYPE		SRM564	SRM584	SRM564T	SRM584T
Ordering number		03709	03710	03711	03712
Frequency range	SAT IF	290-2350 MHz			
	DTT	47-862 MHz		5-862 MHz	
Number of trunk inputs & outputs	SAT IF	4			
	DTT	1			
Number of tap outputs		6 (3 pair)	8 (4 pairs)	6 (3 pair)	8 (4 pairs)
Trunk output loss	SAT IF	< 4.0 dB			
	DTT	< 4.0 dB			
Return loss / impedance		> 10 dB / 75 Ω			
Input level per channel	SAT IF	65-95 dBμV			
	DTT	TBD		-	
Terr. TV noise figure		< 6 dB		-	
Tap output with combined DTT	user bands (dSCR mode)	32 max. per pair outputs, configurable			
	user band bandwidth (dSCR mode)	20-60 MHz, adjustable			
	dSCR mode output level, AGC controlled	84 dBμV, adjustable			
	legacy mode output level, typical	78 dBμV			
	DTT output level, AGC controlled	82 dBμV max. (8 DTT channels), adjustable		-	
Decoupling	DTT loss	-		18 dB	
	SAT IF inputs/SAT IF inputs	> 30 dB			
	SAT IF inputs/Tap outputs	> 30 dB			
DC pass through trunk lines	SAT IF / DTT	> 25 dB			
	SAT IF	3 A max., 1.5 A max. through one line			
Current consumption	DTT	200 mA max.			
	from DC inputs*, H/V trunk lines	20 V 720 mA max.	20 V 1 A max.	20 V 680 mA max.	20 V 960 mA max.
Current pass from DC inputs to H/V trunk lines, switchable	from STB	13 V 400 mA max.		13 V 340 mA max.	
		20 V 1.28 A max.	20 V 1 A max.	20 V 1.32 A max.	20 V 1.04 A max.
Operating temperature range		-20° ÷ + 50° C			
Dimensions/Weight (packed)		226x135x30 mm/0.8 kg			

* without external DC feeding



5 cable dSCR system Application diagram

Application diagram of wide band SAT IF distribution system.
Powered from the bottom.



LWB202 - wide band LNB, [page 15](#)

SRM544, SRM584 - cascadable single cable multiswitches, [page 4,5](#)

