

HEAD  LINE



FRACARRO

FRACARRO'S PROFESSIONAL SOLUTION FOR EVERY HEADEND APPLICATION

- COFDM modulators
- PAL modulators
- DVB-S, DVB-S2, DVB-T receivers
- IP encoders
- Fibre optic
- Controller host
- Subracks
- Accessories

Headline is the new professional range for television signal distribution in: >> Large residential dwellings >> Hospitality
>> Holiday villages >> Prestigious installations (airports, embassies, agencies, etc.)

>> KEY POINTS

- Professional installations —>> 19" rack mounting
- Flexibility —>> Easy integration of different modules
- System reliability —>> Modules powered by their own power supply unit
- Constant operation of the installation —>> Hot insertion
- Remote control —>> Controller host unit to get access to the headend via PC, Ethernet or GSM
- Compact size —>> Maximises the number of modules contained in one 19" rack

A complete range of products to receive and distribute television signals in large networks. Advanced technology makes the Headline range powerful and highly innovative.



HIGHLY PROFESSIONAL

The new modular Headline range has been designed for installation in a 19" rack cabinet. High performances are required on each product in this range.

INNOVATIVE

Different technological solutions (analogue and digital modulators, IP encoders, fibre optic modules) make Headline highly innovative

FLEXIBLE

The Headline range is extremely flexible to install as different types of modules can be integrated easily.



VERY EFFICIENT

To guarantee the constant operation of the installation (even if a few modules are temporarily unavailable), each device is equipped with its own power supply. Therefore, no need for power supply redundancy. Moreover, the hot insertion of modules means they can be installed or replaced while the whole system continues to operate.

COMPACT SIZE

Compact devices - height 13cm (3U), width 3.5cm (7e) - allows large numbers of modules to be installed. 11 units can be fitted in one row and up to 95 modules can be fitted in a cabinet.

EASY INSTALLATION

Premounted 19" subrack to install the modules in a 19" rack cabinet with interconnection module included, enables the installer to easily fit the racks in the cabinet and to add new headline modules.

EASY MAINTENANCE WITH REMOTE CONTROL

Thanks to a controller host unit, all modules can be remotely controlled and monitored via PC, Ethernet or GSM

Headline Solutions



	in \ out	A/V	PAL	COFDM*	IP*	TS*
SAT	DVB-S*	SIG7310/30	SIG7321/30 + SIG728X	SIG7330 + SIG7120	SIG7710	SIG7330
	DVB-S_CI*	SIG7320/40	SIG7320/40 + SIG728X	SIG7340 + SIG7120	SIG7340 + SIG7720	SIG7340
	DVB-S2_CI*	SIG7100	SIG7100 + SIG728X	SIG7100 + SIG7120	SIG7100 + SIG7720	SIG7100
DDT	DVB-T*	SIG7530/31	SIG7530/31 + SIG728X	SIG7531 + SIG7120	SIG7730	SIG7531
	DVB-T_CI*	SIG7540	SIG7540 + SIG728X	SIG7540 + SIG7120	SIG7540 + SIG7720	SIG7540
Analogue	A/V	-	SIG7281 SIG7282 SIG7282S	SIG7404 + SIG7121	SIG7404 + SIG7121	SIG7404
Professional	ASI*	-	-	SIG7121	SIG7721	-
	TS*	-	-	SIG7120	SIG7720	-

* MPEG2/MPEG4 compliant

>> SIG7120 (code 283950)

Modulator TS → COFDM

The SIG7120 modulates to DVB-T standard (using COFDM modulation) a signal received from the transport stream on the back panel. It is mainly used with signals coming from the digital receiver SIG7100. Up to 3 modulators can be used with one receiver and are connected through the back panel.

On the front panel there are F connectors for mixing in signals and COFDM. LCN embedded and MPEG4 compliant.



TECHNICAL DATA



Item		
SIG7120		
Transport Stream input	Connector	48 poles on the back-panel
	Type	Parallel
	Maximum bitrate	100Mbit/s
Output signal	Output connector	F female
	Output frequency	108-862MHz
	Frequency step	10KHz
	Maximum output level	85dBμV
	Level adjustment	0-15dB
	Loop-through loss	< 1.5dB
	Carrier	2K, 8K
	Modulation	QPSK, 16QAM, 64QAM
	FEC	1/2, 2/3, 3/4, 5/6, 7/8
	Guard interval	1/4, 1/8, 1/16, 1/32
General features	Spectrum	Normal/Inverted
	MER	38dB
	Mains voltage	220-240V~, 50-60Hz
	Power consumption	11W
	Dimensions (rack version)	35.5 (7e) × 133.3 (3U) × 240mm
	Operating temperature	-10 to +45°C

KEY POINTS

- Modulator with TS input on the back panel
- LCN embedded
- Remote configuration and monitoring (via controller host SIG7905 and FHM software).
- F connector for mixing in signals and COFDM signals
- HD compliant
- Modular solution (up to 3 modules can share the same TS Input)
- MPEG2/MPEG4 compliant

>> SIG7282

(code 283943)

