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FRACARRO

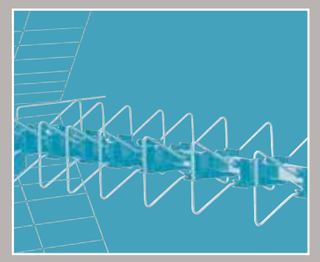
147

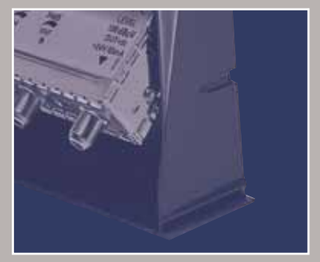
SMATV Catalogue

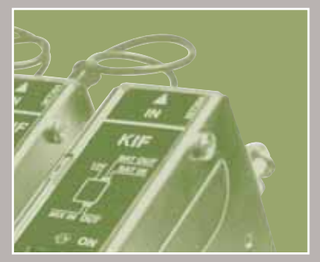
FRACARRO

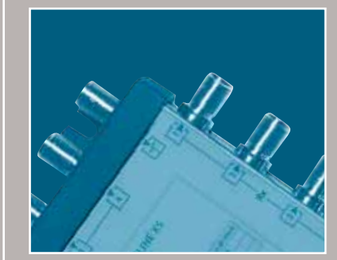
147

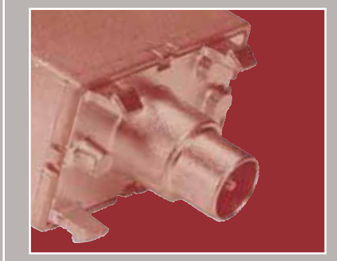
Catalogue of products for distribution
of audio, video and data signal











SMATV Catalogue
2005

READY FOR DTT

FRACARRO
shaping the future

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ISO9001 certification

Our main goal has always been to achieve the highest quality and performance on the products and services we supply. Fracarro Radioindustrie S.p.A. has been successful in achieving this with the Fracarro Quality System being officially recognized on an international level with ISO9001 certification.
This certification confirms our products are highly reliable, that we have a modern, efficient and professional sales organization.

IQNet
THE INTERNATIONAL CERTIFICATION NETWORK
CERTIFICATE
FRACARRO RADIOINDUSTRIE SPA
VIA CAZZARO, 3 - 31033 CASTELFRANCO VENETO (TV) Italy
Design, production, marketing of products and systems for the reception and the distribution of audio, video, data signals and for intruder and fire detection systems
Quality Management System
ISO 9001:2000
Registration Number: IT - 13102
President of IQNet
President of CISQ

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Conformity declaration

CE

FRACARRO RADIOINDUSTRIE S.p.A.
Via Cazzaro, 3
31033 Castelfranco Veneto (TV)

declares, under its sole responsibility, that the products listed in this catalogue, with the exception of those which do not fall within the field of application of the Legislative Decree n. 615 dated November 12, 1996 and Law no. 791 dated October 18, 1977 and modification with Legislative Decree no. 626 dated November 25, 1996 (according to Italian law) are conform to the following regulations:

CEI EN 50083-2
CEI EN 61000-3-2
CEI EN 61000-3-3
CEI EN 60065

and thus meet all the fundamental requirements of EEC Directives 89/336/CEE and 73/23/CEE.

Antennas

Since 1933 Fracarro has produced antennas for signal reception. Recently, in the UK, some of the antennas have obtained the CAI benchmark.
For the reception of satellite signals Fracarro has developed its own range of dishes "PENTA": various sizes, particular shape and with a high quality performance

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VHF aerials
Band I

2 elements

4 elements

BANDS 1 SINGLE CHANNEL AERIALS

Maximum mast diameter: ∅ 60mm. For larger mast sizes, vertical and tilt positioning, see page 20.
Suitable for horizontal or vertical polarization. V.S.W.R. < 1,5.

Item code	Elem. No.	Bandwidth MHz from	to	Channels Ital.	Eur.	Gain dB	Front-to-back ratio > dB	Dimension boom cm.	elem. cm.	Wind load at 120km/h Kg.	Packaging pcs	kg.
2A	2	52,5-59,5		A	–	3,5	12	78,8	292	4,7	15	21,6
2B	2	61-68		B	E4	3,5	12	69	252	4,0	15	19,4
3A	3	52,5-59,5		A	–	5	16	127	294	16,6	15	25,1
3B	3	61-68		B	E4	5	16	105	252	5,8	15	23,9
3C	3	81-88		C	–	5	16	85,4	200	4,4	15	19,6
4B	4	61-68		B	E4	6,5	18	226	260	7,4	15	29,4

VHF aerials
FM & DAB aerials

new

DAB

new

ANT1200 A

2FM

"FM & DAB" RADIO OMNIDIRECTIONAL AERIAL

Impedence 75Ohms, F connector, V.S.W.R. < 1,5. Maximum mast diameter: ∅ 60mm.

		Band	Bandwidth MHz from	to	Channels Ital.	Eur.	Gain dB	Wind load at 120km/h Kg.	Packaging pcs	kg.
N	**ANT1200A**	FM	87,5-108		FM	FM	2,1	3	10	10,7
N	**DAB**	—	216-240		—	—	7,1	—	5	—

"FM" RADIO AERIAL

YAGI TYPE - Impendence 75Ohms, V.S.W.R. ≤ 1,5. Maximum mast diameter: ∅ 60mm.

	Band	Bandwidth MHz from	to	Channels Ital.	Eur.	Gain dB	Wind load at 120km/h Kg.	Packaging pcs	kg.
2FM	FM	87,5-108		FM	FM	3,5	2,8	15	15,1

4 elements

6 elements

BAND 3 SINGLE CHANNEL AERIALS

Maximum mast diameter: ∅ 60mm. For vertical and tilt positioning see page 20. V.S.W.R. < 1,3.

Item code	Elem. No.	Bandwidth MHz from to	Channels Ital.	Channels Eur.	Gain dB	Front-to-back ratio > dB	Dimension boom cm.	Dimension elem. cm.	Wind load at 120km/h Kg.	Packaging pcs	Packaging kg.
4D_F	4	174-181	D	E5	6,5	18	116	87	2,2	20	16,0
4E_F	4	182,5-189,5	E	–	6,5	18	111	84	2,1	20	15,0
4F_F	4	191-198	F	–	6,5	18	106	80	2,0	20	14,9
4G_F	4	200-207	G	–	6,5	18	102	76	1,9	20	14,5
4H_F	4	209-216	H	E10	6,5	18	97	73	1,8	20	13,9
6D_F	6	174-181	D	E5	9	25	210	88	3,5	10	22,7
6E_F	6	182,5-189,5	E	–	9	25	201	82	3,3	10	22,3
6F_F	6	191-198	F	–	9	25	192	82	3,2	10	21,5
6G_F	6	200-207	G	–	9	25	184	75	3,1	10	20,8
6H_F	6	209-216	H	E10	9	25	177	73	3,0	10	20,0
6H1_F	6	216-223	H1	E11	9	25	171	72	2,9	10	19,5
6E12_F	6	223-230	H2	E12	9	25	166	67	2,8	10	19,1

VHF BAND 3 WIDEBAND AERIALS

Maximum mast diameter: ∅ 60mm. For vertical and tilt positioning, see page 20. These antennas are suitable for areas where several band 3 TV channels may be received (ch. E5÷E12).

Item code	Elem. No.	Band	Bandwidth MHz from to	Channels Ital. Eur.	Gain dB	Front-to-back ratio > dB	Dimension boom cm.	Dimension elem. cm.	Wind load at 120km/h Kg.	Packaging pcs	Packaging kg.
4E512_F	4	3	174-230	E5÷E12	4÷5	14	108	83	2,0	20	14,4
6E512_F	6	3	174-230	E5÷E12	5÷7	17	181	82	3,0	20	20,0

VHF aerials
Band III

ANT3030..

ANT3070..

ANT3100510

VHF AERIALS BAND III

With “F” connectors
Impendance 75Ohms.
Polarisation H or V.
Maximum mast diameter: ∅ 60mm.

	Item code	Number of elements	Channels	Frequencies MHz	Gain Typ. dB	Front/back ratio > dB	V.S.W.R. dB	Wind load at 120km/h kg.	Dimensions L x l x h mm	Weight kg.
		VHF BAND III 1/2 BAND								
N	**ANT3030507**	3	L5 - L7	174-202	6	>12	<1,5	3,3	760x880x75	0,8
N	**ANT3030810**	3	L8 - L10	202-223	6	>14	<1,5	2,7	750x630x75	0,8
N	**ANT3070507**	7	L5 - L7	174-202	10	>12	<1,5	6,9	1560x850x75	1,3
N	**ANT3070810**	7	L8 - L10	202-223	11	>13	<1,5	6,5	1560x750x75	1,3
		VHF BAND III WIDEBAND								
N	**ANT3060510**	6	L5 - L10	174-223	8	>10	<1,5	5,6	1190x860x75	1,2
N	**ANT3100510**	10	L5 - L10	174-223	9	>10	<1,5	9,7	2370x860x75	1,7

PACKAGING

	Single pack	Multiple pack		Volume	Weight
		pcs	Dimension Lxlxh (mm)	dm3	kg
ANT3030507	plastic bag	10	800x310x230	57	9
ANT3030810	plastic bag	10	800x310x231	57	9
ANT3070507	plastic bag	10	800x310x232	57	14
ANT3070810	plastic bag	10	800x310x233	57	14
ANT3060510	plastic bag	10	800x310x234	57	13
ANT3100510	plastic bag	10	1180x300x270	96	18

BLV4F

BLV6F

BAND 3 - WIDEBAND

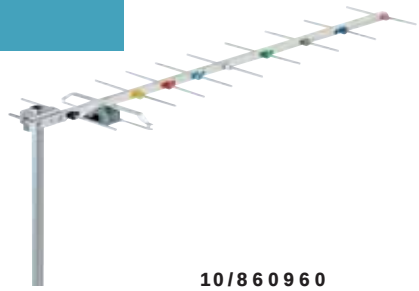
Mast bracket: max. diameter 60mm. For larger mast sizes, vertical and tilt positioning, see page 20. Suitable for horizontal or vertical polarization. From an aesthetic point of view these models complement the Fracarro BLU series antennas for highend installations. Some of the technical and aesthetic innovations used in these antennas are protected patent.

CHARACTERISTICS:

High gain, and optimised impedance match. Excellent directivity. Superior electrical and mechanical qualities due to Magnesium/Aluminium alloy construction. Weatherproof terminal box with screw on cover. Partially pre-assembled for an easier installation.
V.S.W.R. < 1,4.

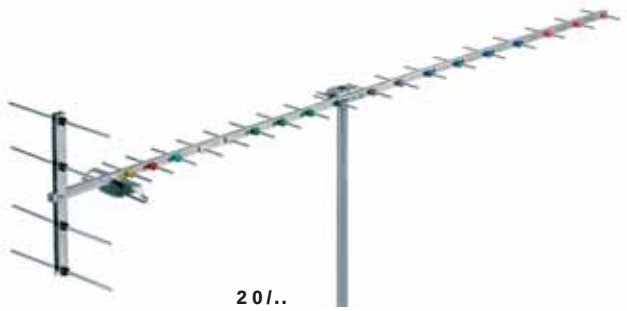
Item code	Elem. No.	Band	Bandwidth MHz from	to	Channels Ital.	Eur.	Gain dB	Front-to-back ratio > dB	Dimensions boom cm.	elem. cm.	Wind load at 120km/h Kg.	Packaging pcs	kg.
	With "F" connector												
BLV4F	4	3	174	230	E5÷E12		6,5÷8	14	70	78	3,0	10	1,23
BLV6F	6	3	174	230	E5÷E12		7,5÷11	17	155	78	4,5	3	2,00

UHF aerials
Yagi UHF channel grouped aerials

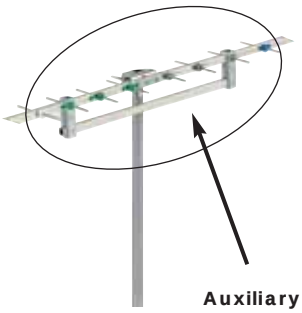


10/860960

10/../R



20/..



Auxiliary boom CA1

UHF CHANNEL GROUPED AERIALS

Maximum mast diameter: ∅ 62mm.
Bandwidth: from 3 up to 8 adjacent channels. Suitable for mounting with horizontal or vertical polarization.
For larger sizes, vertical and tilt positioning see page 20. V.S.W.R. < 1,4.

Item code	Elem. No.	Band	Bandwidth MHz from	Bandwidth MHz to	Channels Ital.	Channels Eur.	Gain dB	Front-to-back ratio > dB	Dimensions boom cm.	Dimensions elem. cm.	Wind load at 120km/h Kg.	Packaging pcs	Packaging kg.
10/860960	10	SPEC.	860	960	—		7 ÷9,5	20	94	16	1,0	20	10,0
	NARROW BAND ANTENNAS												
10ALFA/R	10	4	470	494	21-23		11	24	128	36	2,8	20	14,4
10BETA/R	10	4	494	518	24-26		11	24	123	34	2,7	20	13,8
10GAMMA/R	10	4	518	550	27-30		11	24	116	32	2,6	20	13,5
10DELTA/R	10	4	550	582	31-34		11	24	111	30	2,5	20	13,2
10/3539R	10	5	582	622	35-39		11	24	108	28	2,4	20	12,7
10/4046R	10	5	622	678	40-46		11	24	110	25	2,4	20	12,5
10/4753R	10	5	678	734	47-53		11	24	96	24	2,3	20	12,0
10/5461R	10	5	734	798	54-61		11	24	100	22	2,3	20	12,0
10/6269R	10	5	798	862	62-69		11	24	94	20	2,2	20	11,7
20DELTA	20	4	550	582	31-34		14	26	249	36	4,4	20	19,2
20/4046	20	5	622	678	40-46		14	26	209	25	3,9	20	17,2

AUXILIARY BOOM

for 20-element UHF antennas.

CA1 auxiliary boom increases to the mechanical strength of the 20 element antennas. The CA1 is recommended for use with the band 4 narrow band models when used in high wind locations, and is optional for the physically smaller band 5, 20 elements antenna models.

CA1											0,8	20	5,9

10BL..

20BL..

YAGI UHF with 4 ELEMENT REFLECTOR

Maximum mast diameter: ∅ 42mm.
For larger sizes, vertical and tilt positioning see page 20. Suitable for mounting with horizontal or vertical polarization.

Item code	Elem. No.	Band	Bandwidth MHz from	to	Channels Ital.	Eur.	Gain dB	Front-to-back ratio > dB	V.S.W.R. <	Dimensions boom cm.	elem. cm.	Wind load at 120km/h Kg.	Packaging pcs	kg.
10BL4	10	4	470	606	E21	37	8÷11	21	1,3	135	36	2,8	20	14,3
10BL5	10	5	606	862	E38	69	8÷11	20	1,4	103	28	2,3	20	11,9
10BL45	10	UHF	470	862	E21	69	6,5÷9,5	20	1,4	94	36	2,3	20	12,1
20BL4	20	4	470	606	E21	37	10÷13	23	1,4	232	37	4,2	20	19,0
20BL5	20	5	606	862	E38	69	10÷13	22	1,6	208	26	3,8	20	17,0
20BL45	20	UHF	470	862	E21	69	6,5÷11	22	1,5	187	39	3,6	20	16,9

10RD45F

20RD..

YAGI UHF - with GRID REFLECTOR

Maximum mast diameter: ∅ 42mm.
For larger sizes, vertical and tilt positioning see page 20. Suitable for mounting with horizontal or vertical polarization.

	Elem. No.	Band	Bandwidth MHz from	to	Channels Ital.	Eur.	Gain dB	Front-to-back ratio > dB	V.S.W.R. <	Dimensions boom cm.	reflector cm.	Wind load at 120km/h Kg.	Packaging pcs	kg.
20RD4	20	4	470	606	E21	37	10÷13	25	1,3	235	36	5,1	20	26,5
20RD5	20	5	606	862	E38	69	11÷14	26	1,6	210	36	4,5	20	24,6
20RD45	20	UHF	470	862	E21	69	7÷12	25	1,4	193	36	4,3	20	24,0
	With "F" connector													
10RD4F	10	4	470	606	E21	37	9÷11	23	1,3	137	36	2,9	20	18,3
10RD5F	10	5	606	862	E38	69	9÷11	23	1,4	103	36	2,5	20	16,1
10RD45F	10	UHF	470	862	E21	69	7÷10	23	1,4	99	36	2,5	20	16,0
20RD4F	20	4	470	606	E21	37	10÷13	25	1,3	235	36	5,1	20	26,5
20RD5F	20	5	606	862	E38	69	11÷14	26	1,6	210	36	4,5	20	24,6
20RD45F	20	UHF	470	862	E21	69	7÷12	25	1,4	193	36	4,3	20	24,0

UHF aerials
Yagi UHF pre-assembled

ANT4116912

ANT4220012

YAGI UHF - PRE-ASSEMBLED with 4 element REFLECTOR

Impendance 75Ohms.
Fixing clamp: Maximum mast diameter 55mm; polarisation H or V; on site adjustment.

Item code	Number of elements	Channels	Frequencies MHz	Gain min. max dB	Front / back ratio > dB	Wind load at 120km/h dm²	Dimensions L x l x h cm	Weight kg.
ANT4113812	11	21-38	470-614	8-12	>18	7	78x33x30	0,75
ANT4116912	11	39-69	614-862	8-12	>18	7	68,5x30x25	0,73
ANT4223812	22	21-38	470-614	12-17	>18	10	219x33x33	1,4
ANT4226912	22	39-69	614-862	10-17	>18	10	190x33x25	1,3

YAGI UHF - PRE-ASSEMBLED with grid REFLECTOR

Consists of yagi symmetrical half wave.
Impendance 75Ohms.
Fixing clamp: Maximum mast diameter 55mm; polarisation H or V; on site adjustment.

	Number of elements	Channels	Frequencies MHz	Gain min. max dB	Acceptance angle (°)	Front / back ratio > dB	Wind load at 120km/h dm²	Dimensions L x l x h cm	Weight kg.
ANT4100012	10	21-69	470-862	7-13	70-34	>20	9	93x41x38	0,8
ANT4220012	22	21-69	470-862	9-16	44-22	>20	13	200x41x38	1,4

PACKAGING

	Unit	L x l x h cm.	Volume dm3	Weight kg	Antenna system	L x l x h cm.	Volume dm3	Weight kg
ANT4113812	in bag	81x24x5	9,72	1,02	10	81x24x50	98	11,4
ANT4116912	in bag	69x24x5	8,3	1,05	10	73x27x59	116	11,0
ANT4223812	in cardboard	134x25x6	20,1	1,91	10	138x28x67	259	19,6
ANT4226912	in cardboard	117x21x6	14,5	1,73	10	120x24x67	193	17,8
ANT4100012	in a bag	105x32x10	16,8	1,1	10	120x34x26	80	11,6
ANT4220012	in a bag	135x32x15	38,88	1,7	10	120x33x40	1501	17,6

As for the reception of Digital Terrestrial Television (DTT) signals in the UK, the receiving aerials are required to be designed and manufactured to a minimum industry standard.
It is believed that due to the high level of analogue signals in comparison to the lower digital signals, the correct aerial has not always been fitted. This has been mainly prevalent in fringe reception areas where DTT reception issues have invariably been improved with the installation of a correct aerial.
The Confederation of Aerial Industries and the Digital Television Group have therefore decided that an approval process is required to ensure that aerials conform to a minimum standard. The benchmark specification is used to determine the characteristics of an aerial required to obtain stable DTT reception. It does not alter the basic requirements of aerial design but highlights important parameters so that satisfactory DTT reception may be achieved.
Aerials that have been approved will display a "mark", confirming that the required standard has been reached.
Although this benchmark is not a legal requirement, experience in the industry has indicated that it will be to the industry's advantage to supply equipment to this recommendation.
The standards BS 5640: 1,11 1978 and ITU-R. BT. 419-3 have been used as a guide in setting the specification.
The benchmark is to set the minimum performance required for various standards of aerial. It does not cover ease of assembly, durability and installation. The Confederation of Aerial Industries issued a Code of Practice for the installation of television aerials which is recommended to be followed.

AERIALS

BLU420F (page 14)	Blu Series 42 elements UHF Antenna **Certification Number: CAI/AB 012**
BLU220F PLUS (page 14)	Blu Series 22 elements UHF Antenna **Certification Number: CAI/AB 017**
DELTA500 (page 16)	Delta Series 5 elements UHF Antenna **Certification Number: CAI/AB 018**
DELTA800 (page 16)	Blu Series 8 elements UHF Antenna **Certification Number: CAI/AB 012**
LP45N (page 18)	Log periodic UHF Antenna **Certification Number: CAI/AB 016**

UHF aerials
BLU series

BLU420F

Standard 2

BLU220PLUS

Standard 3

BLU SERIES: UHF AERIALS

Maximum mast diameter: ∅ 60mm.
Pre-installed antennas with high performances and designed for the following:
- High gain
- Good directivity (with particular attention to the level of side LOBE and to the F/B ratio)
- Good V.S.W.R. This characteristic eliminates double images on the TV set by reducing the reflected signals on the cable.

The 90 element antenna is suitable mainly in areas where:
1) the signal is very weak where gain and bandwidth are critical.
2) rejection of unwanted signal is optimised by a narrow beamwidth and larger reflectors on the BLU920F.

42 and 22 element antennas should be used where protection from side or rear unwanted signals is required.
Side lobe compression and high front-to-back ratio makes the difference from other UHF broad band antennas.
Suitable for vertical or horizontal mounting. With “F” connector.
V.S.W.R. < 1,5dB.

	Item code	Elem. No.	Band	Bandwidth MHz from to	Channels Ital. Eur.	Gain dB	Front-to-back ratio > dB	Dimensions boom cm.	Dimensions elem. cm.	Wind load at 120km/h Kg.	Packaging pcs	Packaging kg.
	BLU220F	22	UHF	470÷862	E21÷69	9÷12	25	84	50	5,5	10	14,8
	BLU224F	22	4	470÷606	E21÷37	10÷11	25	92	50	5,5	10	17,2
	BLU225F	22	5	606÷900	E38÷69	11÷14	25	84	50	5,5	10	14,5
N	**BLU420F** (*standard2)	42	UHF	470÷862	E21÷69	10÷14	26	119	50	7,0	10	20,8
	BLU424F	42	4	470÷606	E21÷37	11÷12	26	122	50	7,0	10	20,8
	BLU425F	42	5	606÷900	E38÷69	13÷15	26	119	50	7,0	10	20,8
	BLU920F	90	UHF	470÷862	E21÷69	11÷18	27	242	50	12,0	3	9,5
N	**BLU220PLUS** (*standard3)	**With tube reflector**										
		22	UHF	470÷862	E21÷69	10÷12	25	84	50	7,5	8	12,16

* For more information see www.dtg.org.uk web site.

UHF aerials
DELTA series

ANT41600

ANT42200

DELTA series: UHF AERIALS

Cosists of whole symmetrical wave director, Impedence 75Ohms. F connector
Fixing clamp: Maximum mast diameter 55mm; polarization H o V , on site adjustment

Item code	Channels	Frequencies MHz	Gain min. max dB	Front / back ratio > dB	Wind load at 120km/h dm^2	Dimensions L x l x h cm	Weight kg.
ANT41538	21-39	470-622	10-14	22	15	160 x 50 x 60	1,35
ANT41569	36-69	590-862	11-13	22	15	121 x 50 x 60	1,25
ANT41600	21-69	470-462	11-15	25	15	163x 41 x 38	1,4
ANT42238	21-39	590-862	10-16	26	17,5	260 x 50 x 60	1,9
ANT42200	21-69	470-462	13-17	27	17,5	200 x 41 x 38	1,85

PACKAGING

	Single pack				Multiple pack		
		L x l x h cm.	Volume dm^3	pcs	L x l x h cm.	Volume dm^3	Weight Kg
ANT41538	carton box	73x38x7,5	22,5	5	80x45x40	141	10
ANT41569	carton box	73x38x7,5	22,5	5	80x45x40	141	10
ANT41600	carton box	73x38x7,5	22,5	5	80x45x40	141	10
ANT42238	carton box	92x38x7,5	27,6	5	95x45x40	171	12
ANT42200	carton box	92x38x7,5	27,6	5	95x45x40	171	12

(1) Gain measured between channels 21 and 47

UHF aerials
DELTA series

DELTA500

DELTA800

Standard 3

Standard 2

DELTA SERIES: UHF AERIALS

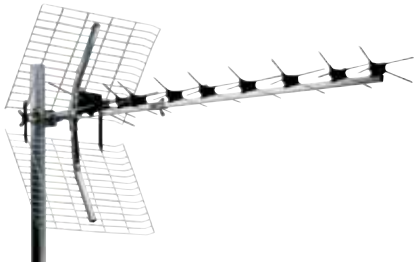
Cosists of whole symmetrical wave director, Impedence 75Ohms. F connector
Fixing clamp: Maximum mast diameter 60mm; polarization H o V , on site adjustment

	Item code	Channels	Frequencies MHz	Gain min. max dB	Front / back ratio > dB	Dimensions L x l x h cm	Wind load at 120Km/h Kg
N	**DELTA500** (*standard3)	21-69	470-462	8-14	17	77x58x52	4,5
N	**DELTA800** (*standard2)	21-69	470-462	10-15	20	107,5x58x52	5,5

PACKAGING

	Single pack	Multiple pack		
		pcs	L x l x h cm	Weight Kg
DELTA500	plastic bag	7	880x445x330	11
DELTA800	plastic bag	6	880x440x325	10,2

* For more information see www.dtg.org.uk web site.



ANT 509 ...

ANT 514

LAMBDA: UHF AERIALS

Consists of whole wave directors, dihedral reflector, symmetric transformer, snap in to place dipoles.
Impedance 75Ohms.
Fixing clamp: Maximum mast diameter 55 mm; polarisation H or V; on site adjustment.

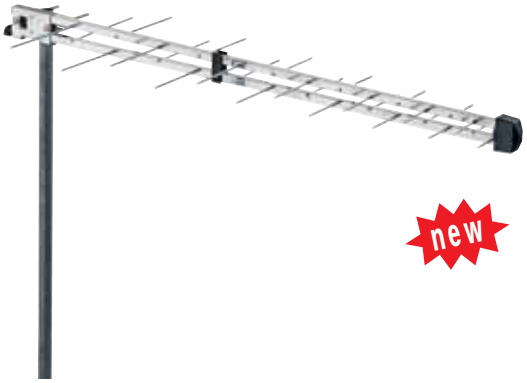
Item code	Number of elements	Channels	Frequencies MHz	Gain min. max dB	Front / back ratio > dB	Wind load at 120km/h dm^2	Dimensions L x l x h cm	Weight kg
ANT5093802	9	21-38	470-614	13,5-16	>24	16	160x50x71	1,6
ANT5094702(1)	9	21-47	470-686	13-16	>24	165	153x50x71	1,9
ANT5096902	9	21-69	470-862	12-16,5	>25	15	150x50x71	1,7
ANT5143802	14	21-38	470-614	15,5-18	>24	19	238x50x71	1,8
ANT5144702(1)	14	21-47	470-686	14,5-18	>24	19	238x50x71	2,5
ANT5146902	14	21-69	470-862	12-18	>24	17,5	150x50x71	2,2

PACKAGING

	Unit	L x l x h cm.	Volume dm3	Weight kg	Quantity per pallet
ANT5093802	in cardboard	96x43x14	56	2,6	25
ANT5094702	in cardboard	96x43x14	56	2,5	25
ANT5143802	in cardboard	96x43x17	70	3,7	25
ANT5144702	in cardboard	96x43x17	70	3,5	25
ANT5096902	in cardboard	96x43x17	56	2,6	25
ANT5946902	in cardboard	96x43x17	70	3,7	25

(1) Gain measured between channels 21 and 47

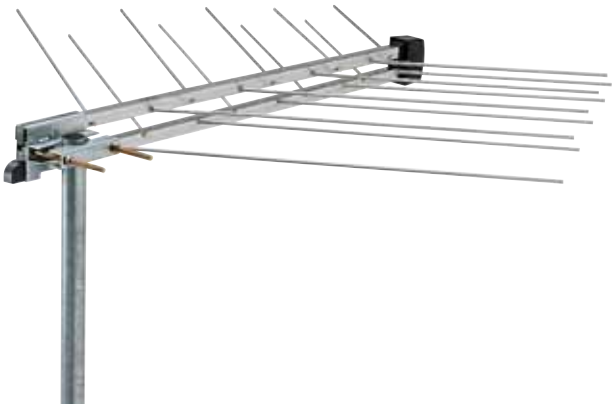
Log-Periodic aerials



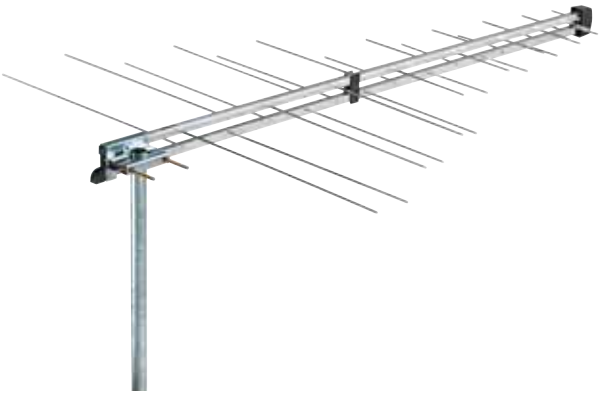
new

Standard 4 *

LP45N



LPV..HV



LP..HV

LOG-PERIODIC AERIALS

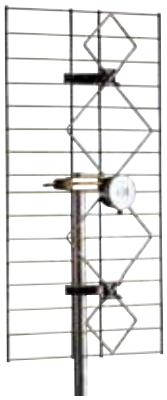
Maximum mast diameter: ∅ 60mm.
For assembly in vertical or horizontal position without additional accessories.

Item code	Band	Bandwidth MHz from to	Gain dB	Front-to-back ratio > dB	V.S.W.R. <	Dimensions boom cm.	Dimensions elem. cm.	Wind load at 120km/h Kg.	Packaging pcs	Packaging kg.
	Anodised aluminium									
LP345HV	3+ UHF	174÷230 470÷900	9,0 9,0	21 27	1,5 1,8	111	86	3,9	20	19,6
LP345MHV	3+ UHF	174÷230 470÷900	8,5 8,0	18 26	1,8 1,9	72	86	2,7	20	16,3
LP45HV	UHF	470÷900	10,0	28	1,7	94	32	3,0	10	7,9
LP5HV	5	606÷900	11,0	30	1,7	94	24	3,0	10	7,5
LPV345HV	3+ UHF	174÷230 470÷900	9,0 9,5	22 27	1,7	71	79	2,8	10	8,8
LP34HV	3+ 4	174÷230 470÷606	7 9	19 23	1,5	111	86	2,8	10	7,5
N **LP45N** (*standard4)	UHF	470÷900	10	28	1,7	111	32	3	15	14

* For more information see www.dtg.org.uk web site.

UHF panel aerials

PU4A



PU4-P54

UHF aerials PANEL

Maximum mast diameter: ∅ 60mm.
Plastic covered steel reflector panel. Aluminium radiant elements for PU4-P54 and steel for PU4A. V.S.W.R. ≤ 2dB.

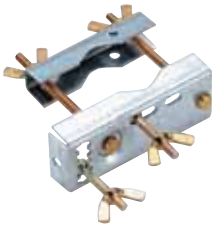
Item code	Band	Bandwidth MHz from a	Gain dB	Front-to-back ratio > dB	Dimensions cm.	Wind load at 120km/h Kg.	Packaging pcs	Packaging kg.
PU4A(1)	UHF	470÷862	9÷12	18	76,5 x 50	5,0	10	14,1
PU4(1)	UHF	470÷862	9÷12	22	38,5 x 71	4,0	15	15,6
P54(1)	5	570÷920	9÷12	24	32 x 62	3,2	15	14,3

UHF MULTIPLE PANEL ANTENNAS

High gain and directivity particularly useful:
1) with weak signals
2) with signals from many different transmitters.
Due to their high directivity, chosen signals are protected from unwanted signals.
V.S.W.R. ≤ 2dB.

