

151

Catalogue

TV and **Satellite** Solutions 2010

Products for the distribution of audio, video and data signals



Aerials ▶

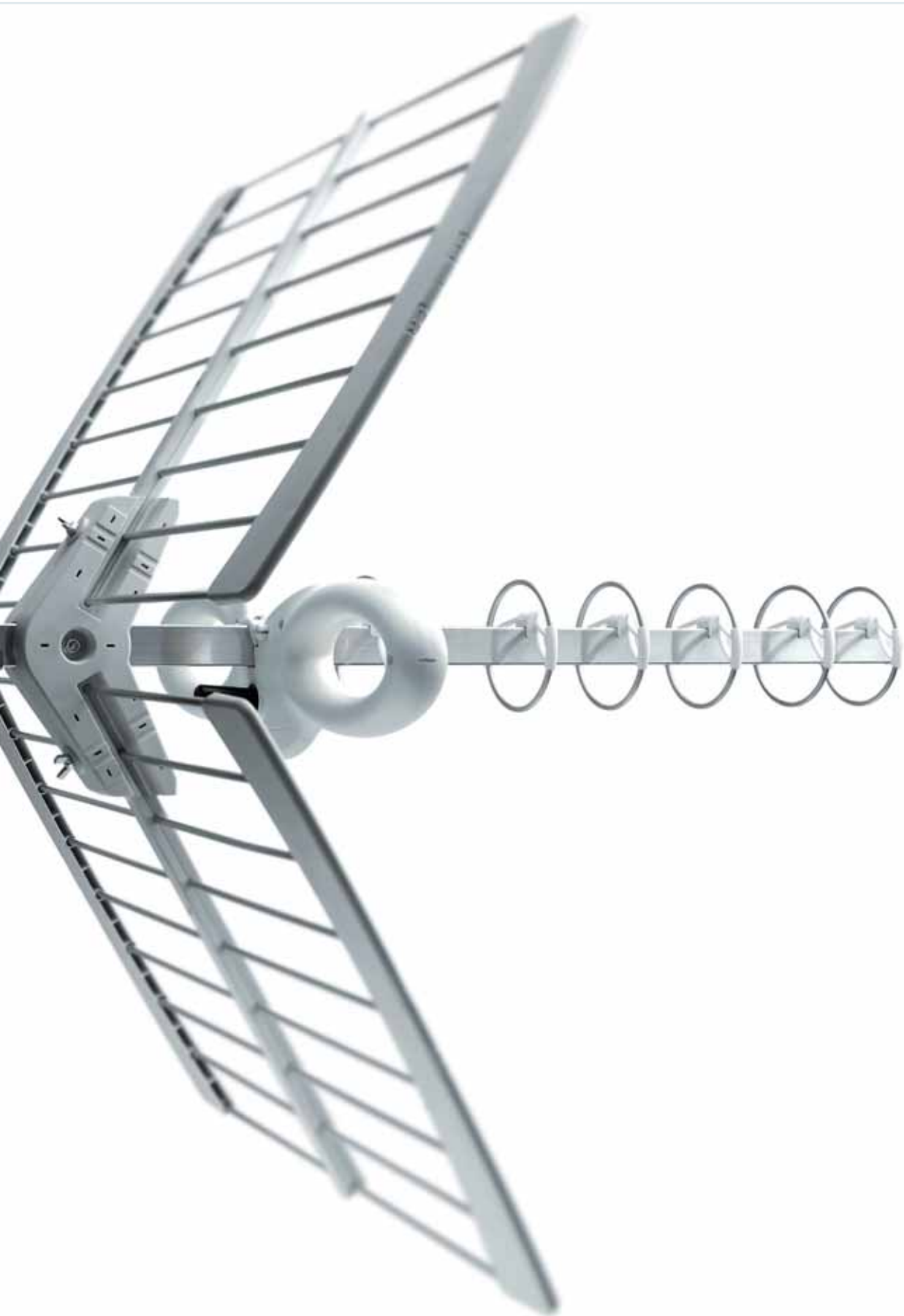
Electronic mast
and indoor equipment ▶

Headends ▶

CATV systems
and fibre optic solutions ▶

Multiswitches ▶

Distribution
components ▶



Fracarro Group	04
Services	05-07
TV Standards	08-11
TV and Satellite Solutions	12-163
▶ Aerials	13
▶ Electronic mast and indoor equipment	57
▶ Headends	75
▶ CATV systems and fibre optic solutions	107
▶ Multiswitches	121
▶ Distribution components	141
Index of products	164-166

Fracarro Group



Established in 1933, Fracarro is today one of the most important companies in Europe in the field of reception and distribution of audio video data signals and active security.

The synergy between the two sectors allows Fracarro to propose integrated solutions for the creation of intelligent buildings and dwellings to connect and interact actively worldwide.

Our aim is to guarantee the supply of high quality products with particular care to all connected services dedicated to the operators within that sector.

Today the company is able to guarantee a comprehensive catalogue of systems in the sector of audio, video and data for the reception and distribution of AVD signals: terrestrial and satellite antennas, amplifiers, mixers, power supplies, headends and distribution components.

With the introduction of DTT and having extensive experience in foreign markets, Fracarro is considered a reference point for solutions relating to the introduction of new technology.

Fracarro is an International group with the parent company in Italy

Fracarro **Italy**
Fracarro **Engineering**
Fracarro **France**
Fracarro **Iberica**
Fracarro **Portugal**
Fracarro **UK**
Fracarro **Polska**
Sylco **Security Specialist**
Elit **Manufacturing**

ISO 9001 Certification

Fracarro Quality System has being recognised with ISO9001 certification.



European Directives conformity

Fracarro's products are compliant, if applicable, to the following European Directives:

- ▶ 2006/95/EC (LVD - Low Voltage DIRECTIVE)
- ▶ 2004/108/EC (EMC - ELECTROMAGNETIC COMPATIBILITY DIRECTIVE)

As they exceeded tests specified in the technical harmonized standards, carried out by leading accredited laboratories. Such products are identified by the CE marking.



Warranty

Thanks to the quality and technological reliability of its products, Fracarro has decided to extend its guarantee from 2 to 4 years

The guarantee has been extended from 2 to 4 years for all terrestrial antennas, electronic mast and indoor devices, multiband amplifiers, headends, CATV and fibre optic systems, multiswitches, distribution components and Penta satellite dishes.

The extension of the guarantee is a natural result to reflect the constant improvement of Fracarro products. Furthermore, their functionality and ease of use are objectives for which the modern and structured research and development division have been working on for several years.



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.

Services



Technical Assistance

Fracarro provides technical assistance to solve any installation problem in the fastest way.

The service is available in each Fracarro company, with specialised staff ready to provide information to define projects.

Training

Fracarro has always been at the forefront in providing information to operators about available technology and is committed to giving training initiatives during exhibitions and road shows, working closely with clients and partners.

As well as providing backup material and in depth information, the company is also preparing important training projects to guarantee professional growth for all field operators.



FRDesigner

Fracarro has developed FRDesigner, a 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 for your project, from signal values to product costs and estimated manpower.

Combining technical calculations and currency values with the highest accuracy, FRDesigner will edit a definitive and complete offer which you can submit easily to your customer.



fracarro.com



Website

With a new structure and graphics the redesigned Fracarro website provides constantly updated information, news and initiatives from the company.

fracarro.com has a new look, designed for easy access and simple user-friendly surfing.

TV standards

Country	VHF	UHF	Colour system	Country	VHF	UHF	Colour system
Algeria	B	H	PAL	Luxemburg	C	L	PAL/SECAM
Argentina	N	N	PAL	Malta	B	H	PAL
Australia	B	H	PAL	Malaysia	B	G	PAL
Austria	B	G	PAL	Morocco	B	H	SECAM
Bahrain	B	G	PAL	Mexico	M	M	NTSC
Belgium	B	H	PAL	Monaco	E	L	SECAM
Bulgaria	D	K	SECAM	Nigeria	B	G	PAL
China	D	K	PAL	Norway	B	G	PAL
Cyprus	B	G	PAL	Oman Sultanate	B	G	PAL
Corea (Rep.)	M	-	NTSC	Pakistan	B	-	PAL
Croatia	B	G	PAL	Philippines	M	M	NTSC
Denmark	B	G	PAL	Poland	D	K	SECAM
Egypt	B	G,H	SECAM	Portugal	B	G	PAL
Finland	B	G	PAL	Qatar	B	-	PAL
France	E/L	L	SECAM	Czech Rep.	D	K	PAL/SECAM
Germany	B	G	PAL	Romania	D	K	PAL
Gibraltar	B	H	PAL	Russia	D	K	SECAM
Great Britain	I	I	PAL	Saudi Arabia	B	G	PAL/SECAM
Greece	B	G	PAL	Singapore	B	G	PAL
Holland	B	G	PAL	Sriam Arab. Rep.	B	H	SECAM
Hong Kong	(A) I	I	PAL	Spain	B	G	PAL
Hungary	D	K	SECAM	Slovenia	B	G	PAL
India	B	-	PAL	Slovak Rep.	D	K	PAL/SECAM
Indonesia	B	-	PAL	Sri Lanka	B/H	-	PAL
Iran	B	G	SECAM	South Africa	I	I	PAL
Iraq	B	-	SECAM	Sweden	B	G	PAL
Ireland	I	I	PAL	Svizzera	B	G	PAL
Iceland	B	G	PAL	Thailand	B	R	PAL
Israel	B	G	PAL	Tunisia	B	G	SECAM
Italy	B	G	PAL	Turkey	B	G	PAL
Japan	M	M	NTSC	U.A.E.	B	G	PAL
Jordan	B	G	PAL	U.S.A.	M	M	NTSC
Kuwait	B	G	PAL	Yemen P.D.R.	B	-	PAL
Lebanon	B	G	SECAM	Serbia Montenegro	B	G	PAL
Libya	B	H	PAL				

CCIR - Standard	A	B	C	D	E	F	G	H	I	K	K1	L	M	N
Number of lines	405	625	625	625	819	819	625	625	625	625	625	625	525	625
Channel bandwidth (MHz)	5	7	7	8	14	7	8	8	8	8	8	8	6	6
Video bandwidth (MHz)	3	5	5	6	10	5	5	5	5.5	6	6	6	4.2	4.2
Video-to-sound spacing (MHz)	-3.5	+5.5 (+5.742)	+5.5	+6.5	+11.15	+5.5	+5.5 (+5.742)	+5.5	+6	+6.5	+6.5	+6.5	+4.5	+4.5
Vestigial sideband (MHz)	0.75	0.75	0.75	0.75	2	0.75	0.75	1.25	1.25	0.75	1.25	1.25	0.75	0.75
Picture modulation	Pos.	Neg.	Pos.	Neg.	Pos.	Pos.	Neg.	Neg.	Neg.	Neg.	Neg.	Pos.	Neg.	Neg.
Sound modulation	AM	FM	AM	FM	AM	AM	FM	FM	FM	FM	FM	AM	FM	FM

Comparison Noise Figure and Signal-Noise Ratio

Noise figure	KTo dB	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0
		4.8	5.4	6.0	6.5	7.0	7.4	7.8	8.1	8.4	8.7	9.0
Noise Voltage at 75 Ohm	dBμV	7.1	7.7	8.3	8.8	9.3	9.7	10.1	10.4	10.7	11.0	11.3

TV band	Channel	Channel frequency MHz	Digital central frequency MHz	Analogue picture carrier MHz	Analogue sound carrier MHz
Standard B + G Europa					
I	E 2	47-54	50.5	48.25	53.75
	E 3	54-61	57.5	55.25	60.75
	E 4	61-68	64.5	62.25	67.75
S	S 1	104-111	107.5	105.25	110.75
	S 2	111-118	114.5	112.25	117.75
	S 3	118-125	121.5	119.25	124.75
	S 4	125-132	128.5	126.25	131.75
	S 5	132-139	135.5	133.25	138.75
	S 6	139-146	142.5	140.25	145.75
	S 7	146-153	149.5	147.25	152.75
	S 8	153-160	156.5	154.25	159.75
	S 9	160-167	163.5	161.25	166.75
	S10	167-174	170.5	168.25	173.75
III	E 5	174-181	177.5	175.25	180.75
	E 6	181-188	184.5	182.25	187.75
	E 7	188-195	191.5	189.25	194.75
	E 8	195-202	198.5	196.25	201.75
	E 9	202-209	205.5	203.25	208.75
	E10	209-216	212.5	210.25	215.75
	E11	216-223	219.5	217.25	222.75
S	E12	223-230	226.5	224.25	229.75
	S11	230-237	233.5	231.25	236.75
	S12	237-244	240.5	238.25	243.75
	S13	244-251	247.5	245.25	250.75
	S14	251-258	254.5	252.25	257.75
	S15	258-265	261.5	259.25	264.75
	S16	265-272	268.5	266.25	271.75
	S17	272-279	275.5	273.25	278.75
	S18	279-286	282.5	280.25	285.75
	S19	286-293	289.5	287.25	292.75
S	S20	293-300	296.5	294.25	299.75
	S21	302-310	306	303.25	308.75
	S22	310-318	314	311.25	316.75
	S23	318-326	322	319.25	324.75
	S24	326-334	330	327.25	332.75
	S25	334-342	338	335.25	340.75
	S26	342-350	346	343.25	348.75
	S27	350-358	354	351.25	356.75
	S28	358-366	362	359.25	364.75
	S29	366-374	370	367.25	372.75
	S30	374-382	378	375.25	380.75
	S31	382-390	386	383.25	388.75
	S32	390-398	394	391.25	396.75
	S33	398-406	402	399.25	404.75
	S34	406-414	410	407.25	412.75
	S35	414-422	418	415.25	420.75
	S36	422-430	426	423.25	428.75
	S37	430-438	434	431.25	436.75
	S38	438-446	442	439.25	444.75
	S39	446-454	450	447.25	452.75
	S40	454-462	458	455.25	460.75
	S41	462-470	466	463.25	468.75