Audio Video Modulators

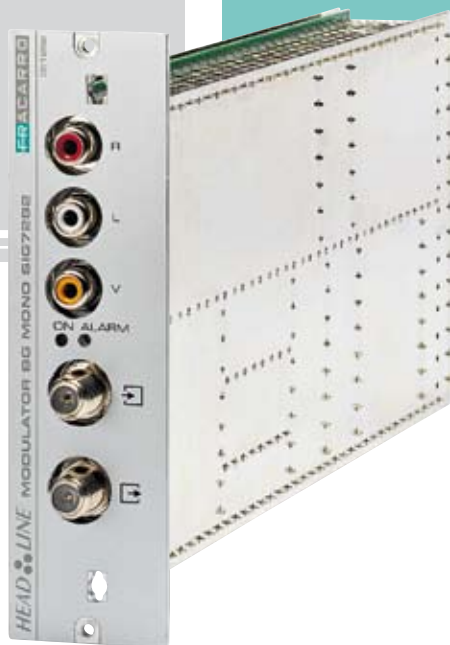
>> SIG7282S

(code 283944)

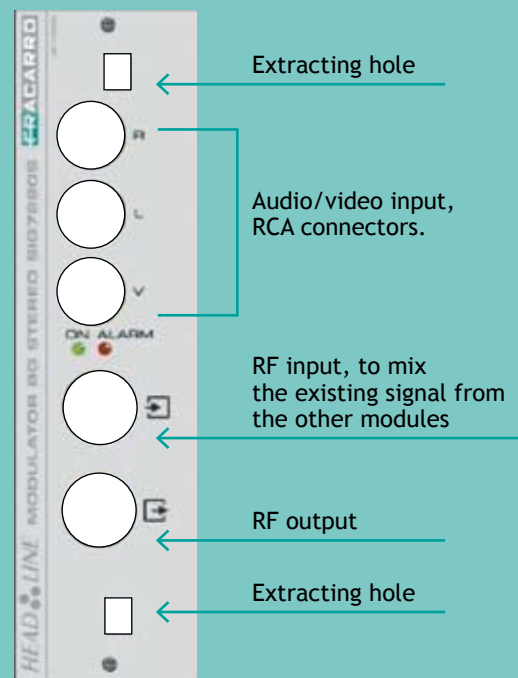
>> SIG7281

(code 283933)

Audio video modulators. Double conversion, double saw filter and tracking filter built in. One module covers the whole 47-862MHz band, very high C/N ratio to allow the distribution of more than 95 channels. Available in PAL B/G mono (SIG7282), PAL B/G stereo (SIG7282S) and multistandard (SIG7281).



FRONT PANEL



KEY POINTS

- Fully agile VSB modulators with double conversion, saw filter and tracking filter built in, to distribute more than 95 channels in one headend. One module covers the whole 47-862MHz band simplifying the installation and maintenance of the system
- Audio carrier level adjustment
- Very high C/N in any output setting condition (80-95dBuV)
- High output level, 95dBuV
- RCA (cinch) connectors for audio and video input/output, F connectors for RF input/output
- Modulators are available in PAL B/G mono, PAL B/G stereo and multistandard
- Cable and accessories included in the packaging
- Remote configuration and monitoring

Accessories included in the packaging:

- KPR41 solid bridge used to mix the signal
- CV-RCA/HQ high quality RCA cable

>> SIG7282 (code 283943)
>> SIG7282S (code 283944)
>> SIG7281 (code 283933)
Audio Video Modulators

TRACKING FILTER FUNCTIONALITY

»TARGET:
to cut
the noise
in the band



TECHNICAL DATA

	Item		
	SIG7282	SIG7282S	SIG7281
Video signal input	75 Ohm 0.7-1.4Vpp		
Left and right audio input	10KOhm 0.5-3.5Vpp		
Standard	PAL B/G mono	B/G Stereo A2	D/K, I, L, N, H
Audio carrier frequency B/G standard mono or left carrier right carrier	5.50MHz -	5.50MHz 5.74MHz	- -
Standard H	-	-	5.50MHz
Standard L D/K	-	-	6.50MHz
Standard I	-	-	6.00MHz
Standard N	-	-	4.50MHz
Video/audio power carrier ratio			
Standard N	-	-	10dB
Standard H	-	-	14dB
Standard I	-	-	14dB
Standard D/K	-	-	13dB
Standard L	-	-	8dB
Standard B/G:	Mono (5.5MHz) Stereo (5.742MHz)	13dB 20dB	- -
Modulation with audio input 1kHz, 0.5Vrms	B/G N (FM) H I, D/K (FM) L (AM)	45KHz - - - -	49KHz 42KHz 44KHz >47KHz 80%
	Item		
	SIG7282	SIG7282S	SIG7281
Output frequency (channels)	47-862MHz (E2-E69)		
Output level	95dBuV+/-2dB		
Level adjustment	15dB by 1dB steps		
Loop-through attenuation	<1.5dB @ 860MHz		
Return loss	>10dB		
C/N in the channel N ±3	>66dB		
C/N ±40MHz	>70dB		
S/N in the channel	50dB		
S/N with 80 channels	48dB		
Spurious rejection	>60dB		
Mains	220-240Vac, 50-60Hz		
Consumption	8W		
Operating temperature	-10 to +45° C		
Dimensions (rack version)	35.5 (7e) x 133.3 (3U) x 240mm		
EMC	EN50083-2, EN60065		

