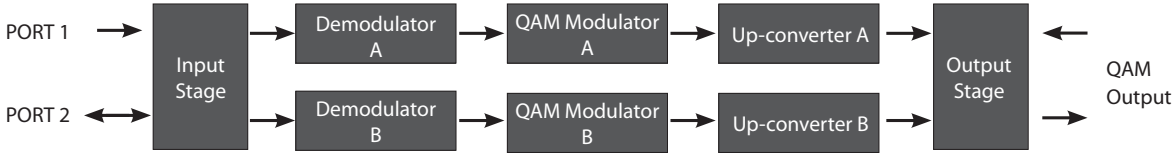
4. Technical Specifications

4.0 Block diagram



4.1 8PSK to QAM transmodulator

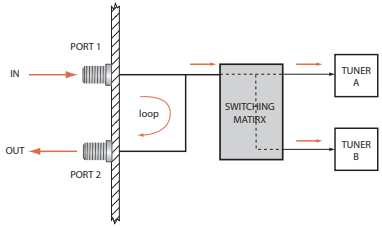
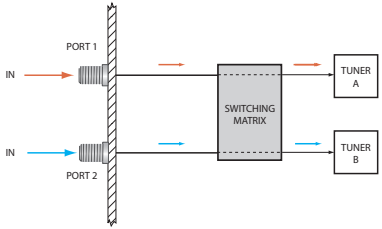
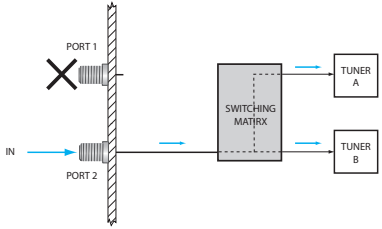
Table 1 . Technical specifications

Satellite input	Input selection options		SEE TABLE 2	Symbol rate		Mbaud	10-30
	Input frequency (agile)	MHz	950 - 2150	FEC	QPSK Legacy		Viterbi 1/2, 2/3, 3/4, 5/6, 7/8 Reed Solomon (204, 188)
	Frequency steps	MHz	1		8PSK		Interactive Turbo Error Correction Reed Solomon (204, 188)
	Input modulation		QPSK Legacy (EN300421) Turbo 8PSK - Turbo QPSK	Transmission filter			Square Root Raised Cosine
	Input level	dBm	-70 to -20	Roll-off Factor		%	*QPSK legacy* 35
	PORT1-PORT2 isolation	dB	> 25 (1)				*8PSK-TC QPSK-TC* 20
	Loop-through losses	dB	< 1.5	In/Out connectors		type	"F" female
				Input impedance		ohm	75
QAM Modulator	Modulation format	QAM	16, 32, 64, 128, 256, 512, 1024	Symbol rate (max)		Mbaud	6.9
				Roll-off factor		%	15 (12 for 1024 QAM)
RF Output	Frequency range (agile)	MHz	57 ··· 999 (EIA Ch 2 to 158)	Loop-through losses		dB	< 1.5
	Frequency steps	MHz	1	MER		dB	> 40
	Output level	dBmV	38 ± 2	In/Out connectors		type	"F" female.
	Adjustable level (min.)	dB	20	Out Impedance		ohm	75
General	Powering voltage	Vdc	24	Consumption 24V		mA	600
	Protection index	IP	20	Working temperat.		ºF	<113 (use forced ventilation at higher temp)

(1) When using dual inputs, input signals should be correctly balanced to avoid undesired results.

4.2 Satellite input options

Table 2 . Satellite input options

Option no.	PORT 1	PORT 2	TUNER A	TUNER B	Simplified diagram	Comments
	Port function		Signal from			
1	**IN**	**OUT**	**PORT 1**	**PORT 1**		Normal input mode. The input signal loop-through allows to daisy-chain the whole subrack avoiding the use of an external splitter. In this configuration the input signal connected to PORT1 feeds both tuners.
2	**IN**	**IN**	**PORT 1**	**PORT 2**		Independent inputs.
3	**DISABLED**	**IN**	**PORT 2**	**PORT 2**		PORT 1 is disabled. In this configuration the input signal connected to PORT2 feeds both tuners.

4.3 Broadband Amplifier

Table 3 . Technical Specifications						
Amplifier ref 5575	Frequency range	MHz	54 to 862	Connector	type	"F"
	Gain	dB	44 ± 2.5	Powering voltage	Vdc	24
	Regulation margin	dB	20	Consumption at 24 Vdc	mA	450
	Output level	dBmV	45	Test socket	dB	-30

4.4 Power Supply Unit

Table 4 .- Technical Specifications						
Power Supply Unit ref 563901	Mains voltage	V~	108 to 132	Output voltage	V=	24±1 (1)
	Mains frequency	Hz	50/60	Output current (max.)	A=	5(2)
	Current consumption (max.)	A~	1.5	Output power	W	120
	Working temperature (max.)	ºF	113	Protection level		IP20

(1) Provides protection voltage variation from 21 to 27 V=

(2) Maximum current limited to 4A=

4.5 Power consumption

Table.- Power consumption vs number of units&CDC		
Chassis load	Power consumption (W)	I_{AC} (mA)
1 555902 + 1 × 563701	21.1	203
1 555902 + 2 × 563701	32.5	291
1 555902 + 3 × 563701	44.4	390
1 555902 + 4 × 563701	56.2	484
1 555902 + 5 × 563701	68.2	584
1 555902 + 6 × 563701	80.3	685

Table.- Power consumption vs number of units		
Chassis load	Power consumption (W)	I_{AC} (mA)
1 x 563701	20.5	197
2 x 563701	32	287
3 x 563701	43.7	381
4 x 563701	55.8	479
5 x 563701	67.6	579
6 x 563701	80	682
7 x 563701	93.3	813

5. Ordering information

When ordering, please, specify reference number as per table below.

Ref #	Description
SMATV	
563901	T.0X Power Supply Unit (110 Vac/UL)
563701	T.0X 8PSK/QAM TWIN Transmodulator
555902	T.0X CDC IP Headend Manager
5806	T.0X Universal TWIN Modulator
5575	Broadband amplifier
FIBER OPTICS	
233311	T.0X Optical Transmitter (1310nm / 10dBm)
233411	T.0X Optical Transmitter (1310nm / 10dBm) / Return Path Receiver
234305	T.0X Optical Transmitter (1550nm / 4dBm)
234311	T.0X Optical Transmitter (1550nm / 10dBm)
234220	T.0X EDFA Optical Amplifier (20dBm)
2337	T.0X Optical Splitter, 2 ways
2339	T.0X Optical Splitter, 4 ways
234401	T.0X Optical Splitter, 8 ways

Ref #	Description
234501	T.0X Optical Splitter, 16 ways
234601	T.0X Optical Splitter, 32 ways
233501	T.0X Optical Receiver
233601	T.0X Optical Receiver / Return Path Transmitter (1310nm / 6dBm)
2310	Outdoor Optical Receiver/Amplifer w/ Return Path Transmitter (1310nm / 3dBm)
2311	FTTU Mini Optical Receiver
ACCESSORIES	
7234	Handheld Programming Unit
5301	19in Chassis, 7 modules+1PSU
422603	Control Bus Jumper (40 inches)
140057	Power Bus Jumper (15 inches)