	Band	Bandwidth MHz from a	Gain dB	Front-to-back ratio > dB	Dimensions cm.	Wind load at 120km/h Kg.	Packaging pcs	Packaging kg.
PU8	UHF	470÷862	12÷16	20	88,5 x 72	13	1	2,75
PU8V(2)	UHF	470÷862	12÷16	20	156 x 40	13	1	2,8
PU16	UHF	470÷862	15÷20	20	167 x 720	26	1	4,8

Antennas accessories



PVZ-60

PVF-60

PG20

ANTENNA FITTINGS

Treated galvanized steel. For masts ∅ 42mm max

Item code	
PV10	For vertical polarization - Length 280mm - Packaging 40pcs
PV20	For vertical polarization of two coupled band 3 or 4 antennas. - Length 950mm Packaging 20pcs
PV5	For tilt adjustment of two coupled 11 element VHF band 3 antennas with horizontal polarization, or for coupling one of them with a UHF antenna. - Length 1500mm. - Packaging 20pcs
	For masts ∅ 60mm max
PVZ-60	For zenithal orientation. - Packaging 25pcs Fixed vertical polarization (only 10 elements UHF)
PVF-60	Fixed horizontal polarization. - Packaging 25pcs
PVP	For vertical polarization panel antennas. - Packaging 20pcs

	ELBOW SHAPED MAST FOR ROOF
PG20	Diameter 42x3mm - Length 2m - Tube grip: diameter 25÷45mm. Packaging 1pc

ANTENNA FITTING APPLICATIONS - SPECIAL NON-STANDARD ACCESSORIES FOR DIFFERENT INSTALLATION requirements and mast diameters.

Type of installation	POLARIZATION							
	HORIZONTAL				VERTICAL			
	FIXED		WITH TILT ADJUSTMENT		FIXED		WITH TILT ADJUSTMENT	
	mast Ø max mm							
	42	60	42	60	42	60	42	60
VHF b.1 e b.2	–	–	PVZ-60		PV1	PV1+PVZ-60	PV1	PV1+PVZ-60
b.3	–	–	PVZ-60		–	PV1	–	PV1
BLV	–	–	–		–	PV1	–	PV1
UHF 10 elem.-10 elem./R	–	PVF-60	PVZ-60		–	PVF-60	PVZ-60	
10RD	–	PVF-60	PVZ-60		–	PVF-60	PVZ-60	
20 elem. 20RD	–	PVF-60	n.r.		PV1	PV1+PVZ-60	PV1	PV1+PVZ-60
Flat panel	–	–	n.r.		PVP	PVP	n.r.	

– standard n.r. = not recommended

ZC2

ZC3

ZC20

ZM20

MAST BRACKETS

Treated galvanized steel - For masts: TN15, TN25, TN32, TK4 and TK5 (see page 22).

Item code	
ZC2	REINFORCED - CHIMNEY MOUNT - For ∅ 25 ÷ 48mm - Overhang 16.5cm. - Packaging 25pcs
ZC3	CHIMNEY MOUNT - For ∅ 25 ÷ 35mm - Overhang 17cm. - Packaging 40pcs
ZC20	WALL MOUNT For ∅ 25 ÷ 48mm - Length 20cm - Packaging 50pcs
ZM20	WALL BRACKET for elbow-shaped mast (art. PG20). - Packaging 1pc
AN1	**CORNER PLATE** With grooves for iron wire lashings. - Packaging 100pcs
BA6	**BASE FOR TELESCOPIC MASTS** Suitable for ridged roofs. - For ∅ 25 ÷ 48mm. - Packaging 20pcs

STM.

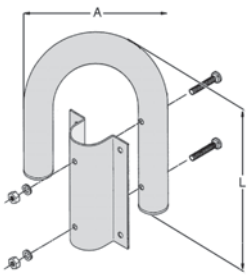


Fig. 1a

ST50C

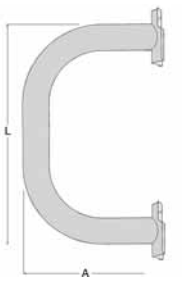


Fig. 1b

RPP60

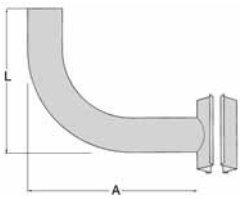


Fig. 1c

ST25

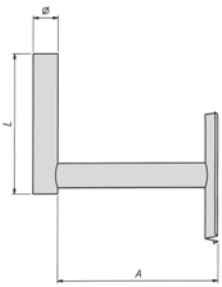


Fig. 1d

BA914

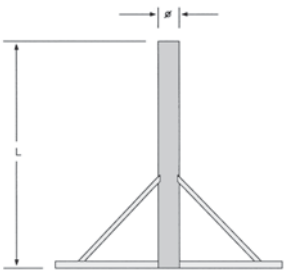


Fig. 1e

MECHANICAL ACCESSORIES FOR SATELLITE DISHES

Item code		Fig.	Ø (mm)	L (cm)	H (cm)	Mast bracket (mm)	Packaging pcs	Weight kg
STM.	Wall mast	1a	40	31	25	—	1	1,5
ST25M	Wall mast	1d	40	23	25	30÷80(1)	1	1,73
ST45M	Wall mast	1d	40	23	45	30÷80(1)	1	2,26
ST50C	Wall/chimney bracket	1b	50x2	42	25	—	10	22
RPP60	Dish mount	1c	40x1,5	25	25	30÷60	20	25
BA914	Base per dish mount	1e	76	100	–	–	1	13
STF	Mast mounting kit for ST25M and ST45M (Ø 30-80 mm)						1	0,56
STK	ST50C accessories chimney						1	0,4

(1) Use STF kit for mast installation.

Masts

TN..

TK..

PT..

SELF-SUPPORTING MASTS

Dip treated galvanized steel

Item code		Wind load kgm
	SINGLE SECTION MODEL - Packaging 10 pcs	
TN15	Height 1.5m* - Weight 0.9kg - ∅ 25 x 1mm Can support one 10 element UHF antenna + one 4 element VHF b.3 antenna. Wind speed: 100Km/h.	3,1
TN25	Height 2.5m - Weight 1.5kg - ∅ 25 x 1mm Can support one 10 element UHF antenna + one 2 element VHF b.1 or one 6 element VHF b.3 antenna. Wind speed: 110Km/h.	5,1
TN32	Height 2.5m - Weight 3.8kg - ∅ 32 x 2mm Can support any type of VHF antenna + any UHF antenna.	22,0
	(*) Tw TN15 are mounted togheter to obtain the height of 3 meters: all performances regefer to this height..	
	TWO SECTION MODEL - Packaging 5 pcs	
TK4	Height 4m - Weight 4.2kg - two sections. Upper ∅25 x 1mm - lower ∅32 x 2mm - with tapered joint Can support one 10 element UHF antenna + one 2 element VHF b.1 or one 6 element VHF b.3.	15,4
TK5	Height 5m - Weight 5.2kg - two sections. Upper ∅25 x 1mm - lower ∅32 x 2mm - with tapered joint Can support one 10 element UHF antenna + one 4 element VHF b.3.	8,8

GUYED EXTENDABLE MASTS

Dip treated galvanized steel
Complete with brace attachment rings and section end markers.

PT4	Height 3.80m - 2 x 2m - Weight 3.85kg -∅25 x 1.5 - 30 x 1.5mm Packaging 5pcs	7,2 (1)
PT6	Height m5.60 - 3 x 2m - Weight 6.3kg - ∅25 x 1.5 - 30 x 1.5 - 35 x 1.5mm Packaging 3 pcs	7,2 (1)
PT8	Height 7.40 m - 4 x 2m - Weight 9.2kg - ∅25 x 1.5 - 30 x 1.5 - 35 x 1.5 - 40 x 1.5mm Packaging 2pcs	7,2 (1)

(1) Loading at the highest fixing point.

Indoor antennas

Domus

VENUS-38

ORION

VENUS

VENUS-S

VENUS-B

VENUS-P

AMPLIFIED INDOOR ANTENNAS

All the antennas from the Fracarro range are capable of receiving digital terrestrial signals (Ready for DTT).
Power supply: 230Vac - 50Hz or 12 Vdc

Item code	
DOMUS	VHF gain 20dB, UHF gain 32dB
ORION	VHF gain 20dB, UHF gain 36dB
VENUS	Dark Grey Colour– Gain 36dB
VENUS-S	Silver Colour – Gain 36dB
VENUS-B	Light Blue Colour – Gain 36dB
VENUS-38	Dark Grey Colour – Gain 38dB

PASSIVE INDOOR ANTENNAS

VENUS-P	Dark grey colour

Sat dishes - PENTA series

BACK PENTA 85

DUAL FEED SUPPORT

PENTA

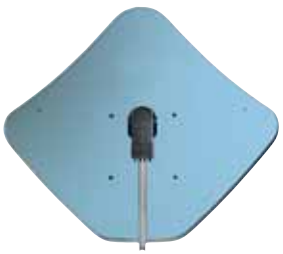
TECHNICAL CHARACTERISTIC		PENTA DIGIT	PENTA 85
Frequency range	GHz	10,7 ÷ 12,75	10,7 ÷ 12,75
Dimensions Ø	mm	624 x 624	775 x 775
Offset angle		22,3°	22,1°
Efficiency		≥ 70%	≥ 70%
Gain at 10,95GHz	dB	36,5	39
Cross polarisation on axis	dB	> 37	> 38
First side lobe	dB	< -32	< -34
Noise temperature		40° K at 30° elevat.	40° K at 30° elevat.
F/D ratio		0,7	0,7
3 dB beam width		3°	2,2°
LNB clamp	mm	23-28; 40; 60	23-28; 40; 60
Elevation angle		maximum tilt 60° - Base 43	maximum tilt 60° - Base 41
Mast clamp	mm	35 ÷ 80	35 ÷ 80
Dish material		allumium/steel	allumium/steel
Supporting bracket material		steel - aluminium/zinc treatment	steel - aluminium/zinc treatment
Wind load at 150Km/h	Kg	53	81

DUAL FEED SUPPORT

For LNB diameter 23, 40, 60mm.
For ASTRA and EUTELSAT reception at 19.2° and 13° E or two others satellites with 6° offset.

Item code	
DFPDIGIT	For PENTA DIGIT For LNB's with a 23 or 40mm diameter
DFP85	For PENTA 85
DFP85R	Adjustable for sat positions other than 13° E (France, Spain) Only for Penta 85

white



sky blue

grey

brick red

PENTA

PENTA SERIES

Item code	Model	Diameter cm.	Dual feed support(1)	Material	Packaging	Mounting kit	Colours
DIGIT-A	DIGIT	68	DFPDIGIT	Steel	1	Included	White
DIGIT-GA							Grey
DIGIT-RA							Brick red
DIGIT-ASKY							Sky blue
DGTX10-A					10	ZNCDGTX10	White
DGTX10G-A							Grey
DGTX10R-A							Brick red
DIGIT				Aluminium	1	Included	White
DIGIT-G							Grey
DIGIT-R							Brick red
DGTX10					10	ZNCDGTX10	White
PENTA85-A	PENTA85	85	DFP85R DFP85	Steel	1	Included	White
PENTA85-GA							Grey
PENTA85-RA							Brick red
P85X10-A					10	ZNC85X10	White
P85GX10-A							Grey
P85RX10-A							Brick red
P85ASKYX10							Sky blue
PENTA85				Aluminium	1	Included	White
PENTA85G							Grey
PENTA85R							Brick red
P85X10					10	ZNC85X10	White
P85GX10-B							Grey
P85RX10-B							Brick red

(1) Not included.

Offset Sat dishes

PT85N

PT100AC

RO80AP

OFFSET SAT DISHES

Item code	Diameter cm.	Material	Gain dB	Mast clamp	Ratio F/D	Dual feed support(1)	Colours	Packaging	Mounting kit
RO60AX10	60	Steel	35,4	20-50	0,66	–	White	10	ZNO60AC
RO80ACX10	80	Steel	37,3	20-50	0,66	DFO80C	White	10	ZNO80AC
RO80ACX50								50	
RO80APX30	80	Steel	37,7	30-60	0,64	DFA	White	30	ZNO80AP
RO80APX100								100	
RO80APX200	80	Steel	37,7	30-60	0,64	DFA	White	200	ZNO80AP
PT85N	85	Aluminium	38,3	30-90	0,67	DFO100C	White	1	Inclusi
RO85X50							White	50	ZNO85X50
RO85GX50							Grey	50	
RO85RX50							Brick red	50	
PT100AC	100	Steel	39,7	30-90	0,66	DFO100C	White	1	ZNO100C
RO100ACX6								6	
PT100C	100	Aluminium	39,7	30-90	0,66	DFO100C	White	1	ZNO100C
RO100CX6							White	6	
RO100CGX6							Grey	6	
RO100CRX6							Grey	6	
PT100CRX10							Brick red	6	
RO100CX25	100	Aluminium	39,7	30-90	0,66	DFO100C	White	25	ZNO100C
RO100ACX25	100	Steel	39,7	30-90	0,66	DFO100C	White	25	ZNO100C
RO120N	120	Aluminium	41,3	55-100	0,66	DFO120N	White	1	AZO120N (AZ-EL mount)
RO120NX5								5	AZO120+PMO150 (polar assembly)
RO150	150	Aluminium	43,3	55-100	0,66	DFO120N	White	1	AZO150N (AZ-EL mount) AZO150+PMO150 (polar assembly)

DUAL FEED SUPPORT

DFO80C	For models RO80AC and PT80ACK
DFA	For models RO80AP
DFO100C	For models PT85N, RO85X50, PT100C and RO100C
DFO120N	For models RO120N and RO150

(1) Not included.

SAT12901

SAT12121A

OFFSET SAT DISHES

ITEM CODE		SAT12901	SAT12121A	SAT12181A
MATERIAL		Composite	Composite	Composite
COLOUR		Light grey	Light grey	Light grey
DIAMETER (cm)		90	120	180
OUTPUT		70 %	72 %	70 %
BAND WIDTH (GHz)	10,70 - 12,75	10,70 - 12,75	10,70 - 12,75	
GAIN (dB)	- 11GHz	38,5dB	41,3dB	45dB
	- 11,7GHz	39dB	41,9dB	45,5dB
	- 12,5GHz	39,5dB	42,3dB	46dB
CROSSED POLARISATION		> 30dB	> 30dB	> 30dB
WIDTH OF BEAM (TO -3dB)		1,9°	1,6°	1°
NOISE TEMP. (to 30° elevation)		35° K	24° K	22° K
FIGURE OF MERIT G/T calculated with an LNB of 1.3 dB; 11.7GHz	16,1 dB / K°	20,4 dB / K°	23,5 dB / K°	
F/D		0,6	0,5	0,6
OFFSET ANGLE		29°	22,6°	22,6°
ANGLE OF ELEVATION	0 - 55°	10 - 90° (40° max. transverse mast)	10 - 90°	
AZIMUTH ANGLE		0 - 180°	0 - 180°	0 - 180°
TEMPERATURE RANGE	– 30 - + 60°C	– 30 - + 60° C	– 30 - + 60° C	
TRANSVERSE MAST CLAMP DIAM.		30 - 60mm	76mm	114mm
WIND SPEED	when operational	130km/h	80km/h	80km/h
	max. limit	160km/h	190km/h	190km/h
DIMENSIONS	Large axis	103cm	130cm	190cm
	Small axis	90cm	120cm	180cm
WEIGHT		10kg	19,5kg	70,5kg
DOUBLE FEED SUPPORT		**SCC1590**	–	–

KIT system

Digital Kit

Offset Kit

Penta Kit

DIGITAL KIT

P80RFK	- White parabolic 80cm offset dish - Universal LNB - Digital Free To Air Receiver
P80RFK-DF	- White parabolic 80 cm offset dish - Universal 6° monobloc LNB - Digital Free To Air Receiver
P80RCIK	- White parabolic 80cm offset dish - Universal LNB - Common Interface Digital Receiver
P80RCIK-DF	- White parabolic 80cm offset dish - Universal 6° monobloc LNB - Common Interface Digital Receiver

OFFSET KIT

P80APK	- RO80AP dish - Universal LNB
PT80ACK	- RO80AC dish - Universal LNB

PENTA KIT

DIGIT-AK	- DIGIT-A dish - Universal LNB
DIGITK	- DIGIT dish - Universal LNB
P85AK	- PENTA85-A dish - Universal LNB
P85AKSKY	- PENTA85-A sky blue colour dish - Universal LNB
P85K	- PENTA85 dish - Universal LNB

BSTE8

CDPUZ

MBUZ

CDPUTZ - CDPU4Z
CHVU4Z

BSTE4 - BSTE5
BSTE9

LNB[1]

LNB-F[2]

UNIVERSAL LNB'S

The new range of LNB's from Fracarro guarantee an excellent signal quality and can be used for all requirements, from the simple individual installation to the most complex DTH installation and, for multipoint distribution.

Item code	Noise fig. dB	Gain dB	Power consumption mA
UNIVERSAL SINGLE LNB'S			
CDPUZ	0,7	55	120
CDPUZP	0,7	55	120
BSTE8	0,6	55	115
UNIVERSAL MONOBLOC LNB'S			
MBUZ	0,7	55	120
MBUTZ	0,7	55	200
MBU4Z	0,7	55	220
UNIVERSAL TWIN LNB'S			
CDPUTZ	0,7	55	200
BSTE5	0,6	55	200

Item code	Noise fig. dB	Gain dB	Power consumption mA
UNIVERSAL QUAD LNB'S			
CDPU4Z	0,7	55	200
BSTE4	0,6	55	200
UNIVERSAL QUATTRO LNB'S			
CHVU4Z	0,7	55	200
BSTE9	0,6	55	200
UNIVERSAL EIGHT OUTPUTS LNB'S			
CDPU8Z	0,7	55	250

VERY LOW NOISE FIGURE LNB'S

The Fracarro LNB's with low noise figure (0,3dB) can be used with smaller diameter dishes and still guarantee the same signal quality.

Item code	Noise fig. dB	Gain dB	Power consumption mA
UNIVERSAL SINGLE LNB'S			
CSU03[1]	0,3	55	105
CSU03-F[2]	0,3	55	105
UNIVERSAL TWIN LNB'S			
CT03[1]	0,3	55	200
CT03-F[2]	0,3	55	200
CT05[1]	0,5	55	200

Item code	Noise fig. dB	Gain dB	Power consumption mA
UNIVERSAL QUAD LNB'S			
CQD03[1]	0,3	55	200
CQD03-F[2]	0,3	55	200
CQD05[1]	0,5	55	200
UNIVERSAL QUATTRO LNB'S			
CQ03[1]	0,3	55	185
CQ03-F[2]	0,3	55	185
CQ05[1]	0,5	55	185

Signal level meters

MC1-TV
MC3-SAT

MC6-SAT

MC7

SIGNAL LEVEL METERS

The new range of signal level meters: compact, light and with an audio buzzer. Safety case included.

MC1-TV - digital and analogue TV positioner

- Digital network identification – NIT (DVB standard)
- Input level indicator, S/R,C/N,Fec
- Input frequency 474 / 862MHz or channels (ch 21 – ch 69)
- 120 memory positions
- Buzzer with parameter selection
- Battery life: 4 to 5hours

MC3-SAT - analogue and digital SAT positioner

- Digital network identification – NIT (DVB standard)
- Input level indicator, S/R,C/N,Fec
- Automatic selection of 22KHz tone depending of the frequency
- Manual selection of LNB voltage: 0-14-18V
- 120 programmable memory positions
- Buzzer with parameter selection
- Battery life: from 2 to 4 hours with LNB current = 300mA with protection from short circuit

MC6 SAT-BUSTER - digital Sat positioner

- To measure the true satellite signal quality; select the transponder without storing any data
- LNB power supply 14/18V, 0/22KHz,DISEqC 1.0
- Programmable with PC
- Buzzer with parameter selection
- Battery life 3-6hours with LNB current = 500mA with short circuit protection

MC7-TVSAT - terrestrial analogue and COFDM signal level measurement - analogue and QPSK satellite – FM and QAM radio

- QPSK Demodulation
- Emulated COFDM & QAM
- Automatic noise figure measurement indB
- Synchronism display for the noise and intermodulation analysis
- Transponder identification (NIT)
- V-SAT & SAT POINTING functions optional
- Stored DISEqC functions
- Vertical TV & SAT spectrum
  - Resolution selection (high-medium–low)
  - Spectrum setting (automatic-manual)
- Interchangeable input connector: F, IEC, BNC, N
- 4 selectable and programmable measurements modes
- 99 memory folders with more than 5000 memory positions
- PC connection– RS232/USB
- Sofware upgrade via internet
- 4,5” B/W Monitor
- High resolution OSD
- Battery life: 2/3hours (microprocessor controlled)
- Weight 5,2Kg

Masthead products

A wide range of filters, combiners and amplifiers that unites good performance with simple installation

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Combiners

TM..
Dimensions mm 74 x 91 x 54

ESP2
Dimensions mm 74 x 36 x 58

ES..
Dimensions mm 74 x 36 x 58

MEF/..
For mast up to ∅ 60 mm max
Dimensions mm 85 x 115 x 64

ANTENNA COMBINERS

Item code	**Two inputs - one output 75Ohm** For coupling two antennas receiving the same channels. V.S.W.R. < 1.25. Mast clamp ∅ 42mm max. No through loss. Packaging 10pcs
TM5	For UHF band 4
ESP2	For coupling two antennas of any type. For coupling two signals. Power pass is available on one or both inputs. Attenuation 4dB Separation between two inputs ~ 20dB. Adjustable plastic strap for mast mounting ∅ 60mm max.

MAST COMBINER saddle and clamp connections

Weatherproof plastic housing. V.S.W.R. ≤ 2. Can be used as splitters using the output mix as an input with insertion loss as shown. Fixing suitable for masts up to ∅ 60mm. Packaging 10pcs

Item code	Strap fixing suitable for masts up to ∅ 60mm.
ESV45	Input bands: VHF, 4 and 5. Atten.: 0.5dB in VHF; 1dB in b. 4 and b.5. Power pass in band 5
ESV45S	Input bands: VHF, 4 and 5. Atten.: 0.5dB in VHF; 1dB in b. 4 and b.5. Band 5 begins at 590MHz (channel E36). Power pass in band 5
ESVUU	Input bands: VHF, UHF, UHF. Atten.: 0.5dB in VHF; 4dB in UHF. Power pass on clamp UHF + d.c.
ES345/43	Input bands: 3, UHF (c. E21 - E41), UHF (channels E43 - E69)
ESVU	Input bands: VHF and UHF. Attenuation: 1 dB in both VHF and UHF bands. Power pass provided in UHF band only
ESVU2	Power pass provided in VHF band only
ESVU22	Two separate outputs. Attenuation: 4dB in VHF and UHF. Remote power feed is available in VHF. Power pass available on both outputs
ES54V	Input bands: 5, 4, VHF. Attenuation: 1dB in b. 4 and VHF; 2dB in b. 5. We cannot guarantee pass or attenuation in upper band 4 and lower 5. Power pass is available in b. 5 only
MEF/.. (1)	For mixing any UHF channel on any type of installation. Selected UHF channel attenuation 2 dB; attenuation other channels (excluding adjacent ones): 20dB. Attenuation on the down-line existing channels: 0.5dB; selected UHF channel: 25dB. Packaging 1pc

(1) To complete the code with channel reflence. The two channels or group of channels cannot be adiacent; there can be three groups in band 4 and four groups in band 5.

SF..
Dimensions
mm 28 x 78 x 20

FUS/45
Dimensions
mm 85 x 115 x 64

PAS ...

JS..
Dimensions
mm 76 x 35 x 89

MXST

CHANNEL ATTENUATORS

For installation between the antenna and the amplifier. For two or more sections which can be tuned onto different frequencies or the same frequency if greater attenuation is required. The various sections are independent and individual and do not affect each other. To tune, turn the core of the trimmer. D.C. through-line (apart from SF5).
Packaging 10pcs.

Item code	
	Two cells FOR INDOOR INSTALLATIONS - Coaxial connectors I.E.C. ∅ 9.5mm.
SF4	Stop one or two band 4channels. Attenuation from 20 to 30dB
SF5	Stop one or two band 5channels. Attenuation from 20 to 30dB
	FOR OUTDOOR INSTALLATIONS - For mast mounting. Waterproof housing. Screw terminal connectors.
FUS/45	Stop one or two UHF band channels. Attenuation from 25 to 35dB per section. For mast ∅ 60mm max
FE5U	**Five cells** FOR INDOOR INSTALLATIONS Can be used outside if placed inside a CN1 housing. Female coaxial connectors ∅ 9.5mm. Each cell has two trimmers for regulating channel attenuation and the width of the attenuated band. Attenuation per cell from 6 to 20dB depending on the frequency. May be tuned onto any UHF channel
IZ2	**IMPEDANCE** For D.C. transfer between two terminals on multi-band amplifiers. Packaging 100pcs

COMBINER

	INPUT 1	INPUT 2	INPUT 3
PAS0303	VHF #	UHF #	–
PAS0302	VHF + UHF	IF #	–
PAS0312	VHF	UHF	IF #
PAS0311	B I - FM	B III	UHF #

: indicates that the remote power supply is sent to the corresponding input

INDOOR COMBINER with “F” type connectors

Totally shielded metal frame. V.S.W.R. ≤2.

JSVU3	2 inputs: one VHF+S (40÷446MHz) and one UHF (470÷862MHz). Attenuation: 1dB on both inputs.

INDOOR TV SAT COMBINER

For mixing or demixing a TV signal with a SAT signal, allowing D.C. between SAT input (output) and output (input).
Packaging 1pc.

MXST	2 input: TV and SAT (950÷2150MHz). Attenuation: 0,5dB an both inputs. Very good TV - SAT isolation and V.S.W.R.
PAS0303011	2 input: TV and SAT (950÷2150MHz). Attenuation: 0,5dB an both inputs.

Multiband mast amplifiers - ES series

ES..
Dimensions mm 74 x 36 x 58

JS2RT
Dimensions mm -- x -- x --

MULTI-BAND MAST AMPLIFIERS - ES series

Weatherproof plastic housing. Strap fixing suitable for masts up to Ø 60mm.
To couple and amplify signals coming from 2 or 3 groups of antennas belonging to the bands shown below.
Shielded saddle and clamp terminals improve isolation between inputs.
Powered via coaxial downlead. One coupled output.
Max. output 108dBµV (250mV).
Noise figure ≤ 4dB.
V.S.W.R. ≤ 2.

Item code	Input No.	Amplified bands MHz		Power consumption mA @ 12Vdc	Gain dB	Packaging pcs
ES1/Q	1	174÷862	–	28	12	10
ES1/RVU	2	47÷230	470÷862	27	4÷12	10
ES2/Q	1	174÷862	–	50	22	10
ES2RT	1	47÷862	–	50	8÷23	10
ES2/RU	1	470÷862	–	55	10÷25	10

MULTI-BAND MAST AMPLIFIERS - JS2RT

Totally shielded metal frame
F connector
1 output
Power requirement 12V on the single output
Noise figure ≤ 5dB.
V.S.W.R. ≤ 2.

Item code	Input No.	Amplified bands MHz	Power consumption mA @ 12Vdc	Gain dB	Packaging pcs
JS2RT	1	47÷862	6	7÷22	10

MAP1.. - MAP2.. - MAP3..
Dimensions mm 105 x 60 x 95

MAP4.. - MAP5..
Dimensionis mm 105 x 60 x120

MAST AMPLIFIER - MAP series - 12 Volts

The MAP amplfiers mix and amplify the signals from one or more antennas.
They are fully screened in a metallic case and have “F” type connectors.
The innovative system of the plastic housing locks the cover in place and rotates the case to guarantee safety and speed on installation.
Power requirement 12V, on a single output.
V.S.W.R. < 2

Individual amplifiers

Item code	No. of inputs	Band inputs	Gain (dB typ.)	Max output's level dBµV	Gain adj. (dB typ.)	Noise fig. dB	Power con. mA max	Packaging pcs
MAP108	1	1+3	25	108	15	5	65	10
MAP107	1	4	24	108	15	5	60	10
MAP104	1	5	25	108	15	5	60	10
MAP105	1	UHF	33	108	15	6	85	10
MAP106	1	VHF + UHF	34	108	15	5	75	10
MAP109(2)	1	VHF + UHF, 5 OUT	17	92	15	4	65	10
MAP205(1)	2	VHF + 4, 5	-2, 11	105	-, -	-, 5	40	10
MAP210	2	VHF + 4, 5	-2, 11	105	-, -	-, 5	40	10
MAP204	2	VHF, UHF	26, 24	108	15, 15	5, 5	65	10
MAP207	2	3+ UHF, UHF	21, 21	108	15, 15	8, 8	65	10
MAP208	2	3, UHF	34, 35	108	15, 15	4, 3	80	10
MAP206	2	VHF, UHF	35, 36	108	15, 15	5, 5	75	10
MAP303	3	VHF, 4, 5	-2, -2, 12	105	-, -, -	-, -, 5	40	10
MAP304(1)	3	VHF, 4, 5	-2, -2, 12	105	-, -, -	-, -, 5	40	10
MAP311(3)	3	FM, DAB, UHF	-1, 25, 24	105	-, 15, 15	4, 5	60	10
MAP312	3	VHF, 4, 5	25, 24, 25	108	15, 15, 15	5, 6, 6	65	10
MAP313	3	VHF, UHF, UHF	24, 30, 30	108	15, 15, 15	5, 8, 8	80	10
MAP315	3	VHF, UHF, UHF	34, 40, 40	108	15, 15, 15	5, 8, 8	95	10
MAP400	4	VHF, VHF, UHF, UHF	-4, 21, 19, 19	105	-, 15, 15, 15	-, 5, 8, 8	60	10
MAP500	5	1, 3, 4, 5, UHF	16, 15, 10, 10, 11	108	-, -, -, -, -	4, 4, 8, 8, 8	40	10
MAP501	5	1, 3, 4, 5, UHF	24, 24, 19, 20, 20	108	15, 15, 15, 15, 15	4, 4, 8, 8, 8	60	10
MAP502(1)	5	1, 3, 4, 5, UHF	16, 15, 10, 10, 11	108	-, -, -, -, -	5, 5, 9, 9, 9	40	10
MAP503(1)	5	1, 3, 4, 5, UHF	24, 24, 19, 20, 20	108	15, 15, 15, 15, 15	5, 5, 9, 9, 9	60	10

(1) Band 4 = ch 21÷32 and band 5 = ch 36÷69.
(2) 1 input and 5 output.
(3) DAB = 216÷240MHz.

MAP series

MAP1.. - MAP2.. - MAP3..
Dimensions mm 105 x 60 x 95

MAP4.. - MAP5..
Dimensions mm 105 x 60 x120

MAST AMPLIFIER - MAP series - 24Volts

The MAP amplfiers mix and amplify the signals from one or more antennas.
They are fully screened in a metallic case and have “F” type connectors.
The innovative system of the plastic housing locks the cover in place and rotates the case to guarantee safety and speed on installation.
Power requirement 24V, on a single output.
V.S.W.R. < 2

Individual amplifiers

Item code	Band	Gain (dB typ.)	Gain adj. (dB typ.)	Output level dBµV	Noise figure dB	Power consumption mA max	Packaging pcs
MAP102	UHF	33	15	108	6	70	10
MAP103	VHF + UHF	34	15	108	5	70	10
MAP201	3, UHF	34, 35	15, 15	108	4, 3	75	10
MAP202	VHF, UHF	35, 36	15, 15	108	5, 5	70	10
MAP209	VHF, UHF	26, 24	15, 15	108	5, 5	70	10
MAP300	VHF, UHF, UHF	34, 40, 40	15, 15, 15	108	5, 8, 8	95	10
MAP306	VHF, 4, 5	34, 32, 34	15, 15, 15	108	5, 6, 6	80	10
MAP314	VHF, UHF, UHF	24, 30, 30	15, 15, 15	108	5, 8, 8	80	10
MAP402	VHF, 4, 5, UHF	34, 41, 41, 42	15, 15, 15, 15	108	5, 8, 8, 8	90	10

Multiband mast amplifiers
JK series and EK series

JK ...
Dimensions mm 100 x 56 x 128

EK5/... - EK6/..
Dimensions mm 112 x 52 x 112

MULTI-INPUT MAST AMPLIFIERS - JK series

Totally shielded metal case with “F” type connectors. Power supply: +12Vdc negative ground. For masts up to Ø 60mm.
To mix and amplify signals from several groups of antennas.
Power supplied through coax cable: 1 mixed output. Gain adjustment (20dB) with independent attenuators.
V.S.W.R. ≤ 2.

Separate VHF and UHF amplification.