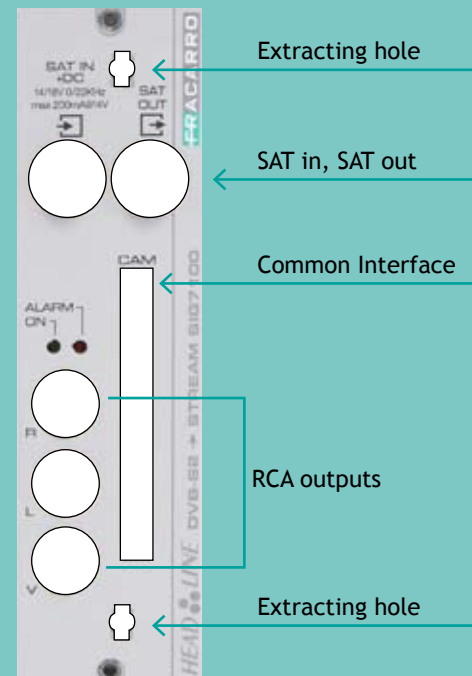
>> SIG7100 (code 283949)

Receiver DVB-S/S2 → TS

The SIG7100 module, using its Common Interface slot, distributes a free-to-air or encrypted digital signal from satellite in DVB-S1 or DVB-S2 standard. It enables the audio/video signal to be available in a transport stream form distributed on the back-panel. In a typical application, it can be connected to an SIG7120 module (modulator) that, using the transport stream flow, creates a COFDM multiplex. It can also be connected to an IP Encoder SIG7720 creating more IP multicast streaming.



FRONT PANEL



KEY POINTS

- CI slot available to decode the encrypted programs. Compatible with more than 150 existing CAM
- Guaranteed compatibility with future CAM's by software update
- It can generate 14 or 18V, 22KHz tone and DiSEqC 1.0, suitable to feed LNB or to control multiswitch output
- Loop-through input for the connection of several receivers on the same SAT polarity
- Programmable via FHM software
- MPEG2/MPEG4 compliant

>> **SIG7100** (code 283949)
Receiver DVB-S/S2 → TS

TECHNICAL DATA

Item		
SIG7100		
SAT input	Frequency input	950-2150MHz
	Input level	48-85dBμV
	Input frequency step	1MHz
	Loop-through insertion loss	2dB
	AFC	+5MHz
	Symbol rate for DVB-S	2-40MSy/s
	Symbol rate for DVB-S2	2-30MSy/s
	DiSEqC	1.0 4 position 0/14/18V 0/22KHz
Common Interface	Connector	PCMCIA
	Standard	EN50221, TS101699
Audio/video output	Output connector	RCA Female
	Standard Video	PAL, SECAM, NTSC
	Video format	16/9, Letter Box, Pan & Scan
	Video level	1Vpp typical
	Audio format	Mono, Mono lang.
	Audio level	550mV rms max.
	SINAD	45dB
	Video decoder	MPEG-2 ML@MP
TS output	Audio decoder	MPEG-2 Layer I and II
	Connector	48 pin on the back-panel
General features	Type	Parallel
	Mains voltage	220-240V~, 50-60Hz
	Power consumption	11W
	Dimensions (rack version)	35.5 (7e) × 133.3 (3U) × 240mm
Operating temperature		-10 to +45 °C

>> SIG7320

(code 283940)

>> SIG7340

(code 283955)

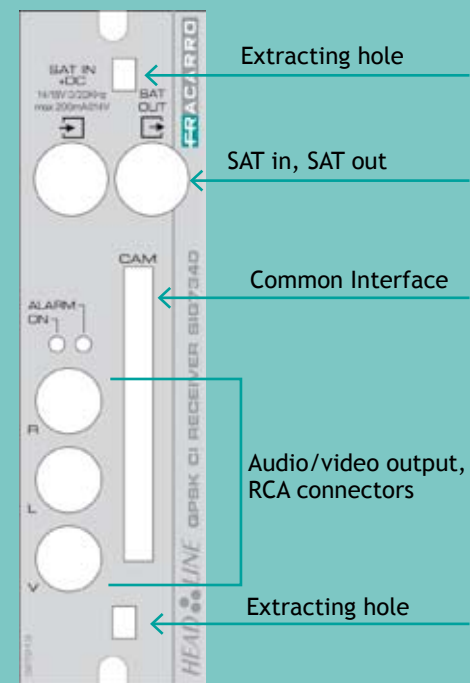
QPSK receivers with CI

QPSK receivers with Common Interface slot to receive free-to-air or encrypted digital satellite programs available on audio/video outputs (RCA cinch connectors) or on Transport Stream (SIG7340).

Loop-through output for the connection of several receivers at the same SAT polarity.



FRONT PANEL



KEY POINTS

- CI slot available to decode the encrypted programs. Compatible with more than 150 existing CAM
- Guaranteed compatibility with future CAM's by software update
- It can generate 14 or 18V, 22KHz tone and DiSEqC 1.0, suitable to feed LNB or to control multiswitch output
- Loop-through input for the connection of several receivers on the same SAT polarity
- Programmable via FHM software
- HD compliant
- RCA outputs
- MPEG2/MPEG4 compliant

>> SIG7320 (code 283940)

>> SIG7340 (code 283955)

