

# Mast equipment

## Combiners - Attenuators

### Mast combiners with F connectors

2 or 3 input combiners with F connectors, can be used as a demixer using the output connector as an input (mix). Impedance 75 Ohm. Adjustable plastic strap for mast mounting Ø 60mm max. Compatible with DTT signals in COFDM modulation. Operating temperature: -10 to 55°C.

- Totally shielded metal frame



Dimensions  
74x36x58mm

Item	Code	Inp. 1	Inp. 2	Inp. 3	Output 1	Output 2	Insertion loss dB			Return loss dB	Mul. pack. Pcs
							Inp. 1	Inp.2	Inp. 3		
<b>MX201</b>	223201	VHF + DC	UHF	-	Mix + DC	-	0,2	0,2	-	20	6
<b>MX202</b>	223202	VHF + UHF + DC	VHF + UHF (with or without DC)	-	Mix + DC	-	4	4	-	10	6
<b>MX203</b>	223203	VHF + DC	UHF	-	Mix + DC	Mix + DC	3,5	3,5	-	10	6
<b>MX204</b>	223204	Band V + DC	Band V + DC	-	Mix + DC	-	3,5	3,5	-	10	6
<b>MX205</b>	223217	VHF + UHF	Sat + DC	-	Mix + DC	-	0,5	1	-	15	6
<b>MX206</b>	223218	B. I + FM	B. III	UHF + DC	Mix + DC	-	0,5	0,5	1	15	6
<b>MX208</b>	223220	VHF (DC selectable via Jumper)	UHF (DC selectable via Jumper)	-	Mix + DC	-	0,5	1	-	15	6
<b>MX210</b> <b>New</b>	223222	VHF	B. IV	B. V + DC	Mix + DC	-	0,5	1	1	15	6
<b>MX211</b> <b>New</b>	223221	VHF	UHF	UHF + DC	Mix + DC	-	0,5	4	4	15	6

## Combiners - Attenuators

### Mast combiners with saddle and clamp connections

2 or 3 input combiners, can be used as demixer using the output connector as an input (mix). Impedance 75 Ohm. Adjustable plastic strap for mast mounting Ø 60mm max. Compatible with DTT signals in COFDM modulation. Operating temperature: -10 to 55°C.

ESV..



Dimensions  
74x36x58mm

Item	Code	Inp. 1	Inp. 2	Inp. 3	Output 1	Output 2	Insertion loss dB			Return loss dB	Pack. Pcs
							Inp. 1	Inp. 2	Inp. 3		
<b>ESV45<sup>(1)</sup></b>	226804	VHF	IV (ch. 21-35)	V (ch. 39-69) + DC	Mix + DC	-	0.5	1	1	10	10
<b>ESV45S<sup>(2)</sup></b>	226807	VHF	IV (ch. 21-32)	V (ch. 36-69) + DC	Mix + DC	-	0.5	1	1	10	10
<b>ESVUU</b>	226806	VHF	UHF + DC	UHF	Mix + DC	-	0.5	4	4	10	10
<b>ESVU</b>	226801	VHF	UHF + DC	-	Mix + DC	-	1	1	-	10	10
<b>ES54V<sup>(1)</sup></b>	226805	V + DC	IV	VHF	Mix + DC	-	2	1	1	10	10

<sup>(1)</sup> Band IV ends at 590MHz (channel 35), band V begins at 614MHz (channel E39)

<sup>(2)</sup> Band IV ends at 566MHz (channel 32), band V begins at 590MHz (channel E36)

## Combiners - Attenuators

### Channel mast combiners

Combiners used for mixing 1, 2 or 3 UHF channels (CHANNELS INPUT) from a second aerial to the rest of the TV channels (TV INPUT). They are totally shielded in a metal case with black plastic housing and are equipped with "F" type connectors. Adjustable plastic strap for mast mounting Ø 60mm max.

MEF1..

MEF2..  
MEF3..



Dimensions  
105x60x120mm



Dimensions  
127x58x129mm

Item	Code	Operating freq. MHz	Insertable channels No.	CHANNELS INPUT		TV INPUT		Pack. Pcs
				Insertion loss dB	Non-adjacent channels selectivity dB	Insertion loss dB	Channel traps attenuation dB	
<b>MEF1..<sup>(1)</sup></b>	225882	470-862	1	4	20	5	15	1
<b>MEF2..<sup>(1)</sup></b>	225992	470-862	2	4	20	5	15	1
<b>MEF3..<sup>(1)</sup></b>	225993	470-862	3	4	20	5	15	1

<sup>(1)</sup> Complete the code by inserting the channel reference.

# Mast equipment

## Combiners - Attenuators

### Indoor combiner with F connectors

Indoor combiner with F connectors. Compatible with DTT signals in COFDM modulation. Operating temperature: -10 to 55°C.

- Totally shielded metal frame

Item	Code	Inp. 1	Inp. 2	Output 1	Insertion loss dB		Return loss dB	Pack. Pcs
					Inp. 1	Inp. 2		
<b>JSVU3</b>	223109	VHF + S (40-446MHz)	UHF (470-862MHz)	Mix	1	1	10	20

## Combiners - Attenuators

### Indoor combiners

Indoor TV SAT combiners that can also be used as a demixer. Compatible with DTT signals in COFDM modulation. Operating temperature: -10 to 55°C.

- High isolation between inputs

MXST



Dimensions  
48x50x20mm

Item	Code	Inp. 1	Inp. 2	Output 1	Insertion loss dB		Return loss dB	Pack. Pcs
					Inp. 1	Inp. 2		
<b>MXST</b>	226400	TV (47-862MHz)	SAT + DC (950-2150MHz)	Mix + DC	0.5	0.5	15	15
<b>PAS0303011</b>	PAS0303011	2 inputs: TV and SAT (950-2150MHz). Attenuation: 0.5dB on both inputs.						

## Combiners - Attenuators

### Channel attenuators

For connection after the aerial and before any eventual amplifier. For two or more sections which can be tuned to different frequencies or to the same frequency if greater attenuation is required. To tune, turn the core of the trimmer. D.C. through-line (apart from SF5). Packaging 10 Pcs

- The various sections are independent and do not affect each other

SF..



Dimensions  
28x78x20mm

Item	Code	Two cells - For indoor installations
<b>SF4</b>	226707	Stops one or two band IV channels. Attenuation from 20 to 30dB. Coaxial connectors I.E.C. Ø 9.5mm.
<b>SF5</b>	226708	Stops one or two band V channels. Attenuation from 20 to 30dB. Coaxial connectors I.E.C. Ø 9.5mm.

## Mast amplifiers

### ES.. Series

To amplify and mix signals coming from 1 or 2 aerials. Waterproof plastic housing. Power requirement 12VDC, on a single output. Adjustable plastic strap for mast mounting Ø 60mm max. Compatible with DTT signals in COFDM modulation. Operating temperature: -10 to 55°C.



Item	Code	Inputs	Input band MHz	Gain dB	Output level* dBµV	Noise figure dB	Power consump. mA@12VDC	Pack. Pcs
<b>ES1/Q</b>	226905	1	174-862	12	108	4	28	10
<b>ES1/RVU</b>	226909	2	IN1: 47-230 IN2: 470-862	4-12	108	4	27	10
<b>ES2/Q</b>	226913	1	174-862	22	108	4	50	10
<b>ES2RT</b>	226912	1	47-862	8-23	108	4	50	10
<b>ES2/RU</b>	226917	1	470-862	10-25	108	4	55	10

## Mast amplifiers

### JS2RT

To amplify signals coming from 1 aerial. Waterproof plastic housing. Power requirement 12VDC, on a single output. Adjustable plastic strap for mast mounting Ø 60mm max. Compatible with DTT signals in COFDM modulation. Operating temperature: -10 to 55°C.

