Compact headends

Compact Line Series

SIG9506 - SIG9606

SIG9506..

SIG9606..

Compact headend for the reception and distribution of 6 digital terrestrial (SIG9606) or satellite (SIG9506) channels. It demodulates and remodulates them into the entire RF band. Stereo versions are available (SIG9506S, SIG9606S). Compact headend includes 6 QPSK or COFDM receivers, 6 A/V modulators, 6-way combiner with existing TV signal mixing, power supply and programming unit with backlit display.
A/V outputs are available to connect external modulators. Earth bounding connection. Compliant to EN50083-2.

- Fullband modulator (174-446MHz + 470-867MHz)
- Easy to install, all items are included in one box
- SIG9506: each single receiver can generate 14 or 18V, 22KHz tone and DiSEqC 1.0, suitable to feed an LNB or to control a multiswitch output
- SIG9606: 12VDC 100mA socket available to supply pre-amplifiers through a power inserter (MPCCF)
- Software available to set up the headend using a PC (using item KRS-RJ, not included)
- Software can be upgraded on site (using item KRS-RJ, not included)
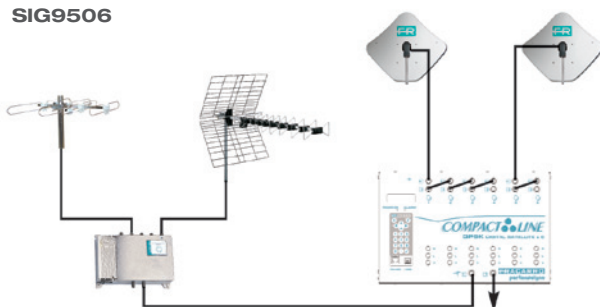- Heat dissipation by natural convection, no fans needed, reducing maintenance costs

Installation examples

QPSK and COFDM headends

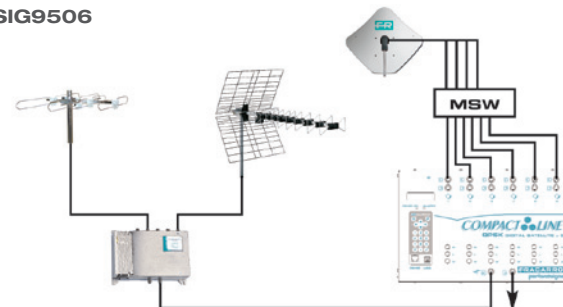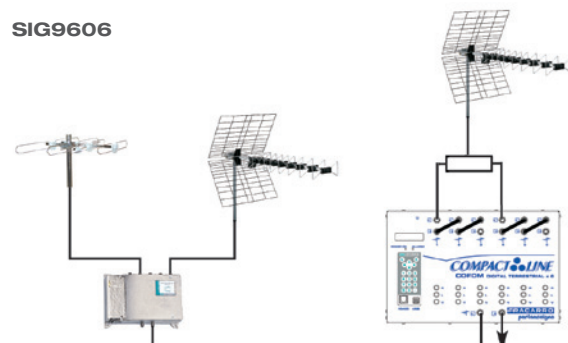Connecting several receivers to the same polarity

SIG9506

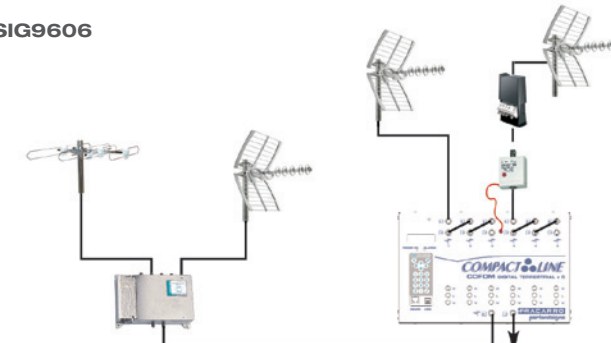Using a multiswitch to distribute signals to all receivers

SIG9506

Connecting several receivers to the same antenna

SIG9606

Using a masthead amplifier to amplify the signal

SIG9606

FRACARRO

| Item Code			SIG9506.. SIG9506 (283126)	SIG9506S (283127)	SIG9606.. SIG9606 (283128)	SIG9606S (283129)
Input SAT QPSK TV COFDM	Input frequency	MHz	950-2150		174-230 + 470-862	
	Input level	dBµV	45-80		35-80	
	Impedance	Ohm	75		75	
	Bandwidth	MHz	36		7 or 8	
	Input step tuning		1MHz		166.6KHz	
	Loop-through insertion loss	dB	-4 to +4		-1 to +5	
	Max. no. of modules possible to loop-through		Depends on the frequency and the level of the input signal		Depends on the frequency and the level of the input signal	
	DiSEqC		1.0 4 positions 0/14/18V 0/22KHz		-	
	LNB power supply		Max. 400mA@14V		12VDC 100mA available on external socket	
QPSK demodulation	AFC range		-2.5 to +2.5MHz		±285KHz (2K) ±142KHz (8K)	
	Symbol rate	Msymb/sec	2-35 (compatible SCPC/MCPC)		-	
	FEC		Auto		-	
COFDM demodulation	Carriers		-		2K, 8K	
	Modulation		-		QPSK, 16QAM, 64QAM	
	Hierarchy		-		High/low priority	
	Guard interval		-		1/4, 1/8, 1/16, 1/32	
	FEC		-		1/2,2/3,3/4,5/6,7/,8	
MPEG specification	Video decoder		MPEG-2 Main profile, Main level (MP@ML)		MPEG-2 Main profile, Main level (MP@ML)	
	Audio decoder		MPEG-2 Layer I and Layer II		MPEG-2 Layer I and Layer II	
	Colour standard		PAL/SECAM/NTSC	PAL B/G	PAL/SECAM/NTSC	PAL B/G
	Video format		4:3, 16:9, pan scan, letter box		4:3,16:9, pan scan, letter box	
	Audio format		Mono, language 1, language 2	Stereo, dual sound, mono, auto	Mono, language 1, language 2	Stereo, dual sound, mono, auto
A/V outputs	Video type		Composite		Composite	
	Video level	Vpp-Ohm	1-75		1-75	
	Max. audio level	Ohm-mVrms	600-600		600-600	
	Band frequency	Hz	20-15000		20-15000	
TV modulator	Modulator		DSB (double sideband)		DSB (double sideband)	
	Standard		PAL (B/G ,D/K, I, N, H), SECAM L, NTSC M	PAL B/G	PAL (B/G ,D/K, I, N, H), SECAM L, NTSC M	PAL B/G
	Output frequency (channels)	MHz MHz	VHF: 174-446 (E5-S38) UHF: 470-862 (E21-E69)		VHF: 174-446 (E5-S38) UHF: 470-862 (E21-E69)	
	Output level	dBµV	100		100	
	Output level adjustment	dB	10 (independent for every channel)		10 (independent for every channel)	
	Audio level adjustment	dB	0-10		0-10	
	S/N weighted	dB	52 typ.		52 typ.	
	Output channel programming		By frequency (steps of 250KHz) or by channel		By frequency (steps of 250KHz) or by channel	
	No. of outputs		2 outputs (output and mix input)		2 outputs (output and mix input)	
	TV mixing input	MHz	47-862		47-862	
	TV mixing insertion loss	dB	2		2	
	Test signal		Black screen or white rows to be used for radio signal distribution		Black screen or white rows to be used for radio signal distribution	
General features	Input connectors		2 x F connectors (input + loop-through) for every channel		2 x F connectors (input + loop-through) for every channel	
	Output connectors		2 F connectors (output and mix input)		2 F connectors (output and mix input)	
	A/V output connectors		1 x RCA connector for every channel		1 x RCA connector for every channel	
	Mains voltage	Vac, Hz	220-240, 50-60		220-240, 50-60	
	Power consumption	W	63	70	53	60
	Compliant		EN50083-3, EN60065		EN50083-3, EN60065	
	Dimensions	mm	370x240x150		370x240x150	
	Operating temperature	°C	-10 to +45		-10 to +45	

Mid level headends

Modular systems for MATV/SMATV systems

The design targets of the K series are:

- Easy installation and maintenance

- Flexibility in the unit/headend composition (particularly for the integration between traditional TV, satellite TV and satellite IF)

- Solid and inexpensive without compromising performance

- Ready for future product ranges

- In compliance with all European and international regulations in force, including electromagnetic compatibility (mark, according to 2004/108/EC directive).
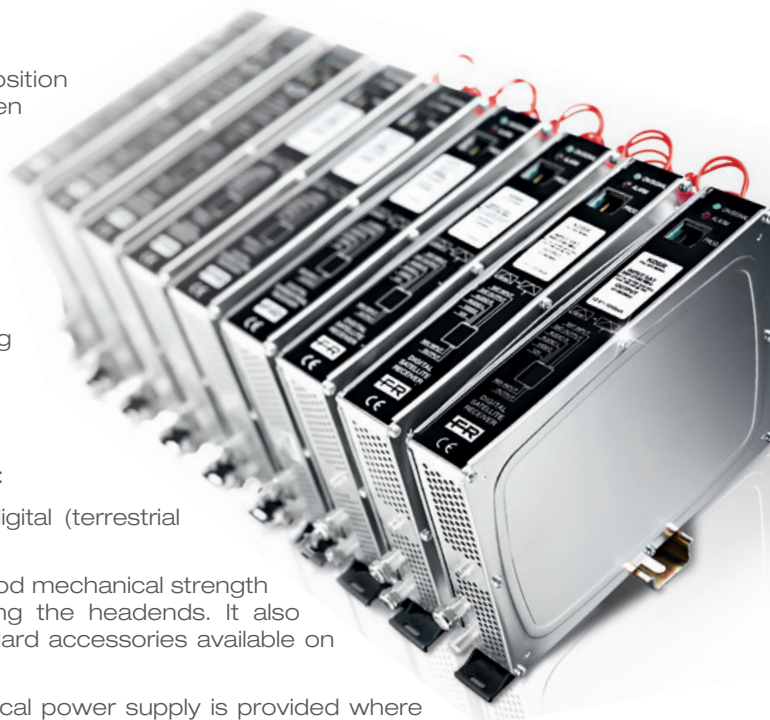
The main features of K series products are:

- All products are fully compatible with digital (terrestrial and satellite) programs

- Fixing to a standard DIN bar provides good mechanical strength and maximum density when assembling the headends. It also allows the use of a wide range of standard accessories available on the market

- Single voltage feed (12V, negative). A local power supply is provided where necessary. It is quick and easy to replace and keeps spare parts down to a minimum

- All modules have a solid mechanical structure. In particular, channel filters - where dimensional stability and surface conductivity are critical features - come in die-cast small silver plated boxes

- For RF connections, all modules use "F" connectors with quick fit interconnection bridges

- Wide range of products dedicated to digital terrestrial and satellite signals. They perfectly integrate with existing headends, fulfilling any installation requirement

- Adjacent channel distribution is possible due to the channel filters selectivity together with the vestigial sideband (VSB) modulators used in satellite receivers

- Active filters for digital terrestrial have been developed using the KF and K120 active channel filters. These have been calibrated specially for the distribution of new COFDM modulated signals

- 19" rack installation possible

- Software can be upgraded on site using the KRS-RJ adaptor (not included)

- Programmable using a TPE or via FHM software (these items are not included)

K Series

Channel amplifiers

KF/..
KF/DAB
K120L/..