Item code	No. of input	Bands	Gain (reg.) dB	Noise figure ≤ dB	Output level dBµV b1	b2	UHF	Gain adjustment dB	Consumption mA	Packaging pcs
JK6QR345(3)	1	3+4+5	19,27,26	4,7,6	108	112	112	x,x,x	100	5
JK6RPUU	3	1+3,UHF,UHF	20+20,29,29	4+4,7,7	105	108	112	x,x,x	75	5
JK6RPUU0(1)	3	1+3,UHF,UHF	20+20,29,29	4+4,7,7	105	108	112	x,x,x	75	5
JK6RP45	3	1+3,4,5	20+20,29,31	4+4,5,5	105	108	112	x,x,x	75	5
JK6RP45S(2)	3	1+3,4,5	20+20,29,31	4+4,5,5	105	108	112	x,x,x	75	5
JK6R1345U	5	1,3,4,5,UHF	21,19,28,28,28	3,3,7,8,7	105	108	112	x,x,x,x,x	75	5
JK6R1345US(2)	5	1,3,4,5,UHF	21,19,28,28,28	3,3,7,8,7	105	108	112	x,x,x,x,x	75	5

MULTI-BAND MAST AMPLIFIERS - EK series

Weatherproof plastic housing. Suitable for mast mounting ∅ 42mm max. For coupling and amplifying the signals from several groups of antennas. Shielded saddle and clamp terminals for improved isolation between inputs. Powered by coaxial downlead. One coupled output. V.S.W.R. ≤ 2. Suitable for pre-amplifiers. 12Vdc.
Separate attenuators with adjustable attenuation (20dB).

Separate VHF and UHF amplification.

	No. of input	Inputs bands	Gain dB	Noise figure ≤ dB	Output level dBµV	Gain adjustment dB	Consumption mA	Packaging pcs
EK6/Q-345	1	3+4+5	20,27,25	4,5,5	108,110,110	x,x,x	60	10
EK6RPUU	3	1+3,U,U	21+19,25,25	3.5,8,8	106+108,110,110	x,x,x	60	10
EK6RPUU0(1)	3	1+3+C,U,U	21+19,25,25	3.5,8,8	106+108,110,110	x,x,x	60	10
EK6RP45	3	1+3,4,5	21+19,27,28	3.5,4.5,5	106+108,108,110	x,x,x	60	10
EK6RP45S(1)	3	1+3,4,5	21+19,27,28	3.5,4.5,5	106+108,108,110	x,x,x	60	10
EK6R1345U	3	1,3,4,5,U	23,18,25,25,25	5,5,8,8,8	103,108,108,108,108	x,x,x,x,x	60	10
EK6R1345U0	5	1+C,3,4,5,U	23,18,25,25,25	5,5,8,8,8	103,108,108,108,108	x,x,x,x,x	60	10
EK6R1345US(1)	5	1,3,4,5,U	23,18,25,25,25	5,5,8,8,8	103,108,108,108,108	x,x,x,x,x	60	10

(1) In b. 1 input also passes channel C.
(2) Letter S shows that band is only for channels 21-32, 470÷565 MHz b. 5 is = 590÷862 MHz (channels 36 - 69).
(3) Q in model number indicates one input for bands 3, 4, and 5 with gain adjustment for each band.

Broadband amplifiers

ABLA101-102-3RT
Dimensions mm 105 x 62 x 53

JAX13DC - JA21R
Dimensions mm 92 x 49 x 109

INDOOR BROADBAND AMPLIFIERS

MAINS POWERED

Power supply required: 220-230V~ - 50Hz.
Insulation: class II.
Operating temperature: -10°C ÷ +55°C.
240V ± 10% by special order. For all TV bands (47÷862MHz). V.S.W.R. ≤ 2. 1 input - 1 output

Item code	No. of transistors	Gain (reg.) dB	Max. output dBµV	Noise figure ≤ dB	Power consumption W	Packaging pcs
	With shielded clamps					
ABLA101	1	8	108	5	1,2	10
ABLA102	2	19	108	5	1,6	10
ABLA3RT	3	14 ÷ 34 (20)	113	5	3,0	10

INDOOR BROADBAND AMPLIFIERS

MAINS POWERED

Power supply 220-230V~ - 50/60Hz. Insulation: class II.
Operating temperature: -10°C ÷ +55°C.
It can be placed either on the back of the TV set, a table or fixed to the wall.
For table and wall mounting remove the hook on the bottom. **«F»-type input and output connectors.**
Totally shielded RF section to prevent interferences.

	Gain dB	No. of outputs	Output level dBµV	Noise figure ≤ dB	Band MHz	V.S.W.R. ≤	Power consumption W	Packaging pcs
JA21R	7÷22	1	110	5	47÷862	2	3,5	1

TV+SAT BROADBAND AMPLIFIERS (5÷2400MHz)

TV and SAT amplifiers with V.S.W.R. charateristics and typical noise figures of a professional product, to be used as amplifiers for single SAT systems, Multiswitch and single IF distribution.
Passes the D.C. 22KHz and DiSEqC between input and output.
Power supply: 220-230V~ - 50/60Hz.
Insulation class: II.
Operating temperature: -10 ÷ 55°C.
Totally shielded RF section to prevent interferences.

	Gain dB	No. of outputs	Output level dBµV	Noise figure ≤ dB	Band MHz	V.S.W.R. ≤	Power consumption W	Packaging pcs
JAX13DC	13	1	115	7	5÷2400	1,5	3,5	1

Multi-socket range amplifiers

AMP9201-9200

AMP9300-9301

AMP9311

INTERNAL AMPLIFIERS FOR SMALL BLOCKS OF FLATS

- Metal cased products with F connectors
- CMS components
- F connectors supplied with all products
- Built in 230V power supply

Item code	Frequency band (per input)	Gain (dB)	Output level (dBµV)	Noise figure (dB)	Consumption W	Fixing
AMP9201	B I - FM	2 - 12	105	4	3	Wall
	B III	12 -22				
	UHF	12 - 22				
AMP9200	47-862MHz broad band	20	105	4	3	Wall

INDOOR APARTMENT AMPLIFIERS

	Frequency band (per input) MHz	Gain (dB)	Output level (dBµV)	Number of outlets	Noise figure (dB)	Consumption W	Fixing
AMP9300	174 - 862	2 x 14	2 x 98	2	4	2	Wall
	With return path for CATV						
AMP9301	88 - 862 5 - 55	2 x (5-15) -6 dB	2 x 104	2	6	2	Wall
AMP9311	88 - 862	2 x (10-16)	2 x 106	2	7	5	Wall

Power supplies
AM series - PSU series - AL series

AM ...
Dimensions mm 50 x 87 x 46

PSU...
Dimensions mm 92 x 49 x 109

AL50S
Dimensions mm 52 x 87 x 84

POWER SUPPLIES - AM series

The new AM series is an effective answer to all power supply requirements that may arise in every aerial installation.
Models available: 12Vdc, 50mA and 100mA.
The new AM series is designed to meet the strictest safety requirements and to shut down in case of a short circuit.
Value for money, the wide range of models and the look of the new AM series makes it the best solution for those installations where the overall quality is as important as the price.
Input 220-230V~ - 50Hz.
Insulation: class II.
Operating temperature: -10°C ÷ +55°C.

Item code	
AM50N	Power supply 12Vdc - 50mA - 1 output - Pack. 20pcs
AM100N	Power supply 12Vdc - 100mA - 1 output - Pack. 20pcs
AM102N	Power supply 12Vdc - 100mA - 2 output - Pack. 20pcs

POWER SUPPLIES - PSU series

STABALIZED

Input: 220-240V - 50/60Hz. Class: II isolation
Temperature of operation: -10° C +55 °C
With short circuit protection.
New plastic case suitable for fixing to a table or a wall.
Low energy consumption “F” type connectors on the input and output.
Componets are screened to prevent any RF inteferences.

	Output voltage V	Power mA	Outputs	Packinging pcs
PSU411	12	200	1	1
PSU412	12	200	2	1
PSU341	24	100	1	1
PSU342	24	100	2	1

POWER SUPPLIES - AL series

Input 220 - 50Hz. Output 12V continous. - Class II isolation.
Temperature of operation: -10° C +55 °C
With short circuit protection and self reset.
Max current 42mA connection.

	Output’s tension V	Power mA	Outputs	Packinging pcs
AL50S(1)	12	42	1	1

(1) With IEC Connector’s Type 9.5mm

TV and SAT headends

Fracarro has all the solutions for analogue and digital processing in medium, large or high end professional systems.
Ready for future technology.
Available in modular or compact headend

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Compact line range
Analogue satellite processing headend

new

SIG9306UN

COMPACT HEADEND FOR 6 ANALOGUE CHANNELS

Compact headend for the reception and distribution of 6 analogue satellite channels. Demodulates 6 analogue channels and remodulates them into RF band: VHF band (SIG9306VN) or UHF (SIG9306UN) band. Compact headend includes 6 analogue receivers, 6 A/V modulators, 6-way combiner with existing TV signal mixing, power supply unit and programming unit.
A/V output are available to connect optional decoder for encrypted channel receiving. Wall and floor installation possible.
Earth bound screw. EN50083 compliant.

KEY POINTS

Easy to install, in one box are included:

- Power supply
- 6 A/V modulators
- Final amplifier 100dBµV
- 6 analogue receivers for free-to-air channels
- Combiner to mix 6 RF channels
- Programming unit with 2 rows backlighted display

Every single receiver can generate 14 or 18V also 22KHz tone, suitable to feed LNB or to control multiswitch output, adjustable via software; protected access via pin code; heat dissipation by natural convection, no need to have fans, maintenance costs reduction.

Item code		SIG9306UN
BANDWITH:		
	Satellite input	920 - 2150MHz, 1 input
	RF input	47 - 860MHz
	Output	470 - 862MHz
COMPATIBILITY:		
	TV standards	SECAM L, PAL B/G D/K I, NTSC M
	Audio noise reduction	Compatible with PANDA
CONNECTORS:		
	Connectors	F
	Decoder output / input	DIN - 7 pin
SATELLITE INPUT:		
	Entry level	49 to 79dBµV
	Impedance	75Ohm
	IF filter	27MHz (-3dB)
DECODER OUTPUT / INPUT:		
	Base band output voltage	1V pp
	Impedance	75Ohm
	Frequncy range	25Hz to 10MHz
	Video output voltage	1V pp
	Impedance	75Ohm
	Frequency range	25Hz to 5MHz
	Signal to noise (with C/N 14dB)	49dB typ.
	C/KU band	positive/negative video
	Video deviation (programmable)	13.5 / 16 / 19 / 22.5MHz/V
	Video output modality	RAW / Video B.Base / Normal / Inverted
AUDIO:		
	Sub carriers frequency	5.5 to 9.5MHz
	Bandwidth filter	130kHz, 180kHz, 280kHz, 330kHz, 380kHz, 400kHz
	Deemphasis	50µs, 75µs, j17
	Modes	2 channels independent tuning
	Bandwidth	30 to 15000Hz
	Level adjustment (programmable)	-5, -4, -3, -2, -1, 0, +1, +2, +3, +4, +5, step 1.25dB
MODULATOR:		
	Frequency range	470 - 860MHz
	Modulation	Double side band
	Frequency stability	< ± 70kHz
	Output level adjustment	90 to 100dBµV typ., adjustable via software for every receiver
	Flatness	± 2.5dB
	Impedance	75Ohm
	Terrestrial coupling loss	2dB typ.
GENERAL:		
	Operating voltage	185 to 264Vac 50/60Hz
	LNB power supply	0/14/18V - 0/22kHz on every input
	LNB consumption	400mA totals max.
	Operating temperature	-5 to +45°C
	Dimensions	370x240x150mm

Compact line range
Analogue satellite processing headend

new

SIG9306VN

Item code		SIG9306VN
BANDWITH:		
	Satellite input	920 - 2150MHz, 1 input
	RF input	47 - 860MHz
	Output	146 - 430MHz
COMPATIBILITY:		
	TV standards	SECAM L, PAL B/G D/K I, NTSC M
	Audio noise reduction	Compatible with PANDA
CONNECTORS:		
	Connectors	F
	Decoder output / input	DIN - 7 pin
SATELLITE INPUT:		
	Entry level	49 to 79dBµV
	Impedance	75Ohm
	IF filter	27MHz (-3dB)
DECODER OUTPUT / INPUT:		
	Base band output voltage	1V pp
	Impedance	75Ohm
	Frequncy range	25Hz to 10MHz
	Video output voltage	1V pp
	Impedance	75Ohm
	Frequency range	25Hz to 5MHz
	Signal to noise (with C/N 14dB)	49dB typ.
	C/KU band	positive/negative video
	Video deviation (programmable)	13.5 / 16 / 19 / 22.5MHz/V
	Video output modality	RAW / Video B.Base / Normal / Inverted
AUDIO:		
	Sub carriers frequency	5.5 to 9.5MHz
	Bandwidth filter	130kHz, 180kHz, 280kHz, 330kHz, 380kHz, 400kHz
	Deemphasis	50µs, 75µs, j17
	Modes	2 channels independent tuning
	Bandwidth	30 to 15000Hz
	Level adjustment (programmable)	-5, -4, -3, -2, -1, 0, +1, +2, +3, +4, +5, step 1.25dB
MODULATOR:		
	Frequency range	146 - 430MHz
	Modulation	Double side band
	Frequency stability	< ± 70kHz
	Output level adjustment	90 to 100dBµV typ., adjustable via software for every receiver
	Flatness	± 2.5dB
	Impedance	75Ohm
	Terrestrial coupling loss	2dB typ.
GENERAL:		
	Operating voltage	185 to 264Vac 50/60Hz
	LNB power supply	0/14/18V - 0/22kHz on every input
	LNB consumption	400mA totals max.
	Operating temperature	-5 to +45°C
	Dimensions	370x240x150mm

FILTERED BAND COUPLERS

4 input couplers to create an 18 channel headend. Input filtering to improve C/N.
Connectors F. Transition losses 2.5dB. Dimensions 122x67x42mm.

	Input 1 MHz	Input 2 MHz	Input 3 MHz	Input 4 MHz	Outputs MHz	Impedance Ohms
PAS0322001	118-209 (03-19)	230-326 (011-023)	350-446 (027-038)	470-862 (021-069)	118-862	75
PAS0322011	118-446	470-582	606-726	750-862	118-862	75

SMATV headends - K series

K SERIES
MODULAR SYSTEMS FOR MATV/SMATV SYSTEMS

The design targets of the K series are:

- Easy installation and maintenance
- Flexibility in the unit / headend composition (in particular with reference to the integration between traditional TV, satellite TV and satellite IF).
- Solid and inexpensive, but without compromising performance.
- Ready for future product ranges.
- In compliance with all European and international regulations in force, including shielding and electromagnetic compatibility (CE mark, according to 89/336/EEC directives mod. 93/68/EEC).

The main features of K series products are:

- Fixing to standard DIN bar, which provides good mechanical strength and the maximum density when assembling the headends. It also allows the use of a very 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 - are in die-cast and small silver plated boxes.
- For RF connections, all modules use “F” connetors with quick fit interconnection bridges.
- Adjacent channel distribution is possible thanks to the channel filters selectivity together with the vestigial sideband (VSB) modulators used in satellite receivers.
- Channel filters have a uniform gain (about 10dB) both in VHF and in UHF and a 90dBµV, output level guaranteeing an optimum overall picture quality even with weak signals.
- The range of products for satellite reception includes an active double splitter - with D.C. and 22KHz burst / generator (no splitters and external power supplies are required) - and an IF satellite amplifier with TV mixing, which, combined with the new passive products, give san IF distribution systems compatible with digital signals.
- For the digital system, we have created a new range of products for the reception of free to air digital channel and for the distribution of digital signals with QPSK QAM conversion.
- 19 inch rack installation possible.

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

Remote control unit - Converter

KTLC
Dimensions mm 40 x 220 x 155

KCP
Dimensions mm 40 x 220 x 155

REMOTE CONTROL UNIT

The KTLC is a management module used to control the SMATV headend. It allows the monitoring of all the devices that can be programmed with the KTP (except for the KRV/U) from a remote position, using a telephone connection (via GSM, it does not work from a fixed telephone line) or using the building LAN. It is possible to connect and manage up to 12 modules. The KTLC is extremely flexible, open to future updates and will have the ability to be used with other devices. See secondary page 50. Packaging 1 piece.

Item code	Processor:	ARM7
	Operating system:	Linux Kernel 2.4
	RAM:	32Mbyte
	Flash Eprom:	8Mbyte
	Available ports:	RS232, USB, 485
	Network interface card:	CS8900A driver Ethernet 10baseT
	Supply:	12V
	Min current:	100mA
	Max current (GSM or USB 250 mA):	950mA
	Average current consumption (active GSM & USB):	550mA
	GSM frequency:	900/1800MHz
	GSM max power:	2W max
	Port RS232 bitrate	115200Bit/se
	Current if using USB:	250mA max
KTLC	Operating temperature range	-10°C +55°C

FULLY AGILE TERRESTRIAL CONVERTER

KCP is a fully agile converter to process analogue and digital terrestrial channels. To move a channel from the band III or UHF (174-230MHz or 470-862MHz) into the band 118-862 MHz. Input and output frequency adjustment by means of KTP programmer. AGC (Automatic Gain Control) facility to maintain the a stable output level.

	Standard TV:	Digital	DVB-T 2k-8k
		Analogue	B/G/I/L/D/K
	Input frequency		174 ÷ 230MHz + 470 ÷ 862MHz
	Tuner loop-through gain		2dB ± 3
	Output frequency		118 ÷ 862MHz
	Loop-through loss		< 1,5dB
	Frequency step adjustment		166,667KHz
	Bandwidth (adjustable)		7-8MHz
	Flatness (Audio and Video carrier)		< 2dB
	Input level analogue channels		60 ÷ 90dBµV
	Input level digital channels		40 ÷ 85dBµV
	Max output level (analogue channels)		95dBµV
	Max output level (digital channels)		85dBµV
	Output level adjustment		15dB
	Noise figure		7dB
	Total phase noise		> 65dBc/Hz @1KHz
	Impedance		75Ohm
	Power supply		12V ± 5
	Max consumption		430mA
	Working temperature		-10 ÷ +55°C
	Weigh		1,1Kg
KCP	EMC		EN 50083-2

MATV headends - Channel amplifiers

KF/.. - K120/.. - KF/DAB
Dimensions mm 32 x 129 x 86

CHANNEL AMPLIFIERS

Channel amplifiers comprising 5 resonant circuits for VHF modules and 4 for the UHF modules. Excellent selectivity to allow the distribution of adjacent channels. An SMD amplification card ensures a high degree of reliability and repeatability. Insensitive to static discharge and temperature change stability has been taken in to accont during the design phase. Operating temperature: from –20° to +60°C.
Packaging 1pc.

Item code	Gain (adj.) dB	Selectivity standard B/G(1) PAn-2	PAn-1	PVn+1	PVn+2	Return loss input dB	Return loss output dB	Max. output level dBµV	Noise figure typ. dB	Frequency	Power consumption max mA
	9 (45)	35	5	9	35	10	15	93	7	E2÷E4	20 @ 12V
	9 (45)	–	–	–	–	15	15	90	4	FM	20 @ 12V
	9 (45)	45	5	10	42	10	10	95	9	E5÷E12	20 @ 12V
	7 (30)	40	5	10	40	10	10	95	10	S11÷S20	20 @ 12V
	11 (35)	42	10	16	46	12	12	95	10	S21÷S38	38 @ 12V
KF/..	11 (35)	42	10	16	46	10	10	95	10	E21÷E69	38 @ 12V

DAB AMPLIFIER

Packaging 1pc.

	Gain (adj.) dB	Return loss input dB	Return loss output dB	Max. output level dBµV	Bandwidth MHz	Power consumption max mA
KF/DAB	14 (45)	10	10	105	217÷230	20 @ 12V

120 dBµV OUTPUT CHANNEL AMPLIFIERS

Channel amplifiers comprising five resonant circuits for the VHF modules and 4 for the UHF modules. Excellent selectivity to allow the distribution of adjacent channels. The SMD amplification card ensures a high degree of reliability and repeatability. Insensitive to static discharge and temperature change stability has been taken in to accont during the design phase. Operating temperature: from –20° to +60°C.
Packaging 1pc.

	Gain (adj.) dB	Selectivity standard B/G(1) PAn-2	PAn-1	PVn+1	PVn+2	Output level dBµV	Noise figure typ. dB	Frequency	Power consumption max mA
	45 (40)	35	5	9	35	121	8	E2÷E4	180 @ 12V
	40 (40)	-	-	-	-	112	5	FM	200 @ 12V
	45 (40)	40	5	10	44	120	9	E5÷E12	180 @ 12V
	45 (30)	35	5	10	40	120	10	S11÷S20	200 @ 12V
	45 (30)	42	10	16	46	120	9	S21÷S38	200 @ 12V
K120/..	45 (30)	42	10	16	46	120	9	E21÷E69	200 @ 12V

(1) Possibility to adjust different standard on request.

DTT channel amplifiers - Broadband amplifiers

K120A/..
Dimensions mm 32 x 129 x 86

KF/...DT - K 120/...DT
Dimensions mm 32 x 129 x 86

CHANNEL AMPLIFIER WITH AUTOMATIC GAIN CONTROL (AGC). OUTPUT POWER 120dBµV

Channel amplifiers with 5 resonant circuits for VHF and UHF bands. Their 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 also useful in CATV networks with cascaded line amplifiers and for the inputs of fibre optic links.
Gain: 45dB.
Max output level: 120dBµV.
Working temperature: -10° ÷ +55°C.
Packaging 1pc.

Item code	Max input level dBµV	Selectivity B/G standard(1) PAn-2	PVn+1	Output's level Adj. dBµV	AGC Dynamic (max) dB	Noise figure dB	Operative channels	Power consumption max mA
	90	5	9	110 ÷ 120	25	8	E2÷E4	210 @ 12V
	95	5	10	110 ÷ 120	30	9	E5÷E12	210 @ 12V
K120A/..	95	12	49	110 ÷ 120	30	10	E21÷E69	210 @ 12V

(1) it is possible to adjust the amplifier to different Standard on request.

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 along side the KF filters.../ taking care 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.

	Bandwidth MHz	Gain (adj.) dB	Return loss input dB	Return loss output dB	Output level max. dBµV	Noise figure dB	Power consumption max mA
KFB4	470÷590	13 (20)	10	15	100	4	130 @ 12V
KFB5	606÷862	11 (20)	10	15	100	4	130 @ 12V

DISTRIBUTION OF DTT SIGNAL

The Fracarro K series has been improved with two new single-channel amplified filters, KF/..DT and K120/..DT for the distribution of Digital Terrestrial Television signals. These modules can be used to update existing systems to receive DTT signals without disruption to the existing system. Due to the high selectivity of the filter, the frequency response and the output level adjustment, it is simple to combine these modules with other modules giving a clean output signal. Each module has self-mixing and self-demixing capability, with a very low loss, that simplifies the installation of the distribution system.
Packaging 1pc.

	Gain (adj.) dB	Selectivity SCn-2	SCn-1	VCn+1	VCn+2	Return loss input dB	Return loss output dB	Output level max. dBµV	NF dB	Channels	Power consumption max mA
KF/...DT	11 (35)	> 38	> 8	> 11	> 42	10	10	95	10	21÷69	38 @ 12V
K120/...DT	45 (30)	> 38	> 8	> 11	> 42	10	10	115	9	21÷69	200 @ 12V

SMATV digital receivers

KDFAV - KDFU - KDFV
Dimensions mm 74 x 188 x 112

QPSK DIGITAL RECEIVER FOR SMATV APPLICATION

Qpsk digital satellite receiver PAL to receive all free to air satellite channels. Available in three different versions:
- KDFU satellite receiver with UHF modulator built-in
- KDFV satellite receiver with VHF modulator built-in
- KDFAV satellite receiver without modulator. A/V output to connect external modulators. Stereo audio available.

It is possible to receive SCPC programmes.Automatic PID updating. Packaging 1 pc.

Item code	KDFU	KDFV	KDFAV
Front-end satellite			
Input frequency range	950-2150MHz	950-2150MHz	950-2150MHz
Input level	-65÷-25dBm	-65÷-25dBm	-65÷-25dBm
Bandwidth	36MHz	36MHz	36MHz
Demodulation	QPSK ETS 300421	QPSK ETS 300421	QPSK ETS 300421
FEC	1/2, 2/3, 3/4, 5/6, 7,8	1/2, 2/3, 3/4, 5/6, 7,8	1/2, 2/3, 3/4, 5/6, 7,8
RF output			
Output frequency	470÷865MHz	170÷260MHz	–
Channels	21÷69	E5÷E12 + S11÷S14	–
Output channel configuration	dip-switch		–
Output level	90dBµV ± 2dB typ. - reg. 0÷20dB		–
Input automixing	40÷865MHz		–
Automixing loss	-1dB ± 0,2dB		–
Audio level	adjustable		–
Video level	adjustable		–
Connectors	F		–
Video decoder			
MPEG2	–		ISO-IEC 138 18-1 TS Demux
Video format	–		4:3, 16:9
Audio decoder			
Bit Rate Audio	–		> 384 kbit/sec ISO/IEC 11172-3
Audio format	1/2, 2/3, 3/4, 5/6, 7/8		stereo
Consumption	800 mA @ + 12 V D.C.		800 mA @ + 12 V D.C.
Dimensions	74 x 188 x 112mm		74 x 188 x 112mm

DTT receiver
QPSK-QAM transmodulator

KDRTT
Dimensions mm 40 x 220 x 155

KDTS
Dimensions mm 40 x 220 x 155

KDRTT – DIGITAL DTT RECEIVER FOR SMATV APPLICATION

DTT processor for the reception of free to air programs transmitted with OFDM modulation. It receives a DTT multiplex and from that extracts the video and audio signals of a program transmitted in clear. It then modulates the analogue signal which can be combined and distributed via the TV distribution system. They are available in 2 models: KDRTT/VH-CD, digital processor with an internal VHF modulator; KDRTT/UH-CD, digital processor with an internal UHF modulator. Packaging 1pc.

Item code	KDRTT/VH-CD	KDRTT/UH-CD
Input frequency (MHz)	470÷862	
Input level (dBm) with C/N= 34 dB	-73 ÷ -20	
Input level (dBm) with C/N= 21 dB	-70 ÷ -20	
Demixing gain (dB)	2 ± 3	
Channel's input's bandwidth (MHz)	8	
Input signal	2K/8K - ETSI ETS 300 744	
MPEG Decoder	MPEG-2 free ch-.teletext available	
Output signal modulation	PAL B/G, PAL I, PAL D/K	PAL B/G, PAL I, PAL D/K
Audio in output	mono	mono
Output signal modulation	DSB	DSB
Output frequency (MHz)	175 ÷ 300 (channels E5 ÷ S20)	474 ÷ 858 (channels E21 ÷ E69)
Channel's output's bandwidth (MHz)	7	8
Max output level (dBµV)	103 ± 2	105 ± 2
Output level adjustment (dB)	0 ÷ 15 (step 1dB)	
Demixing loss (dB)	-1 ± 1	
Output Return Loss (dB)	>10	
Power supply (V)	12 ± 5%	
Power dissipation (mA)	720	690
Consumption power (W)	8,6	8,3
Operating temperature (°C)	-5 ÷ +55	
Humidity ratio (%)	15 ÷ 85	

SATELLITE SIGNAL DISTRIBUTION WITH QPSK-QAM TRANSMODULATION.

This module carries out the modulation conversion from a QPSK satellite input signal to a QAM output signal; this can then be used to distribute the programs multiplexed in the satellite transponder through a cable TV network. The format of the output signal can be chosen between 16, 32, 64 and 128 symbols depending on the input signal data rate. The QAM signal is clean enough to allow for adjacent output channels. The set-up of every TDT function is carried out using the KTP programmer. The programmer can also be used to check the quality of the incoming satellite signal. Packaging 1pc.

Item code	Technical specifications:	
	Input frequency	: 950÷2150MHz
	Input level range	: -65÷-25dBm / 44÷84dBµV
	Minimum input signal baud rate	: 10Mbaud
	Maximum input signal baud rate	: 32Mbaud
	Input signal defined by standard	: ETSI ETS 300 421
	Output frequency range	: 246÷446MHz
	Minimum output signal baud rate	: 1 Mbaud
	Maximum output signal baud rate	: 6,9Mbaud
	Maximum output signal width	: 7MHz (-3dB)
	Maximum output level	: 90dBµV
	Output level adjustment	: 20dB (step 1 dB programmable)
	Output signal conforms to	: ET51 ET5 300 429
	BER	: < 10^{-9}
	S/N	: > 38dB
	MER	: > 36dB
	Power dissipation	: 6,6W
KDTS/VL-C2	Power consumption max	: 550mA

Modulators

KCMV - KCMU
Dimensions mm 63 x 175 x 103

VESTIGIAL SIDE BAND MODULATOR

Audio Video vestigial side band modulator with built in tracking filter. Two different models allow the distribution of channels in VHF band (E05÷S30) and in the UHF band (E21÷E69). Three versions for each model are available: PAL B/G mono, PAL B/G stereo and multistandard mono. RCA connectors on Audio and video input. F connectors on selfmixing outputs.

Item code		KCMV	KCMV/S	KCMV/M	KCMU	KCMU/S	KCMU/M
Composite video signal input	Impedance	75Ohm					
	Level	1Vpp					
Audio inputs Left and Right	Impedance	10KOhm					
	Nominal input level	0,5Vrms					
Standards		B/G	B/G Stereo A2	N/H/I/D/K/L	B/G Stereo A2	B/G Stereo A2	N/H/I/D/K/L
Sub-carriers frequency B/G standard mono or	Left carrier	5,50MHz	5,50MHz	–	5,50MHz	5,50MHz	5,50MHz
	Right carrier	–	5,74MHz	–	–	5,74MHz	–
H standard				5,50MHz			5,50MHz
L D/K standards				6,50MHz			6,50MHz
I standard				6.00MHz			6.00MHz
N standard				4,50MHz			4,50MHz
Vision / sound carrier power ratio N standard		–	–	10dB	–	–	10dB
H standard		–	–	14dB	–	–	14dB
I standard		–	–	14dB	–	–	14dB
D/K standard		–	–	13dB	v	–	13dB
L standard		–	–	8dB	–	–	8dB
B/G standard:	Mono (5.5MHz)	14dB	14dB	–	14dB	14dB	–
	Stereo (5.742MHz)	–	21dB	–	–	21dB	–
Modulation for 1 kHz, 0,5 Vrms on Audio Inputs	B/G,	49kHz	49kHz	49kHz	49kHz	49kHz	49kHz
	N (FM)			<42kHz			<42kHz
	H			44kHz			44kHz
	I, D/K (FM)			>47kHz			>47kHz
	L (AM)			80%			80%
Modulation depth for 1Vpp Video input	D/K, I, B/G standards	80 % typ	80 % typ	80 % typ	80 % typ	80 % typ	80 % typ
	L standard			90÷97%			90÷97%
Frequency band		174 ÷ 382MHz			470 ÷ 862MHz		
Channel		E5 ÷ S30			E21 ÷ E69		
Output level		90dBµV +/- 2dB					
Level adjustment		15dB by 1dB steps					
Through loss		< 1,5dB @ 860MHz					
C/N inside the channel at Video carrier + 2,7 MHz – BW 5Mz		58dB	58dB	58dB	57dB	57dB	57dB
C/N in channel N+/- 1		65dB	65dB	65dB	63dB	63dB	63dB
C/N in channel N+/- 2		66dB	66dB	66dB	65dB	65dB	65dB
Spurious rejection		> 54 dB					
Power voltage		12 Vdc					
Power consumption		350mA	450mA	350mA	330mA	440mA	330mA
Operating temperature		- 10°C ÷ + 55°C					
Storage temperature		- 10°C ÷ + 80°C					
EMC		EN 50083-2					

KK.. - KW5..
Dimensions mm 32 x 129 x 86

KW33B
Dimensions mm 32 x 129 x 86

KW33C - KW44C
Dimensions mm 63 x 184 x 107

KW35E
Dimensions mm 63 x 184 x 107

PROGRAMMABLE CHANNEL CONVERTERS

The KK module is a channel converter for terrestrial analogue TV signals. The filter for the input channel is tuned during the manufacturing of the product (the customer has to specify the channel at order). A separate module is used for the output channel, typically a KF or a K120 amplified filter (this also has to be specified at time of order).
An output filter must be used to remove all the spurious signals produced in the conversion.
The conversion is programmed using a KTP.