- Totally shielded metal frame with F connectors



Item	Code	Inputs	Input band MHz	Gain dB	Output level dBµV	Noise figure dB	Power consump. mA@12VDC	Pack. Pcs
<b>JS2RT</b>	223101	1	47-862	7-22	108	4	60	10

## Accessories

### I22

Item	Code	Description
<b>I22</b>	290018	Impedance for D.C. transfer between two terminals on multi-band amplifiers. Packaging 100 pcs

\* For exclusively DTT distributions the output level can be increased by 7dB (i.e. 108 analogue --> 115 digital).

# Mast equipment

## Mast amplifiers

### MAP 12 Volt Series

MAP amplifiers to mix and amplify signals from one or more aerials.  
 Power requirement 12V, one mixed output.  
 Compatible with DTT signals in COFDM modulation.  
 Adjustable plastic strap for mast mounting Ø 60mm max.  
 Operating temperature: -10 to 55°C.

- Totally shielded in a metal case and "F" type connectors
- The innovative plastic housing system locks the cover in place.  
 The amplifier can be tilted inside to enable quick and easy installation.



Item	Code	Inputs	Input band	Gain dB	Output level* dBµV	Gain adj. dB	Noise figure dB	Power consump. mA@12VDC	Pack. Pcs
MAP108	223112	1	I+III	25	108	15	5	65	10
MAP107	223110	1	IV	24	108	15	5	60	10
MAP104	223111	1	V	25	108	15	5	60	10
MAP105	223120	1	UHF	33	108	15	6	85	10
MAP106 <sup>(1)</sup>	223122	1	VHF+UHF	34	108	15	5	75	10
MAP109 <sup>(2)</sup>	223160	1	VHF+UHF, 5 OUT	17	5 OUT x 92	15	4	65	10
MAP210	223124	2	VHF+IV, V	-2, 11	105	-, -	-, 5	40	10
MAP210/.. <sup>(4)</sup>	223126	2	VHF+IV, V	-2, 11	105	-, -	-, 5	40	1
MAP204 <sup>(1)</sup>	223148	2	VHF, UHF	26, 24	108	15, 15	5, 5	65	10
MAP207	223147	2	III+UHF, UHF	21, 21	108	15, 15	8, 8	65	10
MAP208	223161	2	III, UHF	34, 35	108	15, 15	4, 3	80	10
MAP206 <sup>(1)</sup>	223150	2	VHF, UHF	35, 36	108	15, 15	5, 5	75	10
MAP303	223130	3	VHF, IV, V	-2, -2, 12	105	-, -, -	-, -, 5	40	10
MAP303/.. <sup>(4)</sup>	223132	3	VHF, IV, V	-2, -2, 12	105	-, -, -	-, -, 5	40	1
MAP310 <sup>(3)</sup>	223145	3	FM, DAB, UHF	-1, 14, 14	108	-, -, -	4, 4	35	10
MAP311 <sup>(3)</sup>	223146	3	FM, DAB, UHF	-1, 25, 24	105	-, 15, 15	4, 5	60	10
MAP312 <sup>(1)</sup>	223142	3	VHF, IV, V	25, 24, 25	108	15, 15, 15	5, 6, 6	65	10
MAP312/.. <sup>(1)(4)</sup>	223159	3	VHF, IV, V	25, 24, 25	108	15, 15, 15	5, 6, 6	65	1
MAP313 <sup>(1)</sup>	223152	3	VHF, UHF, UHF	24, 30, 30	108	15, 15, 15	5, 8, 8	80	10
MAP315 <sup>(1)</sup>	223163	3	VHF, UHF, UHF	34, 40, 40	108	15, 15, 15	5, 8, 8	95	10
MAP400 <sup>(1)</sup>	223141	4	VHF, VHF, UHF, UHF	-4, 21, 19, 19	105	-, 15, 15, 15	-, 5, 8, 8	60	5
MAP401	223195	4	I+III, FM, UHF, SAT	20,20,30,-2	104,104,108,-	15,15,15,-	5,5,6,-	85 (without LNB)	5
MAP500	223133	5	I, III, IV, V, UHF	16, 15, 10, 10, 11	108	-, -, -, -, -	4, 4, 8, 8, 8	40	5
MAP500/.. <sup>(4)</sup>	223135	5	I, III, IV, V, UHF	16, 15, 10, 10, 11	108	-, -, -, -, -	4, 4, 8, 8, 8	40	1
MAP501	223137	5	I, III, IV, V, UHF	24, 24, 19, 20, 20	108	15, 15, 15, 15, 15	4, 4, 8, 8, 8	60	5
MAP501/.. <sup>(4)</sup>	223136	5	I, III, IV, V, UHF	24, 24, 19, 20, 20	108	15, 15, 15, 15, 15	5, 5, 9, 9, 9	60	1

<sup>(1)</sup> To allow the FM band to pass, cut the P1 link

<sup>(2)</sup> 1 input and 5 outputs

<sup>(3)</sup> DAB = 210-240MHz

<sup>(4)</sup> Models with suffix /.. are tuned specially, the last channel of band IV and the first channel of band V must be specified on order (e.g. MAP501/38-41)

• In the standard models without a suffix, band IV includes channels E21-E35 and band V includes channels E39-E69

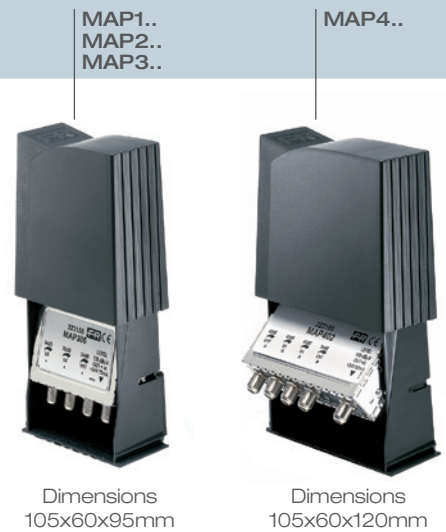
\* For exclusively DTT distributions the output level can be increased by 7dB (i.e. 108 analogue ---> 115 digital).

## Mast amplifiers

### MAP 24 Volt Series

MAP amplifiers to mix and amplify signals from one or more aerials. Power requirement 24V, one mixed output.  
Compatible with DTT signals in COFDM modulation.  
Adjustable plastic strap for mast mounting Ø 60mm max.  
Operating temperature: -10 to 55°C.

- Totally shielded in a metal case and "F" type connectors
- The innovative plastic housing system locks the cover in place.  
The amplifier can be tilted to enable quick and easy installation.