TV band	Channel	Channel frequency MHz	Digital central frequency MHz	Analogue picture carrier MHz	Analogue sound carrier MHz
IV	E21	470-478	474	471.25	476.75
	E22	478-486	482	479.25	484.75
	E23	486-494	490	487.25	492.75
	E24	494-502	498	495.25	500.75
	E25	502-510	506	503.25	508.75
	E26	510-518	514	511.25	516.75
	E27	518-526	522	519.25	524.75
	E28	526-534	530	527.25	532.75
	E29	534-542	538	535.25	540.75
	E30	542-550	546	543.25	548.75
	E31	550-558	554	551.25	556.75
	E32	558-566	562	559.25	564.75
	E33	566-574	570	567.25	572.75
	E34	574-582	578	575.25	580.75
	E35	582-590	586	583.25	588.75
	E36	590-598	594	591.25	596.75
	E37	598-606	602	599.25	604.75
V	E38	606-614	610	607.25	612.75
	E39	614-622	618	615.25	620.75
	E40	622-630	626	623.25	628.75
	E41	630-638	634	631.25	636.75
	E42	638-646	642	639.25	644.75
	E43	646-654	650	647.25	652.75
	E44	654-662	658	655.25	660.75
	E45	662-670	666	663.25	668.75
	E46	670-678	674	671.25	676.75
	E47	678-686	682	679.25	684.75
	E48	686-694	690	687.25	692.75
	E49	694-702	698	695.25	700.75
	E50	702-710	706	703.25	708.75
	E51	710-718	714	711.25	716.75
	E52	718-726	722	719.25	724.75
	E53	726-734	730	727.25	732.75
	E54	734-742	738	735.25	740.75
	E55	742-750	746	743.25	748.75
	E56	750-758	754	751.25	756.75
	E57	758-766	762	759.25	764.75
	E58	766-774	770	767.25	772.75
	E59	774-782	778	775.25	780.75
	E60	782-790	786	783.25	788.75
	E61	790-798	794	791.25	796.75
	E62	798-806	802	799.25	804.75
	E63	806-814	810	807.25	812.75
	E64	814-822	818	815.25	820.75
	E65	822-830	826	823.25	828.75
	E66	830-838	834	831.25	836.75
	E67	838-846	842	839.25	844.75
	E68	846-854	850	847.25	852.75
	E69	854-862	858	855.25	860.75

TV standards

TV band	Channel	Channel frequency MHz	Digital central frequency MHz	Analogue picture carrier MHz	Analogue sound carrier MHz
Standard D Russia - OIRT					
I	R 1	48.5-56.5	52.5	49.75	56.25
	R 2	58-66	62	59.25	65.75
	R 3	76-84	80	77.25	83.75
II	R 4	84-92	88	85.25	91.75
	R 5	92-100	96	93.25	99.75
III	R 6	174-182	182	175.25	181.75
	R 7	182-190	190	183.25	189.75
	R 8	190-198	198	191.25	197.75
	R 9	198-206	206	199.25	205.75
	R 10	206-214	214	207.25	213.75
	R 11	214-222	222	215.25	221.75
	R 12	222-230	230	223.25	229.75
Standard I Ireland					
I	A-I	44.5-52.5	48.5	45.75	51.75
	B-I	52.5-60.5	56.5	53.75	59.75
	C-I	60.5-68.5	64.5	61.75	67.75
III	D-I	174-182	178	175.25	181.25
	E-I	182-190	186	183.25	189.25
	F-I	190-198	194	191.25	197.25
	G-I	198-206	202	199.25	205.25
	H-I	206-214	210	207.25	213.25
	I-I	214-222	218	215.25	221.25
	J-I	222-230	226	223.25	229.25
Standard I Great Britain - South Africa					
III	I 4	174-182	178	175.25	181.25
	I 5	182-190	186	183.25	189.25
	I 6	190-198	194	191.25	197.25
	I 7	198-206	202	199.25	205.25
	I 8	206-214	210	207.25	213.25
	I 9	214-222	218	215.25	221.25
	I 10	222-230	226	223.25	229.25
	I 11	230-238	234	231.25	237.25
	I (12)	238-246	242	239.25	245.25
	I 13	246-254	250	247.25	253.25

TV band	Channel	Channel frequency MHz	Digital central frequency MHz	Analogue picture carrier MHz	Analogue sound carrier MHz
Standard K French overseas territories					
III	K 4	174-182	178	175.25	181.75
	K 5	182-190	186	183.25	189.75
	K 6	190-198	194	191.25	197.75
	K 7	198-206	202	199.25	205.75
	K 8	206-214	210	207.25	213.75
	K 9	214-222	218	215.25	221.75
Standard L France					
III	L 05	174.75-182.75	178.75	176.00	182.50
	L 06	182.75-190.75	186.75	184.00	190.50
	L 07	190.75-198.75	194.75	192.00	198.50
	L 08	198.75-206.75	202.75	200.00	206.50
	L 09	206.75-214.75	210.75	208.00	214.50
	L 10	214.75-222.75	218.75	216.00	222.50

Decibel/numerical ratio comparison table

dB	V/V	dB	V'/V	dB	V'/V	dB	V'/V
0	1.00	25	17.8	50	316.0	75	5 620
1	1.12	26	20.0	51	355.0	76	6 310
2	1.26	27	22.4	52	400.0	77	7 080
3	1.41	28	25.1	53	447.0	78	7 940
4	1.59	29	28.2	54	501.0	79	8 910
5	1.78	30	31.6	55	562.0	80	10 000
6	2.00	31	35.5	56	631.0	81	11 220
7	2.24	32	40.0	57	708.0	82	12 600
8	2.51	33	44.7	58	794.0	83	14 130
9	2.82	34	50.1	59	891.0	84	15 850
10	3.16	35	56.2	60	1 000	85	17 800
11	3.55	36	63.1	61	1 122	86	20 000
12	3.98	37	70.8	62	1 260	87	22 400
13	4.47	38	79.4	63	1 413	88	25 100
14	5.01	39	89.1	64	1 585	89	28 200
15	5.62	40	100.0	65	1 780	90	31 600
16	6.31	41	112.2	66	2 000	91	35 500
17	7.08	42	126.0	67	2 240	92	40 000
18	7.94	43	141.3	68	2 510	93	44 700
19	8.91	44	158.5	69	2 820	94	50 100
20	10.0	45	178.0	70	3 160	95	56 200
21	11.2	46	200.0	71	3 550	96	63 100
22	12.6	47	224.0	72	4 000	97	70 800
23	14.1	48	251.0	73	4 470	98	79 400
24	15.9	49	282.0	74	5 010	99	89 100

V'/V = Voltage ratio (equal input and output impedance)

dB-microvolt/voltage comparison table

dBμV	Voltage	dBμV	Voltage	dBμV	Voltage	dBμV	Voltage
30	31.6 μV	55	562 μV	80	10.0 mV	105	178 mV
31	35.5 μV	56	631 μV	81	11.2 mV	106	200 mV
32	40.0 μV	57	708 μV	82	12.6 mV	107	224 mV
33	44.7 μV	58	794 μV	83	14.1 mV	108	251 mV
34	50.1 μV	59	891 μV	84	15.9 mV	109	282 mV
35	56.2 μV	60	1.00 mV	85	17.8 mV	110	316 mV
36	63.1 μV	61	1.12 mV	86	20.0 mV	111	355 mV
37	70.8 μV	62	1.26 mV	87	22.4 mV	112	400 mV
38	79.4 μV	63	1.41 mV	88	25.1 mV	113	447 mV
39	89.1 μV	64	1.59 mV	89	28.2 mV	114	501 mV
40	100 μV	65	1.78 mV	90	31.6 mV	115	562 mV
41	112 μV	66	2.00 mV	91	35.5 mV	116	631 mV
42	126 μV	67	2.24 mV	92	40.0 mV	117	708 mV
43	141 μV	68	2.51 mV	93	44.7 mV	118	794 mV
44	159 μV	69	2.82 mV	94	50.1 mV	119	891 mV
45	178 μV	70	3.16 mV	95	56.2 mV	120	1.00 V
46	200 μV	71	3.55 mV	96	63.1 mV	121	1.12 V
47	224 μV	72	4.00 mV	97	70.8 mV	122	1.26 V
48	251 μV	73	4.47 mV	98	79.4 mV	123	1.41 V
49	282 μV	74	5.01 mV	99	89.1 mV	124	1.59 V
50	316 μV	75	5.62 mV	100	100 mV	125	1.78 V
51	355 μV	76	6.31 mV	101	112 mV	126	2.00 V
52	400 μV	77	7.08 mV	102	126 mV	127	2.24 V
53	447 μV	78	7.94 mV	103	141 mV	128	2.51 V
54	501 μV	79	8.91 mV	104	159 mV	129	2.82 V

Comparison calculated for 75 Ohm

Aerials

The experience and technological expertise in manufacturing, acquired over 75 years in business, make Fracarro the market leader in designing and producing terrestrial and satellite antennas.

A complete range of Fracarro antennas are available which are unique in their performance and quality. They are made with excellent electrical characteristics, are a robust design and finished to a high standard.



Aerials

FM & DAB aerials	
‣ FM & DAB Series	14
VHF aerials	
‣ Band III single channel	15-16
‣ Band III 1/2 band	17
‣ Band III wideband	18-19
‣ High performance band III wideband	20
GSM aerials	
‣ GSM signal	21
Aerial benchmarking	
‣ CAI	22
VHF + UHF aerials	
‣ SIGMA Combo	23
UHF aerials	
‣ SIGMA Series	24
‣ BLU Series	25-26
‣ BLU PLUS Series	27
‣ LAMBDA Series	28
‣ OMEGA Series	29
‣ DELTA Series	30
‣ TAU Series - grid reflector	31
‣ TAU Series - tube reflector	32
‣ Yagi channel grouped	33
‣ Yagi wideband	34-35
‣ Yagi full band	36-37
‣ Panel aerials	38-39
LOG - PERIODIC aerials	
‣ LP Series with F connector	40-43
‣ LP Series	44-45
Indoor aerials	
‣ Amplified indoor aerial	46
Aerial accessories	
‣ Mast brackets	46
‣ Auxiliary booms	46
‣ Aerial fittings	47
‣ Mechanical accessories for satellite dishes	47
‣ Self-supporting masts	48
‣ Guyed extendable masts	48

SAT dishes

‣ PENTA Series	49
‣ Offset Series	50-51
Kit system	
‣ Digital Kits	52
‣ Kit Sat 9+13	52
LNB'S	
‣ Universal LNB'S	53
‣ SCR LNB'S	54
DiSEqC switches	55
Line amplifiers	55

Aerials

The aerial patterns represent measurements made in the horizontal plan at the center of the band.

FM & DAB aerials

FM & DAB Series

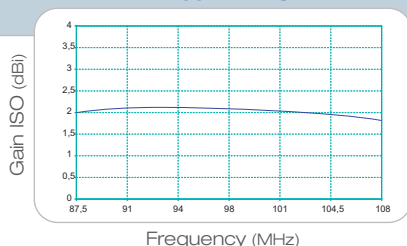
FM & DAB aerials in different designs for the reception of FM radio signals to be used for MATV, SMATV and IRS installations.



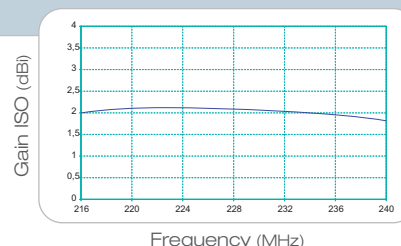
Item Code		ANT1200A 213001	FM OMNI 213009	DAB 213010
Elements	No.	1	1	1
Channels		FM	FM	DAB
Bandwidth	MHz	87.5-108	87.5-108	216-240
Maximum gain	dBi	2.1	2.1	2.1
Front-to-back ratio	dB	Omni	Omni	Omni
Return loss	dB	-16	< -6	-16
Beamwidth (-3dB)	°	360	360	360
Wind load at 120Km/h (720N/m²)	Kg (N)	3 (29.43)	2.7 (26.46)	2 (19.62)
Connector	type	F	F	F
Impedance	Ohm	75	75	75
Maximum mast Ø	mm	60	60	60
Dimensions (L x W)	cm	96x77 (H x L)	63x10.5	59x8 (H x L)
Packaging				
Quantity	pcs	10	10	8
Unit weight	Kg	0.9	0.84	0.54
Total weight	Kg	10.6	8.6	4.4
Accessories				
Horizontal polarisation			included	
Horizontal polarisation with tilt adj.			N/A	
Auxiliary boom			N/A	

Gain

ANT1200A - FM OMNI

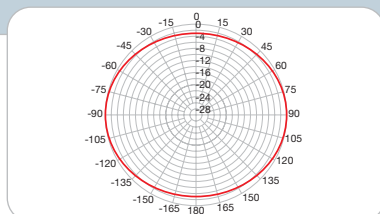


DAB

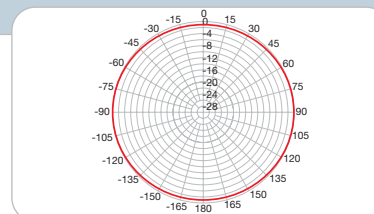


Pattern

ANT1200A - FM OMNI



DAB



VHF aerials

Band III single channel

4 elements

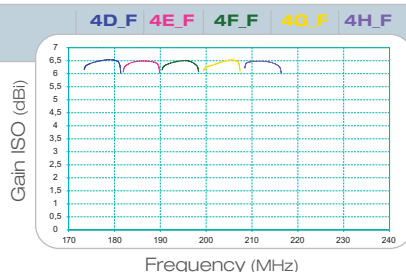
Yagi band III single channel aerials with F connector. Designed with aluminium elements and boom for a stronger structure.

They are available in 4 and 6 element versions to allow adequate gain in most reception situations.