Channel amplifiers with five resonant circuits for VHF modules and four for UHF modules.
Excellent selectivity allows the distribution of adjacent channels.
The SMD amplification card ensures a high degree of reliability and accuracy. Not sensitive to static discharge and temperature change, stability has been taken into account during the design phase.
Operating temperature: –10° to +55°C.
Packaging 1 pc.
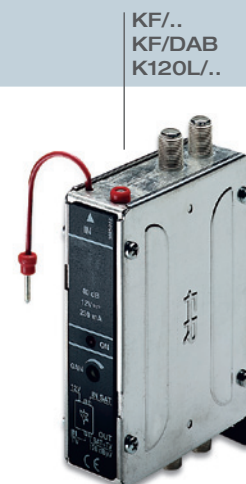
Dimensions
32x129x86mm

Item	Code	Gain (adj.)	Selectivity dB Standard B/G*				Return loss input	Return loss output	Max. output level	Noise figure typ.	Channels	Max. power consumption
		dB	ACn-2	ACn-1	VCn+1	VCn+2	dB	dB	dBµV	dB		mA
KF/..	2701xx	9 (45)	35	5	9	35	10	15	93	7	E2-E4	20@12VDC
		9 (45)	-	-	-	-	15	15	90	4	FM	20@12VDC
		9 (45)	40	5	10	44	10	10	95	9	E5-E12	20@12VDC
		7 (30)	35	5	10	40	10	10	95	10	S11-S20	20@12VDC
		11 (35)	42	10	16	46	12	12	95	10	S21-S38	38@12VDC
		11 (35)	42	10	16	46	10	10	95	10	E21-E69	38@12VDC

K Series

DAB amplifiers

Channel amplifiers to filter and distribute the DAB (Digital Audio Broadcasting) band. Packaging 1 pc.

Item	Code	Gain (adj) dB	Return loss input dB	Return loss output dB	Max. output level dBµV	Bandwidth MHz	Max. power consumption mA
KF/DAB	270058	14 (45)	10	10	100	217-230	20@12VDC
KF/DAB1	270060	12 (45)	10	10	100	195-223	20@12VDC
K120/DAB1	270278	45 (40)	10	10	120	195-223	180@12VDC

K Series

120dBµV output channel amplifiers   New

Channel amplifiers with five resonant circuits.
Excellent selectivity allows the distribution of adjacent channels. The SMD amplification card ensures a high degree of reliability and accuracy. Not sensitive to static discharge and temperature change, stability has been taken into account during the design phase. Operating temperature: from –10° to +55°C. Packaging 1 pc.

Item	Code	Gain (adj.)	Selectivity dB Standard B/G*				Output level	Noise figure	Channels	Max. power consumption
		dB	ACn-2	ACn-1	VCn+1	VCn+2	dBµV	dB		mA
K120L/..	2708xx	45 (40)	35	5	9	35	120	8	E2-E4	180@12VDC
		40 (40)	-	-	-	-	112	5	FM	200@12VDC
		45 (40)	40	5	10	44	120	9	S1-S10	180@12VDC
		45 (40)	40	5	10	44	120	9	E5-E12	180@12VDC
		45 (30)	35	5	10	40	120	10	S11-S20	200@12VDC
		45 (30)	42	10	16	46	120	9	S21-S38	200@12VDC
		45 (30)	42	10	16	46	120	9	S39-S41	200@12VDC
		45 (30)	42	12	18	46	120	9	E21-E69	200@12VDC

* It is possible to adjust the amplifier to a different standard on request.

Mid level headends

K Series

Channel amplifiers with automatic gain control (AGC)

K120A/..
KFB..
KF-K120L-K120A/...DT

Channel amplifiers with five resonant circuits for VHF and UHF bands.
Excellent selectivity allows the distribution of adjacent channels.
The automatic gain control gives a constant output level even with a varying input level.
Essential in conditions where the signal reception level may vary and also useful in CATV networks with cascaded line amplifiers and for the inputs of fibre optic links.
Operating temperature: -10° to +55°C.
Packaging 1 pc.

Dimensions
32x129x86mm

Item	Code	Max. input level	Selectivity dB Standard B/G*				Output level adj.	AGC dynamic (max.)	Noise figure	Channels	Max. power consumption
		dBµV	ACn-2	ACn-1	VCn+1	VCn+2	dBµV	dB	dB		mA
K120A/..	2707xx	90	42	12	18	46	110-120	25	8	E2-E4	210@12VDC
		95	42	12	18	46	110-120	30	9	E5-E12	210@12VDC
		95	42	12	18	46	110-120	30	10	E21-E69	210@12VDC

K Series

Band amplifiers

These are provided with three channel traps to equalise the input channels or to eliminate unwanted channels.
Each trap has 15dB attenuation and can be tuned by the installer.
The KFB4 and KFB5 can be placed alongside the KF/.. filters being careful not to tune to future channel requirements. They use the same mechanical structure as the K series, with F connectors and a self mixed output.
Packaging 1pc.

Item	Code	Bandwidth	Gain (adj.)	Return loss input	Return loss output	Max. output level	Noise figure typ.	Max. power consumption
		MHz	dB	dB	dB	dBµV	dB	mA
KFB3	270063	174-240	30 (20)	10	10	100	5	100@12VDC
KFB4	270054	470-590	13 (20)	10	15	100	4	130@12VDC
KFB5	270055	606-862	11 (20)	10	15	100	4	130@12VDC
KFB5/..	270062	start channel on request	30 (20)	10	10	100	5	130@12VDC
KFBU	270064	174-240	30 (20)	10	10	100	5	100@12VDC

K Series

Channel amplifiers for DTT

Single channel amplified filters, KF/..DT, K120L/..DT and K120A/..DT for the distribution of digital terrestrial television signals.

Item	Code	Gain (adj.)	Max. input power	SELECTIVITY				Max. output power	Noise figure	Channels	Max. absorption
				Bandwidth 7MHz		Bandwidth 8MHz					
				Fc ± 3.5MHz	Fc ± 7MHz	Fc ± 4MHz	Fc ± 8MHz				
		dB	dBµV					dBµV	dB		mA
KF/...DT	2701xxDT	9 (45)	-	7	30	-	-	90	9	E5-E12	20 - 12VDC
		11 (35)	-	-	-	7	25		10	E21-E69	38 - 12VDC
K120L/...DT New	2708xxDT	45 (40)	-	7	30	-	-	115	9	E5-E12	180 - 12VDC
		45 (30)	-	-	-	8	33		9	E21-E69	200 - 12VDC
K120A/...DT	2707xxDT	-	90	7	30	-	-	115-105	9	E5-E12	210 - 12VDC
		-		-	-	8	30		9	E21-E69	210 - 12VDC

* It is possible to adjust the amplifier to a different standard on request.

K Series

QPSK-COFDM FTA transmodulator `New`

KSTT

All in one solution to receive all programs contained in a DVB-S transponder and create a DTT mux in the VHF or UHF band.

- Dynamic bit rate measurement for each program of the selected transponder and for the generated output COFDM multiplex
- Management and settings of all COFDM parameters
- ARP technology: automatic recovery procedure to protect the higher priority programs and guarantee continuity of service if bit rate overflow occurs
- Priority management of the programs included in the output multiplex
- LCN settings to adjust the channel number order in all TV sets connected to the headend

Dimensions
40x200x155mm

Item Code			KSTT 270641
Satellite front-end	Input frequency	MHz	950-2150
	Bandwidth	MHz	36
	Input level	dBµV	48-85
	Input step tuning	MHz	1
	LNB control		0/14/18VDC, 0/22KHz, DiSEqC 1.0
	Demodulation		QPSK (DVB-S)
	FEC		1/2, 2/3, 3/4, 5/6, 7/8, AUTO
	Symbol rate	Msymb/sec	2 - 40
	AFC range	MHz	-3 to +3
	Loop-through input loss	dB	2.5
COFDM modulation	Trasmission standard		DVB-T
	Bandwidth	MHz	6, 7, 8
	Carriers		2k, 8k
	Modulation		QPSK, 16-QAM, 64-QAM
	Guard interval		1/4, 1/8, 1/16, 1/32
	FEC		1/2, 2/3, 3/4, 5/6, 7/8
RF output	Output frequency	MHz	111-862
	Output channels		S2-E69
	Max. output level	dBµV	85
	Output level adjustment	dB	0-15
	RF mix input	MHz	47-862
	Output step tuning	KHz	10
	RF insertion loss	dB	1
	Flatness	dB	1
	Output MER	dB	36
	Spurious rejection	dB	>50
General features	Supply voltage	V	12
	Current absorption	mA	Max. 600 (without LNB) Max. 1000 (with LNB)
	Connectors	Type	F female
	Programming unit		TPE
	Compliant		EN50083-2, EN60065, EN50221, ETSI TS101699
	Operating temperature	°C	-10 to +55

Mid level headends

K Series

Digital QPSK receiver with fullband DSB modulator

KDF

Free-to-air digital satellite receiver equipped with DSB multistandard analogue modulator to distribute signals to all TV's within the installation.
Possible to receive SCPC programs. Automatic PID updating.

• VHF output band modulator (E5-S38) + UHF (E21-E69)
• LNB power supply

Dimensions
58x148x98mm

Item Code			KDF 282646
SAT QPSK input	Input frequency	MHz	950-2150
	Input level	dBµV	45-80
	Impedance	Ohm	75
	Bandwidth	MHz	36
	Input step tuning	MHz	1
	AFC range	MHz	-2.5 to 2.5
	Loop-through gain	dB	-4 to +4
	Max. no. of modules possible to loop-through		Depends on the frequency and the level of the input signal
	LNB power supply		0/12V, 22KHz, DiSEqC 1.1 (4 positions), max. 250mA
QPSK demodulation	Symbol rate	Msymb/sec	2 - 35 (compatible SCPC/MCPC)
	FEC		Auto
MPEG specification	Video decoder		MPEG-2 Main profile, Main level (MP @ ML)
	Audio decoder		MPEG-2 Layer I and Layer II
	Colour standard		PAL, SECAM, NTSC
	Video format		16:9, pan scan, letter box
	Audio format		Mono, language 1, language 2
TV modulator	Modulator		DSB (double sideband)
	Standard		PAL (B/G ,D/K, I, N, H, M), SECAM L, NTSC M
	Output frequency	MHz	174-446 + 470-862
	Channels		E5-S38 + E21-E69
	Output level	dBµV	90
	Output level adjustment	dB	15 by means of trimmer
	Audio level adjustment	dB	0-10
	S/N weighted	dB	52
	Output channel programming		By frequency (steps of 250KHz) or by channel
	No. of outputs		2 outputs (output and mix input)
	TV mixing input	MHz	47-862
	TV mixing insertion loss	dB	<2
	Test signal		Black screen or white rows. With radio signal distribution, a picture with the radio name is shown
General features	Connectors		F
	Programming unit		TPE
	Power supply	VDC	12
	Consumption	mA	Without LNB: 500, with LNB: 850
	Compliant		EN 50083-2
	Operating temperature	°C	-10 to +55

K Series

QPSK receivers with vestigial sideband modulator

**KDSR
KDSR-M
KDSR-S
KDSR-AV**

Digital processors for the reception of free-to-air satellite programs transmitted with QPSK modulation. The fullband modulator covers the whole 47-862MHz band allowing the distribution of adjacent channels. Ideal for use in condominium and hotel headends where it is necessary to distribute the signal to a high number of sockets.