QPSK receivers with CI

TECHNICAL DATA



		Item	
		SIG7320	SIG7340
SAT input (QPSK)	Input frequency	950-2150MHz	
	Input level	30-85dB μ V	48-85dB μ V
	Input frequency step	1MHz	
	Loop-through insertion loss	2dB	
	DiSEqC	1.0 4 position - 0/14/18V 0/22KHz	
	AFC	$\pm$ 3MHz	$\pm$ 5MHz
	Symbol rate	2-40 MS/s	
Common interface	Connector	PCMCIA	
	Standard	EN50221, TS101699	
Audio/video outputs	Output connector	RCA Female	
	Colour standard	PAL, SECAM, NTSC	
	Video format	16/9, letter box, pan scan	16/9, letter box, pan scan, combined, 16/9
	Output video level	1Vpp@75 Ω	1Vpp typical
	S/N not weighted	>65dB	
	Audio format	Mono/Mono Language 1/ Mono Language 2/Stereo	
	Max. audio level	550mV rms	
	SINAD	-	45dB
	Video decoder	MPEG-2 ML@MP	
	Audio decoder	MPEG-2 Layer I and II	
Transport Stream output	Connector	-	48 pin on the back-panel
	Type	-	Parallel
General features	Mains voltage ~	220-240Vac, 50-60Hz	
	LNB power supply	max. 200mA@14V	-
	Power consumption	11W	
	Compliant	EN50083-2, EN60065	
	Dimensions (rack version)	35.5 (7e) x 133.3 (3U) x 240mm	
	Operating temperature	-10 to +45°C	

>> SIG7310

(code 283938)

>> SIG7330

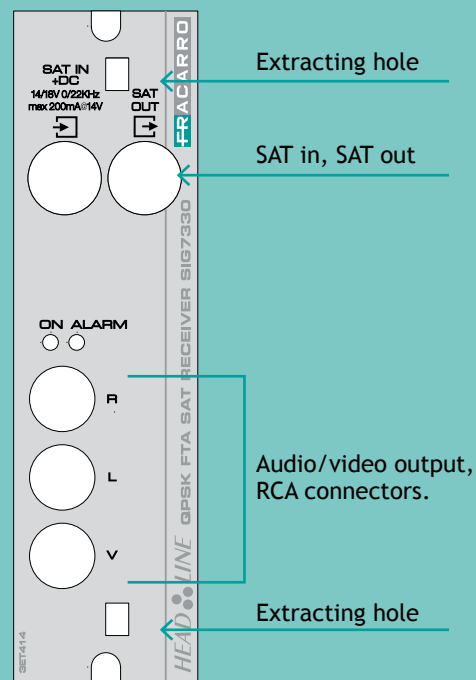
(code 283954)

QPSK free-to-air receivers

QPSK receivers with audio/video outputs on RCA (cinch) connectors or on Transport Stream (SIG7330) to receive free-to-air digital satellite programs. One input and one loop-through output to connect several receivers on the same SAT polarity.



FRONT PANEL



KEY POINTS

- It can generate 14 or 18V, 22KHz tone and DiSEqC 1.0, suitable to feed LNB or to control multiswitch output
- Loop-through input for the connection of several receivers on the same SAT polarity
- Programmable via FHM software
- HD compliant
- RCA outputs
- MPEG2/MPEG4 compliant

Accessories included in the packaging:

- KPR41 solid bridge used to loop-through the input satellite signal

>> SIG7310 (code 283938)

>> SIG7330 (code 283954)

QPSK free-to-air receivers

TECHNICAL DATA



		Item	
		SIG7310	SIG7330
QPSK input	Input frequency	950-2150MHz	
	Input level	43-84dB μ V	48-85dB μ V
	Input frequency step	1MHz	
	Loop-through loss	+4 to -6dB	2dB
	AFC	$\pm$ 3MHz	$\pm$ 5MHz
	Symbol rate	1-40Ms/s	2-40Ms/s
	LNB power supply	0/14/18V, 0/22KHz, max. 200mA@14V	
	DiSEqC	1.0 4 positions	-
	Demodulation	ETS 300421	-
	Video decoder	ISO-IEC 13818-1	-
	Mpeg2	Main level @ Main profile	-
	Video bit rate	1.5-15Mbit/s	-
Audio/Video output	Colour system	PAL, SECAM, NTSC	
	Output connector	-	RCA Female
	Video type	Composite	-
	Video format	Normal, letter box, pan scan	16/9, letter box, pan scan, combined, 16/9
	Output video level	1Vpp - 75 Ω on RCA connector	
	S/N weighted	>65dB	45dB
	Video decoder	-	MPEG-2 ML@MP
	Audio format	Mono/Stereo/Dual sound	Mono, Mono lang 1, Mono lang 2, Stereo
	Max. audio level	600mV rms	550mV rms
	Audio decoder	MPEG-2 Layer I and II	
Transport stream output	Connector	-	48 pin on the back-panel
	Type	-	Parallel
General features	Mains	220-240Vac, 50/60Hz	
	Compliant	EN60065: 2004-06, EN50083-2: 2002-05	
	Consumption	10W	11W
	Dimensions (rack version)	35.5 (7e) x 133.3 (3U) x 240mm	
	Operating temperature	-10 to +45°C	

>> SIG7530

(code 283937)

COFDM receivers

>> SIG7531

(code 283952)

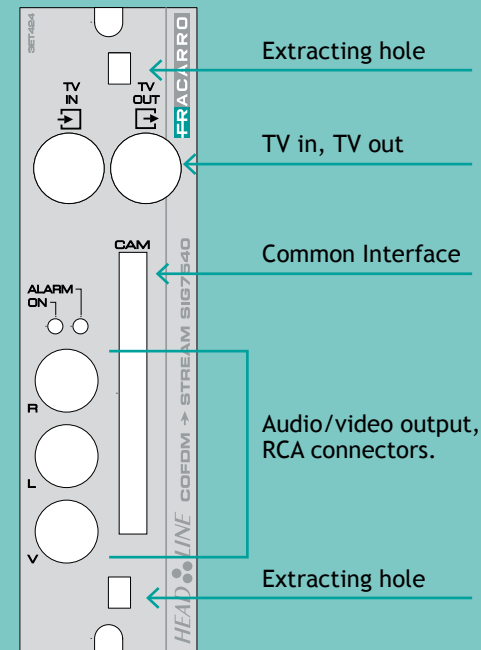
>> SIG7540

(code 283951)

COFDM receivers with audio/video outputs on RCA (cinch) connectors or on Transport Stream to receiver free-to-air (SIG7530, SIG7531) and encrypted (SIG7540) digital terrestrial programs. One input and one loop-through output to connect several receivers to the same antenna.