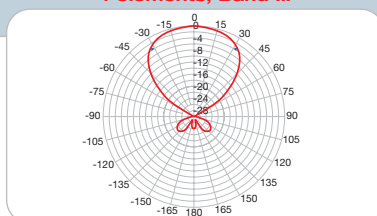
Item Code		4D.F 218701	4E.F 218702	4F.F 218703	4G.F 218704	4H.F 218705
Elements	No.	4	4	4	4	4
Band		III	III	III	III	III
Channels		E5	E5-E6	E7	E8-E9	E10
Bandwidth	MHz	174-181	182.5-189.5	191-198	200-207	209-216
Maximum gain	dBi	6.5	6.5	6.5	6.5	6.5
Front-to-back ratio	dB	20	21	21	22	21
Return loss	dB	-18	-18	-18	-18	-18
Beamwidth (-3dB)	°	+/- 33	+/- 33	+/- 33	+/- 33	+/- 33
Wind load at 120Km/h (720N/m²)	Kg (N)	2.1 (20.60)	2.0 (19.62)	2.0 (19.62)	1.9 (18.63)	1.8 (17.65)
Connector	type	F	F	F	F	F
Impedance	Ohm	75	75	75	75	75
Maximum mast Ø	mm	60	60	60	60	60
Dimensions (L x W)	cm	116 x 87	111 x 84	106 x 80	102 x 76	97 x 73
Packaging						
Quantity	pcs	20	20	20	20	20
Unit weight	Kg	0.8	0.72	0.75	0.72	0.66
Total weight	Kg	16.3	14.7	15.3	14.7	13.5
Accessories						
Horizontal polarisation					included	
Horizontal polarisation with tilt adj.					PVZ-60	
Vertical polarisation					PV10	
Vertical polarisation with tilt adj.					PV10	
Auxiliary boom					N/A	

Gain



Pattern

4 elements, Band III

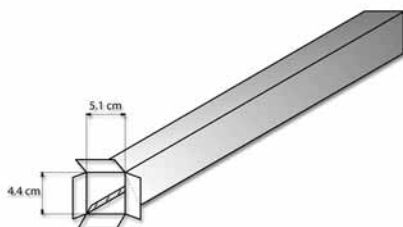


Aerials

VHF aerials

Band III single channel

6 elements

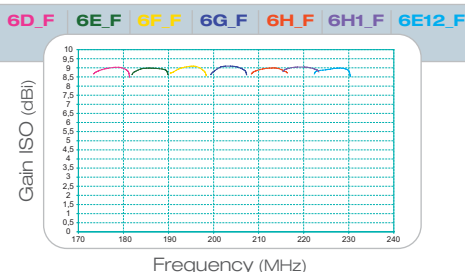


Easy to handle packaging



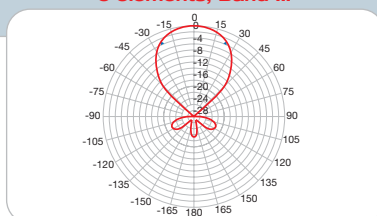
Item Code		6D_F 218711	6E_F 218712	6F_F 218713	6G_F 218714	6H_F 218715	6H1_F 218716	6E12_F 218717
Elements	No.	6	6	6	6	6	6	6
Band		III	III	III	III	III	III	III
Channels		E5	E5-E6	E7	E8-E9	E10	E11	E12
Bandwidth	MHz	174-181	182.5-189.5	191-198	200-207	209-216	216-223	223-230
Maximum gain	dBi	9	9	9	9	9	9	9
Front-to-back ratio	dB	27	27	26	27	27	26	27
Return loss	dB	-18	-18	-18	-18	-18	-18	-18
Beamwidth (-3dB)	°	+/- 26	+/- 26	+/- 26	+/- 26	+/- 26	+/- 26	+/- 26
Wind load at 120Km/h (720N/m²)	Kg (N)	3.5 (34.33)	3.3 (32.37)	3.2 (31.39)	3.1 (30.40)	3.0 (29.43)	2.9 (28.44)	2.8 (27.46)
Connector	type	F	F	F	F	F	F	F
Impedance	Ohm	75	75	75	75	75	75	75
Maximum mast Ø	mm	60	60	60	60	60	60	60
Dimensions (L x W)	cm	210 x 88	201 x 82	192 x 82	184 x 75	177 x 73	171 x 72	166 x 67
Packaging								
Quantity	pcs	20	20	20	20	20	20	20
Unit weight	Kg	1.1	1.1	1	1	0.98	0.96	0.94
Total weight	Kg	24	23.4	22	22	21.6	21.2	20.8
Accessories								
Horizontal polarisation						included		
Horizontal polarisation with tilt adj.						PVZ-60		
Vertical polarisation						PV10		
Vertical polarisation with tilt adj.						PV10		
Auxiliary boom						N/A		

Gain



Pattern

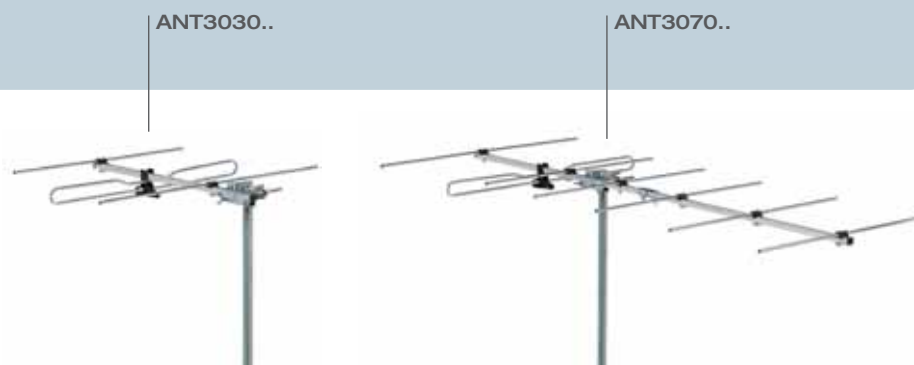
6 elements, Band III



VHF aerals

Band III 1/2 band

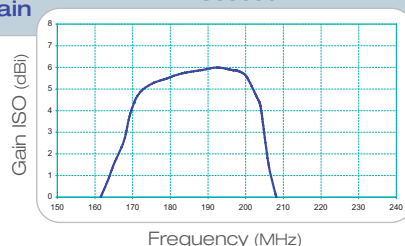
Pre-assembled Yagi 1/2 band and wideband III aerals with F connector .



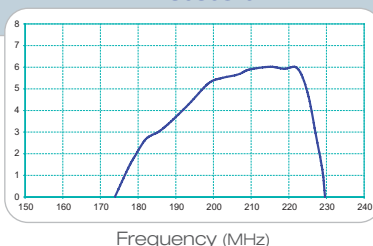
Item Code		ANT3030507 213002	ANT3030810 213003	ANT3070507 213005	ANT3070810 213006
Elements	No.	3	3	7	7
Band		III	III	III	III
Channels		E5-E8	E9-E12	E5-E8	E8-E12
Bandwidth	MHz	174-202	198-223	174-202	198-223
Maximum gain	dBi	6	6	10	11
Front-to-back ratio	dB	15	16	23	24
Return loss	dB	-15	-16	-15	-18
Beamwidth (-3dB)	°	+/-30	+/-30	+/-22	+/-22
Wind load at 120Km/h (720N/m2)Kg (N)		2.6 (25.48)	2.6 (25.48)	4.3 (42.14)	4.3 (42.14)
Connector	type	F	F	F	F
Impedance	Ohm	75	75	75	75
Maximum mast Ø	mm	60	60	60	60
Dimensions (L x W)	cm	76x88	75x63	156x85	156x75
Packaging					
Quantity	pcs	10	10	10	10
Unitary weight	Kg	0.9	0.927	1.34	1.25
Total weight	Kg	9	9.27	13.4	12.5
Accessories					
Horizontal polarisation		included			
Horizontal polarisation with tilt adj.		MEC3603G - MEC3603Z			
Vertical polarisation		included			
Vertical polarisation with tilt adj.		MEC3603G - MEC3603Z			
Auxiliary boom		N/A			

Gain

ANT3030507

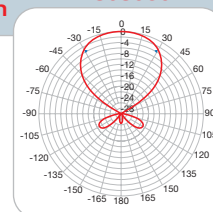


ANT3030810

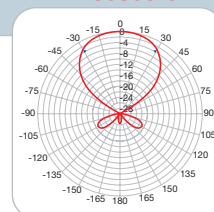


Pattern

ANT3030507

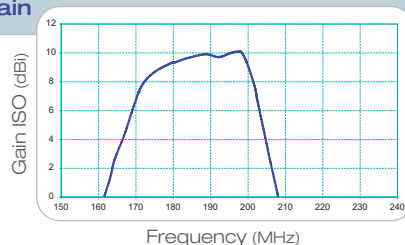


ANT3030810

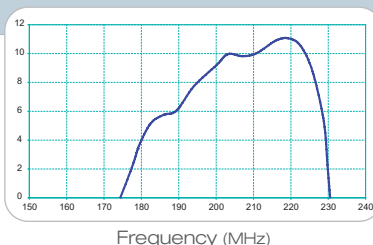


Gain

ANT3070507

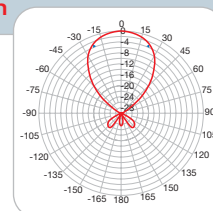


ANT3070810

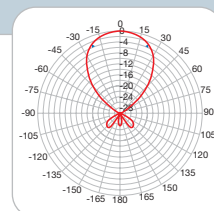


Pattern

ANT3070507



ANT3070810



Aerials

VHF aerials

Band III wideband

ANT3060510

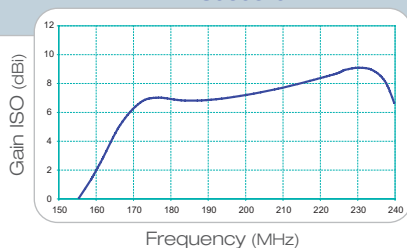
ANT3100510



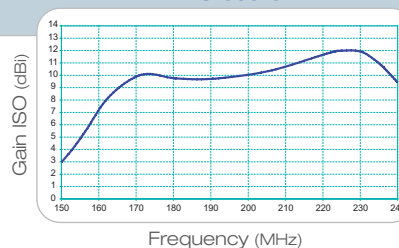
Item Code		ANT3060510 213004	ANT3100510 213007
Elements	No.	6	10
Band		III	III
Channels		E5-E12	E5-E12
Bandwidth	MHz	174-230	174-230
Maximum gain	dBi	9	12
Front-to-back ratio	dB	25	28
Return loss	dB	-15	-16
Beamwidth (-3dB)	°	+/- 26	+/- 21
Wind load at 120Km/h (720N/m²)	Kg (N)	3.8 (37.24)	6.9 (67.62)
Connector	type	F	F
Impedance	Ohm	75	75
Maximum mast Ø	mm	60	60
Dimensions (L x W)	cm	119 x 86	237 x 86
Packaging			
Quantity	pcs	10	10
Unit weight	Kg	1.2	1.9
Total weight	Kg	12	19
Accessories			
Horizontal polarisation		included	
Horizontal polarisation with tilt adj.		MEC3603G - MEC3603Z	
Vertical polarisation		included	
Vertical polarisation with tilt adj.		MEC3603G - MEC3603Z	
Auxiliary boom		CA2	included

Gain

ANT3060510

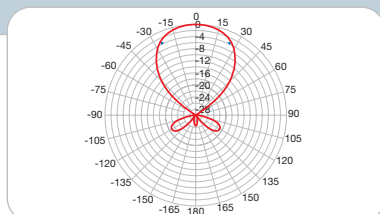


ANT3100510

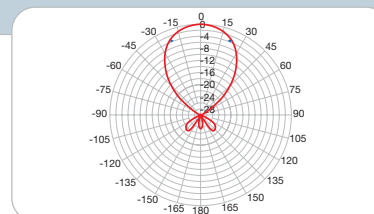


Pattern

ANT3060510



ANT3100510

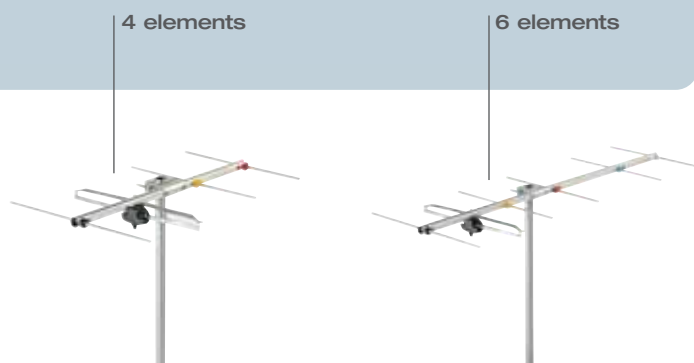


VHF aerials

Band III wideband

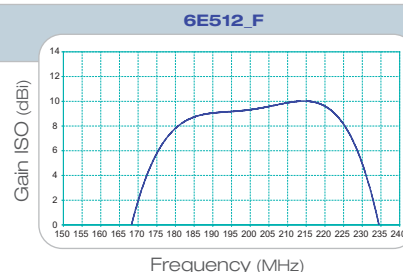
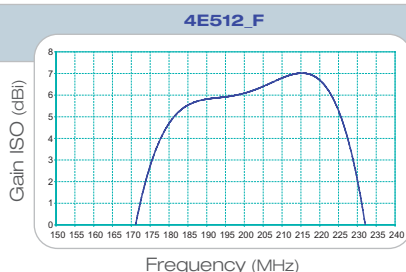
Yagi wideband III aerials with F connector. Ideal in situations where there are several band III channels.

They are available in 4 and 6 element versions to allow adequate gain in most reception situations.