Item	Code	Inputs	Input band	Gain dB	Output level* dBµV	Gain adj. dB	Noise figure dB	Power consump. mA@24VDC	Pack. Pcs
<b>MAP102</b>	223121	1	UHF	33	108	15	6	70	10
<b>MAP103<sup>(1)</sup></b>	223123	1	VHF+UHF	34	108	15	5	70	10
<b>MAP201</b>	223162	2	III, UHF	34, 35	108	15, 15	4, 3	75	10
<b>MAP202<sup>(1)</sup></b>	223151	2	VHF, UHF	35, 36	108	15, 15	5, 5	70	10
<b>MAP209<sup>(1)</sup></b>	223149	2	VHF, UHF	26, 24	108	15, 15	5, 5	70	10
<b>MAP300<sup>(1)</sup></b>	223164	3	VHF, UHF, UHF	34, 40, 40	108	15, 15, 15	5, 8, 8	95	10
<b>MAP306<sup>(1)</sup></b>	223155	3	VHF, IV, V	34, 32, 34	108	15, 15, 15	5, 6, 6	80	10
<b>MAP306/..<sup>(1)(2)</sup></b>	223154	3	VHF, IV, V	34, 32, 34	108	15, 15, 15	5, 6, 6	80	1
<b>MAP314<sup>(1)</sup></b>	223153	3	VHF, UHF, UHF	24, 30, 30	108	15, 15, 15	5, 8, 8	80	10
<b>MAP402<sup>(1)</sup></b>	223166	4	VHF, IV, V, UHF	34, 41, 41, 42	108	15, 15, 15, 15	5, 8, 8, 8	90	10
<b>MAP402/..<sup>(1)(2)</sup></b>	223165	4	VHF, IV, V, UHF	34, 41, 41, 42	108	15, 15, 15, 15	5, 8, 8, 8	90	1

## Mast amplifiers

### MAP INTERSTAGE 12-24 Volt Series

MAP amplifiers mix and amplify the signals from one or more aerials. They are totally shielded in a metal case and have "F" type connectors. The innovative plastic housing system locks the cover in place. The amplifier can be tilted to enable quick and easy installation. Compatible with DTT signals in COFDM modulation. Adjustable plastic strap for mast mounting Ø 60mm max. Operating temperature: -10 to 55°C.

- The interstage adjustment enables the user to obtain a low noise figure even if the interstage signal is lowered

Item	Code	Inputs	Input band	Gain dB	Output level* dBµV	Gain adj. dB	Noise figure dB	Power consump. mA@12VDC	Pack. Pcs
<b>MAP113I</b>	223182	1	UHF	27	107	10	3	60	10
<b>MAP110</b> <span style="background-color: #00a651; color: white; padding: 2px;">New</span>	223196	1	DAB + UHF	13	108	-	2.5	30	10
<b>MAP115I</b> <span style="background-color: #00a651; color: white; padding: 2px;">New</span>	223197	1	DAB + UHF	27	108	15	2.5	60	10
<b>MAP213I</b>	223185	2	VHF, UHF <sup>(6)</sup>	24, 33	107	10	5, 3	70	10
<b>MAP223I</b> <sup>(4)</sup>	223190	2	III, UHF	24, 33	107	10, 10	4, 2.5	60	10
<b>MAP224I</b> <sup>(5)</sup>	223191	2	III, UHF	24, 33	107	10, 10	4, 2.5	60	10
<b>MAP212</b>	223184	2	III, UHF	18, 27	107	- , -	4, 2.5	45	10
<b>MAP317I</b>	223187	3	I+FM, III, UHF	12, 24, 33	107	10, 10, 10	4.5, 4, 3	70	10
<b>MAP316I</b>	223186	3	VHF, UHF, UHF	22, 20, 32	107	10, 10, 10	4.5, 4, 3	70	10

<sup>(1)</sup> To allow the FM band to pass, cut the P1 link

<sup>(2)</sup> Models with suffix /.. are tuned specially, the last channel of band IV and the first channel of band V must be specified on order (e.g. MAP501/38-41)

<sup>(3)</sup> Also available with a white case: MAP115IB - code 223198

<sup>(4)</sup> 12 VDC

<sup>(5)</sup> 24 VDC

<sup>(6)</sup> Possible to select 1 input (VHF-UHF) or 2 inputs (VHF, UHF). Not suitable for the FM band

• In the standard models without a suffix, band IV includes channels E21-E35 and band V includes channels E39-E69

\* For exclusively DTT distributions the output level can be increased by 7dB (i.e. 108 analogue --> 115 digital).

# Mast equipment

## Mast amplifiers

### MAK Series

MAK..

MAK amplifiers are used to mix and amplify signals from different aerials in small and medium installations. The compact housing enables installation in confined spaces. Power requirement 12VDC. Adjustable gain 0-20dB on each input. Compatible with DTT signals in COFDM modulation. Adjustable plastic strap for mast mounting Ø 60mm max. Operating temperature: -10 to 55°C.

- Separate amplification for VHF and UHF bands
- Remote power supply adjustable on each input, 100mA max.
- Totally shielded in a metal case with black plastic housing and equipped with "F" type connectors



Dimensions  
127x58x129mm

Item	Code	Inputs	Inputs / Gain dB						Noise figure dB VHF/UHF	Output level* dBµV VHF/UHF	Power consump. mA@12VDC	Pack. Pcs
			B. I	B. III	B. IV	B. V	B. UHF	B. UHF				
<b>MAK2510</b>	223344	1	-	21	25	25	-	-	4/8	109/113	105	1
<b>MAK2331</b>	223343	3		21	-	-	23	23	4/8	109/112	85	1
<b>MAK2332</b>	223341	3		21	26	24	-	-	4/5	109/112	85	1
<b>MAK2332/..<sup>(1)</sup></b>	223348	3		21	26	24	-	-	4/5	109/112	85	1
<b>MAK2350</b>	223340	5	21	19	22	22	22	-	4/8	109/112	85	1
<b>MAK2350/..<sup>(1)</sup></b>	223347	5	21	19	22	22	22	-	4/8	109/112	85	1
<b>MAK2650</b>	223351	5	30	30	30	30	30	-	4/8	109/114	175	1
<b>MAK2650/..<sup>(1)</sup></b>	223352	5	30	30	30	30	30	-	4/8	109/114	175	1

<sup>(1)</sup> Models with suffix /.. are tuned specially, the last channel of band IV and the first channel of band V must be specified on order (e.g. MAK2332/38-41)

• In the standard model without suffix, band IV includes channels E21-E35 and band V includes channels E39-E69

\* For exclusively DTT distributions the output level can be increased by 7dB (i.e. 108 analogue --> 115 digital).

## Power supplies

### AM.. Series

The AM series is an effective answer to all power supply requirements in any aerial installation. There is a suitable model for the system to be created, both in terms of emitted current (from 50 to 100mA) and number of outputs (one or two). Class II isolation.

Terminal connectors. Compatible with DTT signals in COFDM modulation. Operating temperature: -10 to 55°C.

- Designed to meet the strictest qualitative and safety requirements
- Equipped with accident prevention devices
- Shut down in case of short circuits



Dimensions  
50x87x46mm

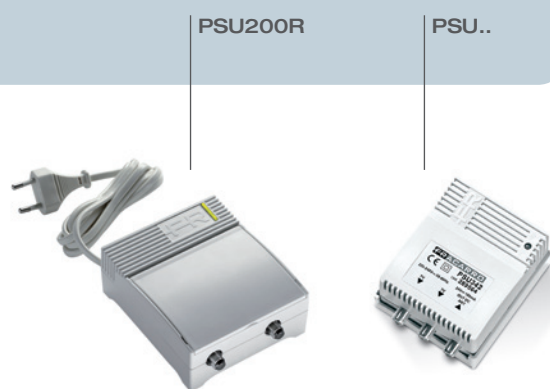
Item	Code	Input mains voltage Vac, Hz	Output mains voltage VDC	Max. output current mA	No. of outputs	Insertion loss dB	Pack.
							Pcs
<b>AM50N</b>	289112	220-230, 50-60	12	50	1	0.2	20
<b>AM100N</b>	289113	220-230, 50-60	12	100	1	0.2	20
<b>AM102N</b>	289119	220-230, 50-60	12	100	2	4	20

## Power supplies

### PSU.. Series

Totally shielded in a metallic case to prevent any kind of interference. Available with 12 or 24VDC output voltage. Isolation class: II. F connectors. Fully compatible with DTT signals in COFDM modulation. Operating temperature: -10 to 55°C.