FRONT PANEL



KEY POINTS

- Software download possible on the installation site
- Loop-through input for the connection of several receivers
- HD compliant
- RCA outputs for testing or the distribution of one MPEG2 compressed program
- MPEG2/MPEG4 compliant

>> SIG7530 (code 283937)
>> SIG7531 (code 283952)
>> SIG7540 (code 283951)
COFDM receivers

TECHNICAL DATA

		Item		
		SIG7530	SIG7531	SIG7540
COFDM input	Input frequency	174-230MHz + 470-862MHz		
	Input level	35-80dBµV	30-80dBµV	
	Bandwidth	7MHz - 8MHz		
	Loop-through bandwidth	47-862MHz		
	Input frequency step	167KHz		
	AFC	±285KHz (2K) / ±142KHz (8K)		
	Loop-through loss	-2 to 3dB	1dB	
	Number of carriers	2K, 8K		
	Symbol rate	2-30Ms/s		
	Modulation	QPSK, 16QAM, 64QAM		
	Hierarchy	High priority - Low priority		
	Guard interval	¼, 1/8, 1/16, 1/32		
	FEC	½, 2/3, ¾, 5/6, 7/8, auto		
Demodulation	ETS 300744			
Mpeg2	Main level @ Main profile			
Common interface	Connector	-	-	PCMCIA
	Standard	-	-	EN50221, TS10169
Video output	Output connector	RCA female		
	Colour system	PAL, SECAM, NTSC		
	Video format	Normal, letter box, pan scan, wide	16/9, letter box, pan scan, combined, 16/9	
	Output video level	1Vpp - 75Ω on RCA connector		
	S/N unweighted	>65dB	45dB	
	Video Decoder	MPEG-2 ML@MP		
Audio output	Audio format	Mono/Stereo/Dual sound	Mono, Mono lang 1, Mono lang 2, Stereo	
	Max. audio level	600mV rms	550mV rms	
	Audio Decoder	-	MPEG-2 Layer I and II	
Transport Stream output	Connector	-	48 pin on the back-panel	
	Type	-	Parallel	
General features	Mains voltage	220-240Vac, 50-60Hz		
	Compliant	EN60065: 2004-06, EN50083-2: 2002-05		
	Consumption	5W	11W	
	Dimensions (rack version)	35.5 (7e) × 133.3 (3U) × 240mm		
	Operating temperature	-10 to +45 °C		

>> SIG7404 (code 287075)

Analogue → MPEG-2 TS Encoder

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 transport stream flow, creates a COFDM multiplex. It can be also connected to an IP encoder SIG7721 creating many IP multicast streams.

It supports PAL and NTSC standards

TECHNICAL DATA



Item

SIG7404

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

KEY POINTS

- Supports 4 input AV signals with coding and multiplexing
- Ideal solution for AV to COFDM conversion (with SIG7121) and AV to IP conversion (with SIG7721)
- Standard video channel MPEG-2 coding
- Bit rate 1 - 15Mbps
- Formats supported are Full D1, Half D1, SIF, QSIF
- Supports PAL and NTSC

>> SIG7121 (code 283953)

COFDM modulator with ASI input

The SIG7121 modulates to DVB-T standard (using COFDM modulation) a signal received in the ASI input. It is mainly used with signals coming from an SIG7404 analogue to ASI 4 IN converter. Additional COFDM modulator can use the same ASI input through back panel connection. LCN embedded.



TECHNICAL DATA

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

KEY POINTS

- COFDM modulator with ASI input on the front panel
- LCN embedded
- Up to 3 additional COFDM modulators (SIG7120) can share the same ASI/TS input
- Remote configuration and monitoring (via controller host SIG7905 and FHM software)
- HD compliant
- F connector for mixing in signals and an RF output for modulated signals
- MPEG2/MPEG4 compliant

>> SIG7710

(code 283945)

IP encoders

>> SIG7730

(code 283946)

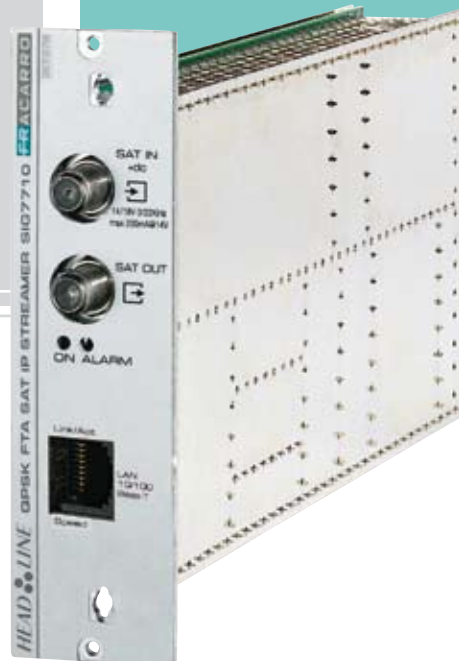
>> SIG7720

(code 283947)

Encoders that work as a DVB-S (SIG7710) and as a 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. SIG7720 is an encoder that works from Transport Stream (TS) to IP gateway. Input signals can be received from either an SIG7100 module (DVB-S2 to TS) or an SIG7540 module (DVB-T).