- Wideband modulator distributes signals from 47 to 862MHz
- Vestigial sideband modulator allows adjacent channel distribution
- LNB power supply, 14/18V 0/22KHz, DiSEqC 1.0
- RCA connectors with audio/video signal available on all versions
- Subtitle and teletext management
- WSS signals compatible for the auto-adjustment of the TV video formats

Item Code			KDSR 270624	KDSR-S 270623	KDSR-M 270622	KDSR-AV 270621
SAT QPSK input	Input frequency	MHz	950-2150			
	Input level	dBµV	43-84			
	Impedance	Ohm	75			
	Bandwidth	MHz	36			
	Input step tuning	MHz	1			
	AFC range	MHz	±3			
	Loop-through gain	dB	-4 to 0			
	Max. no. of modules possible to loop-through		Depends on the frequency and the level of the input signal			
	LNB power supply		0/14/18VDC, 0/22KHz, max. 200mA@14VDC - DiSEqC 4 pos			
QPSK demodulation	Symbol rate	Msymb/sec	2-45			
	FEC		1/2,2/3,3/4,5/6,7/8, auto			
MPEG specification	Video decoder		MPEG-2 Main profile, Main level (MP @ ML)			
	Audio decoder		MPEG-2 Layer I and Layer II			
	Colour standard		PAL	PAL	PAL, SECAM, NTSC	PAL, SECAM, NTSC
	Video format		Letter box, pan scan, combined, adapted 16:9			
	Audio format		Mono, language 1, language 2	Mono, stereo, dual sound	Mono, language 1, language 2	Mono, language 1, language 2, stereo
	Teletext		Yes			
RCA outputs	Video type		Composite			
	Video level	Vpp-Ohm	1-75			
	Max. audio level	Vrms-kOhm	0.5-10			
	Band frequency	Hz	20-15000			
TV modulator	Modulator		VSB mono	VSB stereo	VSB multistandard	-
	Standard		PAL B/G	PAL B/G	D/K, I, N, H, SECAM L, NTSC M	-
	Output frequency	MHz	47-862			-
	Channels		E2-E69			-
	Output level	dBµV	90			-
	Output level adjustment	dB	0-15 by means of TPE			-
	Audio level adjustment		Yes			-
	S/N weighted	dB	≥57			-
	Output channel programming		By frequency (steps of 250KHz) or by channel			-
	No. of outputs		2 outputs (output and mix input)			-
	TV mixing input	MHz	47-862			-
	TV mixing insertion loss	dB	<1.5			-
	Test signal		Black screen or white rows to be used for radio signal distribution			
General features	Input connectors		2 F connectors (input + loop through)			
	Output connectors		2 F connectors (output and mix input)			-
	A/V connectors		3 x RCA			
	Programming unit		TPE			
	Power supply	VDC	12 ± 5%			
	Consumption	mA	With LNB: 1010 without LNB: 730	With LNB: 1060 without LNB: 780	With LNB: 1010 without LNB: 730	With LNB: 670 without LNB: 390
	Compliant		EN 50083-2			
	Dimensions	mm	40x200x155			
	Operating temperature	°C	-10 to +45			

Mid level headends

K Series

COFDM receivers with vestigial sideband modulator

KDTR
KDTR-S
KDTR-M
KDTR-AV

DTT processors for the reception of free-to-air programs transmitted with COFDM modulation. The fullband modulator covers the whole 47-862MHz band allowing the distribution of adjacent channels. Ideal for use in condominium and hotel headends where it is necessary to distribute the signal to a high number of sockets.

- Wideband modulator distributes signals from 47 to 862MHz
- Vestigial sideband modulator allows adjacent channel distribution
- RCA connectors with audio/video signal available on all versions
- Subtitle and teletext management
- WSS signals compatible for the auto-adjustment of the TV video formats

Item Code			KDTR 270619	KDTR-S 270618	KDTR-M 270617	KDTR-AV 270616
TV COFDM input	Input frequency	MHz	174-230 + 470-862			
	Input level	dBμV	35-80			
	Impedance	Ohm	75			
	Bandwidth	MHz	7 or 8			
	Input step tuning	KHz	166.7			
	AFC range	KHz	±285 (2K) ±142 (8K)			
	Loop-through gain	dB	-1.5 to +4			
	Max. no. of modules possible to loop-through		Depends on the frequency and the level of the input signal			
COFDM demodulation	Carriers		2K , 8K			
	Modulation		QPSK, 16QAM, 64QAM			
	Hierarchy		High/low priority			
	Guard interval		1/4, 1/8, 1/16, 1/32			
	FEC		1/2,2/3,3/4,5/6,7/,8, auto			
MPEG specification	Video decoder		MPEG-2 Main profile, Main level (MP @ ML)			
	Audio decoder		MPEG-2 Layer I and Layer II			
	Colour standard		PAL	PAL	PAL, SECAM, NTSC	PAL, SECAM, NTSC
	Video format		Letter box, pan scan, combined, adapted 16:9			
	Audio format		Mono, language 1, language 2	Mono, stereo, dual sound	Mono, language 1, language 2	Mono, language 1, language 2, stereo
	Teletext		Yes			
RCA outputs	Video type		Composite			
	Video level	Vpp-Ohm	1-75			
	Max. audio level	Vrms-kOhm	0.5-10			
	Band frequency	Hz	20-15000			
TV modulator	Modulator		VSB mono	VSB stereo	VSB multistandard	-
	Standard		PAL B/G	PAL B/G	D/K, I, N, H, SECAM L, NTSC M	-
	Output frequency		47-862			-
	Channels	MHz	E2-E69			-
	Output level	dBμV	90			-
	Output level adjustment	dB	0-15 by means of TPE			-
	Audio level adjustment		Yes			-
	S/N weighted	dB	≥57			-
	Output channel programming		By frequency (steps of 250KHz) or by channel			-
	No. of outputs		2 outputs (output and mix input)			-
	TV mixing input	MHz	47-862			-
	TV mixing insertion loss	dB	<1.5			-
	Test signal		Black screen or white rows to be used for radio signal distribution			
General features	Input connectors		2 F connectors (output + loop through)			
	Output connectors		2 F connectors (output and mix input)			-
	A/V connectors		3 x RCA			
	Programming unit		TPE			
	Power supply	VDC	12 ± 5%			
	Consumption	mA	670	700	670	330
	Compliant		EN 50083-2			
	Dimensions	mm	40x200x155			
	Operating temperature	°C	-10 to +45			

K Series

Agile channel processor

New

KCPN

Dimensions
40x200x155mm

Fully agile RF channel processor to process and convert terrestrial digital and analogue channels. Due to the high selectivity, it can also be used as a filter.
AGC (automatic gain control) facility to maintain a constant output level regardless of the fluctuation of the input signal.

- Dual conversion technology and dual SAW filter to distribuite adjacent channels and avoid spurious signals in the band
- Single product to convert a channel within 47-862MHz
- Perfect management when conversion of either adjacent digital or strongly unequalised channels is required
- Wide dynamic input range to guarantee good reception of programs even when signals are weak
- Mixing output to combine the output signal from other K Series modules with very low insertion loss (<1dB in the whole RF band)

Item Code			KCPN 282618
TV Standard	Digital		DVB-T – DVB-C
	Analogue		PAL B/G/I/L/D/K
Input frequency		MHz	47-862
Bandwidth		MHz	7–8
Input level	Digital	dBµV	45–80
	Analogue		55–90
Loop-through input gain		dB	1
Input step tuning		KHz	125
Output frequency		MHz	47–862
Max. output level	Digital	dBµV	85
	Analogue	dBµV	92
Output level adjustment		dB	0–15
TV mixing input		MHz	5–862
TV mixing insertion loss		dB	<1
Noise figure		dB	5
Phase noise		dBc/KHz	-85@10
Power supply		VDC	12
Consumption		mA	Max. 500
Connectors		Type	F female
Operating temperature		°C	-10 to +55
Compliant			EN50083-2:2008-03

Mid level headends

K Series

Vestigial sideband modulators

KM
KMS
KMM

Audio video vestigial sideband modulators.
Three versions for each model are available: PAL B/G mono, PAL B/G stereo and multistandard mono.

- High output C/N
- Audio and video input adjustment using a trimmer

Dimensions
40x200x155mm

Item Code			KM 270630	KMS 270631	KMM 270632
Input		No.	3 x RCA (cinch)		
Output		No.	2 F connectors (output + mix input)		
Video input	Impedance	Ohm	75		
	Input level	Vpp	0.7 – 1.2		
Audio Input	Impedance	KOhm	10		
	Input level	Vrms	0.25 – 0.75		
Standard			PAL B/G mono	PAL B/G stereo	Multistandard N, H, D, K, I, L
Audio carrier frequency	B/G mono	MHz	5.5	-	-
	B/G stereo		-	-	-
	Left carrier	MHz	-	5.5	-
	Right carrier	MHz	-	5.74	-
	L, D/H	MHz	-	-	6.5
	I	MHz	-	-	6
	N	MHz	-	-	4.5
Video/audio power carrier ratio	N	dB	-	-	10
	H	dB	-	-	14
	I	dB	-	-	14
	D/K	dB	-	-	13
	L	dB	-	-	8
	B/G mono	dB	14	-	-
	B/G stereo	dB	-	14 (left c.) 21 (right c.)	-
Modulation with audio input 1kHz, 0.5Vrms	B/G	KHz	49		-
	N (FM)	KHz	-	-	<42
	H	KHz	-	-	44
	I, D/K (FM)	KHz	-	-	>47
	L (AM)	KHz	-	-	80%
Modulation depth for 1Vpp video input	D/K, I, B/G		80% typ.		
	L		-	-	90–97%
Output frequency (channels)		MHz	47–862 (E5-E69)		
Output channel programming			By frequency (steps of 250KHz) or by channel		
Channel standard			B/G Europe, L France, B Australia		PAL I, B/G Europe, L France, B Australia, NTSC M
Max. output level		dBµV	90		
Output level adjustment		dB	0 – 15 by means of TPE		
Insertion loss		dB	<1.5		
C/N on channel		dB	>57		
Spurious rejection		dB	57		
General features	Mains voltage	VDC	12		
	Consumption	mA	400	500	400
	Power consumption	W	4.8	6	4.8
	Operating temperature	°C	-10 to +55		
	Compliant		EN 50083-2		

K Series

SAT amplifiers + TV mixer

**KX125
KX125NT
KX125E**

Amplifies satellite IF (950-2150MHz) whilst mixing terrestrial TV frequencies of 47-862MHz. Overcomes the higher losses experienced when distributing SAT IF.

Dimensions
32x129x86mm

Item	Code	Input frequency	Gain (adj.)		Max. output level	Noise figure	Max. power consumption	Packaging
		MHz	950MHz	2150MHz	dBμV	dB	mA	Pcs
KX125	282104	950-2150 47-862	38 (20)	44 (20) -1	125 -	6 -	310@12VDC	1
KX125NT	282105	950-2150 47-862	35 (20) -1		125 -	6 -	280@12VDC	1
KX125E	282106	950-2150 47-862	38 (20)	44 (20) -1	125 -	6 -	310@12VDC	1
	With 12VDC available in the SAT input to power an LNB							

K Series

Transponder amplified selective filter

KFT

The KFT module selects and amplifies a DVB-S transponder between 950 to 2150MHz. The filter uses K series housing with F connectors and is self-mixing both for input and output.