PS202F - power supply, see www.terraelectronics.com



LTE signals rejection filters

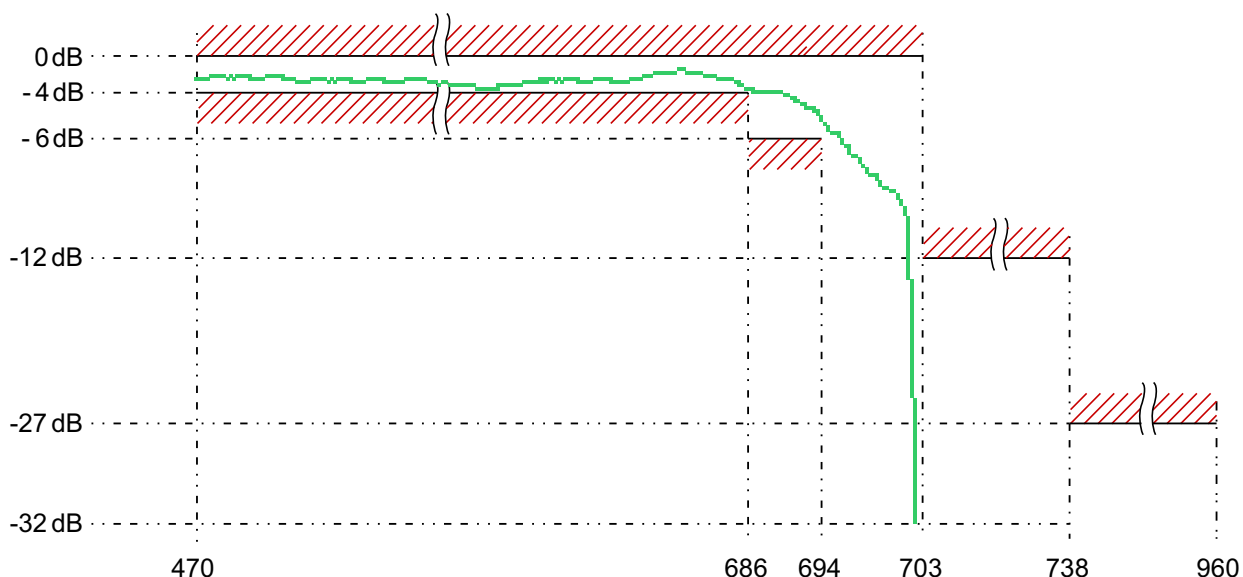
LTE 700 filter

- complies with EN 303354 classification 1
- filter for suppression of LTE 700 signals
- DC through pass
- shielded metal case



PRELIMINARY
Technical specifications

T Y P E		TF006A
Ordering number		02583
Pass band		5-240, 470-694 MHz
Stop band		703-3000 MHz
Attenuation, typical	5-240 MHz	< 2 dB
	694 MHz	< 5 dB
	703 MHz	≥ 25 dB
	960-3000 MHz	> 35 dB
Return loss in pass band		> 10 dB
DC pass		24 V 100 mA, max.
Operating temperature range		-20° ÷ +50 °C
Dimensions / Weight (packed)		80x27x19 mm / 0.085 kg





Stand alone modulators

HDMI to DVB-T modulator

AVAILABLE 3rd quarter 2018

Modulating from HDMI signal source into COFDM modulated DVB-T RF channel.

- frequency agile digital TV modulator
- LED display and push buttons control of internal microprocessor
- RF loop through input
- die-cast housing inside plastic case
- connectors:
 - RF input/output - type F
 - digital input - HDMI
 - DC entry - 3.5/1.3 mm DC jack

CABRIOLINE



PRELIMINARY
Technical specifications

T Y P E		MHD001
Ordering number		14807
Video input	input signal type	HDMI
	video coding	MPEG-4 AVC/H.264, Baseline profile 4.0
Audio input	input signal type	HDMI
	audio coding	MPEG-1 Layer II, AAC
H.264 Encoder	standard	MPEG-4 AVC/H.264
Output resolution		up to 1920x1080x30p
Transport stream processing	automatic generation	PAT, SDT, PMTs tables
RF output	DVB standard	DVB-T
	frequency range	174- 230 MHz, 470-862 MHz
	MER, typical	32 dB
	modulation	QAM64
	channel bandwidth	7 MHz/ 8 MHz
	shoulder attenuation	> 36 dB
	level/impedance	90 dB μ V/75 Ω
output level adjustment	0 \div -30 dB by 1 dB step	
	loop through frequency range/loss	45-862 MHz / \leq 2.5 dB
Current consumption		12 \pm 1 V 4 W max.
Operating temperature		0 $^{\circ}$ C \div +40 $^{\circ}$ C
Dimensions/Weight (packed)		166x109.5x30 mm/0.25 kg

pr. software control





Stand alone modulators

Twin IP DVB modulator

Converting of TSolP input signal into
2 QAM/COFDM modulated DVB-C/T channels.

AVAILABLE 4th
quarter 2018

- software switchable standards DVB-C/DVB-T
- SPTS or MPTS input stream
- any service to any output
- PCR restamping
- RTSP protocol of H.264, H.265 conversion to transport stream
- Web control panel via Ethernet port
- RF loop through input
- die-cast housing inside plastic case
- connectors:
RF input/output - type F
Ethernet control, Ethernet stream input - RJ-45
DC entry - 3.5/1.3 mm DC jack