Item code	Input frequency range MHz	Channels (2)	Output frequency range MHz	Channels (1)	Power consumption max mA	Packaging pcs
KK1-U	47÷68	E2÷E4	470÷862	E21÷E69	120 @ 12V	1
KK3-4	174÷230	E5÷E12	470÷606	E21÷E37	120 @ 12V	1
KK4-3	470÷574	E21÷E33	174÷286	E5÷S18	120 @ 12V	1
KK5-3	574÷702	E34÷E49	174÷286	E5÷S18	120 @ 12V	1
KK6-3	702÷862	E50÷E69	174÷286	E5÷S18	120 @ 12V	1

RETURN CHANNEL AMPLIFIERS

The KW530 amplifies the return channel 5÷30MHz and mixes the TV signal between 47 and 862MHz. The KW 540 amplifies the return channel 5÷40MHz and mixes the TV signal between 54 and 862MHz.

	Input frequency range MHz	Gain (adj.) dB	Output level dBµV	Noise figure dB	Power consumption max mA	Packaging pcs
KW530	5÷30	20 (20)	105	5	30 @ 12V	1
	47÷862	– 1,5	–	–		
KW540	5÷40	20 (20)	105	5	30 @ 12V	1
	54÷862	– 1,5	–	–		

FINAL PUSH-PULL AMPLIFIERS

The main characteristic of broad band amplifiers with a push-pull configuration, is eliminating second order intermodulation (IM2). This allows the distribution of the entire TV band from 47 to 862MHz, without causing too many distorsions.
The separate amplification of the VHF and UHF bands results in the S-band being cut from channel S21 to S38 in order to avoid eventual second order intermodulation problems created by the presence of other channels in the VHF band. In order to use the whole of the 47MHz to 862MHz band, without problems, including S-band for the distribution of analogue and digital satellite signals, it is better to use a push-pull technology, as is with professional broad band amplifiers. The amplifiers are provided with one input and one output. They can be installed at the end of the TV and/or SAT modules, to simplify the entire system. The KW33C, KW44C and KW35E are available with a 20dB equaliser which equalises the cable losses in the system. The KW35E passes the return channel (5÷30MHz).

	Frequency range MHz	Gain (adj.) dB	Max. output level dBµV	Noise figure dB	Power consumption max mA	Packaging pcs
KW33B	47÷862	34 (20)	116	8	300 @ 12V	1
KW33C	47÷862	32 (1)(2)	121	9	510 @ 12V	1
KW35E	5÷30 47÷862	35 (1)(2)	125	9	830 @ 12V	1
KW44C	47÷862	44 (1)(2)	121	8	550 @ 12V	1

(1) 20 dB attenuation for the entire band. - (2) 0 - 20 dB equalisation.

IF-IF conversion

KX125 - KX125NT - KX125E
Dimensions mm 32 x 129 x 86

K1150-1570 - K1720-2150
K1940-2150 - K2015-2150
Dimensions mm 32 x 129 x 86

KIF
Dimensions mm 32 x 129 x 86

KIF-10

SAT AMPLIFIER + TV MIXER

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

Item code	Input frequency MHz	Gain (adj.) dB 950 MHz	Gain (adj.) dB 2150 MHz	Output level max dBµV	Noise figure dB	Power consumption max mA	Packaging pcs
KX125	950÷2150	38(20)	44(20)	125	6	310 @ 12V	1
	47÷862	-1		–	–		
KX125NT	950÷2150	35(20)		125	6	280 @ 12V	1
	47÷862	-1		–	–		
KX125E	950÷2150	38(20)	44(20)	125	6	310 @ 12V	1
	47÷862	-1		–	–		
	With 12V available in the SAT Input to feed LNB						

AMPLIFIED SAT FILTERS

To filter and amplify the SAT band choose the IF band that contains the required transponders.
Three types of filters are available to create different solutions that maybe required.

	Bandwidth MHz	Gain (adj.) dB	Max. output level dBµV	Flatness dBµV	Power consumption max mA	Packaging pcs
K1150-1570	1150÷1570	15(15)	90	< 5	70 @ 12V	1
K1720-2150	1720÷2150	15(15)	90	< 5	70 @ 12V	1
K1940-2150	1940÷2150	15(15)	90	< 5	70 @ 12V	1
K2015-2150	2015÷2150	15(15)	90	< 5	70 @ 12V	1

TRANSPONDER AMPLIFIED SELECTIVE FILTER

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

	Imput frequency MHz	Gain (adj.) dB	Bandwidth MHz	Output level dBµV	Power consumption max mA	Packaging pcs
KFT/...	950÷2150	18(20)	33	100	105 @ 12V	1

PROGRAMMABLE IF-IF CONVERTER

IF-IF converter with Input loop through to connect different modules to the same polarity. Fully programmable.
Remote power available for LNB's or preamplifiers. KTP (Universal programmer) is connected with RJ45 Socket to the front panel.
To program the converter using a KTP with MINI THORN-DIN it is necessary to use the transition TR DIN-RJ (Page 54).

	Imput frequency MHz	Output frequency range MHz	Input level dBµV	Output level dBµV	Power consumption max mA	Packaging pcs
KIF	950÷2150	950÷2150	47÷77	80÷95	280 @ 12V	1

IF-IF CONVERSION HEADEND

IF-IF conversion headend composed by ten KIF converters and one KP35 power supply. All the modules are installed in a DIN bar with KPN37R solid bridge. In the DIN bar there is enough room to install an additional satellite amplifier (KX125..)
KEY POINTS: high selectivity, iso-frequency conversion possible; low spurious level in the band; 12V available by means of an internal jumper, to feed remote accessories or LNB; 2 self-demixing inputs, 2 self-mixing outputs; AGC facility; Packaging in a useful plastic bag.

N **KIF-10** Converters KIF 10 pc - Power supply KP35 1 pc - Solid bridge KPN37R 18 - DIN bar KD100 1 pc

K series accessories

K2-8

KP15

KP35

KP60

KSST

KA ...

SPLITTERS

These can supply the converters with a selectable voltage level of 14V to 18V starting from a 12V feed and also allow the insertion of a 22KHz tone. The K2-8 sepates signals coming from two LNB's or from two polarizations into four outputs, without any the insertion loss. The K1-2 splits the input in two with an insertion loss of 5dB.

Item code	Input frequency MHz	Gain dB	Inputs No.	Output No.	Remote power supply for LNB	Dimensions mm	Power consumption max mA	Packaging pcs
K1-2	40÷2150	-5	1	2	14/18V (250mA) 0/22KHz	32 x 129 x 86	500 @ 12V	1
K2-8	920÷2150	0	2	8	14/18V (400mA) 0/22KHz	63 x 184 x 121	620 @ 14V 750 @ 18V	1

POWER SUPPLIES

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

	Mains Vac	Power consumption W	Output voltage V	Max. current A	Dimensions mm	Packaging pcs
KP15	187÷264Vac 50-60Hz	23	12	1,5	40 x 130 x 86	1
KP35	187÷264Vac 50-60Hz	55	12	3,5	63 x 165 x 107	1
KP60	187÷264Vac 50-60Hz	92	12	6,0 (*)	63 x 165 x 133	1

(*) When using to a temperature of operation of 45°C. To 55°C a continuous current of 5,2A is guaranteed.

INDOOR MIXER

The product is fully screened - V.S.W.R. <2.

KSST	2 inputs: a VHF + UHF without S band (40÷230MHz + 470÷862MHz) and a band S (254÷446MHz). Attenuation: 1,5dB on both inputs. Strong K series build, compatible with the standard DIN rail. Dimensions: 32 x 129 x 86mm

CABINET FOR K SERIES

Cabinet specially designed to give easy installation and maintenance of the MATV/SMATV headend. It is made up of: perforated back for fastening the DIN bar. Thickness: 1.5mm; a single structure (sides plus back) to be fixed at the back; closing door with lock.

	Width mm	Height mm	Depth mm	Weight kg	Packaging pcs
KA600	600	500	180	11	1
KA800	800	500	180	16,5	1

DIN BAR

KD100	Standard DIN BAR (35x15x1.5mm) galvanized in white. It is 1 metre long for the installation of the K series modules. Packaging 20 pcs

K series accessories

KRF15 - KRF45

KPN42 - KPN51

KPN37R

TF-RCA

TIEC-F

TRF

MP.. AF - MPCCF
Dimensions mm 46 x 65 x 23

Item code	
KTP	**PROGRAMMING TERMINAL** Equipped with a liquid crystal display comprising two lines of 16 characters and four keys. It allows the programming of all the parameters both satellite modules of the K series modules. Packaging 1pc
TRDIN-RJ	**TRANSITION mini DIN female - RJ45 male** to convert the KTP programmers with mini DIN to RJ45. Packaging 1pc
TRRJ-DIN	**TRANSITION RJ45 female - mini DIN male** to convert the KTP programmers with RJ45 to mini DIN. Packaging 1pc
PATCH-RJ45	**PATCH CORD.** To connect the headend products with the KTLC. Packaging 1pc
CROSS-RJ45	**CROSS CABLE.** To connect the KTLC directly to the PC via the network interface card. Packaging 1pc
TWIN-RJ45	**TWIN CABLE.** To connect the KTLC with a TWIN-RJ45 straight through connection. Packaging 1pc

PLUG-IN "F" BRIDGES

SHIELDED - These are shielded quick snap-in connectors. For connections between an active splitter and the receiver modules as well as between the active splitter and the self-mixing line of the output signal.

KRF15	Length 150mm - Packaging 20pcs
KRF45	Length 450mm - Packaging 20pcs

"F" TYPE PLUG-IN

KPN37R	Length 37mm - Packaging 20pcs - Quick "F" connectors
KPN42	Length 42mm - Packaging 10pcs
KPN51	Length 51mm - Packaging 10pcs

CVDC50	**12 V CABLE FEED** - Length 50cm
TRF	**RCA F TRANSITION** - Packaging 10pcs
CA75F	**TERMINATION 75Ohm "F"** - Packaging 200pcs
TF-RCA	**F female - RCA male** - Adapter - Packaging 10pcs
TIEC-F	**IEC female - F male** - Adapter - Packaging 10pcs

MP series BROAD BAND PREAMPLIFIERS "F" CONNECTOR

Metal housing. 1 transistor. V.S.W.R. < 2. With socket, plug and 30cm cable with D.C. plug. Input R.F. only.
Powered via output connector or D.C. plug. 1 female input - 1 male output.

	Band inputs	Gain dB	Noise figure ≤ dB	Max. output level dBµV	Bandwidth MHz	Power consumption mA max	Packaging pcs
MP04AF	4	17	3	108	470 ÷ 590	20	10
MP05AF	5	14	4	108	606 ÷ 862	20	10
MP45AF	UHF	15	4	108	470 ÷ 862	20	10
MP13AF(1)	VHF	20	3	108	47 ÷ 300	25	10

D.C. INSERTER

For supplying D.C. to preamplifiers. With plug and socket and 20cm lead for the D.C. - Ø 2,3mm.

MPCCF	With "F" connector.

(1) With FM trap filter.

Headline Range
QPSK Receiver

SIG9190

HEADLINE RANGE

ADVANTAGES
Adjacent channels; own power supply; excellent picture quality; wall or rack fitting; 80 channels.

DISPLAY product or remote control	"7 segment" displays
POWER INDICATOR	1 green LED power on indicator
CONDITIONS OF USE	
RELATIVE HUMIDITY	0 to 95%
POWER SUPPLY	198 - 264Vac - 50Hz
TEMPERATURE	–5 - +50°C
USE	24h /24
DIMENSIONS (H x W x D)	200 x 68 x 185mm
WEIGHT	approx. 1.3kg
MTBF (Mean time between failure)	>> 50 000hours
TEMPERATURE (Storage and transport)	from –25°C - +70°C

QPSK RECEIVER

OPERATING PRINCIPLE
The processing modules, installed in the headend receive QPSK digital signals in the satellite band. The SIG9190 demodulates, demultiplexes, decodes and encodes them into audio-video signals. Each unit can manage a complete transponder.

ADVANTAGES
Choices of decryption by inserting a cam "conditional access module" PC MCIA interface; also compatible with unscrambled programs; compatible with all modulation types.

Item code		
	Input frequency	950 ÷ 2150MHz
	Satellite band filter	5 ÷ 55MHz
	LNB supply	0,13,18V,22kHz,400mA
	Input level	48 ÷ 78dBµV
	QPSK DEMODULATOR	SCPC MCPC
	Roll off symbol output	2 ÷ 45Mbauds/35%
	FEC (automatic)	Viterbi 1/2, 2/3, 3/4, 5/6, 7/8Hz
		Reed Salomon (204, 188)
	AUDIO-VIDEO OUTPUTS	
	Video output	25Hz - 5MHz
	Output level	1Vcc with CAG
	Signal to noise	60dB typically
	Transparent teletext and subtitles	
	Left and right audio outputs	
	Modes	mono-stereo
	Bandwidths (-3dB)	20 - 2000Hz
	CONNECTORS	
	One satellite input on F connector	
	One sub D for **SIG8690001** remote control offset	
	3 Cinch audio-video output	
	RS232 programming output	
SIG9190	PCMCIA decoding interface DVB NPEG2	

Analogue satellite processor - FM filters

SIG915...

SIG8123001

SATELLITE PROCESSOR

The compact SATELLITE PROCESSOR converts PAL or SECAM satellite signals into VHF or UHF terrestrial channels, modulating them into the required frequency band as a DSB channel.
Satellite channels are pre-programmed at the factory in order to make the settings easier for the user.

		Nicam compatible L 5.85MHz	B/G compatible Stereo A2	
F.I. INPUTS	Band width	950-2150MHz	950-2050MHz	
	Switchable F.1 filter	27/33MHz	27/33MHz	18/27MHz
	Connector type	F female		
	Impedance	75Ohms		
	Power supply for converter	15 V - 300mA		
	Input level	from 30 - 60dBm		
AUDIO	Sub carrier tuning	from 5.5 - 10MHz		
	Frequency pitch	10KHz		
	Band width	from 40Hz - 15kHz		
	Audio deviation (nominal)	(+/–) 17.8, 30,62.5, 150KHz.		
	De-emphasis	50µs, 75µs, J17 (compatible with WEGENER PANDA		
R.F. OUTPUTS	Max. RF output level	85dBµV		
	Modulation type	DSB		
	Spectral purety	> 60dB from 5 - 870MHz		
	S/B	53dB (weighted), C/N = 18dB		
OPTIONS	SUB-D **SIG9167001** socket kit	IO audio + CVBS + basic band		
REFERENCES	VHF III (from 120 - 300MHz)	**SIG9151001**		
	Hyperband (from 300 - 470MHz)	**SIG9152001**		
	UHF IV & V (from 470 - 862MHz)	**SIG9153001**		

FM BAND AMPLIFIER FILTER

A module that enables FM channels to be added to networks.
The module amplifies and filters so that high quality signals are distributed at the correct level.

Item code			
	INPUT	Band width	88- 108MHz
		Connector	F
		Impedance	75Ohms
	OUTPUT	Gain	20dB (adjustable from 0 - 18 dB)
		Impedance	75Ohms
SIG8123001		Connector	F

SIG816..

INDEPENDENT RF MODULATOR

For modulating video signals broadcast by a digital receiver, video recorder or any other programme source into RF channels, the RF MODULATOR gives network operators (hoteliers, hospitals or small communities) the chance to create their own programming.

		Secam L	B/G Stereo A2
INPUT	Video / RF	CVBS	
	Level /Impedance	1Vcc / 75Ohms	
	Audio	Left and right	
	Level / Impedance	774mVRMS / < 5kOhms	
	Connctor type	SUB-D	
RF OUTPUT	Max. RF output level	85dBµV	
	Impedance	75Ohms	
	Connector type	F	
	Tuning	for frequency synthesis (accuracy ± 30kHz)	
	S / B (weighted)	53dB	
REFERENCES	VHF 1	**SIG8165001**	
	VHF 1II	**SIG8166001**	
	Hyperband	**SIG8167001**	
	UHF IV & V	**SIG8168001**	

MULTI-MODULATORS

- 6 modulators with the same 2 U housing
- 19" rack assembly or wall-mount with the same housing
- Frequency-agile
- Adjacent channels possible
- 1 multiplexed RF output for the 6 modulators
- Remote control via sub-D connector.

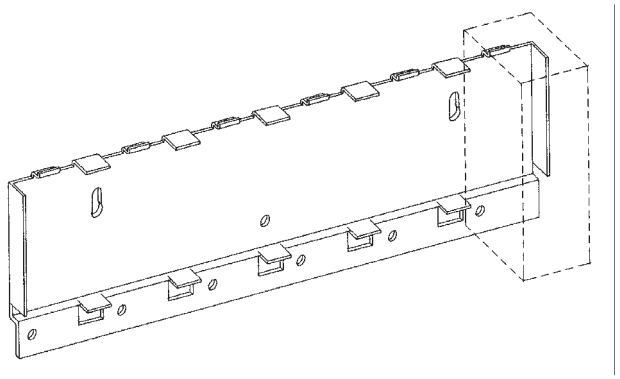
		Secam L	PAL B/G (Stereo A2) D/K, I, M/N
INPUT	Video	CVBS	
	Level /Impedance	1Vcc / 75Ohms	
	Audio	Left and right	
	Level / Impedance	0,4 to 2,5 VRMS / < 5kOhms	
	Connctor (X 3)	C-Inch	
RF OUTPUT	Max. RF output level	85dBµV for 1 module	
	Type of modulation	MABLR	
	Impedance	75Ohms	
	Connector type	F	
	Tuning	for frequency synthesis (accuracy ± 30kHz)	
	S / B (weighted)	57db	55dB
REFERENCES	VHF III (120 - 300MHz)	**SIG8613101**	**SIG8623201**
	Hyperband (300 - 470MHz)	–	**SIG8622201**
	UHF IV & V (470 - 862MHz)	**SIG8614101**	**SIG8624201**

Item code	
SIG8600001	CABINET
SIG8690001	REMOTE CONTROL PROGRAMMER

MECHANICAL ACCESSORIES

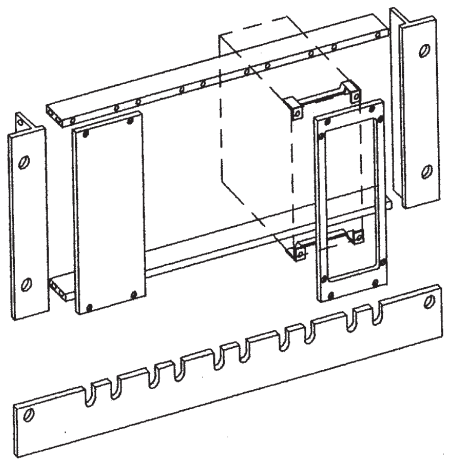
Item code	
SIG8690001	Remote control
SIG9112001	Wall rail (for 6 modules)
SIG9122001	Wall rail (for 3 modules)
SIG9113001	19” fitting rack (for 5 modules)
SIG9125001	19” fitting rack (for 5 modules)
SIG9167001	SUB-D kit ((15 pin connector)
SIG9124001	1 U grommet strip
PAS9168001	Sub-D scart cable 1.20m
PAS6420001	Peritel / cinch cord 1.40m
PAS6480001	Cord SUB-D / cinch 1.50m

SIG9112001



6 module wall rack

SIG9113001



19” rack diagram

JH - JB series
Multiband amplifiers

JB ... - JH...
Dimensions mm 140 x 68 x 143

JB - JH SERIES

WITH BUILT-IN POWER SUPPLY. - Separate VHF and UHF amplification.

"F" female coaxial connector inputs and outputs.
Short circuit protection with self reset.
- Easy wall mounting;
- 12Vdc - 50mA output to feed remote of preamplifier and converter;
- 0÷20dB attenuator on each input.
- One combined output.

This type of amplifier is recommended for certain UHF channel combinations which produce diagonal lines on VHF channels (2nd order intermodulation distortion).
Power supply: 220-230V ~ -50/60Hz.
Insulation class: II.
Operating temperature: -10 ÷ +55°C.
8.5W max consumption for JB, 5.5 for JH.
Earth connection provided.

Item code	Inputs no.	dB gain per frequency band						Noise figure ≤ dB		Packaging
		b.1 47÷68MHz	b.3 174÷230MHz	b.4 470÷590MHz	b.5 614÷862MHz	UHF	UHF	VHF	UHF	pcs
	Output: 108dBµV in VHF and 112dBµV in UHF									
JH7QR345(3)	1	-	20	27	26	-	-	4	7	5
JH7R1345U	5	21	19	29	28	28	-	4	8	5
JH7R1345US(1)	5	21	19	29	28	28	-	4	8	5
JH7RL345U(4)	5	21	19	29	28	28	-	4	8	5
JH7RP45(2)	3	20	20	29	29	-	-	4	5	5
JH7RPUU(2)	3	20	20	-	-	27	27	4	8	5
	Output: 110dBµV in VHF and 116dBµV in UHF									
JB8R1345U	5	34	34	34	34	34	—	4	8	5
JB8R1345US(1)	5	34	34	34	34	34	—	4	8	5
JB8RL345U(4)	5	34	34	34	34	34	—	4	8	5
JB8RPUU(2)	3	33	33	—	—	34	34	4	8	5

(1) Letter S shows that band is only from channels 21-32, 470÷565 MHz b. 5 is = 590÷862MHz (channels 36-39).
(2) Band 1 input range is 47÷88MHz.
(3) P in model number indicates only one input for bands 1 and 3
(4) Q in model number indicates one input for bands 3, 4, and 5 with gain adjustment for each band.

MBX Series
Multiband amplifiers

MBX

MBX SERIES

Multiband amplifier to amplify and mix the signals from several sources. Die-cast housing, fully shielded with F connectors. Separate VHF and UHF band amplification for 119dBuV version, broadband amplification for 124dBuV version. High gain and high output level allow the use of these products in medium-large networks. Fully compatible with DTT signals, OFDM modulation.

KEY POINTS

High output level, up to 124dBµV. Test point -30dB available on all the products. All the adjustments are located under the cover to prevent unauthorised access, cover fixed with safety screws. Switch mode power supply, high efficiency and low consumption.

USER ADVENTAGES

Die-cast nickeled housing, fully shielded. 12V available on every input to feed masthead amplifiers. Gain adjustment 0-20dB on every input. Spacing kit (ref. MBX0001) available to install the amplifiers over cables or if space is required between the amplifier and the wall. The spacers give a gap between the amplifier and the wall of 19mm. Packaging 1 piece.

GENERAL FEATURES

Gain adjustment	0÷20dB on every input
Linearity	± 2dB
Ilsolation between input	> 20dB
Remote power	12V 50mA total, available on any input
Test point	- 30dB
Mains	187÷264Vac 50-60Hz
Power supply	Switch mode, isolation class: II
Operating temperature range	-10 ÷ +55 °C
Impedance	75ohm
Connectors	F
Protection	IP20

Item code		MBX7750	MBX5750	MBX5550	MBX7741	MBX5741	MBX5541
Number of inputs		5	5	5	4	4	4
Gain	b. 1 (47 ÷ 68MHz)	40dB(1)	35dB(1)	31dB(1)	–	–	–
	b. 3 (174 ÷ 230MHz)	40dB	38dB	31dB	–	–	–
	b. 4 (470 ÷ 590MHz)	40dB	43dB	30dB	–	–	–
	b. 5 (606 ÷ 862MHz)	40dB	43dB	30dB	–	–	–
	b. UHF (470 ÷ 862MHz)	40dB	43dB	30dB	40dB	43dB	30dB
	b. UHF (470 ÷ 862MHz)	–	–	–	40dB	43dB	30dB
	b. FM (87,5 ÷ 108MHz)	–	–	–	40dB	35dB	31dB
	b 1+3 (47 ÷ 68 - 174 ÷ 230MHz)	–	–	–	40dB	b.1: 36dB b.3: 38dB	30dB
Max output (-60 dB 3 eq. carr.) dBµV		124	VHF 116 - UHF 119		124	VHF 116 - UHF 119	
Noise figure dB		11	VHF: 4,5 UHF: 8,5		11	VHF: 4,5 UHF: 7,5	
Consumption		13,5W	8,5W	8,5W	13,5W	8,5W	8,5W
Dimension (l x h x d) mm		194x143x64	194x143x53		194x143x64	194x143x53	194x143x53

Item code		MBX7750S	MBX5750S	MBX5550S	MBX5752(2)	MBX5551(2)	MBX5851(2)
Number of inputs		4	4	4	5	5	5
Gain	b. 1 (47 ÷ 68MHz)	40dB(1)	35dB(1)	31dB(1)	–	34dB	34dB
	b. 3 (174 ÷ 230MHz)	40dB	38dB	31dB	–	34dB	34dB
	b. 4 (470 ÷ 566MHz)	40dB	43dB	30dB	–	–	–
	b. 5 (590 ÷ 862MHz)	40dB	43dB	30dB	–	–	–
	b. UHF (470 ÷ 862MHz)	40dB	43dB	30dB	30dB	32dB	44dB
	b. UHF (470 ÷ 862MHz)	–	–	–	42dB	32dB	44dB
	b. UHF (470 ÷ 862MHz)	–	–	–	42dB	–	–
	b. FM (87,5 ÷ 108MHz)	–	–	–	35dB	34dB	34dB
	b 1+3 (47 ÷ 68 - 174 ÷ 230MHz)	–	–	–	36/38dB	–	–
Max output (-60 dB 3 eq. carr.) dBµV		124	VHF 116 - UHF 119				
Noise figure dB		11	VHF: 4,5 UHF: 8,5		VHF: 5 UHF: 8,5		
Consumption		13,5W	8,5W				
Dimension (l x h x d) mm		194x143x64	194x143x53				

MBX0001	Accessories Kit composed of n.2 plastic supports & mounting screws. This to be used to install MBX series granting a free empty space between the amplifer and the wall. Packing 10 pieces

(1) Ability to extend the Band up to 108 MHz using an internal jumper - (2) MBX0001 spacing kit included in the packaging

Digital multiband amplifier

AMP9202U/W

DIGITAL MULTIBAND AMPLIFIER

USED ADVANTAGES

- High 47dB gain in UHF,
- Switchable gain 47dB or 37dB,
- Inter stage attenuator,
- Very low noise figure

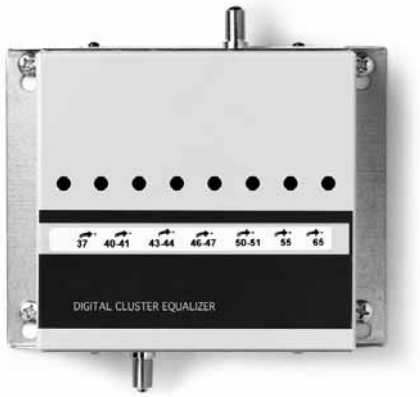
Item code		AMP9202U*/AMP9202W
NAME		Ampli digital 2 U
GAIN (dB)	BI (47 - 68MHz)	28
	FM (87.5 - 108MHz)	28
	B III (174 - 230MHz)	38
	UHF 1 (470 - 860MHz)	37 / 47dB
	UHF 2 (470 - 860MHz)	37 / 47dB
Gain adjustment (dB)		20 dB inter stage
Noise factor at max. gain (dB)		
	FM /VHF	6
	UHF 1	5,5
	UHF 2	5,5
Output level (IM3 in accordance with C 90 124/DIN B)		
(dBµV)	FM /VHF	120/120
	UHF 1	118/115
	UHF 2	118/115
Consumption 230 V/ 50 Hz (VA)		25
Remote power supply		12V/50mA
Dimensions (L x H x D)		283x125x74mm
Weight		1.1kg

(*) AMP9202U: with UK plug

GENERAL FEATURES

Connectors (input/ output)	Type F
IMPEDANCE	75Ohms
Standard	CE
Level of electrical safety protection	Class II
Temperature range	–5 /+ 50°C

Digital filter equalisers



FIL..

DIGITAL FILTER EQUALISERS

ADVANTAGES

- Channel groups : 2 - 4 channels or more with some transmitters
- Good selectivity (3 cells),
- Potentiometer for fine tuning with no deterioration in impedance,
- Controlled tilt when adjusting attenuation
- Low insertion losses.

N.B. There are ex. filters and filters made to order - See price list

TECHNICAL FEATURES of stock equaliser filters

Number of inputs	1 - 5
Number of ouptuts	1 - 4
Number of channels	4 - 10
Insertion losses	4dB typ.
Minimum frequency deviation	
Between vision carriers	16MHz
Channel protection at n +/- 2	18dB typ.
Variable attenuation dynamics	18dB typ.
Continuous component transmission	yes
Base plate (mm)	Female F inputs Female F outputs
Dimensions (L x H x D)	170 x 105 x 50mm
Fixing	4 screws

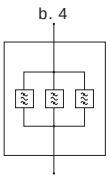
Mans Mayet transmitter

Example of the use of a channel group equaliser filter

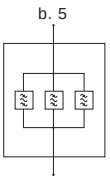
Analogue channels

Digital channels

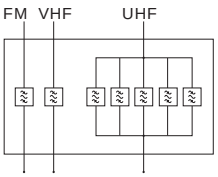
FIL132200
1 UHF Band 4 input
3 channels
1 output



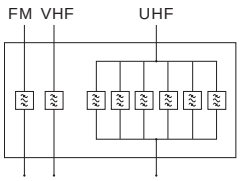
FIL132201
1 UHF Band 5 input
3 channels
1 output



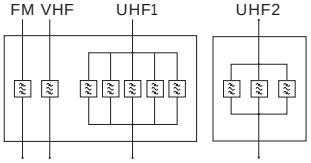
PAS0436301
3 inputs: FM – VHF - UHF
1 VHF channel
5 UHF channels



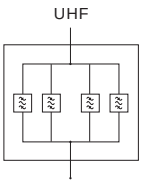
PAS0437301
3 inputs: FM-VHF-UHF
1 VHF channel
6 UHF channels



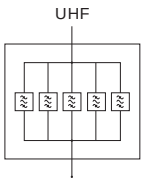
PAS0449401
4 inputs : FM-VHF-UHF1-UHF2
1 VHF channel
5 channels on UHF1
3 channels on UHF2
(all of them in Band 4 or Band 5)



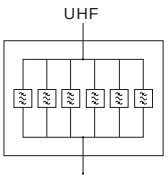
FIL141200
1 UHF input
4 clusters
1 output



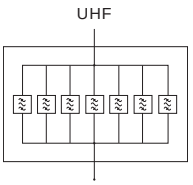
FIL151200
1 UHF input
5 clusters
1 output



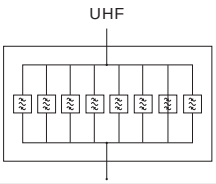
FIL161200
1 UHF input
6 clusters
1 output



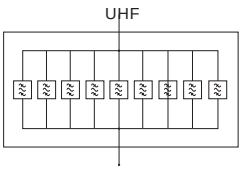
FIL171200
1 UHF input
7 clusters
1 output



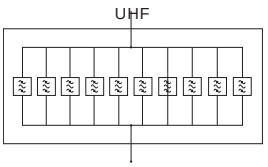
FIL181200
1 UHF input
8 clusters
1 output



FIL191200
1 UHF input
9 clusters
1 output



FIL191201
1 UHF input
10 clusters
1 output



MV90 - MU90
Dimensions mm 67 x 67 x 27

AVM..

AUDIO/VIDEO MINI MODULATORS

Indoor audio/video modulators double side band. Output channel programmable via dip-switch.
Stable frequency output due to PLL Synthesis and controlled via microprocessor.
This unit can be used to distribute signals from a receiver without a modulator.
Audio/Video input connection via scart socket. Output level 90dBµV. Audio/Video inputs adjustable.
The modulator can be powered from the receiver, or using an external power supply (12-18V/80 Max).
MV90 is a VHF version (E5-S20). MU90 is an UHF version (21-69)
Packaging 1 piece.