- Switch mode power supply, high efficiency and low consumption
- Plastic case suitable for fixing to a table or wall
- Protected against accidental short circuits, operation is restored after a short circuit
- PSU200R: switch mode power supply with internal level adjustment which is to be used in conjunction with the SIGMA PWR HD (see page 19)



PSU200R  
Dimensions  
120x97x43mm

PSU..  
Dimensions  
92x49x109mm

Item	Code	Mains voltage input Vac, Hz	Mains voltage output VDC	Max. output current mA	RF bandwidth MHz	No. of outputs	Insertion loss dB	Pack.
								Pcs
<b>PSU411*</b>	289561	220-240, 50-60	12	200	5-862	1	0.2	1
<b>PSU412</b>	289562	220-240, 50-60	12	200	5-862	2	4	1
<b>PSU341</b>	289563	220-240, 50-60	24	100	5-862	1	0.2	1
<b>PSU342</b>	289564	220-240, 50-60	24	100	5-862	2	4	1
<b>PSU511**</b>	289851	220-240, 50-60	12	200	5-2400	1	2	1
<b>PSU200R</b> <span style="background-color: #00a651; color: white; padding: 2px;">New</span>	213205	220-230, 50-60	12	120	5-862	1	0.5	1

\* Also available with UK plug: PSU411UK - Code 289559

\*\* DiSEqC pass-through available



# Indoor electronic equipment

## Indoor amplifiers

### AFI Series

New range of indoor amplifiers that enable the user to amplify and distribute TV and SAT signals to every outlet, guaranteeing optimum signal level throughout the system. Compact and elegant design. Fully compatible with DTT signals in COFDM modulation.

- Switch mode power supply, high efficiency and low consumption
- Screw driver included for gain and tilt adjustment
- All the adjustments are located under the panel which can be opened or completely detached
- Hidden slots for neat wall mounting
- Green LED indicates status ON



Item	Code	Inputs	Bands MHz	Gain (adj.) dB	No. of outputs	Noise figure dB	Output level* dBμV	Pack.
								Pcs
<b>AFI121T</b>	223231	1	TV (47-862)	15	2	4	2x104	1
<b>AFI112T</b>	223230	1	TV (47-862)	20 (15)	1	4	108	1
<b>AFI122T</b>	223233	1 input with return path and TV band fixed tilt	TV (88-862) RC (5-65)	10@88MHz (15) 20@862MHz (15) -4	2	5.5	2x108	1
<b>AFI313T</b>	223236	3 inputs with separate adjustments	b.I+FM (47-108) b.III (174-300) b. UHF(470-862)	24 (15) 24 (15) 30 (15)	1	4.5	110	1
<b>AFI123T</b>	223235	1 input with separate V/U adjustment	VHF (47-300) UHF (470-862)	30 (15) 30 (15)	2	4.5	2x106	1
<b>AFI123W</b>	223237	1 TV+SAT input with separate adjustment	TV (47-862MHz) SAT (950-2150MHz)	TV 20 (20) SAT 20@950MHz 30@2150MHz (fixed tilt 10dB) (20)	2	TV: 5.5 SAT: 6.5	2x110	1

\* For exclusively DTT distributions the output level can be increased by 7dB (i.e. 108 analogue --> 115 digital).

#### General features

Power supply	Vac, Hz	220-240, 50-60
Isolation class		II
IN/OUT impedance	Ohm	75
IN/OUT connectors		F female
Band linearity	dB	±2
Max. power consumption	W	1.8, 2.5 (AFI123W)
Compliant to		EN50083-2, EN60065 Directives 89/336/CEE(EMC),73/23/CEE (low voltage)
Dimensions	mm	120x97x43
Operating temperature	°C	-10 to +55

## Indoor modulators

### MOD90 - MOD90R

Double sideband indoor audio/video modulators. Output channel programmable via dip-switch. Stable frequency output due to PLL Synthesis and controlled via microprocessor. The modulator can be powered from the receiver or using an external power supply (9-24V/80mA max). Packaging 1 pc.

- This unit can be used to distribute signals from a receiver without a modulator
- Audio/video input connection via SCART socket and high output level (90dB $\mu$ V)
- Adjustable audio/video inputs
- Multistandard



MOD90  
MOD90R

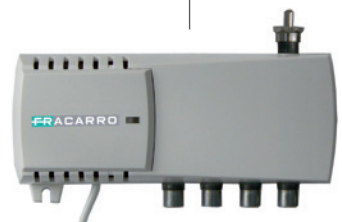
Item Code		MOD90 280001	MOD90R 280002
Power supply	V	9-24	9-24
Connection	type	Coaxial cable or Jack	Coaxial cable or Jack
Max. consumption	mA	80	80
Video signal level	Vpp	1	1
Audio signal level	Vrms	1	1
Bandwidth	MHz	5-2300	5-2300
RF output level	dB $\mu$ V	75-90 (adjustable)	75-90 (adjustable)
Output channels		IF + E2-E12 + S1-S20 + E21-E70	IF + E2-E12 + S1-S20 + E21-E70
Available standards		PAL B/G, I, D/K, SECAM L, H	PAL B/G, I, D/K, SECAM L, H
Pass-through attenuation	dB	4 $\pm$ 1	4 $\pm$ 1
RF connectors	type	F	F
A/V connectors	type	Pass-through scart	RCA
Dimensions	mm	100x75x30	80x75x30
Operating temperature	$^{\circ}$ C	-10 to +40	-10 to +40

## Indoor modulators

### MOD90S

Multistandard double sideband audio/video stereo A2 modulator with Crystal PLL synthesizer to set up the output frequency. The VHF and UHF frequency band and the high flexibility with multi-standard selection enable it to be used in many different installations.

- PLL crystal frequency stabilisation



MOD90S

Item Code		MOD90S 287058
Composite video input	Frequency range	Hz-MHz
	Input level/Impedance	Vpp/Ohm
Audio input	Frequency range	Hz
	Input level/Impedance	mVpp/KOhm
	Frequency deviation	kHz
	Level adjustment	dB
RF output	Modulated output level	dB $\mu$ V
	Output level adjustment	dB
	Available standards	B/G, D/K, H, I, SECAM L, M/N, (programmable)
	Output frequency range	MHz
Sub-carrier frequency	Sound 1	MHz
	Sound 2	MHz
Video carrier frequency fine tuning	MHz	$\pm$ 2.25 in steps 0.25 (programmable)
Sound 1 sub-carrier frequency	dB	12/16
Sound 2 sub-carrier frequency	dB	21 $\pm$ 3
Amplitude modulation depth	%	81 (typical)
Weighted signal to noise ratio	dB	>55
Power consumption	W	2.5
Mains	Vac, Hz	230, 50
Operating temperature	$^{\circ}$ C	-10 to +40

# Multiband amplifiers and equaliser filters

## Mast channel processors

### ICP/UU - MCP/UU

New

Agile RF converters to process analogue and digital terrestrial channels used to move a channel from its original frequency to anywhere else in the UHF band. Input and output frequencies are set by means of a built-in dip-switch.

Due to the high SAW selectivity, it can also be used as a single channel filter. Level adjustment through an internal attenuator.