FRONT PANEL



Extracting hole

RF in

RF out

Ethernet out

Extracting hole

KEY POINTS

- Programs and services delivered as multicast
- Bandwidth optimisation, streaming the modules only upon customers' request
- Very easy and user-friendly system set-up
- Remote control and monitoring
- HD compliant
- MPEG2/MPEG4 compliant

>> SIG7710 (code 283945)

>> SIG7730 (code 283946)

>> SIG7720 (code 283947)

IP encoders

TECHNICAL DATA

		Item			
		SIG7710	SIG7730	SIG7100 + SIG7720	SIG7540 + SIG7720
Input	Input frequency	950-2150MHz	174-230MHz, 470-862MHz	950-2150MHz	174-230MHz, 470-862MHz
	Input frequency step	1MHz	166.7KHz	1MHz	166.7KHz
	AFC	±3MHz		±5MHz	-
	2K		±285KHz	-	±285KHz
	8K		±142KHz	-	±142KHz
	Loop-through loss	<1.5dB	<1.5dB	<2dB	<1dB
	Input level	40-84dBμV	0-80dBμV	48-85dBμV	30-80dBμV
	Return loss	10dB		-	-
	LNB power supply	0/14/18V, 0/22KHz, 200V@14V	-	14/18V, 0/22KHz, 200V@14V	-
	DiSEqC	1.0	-	1.0	-
	Demodulation	ETS 300421	ETS 300744	ETS 300421	ETS 300744
	Symbol rate	2-35 MS/s		2-40MS/s	2-30Ms/s
	FEC	1/2, 2/3, 3/4, 5/6, 7/8, auto		1/2, 2/3, 3/4, 5/6, 7/8, auto	1/2, 2/3, 3/4, 5/6, 7/8, auto
	Carrier		2K, 8K	-	2K, 8K
	Modulation		QPSK, 16QAM, 64QAM	-	QPSK, 16QAM, 64QAM
Hierarchy		High / low priority	-	High / low priority	
Timeguard		1/4, 1/8,1/16, 1/32	-	1/4, 1/8,1/16, 1/32	
Common Interface	Connector	-	-	PCMCIA	
	Standard	-	-	EN50221, TS101699	
Output	Connectors	RJ 45 Ethernet LAN IEEE 802.3 100 base T			
	Encoding standard	ETSI TS102034			
	Type of streaming	Multicast/Unicast			
	LAN interface	IEEE 802.3 100BaseT			
	Encoding	ETSI TS102034			
General features	Web services	DVB Encapsulation, http, TELNET, FTP, SAP			
	Power supply	220-240Vac, 50-60Hz			
	Consumption	11W	4W	8W	
	Dimensions (rack version)	35.5 (7e) x 133.3 (3U) x 240mm			
	Operating temperature	-10 to +45°C			

* Technical specifications written in light grey refer to SIG7100 and SIG7540 items

>> SIG7600 - HTX (code 270678)

HTX Optical transmitter

Optical transmitter that converts an RF TV-SAT frequency band into an optical signal.

TECHNICAL DATA

Optical wavelength	1,100-1,600nm
Optical output power	1,310mw (dBm)
Optical return loss	>55dB
RF bandwidth	47-2150MHz
Flatness TV (47-862)	±1dB
Flatness SAT (950-2150)	±2dB
Link flatness* (47-2150)	±2.5dB
RF Input level**	80-85dBμV (opt. 85)
RF Return loss	>10dB
SNR	see table
Input impedance	75 Ohm
RF Connector	F female
Optical connector	SC/APC single mode
Operating voltage	220-240Vac, 50-60Hz
Power consumption	4W
Operating temperature	-10 to +45°C
Dimensions (rack version)	35.5 (7e) x 133.3 (3U) x 240mm
Mounting***	Rack 3u

* link made with HTX-KRX

** 42 channels, regulation EN50083-3, CTB > 60dB, CSO > 60dB

*** mandatory to use subrack code no. 283930

SIGNAL TO NOISE RATIO

KRX

Output level
per channel (dBμV)

Optical attenuation (dB)

					68	70
106					68	70
102				64	66	68
98			60	62	64	66
94		56	58	60	62	63
90	52	54	56	58	59	60
86	50	52	54	55	56	57
82	48	50	51	52	53	53
78	46	47	48	49	49	
74	43	44	45	45		
70	40	41	41			
	77	81	85	89	93	97
		110 CH Max	42 CH Max	15 CH Max	5 CH Max	2 CH Max

HTX
Input level
per channel
(dBμV)

Number of channels	2	4	6	8	10	15	20	30	42	56	77	110
Max. level per channel (dBμV)	97	94	92	91	90	89	88	86	85	84	83	81

>> SIG7622

(code 270687)

Optical splitters

>> SIG7624

(code 270688)

Optical splitters split the optical signal into two outputs (SIG7622) or into four outputs (SIG7624)



TECHNICAL DATA



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

>> **SIG7905** (code 283941)
Controller Host

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. Firmware can also be upgraded (both for SIG7905 and for the other modules) by using USB memory stick. For monitoring and remote configuration of all Headline modules.