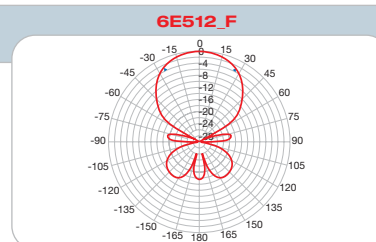
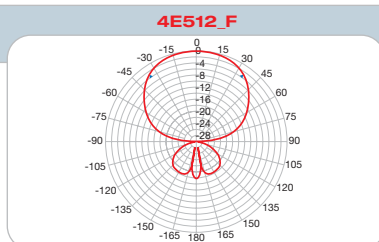


Item Code		4E512_F 218706	6E512_F 218718
Elements	No.	4	6
Band		III	III
Channels		E5-E12	E5-E12
Bandwidth	MHz	174-230	174-230
Maximum gain	dBi	7	10
Front-to-back ratio	dB	16	18
Return loss	dB	-10	-12
Beamwidth (-3dB)	°	+/- 35	+/- 28
Wind load at 120Km/h (720N/m²)	Kg (N)	2.0 (19.62)	3.0 (29.43)
Connector	type	F	F
Impedance	Ohm	75	75
Maximum mast Ø	mm	60	60
Dimensions (L x W)	cm	108 x 83	181 x 82
Packaging			
Quantity	pcs	20	20
Unit weight	Kg	0.73	0.96
Total weight	Kg	15.6	20.2
Accessories			
Horizontal polarisation		included	
Horizontal polarisation with tilt adj.		PVZ-60	
Polarisation vertical		PV10	
Polarisation vertical with tilt adj.		PV10	
Auxiliary boom		N/A	

Gain



Pattern



Aerials

VHF aerials

High performance band III wideband New

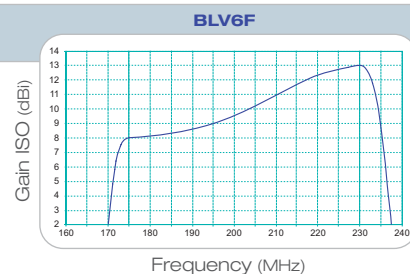
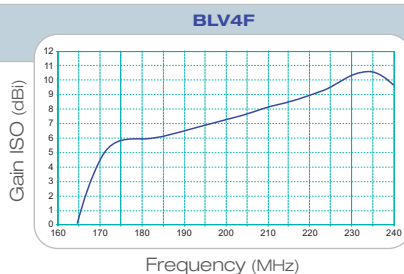
High quality pre-assembled aerials with a patent protected design and aesthetic innovations. Important characteristics include: high gain, optimised impedance matching and excellent directivity.

Superior electrical and mechanical qualities, due to magnesium - aluminium alloy construction, guaranteeing long life.

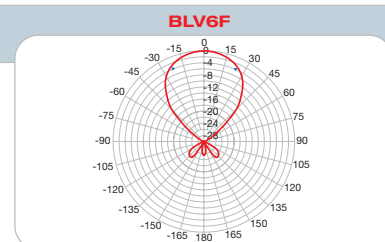
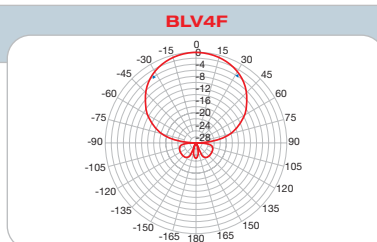


Item Code		BLV4F 218038	BLV6F 218058
Elements	No.	4	6
Band		III	III
Channels		E5-E12	E5-E12
Bandwidth	MHz	174-230	174-230
Maximum gain	dBi	10.5	13
Front-to-back ratio	dB	20	24
Return loss	dB	-23	-22
Beamwidth (-3dB)	°	+/- 31	+/- 24
Wind load at 120Km/h (720N/m²)	Kg (N)	3.0 (29.43)	4.5 (44.14)
Connector	type	F	F
Impedance	Ohm	75	75
Maximum mast Ø	mm	60	60
Dimensions (L x W)	cm	64 x 87	149 x 87
Packaging			
Quantity	pcs	10	3
Unit weight	Kg	1.23	2
Total weight	Kg	14.5	6
Accessories			
Horizontal polarisation		included	
Horizontal polarisation with tilt adj.		included	
Polarisation vertical		PV10	
Polarisation vertical with tilt adj.		PV10	
Auxiliary boom		N/A	

Gain



Pattern



GSM aerals

GSM signal

This aerial is suitable for receiving the full GSM signal.

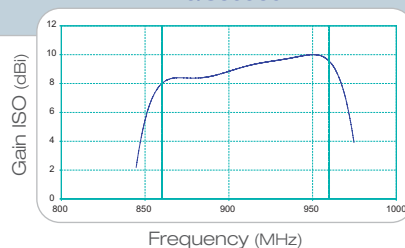
10/860960



Item Code		10/860960 219486	
Elements	No.	10	
Band		SPEC	
Bandwidth	MHz	860-960	
Maximum gain	dBi	10	
Front-to-back ratio	dB	21	
Return loss	dB	-18	
Beamwidth (-3dB)	°	+/- 21	
Wind load at 120Km/h (720N/m²)	Kg (N)	1.0 (9.81)	
Impedance	Ohm	75	
Maximum mast Ø	mm	42	
Dimensions (L x W)	cm	94x16	
Packaging			
Quantity	pcs	20	
Unit weight	Kg	0.4	
Total weight	Kg	10.02	
Accessories			
Mast Ø	mm	42	60
Horizontal polarisation		included	PVZ-60
Horizontal polarisation with tilt adj.		PVZ-60	PVZ-60
Vertical polarisation		included	PVZ-60
Vertical polarisation with tilt adj.		PVZ-60	PVZ-60
Auxiliary boom		N/A	N/A

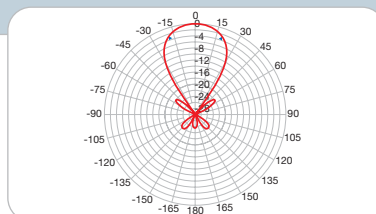
Gain

10/860960



Pattern

10/860960



Aerials

Aerial Benchmarking

CAI

For the reception of Digital Terrestrial Television (DTT) signals in the UK, aerials are required to be designed and manufactured to a minimum industry standard.

Due to the high level of analogue signals compared to the lower digital signals, the correct aerial is not always fitted. This mainly occurs in fringe reception areas where DTT reception issues have invariably been improved with the installation of the 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.

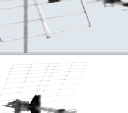


Aerials that have been approved will display a "mark", confirming that the required standard has been reached. Although this benchmark is not a legal requirement, experience in the industry has indicated that it will be to the industry's advantage to supply equipment to this recommendation.

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.

Aerial benchmarked

SIGMA 6HD (page 24)	SIGMA 6HD, 6 element UHF Aerial Certification Number: CAI/AB 116	
BLU420F (page 26)	BLU Series, 42 element UHF Aerial Certification Number: CAI/AB 012	
BLU220PLUS (page 27)	BLU Series, 22 element UHF Aerial Certification Number: CAI/AB 017	
BLU420PLUS (page 27)	BLU Series, 42 element UHF Aerial Certification Number: CAI/AB 038	
OMEGA5 (page 29)	Omega Series, 5 element UHF Aerial Certification Number: CAI/AB 048	
OMEGA8 (page 29)	Omega Series, 8 element UHF Aerial Certification Number: CAI/AB 049	
TAU11/45 (page 31)	TAU Series, 11 element UHF Aerial Certification Number: CAI/AB 101	
LP4F (page 40)	Log periodic, UHF Aerial Certification Number: CAI/AB 130	
LP45NF (page 40)	Log periodic, UHF Aerial Certification Number: CAI/AB 102	

VHF + UHF aeralis

SIGMA Combo

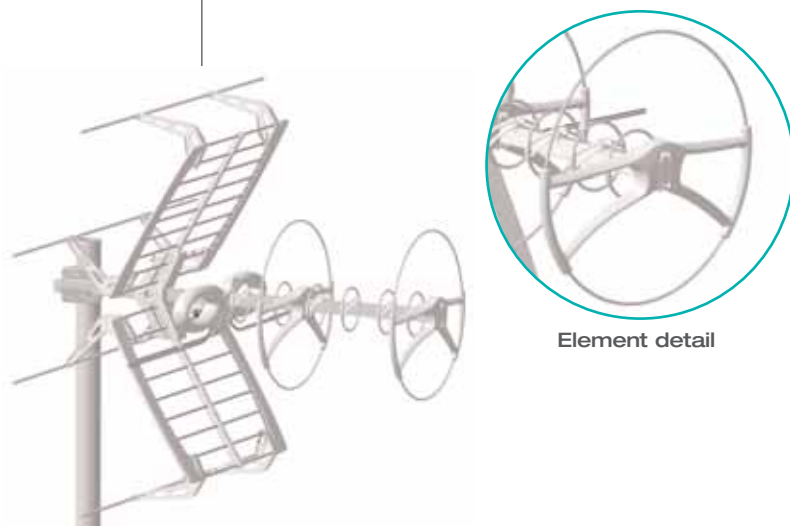
New

SIGMA Combo

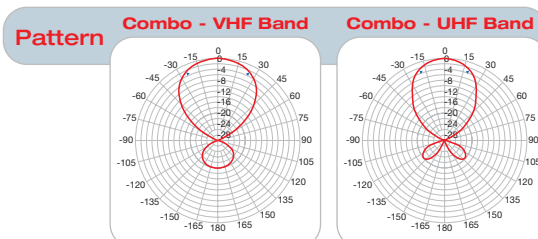
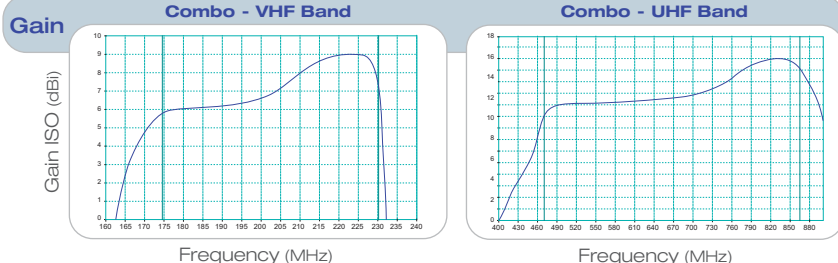
New series of wideband loop Yagi aeralis with F connector.

The revolutionary loop yagi technology applied to this aerial allows the reception of both VHF and UHF bands with a unique aeralis, guaranteeing the same performances of two separate aeralis. Sigma aeralis can be installed quickly and easily without any other tools.

Available from May



Item Code		SIGMA Combo 213202	
		VHF	UHF
Elements	No.	2	6
Band		VHF	UHF
Channels		E5-E12	E21-E69
Bandwidth	MHz	174-230	470-862
Maximum gain	dBi	9	16
Front-to-back ratio	dB	20	32
Return loss	dB	14	18
Beamwidth (-3dB)	°	±20	±25
Wind load at 120Km/h (720N/m²)	Kg (N)	26 (256)	
Connector	type	F	
Impedance	Ohm	75	
Maximum mast Ø	mm	60	
Dimensions (L x W)	cm	108 x 100	
Packaging			
Quantity	pcs	t.b.d.	
Unit weight	Kg	3.30	
Total weight	Kg	t.b.d.	
Accessories			
Horizontal polarisation		included	
Horizontal polarisation with tilt adj.		included	
Vertical polarisation		included	
Vertical polarisation with tilt adj.		included	
Auxiliary boom		N/A	



Aerials

UHF aerials

SIGMA Series

New

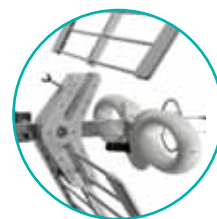
SIGMA 6HD

New series of wideband Yagi aerials with F connector.

Their original design, patented by Fracarro, allows a particular directivity (with the maximum reduction in interference) and a maximum gain comparable with an aerial twice its length. Sigma aerials are completely pre-assembled in the director elements, mast connection, reflector support, radiator saddle. Therefore, they can be installed quickly and easily without any other tools.



Standard 2



Reflector fixing



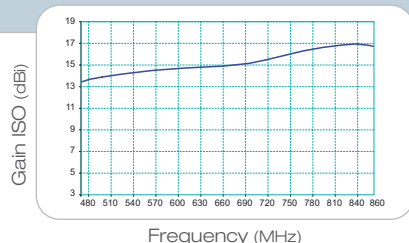
Reflector clamp and cover connector

Item Code		SIGMA 6HD
		213201
Elements	No.	6
Band		UHF
Channels		E21 – E69
Bandwidth	MHz	470 – 862
Maximum gain	dBi	17
Front-to-back ratio	dB	32
Return loss	dB	-18
Beamwidth (-3dB)	°	± 18
Wind load at 120Km/h (720N/m²)	Kg (N)	23 (225.4)
Connector	type	F
Impedance	Ohm	75
Maximum mast Ø	mm	60
Dimensions (L x W)	cm	92 x 63
Packaging		
Quantity	pcs	2
Unit weight	Kg	2.8
Total weight	Kg	5.8
Accessories		
Horizontal polarisation		included
Horizontal polarisation with tilt adj.		included
Vertical polarisation		included
Vertical polarisation with tilt adj.		included
Auxiliary boom		N/A

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

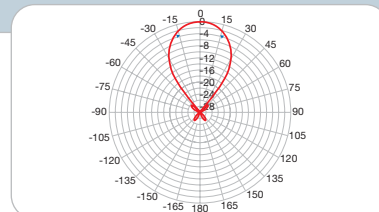
Gain

SIGMA 6HD



Pattern

SIGMA 6HD



UHF aerials

BLU Series

Pre-assembled aerials with F connector and excellent performance: high gain, high directivity and very good return loss. Easy to install and characterised by highly reliable RF connection.

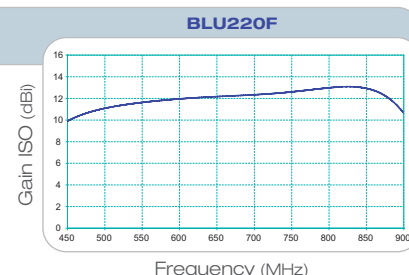
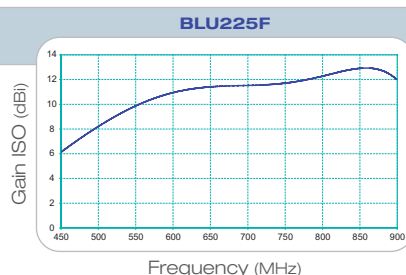
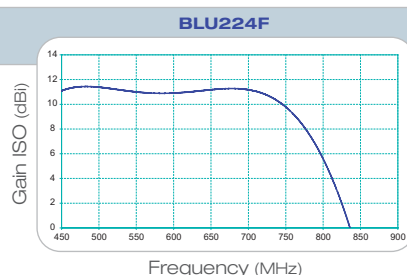
60mm maximum mast clamp diameter and the design allows good wind loading.