Dimensions
32x129x86mm

Item	Code	Input frequency	Gain (adj.)	Bandwidth	Output level	Max. power consumption	Packaging
		MHz	dB	MHz	dBμV	mA	Pcs
KFT/.*	282614	950-1450	18 (20)	33	100	105@12VDC	1
KFT/..*	282615	1451-1700	18 (20)	33	100	105@12VDC	1
KFT/...*	282616	1701-2150	18 (20)	33	100	105@12VDC	1

* The transponder frequency must be specified on order.

Mid level headends

Programmable IF-IF DVB-S2 converter

KIF-S2

Fully agile IF-IF converter that enables the selection of a transponder from 950-2150MHz and converts it to a free position in the same band. Usable as a SAT filter, by setting the same input and output frequency.
Fully compliant with DVB-S2, DVB-S and analogue transponders.

- IF-IF converter compatible with DVB-S2 standard, programmable using a TPE
- SAW filtering technology guarantees high quality in conversion and distribution of adjacent transponders
- The converter is provided with AGC to keep the output level constant
- Very low phase noise makes it particularly suitable for HD transponders
- Remote power supply programmed via software

Dimensions
32x129x86mm

Item			KIF-S2
Code			282589
Inputs			1 SAT input and 1 loop-through output to other modules
Outputs			1 SAT output and 1 mix-in input to mix the signal coming from other modules
Input and output frequency SAT		MHz	950 – 2150
Supported SAT Standard			Digital: DVB-S QPSK Digital: DVB-S2 QPSK 8PSK Analogue: FM
Input level		dBµV	55-90
Max. output level		dBµV	90
Output level adjustment		dB	0-15
Bandwidth		MHz	36 o 27
Loop-through insertion loss		dB	<1
Mix in insertion loss		dB	<1
Return loss		dB	>10
LNB power supply		VDC - mA	12 - 250 max. - programmable via TPE
General features	Connectors	Type	F female
	Mains voltage	VDC	12
	Consumption	mA	300 (550 when LNB power supply is set)
	Operating temperature	°C	-10 to +55

K Series

Return channel amplifiers

KW540

The KW540 amplifies the return channel 5-40MHz and mixes the TV signal between 54 and 862MHz.
It can be used in installations where an interactive distribution network is present.
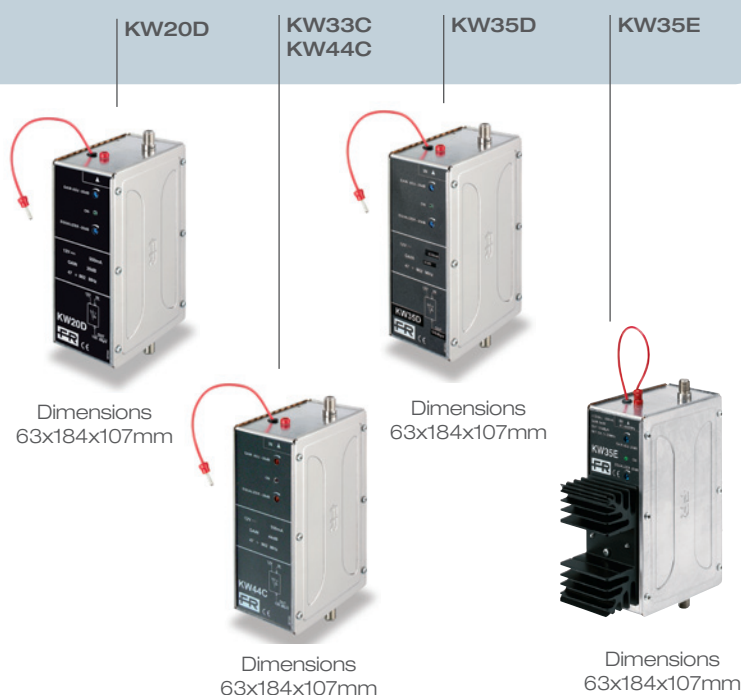
Dimensions
32x129x86mm

Item	Code	Input frequency range	Gain (adj.)	Output level	Noise figure	Max. power consumption	Packaging
		MHz	dB	dBμV	dB	mA	Pcs
KW540	270057	5-40 54-862	20(20) -1.5	105 -	5 -	30@12VDC	1

K Series

Final push-pull amplifiers

KW20D KW33C KW44C KW35D KW35E

Broadband launch amplifier with push-pull technology allows the amplification of the whole 47-862MHz band, including the S band. With one input and one output, the KW series are used to amplify the signal from KF filters or other modules (receivers, modulators, etc).
The KW35E passes the return channel (5-30MHz).

Dimensions
63x184x107mm

Dimensions
63x184x107mm

Dimensions
63x184x107mm

Dimensions
63x184x107mm

Item	Code	Frequency range	Gain (adj.)	Slope adjustment	Max. output level	Noise figure typ.	Max. power consumption	Packaging
		MHz	dB	dB	dBμV	dB	mA	Pcs
KW33B	270050	47-862	34 (20)	-	116	8	300@12VDC	1
KW33C	270053	47-862	32 (20)	0-20	120	9	510@12VDC	1
KW44C	270051	47-862	44 (20)	0-20	120	8	550@12VDC	1
KW20D	270049	47-862	20 (20)	0-20	125	6	550@12VDC	1
KW35D	270061	47-862	35 (20)	0-20	125	5	640@12VDC	1
KW35E	270059	5-30 - 47-862	35 (20)	0-20	129	6	830@12VDC	1

Mid level headends

K Series

Power supplies

KP15   KP35   KP62

The power supply units contain switching technology to ensure the best performance and reliability.
They are protected from both momentary and long term overloads.
Isolation: class II.
Operating temperature: -10°C to +55°C.

Dimensions
40x130x86mm

Dimensions
63x165x107mm

Dimensions
63x165x107mm

Item	Code	Mains voltage	Power consumption	Output voltage	Max. current	Packaging
		Vac, Hz	W	V	A	Pcs
KP15	270018	220-240, 50-60	23	12	1.5	1
KP35	270017	220-240, 50-60	55	12	3.5	1
KP62	270019	220-240, 50-60	87	12	6.2	1

K Series

Accessories

KA400   KA600
KA800

Cabinets specially designed for easy installation and maintenance of MATV/SMATV headends.

• Perforated back for attaching the DIN bar. Thickness: 1.5mm
• Single structure (sides plus back) to be fixed at the rear
• Door with lock
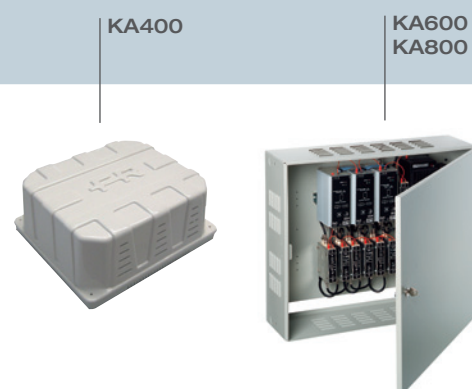
Item	Code	Length	Height	Width	Packaging
		mm	mm	mm	Pcs
KA400	270001	390	340	170	1
KA600	293433	600	500	180	1
KA800	293434	800	500	180	1

Item	Code	Description	Packaging
			Pcs
KD100	289539	**DIN BAR (35x15x1.5mm) galvanised** Length 1m, used for installing K series modules.	20
TPE	282733	**Programming unit** Programming unit with numeric keypad and graphic display	1
CVDC50	280376	**12V cable feed** Length 50cm	1
KRS-RJ	282732	**USB-RJ45 adapter**	1

K Series
Accessories

Plug-in "F" bridges
These are shielded quick push on connectors. For connections between an active splitter and receiver modules as well as between the active splitter and self-mixing line of the output signal.

• Shielded

Item	Code	Length mm	Compatible with	Packaging Pcs
KRF15	289537	150	KDTR, KDSR, KCPN, KM, KDF, KSTT	20
KRF45	289538	450	KW and KX125, KSTT	10

Plug-in "F" bridges
These are shielded quick push on connectors. For connecting modules.

• Shielded

Item	Code	Length mm	Compatible with	Packaging Pcs
KPR37	289485	37	KF, K120L, K120A, KIF-S2, KFT, KFB4, KFB5, KFBU, KFB3	20
KPR41	289486	41	Headline modules, KF, K120L, K120A, KIF-S2, KFT, KFB4, KFB5, KFBU, KFB3	20
KPR52	289491	52	KDTR, KDSR, KCPN, KSTT	20

Plug-in "F" bridges
These are shielded twist on connectors. For connecting modules.

• Shielded

Item	Code	Length mm	Compatible with	Packaging Pcs
KPN42	289245	42	KF, K120L, K120A, KIF-S2, KFT, KFB4, KFB5, KFBU, KFB3	10
KPN51	289244	51	KDTR, KDSR, KCPN, KSTT	10

Broadband pre-amplifiers
To be used to increase weak signals before entering a KF amplifier or K120 filter.
As they are easy to connect, they are particularly suitable for use with the MBX and K series. Metal housing. 1 transistor. V.S.W.R. < 2. With socket and 30cm cable with D.C. plug. Input R.F. only.
Powered via output connector or D.C. plug.

Item	Code	Band inputs	Gain dB	Noise figure dB	Max. output level dBµV	Bandwidth MHz	Max. power consumption mA	Packaging Pcs
MP04AF	236505	IV	17	3	108	470-590	20	10
MP05AF	236506	V	14	4	108	606-862	20	10
MP45AF	236507	UHF	15	4	108	470-862	20	10
MP13AF[1]	236504	VHF	20	3	108	47-300	25	10
MPCCF	236508	**D.C. Inserter** For supplying D.C. to pre-amplifiers. With plug, socket and 20cm lead for D.C. Ø 2.3mm. With F connector						

[1] With FM trap filter.

Mid level headends

MATV headend with selective agile filters

SAF-HD Series   New

SAF-HD 10
SAF-HD 7

New MATV compact headend to filter DVB-T and DVB-T2 signals including 7 or 10 UHF agile active filters with very high selectivity and AGC (Automatic Gain Control) circuit to keep the output level stable when the signals at the aerial are floating.

All the filters can be set via the on-board programmer (or via PC) to any UHF frequency and can even be used as a channel converter in the same frequency band.
The VHF input allows to filter and amplify the FM and the VHF bands with separate adjustment.
The new SAF headend is ideal to distribute signals with perfect equalisation and high quality to the network distribution with a high power level in order to reach those longer distances.