TECHNICAL DATA

Item	
SIG7905	
Mass memory	SD slot (SD card not supplied)
Connection to external peripheral units	RS-232 serial port
Connection to the Ethernet network	Ethernet RJ-45
Connection to pen drive	USB 1 (200mA), USB2 (400mA)
Digital video input	RJ-45 10-pole connector
Front key to change status (temporary suspension of the Controller Host - Master/Slave activities)	Key to change status
Mains	220-240Vac, 50-60Hz
Consumption	4W
Dimensions (rack version)	35.5 (7e) x 133.3 (3U) x 240mm
Operating temperature	-10 to +45°C
Compliant to	EN50083-2, EN60065

>> Fracarro Headend Management (code 289888)

Programming software for Fracarro headends

This software allows full management of K Series, SAF, SIG9708CI and Headline headends. Fracarro Headend Management (FHM) enables all configuration parameters to be changed both locally and remotely by using Controller Host SIG7905.



KEY POINTS

- For remote configuration and monitoring
- Using FHM with the controller host SIG7905 critical parameters of connected modules can be viewed both locally and remotely
- For user defined parameters, an upper and lower alarm limit can be set

>> SIG7901 (code 283930)

19" Sub-rack

19" sub-rack to be installed in a 19" rack cabinet. Interconnection module SIG7900 included. 11 modules can be fitted.

SIG7901 is fully mounted, with all the accessories included in the packaging.



TECHNICAL DATA

DIMENSIONS SIG7901

Length 48.3cm

Height 13.3cm

Depth 28.8cm

SLOTS AVAILABLE

12 (one SIG7900 + eleven other modules)

TECHNICAL DATA FOR INTERCONNECTION MODULE SIG7900

Mains 220-240Vac, 50/60Hz, class II

Consumption 2W max. (standalone)

100W max. (with all the modules connected)

Back panel connections 220Vac, RS485, address line

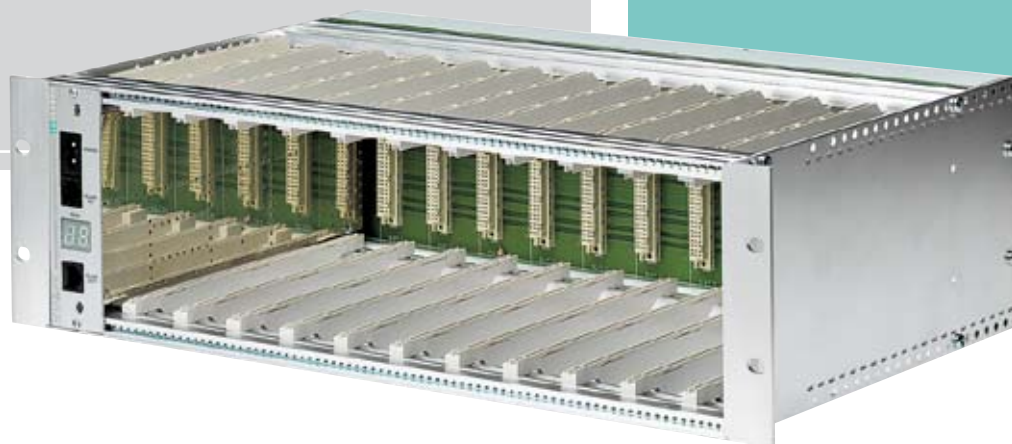
Dimensions (rack version) 35.5 (7e) x 133.3 (3U) x 240mm

Operating temperature -10 to +45°C

Compliant to EN50083-1, EN50083-2, EN60065

Accessories included in the packaging:

- Mains cord
- Extracting tools, to extract the module from the sub-rack
- Channel and module labels
- Interconnection module SIG7900



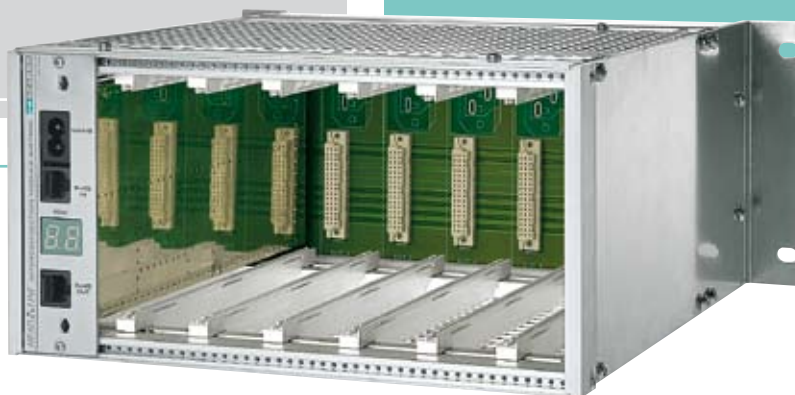
>> SIG7902 (code 283939)

Wall mount for 6 modules

19" sub-rack to be installed on a wall. Interconnection module SIG7900 included. 6 modules can be fitted. SIG7902 is fully mounted, with all the accessories included in the packaging.