BLU220F

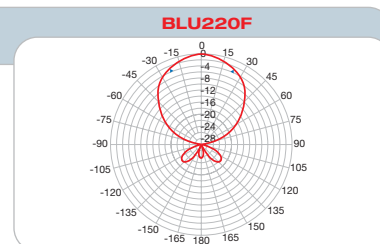
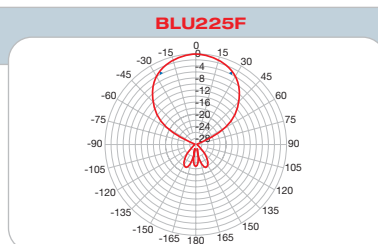
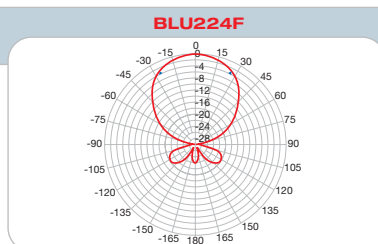


Item Code		BLU224F 217851	BLU225F 217852	BLU220F 217850
Elements	No.	22	22	22
Band		IV	V	UHF
Channels		E21-E37	E38-E69	E21-E69
Bandwidth	MHz	470-606	606-862	470-862
Maximum gain	dBi	11	13	13
Front-to-back ratio	dB	27	30	30
Return loss	dB	-20	-17	-16
Beamwidth (-3dB)	°	+/- 25	+/- 25	+/- 25
Wind load at 120Km/h (720N/m²)	Kg (N)	5.5 (53.95)	5.5 (53.95)	5.5 (53.95)
Connector	type	F	F	F
Impedance	Ohm	75	75	75
Maximum mast Ø	mm	60	60	60
Dimensions (L x W)	cm	92x50	84x50	84x50
Packaging				
Quantity	pcs	10	10	10
Unit weight	Kg	1.64	1.44	1.4
Total weight	Kg	17.74	15.74	15.34
Accessories				
Horizontal polarisation			included	
Horizontal polarisation with tilt adj.			included	
Vertical polarisation			included	
Vertical polarisation with tilt adj.			included	
Auxiliary boom			N/A	

Gain



Pattern



Aerials

UHF aerials

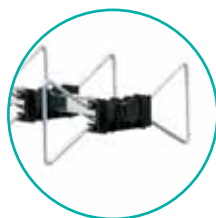
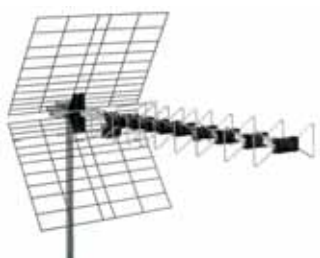
BLU Series

BLU420F

BLU920F



Standard 2



Element detail

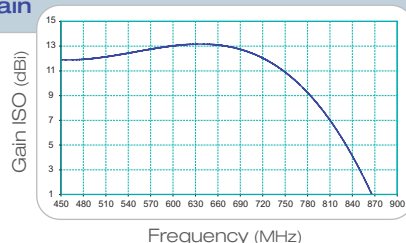


Item Code		BLU424F 217854	BLU425F 217855	BLU420F 217853	BLU920F 217856
Elements	No.	42	42	42	90
Band		IV	V	UHF	UHF
Channels		E21-E37	E38-E69	E21-E69	E21-E69
Bandwidth	MHz	470-606	606-862	470-862	470-862
Maximum gain	dBi	13	15	15	18
Front-to-back ratio	dB	27	26	30	30
Return loss	dB	-20	-22	-16	-18
Beamwidth (-3dB)	°	+/- 22	+/- 22	+/- 22	+/- 17
Wind load at 120Km/h (720N/m²)	Kg (N)	7.0 (68.67)	7.0 (68.67)	7.0 (68.67)	12.0 (117.72)
Connector	type	F	F	F	F
Impedance	Ohm	75	75	75	75
Maximum mast Ø	mm	60	60	60	60
Dimensions (L x W)	cm	122x50	119x50	119x50	242x50
Packaging					
Quantity	pcs	10	10	10	3
Unit weight	Kg	2.14	1.9	1.89	3.16
Total weight	Kg	22.74	20.34	20.24	9.88
Accessories					
Horizontal polarisation				included	
Horizontal polarisation with tilt adj.				included	
Vertical polarisation				included	
Vertical polarisation with tilt adj.				included	
Auxiliary boom			CA2		included

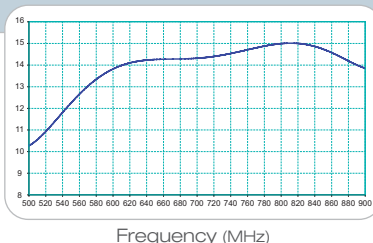
*For more information see www.dtg.org.uk web site.

Gain

BLU424F

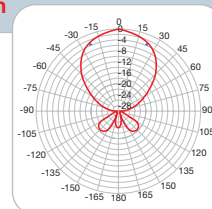


BLU425F

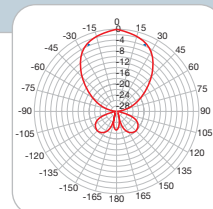


Pattern

BLU424F

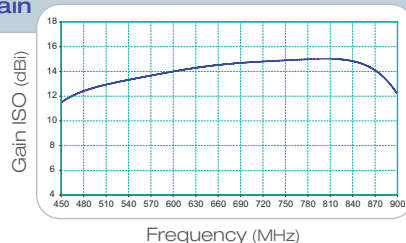


BLU425F

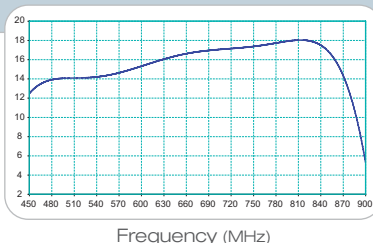


Gain

BLU420F

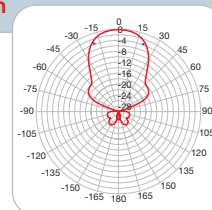


BLU920F

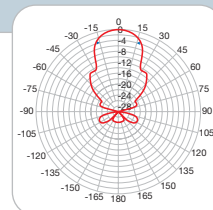


Pattern

BLU420F



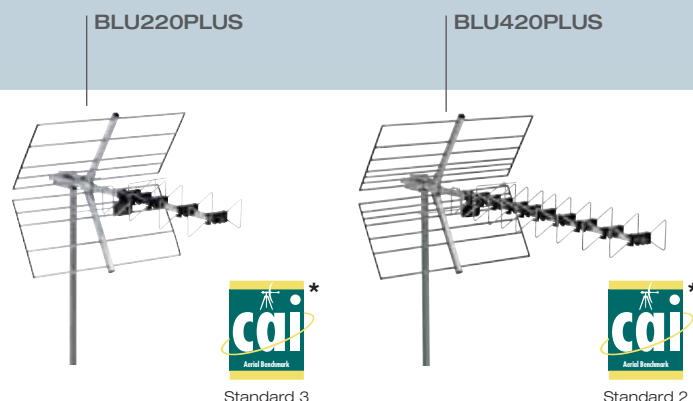
BLU920F



UHF aerials

BLU PLUS Series

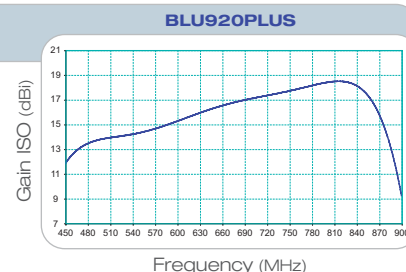
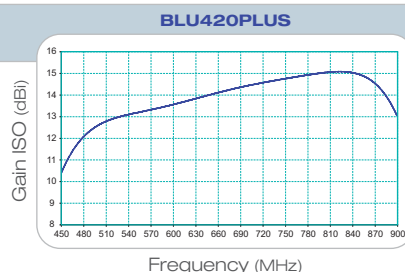
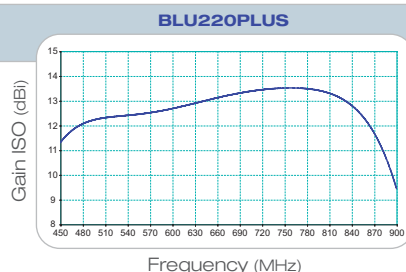
Pre-assembled aerials with F connector and excellent performance: high gain, high directivity and very good return loss. Easy to install and characterised by highly reliable RF connection. 60mm maximum mast clamp diameter and the design allows good wind loading. This range is particularly characterised by its rod reflector.



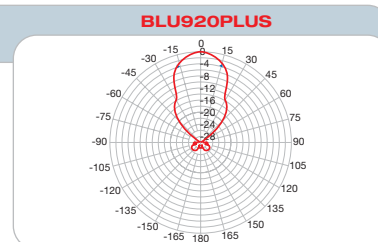
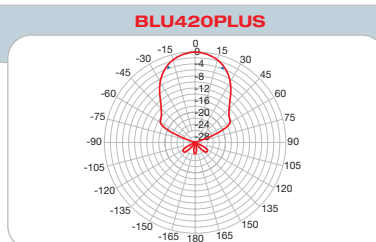
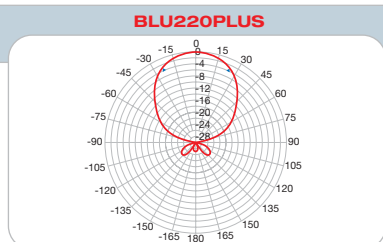
Item Code		BLU220PLUS 217857	BLU420PLUS 217858	BLU920PLUS 217859
Elements	No.	22	42	90
Band		UHF	UHF	UHF
Channels		E21-E69	E21-E69	E21-E69
Bandwidth	MHz	470-862	470-862	470-862
Maximum gain	dBi	13.5	15	18.5
Front-to-back ratio	dB	32	28	30
Return loss	dB	-18	-16	-16
Beamwidth (-3dB)	°	+/- 23	+/- 21	+/- 15
Wind load at 120Km/h (720N/m²)	Kg (N)	7.5 (73.57)	9.0 (88.29)	14.0 (137.34)
Connector	type	F	F	F
Impedance	Ohm	75	75	75
Maximum mast Ø	mm	60	60	60
Dimensions (L x W)	cm	84x50	119x50	242x50
Packaging				
Quantity	pcs	10	10	2
Unit weight	Kg	1.25	1.72	3.25
Total weight	Kg	14.74	19.44	6.95
Accessories				
Horizontal polarisation			included	
Horizontal polarisation with tilt adj.			included	
Vertical polarisation			included	
Vertical polarisation with tilt adj.			included	
Auxiliary boom		N/A	CA2	included

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

Gain



Pattern



Aerials

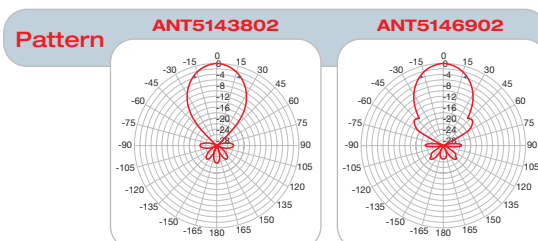
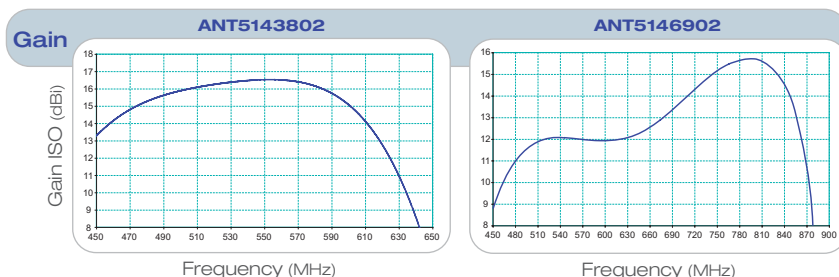
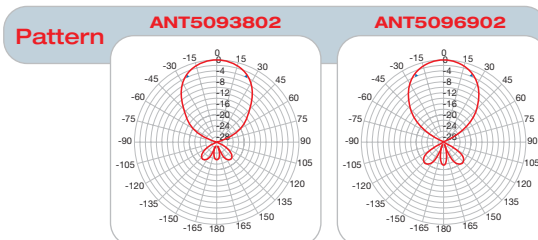
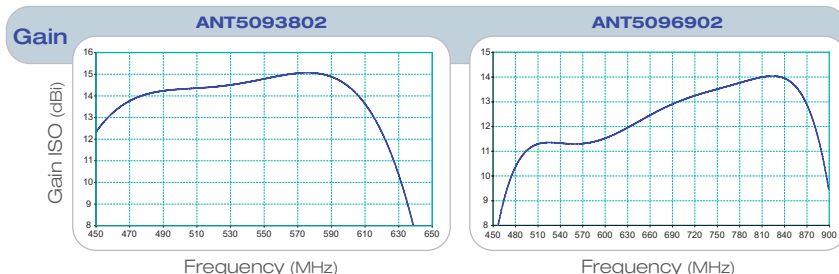
UHF aerials

LAMBDA Series

High performance aerials with F connector. The design of the connector cap and dipole clamp offer great protection. They are characterised by their excellent mechanical reflector sturdiness, high front-to-back ratio, good return loss and high gain. Mast clamp and joints of the boom are pre-assembled for easy installation. These aerials are also equipped with large wing nut bolt screws for excellent clamping.