Dimensions
360x225x60mm

- Perfect for High Definition (HD) and Standard Definition (SD) digital terrestrial multiplex due to the very low phase noise
- UHF agile filters equipped with SAW technology providing very high selectivity (see figure)
- USB port to upload/download via USB the settings to another headend
- Auto equalisation function to give a perfect levelling of the distributed signal saving on installation time
- Offset adjustment for each filter to reduce the noise coming from upper or lower adjacent channels
- Remote power supply for mast amplifier available on any UHF input, 12V, selected via software
- Compact housing to fit narrow technical room without fans inside the product
- 100dBμV power level per channel to reach longer distances directly from the headend
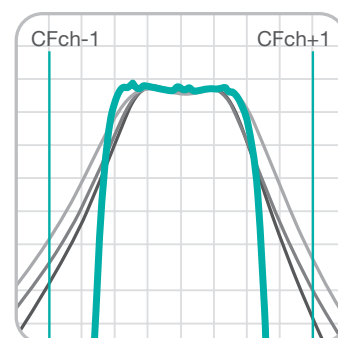

— **SAF**
≡ Resonant circuits

Item			SAF-HD 10	SAF-HD 7
Code			272008	272009
UHF filter characteristics	Filters	No.	10	7
	Input frequency	MHz	470-862	
	Input level	dBµV	50-73 (for 40 channels)	
	Max. input power	dBµV	90 (for each UHF input)	
	Filter bandwidth	MHz	8	
	Filter selectivity	dB	≥50@Cf ± 5MHz	
	AGC dynamic	dB	23	
	Flatness	dB	±1	
	Level adjustment	dB	10 (1dB steps)	
	Frequency offset	KHz	500 (125KHz steps)	
	Frequency accuracy	KHz	70	
FM + VHF filter characteristics	Input frequency	MHz	87-108, 174-240	
	Input level	dBµV	VHF/DAB: 53-73, FM: 60-80	
	Max. gain	dB	VHF/DAB: 45, FM: 40	
	Gain adjustment	dB	VHF/DAB: 20, FM: 20	
Output signal	Max. output power	dBµV	100 per channel	
	Output level adjustment	dB	15	
	Test output	dB	-25	
	Noise figure	dB	9	
	MER of DTT signal	dB	≥30 (with input MER ≥ 36dB)	
General features	Remote power supply	V	12 on each UHF input, selectable via software	
	Max. remote supply current	mA@V	200@12	
	Mains voltage	Vac, Hz	184-264, ~ 50-60, Class: II	
	Consumption	W	33	30
	Connectors	Type	F female	
	Input demixing		Input 1: filter 1-3	
			Input 2: filter 1-6	
			Input 3: filter 1-10	
	Compliant		EN50083-2, EN60065	
	Operating temperature	°C	-10 to +55	

Installation example

SAF-HD

To the distribution

To the distribution
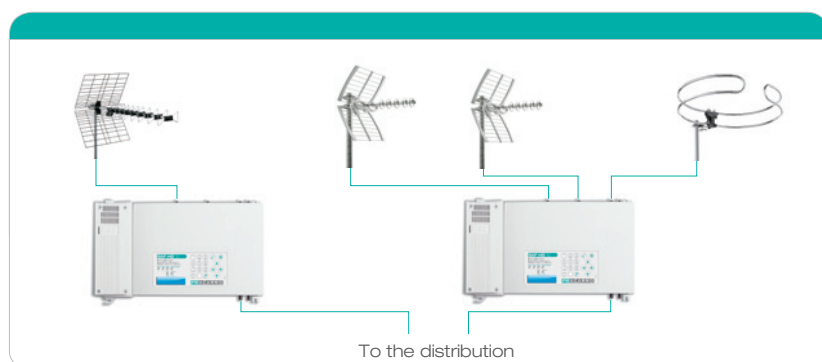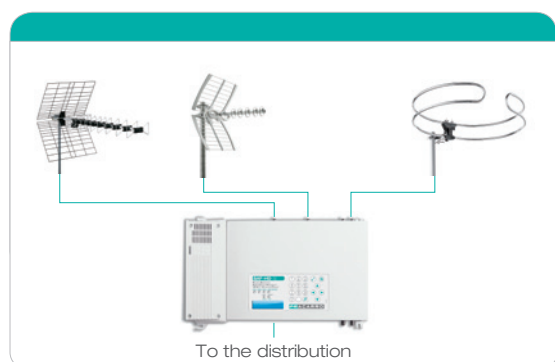
Mid level headends

SMATV headend with 8 digital receivers with common interface

Digiflex Series

SIG9708CI	SIG9808CI
SIG9708PS	SIG9808MR
SIG9708MR	SIG9808LT
SIG9708CA	

SMATV headend for the reception and distribution of 8 digital terrestrial or satellite channels. Demodulates 8 digital channels and remodulates them into the RF band (47-862MHz). The front panel is removable with a lock to avoid common interface modules or cards being removed. Wall mount or 19" cabinet installation.

Dimensions
430X305X200mm

- Easy to install, included in one box: power supply, 8 QPSK (SIG9708CI) or COFDM (SIG9808CI) receivers with common interface slot, 8 A/V vestigial sideband modulators, wideband (47-862MHz) with audio stereo, combiner to mix 8 RF channels, final amplifier 98dBµV per channel
- Two A/V input/output connectors are available to connect external devices (DVD players, cameras, etc.)
- Master/slave setting available to share one smart card among several receivers, to decrypt several programs with only one subcription (if allowed by the pay-TV service provider).
- SIG9708CI: each receiver can generate 14 or 18V, 22KHz tone and DiSEqC 1.0, suitable to feed an LNB or control multiswitch output
- WSS signals compatible for the auto-adjustment of the TV video formats
- Heat dissipation by natural convection, no fans required, reducing maintenance costs
- Software available to set the headend using a PC

Item Code			SIG9708CI* 283141	SIG9808CI* 283145
SAT QPSK/TV COFDM input	Input frequency	MHz	950-2150	174-230 + 470-862
	Input level	dBuV	45-80	35-80
	Impedance	Ohm	75	
	Bandwidth	MHz	36	7 or 8
	Input step tuning	MHz	1	-
	AFC range	MHz	-3 to +3	± 285 (2K) ± 142 (8k)
	LNB power supply		0/14/18VDC, 0/22KHz, max. 400@14VDC, DiSEqC 1.0	-
COFDM demodulation	Demodulation		-	ETS 300744
	FEC		-	1/2, 2/3, 3/4, 5/6, 7/8, AUTO
	Carriers		-	2K, 8K
	Modulation		-	QPSK, 16-QAM, 64-QAM
	Guard interval			1/4, 1/8, 1/16, 1/32
QPSK demodulation	Symbol rate	Msymb/sec	1-40 (compatible SCPC/MCPC)	-
	FEC		1/2,2/3,3/4,5/6,7/,8, auto	-
MPEG specification	Video decoder		MPEG-2 Main profile, Main level (MP @ ML)	
	Audio decoder		MPEG-2 Layer I and Layer II	
	Colour standard		PAL	
	Video format		Adapted 16:9, pan scan, letter box, combined	
	Audio format		Stereo, dual sound	
	Teletext		Yes	
TV modulator	Modulator		VSB	
	Standard		PAL B/G Stereo	
	Output frequency	MHz	47-862	
	Channels	MHz	E2-E69	
	Output level	dBuV	98	
	Output level adjustment	dB	10 (independent for every channel)	
	Audio level adjustment	dB	10 (adjustment steps)	
	S/N weighted	dB	54	
	Output channel programming		By frequency (steps of 250KHz) or by channel	
	No. of outputs		2 outputs (output and mix input)	
	TV mixing input	MHz	47-862	
	TV mixing insertion loss	dB	4	
	Test signal		Black screen or white rows to be used for radio signal distribution	
General features	Input connectors		1 F connector for every channel	
	Output connectors		2 F connectors (output and mix input)	
	A/V input connectors		2 x SUB-D 15 pin	
	Programming unit		TPE (not included)	
	Mains voltage	Vac, Hz	220-240, 50-60	
	Power consumption	W	130	110
	Compliant		EN50083-2, EN60065, EN50221, ETSI TS101699	
	Operating temperature	°C	-10 to +45	

* Multistandard versions available: SIG9706CI-M - code 283150, SIG9708CI-M - code 283149, SIG9806CI-M - code 283152, SIG9808CI-M - code 283153

⊞⊐ACARRO

Item	Code	Description
SIG9708PS	283144	**Power supply for installation in Digiflex headends**
SIG9708MR	283143	**QPSK CI receiver for installation in Digiflex headends**
SIG9708CA	283142	**Digiflex housing with power supply**
SIG9808MR	283146	**COFDM CI receiver for installation in Digiflex headends**
SIG9808LT	283147	**Loop-through amplifier**

Installation example
Digiflex Series

SIG9708CI - Using a msw to distribute signals to all receivers

to the distribution
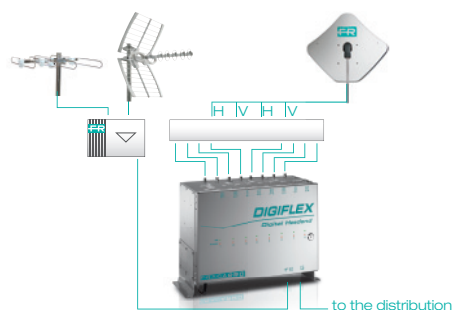
SIG9808CI - External splitter to split the signal

to the distribution
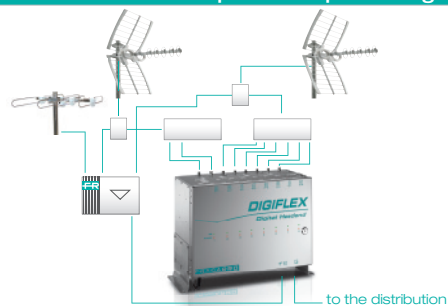
High level headends

The professional solution

The design targets of the Headline Series are:

- 19" rack mounting for professional installation
- Flexibility in headend composition, easy integration of different modules
- Constant operation of the installation, the hot insertion of modules allows modules to be added or changed without switching off the whole headend
- Easy maintenance, programming the modules is possible from any interconnection module or remotely via PC, Ethernet or GSM
- Efficiency, each single module has its own power supply, no need for power supply redundancy to ensure the correct functionality of the headend

The basic system is composed of an interconnection module in a frame with a range of further modules and a programming unit. The modules are installed in a premounted 19" subrack to be fitted into a 19" rack cabinet.
The programming unit is linked to one interconnection module and enables all the modules installed in the headend to be programmed. A remote programming unit is available.

The main features of Headline series product are:

- Complete range of products equipped with different technological solutions: analogue and digital modulators, IP encoders and fibre optic modules
- Easy integration of different modules
- 220V mains voltage distributed to all the modules through the interconnection module
- All the connectors are located on the front panel

## Controller host and programming software

SIG7905

Module for local and remote connectivity of the professional Headline headends via Ethernet (LAN or WAN) and GSM.
Fracarro Headend Management (FHM) software enables the headend devices' firmware to be updated remotely.
The SIG7905 also enables all the modules installed in a rack to be monitored.
Firmware can also be upgraded (for the SIG7905 and for the other modules) by using a USB pen drive.
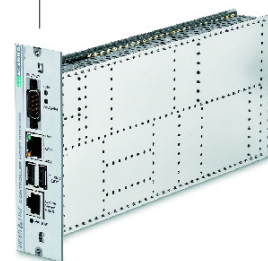
Item				SIG7905		
Code				283941		
Mass memory	SD Slot (SD card not supplied)	General features	Mains voltage	Vac, Hz	220-240~, 50-60
Connection to external peripheral units	RS-232 serial port		Consumption	W	4
Connection to the Ethernet network	Ethernet RJ-45		Compliant		EN50083-2, EN60065
Connection to pen drive	USB 1 (200mA), USB2 (400mA)		Dimensions (rack version)	mm	35.5 (7e) x 133.3 (3U) x 240
Digital video input	RJ-45 10-pole connector		Operating temperature	°C	-10 to +45
Front key to change status (temporary suspension of the Controller Host – Master/Slave activities)	Key to change status				

Item	Code	Description
FHM	289888	**Programming software for Fracarro headends: K Series, SAF, Digiflex, Headline** • Using FHM with the controller host SIG7905 critical parameters of connected modules can be viewed locally or remotely • For user defined parameters an upper and lower alarm limit can be set

Headline Series

Modulators

SIG7282
SIG7282S
SIG7281

Audio video modulators, double conversion, double saw filter and tracking filter built in. One modulator covers the whole 47-862MHz band and a very high C/N ratio in the band allows the distribution of more than 80 channels. Available in PAL B/G mono (SIG7282), PAL B/G stereo (SIG7282S) and multistandard (SIG7281).