CABRIOLINE



PRELIMINARY
Technical specifications

TYPE		MI520	
Ordering number		14809	
IP input	standard	IEEE802.3 10/100 BaseT	
	bitrate	up to 80 Mbps	
	reception protocols	UDP/RTP, RTSP	
	MPTS	Yes	
	SPTS	Yes	
RF output	DVB standard	DVB-C	DVB-T
	frequency range	96-862 MHz	170-230 MHz / 470-862 MHz
	channel allocation	adjacent	
	channel count	2	
	TS bit rate	< 53 Mbit/s	< 31 Mbit/s
	MER	≥ 40 dB	≥ 35 dB
	modulation	QAM16, QAM32, QAM64, QAM128, QAM256	QPSK, QAM16, QAM64
	channel bandwidth	4...8.3 MHz	7 MHz / 8 MHz
	symbol rate	3.5...7.2 Ms/s	-
	transmission mode	-	2K
	level/impedance	90 dBμV/75 Ω	
	output level adjustment	0 ÷ -30 dB by 1 dB step	
	loop through frequency range/loss	45-862 MHz / ≤ 2.5 dB	
	Management port	standard IEEE802.3 10/100 BaseT (same as stream input)	
Current consumption	12 ± 1 V 4.5 W max.		
Operating temperature range	0° ÷ +40° C		
Dimensions/Weight (packed)	166x109.5x30 mm/0.25 kg		

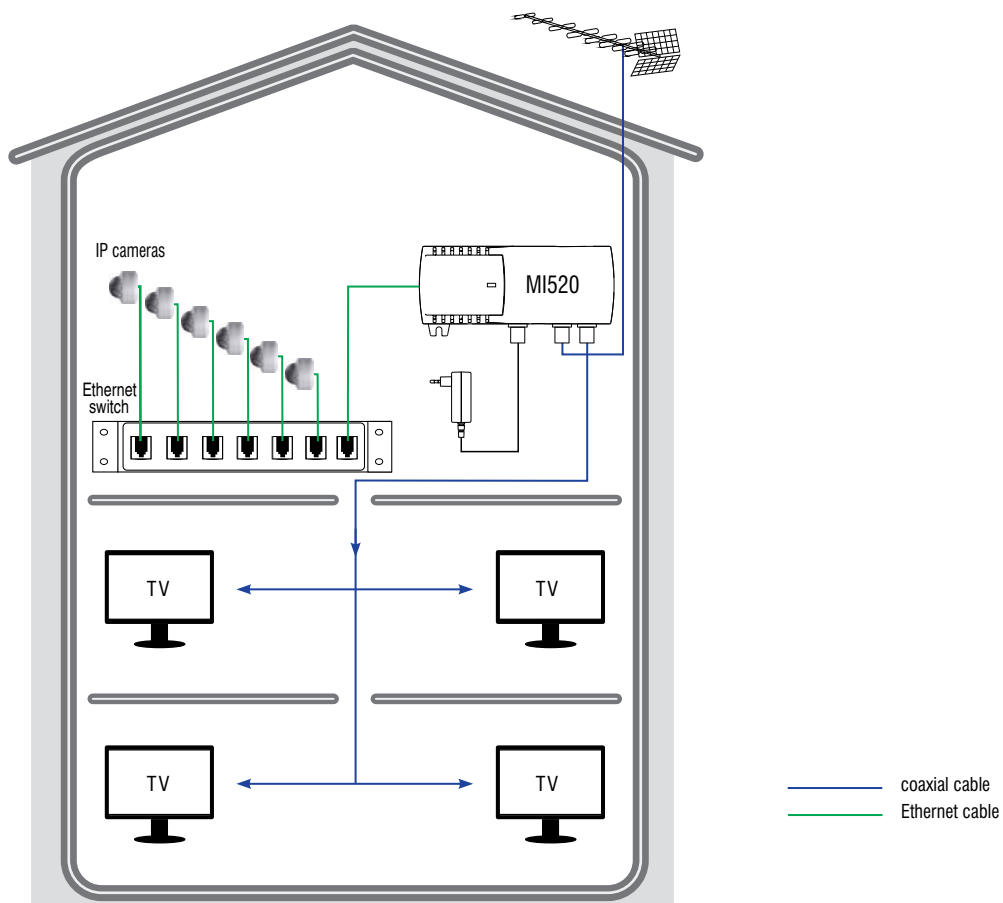
pr. software control



Stand alone modulators

Application diagram

The injection of the video streams from IP CCTV cameras into SMATV distribution network.





Modular reception system

Multichannel DVB-S/S2 to DVB-T/C transmodulators

AVAILABLE 4th quarter 2018

Converting of 16 DVB-S/S2 modulated input signals into 8 COFDM/QAM modulated DVB-T/C channels.