TECHNICAL DATA



DIMENSIONS SIG7902

Length 31.4cm

Height 13.3cm

Depth 29.8cm

SLOTS AVAILABLE

7 (one SIG7900 + six other modules)

TECHNICAL DATA FOR INTERCONNECTION MODULE SIG7900

Mains 220-240Vac, 50/60Hz, class II

Consumption 2W max. (standalone)

100W max. (with all the modules connected)

Back panel connections 220Vac, RS485, address line

Dimensions (rack version) 35.5 (7e) x 133.3 (3U) x 240mm

Operating temperature -10 to +45°C

Compliant to EN50083-1, EN50083-2, EN60065

Accessories included in the packaging:

- Mains cord
- Extracting tools, to extract the module from the sub-rack
- Channel and module labels
- Interconnection module SIG7900

>> Accessories

>> SIG7900 (code 283935) Interconnection module

Interconnection module to power and address the Headline modules, installed in the SIG7901 and SIG7902 sub-rack. Allows the distribution of mains voltage to power all the modules installed in the same row.

Moreover, it distributes the data bus to address and control the modules. Available in single packaging.



TECHNICAL DATA

Mains

220-240Vac, 50/60Hz, class II

Consumption

2W max (stand alone)

100W max (with all the modules connected)

Operating temperature

-10 to +45°C

Back panel connections

220Vac, RS485, address line

Dimensions

35.5 (7e) x 133.3 (3U) x 240mm

Compliant to

EN50083-1, EN50083-2, EN60065

FRONT PANEL



Extracting hole

Mains socket

RJ45 input socket, to connect the module to the previous SIG7900 in the headend

Display to show the line number to get access to the modules in the row

RJ45 output socket, to connect the module to the following SIG7900 in the headend

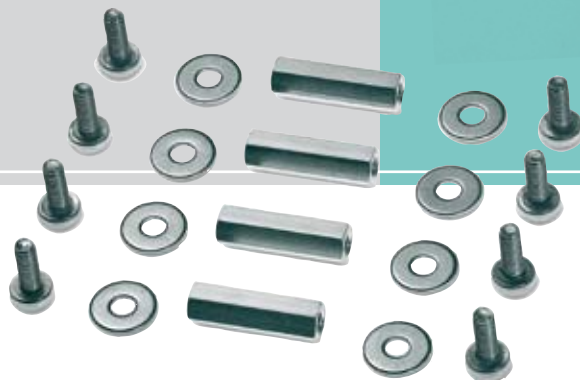
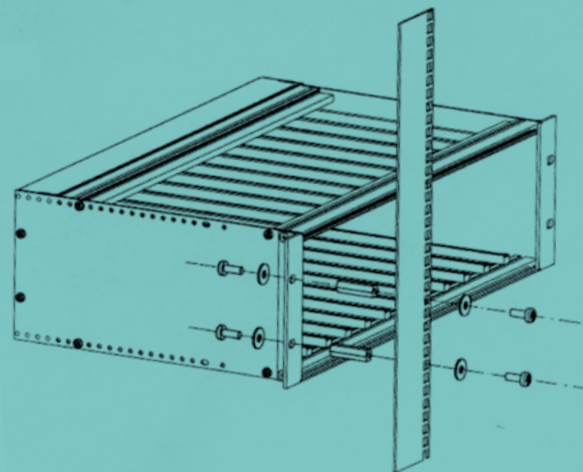
Extracting hole

>> Accessories

>> SIG7903 (code 283928)

Spacer kit

Spacer kit to allow the 19" subrack SIG7901 to be mounted further back than the other equipment in the 19" rack cabinet.



>> SIG7904 (code 283927)

Front plate

Front plate to be used with SIG7901 and SIG7902 to cover empty slots.

Height = 3U
Width = 7e

Packaging = 5 pieces
Screws included in the bag



>> Accessories

>> TPE (code 282733)

Programming unit for K series
and Headline series



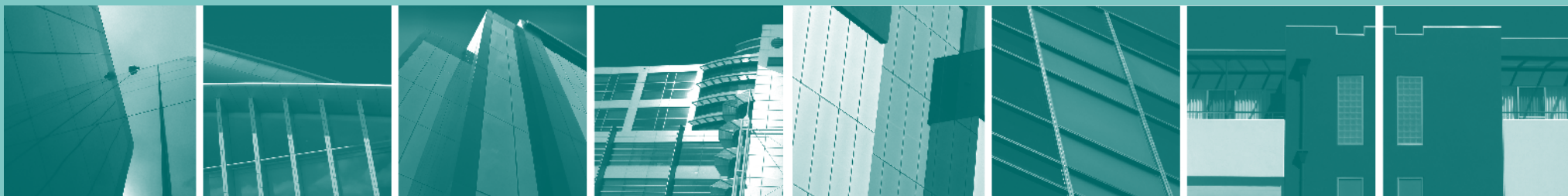
Programming unit with numeric
keypad and graphic display.
Enables the programming
of all modules in the Headline range.

TECHNICAL DATA

Power supply	5V (RJ45 connector, pin 1)
Consumption	600mW
Operating temperature	-10 to +45°C
Connection	RJ45, USB type B
Display	LCD graphic backlit display, 16x4 characters
Keypad	18 buttons
Interface	RS485 (RJ45 pin2=A, pin3=B)
	UART (RJ45 pin5=RX, pin6=TX)
	USB

Features

- Compatible with all K-series modules (emulates the KTP for original modules)
- Compatible with all headline modules
- USB drivers available for PC connection
- USB rate: from 9,600 to 115,200bit/s
- RS485 rate: from 9,600 to 115,200bit/s
- UART rate: from 9,600 to 115,200bit/s. TTL level (0-5V)
- Menu language 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)



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FRACARRO



Also for Headline headends, Fracarro has extended its warranty to 4 years.
For further information visit our website www.fracarro.com