- Fully agile output modulators, with double conversion, saw filter and tracking filter built in. Using only one modulator, the whole 47-862MHz band can be covered, simplifying the installation and maintenance of the system
- High output level, 95dBµV, to mix all the channels together
- RCA (cinch) connectors for audio and video input, F connectors for RF output
- 70cm RCA cable and KPR41 solid bridge are included
- Programmable via FHM software

Item Code			SIG7282 283943	SIG7282S 283944	SIG7281 283933
Video signal input	Impedance	Ohm		75	
	Level	Vpp		0.7-1.4	
Left and right audio input	Impedance	KOhm		10	
	Nominal input level	Vpp		0.5-3.5	0.5-2
Standard			PAL B/G mono	PAL B/G stereo	D/K, I, L, N, H
			Mono	Mono, stereo, dual sound	Mono
Audio carrier frequency	B/G standard mono or left carrier	MHz	5.50	5.50	-
	Right carrier	MHz	-	5.74	-
	Standard H	MHz	-	-	5.50
	Standard L D/K	MHz	-	-	6.50
	Standard I	MHz	-	-	6.00
	Standard N	MHz	-	-	4.50
Video/audio power carrier ratio	Standard N	dB	-	-	10
	Standard H	dB	-	-	14
	Standard I	dB	-	-	14
	Standard D/K	dB	-	-	13
	Standard L	dB	-	-	8
	Standard B/G: Mono (5.5MHz)	dB	13	13	-
	Stereo (5.74MHz)	dB	-	20	-
	Audio level adjustment	dB		0-10	
Modulation with audio input 1KHz, 0.5Vrms	B/G	KHz	45	45	49
	N (FM)	KHz	-	-	42
	H	KHz	-	-	44
	I, D/K (FM)	KHz	-	-	>47
	L (AM)		-	-	80%
Output frequency		MHz		47-862	
Channels				E2-E69	
Output level		dBµV ± dB		95 ± 2	
	Level adjustment	dB		15 by steps of 1	
	Loop-through attenuation	dB		< 1.5@860MHz	
	Return loss	dB		>10	
C/N in the channel N ±3		dB		>66	
C/N ±40MHz		dB		>70	
S/N		dB		>50	
S/N in the channel		dB		50	
S/N with 80 channels		dB		48	
Spurious rejection		dB		>60	
Mains voltage		Vac, Hz		220-240, 50-60	
Power consumption		W		8	
Compliant				EN50083-2, EN60065	
Dimensions (rack version)		mm		35.5 (7e) x 133.3 (3U) x 240	
Operating temperature		°C		-10 to +45	

High level headends

Headline Series

COFDM receivers

| | SIG7531 | SIG7540 |

COFDM receivers to distribute a free-to-air (SIG7531) or encrypted (SIG7540) signal from a terrestrial digital source (DVB-T).
In a typical application they can be connected to an SIG7120 module (modulator) that uses the TS flow to create a COFDM multiplex. They can also be connected to an IP encoder SIG7720 creating multiple IP multicast streams. They can also be installed as a single unit to distribute one program through RCA outputs (for MPEG-2 compressed programs).

- Ideal solutions for regeneration of DTT signals
- Enables the audio/video signal to be available as a TS MPEG2/MPEG4 form distributed from the back panel
- Loop-through input for the connection of several receivers on the same SAT polarity
- Remote configuration and monitoring (via SIG7905 controller host and FHM software)
- HD compliant

New

Item Code			SIG7531 283952	SIG7540 283951
Terrestrial COFDM input	Bandwidth	MHz	174 - 230, 470 - 862	174 - 230, 470 - 862
	Minimum frequency step tuning	KHz	167	167
	Channel bandwidth	MHz	7, 8	7, 8
	Loop-through bandwidth	MHz	47-862	47-862
	Loop-through insertion loss	dB	-3 to 2	1
	Input level	dBµV	35-80	35-80
	AFC	KHz	±285 (2k), ±142 (8k)	±285 (2k), ±142 (8k)
	Symbol rate	Msymb/sec	2-30	2-30
	Max. no. of modules possible to loop-through		Depends on the frequency and the level of the input signal	Depends on the frequency and the level of the input signal
COFDM demodulation	Carrier		2k, 8k	2k, 8k
	Guard Interval		1/4, 1/8, 1/16, 1/32	1/4, 1/8, 1/16, 1/32
	Modulation		QPSK, 16QAM, 64QAM	QPSK, 16QAM, 64QAM
	Hierarchy		High/low priority	High/low priority
	FEC		1/2 , 2/3 , 3/4, 5/6, 7/8, auto	1/2 , 2/3 , 3/4, 5/6, 7/8, auto
Common Interface	Connector		-	PCMCIA
	Standard		-	Interface standard EN50221, TS101699
MPEG decodification	Video decoder		MPEG-2 ML@MP	MPEG-2 ML@MP
	Audio decoder		MPEG-2 Layer I and II	MPEG-2 Layer I and II
	Video standard		PAL, PAL-N, SECAM-L, NTSC-M, PAL-M	PAL, PAL-N, SECAM-L, NTSC-M, PAL-M
	Video format		Adapted 16/9, letter box, pan scan, combined	Adapted 16/9, letter box, pan scan, combined
	Audio format		Mono, mono lang. 1, mono lang. 2, stereo	Mono, mono lang. 1, mono lang. 2, stereo
RCA outputs	Output connector		RCA female	RCA female
	Audio level	mVrms	550 max.	550 max.
	Video level	Vpp - Ohm	1 typical - 75	1 typical - 75
	SINAD	dB	45	45
TS outputs	Connectors		48 pins on the back panel	48 pins on the back panel
	Type		Parallel	Parallel
General features	Mains voltage	Vac, Hz	220-240~, 50-60	220-240~, 50-60
	Power consumption	W	4.5	7 (with CAM)
	Compliant		EN60065: 2004-06, EN50083-2: 2002-05	EN60065: 2004-06, EN50083-2: 2002-05
	Dimensions (rack version)	mm	35.5 (7e) x 133.3 (3U) x 240	35.5 (7e) x 133.3 (3U) x 240
	Operating temperature	°C	-10 to +45	-10 to +45

Headline Series

QPSK FTA receivers

| SIG7310 | SIG7330 |

QPSK receivers with audio/video outputs on RCA (cinch) connectors to receive free-to-air digital satellite programs. The SIG7330 module has also a TS output on the back panel. One input and one loop-through output for the connection of several receivers on the same SAT polarity.

- LNB supply, 14/18V 0/22KHz, DiSEqC 1.0
- Software download possible at the installation site
- Programmable via FHM software
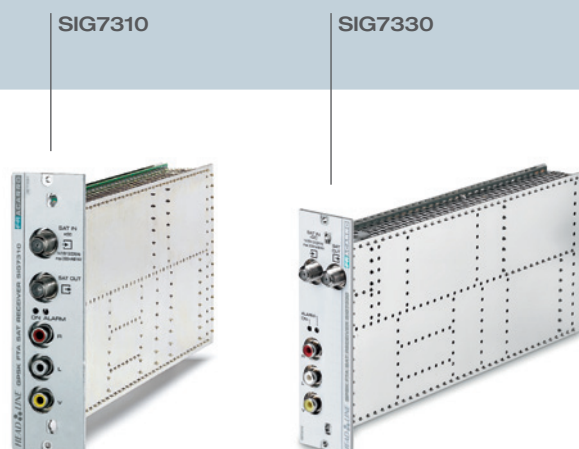
New

Item Code			SIG7310 283938	SIG7330 283954
SAT QPSK input	Input frequency	MHz	950-2150	950-2150
	Input level	dBµV	43-84	48-85
	Impedance	Ohm	75	75
	Bandwidth	MHz	36	36
	Input step tuning	MHz	1	1
	AFC range	MHz	±3	±5
	Loop-through insertion loss	dB	+4 to -6	2
	Max. no. of modules possible to loop-through		Depends on the frequency and the level of the input signal	
	LNB power supply		0/14/18VDC, max. 0-22KHz max. 200mA@14VDC DiSEqC 4 pos	
QPSK demodulation	Symbol rate	Msymb/sec	1-40	2-40
	FEC		1/2,2/3,3/4,5/6,7/8, auto	
MPEG decodification	Video decoder		MPEG-2 Main profile, Main level (MP @ ML)	
	Audio decoder		MPEG-2 Layer I and Layer II	
	TV standard encoder		PAL, SECAM, NTSC	PAL, PAL-N, PAL-M, SECAM-L, NTSC-M
	Video format		Adapted 16/9, letter box, pan scan	Adapted 16/9, letter box, pan scan, combined
	Audio fomat		Mono, mono language 1, mono language 2, stereo	Mono, mono language 1, mono language 2, stereo
	Teletext		Yes	
RCA outputs	Video		Composite	
	Video output level	Vpp - Ohm	1-75	
	S/N video weighted	dB	>65	45
	Max. audio level	KOhm - VRMS	10 - 0.5	
	Audio band frequency	Hz	20-15000	
	S/N audio weighted	dB	>60	
TS output	Connectors		-	48 pins on the back panel
	Type		-	Parallel
General features	Input connectors		2 F connectors (input + loop-through)	
	A/V connectors		3 x RCA	
	Programming interface		TPE	
	Mains voltage	Vac, Hz	220-240, 50-60 by means of SIG7901 or SIG7902	
	Power consumption	W	11	
	Compliant		EN60065: 2004-06, EN50083-2: 2002-05	
	Dimensions (rack version)	mm	133.3 (7e) x 35.5 (3U) x 240	
	Operating temperature	°C	-10 to +45	

High level headends

QPSK CI receivers

| | SIG7320 | SIG7340 |

QPSK receivers with Common Interface slot to receive free-to-air or encrypted digital satellite programs available on audio/video outputs with RCA (cinch) connectors.
The SlG7340 module has also a TS output on the back panel.
Loop-through output for the connection of several receivers on the same SAT polarity.