- supporting EN50607
- TS processing:
 - any service to any output
 - PCR restamping
 - PSI/SI regeneration
 - NIT generation
 - PMT version monitoring
- BISS descrambling
- Web control and SNMP monitoring, E-mail notification
- loop through RF distributing at input and output
- DIN rail or wall mounting
- robust die-cast housing
- connectors:
 - RF input/output - type F
 - Ethernet control interface - RJ-45
 - screw terminal block for DC entry
 - power distribution bus



tdx4168
16 DVB-S/S2 transmodulator to 8 DVB-T channels

tdq4168
16 DVB-S/S2 transmodulator to 8 DVB-C channels

11



PRELIMINARY
Technical specifications

TYPE		tdx4168	tdq4168
Ordering number		03876	03877
Sections input/output		16/8	
RF input	frequency range	950-2150 MHz	
	LNB powering/control	0/13/18 V & 22 kHz, 1000 mA total, DiSEqC 1.0, EN50494, EN50607	
	level/impedance	55-95 dBμV / 75 Ω	
	modulation	QPSK, 8PSK (DVB S/S2)	
	symbol rate	2 ÷ 45 Ms/s	
	return loss	≥ 10 dB	
	RF input count	2	
	loop through frequency range/loss	950-2150 MHz / ≤ 1.5 dB	
RF output	DVB standard	DVB-T	DVB-C
	frequency range	170-230 MHz / 470-862 MHz	96-862 MHz
	channel allocation, adjacent	4 + 4	
	level/impedance	90 ± 2 dBμV/75 Ω	
	TS bit rate	< 31 Mbit/s	< 53 Mbit/s
	MER	≥ 35 dB	≥ 40 dB
	modulation	QPSK, QAM16, QAM64	QAM16, QAM32, QAM64, QAM128, QAM256
	channel bandwidth	7 MHz / 8 MHz	4...8.3 MHz
	guard interval	1/4, 1/8, 1/16, 1/32	-
	code rate	1/2, 2/3, 3/4, 5/6, 7/8	-
	symbol rate	-	3.5 ÷ 7.2 Ms/s
	return loss	≥ 10 dB	
	roll off	-	15%
	transmission mode	2K	-
	total output level adjustment	0 ÷ -15.0 dB by 1 dB step	
loop through frequency range/loss	45-862 MHz / ≤ 2.5 dB		
Management port	standard IEE802.3 10/100 Base T		
Current consumption*	12 V 1.2 A		
Operating temperature range	0° ÷ +45° C		
Dimensions/Weight (packed)	63x198x112 mm/1.12 kg		