Item code	TECHNICAL FEATURES			
	Supply	12÷18V	Available standards	PAL B, PAL G
	Connection type	Coaxial cable or Jack	Pass through attenuation	4,5 ± 1dB
	Max consumption	80mA	RF Connectors	"F'
	Video signal level	1Vpp	A/V connectors	SCART
	Audio signal level	1Vrms	Operating temperature range	-10°/+40°C
	RF Output level	75÷90dBµV		
MV90	Output frequency	E05÷E12 + S11÷S20		
MU90	Output frequency	E21÷E69		

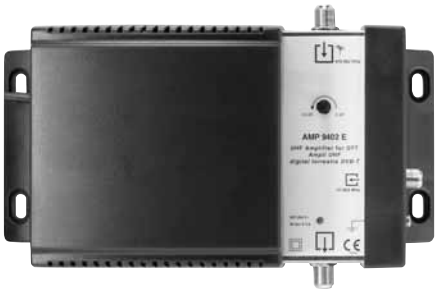
DOUBLE SIDE BAND MODULATOR

AVM45 UHF Band standard G/K/I/H/M/N AVM3 VHF Band (174-300MHz) Standards B/D
AVM1 VHF Band (47-84MHz) standards B/D

• Modulator built-in plastic housing. • PLL frequency programming. • Audio input level and RF output level adjustable via potentiometer. • RF Input loop through. • Audio/Video inputs with RCA connectors.
Packaging 1 piece.

Item code		AVM45	AVM3	AVM1
Video input	Frequency range	20Hz - 6MHz		
	Level/impedance	1 cc / 75Ohm		
Audio input	Frequency range	20Hz - 15KHz		
	Level adjustment	+1 ÷ –14dB		
	Level/impedance-deviation	775 mV RMS/10 /50KHz		
RF output	Typ.level/impedance	85dBµV / 75Ohm		
	Output channels (frequency range)	I/G/H/K: 21-69 (470-862MHz) M/N: 14-78 (470-862MHz)	D: 6-SR18 (174-294MHz) B: E5-S20 (174-230MHz)	B: E2-E4 (47-68MHz) D: 1-3 (48.5-84MHz)
Output level adj.		0 ÷ 15dB		
TV Pass through loss		3dB max.		
Video carrier fine tuning		± 2.25MHz max with steps of 250KHz		
Audio carrier frequency		4.5 / 5.5 / 6.0 / 6.5MHz		
Power consumption		3 VA @ 230 V / 50Hz		
Power supply		230V + 5% ÷ - 14%		
Operating temperature range		-10°C ÷ +50°C		
Dimensions		118 x 78 x 47mm		
Weight		0.33kg		

Headend amplifiers



AMP9404A
AMP9404B

AMP9764

HEADEND AMPLIFIERS

OPERATING PRINCIPLES
Amplification of satellite band
with terrestrial loop through

ADVANTAGES
- Gain adjustment
- Tilt adjustment (AMP9404A)
- Integral LNB power supply

TECHNICAL FEATURES

Item code	AMP9404B	AMP9404A	AMP9764
SATELLITE CHANNEL			
Frequency band	950 - 2150MHz	950 - 2150MHz	950 - 2150MHz
Gain	14 - 20dB	28dB	40dB
Gain adjustment	0 - 10dB	0 - 15dB	0 - 20dB
Tilt adjustment	-	0 - 10dB	0 - 20dB
Output level (IM3, 2 carriers, equal)	114dBµV	116dBµV	125dBµV
Noise factor	7dB	8dB	10dB
LNB Remote power supply	12 V - 350mA	12 V - 350mA	0/14/18V 0/22Hz (adj.)
TERRESTRIAL LINK			
Frequency band	47 - 862MHz	47 - 862MHz	47 - 862MHz
Transmission loss	2dB	2dB	2dB
GENERAL			
Impedance	75 Ω	75 Ω	75 Ω
Operating temperature	-5 / +50°C	-5 / +50°C	-10 / +55°C
Dimensions (l x h x d)	193 x 125 x 74mm	193 x 125 x 74mm	194 x 143 x 53mm
Weight	1Kg	1Kg	–
Consumption (230 V/50Hz)	8W	10W	11W
Connectors	F	F	F

Multiswitches

A new range that fits every demand of signal distribution: single houses as well as large buildings (MDU's)

SWITCH LINE

Compact

3D Switchline	Page	66
GII Switchline		67-68

Cascadable

Smart XS Switchline	69-70-71
Amplifiers Switchline	72
GII Switchline	73-74

Compact 3D Switchline

SWI5912A

COMPACT SWITCHLINE 3D

The Compact Switchline range 3D is fully compatible with digital satellite and terrestrial signals.
The products have been designed to be installed in small to medium sized installations.

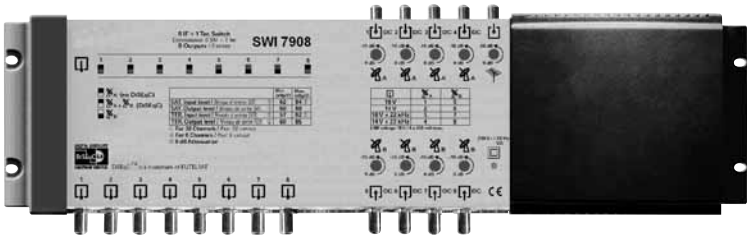
PRODUCT ADVANTAGES

High number of outputs; small in size; active satellite band no through loss (0dB): to guarantee the quality of the satellite signals with long cable drops; the TV band 5÷862MHz forward and return path are passive; terrestrial 12V power supply to feed pre amplifier on terrestrial input: wall fixings provided; versatile installation, products can be fitted sideways, horizontally and vertically. Packaging 1pc

Item code	SWI5506A	SWI5508A	SWI5512A	SWI5516A(1)
N. of inputs	4Sat +1Terr	4Sat +1Terr	4Sat +1Terr	4Sat +1Terr
N. of outputs	6	8	12	16
Satellite through loss/gain	+2dB to +4dB Tilted	+2dB to +4dB Tilted	-1dB to +3dB Tilted	0dB
Maximum Sat output level (-35 dB, 2 carriers)	90dBµv	90dBµv	90dBµv	88dBµv
Terrestrial loss	-16dB	-17dB	-20dB	-20dB
Isolation between inputs	>28dB	>28dB	>28dB	>28dB
Dimension mm	265x125x65	305x125x65	385x125x65	445x125x65
SAT inputs remote power	300mA/14V	300mA/14V	300mA/14V	300mA/14V
TV inputs remote power	12V 100mA	12V 100mA	12V 100mA	12V 100mA

Item code	SWI5908A	SWI5912A	SWI5916A(1)
N. of inputs	8Sat +1Terr	8Sat +1Terr	8Sat +1Terr
N. of outputs	8	12	16
Taps satellite gain	+3dB	+2dB	0dB
Maximum sat output level (-35 dB, 2 carriers)	90dBµv	90dBµv	88dBµv
Terrestrial gain	-16dB	-18dB	-20dB
Isolation between inputs	>28dB	>28dB	>28dB
Dimension mm	305x125x65	385x125x65	445x125x65
SAT inputs remote power	600mA/14V	600mA/14V	600mA/14V
TV inputs remote power	12V 100mA	12V 100mA	12V 100mA

(1) These are preliminary specifications



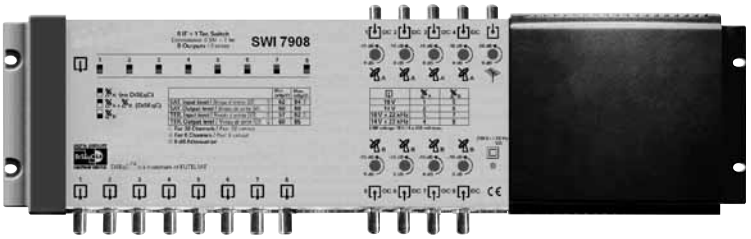
SWI..

G II SWITCHLINE: AMPLIFIED COMPACT RANGE

PRODUCT ADVANTAGES
High output levels for both terrestrial and satellite. Active products. Recommended value table on front (input/output level). Switch mode power supply. IF filter, 35dB at 860MHz. 9 references: 5, 9 inputs, 4, 6, 8, 12 and 16 outputs. Compatible digital terrestrial signals

Item code 5 inputs	SWI7504 SWI7504E	SWI7506 SWI7506E	SWI7508 SWI7508E	SWI7512 SWI7512E	SWI7516 SWI7516E
Number of outputs	4	6	8	12	16
Connectors	F	F	F	F	F
SATELLITE					
Number of inputs	4	4	4	4	4
Bandwidth	950-2150MHz	950-2150MHz	950-2150MHz	950-2150MHz	950-2150MHz
Gains/ losses	0 / 5dB	- 4 / 0dB	- 4 / 0dB	- 6 / - 3dB	- 6 / - 2dB
Adjustable attenuation	15dB	15dB	15dB	15dB	15dB
Terrestrial/ satellite protection	> 26dB	> 26dB	> 26dB	> 26dB	> 26dB
Crosstalk	> 26dB	> 26dB	> 26dB	> 26dB	> 26dB
Protection between outputs	> 26dB	> 26dB	> 26dB	> 26dB	> 26dB
Output level (-35 dB, 2 carriers, IM3)	93dBµV	93dBµV	93dBµV	93dBµV	93 dBµV
TERRESTRIAL					
Number of inputs	1	1	1	1	1
Bandwidth	87 - 862MHz 47 - 862MHz	87 - 862MHz 47 - 862MHz	87 - 862MHz 47 - 862MHz	87 - 862MHz 47 - 862MHz	87 - 862MHz 47 - 862MHz
Gain/ losses	0dB	+ 2dB	+ 2dB	- 4 - - 2dB	- 4 - - 2dB
Adjustable attenuation	20dB	20dB	20dB	20dB	20dB
Isolation between inputs	> 26dB	> 26dB	> 26dB	> 26dB	> 26dB
Isolation between outputs	> 22/35dB	> 20/35dB	> 20/35dB	> 22 dB/35dB	> 22dB
Output level (-60 dB, 3 carriers, = IM3)	90dBµV	86dBµV	86dBµV	82dBµV	82dBµV
Noise factor	6dB	6dB	6dB	6dB	6dB
Return path bandwidth	5 - 65MHz 5 - 30MHz	5 - 65MHz 5 - 30MHz	5 - 65MHz 5 - 30MHz	5 - 65MHz 5 - 30MHz	5 - 65MHz 5 - 30MHz
GENERAL					
LNB supply	2x 350mA 4 x 250mA or 2 x 500mA	2x 350mA 4 x 250mA or 2 x 500mA	2x 350mA 4 x 250mA or 2 x 500mA	2x 350mA 4 x 250mA or 2 x 500mA	2x 350mA - -
Power supply	230V 230V UK plug	230V 230V UK plug	230V 230V UK plug	230V 230V UK plug	230V 230V UK plug
Standard	CE	CE	CE	CE	CE
Dimensions (mm)	290 x 140 x 80	360 x 140 x 80	360 x 140 x 80	430 x 140 x 80	475 x 140 x 80

G II SWITCHLINE
Amplified compact range



SWI7908

G II SWITCHLINE: AMPLIFIED COMPACT RANGE

PRODUCT ADVANTAGES
High output levels for both terrestrial and satellite. Active products. Recommended value table on front (input/output level). Switch mode power supply. IF filter, 35 dB at 860 MHz. 9 references: 5, 9 inputs, 4, 6, 8, 12 and 16 outputs. Compatible with terrestrial digital.

Item code 9 inputs	SWI7904 SWI7904F	SWI7906	SWI7908 SWI7908F	SWI7912 SWI7912F
Number of outputs	4	6	8	12
Connectors	F	F	F	F
SATELLITE				
Number of inputs	8	8	8	8
Bandwidth	950 - 2150MHz	950 - 2150MHz	950 - 2150MHz	950 - 2150MHz
Gain/ losses	0 / +3dB	- 4 / + 0dB	- 5 / 1dB	- 6 / -3dB
Adjustable attenuation	15dB	15dB	15dB	15dB
Terrestrial/ satellite protection	> 26dB	> 26dB	> 26dB	> 26dB
Crosstalk	> 26dB	> 26dB	> 26dB	> 26dB
Protection between outputs	> 26dB	> 26dB	> 26dB	> 26dB
Output level (-35 dB, 2 carriers, IM3)	95dBµV	95dBµV	95dBµV	93dBµV
Logical 9 inputs	DiSEqC con position A			
TERRESTRIAL				
Number of inputs	1	1	1	1
Bandwidth	87 - 862MHz 47 - 862MHz	87 - 862MHz 47 - 862MHz	87 - 862MHz 47 - 862MHz	87 - 862MHz 47 - 862MHz
Gain/ losses	+ 4 - + 6dB	+ 5 - + 7dB	+ 5 - + 7dB	+ 4dB
Adjustable attenuation	20dB	20dB	20dB	20dB
Isolation between inputs	> 26dB	> 26dB	> 26dB	> 26dB
Isolation between outputs	> 22/35dB	> 20/35dB	> 20/35dB	> 22 dB/35dB
Output level (-60 dB, 3 carriers, = IM3)	88dBµV	86dBµV	86dBµV	84dBµV
Noise factor	6dB	6dB	6dB	6dB
Return path bandwidth	5 - 65MHz 5 - 30MHz	5 - 65MHz 5 - 30MHz	5 - 65MHz 5 - 30MHz	5 - 65MHz 5 - 30MHz
GENERAL				
LNB supply	2x 350mA 4 x 250mA or 2 x 500mA	2x 350mA 4 x 250mA or 2 x 500mA	2x 350mA 4 x 250mA or 2 x 500mA	2x 350mA 4 x 250mA or 2 x 500mA
Power supply	230V —	230V —	230V —	230V 230V
Standard	CE	CE	CE	CE
Dimensions (mm)	290 x 140 x 80	360 x 140 x 80	360 x 140 x 80	430 x 140 x 80

Smart XS Switchline
Cascadable range

Smart Switchline XS 4
4 outputs

Smart Switchline XS 4
6 outputs

SMART SWITCHLINE XS4, XS5 and XS9

Smart Switchline XS is a new range of multi switches developed for small and medium sized cascadable systems. They are designed to carry switched IF and TV signals to many outlets from a single headend. Smart Switchline XS combines high quality in a compact size for easy installation in small spaces.

SMART SWITCHLINE XS4

KEY POINTS
The outputs are along one side to make installation neat and easy and wall fixings are provided. The cost effective configuration offers different levels of attenuation -17dB, -8dB and 0dB. They can be used with long cable drop lengths without compromising signal quality. The LNB supply can be fed, via the switches, from the receiver and the inputs on the front are colour coded for easy installation. Packaging 1pc

Item code	SWI4404-17(1)	SWI4404-08(1)	SWI4404-00(1)	N
N. of Inputs	4	4	4	
N. of Outputs	4	4	4	
Taps Satellite Gain	-17dB	-8dB	0dB	
Maximun Sat output level (-35dB/2 carriers)	-	105dBµV	105dBµV	
Satellite Insertion loss	-2dB	-2dB	-2dB	
Protection betwen Inputs	>28dB	>28dB	>28dB	
Dimension mm	90x70x20	90x70x20	90x70x20	
Consumption without LNB	15mA	35mA	35mA	

Item code	SWI4406-17(1)	SWI4406-08(1)	SWI4406-00(1)	N
N. of Inputs	4	4	4	
N. of Outputs	6	6	6	
Taps Satellite Gain	-17dB	-8dB	0dB	
Maximun Sat output level (-35dB/2 carriers)	-	105dBµV	105dBµV	
Satellite Insertion loss	-2dB	-2dB	-2dB	
Protection betwen Inputs	>28dB	>28dB	>28dB	
Dimension mm	119x70x20	119x70x20	119x70x20	
Consumption without LNB	15mA	35mA	35mA	

(1) These are preliminary specifications

Smart XS Switchline Cascadable range

Smart Switchline XS 5

16 polarites

SMART SWITCHLINE XS5

KEY POINTS: The outputs are along one side to make installation neat and easy and wall fixings are provided. The cost effective configuration offers different levels of attenuation -16dB passive, active -8dB, active 0dB and terminal 0dB. They can be used with long cable drop lengths without compromising signal quality. TV Band 5-862MHz has a passive forward and return path. The inputs on the front are colour coded for easy installation. When combined with the MiniDiSEqC switches using a mounting tool kit it is possible to distribute 16 polarities + TV. Packaging 1pc

Item code	SWI3504P	SWI3504A10	SWI3504A	SWI3504T	SWI3506P	SWI3506A10
N. of inputs	4 sat + 1 ter	4 sat + 1 ter	4 sat + 1 ter	4 sat + 1 ter	4 sat + 1 ter	4 sat + 1 ter
N. of outputs	4	4	4	4	6	6
Taps satellite gain	-20dB to -16dB Tilted	-8	-2dB +1dB Tilted	-1dB to +2dB Tilted	-21dB to -16dB Tilted	-8
Satellite Insertion loss	-2dB	-2dB	-2dB	—	-2,5dB	-2,5dB
Max Sat output level (-35dB/2 carriers)	—	110dBµV	105dBµV	105dBµV	—	110dBµV
TV Derivation	-19dB	-15dB	-15dB	-12dB	-19dB	-15dB
TV Transition	-2,5dB	-3dB	-3,5dB	—	-4dB	-4,5dB
Protection between inputs	>28dB	>28dB	>28dB	>28dB	>28dB	>28dB
Dimensions mm	120x118x30mm	120x118x30mm	120x118x30mm	120x118x30mm	160x108x30mm	160x108x30mm
Consumption without LNB	15mA	40mA	35mA	35mA	15mA	40mA

Item code	SWI3506A	SWI3506T	SWI3508P	SWI3508A10	SWI3508A	SWI3508T
N. of inputs	4 sat + 1 ter	4 sat + 1 ter	4 sat + 1 ter	4 sat + 1 ter	4 sat + 1 ter	4 sat + 1 ter
N. of outputs	6	6	8	8	8	8
Taps satellite gain	-3dB to +1dB Tilted	-2dB to +2dB Tilted	-21dB to -16dB Tilted	-8	-2dB to +1dB Tilted	-2dB to +1dB Tilted
Satellite Insertion loss	-2,5dB	—	-3,5dB	-3,5dB	-3,5dB	—
Max Sat output level (-35dB/2 carriers)	105dBµV	105dBµV	—	110dBµV	105dBµV	105dBµV
TV Derivation	-15dB	-13dB	-25dB	-22dB	-22dB	-14dB
TV Transition	-5dB	—	-1dB	-3dB	-3dB	—
Protection between inputs	>28dB	>28dB	>28dB	>28dB	>28dB	>28dB
Dimensions mm	160x118x30mm	160x118x30mm	200x118x30mm	200x118x30mm	160x108x30mm	200x108x30mm
Consumption without LNB	35mA	35mA	15mA	40mA	35mA	35mA

SWITCHLINE XS 5 16 POLARITES

To distribute up to 16 satellite polarities by combining the XS 5 input switchline range with the mini DiSEqC switch. Use the kit SWM1305A to fix the switches to the wall.

	Number of outputs		Number of outputs	Insertion loss (dB)		Switch control	Power consump. by rx mA	Isolation betwen inputs dB
	SAT	TV		SAT	TV			
SWI1201B	2 (1 with TV Mixed)	0	1	-2	1,5	DiSEqC 2.0	25	>28
SWI1301B	2	1	1	-2	1,5	DiSEqC 2.0	25	>28
SWI1401B	4 (1 with TV Mixed)	0	1	-3	1,5	DiSEqC 2.0	25	>28
SWI1501B	4	1	1	-3	1,5	DiSEqC 2.0	25	>28

SWM1305A	Kit to combine XS 5 switch and MiniDiSEqC

Smart XS Switchline
Cascadable range

SWI3904A

SWI3906A

SWI3908A

SMART SWITCHLINE XS9

KEY POINTS

The outputs are along one side to make installation easy and neat. Within the packaging there is a plastic support to fix the switch either vertically or horizontally on the wall. The cost effective configuration offers different levels of attenuation passive -16dB, active 0dB and terminal 0dB. They can be used with long cable drop lengths without compromising signal quality. TV Band 5-862MHz has a passive forward and return path. On each output there is a dip-switch for DiSEqC inversion. Packaging 1pc

Item code	SWI3904P	SWI3904A	SWI3904T
N. of Inputs	8sat + 1ter.	8sat + 1ter.	8sat + 1ter.
N. of Outputs	4	4	4
Taps Satellite Gain	-20dB to -16dB Tilted	0dB to +2dB Tilted	+2dB to +4dB Tilted
Satellite Insertion loss	-3dB	-3dB	-
Maximun Sat output level (-35dB/2 carriers)	-	105dBµV	105dBµV
TV Derivation	-18dB	-15dB	-10dB
TV Transition	-4dB	-4dB	-
Protection betwen Inputs	>28dB	>28dB	>28dB
Dimension mm	125x125x52	125x125x52	125x125x52
Consumption without LNB	35mA	50mA	50mA

Item code	SWI3906P	SWI3906A	SWI3906T
N. of Inputs	8sat + 1ter.	8sat + 1ter.	8sat + 1ter.
N. of Outputs	6	6	6
Taps Satellite Gain	-20dB to -17dB Tilted	-3dB to 0dB Tilted	0dB to +3dB Tilted
Satellite Insertion loss	-3dB	-3dB	-
Maximun Sat output level (-35dB/2 carriers)	-	105dBµV	105dBµV
TV Derivation	-19dB	-16dB	-13dB
TV Transition	-3dB	-4dB	-
Protection betwen Inputs	>28dB	>28dB	>28dB
Dimension mm	170x125x52	170x125x52	170x125x52
Consumption without LNB	35mA	50mA	50mA

Item code	SWI3908P	SWI3908A	SWI3908T
N. of Inputs	8sat + 1ter.	8sat + 1ter.	8sat + 1ter.
N. of Outputs	8	8	8
Taps Satellite Gain	-21dB to -16dB Tilted	-2dB to 0dB Tilted	+1dB to +3dB Tilted
Satellite Insertion loss	-4dB	-4dB	-
Maximun Sat output level (-35dB/2 carriers)	-	105dBµV	105dBµV
TV Derivation	-25dB	-22dB	-15dB
TV Transition	-2dB	-3dB	-
Protection betwen Inputs	>28dB	>28dB	>28dB
Dimension mm	210x125x52	210x125x52	210x125x52
Consumption without LNB	35mA	50mA	50mA

Amplifiers Switchline

AMP9254

AMP9254A

AMP9294

HEADEND AMPLIFIERS FOR CASCADABLE SYSTEMS

Range of SAT amplifiers with TV input dedicated to the Smart Switch Line XS range.
The gain is adjustable on all of the SAT inputs. Versions available with 5 and 9 inputs.

PRODUCTS ADVANTAGES

The product uses a “Switch Mode” power supply that guarantees high reliability for the product; AMP9254 and AMP9294 have a fixed slope to ensure the correct signal level with long cable lengths. There is gain control on every input; on the AMP9254A there is slope adjustment on every output. The TV band 5÷862MHz is passive for the forward and return path. Packaging 1pc

Item code	N. of inputs	Satellite Gain (dB)	Terrestrial loss (dB)	Gain adj. (dB)	Slope adj. (dB)	Isolation between inputs (dB)	Power supply	Power consumption W	Dimensions mm	Output* level max. (dBµV)	LNB power supply
AMP9254	4 SAT + TERR	19 (950MHz) 25 (2150MHz) TILT FISSO	–1	15	–	>28	230Vac ±10%	16	235x125x65	112	400mA@14V
AMP9254A	4 SAT + TERR	32	–1	15	0-12	>28	230Vac ±10%	19	235x125x65	116	400mA@14V
AMP9294	8 SAT + TERR	19 (950MHz) 25 (2150MHz) TILT FISSO	–1	15	–	>28	230Vac ±10%	20	235x125x65	112	600mA@14V

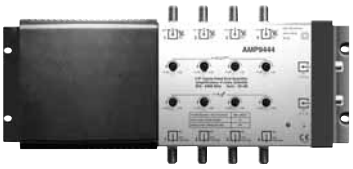
* (-32dB/2 carriers)

POWER SUPPLY WITH D.C. INSERTER

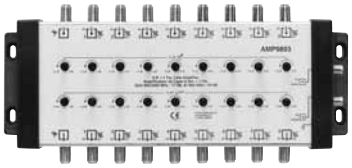
SPS1750	The D.C. power inserter. It provides a 15Vcc 500mA output voltage and is supplied with 220-230V ~ 50MHz. The D.C. inserter works from 40 to 2150MHz with a 1 dB insertion loss. With female F connectors. Insulation class: II. Operating temperature: -10°C 55°C. Packaging 1pc.

G II SWITCHLINE
Cascadable range

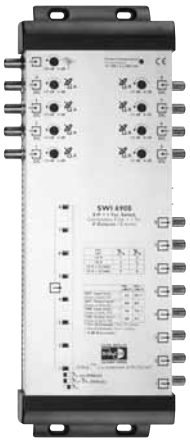
AMP8331A
Power supply
3A/18V



AMP92X4A - AMP9444A
AMP92X4U - AMP9444
Head amplifier
4 - 8 high level satellite amplifiers in the same product



AMP9853 - AMP9893
Line amplifiers
5 - 9 independent amplifiers in the same product

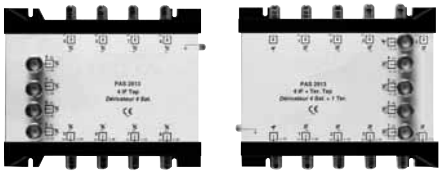


SWI6..
Active switches
4, 6, 8, 12 and 16 high level outputs for flexible installations

Item code	AMP9444A AMP9444	AMP8331A AMP8331	AMP9244A AMP9284A	AMP9853 AMP9893	SWI6504 SWI6904	SWI6506 SWI6906	SWI6508 SWI6908	SWI6512 SWI6912	SWI6516
SATELLITE									
Number of inputs	4	1	4/8	4/8	4/8	4/8	4/8	4/8	4
Number of outputs	4	1	4/8	4/8	4	6	8	12	16
Band width (MHz)	950 -2400	5 -2400	950 -2400	950 -2150	950 -2150	950 -2150	950 -2150	950 -2150	950-2150
Gain (dB)	30	–	30	17	–	–	–	–	–
Loss (dB)	–	–	–	–	0 - 5 / 0-4	-4 - 1/-4 - 0	-4 - 0/5 - 0	-6 - 3/ -6 - 0	-6 to -5
Attenuation adjustment (dB)	15	–	15	15	15	15	15	15	15
Pre-emphasis adjustment (dB)	10	–	–	15	–	–	–	–	–
Fixed tilt	–	–	6 dB	–	–	–	–	–	–
Ouput level (dBµV, -35dB. 2 carriers, IM3)	118	–	114	115	93/95	93/95	93/95	93/95	93
Noise factor (dB)	>10	–	10	10	7	7	7	7	7
Filter selectivity at 830 MHz	>35	–	>35	>35	26	26	26	26	>26
Current available for LNB (mA)	600	–	400/600	–	–	–	–	–	–
LNB power supply (V)	14-18	–	18V	–	–	–	–	–	–
TERRESTRIAL									
Number of inputs	–	–	–	1	1	1	1	1	1
Number of outputs	–	–	–	1	1	1	1	1	1
Band width (MHz)	–	5 - 2400	–	87- 862	87-862	8762	87-862	87-862	47-862
Gain (dB)	–	–	–	15	0/4-7	2/5-7	2/5-7	-4/2-4	-4
Attenuation adjustment (dB)	–	–	–	15	-20	20	20	20	20
Pre-emphasis adjustment (dB)	–	–	–	15	–	–	–	–	–
Output level (dBµV, -60dB, 3 carriers, IM3)	–	–	–	108	-90/88	86/86	86/86	82/84	82
Noise factor (dB)	–	–	–	10	6	6	6	6	7
Return path (MHz)	–	–	–	5-65	-5 -65	5-65	5-65	5-65	5-30
Transmission loss (dB)	–	–	–	2	6	10	10	14	18
GENERAL									
Connectors	F	F	F	F	F	F	F	F	F
Impedance (ohms)	75	75	75	75	75	75	75	75	75
Power supply (V)	207-264	207-264	207-264	–	–	–	–	–	–
Remote power supply (V)	–	–	–	15-18	15-18	15-18	15-18	15-18	15-18
Current consumption	30 VA	–	60 VA	500/750 mA	300/2x200 mA	350/2x250mA	350/2x250mA	400/2x250mA	500mA
Current transmission per SAT channel (A)	1,5	–	1,5	1,5	–	–	–	–	–
Line power supply		3A-18V	2A	–	–	–	–	–	–
Operating temperature	+5°- + 50°C	+5°- + 50°C	+5°- + 50°C	+5°- + 50°C	+5°- + 50°C	+5°- + 50°C	+5°- + 50°C	+5°- + 50°C	+5° - +50°C
Standard	CE	CE	CE	CE	CE	CE	CE	CE	CE
Dimensions (mm)	277x132x75	188x110x75	277x132x75 308x132x75	183x132x43 290x132x43	205x140x52 275x140x52	275x140x52 345x140x52	275x140x52 345x140x52	345x140x52 345x140x52	410x140x52

G II SWITCHLINE
Cascadable range

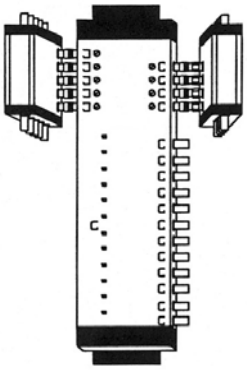
PAS2623
Double the number of outputs on
a 5 wire installation



PAS2813 - PAS2913
1 output tap with losses and good linearity
for improved cascading

PAS1623 - PAS1923 - PAS1623D - PAS1923D
Splitters: 4 or 8 satellite polarities plus terrestrial

Item code	PAS2613 PAS2813	PAS2713 PAS2913	PAS1623 PAS1923	PAS1623D PAS1923D	PAS2623
SATELLITE					
Number of inputs	2/4	2/4	4/8	4/8	4
Number of channels	1	1	2	2	2
Bandwidth (MHz)	950 -2150	950 -2150	950 -2150	950 -2150	950 - 2150
Transmission loss (dB)	2	2	5	2	2
Tap loss (dB)	10	10	-	12	12
Linearity (dB)	+/- 0,5	+/- 0,5	+/- 1	+/-1	+/- 0,5
TERRESTRIAL					
Number of inputs	-	1	1	1	1
Number of channels	-	1	2	2	2
Bandwidth (MHz)	-	5-862	5-862	562	5-862
Transmission loss (dB)	-	2	5	2	2
Tap loss (dB)	-	13	-	12	16,5
Linearity (dB)	-	+/-0.5	+/-1	+/-1	+/-0,5
GENERAL					
Connectors	F	F	F	F	F
Impedance (ohms)	75	75	75	75	75
Max current pass (A)	3	3	3	3	3
	Transmission	Transmission	sat channel	sat channel	sat channel
Operating temperature	+5 - 50°	+5 - 50°	+5 - 50°	+5 - 50°	+5 - 50°
Standard	CE	CE	CE	CE	CE
Dimensions (mm)	80x80x40 180x133x40	80x80x40 180x135x40	188x150x40 188x150x40	188x150x40 188x150x80	180x135x40



• FITTING taps
on switches with 5 or 9 inputs
using “Quick F” connectors

2 INPUT IF FILTER AMPLIFIER: product code AMP9724

TECHNICAL FEATURES

Bandwidth	950 - 2150MHz
Gain adjustment	5 - 20dB
Slope adjustment	0 -14dB
Max output level	
2 equal carriers (-35 dB IM3)	105dBµV
Noise figure	>6dB
Filter selectivity at	
830 MHz	>50dB
Power supply	12 - 19Vdc
Current handling	450mA per input
Consumption	80mA per input
Isolation betwen inputs	30dB

- High output level
- 2 SAT inputs, 2 outputs
- High pass to 950MHz
- Gain from 5 - 20dB
- 14 dB slope adjustment
- Wall fixing hook

MECHANICAL FEATURES

Dimensions	121 x 56 x 42mm
Weight	200g

Switch SWI1201A

Transparent at: 14V/ 18V/ 14V + 22KHz/ 18V + 22KHz; Metal case; Connector: F; Impedance: 75Ohms; Conformity: CE;
Compatible DiSEqC versions 1.02: SWI1201A Switch A / Switch B option

Item code	Use	Bandwidth (MHz)	Insertion loss	Consumption
SWI1201A	for IF switched installation for 8 - 16 polarities	Input 1: 5-2150 Input 2: 950-2150 Output: 5-2150	Terrestrial: 3dB Satellite: 4dB	30mA

Fibre optic distribution
Line amplifiers

Fracarro have an extensive experience in the development, and implementation, of Fibre Optic products. The Bernabeu stadium is a good example of a well known stadium where Fracarro have successfully implemented these products

Solutions for fibre optic distribution

Fibre optic equipment for CATV applications	Page	76
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Line amplifiers

RF amplifiers	80
CATV amplifiers	81-82-83
CATV accessories	84-85
C4 amplifiers	86