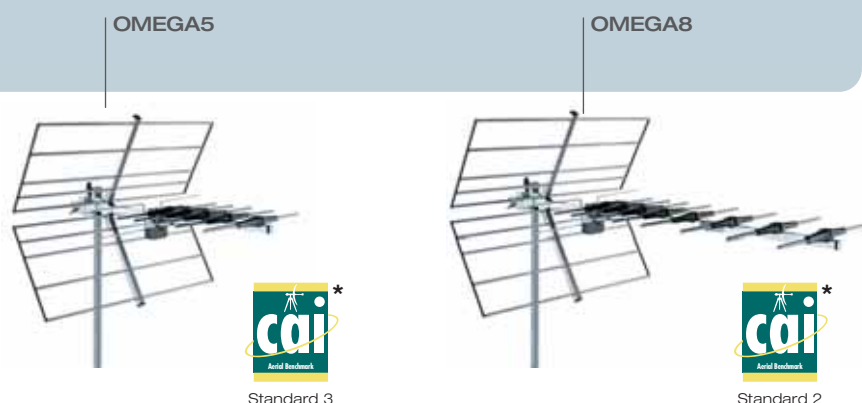
Item Code		ANT5093802 213051	ANT5096902 213053	ANT5143802 213054	ANT5146902 213056
Elements	No.	9	9	14	14
Band		IV	UHF	IV	UHF
Channels		E21-E38	E21-E69	E21-E38	E21-E69
Bandwidth	MHz	470-614	470-862	470-614	470-862
Maximum gain	dBi	15	14	16.5	15.6
Front-to-back ratio	dB	25	24	30	26
Return loss	dB	-14	-12	-16	-14
Beamwidth (-3dB)	°	+/- 23	+/- 23	+/- 17	+/- 17
Wind load at 120Km/h (720N/m ²)	Kg (N)	16 (156.96)	15 (147.15)	19 (186.39)	17.5 (171.67)
Connector	type	F	F	F	F
Impedance	Ohm	75	75	75	75
Maximum mast Ø	mm	55	55	55	55
Dimensions (L x W)	cm	161x50	152x50	238x50	177x50
Packaging					
Quantity	pcs	1	1	1	1
Unit weight	Kg	2.9	2.72	3.74	3.38
Total weight	Kg	2.9	2.72	3.74	3.38
Accessories					
Horizontal polarisation				included	
Horizontal polarisation with tilt adj.				included	
Vertical polarisation				included	
Vertical polarisation with tilt adj.				included	
Auxiliary boom			N/A		included



UHF aerials

OMEGA Series

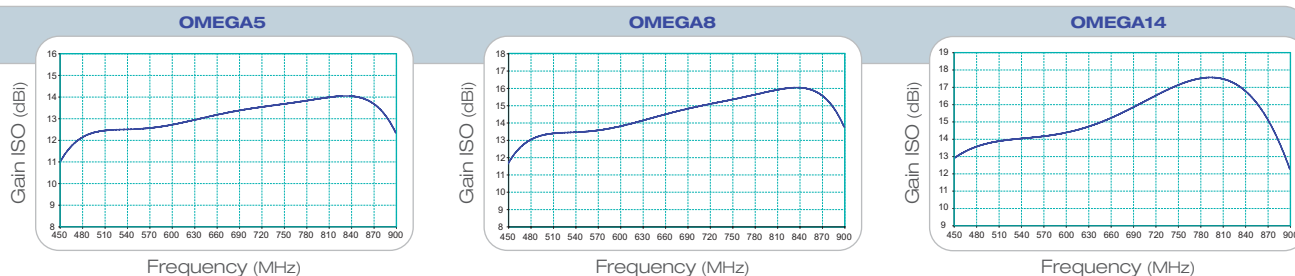
Excellent performance Yagi aerials, easy to install with high mechanical sturdiness. Important electrical performances include: high gain, high directivity and excellent front-to-back ratio.



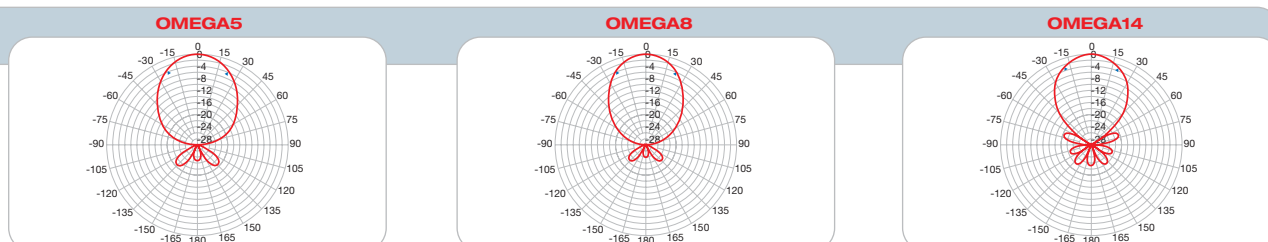
Item Code		OMEGA5 213021	OMEGA8 213022	OMEGA14 213023
Elements	No.	5	8	14
Band		UHF	UHF	UHF
Channels		E21-E69	E21-E69	E21-E69
Bandwidth	MHz	470-862	470-862	470-862
Maximum gain	dBi	14	16	17.5
Front-to-back ratio	dB	32	32	30
Return loss	dB	-18	-18	-18
Beamwidth (-3dB)	°	+/- 23	+/- 22	+/- 19
Wind load at 120Km/h (720N/m²)	Kg (N)	4.5 (44.14)	5.5 (53.95)	8.0 (78.48)
Connector	type	F	F	F
Impedance	Ohm	75	75	75
Maximum mast Ø	mm	60	60	60
Dimensions (L x W)	cm	77x58	107x58	159x58
Packaging				
Quantity	pcs	2	2	2
Unit weight	Kg	1.6	1.78	2.4
Total weight	Kg	3.2	3.56	4.8
Accessories				
Horizontal polarisation			included	
Horizontal polarisation with tilt adj.			included	
Vertical polarisation			included	
Vertical polarisation with tilt adj.			included	
Auxiliary boom		N/A	CA2	included

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

Gain



Pattern



UHF aerials

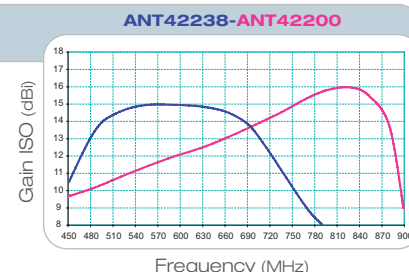
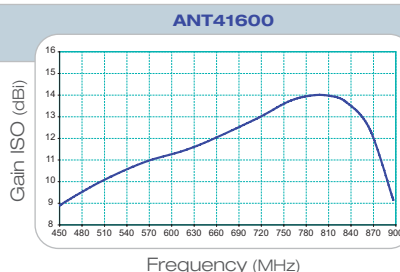
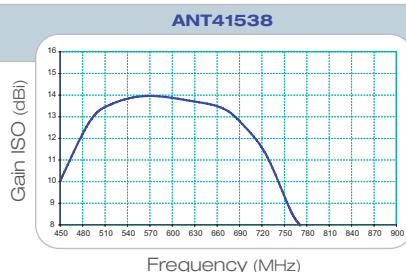
DELTA Series

High performance Yagi aerials with F connector.
Features a symmetrical wave director.
Fixing clamp for maximum mast diameter 55mm.

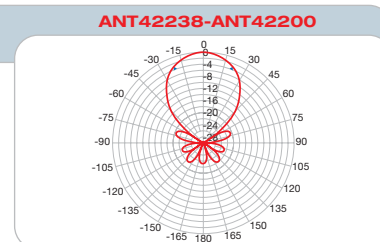
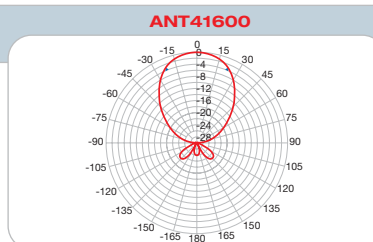
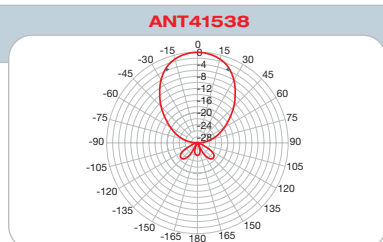


Item Code		ANT41538	ANT41600	ANT42238	ANT42200
Elements	No.	15	16	22	22
Band		IV + E38 +E39	IV + V	IV + E38 + E39	IV + V
Channels		E21-E39	E21-E69	E21-E39	E21-E69
Bandwidth	MHz	470-622	470-862	470-622	470-862
Maximum gain	dBi	14	14	15	16
Front-to-back ratio	dB	22	25	26	27
Return loss	dB	-18	-18	-20	-20
Beamwidth (-3dB)	°	+/-23	+/-23	+/- 21	+/- 21
Wind load at 120Km/h (720N/m²)	Kg (N)	5.5 (53.95)	5.5 (53.95)	8.0 (78.48)	8.0 (78.48)
Connector	type	F	F	F	F
Impedance	Ohm	75	75	75	75
Maximum mast Ø	mm	55	55	55	55
Dimensions (L x W)	cm	160x50	163x41	260 X 50	260 x 41
Packaging					
Quantity	pcs	5	5	5	5
Unit weight	Kg	2	2	2	2
Total weight	Kg	10	10	10	10
Accessories					
Horizontal polarisation				included	
Horizontal polarisation with tilt adj.				included	
Vertical polarisation				included	
Vertical polarisation with tilt adj.				included	
Auxiliary boom			N/A		included

Gain



Pattern



UHF aerials

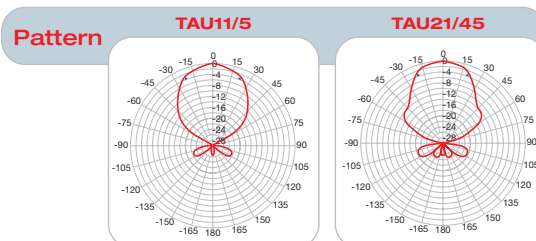
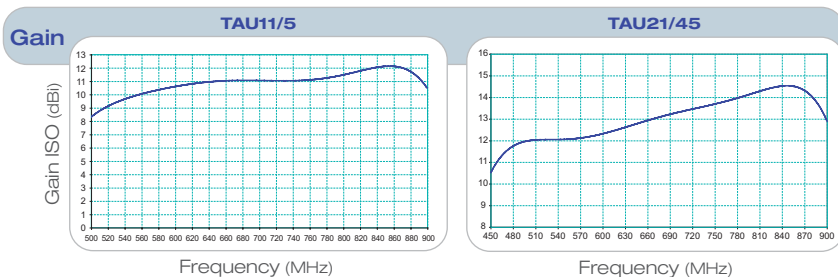
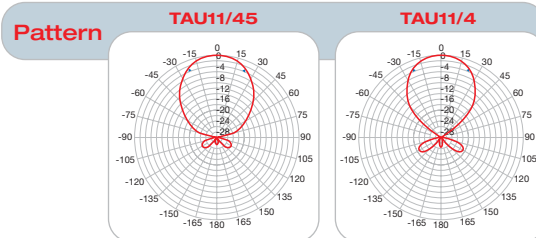
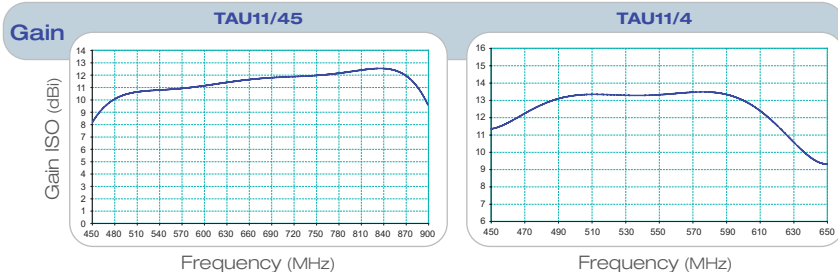
TAU Series - grid reflector

Yagi aerials with F connector.
Ideal for single or small MATV systems.
Steel boom, elements and reflector
guarantee mechanical sturdiness.
Pre-assembled for easy installation.



Item Code		TAU11/45 213101	TAU11/4 213096	TAU11/5 213097	TAU21/45 213102
Elements	No.	11	11	11	21
Band		UHF	IV	V	UHF
Channels		E21-E69	E21-E37	E38-E69	E21-E69
Bandwidth	MHz	470-862	470-606	606-862	470-862
Maximum gain	dBi	12.5	13.5	12	14.5
Front-to-back ratio	dB	28	31	30	25
Return loss	dB	-16	-20	-17	-15
Beamwidth (-3dB)	°	+/- 23	+/- 23	+/- 23	+/- 22
Wind load at 120Km/h (720N/m²)	Kg (N)	3.2 (31.39)	3.7 (36.29)	3.2 (31.39)	4.8 (47.08)
Connector	type	F	F	F	F
Impedance	Ohm	75	75	75	75
Maximum mast Ø	mm	60	60	60	60
Dimensions (L x W)	cm	97x50	115x50	87x50	197x50
Packaging					
Quantity	pcs	10	10	10	5
Unit weight	Kg	1.28	1.3	1.18	1.84
Total weight	Kg	14.8	15	13.8	10.2
Accessories					
Horizontal polarisation				included	
Horizontal polarisation with tilt adj.				included	
Vertical polarisation				included	
Vertical polarisation with tilt adj.				included	
Auxiliary boom				N/A	included

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



Aerials

UHF aerials

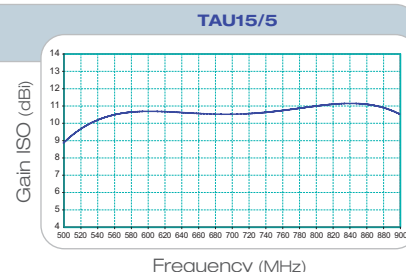
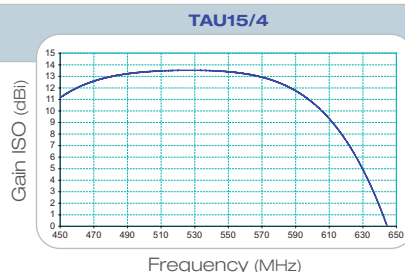
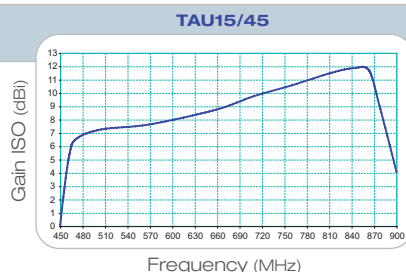
TAU Series - tube reflector

Yagi aerials with F connector.
Ideal for single or small MATV systems.
Steel boom, elements and reflector
guarantee mechanical sturdiness.
Pre-assembled for easy installation.