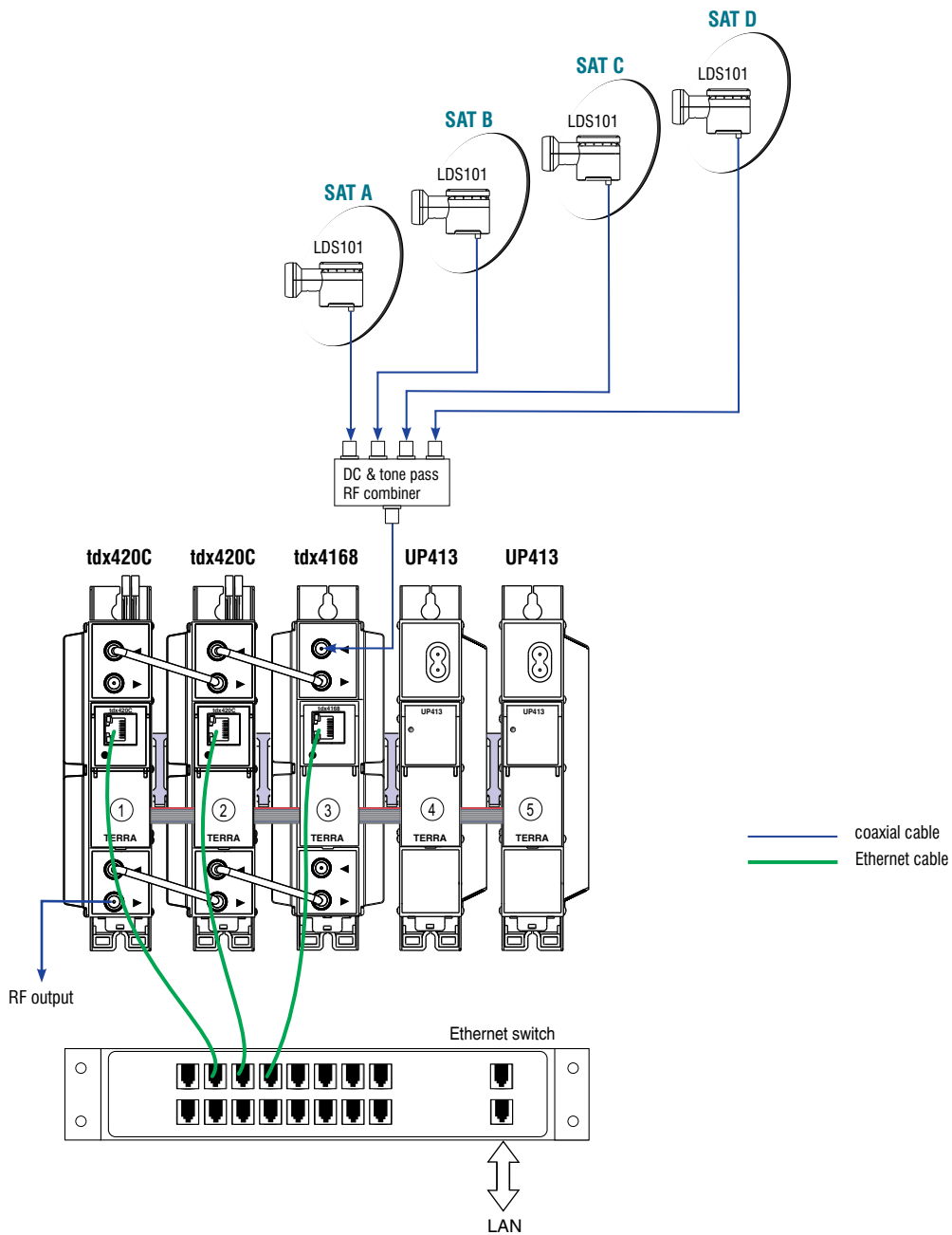
pr. software control * without external DC feeding

Modular reception system

Application diagram

Application example of SAT TV content processing from 4 satellite orbit positions:

- # 1, 2 - 4 SAT transponders to DVB-T (scrambled)
- # 3 - 16 SAT transponders to DVB-T (FTA)
- # 4 & 5 - redundant powering



tdx420C - twin transmodulator with CAMs, see www.terraelectronics.com
 tdx4168 - multichannel transmodulator, page 11
 LDS101 - dSCR LNB, page 2
 UP413 - power supply, see www.terraelectronics.com



Stand alone headend 32 channels 8PSK/QPSK to 32 QAM transmodulator

Converting of 32 DVB-S/S2 modulated input signals into 32 QAM modulated DVB-C RF channels.

AVAILABLE 4th
quarter 2018

- 2 SAT IF inputs supporting EN50607
- TS file playback from USB flash
- compact fanless solution
- built-in redundancy power supply with 2 separated mains leads
- TS processing:
 - any service to any output
 - PCR restamping
 - service filtering
 - PSI/SI regeneration
 - NIT generation
 - PMT version monitoring
 - BISS descrambling
- Web control and SNMP monitoring, E-mail notification
- wall or 19" rack mounting
- connectors:
 - Web based control - RJ-45
 - TS playback: USB-A
 - RF ports - type F