Solutions for fibre optic distribution

FIBRE OPTIC: KEY POINTS

- Suitable for TV and satellite applications
- Optimal electrical performance:
- Low signal loss over long distances with fibre
- Installation problems and signal quality degradation reduced as line amplifiers are not required
- Large bandwidth ideal for both analogue and digital distribution
- Excellent linearity, well above the coaxial standards

- Easy and cost-effective to install:
- The fibre optic cables are smaller in diameter and contain multiple fibres
- Broadband access in fibre is also available for other applications
- Isolated: not affected by electromagnetic interference
- Can be laid with electrical cable in power lines

- Interactivity:
- The Fracarro range allows you to create customised interactive networks thanks to return path modules

K SERIES SYSTEM: APPLICATION FIELDS

You can use the K series to process digital and analogue TV and satellite signals in:

- Multi dwelling units
- Hotels
- Hospitals

But did you know that you can use fibre distribution modules to achieve greater distances and bandwidth?
Terrestrial and satellite TV signals can be distributed over long distances and large networks for example:

- Commercial sites
- Sports stadiums
- Areas where electromagnetic interference is a problem
- Sites where a degree of waterproofing is required

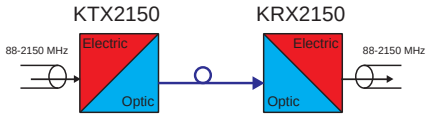
KTX2150/KRX2150
KTX2150L/KRX2150L

KSP1_2/KSP1_4

KTX-RC/KRX-RC

OPTICAL TRANSMITTER & RECEIVER

KTX2150 optical transmitter converts an RF TV-SAT signal into an optical signal.
KRX2150 optical receiver converts the input optical signal into a TV-SAT signal



	OPTICAL INTERFACE			RF SECTION					
Item code	Wave length (nm)	Input power (dBm)	Output power (dBm)	Bandwidth (MHz)	Return loss (dB)	Gain (dB)	Max input level (dBµV)	Max output level (dBµV)	Power supply
KTX2150	1310±20	/	>3	118÷2150	12	-24	(*1) 93 (118÷860MHz) 85 (950÷2150MHz)	/	150
KRX2150	1200-1600	3 ÷ +3 5 (max protection input)	/	118÷2150	12	+22	/	(*2) 85 (118÷860MHz) 77 (950÷2150MHz)	200
KTX2150L	1310±20	/	4	88÷2150	10	-19	(*3) 88 (88÷860 MHz) 83 (950÷2150 MHz)	/	80
KRX2150L	1310±20	2 ÷ +4 4 (max protection input)	/	88÷2150	10	+31	/	(*4) 92 (88÷860MHz) 89 (950÷2150MHz)	180

(*1) Set input level to obtain the following performances from the output of the receiver KRX2150 with optic input 0dBm TV band: C/N>50Db, CSO<-55 (HVF)/ -60 (UHF)dBc, CTB<-60dBc (42 CENELEC channels) – SAT band: C/IMD>35dB (30 transponder)
(*2) Optic input 0dBm received from KTX2150
(*3) Set input level to obtain the following performances from the output of the receiver KRX2150L with optic input 0dBm TV band: C/N>48dB, CSO<-54dBc, CTB<-54dBc (42 CENELEC channels) – SAT band: C/IMD>35dB (30 transponder)
(*4) Optic input 0dBm received from KTX2150L

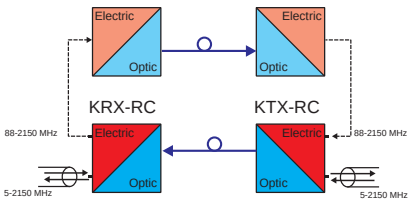
OPTICAL SPLITTERS:

KSP1-2 splits the optical signal into two outputs, KSP1-4 into four outputs. These items can be installed anywhere in the distribution network without using a power supply

	OPTICAL INTERFACE				
Item code	Wave length (nm)	Nr. of outputs	Insertion loss (dB)	Retur loss (dB)	Isolation (dB)
KSP1_2	1310±40	2	3,2	>45	>45
KSP1_4	1310±40	4	6,4	>45	>45

OPTICAL TRANSMITTER & RECEIVER WITH RETURN CHANNEL

KTX-RC optical transmitter converts the return channel signal into an optical signal and mixes the TV-SAT signal. KRX-RC optical receiver converts the optical return path into electrical signal and demixes the TV-SAT signal



	OPTICAL INTERFACE			RF SECTION						
Item code	Wave length (nm)	Input power (dBm)	Output power (dBm)	Bandwidth (MHz)	Diplexer (MHz)	Return loss (dB)	Gain (dB)	Max input level (dBµV)	Max output level (dBµV)	Power supply
KTX-RC	1310±20	/	0	5÷65	5÷65 88÷2150	>10	-24	*96 (5÷65MHz)	/	160
KRX-RC	1310±20	-8÷0	/	5÷65	5÷65 88÷2150	>10	+28	/	*93 (5÷65MHz)	90

GENERAL FEATURES: Power supply (V)**: 12. Size (lxhxd) (mm) 32x129x86. Operating temperature range (°C): –10 ÷ +55. Connectors: SC-APC mono mode

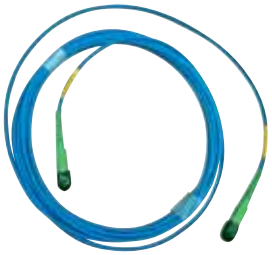
(*) Set up level to have IM2 and IM3<-47dBc with two tones as per specifications EUROINCSIG - (**) Only for transmitters and receivers.

Fibre Optic: accessories

OPC4IM - OPC8IM

OPC4OM - OPC8OM

OPC4OMA - OPC8OMA



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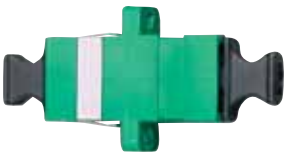
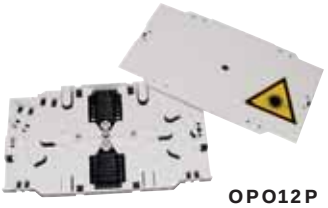


BFO - SC - APC

OPB..



OPO12P

OPB24IR

FIBRE OPTIC CABLE

Item code	For indoor applications-not to be used in extreme conditions
OPC4IM	Cable with 4 singlemode fibres
OPC8IM	Cable with 8 singlemode fibres
	For indoor and outdoor application - can be used in extreme conditions and laid directly underground.
OPC4OM	Cable with 4 singlemode fibres
OPC8OM	Cable with 8 singlemode fibres
	For indoor and outdoor application - can be used in extreme conditions and laid directly underground. Complete with metal armour for rodent proofing.
OPC4OMA	Cable with 4 singlemode fibres
OPC8OMA	Cable with 8 singlemode fibres

SINGLEMODE PATCH CABLE

BR2-AA	2 mt with connectors. SC/APC-SC/APC
BR2-PA	2 mt with connectors. SC/APC-SC/PC
BR4-AA	4 mt with connectors. SC/APC-SC/APC
BR4-PA	4 mt with connectors. SC/APC-SC/PC

(*) SC/APC angled precision connector - SC/PC precision connector

ADAPTER For mounting in patch panel

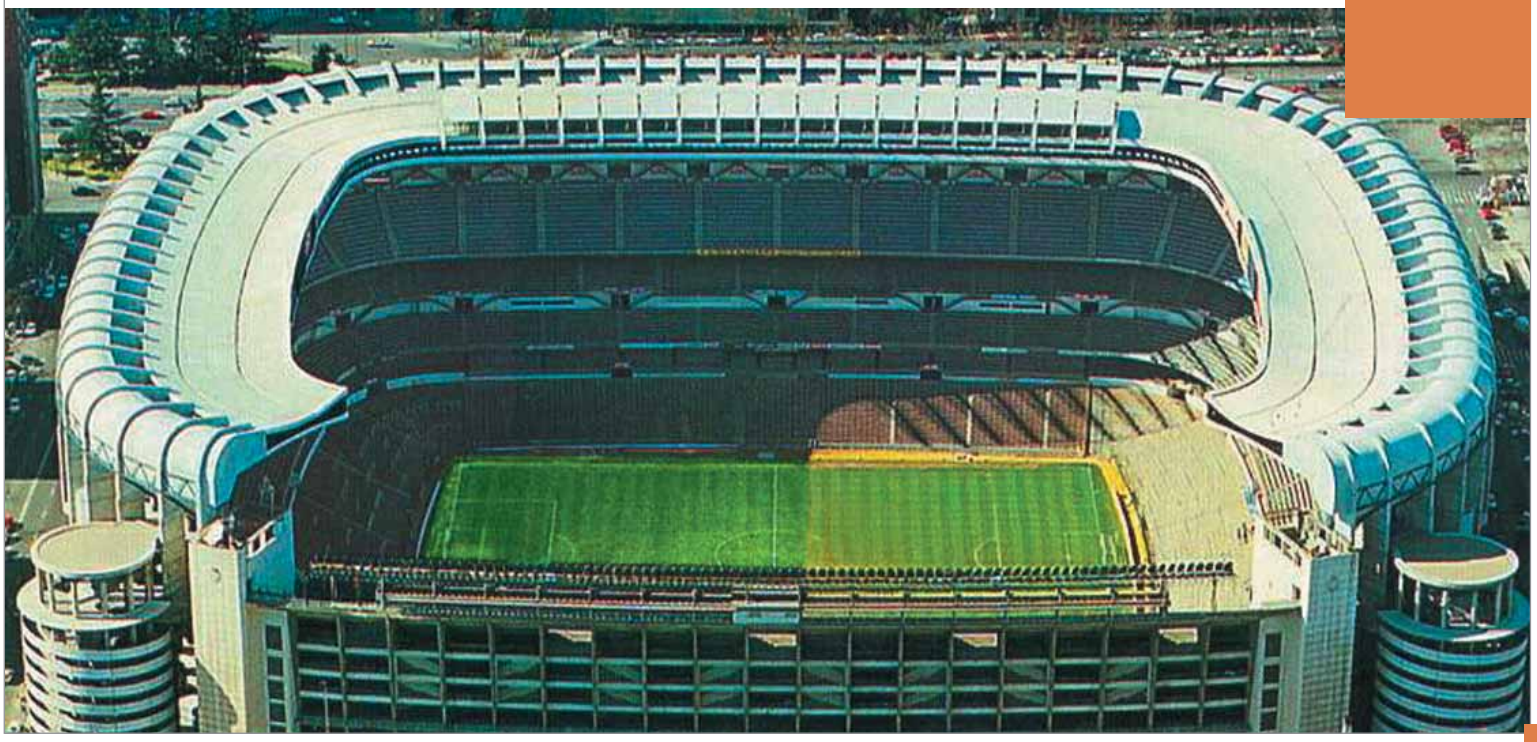
BFO-SC-APC	Adapter for single mode angled connectors

SPLICE BOX - Wall mounting solution

	CASING	SIZE (mm)	NOTES
OPB24I	Painted steel	365x320x100	24 Positions - for inserting additional optical cables
OPB8I	Painted steel	160x140x50	8 Positions - for inserting additional optical cables
OPB24IR	Painted steel	240x43x223	19” Rack 24 positions - for inserting additional optical cables

FIBRE ORGANIZER

	CASING	SIZE (mm)	NOTES
OPO12P	Plastic	150x95x10	12 positions. Very compact and has been developed to ensure the best position for the fibre optic cables



FRACARRO AND THE SANTIAGO BERNABEU STADIUM: CENTRALISING THE TV SIGNALS.

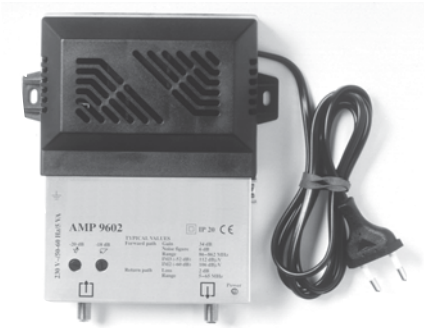
This important project for the reception and distribution of TV signals was designed by Fracarro for the Bernabeu stadium. Both analogue and digital signals were added at the headend, from two different satellites, Hispasat and Astra. Using two 120 cm satellite dishes, two BLU920 antennas and K series modules, the system is able to filter and process the signals and distribute them through fibre optics, ideal for covering long distances as inside a stadium.
The TV-Sat signal is distributed to 184 executive boxes, 33 press points and 123 sockets installed around the stadium.
The signal is also distributed to 1000 points in shops within the stadium

Distribution Specifications

TV Positions	
Steps	52 Stands
Third level "first amphitheater"	44 Stands
Fifth level "second amphitheater"	54 Stands, 31 press boxes, 32 TV is along the press hallway
Seventh level "Executive boxes"	34 Stands
Locker room	16 Outlets
Press room	8 Outlets
Office: 47 outlets	
Throphy room	5 Outlets
Presidential box	16 Outlets
Total amount of outlets	339 (the number will be increased to 1000 outlets)
Analogue signals	15
Fibre optic single mode back bone	5500m
Coaxial distribution via passive taps	300
Line amplifiers	12 (Model: CAA0832C40)
CATV optical receivers	8 (Model: RX860R)
Modulators	10
Channel amplifiers	15 (Model K120)
Power supplies	3 (Model KP35)
Offset SAT dish	RO120N
UHF antennas	BLU920
Optical splitters 4 outlets	SP14R
Optical splitters 2 outlets	SP12R
CNR at the headend	52-54dB
CNR at the outlets	52-54dB
Signal level at the outlets	>65dBµV

The video to audio ratio remains the same for all analogue channels from 12-15dB throughout the distribution system network.

Line amplifiers
RF amplifiers



AMP9602

AMP9762

WIDE BAND AMPLIFIERS (47-862 MHz)

Push pull amplifiers with excellent performance in band linearity and flatness. Shielded case with direct connection to plug.

TECHNICAL FEATURES: This unit conforms to the EN60065 standard and is manufactured in die cast housing with F connectors. Shielding factor to EN50083-2 standard.
V.S.W.R. < 2 - Supply 220-230V 50Hz - Consumption 3.5W

Item code	Gain (reg.) dB	No. of outputs	Output level dBµV	Noise figure ≤ dB	Frequency MHz	Operating temperature range	Packaging pcs.
J11A	12	1	110	5	47÷862	–10 ÷ +55°C	1
J22B(1)	20 (20)	1	117	10	47÷862	–10 ÷ +55°C	1

(1) Possibility to equalize cable losses from 0 to 20 dB

AMP9602

ADVANTAGES:
Terrestrial gain adjustment. - Terrestrial tilt adjustment. - Cable network compatible. - Complies with standard C90-125.
Easy to use (input/output indicator)

GENERAL FEATURES

POWER SUPPLY	230 Vac +/- 10% 50 - 60
CONSUMPTION	5VA
IMPEDANCE	75 Ohms
TEMPERATURE RANGE	- 5° C - + 45° C
DIMENSIONS (mm)	192 X 142 X 54
CONNECTORS	F
PROTECTION INDEX	IP 20
FOR INTERNAL OR SHELTERED USE	

ELECTRICAL FEATURES

DOWN LINK	
Frequency band	87 - 862MHz
GAIN	34dB
Ripple	> 2dB
Input adjustment	0 - 20dB
Output tilt adjustment	0 - 18dB
Output level	
IM3 (-52 dB 3 equal carriers)	112dBµV
IM3 (-60 dB 3 equal carriers)	108dBµV
IM3 (-60 dB 2 equal carriers)	106dBµV
Noise factor	6dB typ.

RETURN PATH	
Frequency band	5 - 65MHz
Transmission loss	2dB

TERRESTRIAL AMPLIFIER

Terrestrial line amplifier with return path. To be used as the last amplifier before the wall outlets. Normally used to amplify signals covering small distribution networks. This amplifier can be used at the output of an optical link.
Gain and slope can be adjusted. Passive or active return path, switchable by the installer. All the adjustments are internally located, under the die cast cover in order to avoid un authorised. The die cast cover is secured with safety screws. Totally screened housing. Spacers available (art. MBX0001 see pag.60) for installation to leave a 19mm gap between the amplifier and the wall, to allow cable to be run neatly behind the amplifier.
TECHNICAL FEATURE: power supply 230Vac +/- 10% 50-60Hz. Temperature range 10°C ÷ +55°C - F Connectors - For internal use. Packaging 1pc

Item code	Frequency MHz	Gain dB	Linearity dB	Gain adj. dB	Slope adj. dB	Output level (DIN B) dBµV	Noise figure dB	Consum. W	Return channel freq. MHz	Return channel gain dB	Impedance Ohms	Dimensions mm	Protection index
AMP9762	47 ÷ 862	42	≤ 4	0 - 20	0 - 20	120	8	9	5 ÷ 30	-2 / 25	75	194x143x53	IP20

CAA.
Dimensions mm 120 x 71 x 195

LINE EXTENDER AMPLIFIER

BUILT-IN POWER SUPPLY. SEPARATED UHF-VHF AMPLIFICATION

Terrestrial amplifiers for CATV to the linearity of the amplifier it can be cascaded and used in large networks.
Built-in high quality die cast housing IP55 with F connectors
Passive return path
Operating temeperature range –10°C + 55°C
Power supply built-in Input power 220-230V 50Hz
Short circuit protection with automatic re-start
Wall mount facility
20dB gain adj. Separate for VHF+S and UHF
1 mixed output

Item code		
	FORWARD PATH (Down Stream)	
	Frequency range	47÷862MHz
	Gain	32dB
	Linearity	± 0.8-1.8 @ 47MHz
	Attenuator	0 ÷ 18dB
	Equalizer	0/ -6/ -10dB
	Output level DIN45004B 60dB IMA	
	- 3rd order	120dBµV
	- 2rd order	116dBµV
	Output level CENELEC 42 ch. 60 dB IMA	
	- CTB	108dBµV
	- CSO	109dBµV
	Noise figure	≤ 8dB
	Return loss In @ 50MHz	22dB
	@862 MHz ≥ 15dB	
	Return loss OUT @ 50MHz	22dB
	@ 862MHz	≥15dB
	Screening	80dB
	Voltage	220-230Vac - 50Hz
	Power consumption	11W max
	RETURN PATH (Up Stream)	
	PASSIVE MODULE	
	Frequency range	5÷40MHz
	Insertion loss	-0.7÷-2.6dB
	Return loss	20dB
CAA0832C40(1)	Screening factor	80dB

(1) Possibility to insert a 10 dB tilt.

CATV amplifiers

new

AMP512..
Dimensions mm 180 x 120 x 60

AMP512AL - AMP512AM

KEY POINTS

- Push pull hybrid technology
- Flexible return path – all in one module
- High output level, low power consumption
- Ultra compact design
- Die-cast aluminium housing meeting IP65 protection
- Mains or line powered
- Switch mode power supply
- 1.3AC feed through to terminal OUT
- Interstage attenuation and slope combined in one compact module
- Interstage gain adjustment with minimum influence on noise figure and output level
- Test point -20dB at input (non directional) and output (non directional)
- F-connector at input and output
- Excellent surge and transient protection

N

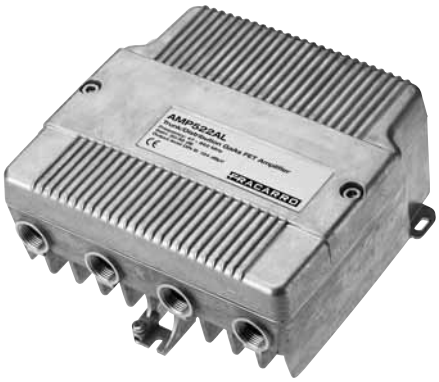
Item code		AMP512AL	AMP512AM
Forward path, bandwidth (depends on diplexer modules)		47-862MHz	
Gain	47 / 862MHz	36.5 / 37dB	
Attenuation		0 - 18dB	
Equaliser		0 - 18dB	
Linearity		± 1dB	
3rd order (DIN 45004 B)		119.5dBµV	
2nd order (DIN 45004 B)		111dBµV	
CTB (42 ch CENELEC)	flat / 8dB tilt	103.5 / 105.5dBµV	
CSO (42 ch CENELEC)		105dBµV	
Noise Figure	47 / 862MHz	6 / 7dB	
Return loss, @40MHz		20 - 1.5 / oct dB	
Return path, bandwidth (depends on diplexer modules)		5 - 65MHz	
General			
Line power, Voltage		24 - 60VAC	
Line power, Current		480 - 230mA	
Mains power, Voltage			207 - 243VAC
Power consumption (incl. return path)		8.5 (10)W	
Dimensions	W x H x D	180 x 120 x 60mm	
Weight		1.4kg	

Note: all specification are with ML01 link modules. If other modules are inserted, please correct for insertion loss.

ACCESSORIES

Return path module to be used in AMP512A. MAX range has input test point built-in.

Item code		MAV3023	MAV5523	MAV6523	MAX3023	MAX5523	MAX6523	MPX30	MPX55	MPX65
Frequency range, forward	MHz	47 - 862	75 - 862	87 - 862	47 - 862	75 - 862	87 - 862	47 - 862	75 - 862	87 - 862
Insertion loss, per filter typ. (max.)	dB	0.3 (0.5)	0.3 (0.5)	0.3 (0.5)	0.3 (0.5)	0.3 (0.5)	0.3 (0.5)	0.3 (0.5)	0.3 (0.5)	0.3 (0.5)
Frequency range, return path	MHz	5 - 30	5 - 55	5 - 65	5 - 30	5 - 55	5 - 65	5 - 30	5 - 55	5 - 65
Linearity	dB	< ± 0.5	< ± 0.5	< ± 0.5	< ± 0.5	< ± 0.5	< ± 0.5	-	-	-
Gain	dB	23	23	23	23	23	23	-	-	-
Attenuation	dB	0 - 18	0 - 18	0 - 18	0 - 18	0 - 18	0 - 18	0 - 18	0 - 18	0 - 18
Equaliser	dB	0 - 6	0 - 6	0 - 6	0 - 7	0 - 7	0 - 8	0 - 7	0 - 7	0 - 8
3rd order (DIN 45004B)	dBµV	118	118	118	120	120	120	-	-	-
2nd order (DIN 45004B)	dBµV	104	104	104	105	105	105	-	-	-
Noise figure	dB	< 7	< 7	< 7	< 7	< 7	< 7	-	-	-
Power consumption	W	1.5	1.5	1.5	1.5	1.5	1.5	-	-	-



new

AMP522..
Dimensions mm 200 x 180 x 82

AMP522AL - AMP522AM - AMP522PL - AMP522PM

KEY POINTS

- High output level and low power consumption using GaAs FET hybrid technology
- Gain and slope adjustment by attenuators (AMP522AL - AMP522AM)
- Gain and slope adjustment by standard attenuator PAD (AMP522PL - AMP522PM)
- On board input attenuator, equalizer and cable equaliser using pads
- Flexible output splitter module
- Test point -20dB at input (non directional) and output (directional)
- Flexible return path by plug-in diplexer modules
- On board active or passive return path, selected by a switch
- Return path test point -20dB at input (non-directional)
- Upgradeable with DIB (Dynamic Ingress Block) module
- Mains or line powered with switch mode power supply
- Die-cast aluminium housing meeting IP65 protection
- 5A AC feed through to any terminal and 10A external AC input terminal - excellent surge and transient protection

Item code		AMP522AL	AMP522AM	AMP522PL	AMP522PM
Forward path, bandwidth (depends on diplexer modules)		47 - 862MHz			
Gain (8dB gain switch)	47 / 862MHz	30 / 38dB			
Attenuation by pads		-		0-22dB	
Attenuation by adjustable attenuators		0 - 18dB		-	
Equaliser by pads		-		0 - 18dB	
Equaliser by adjustable attenuators		0 - 18dB		-	
Linearity		± 1dB			
3rd order (DIN 45004 B)		124dBµV			
2nd order (DIN 45004 A1)		121dBµV			
CTB (42 ch CENELEC)	flat / 8dB tilt	108 / 110dBµV			
CTB (42 ch CENELEC) by 6 dB interstage att.	flat / 8dB tilt	107.5 / 109.5dBµV			
CSO (42 ch CENELEC)		110dBµV			
Noise Figure	47 / 862MHz	5 / 6.5dB			
Noise Figure by 6 dB interstage att.	47 / 862MHz	6 / 8dB	5 / 7dB	6 / 8dB	5 / 7dB
Return loss, @40MHz		18 - 1.5 / oct dB			
Return path, bandwidth (depends on diplexer modules)		5 - 65MHz			
Gain		23dB			
Attenuation by pads		-		0 - 18dB	
Attenuation by adjustable attenuator		0 - 18dB		-	
Equaliser by pads		-		0 - 8dB	
Equaliser by adjustable attenuator		0 - 8dB		-	
Linearity		± 1dB			
3rd order (DIN 45004 B)		119dBµV			
2nd order (DIN 45004 A1)		104dBµV			
Noise Figure		6dB			
General					
Line power, Voltage		24 - 65VAC			
Line power, Current		540 - 250mA			
Mains power, Voltage		175 - 260VAC			
Power consumption (incl. return path)		12.5W			
Dimensions	W x H x D	200 x 180 x 82mm			
Weight		2.5kg			

Note: All specifications are with 0dB link modules. If other modules are inserted, please correct for insertion loss.

CATV accessories

new

MDA.. - MS..

ML01 - ML02

MP20

MCS04 - MCS08

MDA.. - MS..

Item code		MDA3047	MDA4254	MDA5573	MDA6080	MDA6587
Frequency range, forward path	MHz	47 - 862	54 - 862	73 - 862	80 - 862	87 - 862
Frequency range, reverse path	MHz	5 - 30	5 - 42	5 - 55	5 - 60	5 - 65
Insertion loss reverse path	dB	0.6 at 30MHz	0.7 at 40MHz	0.7 at 55MHz	0.7 at 60MHz	0.7 at 65MHz
		-	1.0 at 42MHz	-	-	-
		-	-	1.0 at 73MHz	-	-
Insertion loss forward path	dB	0.6 at 47MHz	0.7 at 54MHz	0.7 at 75MHz	0.8 at 80MHz	0.7 at 87MHz
		0.3 at 862MHz	0.3 at 862MHz	0.3 at 862MHz	0.3 at 862MHz	0.3 at 862MHz

Item code		MS100	MS101	MS110	MS114	MS118	MS206	MS404
Frequency range	MHz	5 - 1000	5 - 1000	5 - 1000	5 - 1000	5 - 1000	5 - 1000	5 - 1000
Insertion loss, output A	dB	0	no pass	-	-	-	-	-
5 /606 / 862 / 1000MHz		-	-	10.5/10/10/10.1	14.2/14/14/14	18.2/18/17.8/18	3.2/3.5/3.8/4.6	5.4/14/14/14
Insertion loss, output B	dB	no pass	0	-	-	-	-	-
5 /606 / 862 / 1000MHz		-	-	1.3/1.1/1.3/1.6	1.1/0.7/0.9/1.2	0.7/0.4/0.5/0.7	3.2/3.5/3.8/4.6	2.1/2.2/2.4/2.8
Isolation, out A - out B @40MHZ		-	-	>29 -1.5 / oct	>34 -1.5 / oct	>38 -1.5 / oct	>20 -1.5 / oct	>23 -1.5 / oct

ML.. - MP20

ML01 - ML02	Link module ML01 is used as a bridge socket for the interstagemodules and/or socket for return path module (2pcs). ML02 Link module is used as bridge in the splitter and diplex filter sockets. Frequency range: 5 - 1000MHz - Insertion loss: 0dB - Return loss: 26 - 1.5/oct. - Packaging 10pcs
MP20	Test module to be inserted in the socket for MS-module to avoid interrupting the connected distribution network. Frequency range: 5 - 1000MHz - Insertion loss: ∞ - Tap loss: 20dB - Linearity: ± 0.5dB - Packaging 5pcs

MCS04 - MCS08

	Cable equalisers used at the input of distribution amplifiersz to compensate sloped signal from the trunk line.
MCS04	Frequency range: 5 - 862MHz - Insertion loss 47 / 450 / 606 / 862MHz: 1 / 3 - 5 /4 - 1 / 5dB Linearity: ± 0.25dB - Return loss @40MHz: 26 -1.5 / oct dB. - Packaging 5pcs
MCS08	Frequency range: 5 - 862MHz - Insertion loss 47 / 450 / 606 / 862MHz: 2 / 7 - 1 / 8 - 2 / 10dB Linearity: ± 0.35dB - Return loss @40MHz: 26 -1.5 / oct dB. - Packaging 5pcs

CATV accessories

new

MEX800

MPGXX

PAD-BOX

MEX800

Item code		MEX800/08	MEX802/08	MEX804/08	MEX806/08
Frequency range	MHz	47 - 862	47 - 862	47 - 862	47 - 862
Insertion loss, pos. A 47 / 862MHz	dB	0 / 0	2 / 2	4 / 4	6 / 6
Insertion loss, pos. B 47 / 862MHz	dB	8 / 0.3	10 / 2	12 / 4	14 / 6

Item code		MEX800/06	MEX802/06	MEX804/06	MEX806/06
Frequency range	MHz	47 - 862	47 - 862	47 - 862	47 - 862
Insertion loss, pos. A 47 / 862MHz	dB	0 / 0	2 / 2	4 / 4	6 / 6
Insertion loss, pos. B 47 / 862MHz	dB	6 / 0.3	8 / 2	10 / 4	12 / 6

MPGXX - PAD-BOX - PG11..

MPGXX	High Quality gold plated 1GHz pads for amplifier Slope and Attenuation - packaging 10 pcs MPG00: attenuation 0dB - tilt 0dB MPG01: attenuation 1dB - tilt 1dB MPG02: attenuation 2dB - tilt 2dB MPG03: attenuation 3dB - tilt 3dB MPG04: attenuation 4dB - tilt 4dB MPG05: attenuation 5dB - tilt 5dB MPG06: attenuation 6dB - tilt 6dB MPG07: attenuation 7dB - tilt 7dB MPG08: attenuation 8dB - tilt 8dB MPG09: attenuation 9dB - tilt 9dB MPG10: attenuation 10dB - tilt 10dB MPG12: attenuation 12dB - tilt 11.5dB MPG14: attenuation 14dB - tilt 13dB MPG16: attenuation 16dB - tilt 14.5dB MPG18: attenuation 18dB - tilt 16dB MPG20: attenuation 20dB - tilt 17dB MPG22: attenuation 22dB - tilt 18.5dB
PAD-BOX	Box with a variety of pads and other accessories. MPG 00 packaging 12pcs MPG 02 to 22 packaging 3pcs each MS100 packaging 2pcs MS101 packaging 2pcs MS404 packaging 2pcs ML01 packaging 6pcs 5A fuses packaging 5 pcs O-rings packaging 10pcs Terminals packaging 10pcs
PG11-CP	PG11 metal blind - packaging 100pcs
PG11-3,5/12	PG11 to 3,5/12 adaptor - packaging 10pcs
PG11-5/8	PG11 to 5/8” reduction ring - packaging 100pcs
PG11-F	PG11 to F adaptor - packaging 10pcs

C4 amplifiers

AMP9501

AMP9603

AMP9763

AMP9501

Advantages

- Products with mains and remote power supplies
- 50dB of satellite gain in line with 30dB of terrestrial gain
- "Plug and Play" product
  - no plug in attenuators required
  - control via potentiometer
  - fitted base
- Configurable return path 5 - 30, 5 - 55, 5 - 65MHz
- High terrestrial and satellite output level

AMP9603

Advantages

- Economic
- Independent adjustment of terrestrial and satellite path
- Independent terrestrial and satellite slope adjustment
- Cable network compatible
- Complies with standard C90-125
- Easy to use (input/ output indicator)

UBB AMPLIFIER - AMP9763

UBB line amplifier (ultra broad band) with return path. To be used as final amplifier before wall outlets. Used in small distribution networks. Can be used as amplifier at the output of an optical link. Gain and slope adjustment.
Passive or active return path, switchable by the installer. All adjustments are located under the die cast cover to prevent unauthorised access. Die cast cover provided with safety screws. Totally screened housing.
Spacers available (art. MBX0001 see pag.60) for installation to leave a 19mm gap between the amplifier and the wall, to allow cable to be run neatly behind the amplifier.
Packaging 1pc

TECHNICAL FEATURES

Item code	AMP9501 & AMP9501S		AMP9603		AMP9763	
INPUTS	Terrestrial	Sat	Terrestrial	Sat	Terrestrial	Sat
FREQUENCY BANDS	85 - 862MHz	950 - 2150MHz	85 - 862MHz	950 - 2150MHz	47 - 862MHz	950 - 2400MHz
GAIN	30dB	50dB	30dB	45dB	40dB	40dB
ATTENUATION	0 - 18 dB	0 - 24dB	0 - 20dB	0 - 18dB	0 - 20dB	0 - 18dB
TILT CORRECTION	0 - 18 dB	0 - 20dB	0 - 18dB	5 - 15dB	0 - 20dB	0 - 20dB
OUTPUT LEVEL						
(-52 dB IM3 3 eq. carriers)	120dBµV	-	110dBµV	-	120dBµV	-
(-60 dB IM3 3 eq. carriers)	116dBµV	-	115dBµV	-	-	-
(-35 dB IM3 2 eq. carriers)	–	120dBµV		114dBµV	-	125dBµV
(-60 dB IM2 2 eq. carriers)	112dBµV	-	104 dBµV	-	-	-
NOISE FIGURE	8dB	10dB	7dB	7dB	8dB	10dB
RETURN PATH	5 - 65MHz*		5 - 65MHz*		5 ÷ 30MHz	
RETURN PATH GAIN	passive*		-2dB		-2 / 25dB	
REMOTE POWER SUPPLY	30 - 60Vac (AMP9501)					
CURRENT PASSING	4A max (AMP9501)					
POWER CONSUMPTION	18W-5°C - +50°C		5VA		230 Vac ± 10% 50-60MHz	
OPERATING TEMPERATURE			-5°C - +45°C		-10° C - +55°C	
PROTECTION INDEX	IP55		IP 20		IP 20	
DIMENSIONS	220 x 172 x 122mm		192 x 142 x 54mm		194 x 143 x 53mm	
WEIGHT	2,5kg		-		2,3kg	
CONNECTORS	F on AMP9501S - 3,5/12 on AMP9501		F		F	

* return path can be configurated, see accessories

ACCESSORIES FOR AMP9501 AND AMP9501S

RETURN PATH	5-33MHz	Diplexer: **PAS0227533****
	5-55MHz	Diplexer: **PAS0227555****
	5-65MHz	Diplexer: **PAS0227565****
PASSIVE RETURN PATH PAD	0dB	**AMP2620000**
ACTIVE RETURN PATH PAD	26dB	**AMP2630026**

** 2 diplexers per amplifier

MATV/SMATV distribution products

A wide range of distribution products to complete the system

DiSEqC switches and line amplifiers	Page	88
Distribution components: 47-862MHz		89-90
Distribution components: 5-2400MHz		91-92-93
Distribution components: 5-862MHz		94
Distribution components: 5-1000MHz		95
Distribution components: 950-2150MHz and 5-2400MHz		96
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Connectors and accessories		103-104-105
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DiSEqC Switches and line amplifiers

DSQ2

INBS2

AS10

DiSEqC

Line switches

Line switches with DiSEqC or 22KHz control on coaxial cable, controlled by receivers with built-in or external DiSEqC tone generator (INBS2), easy to install.