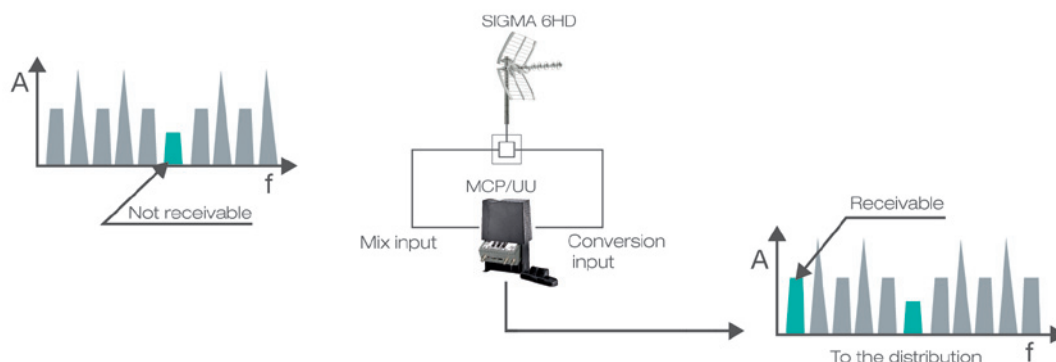
Input to mix all other existing channels from a different aerial.

- Dual conversion technology and SAW filter to distribute adjacent channels and avoid spurious signals in the band
- Fully programmable through a dip-switch
- Wide dynamic input range
- Input MIX to combine the output signal from another aerial
- ICP/UU for indoor installations, MCP/UU for outdoor installations



Item Code		ICP/UU 223367	MCP/UU 223366
Inputs	No.	2	2
Input 1	Band	UHF	UHF
Input 2	Band	III + S + UHF	III + S + UHF
Output	Band	III + S + UHF	III + S + UHF
<b>Input 1 conversion</b>			
Input frequency	MHz	470 - 862	470 - 862
Channels	No.	21 - 69	21 - 69
Channel selection		Dip-switch	Dip-switch
Frequency step	MHz	8	8
Max. input RF level	dB $\mu$ V	90	90
Gain	dB	15	15
Gain adjustment	dB	20	20
Phase noise	dBc/Hz	85 @ 10KHz	85 @ 10KHz
Maximum output level	dB $\mu$ V	90 (IM3 -54dBc 2 tones)	90 (IM3 -54dBc 2 tones)
Maximum output level	dB $\mu$ V	97 (IM3 -35dBc 2 tones)	97 (IM3 -35dBc 2 tones)
<b>Input 2 MIX</b>			
Bandwidth	MHz	47 - 862	47 - 862
Insertion loss	dB	-4	-4
<b>General features</b>			
Mains voltage	V, Hz	220-240~, 50-60	-
Power consumption	W	5	-
Supply voltage	Vdc	-	12 (from output connector)
Current consumption	mA	-	170
Operating temperature	°C	-5 to +55	-5 to +55
Dimensions	mm	127x58x128	127x58x129
Compliant		EN60065: 2004-06, EN50083-2: 2006-06	EN50083-2: 2006-06

### Installation example



## Multiband amplifiers

### MBJ Series

MBJ..

Multiband amplifiers to amplify and mix signals from several sources. Two versions, one 112/113dB $\mu$ V and the other 117dB $\mu$ V, to be used in small and medium networks. Metal housing, totally shielded, with plastic cover and F connectors. Compatible with DTT signals in COFDM modulation. Packaging 1 pc.



- Separate amplification for VHF and UHF bands
- All the adjustments are located under the cover to prevent unauthorised access
- Switch mode power supply, high efficiency and low consumption
- Remote power supply selectable on each input, 100mA max

Item	Code	Inputs No.	Inputs / Gain dB								Output level* VHF/UHF dB $\mu$ V	Noise figure VHF/UHF dB	Power cons. W
			VHF E2-S30	B. I+FM+C	B. I	B. III	B. IV	B. V	B. UHF	B. UHF			
<b>MBJ2510</b>	223301	1	-	-	-	21	25	25	-	-	109/113	4/8	5
<b>MBJ2510/..<sup>(1)</sup></b>	223302	1	-	-	-	21	25	25	-	-	109/113	4/8	5
<b>MBJ2557</b> <span style="background-color: #008080; color: white; padding: 2px;">New</span>	223300	5 <sup>(2)</sup>	28	FM 28	-	-	-	-	26	26	110/117	4/8	5
<b>MBJ2320</b>	223334	2	24	-	-	-	-	-	24	-	109/112	5/6	5
<b>MBJ2331</b>	223303	3	-	-	21	-	-	-	23	23	109/112	4/8	5
<b>MBJ2332</b>	223305	3	-	-	21	-	26	24	-	-	109/112	4/8	5
<b>MBJ2332/..<sup>(1)</sup></b>	223306	3	-	-	21	-	26	24	-	-	109/112	4/8	5
<b>MBJ2350</b>	223308	5	-	-	21	19	22	22	22	-	109/112	4/8	5
<b>MBJ2350/..<sup>(1)</sup></b>	223309	5	-	-	21	19	22	22	22	-	109/112	4/8	5
<b>MBJ2356</b>	223313	5	-	21	-	19	22	22	22	-	109/112	4/8	5
<b>MBJ2356/..<sup>(1)</sup></b>	223314	5	-	21	-	19	22	22	22	-	109/112	4/8	5
<b>MBJ2620</b>	223335	2	30	-	-	-	-	-	30	-	109/114	4.5/5.5	5
<b>MBJ2640</b>	223336	4(2 out)	-	25	-	25	-	-	30	30	106/110	4/8	5
<b>MBJ2650</b>	223316	5	-	-	30	30	30	30	30	-	109/114	4/8	5
<b>MBJ2650/..<sup>(1)</sup></b>	223319	5	-	-	30	30	30	30	30	-	109/114	4/8	5
<b>MBJ3610.</b> <span style="background-color: #008080; color: white; padding: 2px;">New</span>	223339	1	-	-	-	33	-	-	33	-	110/117	4/6	7
<b>MBJ3620</b>	223333	2	35	-	-	-	-	-	35	-	110/117	4/6	7
<b>MBJ3631</b>	223322	3	-	-	33	-	-	-	33	33	110/117	4/8	7
<b>MBJ3650</b>	223324	5	-	-	33	33	33	33	34	-	110/117	4/8	7
<b>MBJ3650/..<sup>(1)</sup></b>	223325	5	-	-	33	33	33	33	34	-	110/117	4/8	7
<b>MBJ3656</b>	223328	5	-	33	-	31	31	32	32	-	110/117	4/8	7
<b>MBJ3656/..<sup>(1)</sup></b>	223329	5	-	33	-	31	31	32	32	-	110/117	4/8	7

#### General features

Remote power	VDC	12, 100mA total, available on any input
Gain adjustment	dB	0 to 20 on every input
Mains voltage	Vac, Hz	220-240, 50-60
Connectors		F female
Dimensions (LxHxW)	mm	127x58x128
Operating temperature	°C	-10 to 55

<sup>(1)</sup> Models with suffix /.. are tuned specially, the last channel of band IV and the first channel of band V must be specified on order (e.g. MBJ3650/38-40)

<sup>(2)</sup> Also available SAT input: gain 33-38dB (sloped)

• In the standard models without suffix, band IV includes channels E21-E35 and band V includes channels E39-E69

\* For exclusively DTT distributions the output level can be increased by 7dB (i.e. 108 analogue --> 115 digital).