PRELIMINARY
Technical specifications

T Y P E

S3C32WB

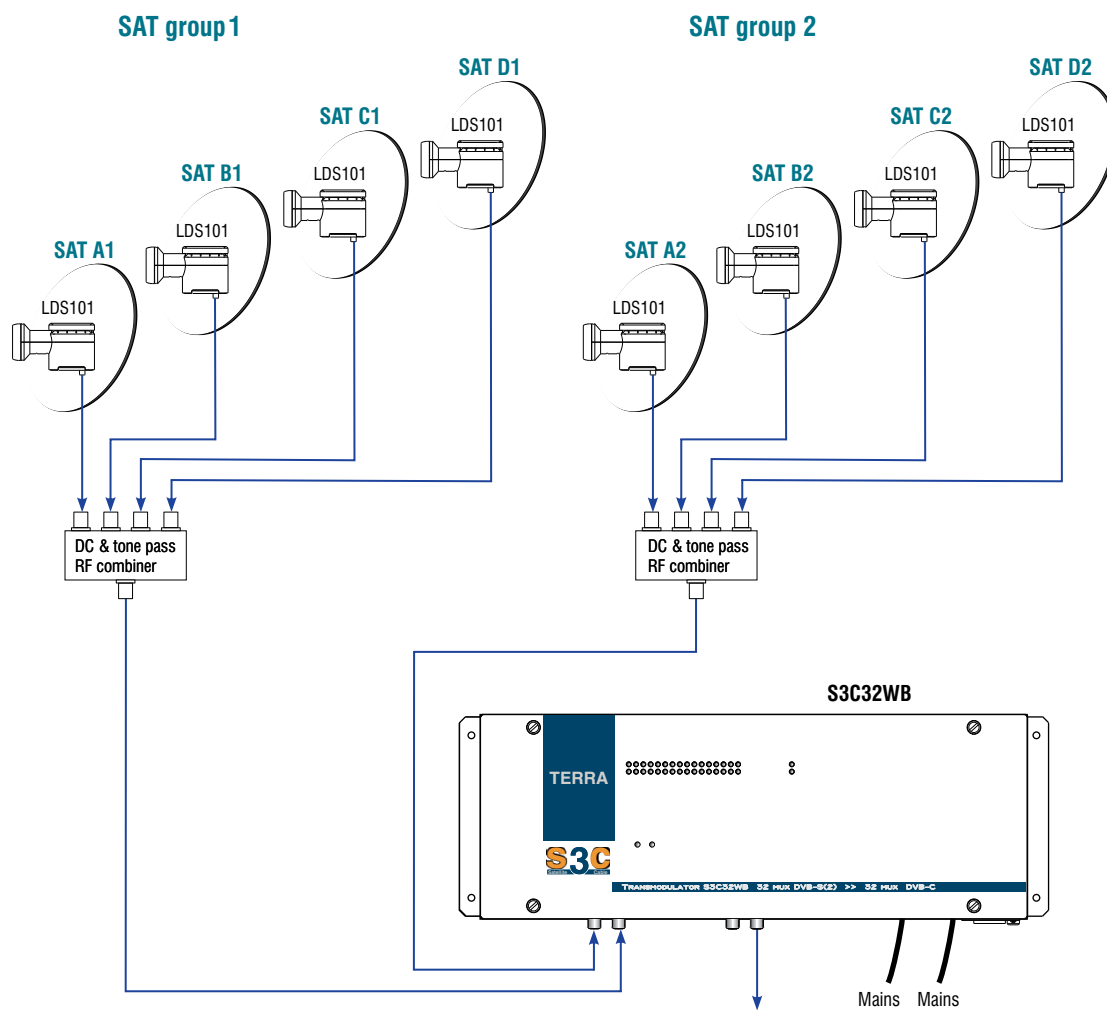
Ordering number	03875	
Sections input/output	32/32	
RF input	frequency range	pr. 2x (950 - 2150 MHz)
	level AGC range/impedance	60-94 dB μ V/75 Ω
	LNB powering/control	pr. 0/13 V/18 V, 22 kHz & 1.0 A per input channel, total 2.0 A max., EN50607
	modulation	DVB-S demodulator (QPSK) DVB-S2 demodulator (QPSK, 8PSK)
	symbol rate	pr. 2 \div 45 MS/s 2 \div 45 MS/s (QPSK), 2 \div 31.5 MS/s (8PSK)
	code rate	1/2, 2/3, 3/4, 5/6, 7/8 QPSK 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10 8PSK 3/5, 2/3, 3/4, 5/6, 8/9, 9/10
	roll off	35 % 20 %, 25 %, 35 %
	signal processing	ETSI 300 421 ETSI 302 307
RF output	frequency range	pr. 48 - 858 MHz, by step 100 kHz
	channel allocation	independent on other channels
	output level per carrier/impedance	pr. max. 90 dB μ V/75 Ω
	total output level adjustment	pr. 15 dB by 0.5 dB step
	carrier output level adjustment	pr. +3 dB...-3 dB by 0.5 dB step
	MER	\geq 43 dB
	modulation DVB-C	pr. QAM16, QAM32, QAM64, QAM128, QAM256
	channel bandwidth / symbol rate	pr. 1.15...8.3 MHz / 1 \div 7.2 MS/s
roll off	15 %	
signal processing	EN 300 429, ITU-T J.83 A (Annex A)	
test point	-20 dB	
TS playback	file format	MPEG2 TS
	count of files	1
Input data rate	max. 90 Mbps per channel	
Management port	10/100 Base-T Ethernet	
Power consumption*	230 V~ 50/60 Hz 30 W	
Operating temperature range	-10 $^{\circ}$ \div +55 $^{\circ}$ C	
Dimensions/Weight (packed)	485x176x107 mm / 7.3 kg	