Item code	Band MHz	Inputs N.ro	Outputs N.ro	Insertion loss dB	Control voltage KHz	Consumption max mA	Insulation dB	Packaging pcs
DSQF(1)	700÷2300	2	1	4	Burst	40	25	10
DSQ2	950÷2300	2	1	1	Burst or 22KHz	40	30	1
PAS7212101	950÷2300	2	1	3	Burst	30	30	1

DISEqC BURST GENERATOR

DiSEqC BURST generator for DiSEqC switches or 9 input multiswitches.
To be used with receivers that have no DiSEqC signal, but have a 0/5 - 18V switching signal when a voltage of between 5 and 18V is connected a DiSEqC burst is generated.
Packaging 1pc.

	Frequency MHz	Through loss dB	Control voltage V	d.c. pass through mA
INBS2	950÷2300	1	5÷18	16 @ 5V

LINE AMPLIFIER

To amplify satellite signals to feed a small system or pre-amplify satellite signals to feed larger systems.
Operates on 900-2150MHz with a sloped gain to compensate for the coaxial cable loss.
Die-cast aluminium housing with female F connectors.

	Band MHz	Gain dB	Noise figure dB	Operating voltage Vdc	Consumption max mA	Impedance ohm	Connectors max mA	Output max dBµV	Packaging pcs	Dimensions mm
AS10	950÷2150	9÷12	<7	13-18	25 @ 13V	75	Female F	110	10	Ø 17 l=70
AS20(2)	950÷2150	17÷20	10	13-20	80 @ 13V	75	Female F	120	1	71,5x51x21

(1) Outdoor plastic box included.
(2) Mast housing (mod. **CNJS**) available for external use.

PP12-PP13-PP14-PP12DC-PP14DC
Dimensions mm 51x37X33

SPLITTERS

Metal housing clamps fully shielded with shielded screw and saddle terminals.
It is not advisable to feed the output sockets directly because of the low separation.
One input - several outputs.
V.S.W.R. < 1.2

Item code		Attenuation dB		Outputs NO.	PACKAGE PCS.
		input and output	between two outputs		
PP12	for embedding	4	18	2	10
PP13	for embedding	6	15	3	10
PP14	for embedding	7	10	4	10
PP12DC(1)	for embedding	4	18	2	10
PP14DC(1)	for embedding	8	10	4	10
IP2(1)	free hanging	4	18	2	10

Distribution components
47-862 MHz

CD..-CAD
Dimensions mm 51x37x33

TAPS

Fully shielded Metal housing, screw and saddle clamps. 1 input, 1 through-line output, 1 or more tapped output. 1 input, 1 through-line output, 1 or more tapped output.
Suitable for through-line and as terminal as well. by fitting a resistive load CR75N. Package 10pcs.

Item code	1 WAY TAPS										
	Insertion loss -dB		Separation from the through line dB band				Separation beteween tapped outputs dB band				V.S.W.R. input
	min	max	1	3	4	5	1	3	4	5	<
CD11	0,8	1,1	10	10	10	10	—	—	—	—	1,2
CD141	0,3	0,5	15	14	14	14	—	—	—	—	1,2
CD201	0,2	0,6	21	20	20	20	—	—	—	—	1,3
CD261	0,2	0,7	26	26	26	25	—	—	—	—	1,1

Item code	2 WAY TAPS										
	Insertion loss -dB		Separation from the through line dB band				Separation beteween tapped outputs dB band				V.S.W.R. input
	min	max	1	3	4	5	1	3	4	5	<
CD12	1,3	1,8	11	11	10	10	21	21	19	19	1,4
CD142	0,6	1,1	15	15	14	14	28	27	26	25	1,2
CD202	0,6	1,1	22	21	20	19	23	25	27	27	1,3
CD262	0,7	1,2	28	27	26	26	35	36	36	36	1,2

Item code	4 output										
	Insertion loss -dB		Separation from the through line dB band				Separation beteween tapped outputs dB band				V.S.W.R. input
	min	max	1	3	4	5	1	3	4	5	<
CD144	0,8	2,8	16	16	15	15	13/21	16/27	18/35	18/40	1,5
CD204	0,3	1,2	23	23	21	20	15/25	16/27	18/28	18/28	1,2
CD264	0,3	1,2	27	27	26	25	25/35	27/37	28/37	29/37	1,3

Item code	DIRECTIONAL - Strip line technology provides higher levels of b.1 attenuation										
	1 output										
	Insertion loss -dB		Separation from the through line dB band				Separation beteween tapped outputs dB band				V.S.W.R. input
	min	max	1	3	4	5	1	3	4	5	<
CAD11	0,1	0,7	27	17	11	12	45	38	36	35	1,1
	2 output										
CAD12	0,1	0,8	27	18	12	13	53	43	30	26	1,2
	3 output										
CAD 13	0,2	20	27	17	12	15	40/40	35/30	34/25	32/35	1,3
	4 output										
CAD14	0,1	1,9	27	17	12	15	48/60	37/60	29/52	25/45	1,2
	Fixed separation from the main line for all the frequencies. Specially conceived for band 1 - 1 output										
CAD101	0,8		13				27				1,5
	2 output										
CAD102	1,7		13				23				1,5
	4 output										
CAD104	4,0	6,0	10,5	11	11,5	13	22/22	30/30	30/30	30/23	1,5

Distribution components 5-2400MHz

PA2
Dimensions mm 30x40

PA4
Dimensions mm 56x40

The new splitters and couplers have been designed to be used in TV and Satellite distribution systems.
The compact design enables then to be installed in many locations.
The main features are: die cast metal housing; low insertion losses; high return loss and separation; F connectors; earthing screw; and wall fixing.
Packaging 10pcs.

2 WAY SPLITTERS

Item code		5÷40 MHz	40÷470 MHz	470÷1000 MHz	1000÷1750 MHz	1750÷2050 MHz	2050÷2400 MHz
PA2	Insertion loss (dB)	≤ 4	≤ 4	≤ 4.5	≤ 5.5	≤ 5.5	≤ 6
	Output-output isolation (dB)	≥ 22	≥ 22	≥ 20	≥ 20	≥ 20	≥ 23

3 WAY SPLITTERS

PA3	Insertion loss (dB)	≤ 7	≤ 8	≤ 8	≤ 10	≤ 10.5	≤ 11
	Output-output isolation (dB)	≥ 22	≥ 22	≥ 22	≥ 22	≥ 22	≥ 22

4 WAY SPLITTERS

PA4	Insertion loss (dB)	≤ 7.5	≤ 8.5	≤ 9	≤ 11	≤ 11.5	≤ 12
	Output-output isolation (dB)	≥ 30	≥ 30	≥ 25	≥ 26	≥ 22	≥ 22

6 WAY SPLITTERS

PA6	Insertion loss (dB)	≤ 10.5	≤ 10.5	≤ 12	≤ 13.5	≤ 14.5	≤ 16
	Output-output isolation (dB)	≥ 22	≥ 22	≥ 22	≥ 22	≥ 22	≥ 22

8 WAY SPLITTERS

PA8	Insertion loss (dB)	≤ 12	≤ 12	≤ 13.5	≤ 15.5	≤ 16.5	≤ 17
	Output-output isolation (dB)	≥ 20	≥ 20	≥ 20	≥ 20	≥ 20	≥ 20

Distribution components 5-2400 MHz

DE1-..
Dimensions mm 30x40

DE2-..
Dimensions mm 30x40

1 WAY TAPS

Packaging 10pcs.

Item code		5÷40 MHz	40÷470 MHz	470÷1000 MHz	1000÷1750 MHz	1750÷2050 MHz	2050÷2400 MHz
DE1-10	Insertion loss (dB)	≤ 1.5	≤ 1.3	≤ 1.3	≤ 1.6	≤ 2	≤ 2
	Tap loss (dB)	10.5	10.5	10.5	11	11	11
	Tap output isolation (dB)	≥ 40	≥ 35	≥ 32	≥ 27	≥ 24	≥ 24
DE1-14	Insertion loss (dB)	≤ 1	≤ 0.8	≤ 0.8	≤ 1.2	≤ 1.3	≤ 1.5
	Tap loss (dB)	14	14	14	14	14	14
	Tap output isolation (dB)	≥ 32	≥ 29	≥ 28	≥ 28	≥ 30	≥ 25
DE1-18	Insertion loss (dB)	≤ 0.8	≤ 0.7	≤ 0.7	≤ 0.9	≤ 1	≤ 1.3
	Tap loss (dB)	18.5	18.5	18.5	18.5	18	17.5
	Tap output isolation (dB)	≥ 45	≥ 36	≥ 31	≥ 31	≥ 27	≥ 22
DE1-22	Insertion loss (dB)	≤ 0.6	≤ 0.6	≤ 0.5	≤ 0.8	≤ 1	≤ 1.7
	Tap loss (dB)	22	22	22	22	22	22
	Tap output isolation (dB)	≥ 50	≥ 38	≥ 33	≥ 33	≥ 31	≥ 27

2 WAY TAPS

Packaging 10pcs.

DE2-10	Insertion loss (dB)	≤ 2.5	≤ 2.5	≤ 2.5	≤ 2.5	≤ 2.8	≤ 3.5
	Tap loss (dB)	10	10	10	10	11	11.5
	Tap output isolation (dB)	≥ 25	≥ 28	≥ 28	≥ 25	≥ 25	≥ 23
DE2-14	Insertion loss (dB)	≤ 1.5	≤ 1.5	≤ 1.5	≤ 1.8	≤ 2	≤ 2.2
	Tap loss (dB)	14	14	14	14	14	14
	Tap output isolation (dB)	≥ 35	≥ 29	≥ 25	≥ 25	≥ 23	≥ 23
DE2-18	Insertion loss (dB)	≤ 1.2	≤ 1.2	≤ 1.2	≤ 1.5	≤ 1.8	≤ 2
	Tap loss (dB)	18	18	18	18	18	19
	Tap output isolation (dB)	≥ 45	≥ 35	≥ 30	≥ 27	≥ 27	≥ 25
DE2-22	Insertion loss (dB)	≤ 1.2	≤ 1.2	≤ 1.1	≤ 1.5	≤ 1.8	≤ 2.2
	Tap loss (dB)	22	22	22	22	22	22
	Tap output isolation (dB)	≥ 45	≥ 40	≥ 35	≥ 31	≥ 27	≥ 27

Distribution components 5-2400 MHz

DE4-...
Dimensions mm 56x40

DE6-...
Dimensions mm 56x40

DE8-...
Dimensions mm 56x40

4 WAY TAPS

Packaging 10pcs.

Item code		5÷40 MHz	40÷470 MHz	470÷1000 MHz	1000÷1750 MHz	1750÷2050 MHz	2050÷2400 MHz
DE4-12	Insertion loss (dB)	≤ 3.5	≤ 3.5	≤ 4.3	≤ 5.1	≤ 5.2	≤ 5.4
	Tap loss (dB)	11.5	11.5	11.5	13	14	15.5
	Tap output isolation (dB)	≥ 35	≥ 35	≥ 30	≥ 28	≥ 28	≥ 28
DE4-14	Insertion loss (dB)	≤ 2.5	≤ 2.3	≤ 2.5	≤ 3	≤ 3.5	≤ 4
	Tap loss (dB)	14.5	14	13.5	14	14.5	15
	Tap output isolation (dB)	≥ 32	≥ 32	≥ 35	≥ 30	≥ 27	≥ 30
DE4-18	Insertion loss (dB)	≤ 1.5	≤ 1.3	≤ 1.3	≤ 1.5	≤ 1.8	≤ 2
	Tap loss (dB)	18	18	18	18.5	19	19
	Tap output isolation (dB)	≥ 45	≥ 45	≥ 45	≥ 35	≥ 30	≥ 30
DE4-22	Insertion loss (dB)	≤ 1	≤ 1	≤ 1	≤ 1.2	≤ 1.5	≤ 1.5
	Tap loss (dB)	21.5	21.5	22	22.5	23	24
	Tap output isolation (dB)	≥ 38	≥ 37	≥ 33	≥ 31	≥ 27	≥ 26

4 WAY TAPS

Packaging 10pcs.

DE6-16	Insertion loss (dB)	14±1	14±1	14±1	15±1	16.5±1.5	18±1.5
	Tap loss (dB)	≤ 4.5	≤ 5	≤ 5	≤ 5.5	≤ 5.5	≤ 5.5
	Tap output isolation (dB)	≥ 25	≥ 22	≥ 22	≥ 22	≥ 22	≥ 22
DE6-20	Insertion loss (dB)	19±1	19±1	19±1	19.5±1.5	20±1.5	20.5±1.5
	Tap loss (dB)	≤ 2.5	≤ 3	≤ 3	≤ 4	≤ 4.5	≤ 5.5
	Tap output isolation (dB)	≥ 30	≥ 25	≥ 22	≥ 22	≥ 22	≥ 22
DE6-25	Insertion loss (dB)	24±1	24±1	24±1	24±1	24±1.5	24.5±2
	Tap loss (dB)	≤ 1.5	≤ 1.5	≤ 1.5	≤ 2	≤ 2.5	≤ 3.5
	Tap output isolation (dB)	≥ 30	≥ 30	≥ 22	≥ 22	≥ 22	≥ 22

8 WAY TAPS

Packaging 10pcs.

DE8-16	Insertion loss (dB)	14.5±1	15±1	15±1	16.5±1.5	18±1.5	19.5±1.5
	Tap loss (dB)	≤ 4.5	≤ 5	≤ 5	≤ 5.5	≤ 5.5	≤ 5.5
	Tap output isolation (dB)	≥ 30	≥ 25	≥ 25	≥ 25	≥ 25	≥ 25
DE8-20	Insertion loss (dB)	19±1	19±1	19±1	19±1	19±1.5	20±1.5
	Tap loss (dB)	≤ 2.5	≤ 2.5	≤ 3.5	≤ 4.5	≤ 5	≤ 5.5
	Tap output isolation (dB)	≥ 30	≥ 25	≥ 20	≥ 20	≥ 20	≥ 20
DE8-25	Insertion loss (dB)	23.5±1	23.5±1	23.5±1	24±1	24±1.5	25±3
	Tap loss (dB)	≤ 1	≤ 1.5	≤ 1.5	≤ 2	≤ 2.5	≤ 2.5
	Tap output isolation (dB)	≥ 30	≥ 30	≥ 25	≥ 20	≥ 20	≥ 20

Distribution components
5-862 MHz

2, 3 & 4 WAY SPLITTERS - PAS12X2011

Bandwidth (MHz)	5 - 40	40 - 470	470 - 862	5 - 40	40 - 470	470 - 862	Dimensions (mm)	Weight (g)
TYPE	Insertion loss (dB)			Isolation (dB) between outputs				
PAS1222011 2 outputs	3.4 ± 0.3	3.4 ± 0.3	3.6 ± 0,4	16	22	20	53 x 50 x25	55
PAS1232011 3 outputs	5.3 ± 0.3	5.3 ± 0.3	5.6 ± 0,5	16	20	18	74 x 50 x25	76
PAS1242011 4 outputs	7. 2 ± 0.3	7.2 ± 0.3	7.5 ± 0,5	18	20	16	74 x 50 x25	8

A

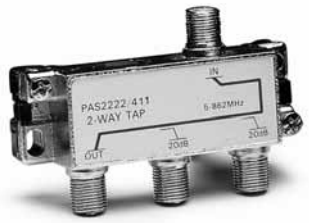
1 WAY TAPS - PAS2212X11

Bandwidth (MHz)	5 - 40	40 - 470	470 - 862	5 - 40	40 - 470	470 - 862	5 - 40	40 - 470	470 - 862
TYPE	Tap loss (dB)			Insertion loss (dB)			Output-tap isolation (dB)		
PAS2212111	8.5 ± 1	8.5 ± 1	8.5 ± 1	1.6 ± 0.2	1.6 ± 0.2	2 ± 0.3	22	20	18
PAS2212211	12.5 ± 1	12.5 ± 1	12.5 ± 1	0.7 ± 0.2	0.7 ± 0.2	0.8 ± 0.3	26	26	16
PAS2212311	16 ± 1	16 ± 1	16 ± 1	0.5 ± 0.2	0.5 ± 0.2	0.6 ± 0.3	28	26	26
PAS2212411	20 ± 1	20 ± 1	20 ± 1	0.5 ± 0.2	0.5 ± 0.2	0.6 ± 0.3	30	30	26
PAS2212511	24 ± 1	24 ± 1	24 ± 1	0.5 ± 0.2	0.5 ± 0.2	0.6 ± 0.3	32	32	28

Dimensions (mm): 53 x 50 x 25
Weight: 55g

2 WAY TAPS - PAS2222X11

Bandwidth (MHz)	5 - 40	40 - 470	470 - 862	5 - 40	40 - 470	470 - 862	5 - 40	40 - 470	470 - 862
TYPE	Tap loss (dB)			Insertion loss (dB)			Output-tap isolation (dB)		
PAS2222111	8.5 ± 1	8.5 ± 1	8.5 ± 1	3.4 ± 0.5	3.6 ± 0.5	3.8 ± 0.5	22	20	16
PAS2222211	12.5 ± 1	12.5 ± 1	12.5 ± 1,5	1.2 ± 0.3	1.2 ± 0.3	1.2 ± 0.4	26	24	22
PAS2222311	16 ± 1	16 ± 1	16 ± 1,5	1.2 ± 0.3	1.2 ± 0.3	1.5 ± 0.4	28	24	22
PAS2222411	20 ± 1	20 ± 1	20 ± 1.5	0.5 ± 0.2	0.5 ± 0.2	0.6 ± 0.3	30	28	26
PAS2222511	24 ± 1	24 ± 1	24 ± 1.5	0.5 ± 0.2	0.5 ± 0.2	0.6 ± 0.3	30	30	30
PAS2222611	27 ± 1	27 ± 1	27 ± 1.5	0.5 ± 0.2	0.5 ± 0.2	0.6 ± 0.3	30	30	30



Dimensions (mm): 74 x 50 x 25
Weight: 76g

4 WAY TAPS - PAS2242X11

Bandwidth (MHz)	5 - 865		5 - 862	5 - 40	40 - 470	470 - 862
TYPE	Tap loss (dB) Tap 1 & 2	Tap 3 & 4	Insertion loss (dB)	Output-tap isolation (dB)		
PAS2242211	12 ± 1	13 ± 1	4.5 ± 1	26	26	22
PAS2242311	16 ± 1	17 ± 1	2.5 ± 1	26	26	22
PAS2242411	20 ± 1	21 ± 1	2.5 ± 1	30	30	26
PAS2242511	24 ± 1	25 ± 1	2.5 ± 1	30	30	28

Dimensions (mm): 86 x 60 x 37

4, 6 & 8 WAY TAPS - PAS22X2811

Bandwidth (MHz)		5 - 40	40 - 470	470 - 862	5 - 862	5 - 40	40 - 470	470 - 862
TYPE	Tap loss (dB)				Insertion loss (dB)	Output-tap isolation (dB)		
PAS2242811 4 Channel	Tap 1	12.5 ± 1	12.5 ± 1	12.5 ± 1	4 ± 1	27	26	24
	Tap 2	13.5 ± 1.5	13.5 ± 1.5	13.5 ± 1.5				
	Tap 3	14.5 ± 1.5	14.5 ± 1.5	14.5 ± 1.5				
	Tap 4	15.5 ± 1.5	15.5 ± 1.5	15.5 ± 1.5				
PAS2262811 6 Channel	Tap 5	17 ± 1.5	17 ± 1	17 ± 1	6 ± 1	27	26	24
	Tap 6	13.5 ± 1.5	13.5 ± 1.5	13.5 ± 1.5				
PAS2282811 8 Channel	Tap 7	19 ± 1.5	19 ± 1	19 ± 1	8 ± 1	27	26	24
	Tap 8	19.5 ± 1.5	19.5 ± 1.5	19.5 ± 1.5				

Dimensions (mm): 126 x 60 x 37
Weight: 260g

2, 3, 4 AND 8 WAY SPLITTERS - PAS12X6023

Bandwidth MHz	5 40	15 65	66 750	751 1000	5 40	15 65	66 750	751 1000	Dimensions (mm)	Weight (g)
Type	Insertion loss (dB)				Output-output isolation (dB)					
PAS1226023 2 outputs	3.3	3.3	3.4	3.8	34	51	35	30	60x49x16	40
PAS1236023 3 outputs										
- outputs 1	3 ,3	3,3	3,5	4	22	30	23	21	60x49x16	44
- outputs 2 and 3	6.7	6.6	6.9	7.9	22	30	23	21		
PAS1246023 4 outputs	6,7	6,6	6,9	7.9	34	48	36	33	79x49x16	58
PAS1286023 8 outputs	10.4	9.9	10.2	11.6	37	47	29	23	138x50x16	131

High screening efficiency RFI > 130dB
Class A in accordance with EN 50083-2

1 WAY TAPS - PAS2216XX3

Bandwidth MHz	5 1000	5 47	48 450	451 750	751 1000	5 47	48 450	451 750	751 1000
Type	Tap loss (dB)	Insertion loss (dB)				Output-tap isolation (dB)			
PAS2216053	5 +/-1	2.4	2.8	3.2	3.6	20	19	18	18
PAS2216083	8.5 +/-1	1.2	1.6	1.6	1.8	28	22	19	18
PAS2216113	11 +/-1	0.9	1.3	1.3	1.7	24	18	18	18
PAS2216143	14 +/-1	0.9	1.0	1.0	1.5	26	25	25	22
PAS2216173	17 +/-1	1.0	1.2	1.2	1.3	30	25	25	22
PAS2216203	20 +/-1	0.8	1.0	1.0	1.2	35	25	25	22
PAS2216233	23 +/-1	0.8	0.9	0.9	1.2	35	25	25	22
PAS2216263	26 +/-1	0.6	0.8	0.8	1.1	35	25	25	22
PAS2216293	29 +/-1	0.5	1.0	1.0	1.2	40	23	23	21

Dimensions (mm):
60 x49 x16
Weight (g): 40

2 WAY TAPS - PAS2226XX3

Bandwidth MHz	5 1000	5 47	48 450	451 750	751 1000	5 47	48 450	451 750	751 1000
Type	Tap loss (dB)	Insertion loss (dB)				Output-tap isolation (dB))			
PAS2226083	8.5+/-1.3	2.3	2.6	3.3	4.1	30	25	23	23
PAS2226113	11.3+/-1.3	1.5	1.6	2.1	2.9	27	24	22	22
PAS2226143	14 +/-1.3	1.1	1.2	1.5	2	33	28	24	22
PAS2226173	17 +/-1.3	1.0	0.9	1.1	1.5	35	30	26	24
PAS2226203	20 +/-1.3	0.7	0.6	0.9	1.2	35	30	26	24
PAS2226233	23 +/-1.3	0.6	0.5	0.8	1.2	38	30	25	21
PAS2226263	26 +/-1.3	0.6	0.5	0.8	1.2	41	34	30	26
PAS2226293	29 +/-1.3	0.4	0.5	0.8	1.3	45	36	32	28

Dimensions (mm):
78 x 46,5 x16
Weight (g): 49

4 WAY TAPS - PAS2246XX3

Bandwidth MHz	5 1000	5 47	48 450	451 750	751 1000	5 47	48 450	451 750	751 1000
Type	Tap loss (dB)	Insertion loss (dB)				Output-tap isolation (dB)			
PAS2246113	11.5+/-1.3	3.1	3.0	3.9	4.9	28	28	26	22
PAS2246143	15 +/-1.3	1.5	1.7	2.0	2.5	29	27	25	24
PAS2246173	17 +/-1.3	1.1	1.2	1.5	1.9	33	30	29	26
PAS2246203	20.2 +/-1.3	1.0	0.9	1.1	1.3	36	31	27	24
PAS2246233	23 +/-1.3	0.6	0.6	0.9	1.1	40	34	30	25
PAS2246263	26 +/-1.3	0.7	0.6	0.8	1.1	43	34	29	26
PAS2246293	29 +/-1.5	0.6	0.5	0.8	1.1	45	37	32	29

Dimensions (mm):
84 x 42 x 31
Weight (g): 109

8 WAY TAPS - PAS2286XX3

Bandwidth MHz	5 1000	5 47	48 450	451 750	751 1000	5 47	48 450	451 750	751 1000
Type	Tap loss (dB)	Insertion loss (dB)				Output-tap isolation (dB)			
PAS2286143	15.5 +/-1.5	3.2	3.5	4.0	4.5	28	32	27	23
PAS2286173	17.5 +/-1.5	1.9	2.0	2.3	2.8	28	32	28	26
PAS2286203	20.5 +/-1.5	1.2	1.4	1.6	2.2	28	32	30	25
PAS2286233	23.5 +/-1.5	1.0	1.2	1.2	1.5	28	32	30	28
PAS2286263	26.5 +/-1.5	0.7	0.9	1.0	1.3	34	35	30	28
PAS2286293	29 +/-1.5	0.5	0.8	1.0	1.2	40	33	30	26

Dimensions (mm)
115 x 53.5 x 40
Weight (g): 220

Distribution components
950-2150MHz - 5-2400MHz

PAS1224 - PAS1244
PAS1244A - PAS1284011

PAS1323 - PAS1323A

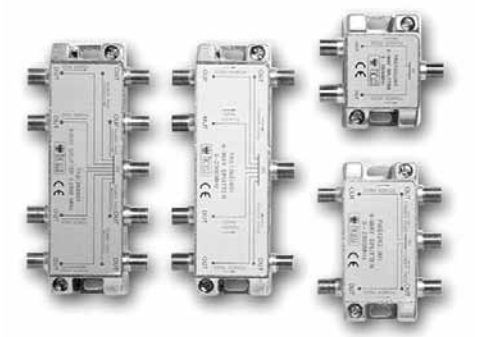
SAT SPLITTERS (950-2150MHZ) WITH F CONNECTORS

Item code	Type	Nuber of outputs	Insertion loss dB	Insulation between outputs dB	Consumption mA	Dimensions mm
PAS1224	Passive	2	– 4	18	–	60 x 50 x 16
PAS1244	Passive	4	– 8	18	–	118 x 67 x 17
PAS1244A	Active	4	0 ± 1	18	60	118 x 67 x 17
PAS1284001	Active	8	0 ± 1,5	18	100	165 x 120 x 22

ULB SPLITTERS (5-2400MHZ) WITH F CONNECTORS

			Bandwidth (MHz) 5 450	450 1000	1000 1750	1750 2300	Dimensions mm
	SPLITTER WITH 2 SYMMETRIC OUTPUTS						
PAS1323*	Insertion loss:	Outuput 1	4,5	5,1	6,5	9	110 x 110 x 32
		Output 2	4,5	5,1	6,5	9	
	SPLITTER WITH 2 ASYMMETRIC OUTPUTS						
PAS1323A*	Insertion loss:	Outuput 1	1,9	2,3	4,5	5,5	110 x 110 x 32
		Output 2	15	15	15,5	16,5	

** D.C.: 3 A max.*



PAS12..

PAS22..

SPLITTERS (5-2300MHZ) WITH F CONNECTORS

Item code	Output	INSERTION LOSS (dB) 5 450	450 1000	1000 1750	1750 2300	OUTPUT-OUTPUT ISOLATION (dB) 5 450	450 1000	1000 1750	1750 2300	Dimensions (mm)
PAS1223001	2	4	4	4	4,5	17	25	20	17	54 x 58 x 26
PAS1233001	3	6	6,5	9	9,5	16	20	18	16	54 x 58 x 26
PAS1243001	4	8	8	8	10	15	25	21	15	76 x 58 x 26
PAS1263001	6	10	10	11	14	15	20	21	15	120 x 58 x 26
PAS1283001	8	13,5	13,5	15	18	20	20	19	16	120 x 58 x 26

1 WAY TAP - PAS2213X11

Dimensions: 54x58x26mm; Weight: 100g.

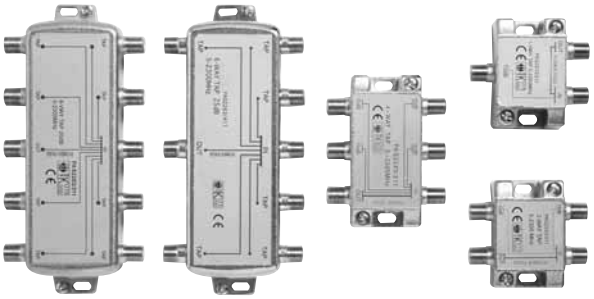
	Bandwidth (MHz) 5 450	450 1000	1000 1750	1750 2300	5 450	450 1000	1000 1750	1750 2300	5 450	450 1000	1000 1750	1750 2300
	Tap loss (dB)				Insertion loss (dB)				Output-tap isolation (dB)			
PAS2213211	11 ± 1	11 ± 1	11 ± 1,5	11 ± 2	< 2	< 2,3	< 2,8	< 3,6	> 23	> 23	> 20	> 17
PAS2213311	15 ± 1	15 ± 1,5	15 ± 1,5	15 ± 1,5	< 1,5	< 2	< 2,5	< 3	> 23	> 23	> 20	> 17
PAS2213411	20 ± 1	20 ± 1,2	20 ± 1,5	20 ± 1,5	< 1,3	< 1,8	< 2,8	< 3	> 28	> 23	> 20	> 18

2 WAY TAPS - PAS2223X11

Dimensions: 54x58x26mm; Weight: 185g.