- CI slot available to decode the encrypted programs. Compatible with more than 150 existing CAMs
- SIG7340 module can be used as a second CAM card
- They can generate 14 or 18V, 22 KHz tone and DiSEqC 1.0, suitable to power LNB or to control multiswitch output
- Programmable via FHM software
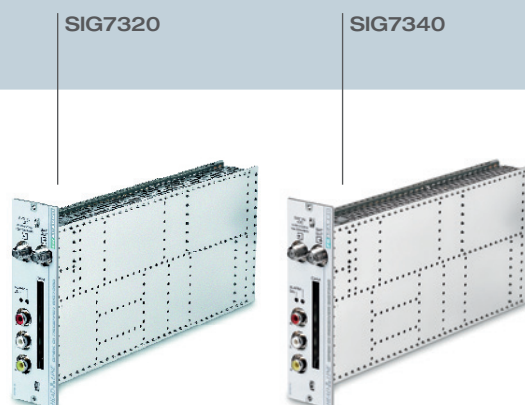
New

Item Code			SIG7320 283940	SIG7340 283955
SAT QPSK input	Input frequency	MHz	950-2150	950-2150
	Input level	dBµV	35-85	48-85
	Input step tuning	MHz	1	
	Loop-through insertion loss	dB	2	
	Max. no. of modules possible to loop-through		Depends on the frequency and the level of the input signal	
	Input return loss	dB	>10	
	DiSEqC	V, KHz	1.0 4 positions 0/14/18, 0-22	
QPSK demodulation	AFC range	MHz	±3	±5
	Symbol rate	Msymb/sec	2-40	
	FEC		1/2,2/3,3/4,5/6,7/8, auto	1/2,2/3,3/4,5/6,7/8, auto
Audio/video outputs	Video standard		PAL, PAL-N, PAL-M, SECAM-L, NTSC-M	
	Video format		Adapted 16/9, letter box, pan scan, combined	
	Video output level	Vpp-Ohm	1-75	
	S/N unweighted	dB	>65	
	Audio fomat		Mono, mono language 1, mono language 2	
	Max. audio level	mVRMS	550	
TS outputs	Connectors		-	48 pins on the back panel
	Type		-	Parallel
General features	Input connectors		2 F connectors (input + loop-through)	
	A/V connectors		3 RCA (cinch) connectors	
	Programming interface		TPE	
	Common Interface slot		PCMCIA	
	Mains voltage	Vac, Hz	220-240 , 50-60	
	LNB power supply	mA, V	Max. 200@14	
	SINAD	dB	-	45
	Consumption	W	11	
	Compliant		EN60065: 2004-06, EN50083-2: 2002-05	
	Dimensions (rack version)	mm	133.3 (7e) x 35.5 (3U) x 240	
	Operating temperature	°C	-10 to +45	

Headline Series

DVB-S2 receiver

SIG7100

The SIG7100 module, with its Common interface, distributes an encrypted or free-to-air digital signal from satellite in DVB-S or DVB-S2 standard.
It can be installed as a standalone unit to distribute one program through the RCA outputs or it can be connected to an SIG7120 module (COFDM modulator) or SIG728x modules (analogue modulators). When connected to the SIG7120 it enables the distribution of a compressed MPEG-4 channel.

- Ideal for the reception of High Definition (HD) programs
- CI slot for encrypted programs
- It can generate 14 or 18V, 22KHz tone and DiSEqC 1.0, suitable to power an LNB or to control a multiswitch output
- Programmable via FHM software

Item Code			SIG7100 283949				
SAT input	Frequency input	MHz	950-2150	Audio/video outputs	Audio format		Mono, mono language 1, mono language 2, stereo
	Minimum frequency step tuning	MHz	1				
	AFC	MHz	±5		Audio level	mVRMS	550 max.
	Loop-through insertion loss	dB	2		SINAD	dB	45
	Input level	dBμV	48-85		Video decoder		MPEG-2 ML@MP
	Symbol rate for DVB-S	Msymb/sec	2-40		Audio decoder		MPEG-2 Layer I and II
	Symbol rate for DVB-S2	Msymb/sec	2-30	Transport stream outputs	Connectors		48 pins on the back panel
Common Interface	Connector		PCMCIA				
	Standard		EN50221, TS101699		Type		Parallel
Audio/video outputs	Output connector		RCA female	General features	Mains voltage	Vac, Hz	220-240, 50-60
	Standard Video		PAL, SECAM, NTSC		LNB power supply	mA	Max. 200@14V
	Video format		16/9, letter box, pan scan, combined		Power consumption	W	11
					Dimensions	mm	35.5 (7e) x 133.3 (3U) x 240
	Video level	Vpp	1 typ.		Operating temperature	°C	-10 to +45

Headline Series

COFDM modulator

SIG7120

The SIG7120 modulates a signal (TS) received in the input from the back panel in COFDM DVB-T standard. The main application is DVB-S2 to COFDM transmodulation, when connected to an SIG7100 module.
On the front panel there is an additional F connector for output loop-through feature.

- Possibility to choose the desired COFDM modulation
- Output level adjustment
- High Definition (HD) compliant
- When connected to different receivers (SAT, COFDM, A/V, etc.), different types of transmodulation can be performed
- Programmable via FHM software

Item Codie			SIG7120 283950				
Transport stream input	Connectors		48 pins on the back panel	Output signal	Carrier		2K, 8K
	Types		Parallel		Modulation		QPSK, 16QAM, 64QAM
	Max. bit rate	Mbit/s	100		FEC		1/2, 2/3, 3/4, 5/6, 7/8
Output signal	Output connector		F female		Guard interval		1/4, 1/8,1/16, 1/32
	Output frequency	MHz	108-862		Spectrum		Normal/Inverted
	Frequency step	KHz	10	General features	Mains voltage	Vac, Hz	220-240, 50-60
	Max. output level	dBμV	85±2		Power consumption	W	10
	Level adjustment	dB	0-15 (step 1dB)		Dimensions	mm	35.5 (7e) x 133.3 (3U) x 240
	Loop-through loss	dB	<1.5		Operating temperature	°C	-10 to +45

High level headends

Headline Series

Analogue to MPEG-2 TS encoder

New

SIG7404

The SIG7404 module encodes 4 analogue inputs. It enables the audio/video signals to be available in the transport stream in an MPEG2 form, distributed on the ASI output.
In a typical application, it can be connected to the SIG7121 module (modulator)that, using TS flow, creates a COFDM multiplex. It can also be connected to an IP encoder SIG7720 creating many IP multicast streams.

- Supports 4 input AV signals with coding and multiplexing
- Standard video channel MPEG-2 coding

- Bit rate 1 - 15Mbps
- Formats supported are Full D1, Half D1, SIF, QSIF
- Supports PAL and NTSC

Item Code			SIG7404 287075				
Input	Video connectors		CVBS, S-Video	Coding	Audio		MPEG-1 Layer I, Layer II
	Video format		PAL, NTSC		Audio rate	Kbps	32, 64, 128, 192, 256, 384
	Audio connectors		Analogue balanced		Audio sampling rate	KHz	32, 44.1, 48
Output	Type		DVB-ASI	General features	Output connector		ASI
	Max. bit rate	Mbps	170		Video standard		PAL, NTSC
	Effective bit rate	Mbps	1-15		Video format		Full D1, Half D1, SIF, QSIF
	Connectors		BNC, 75 Ohm		Mains voltage	Hz	220-240V~, 50-60
	ASI mode		BYTE		Power consumption	W	30
Coding	Video standard		MPEG-1, MPEG-2 MP@ML(4:2:0)		Dimensions	mm	318 × 483 × 44
					Operating temperature	°C	-10 to +45
	Video bit rate	Mbps	2.5-15				

Headline Series

COFDM modulator with ASI input

New

SIG7121

The SIG7121 modulates a signal received in the ASI input to DVB-T standard (using COFDM modulation). The main application is for signals coming from an SIG7404 analogue to ASI 4 input converter. LCN embedded.

- COFDM modulator with ASI input on the front panel
- Remote configuration and monitoring (via controller host SIG7905 and FHM software)
- High Definition (HD) compliant
- MPEG2/MPEG4 compliant

Item Code			SIG7121 283953				
Output signal	Output connector		F female	Output signal	MER	dB	38
	Output frequency	MHz	108–862	ASI input	ASI connector		BNC, 75 Ohm
	Frequency step	KHz	10		Max. bit rate	Mbit/s	216
	Maximum output level	dBµV	85	Back panel TS input	Connector		48 pins on the back panel
	Level adjustment	dB	0-15		Type		Parallel
	Loop-through loss	dB	< 1.5		Maximum bit rate	Mbit/s	100
	Carrier		2K, 8K	General features	Mains voltage	Vac, Hz	220-240~, 50-60
	Modulation		QPSK, 16QAM, 64QAM		Power consumption	W	11
	FEC		1/2, 2/3, 3/4, 5/6, 7/8		Dimensions (rack version)	mm	35.5 (7e) × 133.3 (3U) × 240
	Guard interval		1/4, 1/8,1/16, 1/32		Operating temperature	°C	-10 to +45
	Spectrum		Normal/inverted				

Headline Series

QAM modulator with ASI input

New

SIG7111

The SIG7111 modulates a signal received from the ASI input to DVB-C standard (using QAM modulation). It can be used to modulate different analogue signals coming from the SIG7404 encoder or to modulate Transport Stream available on the back panel from digital receivers (SIG7100, SIG7540, etc).

- QAM modulator with ASI input on the front panel
- Remote configuration and monitoring (via controller host SIG7905 and FHM software)
- High Definition (HD) compliant
- MPEG2/MPEG4 compliant

Available from end of 2011

Item Code			SIG7111 283958
ASI input	ASI connector		BNC, 75 Ohm
	Max. bit rate	Mbit/s	216
TS input	Connector		48 pins on the back panel
	Type		Parallel
	Max. bit rate	Mbit/s	100
Output signal	Output connector		F female
	Output frequency	MHz	111-862
	Frequency step	KHz	10
	Maximum output level	dBμV	85 ± 3
	Level adjustment	dB	0-15
	Loop-through loss	dB	<1.5
	Modulation type		DVB-C
	Channel bandwidth		Depends on SR output settings
	Symbol rate	Ksymb	3000-6999
	Carrier modulation		16QAM, 32QAM, 64QAM, 128QAM, 256QAM (adjustable)
	FEC		Reed Solomon (204, 188)
	Spectrum		Normal, inverted (adj.)
	Operating mode		Normal, single carrier (adj.)
	MER	dB	>34
	Spurious rejection in the output range	dB	<50
General features	Mains voltage	Vac, Hz	220-240~, 50-60
	Power consumption	W	10
	Dimensions (rack version)	mm	35.5 (7e) x 133.3 (3U) x 240
	Operating temperature	°C	-5 to +45

High level headends

Headline Series

ASI IN to TS OUT converter

New

SIG7400

SIG7400 converts an ASI digital Transport Stream, available on BNC input connector, into digital Transport Stream available on 48 pin back-panel connector.
In a typical application, it is connected, through rack back-panel to one or more SIG7720 (IP encoder) or SIG7120 (COFDM modulator) modules that, using Transport Stream flow, create many IP multicasts streaming or many DTT multiplex.

- Ideal solution for ASI to IP conversion (with SIG7720) or for ASI to COFDM (with SIG7120)
- One ASI flow can be shared with many IP streamers (SIG7720) or COFDM modulators (SIG7120)
- High Definition (HD) compliant
- Input bit rate up to 216Mbps (ASI IN)
- Output bit rate up to 100Mbps (TS OUT)

Item Code			**SIG7400** 283956
Input	ASI connector		BNC, 75 Ohm
	Max. bit rate	Mbps	216
Output	Connector		48 pins on the back panel
	Max. bit rate	Mbps	100
General features	Mains voltage	Vac, Hz	220-240~, 50-60
	Power consumption	W	11
	Dimensions (rack version)	mm	133.3 (7e) x 35.5 (3U) x 240
	Operating temperature	°C	-10 to +45

Headline Series

TS IN to ASI OUT converter

New

SIG7401

SIG7401 converts a digital Transport Stream available on 48 pin back-panel connector into an ASI digital Transport Stream available on BNC output front connector.
In a typical application, it is connected, through the 48 pin back-panel, to a DVB-S/S2 receiver (SIG7100, SIG7330 or SIG7340 products) or to a DVB-T receiver (SIG7531 or SIG7540 products). It captures the TS traffic and converts it into ASI output format.