pr. software control * without external DC load



Stand alone headend Application diagram

Application example of SAT TV content processing
from 8 satellite orbit positions to 32 DVB-C channels.





2 wide band SAT IF distribution equipment

Wide band 40 mm PLL LNB

- PLL low noise converter with V & H outputs
- excellent immunity & linearity
- connectors:
RF outputs - type F



PRELIMINARY
Technical specifications

T Y P E		LWB202
Ordering number		TBD*
Input frequency range		10.7 - 12.75 GHz
Noise figure, typical		1.0 dB
LO frequency		10.4 GHz
LO initial accuracy		± 500 kHz
LO temperature drift		± 150 kHz
LO phase noise		< - 75 dBc/Hz @ 10 kHz
Conversion gain		55 dB
Gain variation, typical		4 dB full band
Image rejection		40 dB min
Cross-pol isolation, typical		22 dB
Output impedance/RL, typical		75 Ω / 12 dB
Output frequency range	V output	300-2350 MHz
	H output	300-2350 MHz
Current consumption		20 V 0.1 A
Power consumption		2 W
Supply voltage		10-20 V
Operating temperature range		-30° ÷ + 60° C
Dimensions/Weight (packed)		141x89x63 mm / 0.35 kg

* the timeline for each product to be defined separately





2 wide band SAT IF distribution equipment

Optical transmitter

- compact optical transmitter offering optimal price-performance ratio
- 2 SAT inputs with DC by pass for remote LNB feeding
- built-in AGC system on every SAT input
- LED status indication
- remote monitoring by PC102W programmer
- robust die-cast housing
- connectors:
RF & DC ports - type F
optical - TBD



PRELIMINARY
Technical specifications

T Y P E		OTF201*
Satellite inputs		
Frequency range	V input	300-2350 MHz
	H input	300-2350 MHz
Input return loss / impedance		> 12 dB / 75 Ω
RF input level (AGC range) for 30 transponders		65-85 dBμV (per transponder); 75-95 dBμV (total power)
LNB remote feeding		10-20 V; 500 mA max. total
Optical output		
Wavelength SAT & Terr		see ordering information*
Optical return loss		> 45 dB
Main characteristics		
Supply voltage		10-20 V
Power consumption**		4 W
Operating temperature range		-30 ÷ + 50 °C
Dimensions/Weight (packed)		116x84x25.5 mm/0.28 kg

* ordering information:

Type	Laser	Ordering number
OTF201 6F31	6 dBm FP 1310 nm	TBD (the timeline for each product to be defined separately)

Lasers with other optical wavelength are supplied by request.

** without remote feeding





2 wide band SAT IF distribution equipment

Optical receiver

- compact optical receivers of 2 wide band SAT IF signals
- built-in AGC system based on optical signal level
- powered by STB or external PS
- robust die-cast housing
- connectors:
 - RF - type F
 - DC entry - 3.5/1.3 DC jack
 - optical - TBD