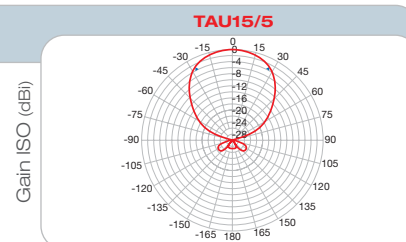
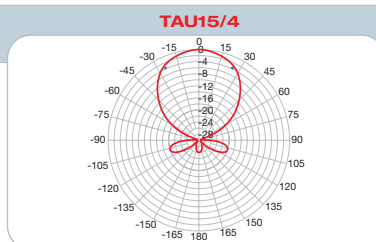
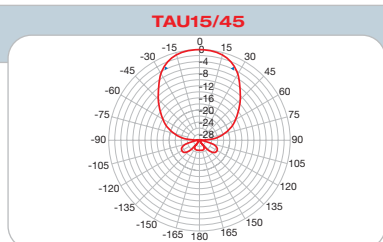


Item Code		TAU15/45 213100	TAU15/4 213094	TAU15/5 213095
Elements	No.	15	15	15
Band		UHF	IV	V
Channels		E21-E69	E21-E37	E38-E69
Bandwidth	MHz	470-862	470-606	606-862
Maximum gain	dBi	12	13.5	11
Front-to-back ratio	dB	24	24	28
Return loss	dB	-14	-20	-16
Beamwidth (-3dB)	°	+/- 25	+/- 25	+/- 25
Wind load at 120Km/h (720N/m²)	Kg (N)	2.8 (27.46)	3.3 (32.37)	2.8 (27.46)
Connector	type	F	F	F
Impedance	Ohm	75	75	75
Maximum mast Ø	mm	60	60	60
Dimensions (L x W)	cm	98x42	115x42	87x42
Packaging				
Quantity	pcs	10	10	10
Unit weight	Kg	1	1.06	0.96
Total weight	Kg	12	12.6	11.6
Accessories				
Horizontal polarisation			included	
Horizontal polarisation with tilt adj.			included	
Vertical polarisation			included	
Vertical polarisation with tilt adj.			included	
Auxiliary boom			N/A	

Gain



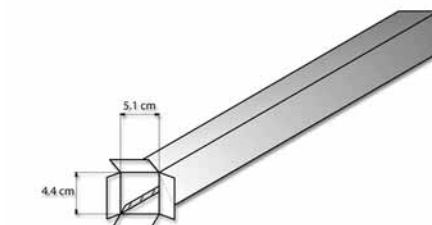
Pattern



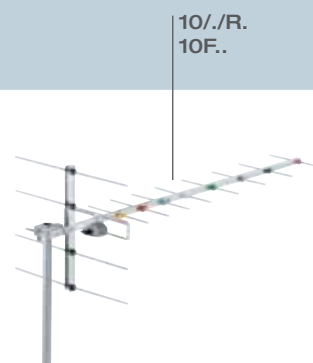
UHF aerials

Yagi channel grouped

Yagi channel grouped aerials. Good electrical performances and high selectivity make them ideal to receive particular groups of channels. High mechanical sturdiness in the structure.



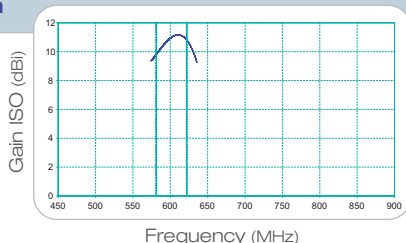
Easy to handle packaging



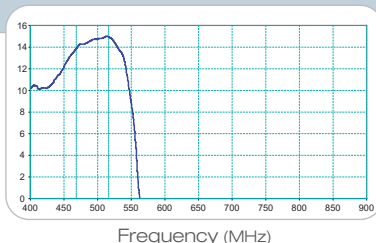
		New		New		New		New			
Item Code		10/3539R 219535		10F2126 219525		10F2734 219532		10F3546 219541		10F4769 219563	
Elements	No.	10		10		10		10		10	
Channels		E35-E39		E21-E26		E27-E34		E35-E46		E47-E69	
Bandwidth	MHz	582-622		470-518		518-582		582-678		678-862	
Maximum gain	dBi	11		14.7		15		16		14.3	
Front-to-back ratio	dB	24		27		25		30		25	
Return loss	dB	-21		-23		-23		-21		-15	
Beamwidth (-3dB)	°	+/- 21		+/- 21		+/- 21		+/- 20		+/- 20	
Wind load at 120Km/h (720N/m²)	Kg (N)	2.4 (23.52)		2.8 (27.44)		2.6 (25.48)		2.4 (23.52)		2.3 (22.54)	
Impedance	Ohm	75		75		75		75		75	
Maximum mast Ø	mm	42		42		42		42		42	
Dimensions (L x W)	cm	108x38		123x36		111x32		110x28		94x22	
Packaging											
Quantity	pcs	20		20		20		20		20	
Unit weight	Kg	0.65		0.78		0.7		0.62		0.54	
Total weight	Kg	13		16		14.4		12.8		11.2	
Accessories											
Mast Ø	mm	42	60	42	60	42	60	42	60	42	60
Horizontal polarisation		included	PVZ-60	included	PVZ-60	included	PVZ-60	included	PVZ-60	included	PVZ-60
Horizontal polarisation with tilt adj.		PVZ-60	PVZ-60	PVZ-60	PVZ-60	PVZ-60	PVZ-60	PVZ-60	PVZ-60	PVZ-60	PVZ-60
Vertical polarisation		included	PVZ-60	included	PVZ-60	included	PVZ-60	included	PVZ-60	included	PVZ-60
Vertical polarisation with tilt adj.		PVZ-60	PVZ-60	PVZ-60	PVZ-60	PVZ-60	PVZ-60	PVZ-60	PVZ-60	PVZ-60	PVZ-60
Auxiliary boom		N/A									

Gain

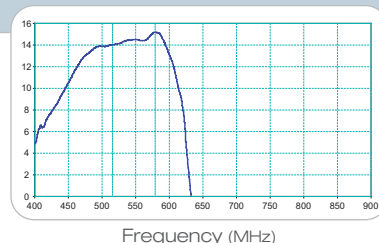
10/3539R



10F2126

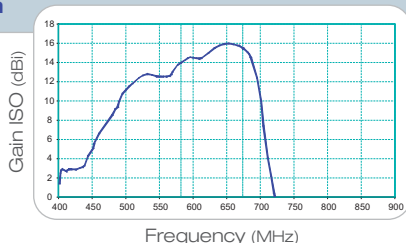


10F2734

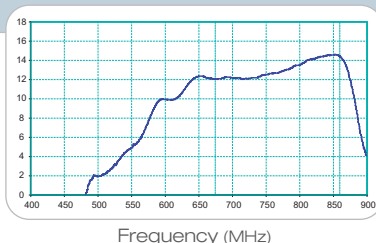


Gain

10F3546

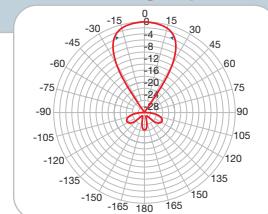


10F4769



Pattern

Channel grouped

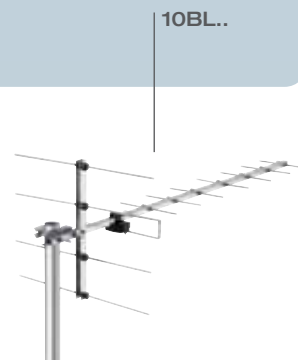


Aerials

UHF aerials

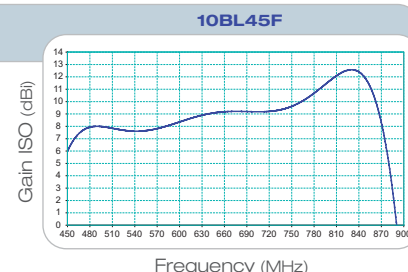
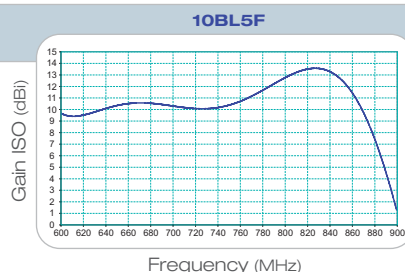
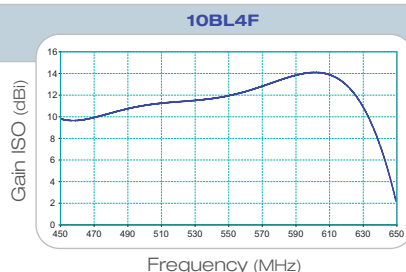
Yagi wideband

Yagi aerials with F connector and 4 element reflector, suitable for receiving full band IV, V or UHF. Important characteristics include: good electrical performance, small practical packaging for easy installation, transport and storage.

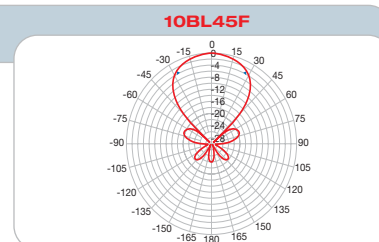
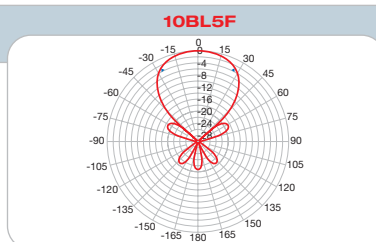
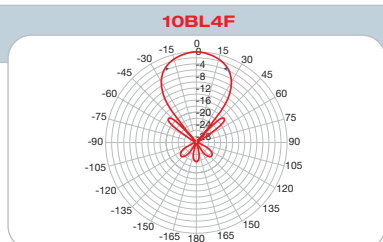


Item Code		10BL4F 219406		10BL5F 219407		10BL45F 219446	
Elements	No.	10		10		10	
Band		IV		V		UHF	
Channels		E21-E37		E38-E69		E21-E69	
Bandwidth	MHz	470-606		606-862		470-862	
Maximum gain	dBi	14		13.5		12.5	
Front-to-back ratio	dB	27		22		24	
Return loss	dB	-22		-17		-16	
Beamwidth (-3dB)	°	+/- 24		+/- 27		+/- 28	
Wind load at 120Km/h (720N/m²)	Kg (N)	2.8 (27.46)		2.3 (22.56)		2.3 (22.56)	
Impedance	Ohm	75		75		75	
Maximum mast Ø	mm	42		42		42	
Dimensions (L x W)	cm	135x36		103x28		94x36	
Packaging							
Quantity	pcs	20		20		20	
Unit weight	Kg	0.752		0.612		0.625	
Total weight	Kg	18.04		15.24		15.5	
Accessories							
Mast Ø	mm	42	60	42	60	42	60
Horizontal polarisation		included	PVZ-60	included	PVZ-60	included	PVZ-60
Horizontal polarisation with tilt adj.		PVZ-60					
Vertical polarisation		included	PVZ-60	included	PVZ-60	included	PVZ-60
Vertical polarisation with tilt adj.		PVZ-60					
Auxiliary boom		N/A					

Gain



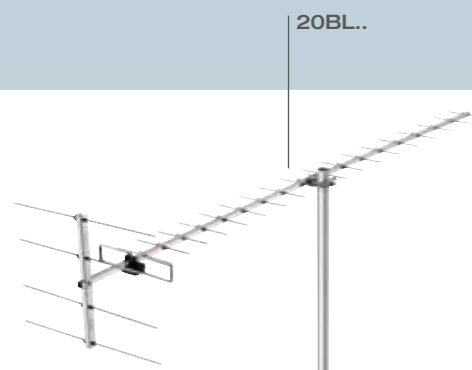
Pattern



UHF aerials

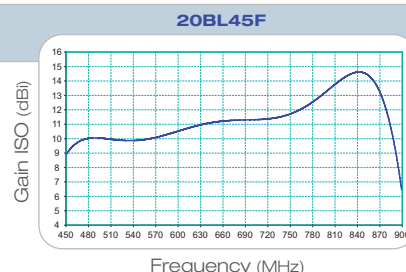
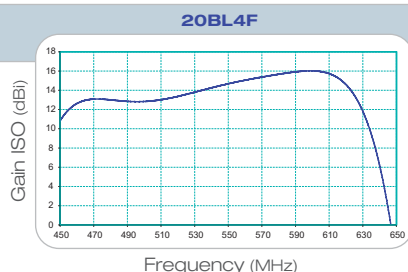
Yagi wideband

Yagi aerials with F connector and 4 element reflector, suitable for receiving full band IV, V or UHF. Important characteristics include: good electrical performance, small practical packaging for easy installation, transport and storage.