# Multiband amplifiers and equaliser filters

## Multiband amplifiers

### MBX Series

Multiband amplifiers to amplify and mix signals from several sources. Die-cast housing, totally shielded with F connectors. Separate VHF and UHF band amplification on the 119dB $\mu$ V version, broadband push-pull amplification on the 124dB $\mu$ V version. High gain and high output level allow the use of these products in medium to large installations.

Cover fixed with safety screws. Compatible with DTT signals in COFDM modulation. Packaging 1 pc.

- High output level, up to 124dB $\mu$ V
- Test point -30dB available on all products
- All the adjustments are located, under the cover to prevent unauthorised access
- Switch mode power supply, high efficiency and low consumption
- Remote power supply adjustable on each input, 100mA max.



Item	Code	Inputs No.	Inputs / Gain dB										Output level* (-60dB 3 eq. carr.) dB $\mu$ V VHF/UHF	Noise figure dB VHF/UHF	Power consump. W
			VHF 47-238MHz E2-S30	FM 87.5-108MHz	B. I	B. III	B. IV	B. V	B. UHF	B. UHF B.	B. UHF	B. UHF			
<b>MBX5541</b>	235002	4	-	31	30			-	-	30	30	-	116/119	4.5/7.5	8.5
<b>MBX5550</b>	235004	5	-	-	31 <sup>(1)</sup>	31	30	30	30	-	-	116/119	4.5/8.5	8.5	
<b>MBX5550/..<sup>(2)</sup></b>	235008	5	-	-	31 <sup>(1)</sup>	31	30	30	30	-	-	116/119	4.5/8.5	8.5	
<b>MBX5551<sup>(3)</sup></b>	235015	5	-	34	34	34	-	-	32	32	-	116/119	5/8.5	8.5	
<b>MBX5710.</b> <span style="background-color: #008080; color: white; padding: 2px;">New</span>	235025	1	43	-	-	-	-	-	43	-	-	116/119	4.5/6	8.5	
<b>MBX5720</b>	235021	2	43	-	-	-	-	-	43	-	-	116/119	4.5/6	8.5	
<b>MBX5741*</b>	235001	4	-	35	B. I 36	B. III 38	-	-	43	43	-	116/119	4.5/7.5	8.5	
<b>MBX5750</b>	235003	5	-	-	35 <sup>(1)</sup>	38	43	43	43	-	-	116/119	4.5/8.5	8.5	
<b>MBX5750/..<sup>(2)</sup></b>	235009	5	-	-	35 <sup>(1)</sup>	38	43	43	43	-	-	116/119	5/8.5	8.5	
<b>MBX5752<sup>(3)</sup></b>	235014	5	-	35	B. I 36	B. III 38	-	-	30	42	42	116/119	5/8.5	8.5	
<b>MBX5851<sup>(3)</sup></b>	235016	5	-	34	34	34	-	-	44	44	-	116/119	5/8.5	8.5	
<b>MBX7741</b>	235006	4	-	40	40			-	-	40	40	-	124	11	13.5
<b>MBX7750</b>	235005	5	-	-	40 <sup>(1)</sup>	40	40	40	40	-	-	124	11	13.5	
<b>MBX7750/..<sup>(2)</sup></b>	235010	5	-	-	40 <sup>(1)</sup>	40	40	40	40	-	-	124	11	13.5	

\* Also available with UK plug: MBX5741UK - Code 235012

#### General features

Gain adjustment	dB	0-20 on every input
Linearity	dB	± 2
Isolation between inputs	dB	> 20
Remote power	V	12, 100mA total, available on any input
Test point	dB	- 30
Mains voltage	Vac, Hz	220-240, 50-60
Power supply		Switch mode, isolation class: II
Impedance	Ohm	75
Connectors		F
Protection		IP20
Dimensions (LxHxW)	mm	194x143x64
Operating temperature	°C	-10 to +55

Item	Code	
<b>MBX0001</b>	235000	Accessories kit composed of no. 2 plastic supports & mounting screws. This is used to install the MBX series leaving a space between the amplifier and the wall. Packaging 10 pcs.

<sup>(1)</sup> Ability to extend the band up to 108MHz using an internal jumper

<sup>(2)</sup> Models with suffix /.. are tuned specially, the last channel of band IV and the first channel of band V must be specified on order (e.g. MBX5750/38-40)

<sup>(3)</sup> MBX0001 spacing kit included in the packaging

• In the standard models without suffix band IV includes channels E21-E35 and band V includes the channels E39-E69

\* For exclusively DTT distributions the output level can be increased by 7dB (i.e. 108 analogue --> 115 digital).

## Multiband amplifiers

### AMP9202W – AMP9202U

Amplifiers with 4 inputs and interstage gain adjustment to obtain a good noise figure even if the interstage signal is lowered.

- High gain in UHF, up to 47dB
- Switchable gain 37dB or 47dB
- Interstage attenuator
- Very low noise figure (also with gain adjustment)

AMP9202W  
AMP9202U



Dimensions  
283X125X74mm

Item	Code	Inputs No.	Gain dB				Noise figure dB VHF/UHF	Output level dBµV VHF/UHF	Power cons. W	Packaging Pcs
			B. I+FM	B. III	B. UHF	B. UHF				
<b>AMP9202W</b>	AMP9202W	4	28	38	37/47	37/47	6/5.5	120/115	25	1
<b>AMP9202U*</b>	AMP9202U	4	28	38	37/47	37/47	6/5.5	120/115	25	1

General features										
Gain adjustment	dB	0 to 20 interstage			Impedance	Ohm	75			
Remote power supply	VDC-mA	12-50			Mains voltage	Vac, Hz	230, 50			
Power consumption	W	25			Connectors	F				
Isolation class	II		Operating temperature			°C	-5 to +50			

\* with UK plug

## Headend amplifiers

### AMP9764 - AMP9564

Mains powered amplifiers to amplify satellite signals with passive loop-through of the TV signal. To be used as a launch amplifier in IF systems or as a SAT line amplifier. They allow gain and slope adjustment in the SAT band. Cover fixed with safety screws. No DC pass from the output to the inputs. Compatible with DTT signals in COFDM modulation. For installation, supports are available (item MBX0001, see page 64) that leave a space of 19mm between the amplifier and the wall, allowing room for cables or the amplifier to be mounted in different positions. Packaging 1 pc.

- LNB power supply: 0V, 14V, 18V, 0/22Hz
- Low insertion loss in RF band
- Switch mode power supply, high efficiency and low consumption
- All the adjustments are located under the cover to prevent unauthorised access

AMP9764



Dimensions  
194x143x64mm

Item	Code	Inputs No.	Bandwidth MHz	Gain dB	Gain adjustment dB	Tilt adjustment dB	Output level dBµV	Noise figure dB
<b>AMP9564</b> <b>New</b>	228371	2	950-2150 5-862	37@950MHz, 43@2150MHz -2	0-20 -	10 -	120 -	<7 -

General features										
Test socket	dB	- 30			Flatness	dB	±2			
Mains voltage	Vac, Hz	220-240, 50-60			Connectors	F				
Power consumption	W	11			Protection	IP20, for internal use				
Impedance	Ohm	75			Operating temperature	°C	-10 to +55			

# Multiband amplifiers and equaliser filters

## Equaliser filters

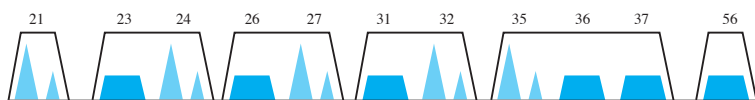
Made to order filters

- Controlled tilt when adjusting attenuation
- Good selectivity (3 cells)
- Low insertion loss
- Potentiometer for fine tuning with no deterioration in impedance

FIL..., PAS..