	Bandwidth (MHz) 5 450	450 1000	1000 1750	1750 2300	5 450	450 1000	1000 1750	1750 2300	5 450	450 1000	1000 1750	1750 2300
	Tap loss (dB)				Insertion loss (dB)				Output-tap isolation (dB)			
PAS2223211	14 ± 3	11 ± 2	11 ± 2,2	11 ± 2,5	< 3,5	< 3,6	< 4	< 4,8	> 35	> 30	> 25	> 20
PAS2223311	15 ± 1	15 ± 1,5	15 ± 1,5	15 ± 1,5	< 2,2	< 2,5	< 3,5	< 4	> 38	> 30	> 25	> 23
PAS2223411	20 ± 1	20 ± 1,2	20 ± 1,5	20 ± 2	< 2	< 2,5	< 3	< 4	> 38	> 30	> 25	> 25
PAS2223511	25 ± 1	25 ± 1,5	25,5 ± 1,5	26 ± 2	< 2	< 2,6	< 3,3	< 4,3	> 40	> 30	> 25	> 25
PAS2223611	30 ± 1	30 ± 1,5	30,5 ± 1,5	31 ± 2	< 2,5	< 3	< 3,5	< 4,5	> 40	> 30	> 25	> 25

Distribution components
5-2300 MHz



PAS22..

4 WAY TAPS - PAS2243X11

Dimensions: 76x58x26mm; Weight: 135g.

Item code	Bandwidth (MHz) 5 450	450 1000	1000 1750	1750 2300	5 450	450 1000	1000 1750	1750 2300	5 450	450 1000	1000 1750	1750 2300
	Tap loss (dB)				Insertion loss (dB)				Output-tap isolation (dB)			
PAS2243211	10 ± 1,5	11 ± 2	12 ± 3	13 ± 3	< 4,5	< 5	< 5,2	< 6,5	> 20	> 18	> 17	> 16
PAS2243311	16 ± 3	16 ± 1,5	16 ± 2,5	16 ± 3	< 3	< 4	< 5	< 5,5	> 20	> 20	> 18	> 16
PAS2243411	20 ± 2	21 ± 1,7	21 ± 2	21 ± 2,5	< 2,5	< 3	< 3,5	< 4,5	> 20	> 20	> 18	> 16
PAS2243511	25 ± 1	25 ± 2	25,5 ± 2	26 ± 2	< 1,8	< 3	< 3,8	< 4,8	> 20	> 20	> 18	> 16
PAS2243611	30 ± 1	30,5 ± 2	30,5 ± 2	31 ± 2	< 2	< 2,8	< 4	< 4,8	> 20	> 20	> 18	> 16

6 WAY TAPS - PAS2263X11

Dimensions: 146x72x22mm; Weight: 185g.

	Bandwidth (MHz) 5 450	450 1000	1000 1750	1750 2300	5 450	450 1000	1000 1750	1750 2300	5 450	450 1000	1000 1750	1750 2300
	Tap loss (dB)				Insertion loss (dB)				Output-tap isolation (dB)			
PAS2263211	16 ± 1,5	17 ± 1,5	18 ± 2	19 ± 3	< 3,8	< 4	< 5,5	< 8	> 30	> 20	> 16	> 13
PAS2263311	20 ± 1,5	20,5 ± 2	21 ± 3	21,5 ± 4	< 2,2	< 3,3	< 4,1	< 4,5	> 30	> 20	> 16	> 13
PAS2263411	25 ± 2	25 ± 2	25 ± 3	26 ± 4	< 1,8	< 2,7	< 3,6	< 4,5	> 38	> 25	> 20	> 17

8 WAY TAPS - PAS2283X11

Dimensions: 146x72x22mm; Weight: 185g.

	Bandwidth (MHz) 5 450	450 1000	1000 1750	1750 2300	5 450	450 1000	1000 1750	1750 2300	5 450	450 1000	1000 1750	1750 2300
	Tap loss (dB)				Insertion loss (dB)				Output-tap isolation (dB)			
PAS2283211	16,5 ± 1,5	18 ± 2	18 ± 3	19 ± 3	< 4,8	< 5,2	< 6,2	< 8	> 23	> 16	> 16	> 15
PAS2283311	20 ± 2	21 ± 2	21 ± 3	21,5 ± 4	< 2,7	< 3,2	< 4,3	< 5	> 20	> 16	> 16	> 15
PAS2283411	25 ± 2	25 ± 2	25 ± 3	26 ± 4	< 2,1	< 2,7	< 3,5	< 4,5	> 18	> 16	> 16	> 15

PAS0021...
PAS0025D

PAS0032...

PAS0042

TV-SAT WALL OUTLETS

Item code	Output	Bandwidth MHz	Connectors	Insertion loss (dB)	TAP loss (dB)	Supplied
PAS0021411	RD	5 - 108	IEC female	≤ 2	—	without baseplate
	TV	120 - 862	IEC male			
PAS0021511	RD	88 - 108	IEC female	≤ 2	—	without baseplate
	TV	5 - 68 / 120 - 862	IEC male			
PAS0032	TV	5 - 68 / 120 - 862	IEC male	1	—	without baseplate
	RD	88 - 108	IEC female	1	—	
	SAT [1]	950 - 2150	F female	1,5	—	
PAS0032Q [2]	TV	5 - 68 / 120 - 862	IEC male	1,5	—	without baseplate
	RD	88 - 108/	IEC emale	1,5	—	
	SAT [1]	950 - 2150	F female	1,5	—	
PAS0032101	TV	120 - 862	IEC male	4	—	without baseplate
	RD	88 - 108	IEC female	4	—	
	DATA	5 - 1000	F female	5	—	
PAS003211	TV	120 - 862	IEC male	4	8	without baseplate
	RD	88 - 108	IEC emale	4	8	
	DATA	5 - 1000	F female	5	8	
PAS0042	TV	5 - 68 / 120 - 862	IEC male	2,5	—	with baseplate
	RD	88 - 108	IEC female	2,5	—	
	SAT 1 [1]	950 - 2150	F female	2	—	
	SAT 2 [1]	5 - 2150	F female	3	—	
PAS5321	BASE PLATE FOR FITTING PROUD OF THE BOX					

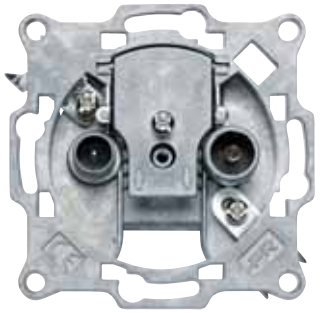
"UK" WALL OUTLETS

Item code	Output	Bandwidth MHz	Connectors	Insertion loss (dB)	TAP Insertion loss (dB)	Supplied
PAS0021D	FM+DAB	87-240	IEC female	≤ 2	—	without baseplate
	TV	5 - 68 / 260 - 862	IEC male			
PAS0025D	FM+DAB	87-240	IEC female	≤ 2	—	without baseplate
	TV [1]	5 - 68 / 260 - 862	IEC male			
PAS0032D	FM+DAB	87-240	IEC female	1,5	—	without baseplate
	TV	5 - 68 / 260 - 862	IEC male	1,5	—	
	SAT [1]	950 - 2300	F female	2	—	

(1) D.C. pass: 500mA max.

(2) With quick connection.

TV-SAT wall outlets



PRI..

PL2

CAPL

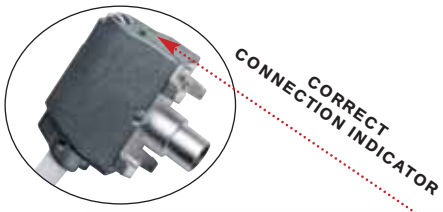
TV-SAT WALL OUTLETS

A combined TV and SAT signal can be split into two separated outputs.
Two way socket.
Suitable for outlet box Ø 60mm.
TV output on IEC male connector (5÷860MHz) and SAT output on IEC fernale connector (950÷2400MHz).
Availabile in two models: single socket and loop through socket.
Terminal socket with D.C. voltage feed via the SAT connections.
Loop through sockets are available with distribution loss of 6, 10, 14, 18 and 22 dB and they allow the D.C. pass only between input and output connectors, not the TV and SAT connections.
Use PL2 cover to complete the installation.
Use CAPL box for surface mounting.

Item code	Insertion loss (dB)			Distribution loss (dB)			Outlet type	Feedback loss	V.S.W.R.
	Return Path	TV	SAT	Return Path	TV	SAT			
	5÷40 MHz	47÷862 MHz	950÷2400 MHz	5÷40 MHz	47÷862 MHz	950÷2400 MHz			
PRI00	—	—	—	≤ 3	≤ 3	≤ 3	Terminal	Conformity EN 50083-4	
PRI06	≤ 5,5	≤ 5,5	≤ 5,5	≤ 6	≤ 6	≤ 6	Loop through		
PRI10	≤ 4,0	≤ 4,0	≤ 4,0	10	10	10			
PRI14	≤ 3,5	≤ 3,5	≤ 3,5	14	14	14			
PRI18	≤ 3,5	≤ 3,5	≤ 3,5	18	18	18			
PRI22	≤ 3,5	≤ 3,5	≤ 3,5	22	22	22			

PL2	**COVER** for PRI..
CAPL	**BOX** for surface mounting of PRI, PI and PF sockets

Modulars TV+SAT wall outlets



PF..

PI..

PL1

MODULARS TV+SAT OUTLETS WITH QUICK CONNECTION AND CONNECTION INDICATOR

One way outlets 5-2400MHz, totally shielded.
Two models available:
- PI, user output with IEC male connector;
- PF, user output with F female connector.

The outlets are supplied with a new connector patented by Fracarro for the connection to the coaxial cable. It allows you to connect cable with diameter between 5 and 7mm without crushing the dielectric and guaranting the best VSWR.
Use PL1 to install the outlets in round boxes (60mm diameter).
Terminal outlets allow the current to pass through the input and user output.
Loop through outlets allow the current to pass through input and output, not through the user output.

Item code	Insertion loss (dB)				Distribution loss (dB)				Outlet type	Feedback loss	V.S.W.R.
	Return path	TV	SAT		Return path	TV	SAT				
	5÷40 MHz	47÷862 MHz	950÷2150 MHz	2150÷2400 MHz	5÷40 MHz	47÷862 MHz	950÷2150 MHz	2150÷2400 MHz			
	IEC male connector; Ø 9,5mm, IEC 169-2.										
PI00	—	—	—	—	≤ 0,5	≤ 0,5	≤ 0,8	≤ 0,8	Terminal	Conformity EN 50083-4	
PI05(1)	≤ 5	≤ 5	≤ 7	≤ 8	≤ 5	≤ 5	≤ 7	≤ 8	Loop through		
PI10	≤ 2,5	≤ 2,5	≤ 3	≤ 3,2	10,5	10	10,5	11			
PI14	≤ 1,5	≤ 1,2	≤ 2,2	≤ 2,5	15	14,5	14,5	15			
PI18	≤ 1,5	≤ 1,2	≤ 2,2	≤ 2,5	18,5	18	18	18,5			
PI22	≤ 1,5	≤ 1,2	≤ 2,2	≤ 2,5	22,5	22	22	22,5			
	Output connector: “F” female.										
PF00	—	—	—	—	≤ 0,5	≤ 0,5	≤ 0,8	≤ 0,8	Terminal	Conformity EN 50083-4	
PF05(1)	≤ 5	≤ 5	≤ 7	≤ 8	≤ 5	≤ 5	≤ 7	≤ 8	Loop through		

PL1	**COVER** for PI.. and PF.. - For round box Ø 60mm		

(1) Socket with conditional use. It is a special loop through socket and for this reason the user output must always be loaded with a 75 ohm load (TV set, VCR, sat receiver or 75 ohm resistive load).

Modulars TV+SAT outlets accessories

PLASTIC ADAPTERS FOR OUTLETS PI.., PF..

Item code	Type	Packaging	
		pcs	
BT-TT	Ticino Magic TT®	20	Plastic bag.
AVSNO	Ave Sis. 45 Noir®	20	Plastic bag.
AV-SGR	Ave Sis. 45 Grigio®	20	Plastic bag.
AV-SBA	Ave Sis. 45 Banquise®	20	Plastic bag.
AV-SBL	Ave Sis. 45 Blanc®	20	Plastic bag.
LG-CR	Legrand Cross®	20	Plastic bag.
VI-IDB	Viamar Idea Bianca®	20	Plastic bag.
VI-ID	Vimar Idea®	20	Plastic bag.
VI-80	Vimar 8000®	20	Plastic bag.
VI-PL	Vimar Plana®	20	Plastic bag.
BT-LIG	Ticino Light®	20	Plastic bag.
BT-LIV	Ticino Living®	20	Plastic bag.
BT-INT	Ticino International®	20	Plastic bag.
BT-MA	Ticino Magic®	20	Plastic bag.
BT-LU	Ticino Luna®	20	Plastic bag.
BT-MAT	Ticino Matix®	20	Plastic bag.

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Connectors and accessories

SP1-SP3-SP4

AC5-AC6

PR1-PR3

PR6

SP5

PR5

SA..

PR11

SP11

SPV

GC1

CR75

CR75N

I.E.C. MALE COAXIAL CONNECTORS

Item code		Copper plated			∅ mm		Packaging
		screw	clip	shielded	13	9,5	pcs
SP1	Cable connector - straight	x				x	100
SP3	Cable connector - straight		x			x	100
SP4	Cable connector - straight	x			x		100
SP5	Cable connector - straight			x		x	100
SPV	Cable connector - with screw			x		x	10
AC5	For wall outlets - L-shaped	x				x	100
AC6	For wall outlets - L-shaped	x			x		10
SP11	For wall outlets - L-shaped			x		x	1

I.E.C. FEMALE COAXIAL CONNECTORS

PR1	Cable connector - straight	x				x	100
PR3	Cable connector - straight		x			x	100
PR4	Cable connector - straight			x		x	100
PR5	Cable connector - with screw			x		x	1
PR11	For wall outlets - L-shaped						

ATTENUATORS - For attenuating signals that are too high. Input and output: 75ohm. Suitable for all TV bands.

Item code	**FIXED** - No d.c. through-line. I.E.C. coaxial connectors ∅ 9.5mm.
SA6	Attenuation 6dB - Packaging 10pcs
SA12	Attenuation 12dB - Packaging 10pcs
SA20	Attenuation 20dB - Packaging 10pcs

ACCESSORIES

FA24	**Adjustable plastic strap** for mast amplifiers: Es, EM, JS and JK series. For all weather. For mast mounting ∅ 60mm max. Packaging 100pcs
CR75	**Resistive load 75ohm.** Coaxial for TV - V.S.W.R. < 1.05 - for unused terminals. Packaging 100pcs
CR75N	**Resistive load 75ohm.** Coaxial for TV - V.S.W.R. < 1.05 - for unused terminals. Packaging 100pcs
GC1	**Cable connector** - Packaging 100pcs

PLUG with 75ohm RESISTIVE LOAD - Insolated

SPI75	Coaxial - V.S.W.R. < 1.10 - for closing R.F. lines at 75ohm, can be used with D.C. Packaging 100pcs

EARTH TERMINAL BOARD

PRT1	For earth connection of 6 coaxial cables of the TV distribution network. Best fitted close to the amplifier unit. Packaging 25pcs

Connectors and accessories

CFR..

CF..

CAP

CA75F

CA75IF

TF90

GCF

INCLISAT

CONNECTORS

Item code	Type Connector	Cables external diameter ø mm	Packaging pcs
CF50	F male	4,9 ÷ 5	50
CF60	F male	5,9 ÷ 6	50
CF66	F male	6,5 ÷ 6,6	50
CF70	F male	6,9 ÷ 7	50
CFR50	plug-in F male	4,9 ÷ 5	50
CFR60	plug-in F male	5,9 ÷ 6	50
CFR66	plug-in F male	6,5 ÷ 6,6	50

CAP	**"F" FAST CONNECTOR**
TF90	**RIGHT ANGLE 90° -** "F" male to "F" female
GCF	**"F" FEMALE SPLICE**
TCR10	**TRANSITION** for single polarity
CA75F	**75ohm LOAD** **Single load -** F male connector - Packaging 200pcs
CA75IF	**Isolated load -** F male connector - Packaging 20pcs
INCLISAT	**INCLISAT** Elevation angle meter. Packaging 1pc

F CONNECTORS

• SCREW IN CONNECTORS

PAS3212002 For cable with diel. ∅ of 4.8 external ∅ 6.8

• CONNECTORS WITH SEPARATE FERRULE

PAS3214001 Crimping hexagon: 11.5 for cable with ext. ∅ of 10.25

PAS3214012 Crimping hexagon: 11.5 for cable with diel. ∅ of 6.9 external ∅ 10.25 - Central contact

• CONNECTORS WITH INTEGRAL FERRULE

PAS3212012 Crimping hexagon: 8.2 For cable with diel. ∅ of 4.8 external ∅ 6.8

PAS3211401 Crimping hexagon: 6.8 for 4 in 1 cable diel. ∅ 3.2 ext. ∅ 5

..

• WATERTIGHT CONNECTORS

PAS3212029 For cable with diel. ∅ of 4.7 ext. ∅ 7.2 max.

PAS3214039 For cable with diel. ∅ of 6.9 external ∅ 10.4 - Central contact

*(1)

• MISCELLANEOUS

PAS3230009 Angled connection male/female

PAS3230019 Straight connection female/female

PAS3231001 Straight connection male/male

PAS3213001 Current stop male/female

PAS3240009 75 ohms charge male

PAS6106001 6 dB ULB attenuator male /female

PAS6112001 12 dB ULB attenuator (tilt 12 - 9 dB) male/female

"E" CONNECTORS

• MALE CONNECTORS WITH FLOATING NUT AND BOLT AND SEPARATE FERRULE

PAS3312002 Crimping hexagon: 8.3 for cable with diel. ∅ of 4.8 external ∅ 6.8

PAS3314002 Crimping hexagon: 11.5 for cable with diel. ∅ of 6.9 external ∅ 10.4

3.5/12 CONNECTORS

• WATERTIGHT MALE CONNECTORS

0475211 For cable with diel. ∅ of 7.5, ext. ∅ of 11.1

PAS3514002 For cable with diel. ∅ of 6.9 ext. ∅ 10.4

PAS3512002 Crimping hexagon: 8.3 for cable with diel. ∅ of 4.7 external diam. 7.1

PAS3515002 For cable with diel. ∅ of 14.9 external ∅ 19.8

• MISCELLANEOUS

PAS3530001 "3.5/12" transition female - F male

0475100 Female/ female connector

0475200 75ohms charge male insulated

9.52mm diam CO-AXIAL JACK PLUGS AND CONNECTIONS

• PLASTIC JACK PLUGS

PAS3112032 Blue male jack plug

PAS3122032 Blue female jack plug

• MISCELLANEOUS

PAS3170001 Current stop female/male

PAS3123002 T-shaped co-axial suitable for female input/ 2 male outputs

PAS3113002 T-shaped co-axial suitable for male input/ 2 female outputs

PAS3111001 Angled blue male connection

0275307 Co-axial connection

9 mm diam CO-AXIAL JACK PLUGS AND CONNECTIONS

• PLASTIC JACK PLUGS

0575107 Cream female jack plug

0575207 Cream male jack plug

• MISCELLANEOUS

PAS3623002 T-shaped co-axial suitable for female input / 2 male outputs

TOOLS

****(2)**

PAS3666001 Crimping pliers, hexagonal impressions for cables with ext. ∅ of 5 / 6.8/ 10.4mm.

7188293 Flaring tool handle with adapter

7188295 Flaring tool for cable with diel. ∅ of 4.8

PAS3664001 Flaring tool for cable with diel. ∅ of 6.9

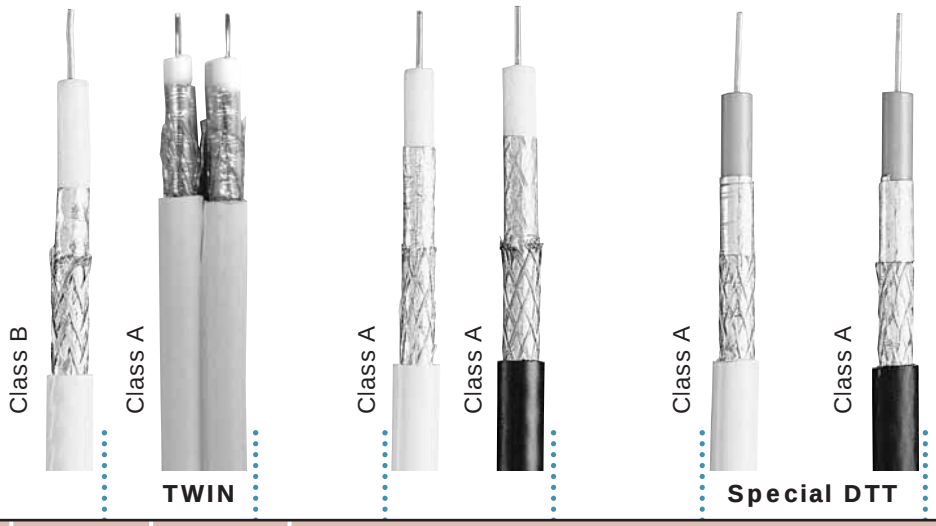
7188297 Flaring tool for cable with diel. ∅ of 14.9

*(1) Connectors - compression
PAS3212 B for cables Ø diel. 4.8 Ø ext. 6,8
PAS3214 B for cables Ø diel. 7.1 Ø ext. 10

**(2) PAS3364 B tool for compression fit connector PAS3212 B
PAS3364 D tool for compression fit connector PAS3214 B

Cellular co-axial cables

ALL OUR CELLULAR CO-AXIAL CABLES ARE MANUFACTURED IN ACCORDANCE WITH THE PHYSICAL PROCESS



EXTERNAL DIAMETER	5mm	6,7mm	6,6 mm	6,7mm	6,8mm			
TYPE PVC white	23VAtC	19VAtC	17VAtC	19VAtC	19VAtC	17VAtC	19VAtC	17VAtC
100m		PAS4036104	PAS4037104	PAS4016112	PAS4016102	PAS4017101	PAS4006101	PAS4007111
200 / 250m	PAS4005201				PAS4016252	PAS4017251		PAS4007251
500m		PAS4036504			PAS4016502		PAS4006501	
TYPE PE black				19PAtC	17PAtC	19PAtC	17PAtC	
100m		PAS4136104	PAS4037504		PAS4116102	PAS4117101	PAS4106101	PAS4107111
250m						PAS4117251		PAS4107251
500m		PAS4136504			PAS4116502		PAS4106501	
1000m		PAS4036004						
CORE Diameter (mm)	0,8	1,0	1,13	1,0	1,0	1,13	1,0	1,13
Composition	Copper	Copper	Copper	Copper	Copper	Copper	Copper	Copper
DIELECTRIC Diameter (mm)	3,2	4,6	4,6	4,7	4,6	4,8	Bleu 4,6	Bleu 4,8
METAL STRIP Composition	Triplex Alu	Triplex Alu	Triplex Alu	Triplex Alu	Triplex Alu	Triplex Alu	Double metal strip: Triplex Alu	Double metal strip: Triplex+Duplex Alu
Recouvrement	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %
TRESSE Composition	Tin plated copper	Tin plated copper	Aluminium	Tin plated copper	Tin plated copper	Tin plated copper	Tin plated copper	Tin plated copper
Covering	46 %	36 %	36 %	40 %	40 %	40 %	40 %	40 %
ATTENUATION nominal (dB/100m) at								
47MHz	5,6	4,7	4,1	4,6	4,5	4,1	4,5	4,1
470MHz	17,8	14,1	13,1	13,5	13,6	13,1	13,6	13,1
800MHz	23,3	18,7	17,0	19,0	18,5	17	18,5	17
860MHz	24,6	19,4	17,7	19,8	19,1	17,7	19,1	17,7
950MHz	25,9	20,5	18,6	20,9	20,2	18,6	20,2	18,6
2150MHz	40,5	32,2	29,1	33,3	31,9	29,1	31,9	29,1
2400MHz	42,8	36,1	30,7	35,5	33,7	30,7	33,7	30,7
Screening efficiency	Class A > 85dB	Class B > 75dB	Class B > 75dB	Class A > 85dB	Class A > 85dB	Class A > 85dB	Class A > 90dB	Class A > 90dB
Complies with EN 50-117 and NF 90-131								

Don't take any risks. Using these cables in all your installation.

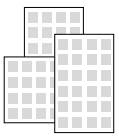
You can be sure:

- that you are installing cables that comply with the new EN-50117 standard
- that your installations will be guaranteed for many years.
- all the cables have insulation that complies whith the safety standard's ageing tests
- your installation will be protected against rodents
- cables are:

Class B : screening efficiency > 75dB or Class A: screening efficiency > 85dB

Class B cables recommended for single installations

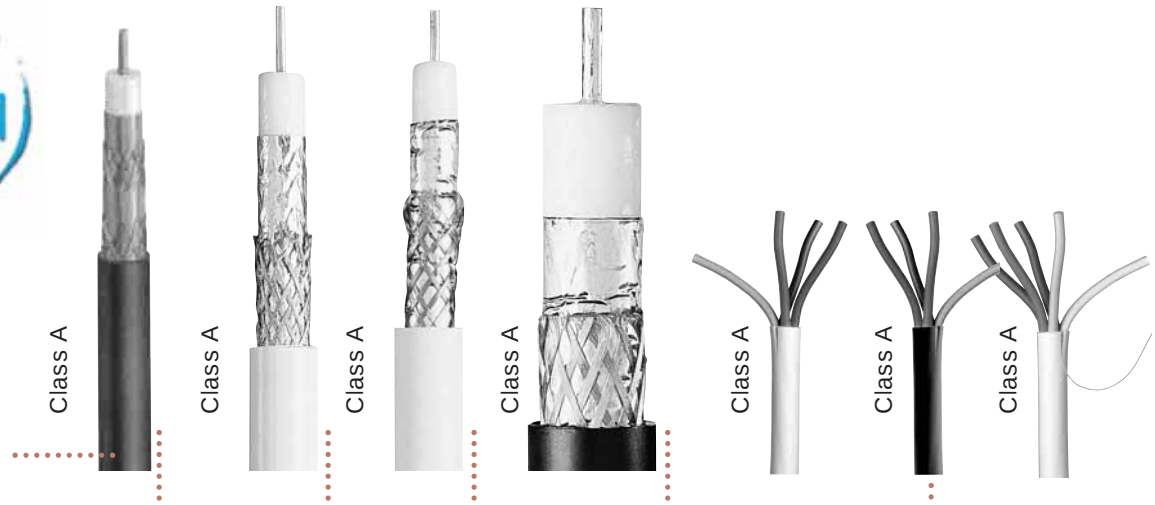
Class A cables recommended for installations in flats and offices



ALL OUR CELLULAR CO-AXIAL CABLES ARE MANUFACTURED IN ACCORDANCE WITH THE PHYSICAL PROCESS

Conforms to EN-50117

Cable operator approved



EXTERNAL DIAMETER	Copper cables	10,25mm		20 mm	Multiple cables		
TYPE white PVC	18VREC	11VAtC	11VRtC		4 in 1	5 in 1	9 in 1
50m							PAS4004059
100m		PAS4009101			PAS4004112	PAS4004102	PAS4004109
250m	PAS4066251	PAS4009251					
500m		PAS4009501	PAS4000511				
TYPE PE black	18PREC	11PAtC	11PRtC	6PRtC			
100m		PAS4109101			PAS4304102*		
250m	PAS4166251	PAS4109251					
500m		PAS4109501	PAS4110511				
700m or cut				PAS4102001			
Autopate		PAS4159501 /500m					
CORE Diameter (mm)	1,02	1,7	1,7	3,4	1,0	1,0	1,13
Composition		Copper	Copper	Copper	Copper		Copper
DIELECTRIC diameter (mm)	4,5	7,35	6,9	14,9	4,6	4,6	4,6
METAL STRIP Composition	Copper	Triplex Alu	Copper	Copper	Triplex Alu	Triplex Alu	Triplex Alu
Covering	100 %	100 %	100 %	100 %	100 %	100 %	100 %
BRAIDING Composition	Copper	Tin plate copper	Copper	Copper	Tin plate copper	Tin plate copper	Tin plate copper
Covering	65%	56 %	56 %	60 %	40 %	40 %	40 %
NOMINAL ATTENUATION (dB/100m) at: 47MHz	4,1	2,5	2,5	1,2	4,6	4,6	4,1
470MHz	13,3	8,4	8,3	4,3	14,0	14,0	13,1
800MHz	17,8	11	11	5,7	18,8	18,8	17
860MHz	18,5	11,5	11,5	6	19,5	19,5	17,7
950MHz	19,4	12,2	12,1	6,3	20,6	20,6	18,6
2150MHz	30,9	19,5	19	10	32,6	32,6	29,1
2400MHz	32,6	20,7	20,4	10,6	34,6	34,6	30,7
Screening efficiency	Class A > 90dB	Class A > 85dB	Class A > 85dB	Class A > 85dB	Class A > 85dB	Class A > 85dB	Class A > 90dB

(*) External gain, black PVC anti UV treated, internal cables coloured PE

Index of products

page	code	item code
105	-	0275307
105	-	475100
105	-	475200
105	-	475211
105	-	575107
105	-	575207
105	-	7188293
105	-	7188295
105	-	7188297
10	219535	10/3539R
10	219540	10/4046R
10	219547	10/4753R
10	219554	10/5461R
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22	293115	TN15
22	293125	TN25
22	293132	TN32
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54	289547	TWIN-RJ45
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102	280751	VI-PL
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21	293330	ZC3
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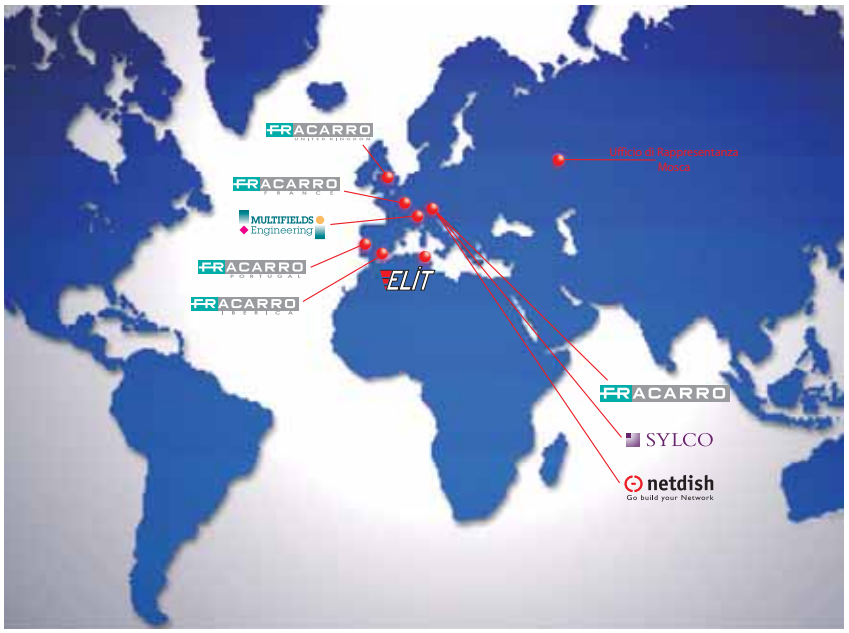
Fracarro customer service

Since 1933 Gruppo Fracarro has been offering its customers high quality products and solutions renowned for its innovation and technology. To expand into the international market, along with Fracarro Iberica S.A., Philips SMATV was acquired and Fracarro France, Fracarro (UK) Ltd and Fracarro Portugal were established.
With a Fracarro agency in Thailand, a representative office in Moscow and a network of distributors worldwide, Fracarro is now even closer to the market.

As a market leader in the reception and distribution of audio-video-data signals and security, Fracarro is able to provide comprehensive information and assistance world-wide. It also offers professional assistance for pre/post sales, technical training and manuals to continually update information and professional growth, as well as creating software for project designs.



Catalogues and brochures

In the “SMATV CATALOGUE” you can find the whole range of Fracarro solutions for signals reception and distribution both for individual and collective systems.
Specific brochures provide technical information for each product range, focusing on the advantages of Fracarro systems.

FRNews

Group news, product updatings and useful information can be received directly at home through our magazine FRNews.
Enter our web site to require your copy and be always up to date with the latest news.

WEB

Through our web site we provide technical assistance and specific information about our products and services. In the download area you can find completed projects designed with our exclusive software, as well as product manuals and catalogues that can be viewed on line.

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Software

Fracarro has recently developed FRDesigner, a new software system which enables you to easily design a complete system for the reception and distribution of audio-video-data signals. All the information you need will be included in your project, from signal values to product costs and estimated manpower. Combining technical calculation and currency values with the highest accuracy, FRDesigner will edit a definitive and complete offer which you can simply submit to your customer.