PRELIMINARY
Technical specifications

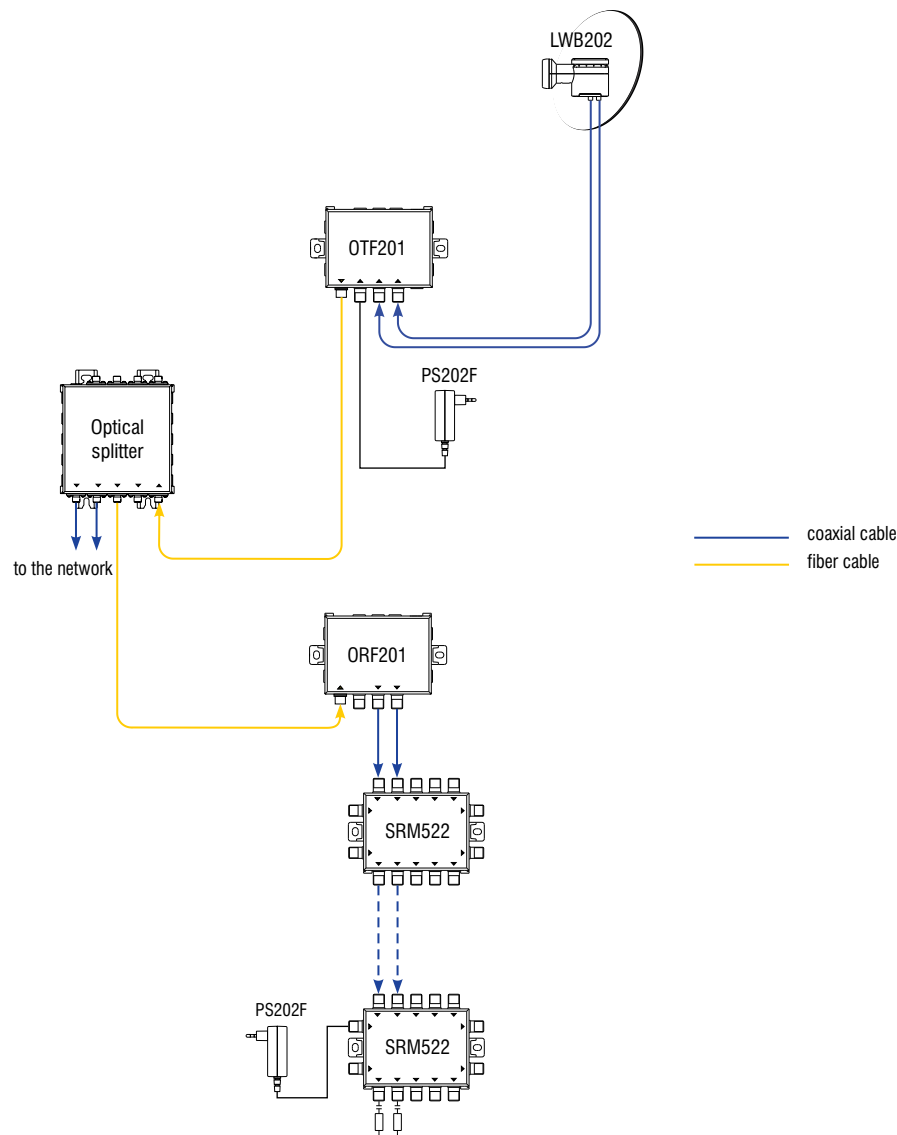
T Y P E		ORF201
Ordering number		TBD*
Optical input		
Detection wavelength range		1100 - 1650 nm
Optical input level (OLC range)		-15 ÷ -5 dBm
Optical return loss		> 40 dB
RF outputs		
SAT frequency range	SAT V output	300-2350 MHz
	SAT H output	300-2350 MHz
SAT IF output level for 30 transponders		75 dBµV (per transponder)
Return loss / impedance		> 10 dB / 75 Ω
Powering		
Through DC connector		12 V
Through V/H outputs		10-20 V
Power consumption		2.5 W
Main characteristics		
Operating temperature range		-20 °C ÷ + 50 °C
Dimensions/Weight (packed)		116x84x25.5 mm/0.28 kg

* the timeline for each product to be defined separately



2 wide band SAT IF distribution equipment Application diagram

Application example of wide band LNB's signal distribution over fiber.



LWB202 - wide band LNB, [page 15](#)

OTF201 - stand alone optical transmitter, [page 16](#)

ORF201 - optical receiver, [page 17](#)

SRM522 - cascadable single cable multiswitch, see www.terraelectronics.com

PS202F - power supply, see www.terraelectronics.com



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