Example of the use of a channel group equaliser filter



Analogue Channels

DTT Channels

General features			
No. of inputs	1-5	Variable attenuation dynamics	dB 18 typ.
No. of outputs	1-4	Continuous component transmission	Yes
No. of channels	1 to 5 for each cluster	Connectors	F
Insertion loss	dB 4 typ.	Dimensions (LxHxW)	mm 170x105x50
Min. freq. deviation between vision carriers	MHz 16	Fixing	4 screws
Channel protection at n +/- 2	dB 18 typ.		

**Item** FIL132200  
Code 226611

b, 4

1 input UHF band 4  
3 clusters  
1 output

**Item** FIL132201  
Code 226612

b, 5

1 input UHF band 5  
3 clusters  
1 output

**Item** PAS0436301  
Code 226625

3 inputs: FM - VHF - UHF  
1 cluster VHF  
5 clusters UHF

**Item** PAS0437301  
Code 226626

3 inputs: FM - VHF - UHF  
1 cluster VHF  
6 clusters UHF

**Item** FIL392110 - Code 289672

3 inputs  
VHF - UHF1 - UHF2  
1 cluster on VHF  
5 clusters on UHF1  
3 clusters on UHF2  
(all of them in Band 4 or Band 5)

b,3 UHF1 UHF2

**Item** FIL141200  
Code 226618

1 input UHF  
4 clusters  
1 output

**Item** FIL151200  
Code 226619

1 input UHF  
5 clusters  
1 output

**Item** FIL161200  
Code 226620

1 input UHF  
6 clusters  
1 output

**Item** FIL171200  
Code 226621

1 input UHF  
7 clusters  
1 output

**Item** FIL181200  
Code 226622

1 input UHF  
8 clusters  
1 output

**Item** FIL191200  
Code 226623

1 input UHF  
9 clusters  
1 output

**Item** FIL191201  
Code 226624

1 input UHF  
10 clusters  
1 output



## Programmable equaliser filters

### FIL.. Series

#### FIL261000

Programmable 6 cluster equaliser filter for the UHF band. 6 clusters in the UHF band can be split over 2 different UHF inputs using 3 different modes.

#### FIL262000

Programmable 6 cluster equaliser filter for the UHF band. 2 UHF inputs with 3 clusters for each input and 2 outputs.

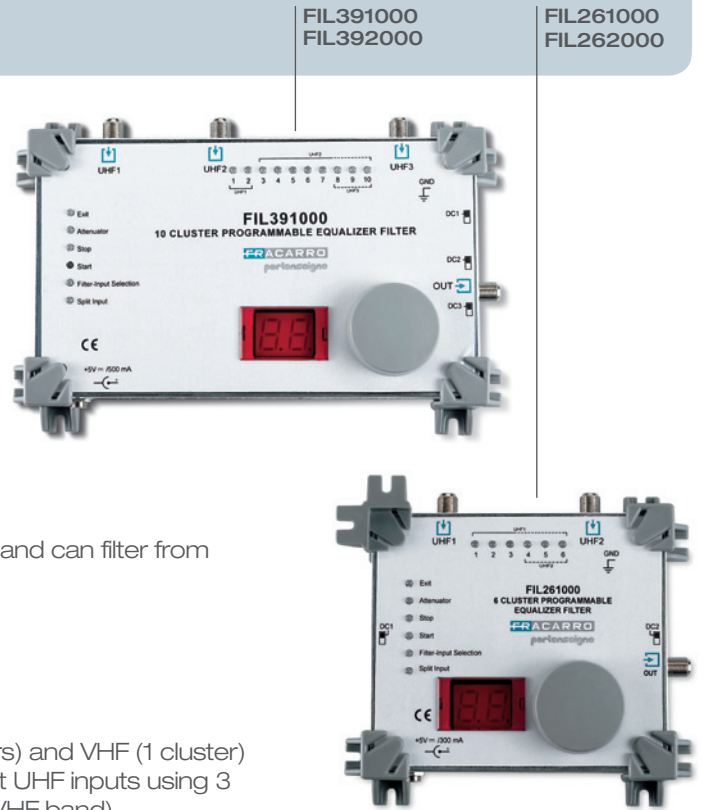
#### FIL391000

Programmable 10 cluster equaliser filter for the UHF band. 10 clusters in the UHF band can be split over 3 different inputs using 3 different modes.

- Each cluster can be programmed for the whole UHF band and can filter from 1 to 7 channels
- Fully agile, one unit can be used for any condition
- Active mixing, no insertion losses
- Built-in control unit

#### FIL392000

Programmable 10 cluster equaliser filter for the UHF (9 clusters) and VHF (1 cluster) bands. 9 clusters in the UHF band can be split over 2 different UHF inputs using 3 different modes. 2 outputs (1 for the UHF band and 1 for the VHF band).



Item code	FIL261000 289804	FIL262000 289803	FIL391000 289805	FIL392000 289806
No. of inputs	2	2	3	3
No. of outputs	1	2	1	2
No. of clusters	6	6	10	9 (UHF) + 1 (VHF)
Antenna input	UHF1-UHF2	UHF1-UHF2	UHF1-UHF2-UHF3	VHF-UHF1-UHF2
Channels	21-69			5-12 (VHF), 21-69 (UHF)
Bandwidth	MHz	470-862		174-230, 470-862
Cluster bandwidth	MHz	8-56 1 to 7 channels		
Cluster configuration	6 (UHF1) - 0 (UHF2) 5 (UHF1) - 1 (UHF2) 3 (UHF1) - 3 (UHF2)	3 (UHF1) - 3 (UHF2)	2 (UHF1) - 8 (UHF2) - 0 (UHF3) 2 (UHF1) - 7 (UHF2) - 1 (UHF3) 2 (UHF1) - 5 (UHF2) - 3 (UHF3)	1 (VHF) - 9 (UHF1) - 0 (UHF2) 1 (VHF) - 6 (UHF1) - 3 (UHF2) 1 (VHF) - 5 (UHF1) - 4 (UHF2)
Gain	dB	5		
Attenuator	dB	30 (steps 1dB)		
Max. input level	dBμV	95		85 (VHF), 95 (UHF)
Max. output level (IM3/-54dB)	dBμV	75		
Selectivity	dB	10@10MHz		15@10MHz (VHF) 10@10MHz (UHF)
IN/OUT return loss	dB	>10		
OUT/IN DC pass		programmable		
Mains voltage	Vac/VDC	230-240/5 Ø 2.1 mm DC jack		
Power consumption	mA	300		500
Dimensions (LxHxW)	mm	157x142x65		222x142x65
Operating temperature	°C	-5 to +50		



# Multiband amplifiers and equaliser filters

## Programmable headends

### SIG80.. Series

Agile multicluster headends to filter both analogue and digital channels. 10 programmable clusters to filter any channel in the UHF band. 2 or 3 UHF inputs, an input for band I + FM, an input for band III, an input for VHF+UHF bands and one for SAT band (for SIG8010 only) allow all receivable signals to be mixed on a single output.