- Ideal solution for DVB-S/S2 to ASI conversion (with SIG7100) or for DVB-T to ASI conversion (with SIG7540)
- The ASI output can be connected to external professional devices like ASI remultiplexers or ASI encryptors
- High Definition (HD) compliant
- Output bit rate up to 216Mbps
- Input bit rate up to 100Mbps

Item Code			**SIG7401** 283957
Input	ASI connector		BNC, 75 Ohm
	Max. bit rate	Mbps	216
Output	Connector		48 pins on the back panel
	Max. bit rate	Mbps	100
General features	Mains voltage	Vac, Hz	220-240~, 50-60
	Power consumption	W	11
	Dimensions (rack version)	mm	133.3 (7e) x 35.5 (3U) x 240
	Operating temperature	°C	-10 to +45

Headline Series

Transmitters

SIG7600-HTX

Optical transmitter that converts an RF TV-SAT signal into an optical signal. The signals are transmitted at 1310nm with optical power of 13mW. This high powered signal can be split up to 16 times. Five different LEDs show you the module status - module on, laser on, over current, laser temperature and board temperature.

- High optical power
- High Definition (HD) compliant
- Very high S/N
- Programmable via FHM software
- Can be remotely controlled

Item		SIG7600-HTX
Code		270678
Optical wavelength	nm	1310
Optical output power	mW (dBm)	13 (11.1)
Optical return loss	dB	> 55
RF bandwidth	MHz	47-2150
Flatness TV (47-862MHz)	dB	±1
Flatness SAT (950-2150MHz)	dB	±2
Link flatness (47-2150MHz)	dB	±2.5
RF input level	dBµV	80-85 (opt. 85)
RF return loss	dB	>10
Input impedance	Ohm	75
RF connector		F female
Optical connector		SC/APC
Mains voltage	Vac, Hz	220-240, 50-60
Power consumption	W	4
Dimensions (rack version)	mm	35.5 (7e) x 133.3 (3U) x 240
Operating temperature	°C	-10 to +45

Headline Series

Optical splitters

SIG7622
SIG7624

Optical splitters that split the optical signal into two outputs (SIG7622) and four outputs (SIG7624).
The optical signal on all the outputs depends only on the typical insertion loss.

- Optimised insertion loss
- High Definition (HD) compliant
- Professional rack solution

Item		SIG7622	SIG7624
Code		270687	270688
Wave length	nm	1310, 1550	1310, 1550
No. of outputs		2	4
Insertion loss	dB	3.2	6.4
Return loss	dB	>50	>50
Isolation	dB	>50	>50
Connectors	Type	SC/APC	SC/APC
Dimensions (rack version)	mm	35.5 (7e) x 133.3 (3U) x 240	35.5 (7e) x 133.3 (3U) x 240
Operating temperature	°C	-10 to +45	-10 to +45

High level headends

Headline Series

IP encoders (FTA)

SIG7710
SIG7730

Encoders that work as a DVB-S (SIG7710) and DVB-T (SIG7730) to IP gateway.
Satellite and Digital Terrestrial Television signals are received on the F connector input, converted to IP standard signals and streamed through RJ45 output port into LAN.
From the user side, the programs and services can be viewed using an IP set top box (STB) on TV devices or using dedicated software on PC.

- Programs and services delivered as multicast or unicast streams
- Loop-through (active/passive) input allows easy management of the headend
- MPEG-2/MPEG-4 compliant
- Programmable via Web Interface or via FHM software

Item Code			SIG7710	SIG7730
			283945	283946
Input	Input frequency	MHz	950–2150	174–230, 470–862
	Input frequency step	MHz	1	-
	Min. frequency step	KHz	-	166.7
	AFC	MHz	±3	-
	2K	KHz	-	±285
	8K	KHz	-	±142
	Loop-through loss	dB	<1.5	<1.5
	Input level	dBµV	40–84	30–80
	Return loss	dB	10	-
	LNB power supply	V, KHz, mA	0/14/18, 0/22, 200	-
	DiSEqC		1.0	-
	Demodulation		ETS 300421	-
	Symbol rate	MSy/sec	2–35	-
	FEC		1/2, 2/3, 3/4, 5/6, 7/8, auto	-
Input signal	Carrier		-	2K, 8K
	Modulation		-	QPSK, 16QAM, 64QAM
	Hierarchy		-	High / low priority
	Timeguard		-	1/4, 1/8, 1/16, 1/32
	FEC		-	1/2, 2/3, 3/4, 5/6, 7/8, auto
	Demodulation		-	ETS300744
	Connectors	Type	F	
Output	LAN Interface		IEEE 802.3 100BaseT	
	Incapsulation		ETSI TS102034	
	Type of streaming		Multicast/Unicast	
	Web services		DVB Encapsulation, http, TELNET, FTP, SAP	
General features	Mains voltage	Vac, Hz	220-240~, 50-60	
	Consumption	W	11	4
	Dimensions (rack version)	mm	35.5 (7e) x 133.3 (3U) x 240	
	Operating temperature	°C	-10 to +45	

Headline Series

IP encoder from TS

SIG7720

Encoder that works from Transport Stream (TS) to IP gateway.
Signals are received on the back-panel, converted to IP standard signals and streamed through RJ45 output port into LAN.
Input signal can be received from either SIG7100 module (DVB-S2 to TS) or SIG7540 module (DVB-T).

- Programs and services are delivered as multicast or unicast streams
- Loop-through (active/passive) input allows easy management of the headend
- MPEG-2/MPEG-4 compliant
- Programmable via Web Interface or via FHM software

Item Codie			SIG7720 283947				
Input	Connector	Type	48 pins on the back panel	General features	Mains voltage	Vac, Hz	220-240, 50-60
	Max. bit rate	Mbit/s	100		Power consumption	W	8
Output	LAN interface		IEEE 802.3 100BaseT		Dimensions (rack version)	mm	35.5(7e) x 133.3 (3U) x 240
	Incapsulation		ETSI TS102034		Operating temperature	°C	-10 to +45
	Type of streaming		Multicast/Unicast				
	Web services		DVB Encapsulation, http, TELNET, FTP, SAP				

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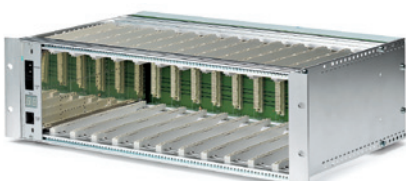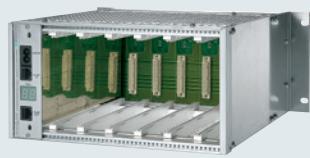
Interconnection module

SIG7900

Interconnection module to power and address the headline modules.
The interconnection module is installed in sub-rack SIG7901 or SIG7902.
Allows the distribution of mains voltage to power all modules installed in the same row.
It also distributes the data bus to address and control the modules.

Item		SIG7900
Code		283935
Mains voltage	Vac, Hz	220-240, 50-60, class II
Power consumption	W max.	2 (stand alone) 100 (with all the modules connected)
Back panel connections		Mains voltage, RS485, address line
Compliant		EN50083-1, EN50083-2, EN60065
Dimensions (rack version)	mm	35.5 (7e) x 133.3 (3U) x 240
Operating temperature	°C	-10 to +45

Headline Series

Accessories

Item	Code	Description	
SIG7901	283930	19" sub-rack to be installed in a 19" rack cabinet. Interconnection module SIG7900 included. SIG7901 is fully mounted, with all the accessories included in the packaging (mains cord, extracting tools, channel labels and module labels).	
SIG7902	283929	Sub-rack to be wall mounted. 6 modules plus one SIG7900 can be fitted. Interconnection module SIG7900 included. SIG7902 is fully mounted, with all the accessories included in the packaging (mains cord, extracting tools, channel labels and module labels).	
SIG7903	283928	Spacer kit to allow the 19" subrack SIG7901 to be mounted further back than the other equipment in the 19"rack cabinet.	
SIG7904	283927	Front plate, 3U 1 slot, to be used with SIG7901 and SIG7902 to cover empty bays.	

High level headends

Accessories

TPE

Programming unit with numeric keypad and graphic display. Enables the programming of all new modules in the K Series and Headline range and also the original K Series modules.

- Compatible with all K Series modules (emulates KTP for original modules)
- Compatible with all Headline modules
- USB drivers available for PC connection
- Language menu available: Italian, English, German, French, Spanish and Portuguese
- Max. addressable modules: 253
- Copy function available, to copy the settings from one device to another
- Adjustable contrast (31 steps)
- Display: LCD graphic backlit display, 16x4 characters
- 18 button keypad

Item	Code	Description	Packaging Pcs
TPE	282733	**Programming unit** Programming unit with numeric keypad and graphic display.	1

Item	Code	Description	
CV-RCA/HQ	289852	High quality A/V cable with 3 RCA connectors 27.5cm in length, 38.5cm in length with 3 connectors	

19" rack cabinets

The range includes two floor standing cabinets and one wall mounted cabinet, with accessories, to be used to install SMATV headends for K Series and Headline. The cabinets and accessories are available on request with a delivery time of 20 days from order. All the products are packaged individually. The height of the 19" rack is given in U, one U equals 44.45mm. The width is given in e, one e equals 5.08mm. One cabinet can contain 84e, equal to 42.6cm (the space needed to install the equipment with a width of 19" is 48.26cm). One inch equals 2.54cm.

Item	Code	Description	
RACK42U	289722	19" floor standing cabinet. Tempered glazed door. All side and rear cabinet panels can be disassembled for easy installation of equipment. The 19" uprights are adjustable according to the depth of the equipment to be installed. Two apertures for feeding cables into the unit at floor level or at the top where a ventilation kit can be fitted. The cabinets are supplied pre mounted. Dimensions mm (wxdxh): 600x400x1957 - Width: 84e - Max. depth : 320mm - Height: 42U	
RACK27U	289721	19" floor standing cabinet. Tempered glazed door. All side and rear cabinet panels can be disassembled for easy installation of equipment. The 19" uprights are adjustable according to the depth of the equipment to be installed. Two apertures for feeding cables into the unit at floor level or at the top where a ventilation kit can be fitted. The cabinets are supplied pre mounted. Dimensions mm (wxdxh): 600x400x1290 - Width: 84e - Max. depth: 320mm - Height: 27U	
RACK6U	289720	19" wall mounted cabinet. Tempered glazed door that can be rotated 180°. The 19" uprights are adjustable according to the depth of the equipment to be installed. Two apertures for power cables at floor level or at the top where a ventilation kit can be fitted. Dimensions mm (wxdxh): 550x320x310 - Width: 84e - Depth: 280mm - Height: 6U	

Headline Series
Rack accessories

Item	Code	Description	
RACK01	289708	Set of 50 M6 cage nuts and 50 screws.	
RACK02	289709	Set of 4 levelling feet	
RACK03	289710	Set of 4 wheels (two with brakes)	
RACK04	289711	1U cable inlet panel	
RACK05	289712	3U blank panel	
RACK06	289713	19" shelf - 250mm	
RACK07	289714	1U blank panel	
RACK08	289715	2U, 150mm recessed panel	
RACK09	289716	4U, 150mm recessed panel	
RACK10	289717	2 fan units with steel grid. Recommended for RACK27U	
RACK11	289718	3 fan units with steel grid and thermostat. Recommended for RACK42U	
RACK12	289719	Power duct with 5 universal sockets with magneto-thermal switch (4.5kA)	