- Headend programmable on site: one single product can be used in several areas; quick adjustment of the headend if transmitter frequency changes
- Easy to install: power supply, programming unit, filters and amplifier included in one single product
- 10 clusters in the UHF band split over 3 different UHF inputs according to 3 different modes. Each cluster can filter from one to seven adjacent channels
- Wide dynamic range to equalise the signals: recovering large level differences between clusters is possible
- Manual or automatic level equalisation



Dimensions  
265x220x95mm

Dimensions  
231x185x53mm

#### General features

Cluster selectivity	dB	10@10MHz
IN/OUT return loss	dB	>10
Test socket	dB	-30
Mains	Vac/VDC	220-240 /15
Power consumption	mA	800 @ 15VDC
Operating temperature	° C	-5 to +50
Noise figure (VHF, UHF, SAT)	dB	5, 6, 9

Item Code	SIG8008 - SIG8010							SIG8010 only
	289484 - 289730							
Inputs	B. I+FM	B. III+DAB	VHF+UHF	UHF1	UHF2	UHF3	SAT	
Frequency	47-108	174-240	47-240/470-862	470-862	470-862	470-862	950-2150	
No. of clusters	Mode 1, 2, 3	-	-	2, 2, 2	8, 7, 5	0, 1, 3	-	
Gain (adj)	35 (20)	40 (20)	40 (20)	55 (30)	55 (30)	55 (30)	40 (20)	
Max. input level	80	80	80	80/105 selectable	80/105 selectable	80/105 selectable	90	
Max. output level	118	118	VHF: 118 UHF: 123	123	123	123	116	
Remote power (max. 100mA total)	no	no	12V	12V	12V	12V	0-13-18V 300mA 0/22KHz	

Item Code	SIG8009				
	289729				
Inputs	B. I+FM	B. III+DAB	UHF1	UHF2	UHF3
Frequency	47-108	174-240	470-862	470-862	470-862
No. of clusters	Mode 1, 2, 3	-	2, 2, 2	8, 7, 5	0, 1, 3
Gain (adj)	35 (20)	40 (20)	45 (30)	45 (30)	45 (30)
Max. input level	80	80	80/105 selectable	80/105 selectable	80/105 selectable
Max. output level	116	116	116	116	116
Remote power (max. 100mA total)	no	no	12V	12V	12V

Item Code	SIG8011			
	289842			
Inputs	B. I+FM	B. III+DAB	UHF1	UHF2
Frequency	47-108	174-240	470-862	470-862
No. of clusters	Mode 1, 2, 3	-	2, 2, 2	8, 7, 5
Gain (adj)	35 (20)	35 (30)	45 (30)	45 (30)
Max. input level	80	80	105	105
Max. output level	116	116	116	116
Remote power (max. 100mA total)	no	12V	12V	12V

Item	Code	Description
MEMOSIG80	289807	Programming key for SIG8008, SIG8009 and SIG8010. Enables the configuration to be copied from one headend to another. It can manage up to 16 different configurations.

## Programmable headends

### FRPRO.. Series

New

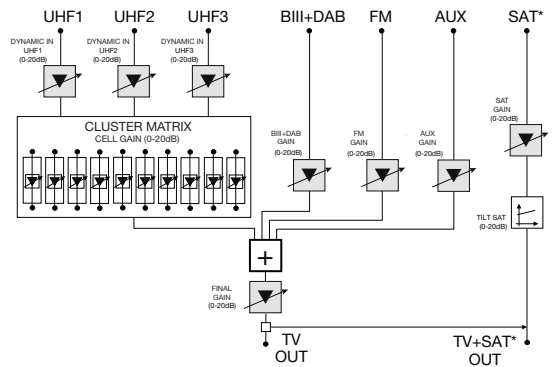
FRPRO 06  
FRPRO 10  
FRPRO 10A  
FRPRO 10S

FRPRO is the new range of highly selectable programmable cluster headends designed by Fracarro's internal R&D department. Available in 4 versions, the headends enable different TV channels to be filtered and amplified. The clusters in the UHF band can be programmed for each channel, from 1 to 6 channels. For the FRPRO10x Series the maximum number of clusters is 10, this means the headend can distribute up to 60 channels (6 channels x 10 clusters).

- Programmable using the built-in keypad and LCD display or using a PC based software
- Possible to copy the configuration from a headend to another one, either the same model or a headend belonging to the range by means of a USB pen drive, quickly and easily
- "Clusters autoalignment" function for automatic gain adjustment which enables equalised output signals and a better noise figure
- Clusters can be split over 3 different UHF inputs through a completely flexible matrix
- Heat dissipation by natural convection, no fans required, reducing maintenance costs



Dimensions  
360x225x60mm



#### General features

Cluster selectivity	dB	20@10MHz
Cluster bandwidth	MHz	8-48 (1-64ch)
IN/OUT return loss	dB	>10
Outputs		1 + 1 for test (-25dB) + 1 TV/SAT (FRPRO 10S only)
Mains	Vac	220-240
Power consumption	W	19 (FRPRO 06) / 23 (FRPRO 10) 25 (FRPRO 10A) / 32 (FRPRO 10S)
Operating temperature	°C	-5 to +50
Noise figure (FM, III+DAB, UHF, AUX)	dB	6, 6, 6, 10

Item Code	FRPRO 06 272106					
Inputs	No.	FM	B. III+DAB	AUX	UHF1	UHF2
Frequency	MHz	88-108	174-300	47-862	470-862	470-862
Selectable cluster on inputs	UHF1 UHF2	- -	- -	- -	- 5, 6	1, 2, 3, 4, 5, 6
Gain	dB	46	36	36	43	43
Dynamic adjustment (on each input)	dB	20	20	20	20	20
Cluster adjustment	dB				20	20
Master level adjustment	dB			20		
Max. input level	dBµV DTT	90	85	110	90	90
Max. output level	dBµV DTT			121		
Remote power (max. 250/100mA)		No	No	No	12/24V	12/24V

Item Code	FRPRO 10 - FRPRO 10A 272102 - 272103						
Inputs	No.	FM	B. III+DAB	AUX	UHF1	UHF2	UHF3
Frequency	MHz	88-108	174-300	47-862	470-862	470-862	470-862
Selectable cluster on inputs	UHF1 UHF2 UHF3	- - -	- - -	- - -	- 470-862	8, 9, 10 5, 6, 7, 8, 9, 10	1, 2, 3, 4, 5, 6, 7, 8, 9, 10
Gain	dB	46	46	36	43 (PRO10), 48 (PRO10A)	43 (PRO10), 48 (PRO10A)	43 (PRO10), 48 (PRO10A)
Dynamic adjustment (on each input)	dB	20	20	20	20	20	20
Cluster adjustment	dB				20	20	20
Master level adjustment	dB			20			
Max. input level	dBµV DTT	90	85	110	90	90	90
Max. output level	dBµV DTT			121 (PRO 10) - 125 (PRO 10A)			
Remote power (max. 250/100mA)		No	No	No	12/24V	12/24V	12/24V

Item Code	FRPRO 10S 272104							
Inputs	No.	FM	B. III+DAB	AUX	UHF1	UHF2	UHF3	SAT
Frequency	MHz	88-108	174-300	47-862	470-862	470-862	470-862	950-2150
Selectable cluster on inputs	UHF1 UHF2 UHF3	- - -	- - -	- - -	- 470-862	8, 9, 10 5, 6, 7, 8, 9, 10	1, 2, 3, 4, 5, 6, 7, 8, 9, 10	
Gain	dB	46	46	36	43	43	43	35-42 sloped
Dynamic adjustment (on each input)	dB	20	20	20	20	20	20	20
Cluster adjustment	dB				20	20	20	-
Master level adjustment	dB			20				-
Max. input level	dBµV DTT	90	85	110	90	90	90	-
Max. output level	dBµV DTT			120				120
Remote power (max. 250/100mA)		No	No	No	12/24V	12/24V	12/24V	13/18, 0-22kHz