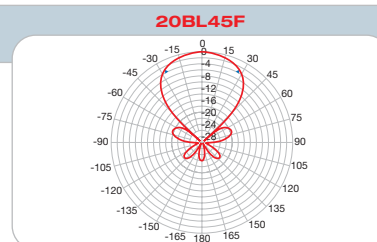
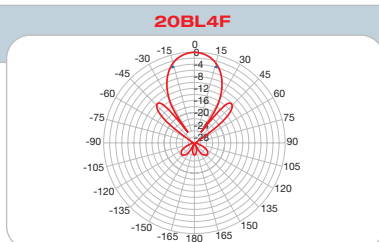


Item Code		20BL4F 219606		20BL45F 219646	
Elements	No.	20		20	
Band		IV		UHF	
Channels		E21-E37		E21-E69	
Bandwidth	MHz	470-606		470-862	
Maximum gain	dBi	16		14.5	
Front-to-back ratio	dB	27		24	
Return loss	dB	-20		-16	
Beamwidth (-3dB)	°	+/- 17		+/- 20	
Wind load at 120Km/h (720N/m²) Kg (N)		4.2 (41.20)		3.6 (35.31)	
Connector	type	F		F	
Impedance	Ohm	75		75	
Maximum mast Ø	mm	42		42	
Dimensions (L x W)	cm	232x37		187x39	
Packaging					
Quantity	pcs	20		20	
Unit weight	Kg	0.86		0.78	
Total weight	Kg	20.2		18.6	
Accessories					
Mast Ø	mm	42	60	42	60
Horizontal polarisation		included	PVF-60	included	PVF-60
Horizontal polarisation with tilt adj.		N/A			
Vertical polarisation		PV10			
Vertical polarisation with tilt adj.		PV10			
Auxiliary boom		CA1			

Gain



Pattern

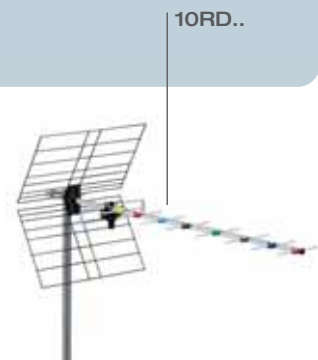


Aerials

UHF aerials

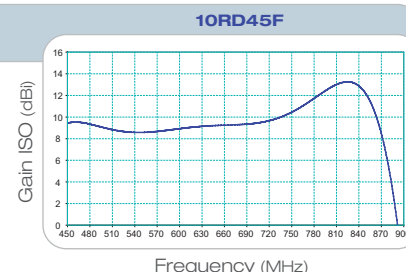
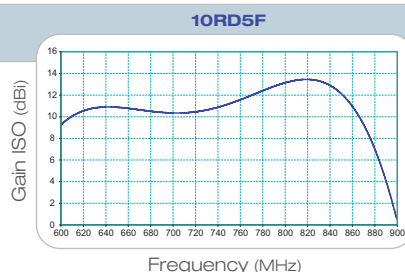
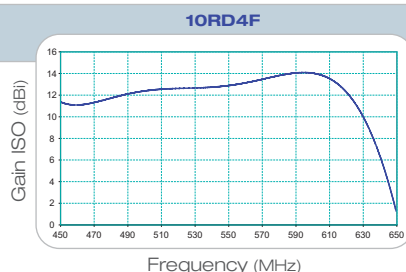
Yagi full band

Yagi aerials with F connector and grid reflector, suitable for receiving full band IV, V or UHF. Important characteristics include: good electrical performance, small practical packaging for easy installation, transport and storage.

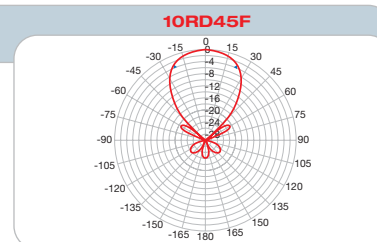
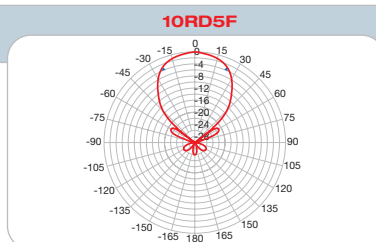
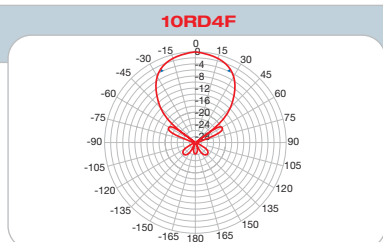


Item Code		10RD4F 219506		10RD5F 219507		10RD45F 219546	
Elements	No.	10		10		10	
Band		IV		V		UHF	
Channels		E21-E37		E38-E69		E21-E69	
Bandwidth	MHz	470-606		606-862		470-862	
Maximum gain	dBi	14		13.5		13	
Front-to-back ratio	dB	26		24		24	
Return loss	dB	-22		-18		-20	
Beamwidth (-3dB)	°	+/- 25		+/- 24		+/- 26	
Wind load at 120Km/h (720N/m²) Kg (N)		2.9 (28.44)		2.5 (24.52)		2.5 (24.52)	
Connector	type	F		F		F	
Impedance	Ohm	75		75		75	
Maximum mast Ø	mm	42		42		42	
Dimensions (L x W)		137x36		103x36		99x36	
Packaging							
Quantity	pcs	20		20		20	
Unit weight	Kg	0.62		0.5		0.5	
Total weight	Kg	15.4		13		13	
Accessories							
Mast Ø	mm	42	60	42	60	42	60
Horizontal polarisation		included	PVZ-60	included	PVZ-60	included	PVZ-60
Horizontal polarisation with tilt adj.		PVZ-60					
Vertical polarisation		included	PVZ-60	included	PVZ-60	included	PVZ-60
Vertical polarisation with tilt adj.		PVZ-60					
Auxiliary boom		N/A					

Gain

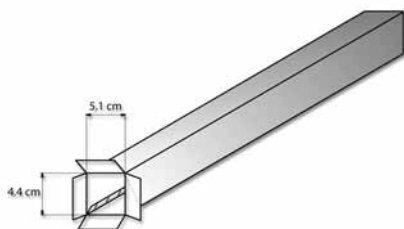


Pattern



UHF aerials

Yagi full band

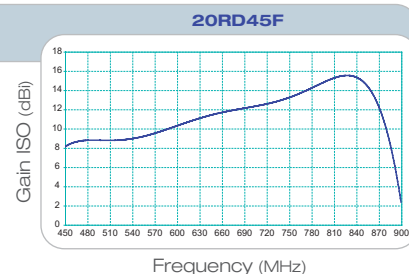
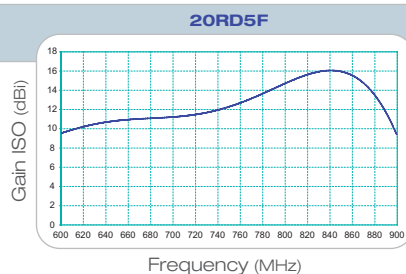
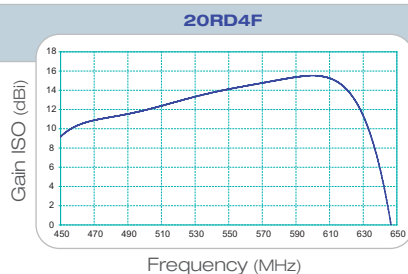


Easy to handle packaging

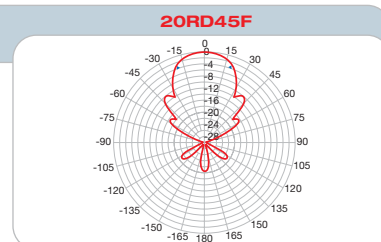
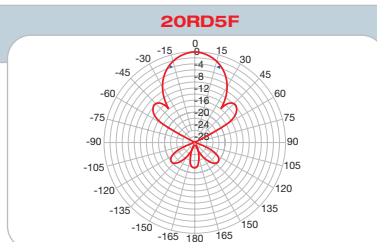
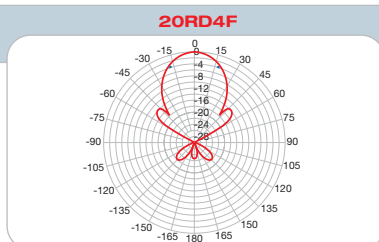


Item Code		20RD4F 219706		20RD5F 219707		20RD45F 219746	
Elements	No.	20		20		20	
Band		IV		V		UHF	
Channels		E21-E37		E38-E69		E21-E69	
Bandwidth	MHz	470-606		606-862		470-862	
Maximum gain	dBi	15.5		16		15.5	
Front-to-back ratio	dB	28		25		24	
Return loss	dB	-18		-18		-18	
Beamwidth (-3dB)	°	+/- 17		+/- 18		+/- 22	
Wind load at 120Km/h (720N/m²) Kg (N)		5.1 (50.03)		4.5 (44.14)		4.3 (42.18)	
Connector	type	F		F		F	
Impedance	Ohm	75		75		75	
Maximum mast Ø	mm	42		42		42	
Dimensions (L x W)	cm	235x36		210x36		193x36	
Packaging							
Quantity	pcs	20		20		20	
Unit weight	Kg	0.98		0.9		0.88	
Total weight	Kg	22.6		21		20.6	
Accessories							
Mast Ø	mm	42	60	42	60	42	60
Horizontal polarisation		included	PVF-60	included	PVF-60	included	PVF-60
Horizontal polarisation with tilt adj.		N/A					
Vertical polarisation		PV10					
Vertical polarisation with tilt adj.		PV10					
Auxiliary boom		included					

Gain



Pattern



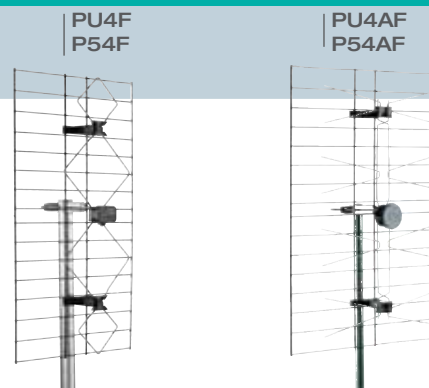
Aerials

UHF aerials

Panel aerials

New

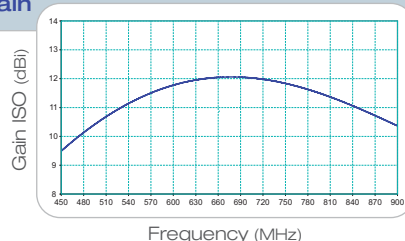
Panel aerials with high gain, steel reflector, F connector and aluminium radiant elements for PU4F and P54F and steel for PU4AF.



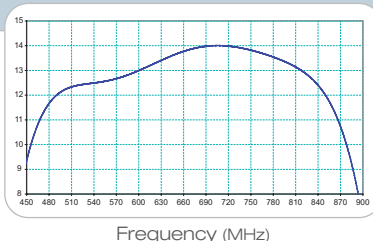
Item Code	PU4F 217424	PU4AF 217423	P54F 217425	P54AF 217426
Band	UHF	UHF	V	V
Channels	E21-E69	E21-E69	E38-E69	E38-E69
Bandwidth MHz	470-862	470-862	606-862	606-862
Maximum gain dBi	12	14	12	14
Front-to-back ratio dB	21	20	24	22
Return loss dB	-14	-14	-13	-15
Beamwidth (-3dB) °	+/-30	+/-24	+/-30	+/-24
Wind load at 120Km/h (720N/m²) Kg (N)	4.0 (39.24)	5.0 (49.5)	3.2 (31.39)	4.0 (39.24)
Impedance Ohm	75	75	75	75
Maximum mast Ø mm	60	60	60	60
Dimensions (H x L) cm	71x38.5	50x76.5	62x32	71x38.5
Packaging				
Quantity pcs	15	10	15	15
Unit weight Kg	0.94	1.3	0.8	1.1
Total weight Kg	14.8	13.3	12.4	16.9
Accessories				
Horizontal polarisation	included			
Horizontal polarisation with tilt adj.	N/A			
Vertical polarisation	PVP			
Vertical polarisation with tilt adj.	N/A			
Auxiliary boom	N/A			

Gain

PU4F

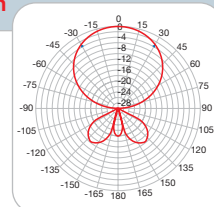


PU4AF

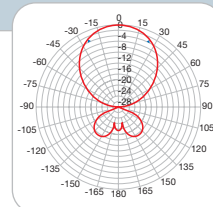


Pattern

PU4F

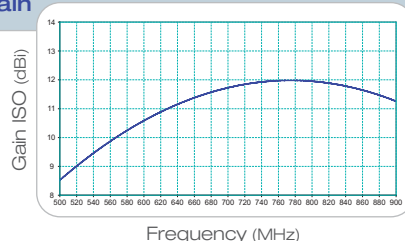


PU4AF

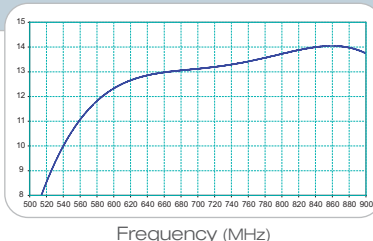


Gain

P54F

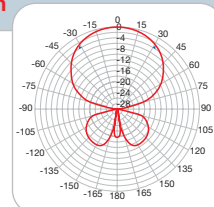


P54AF

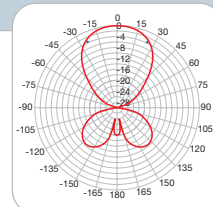


Pattern

P54F



P54AF



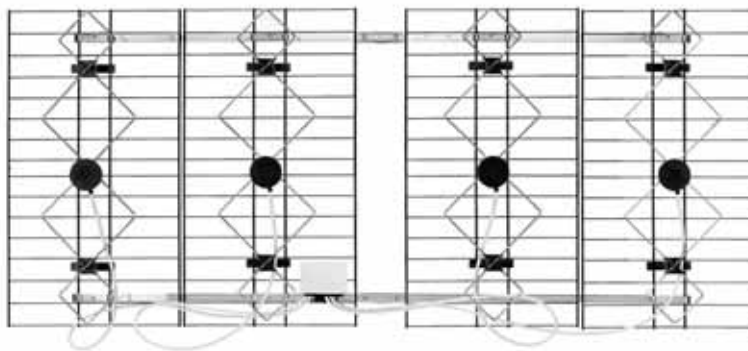
UHF aerials

Panel aerials

New

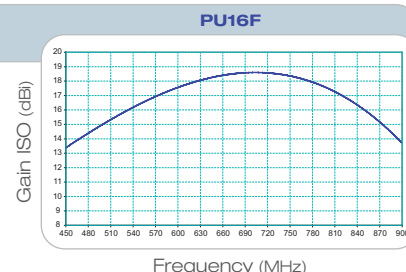
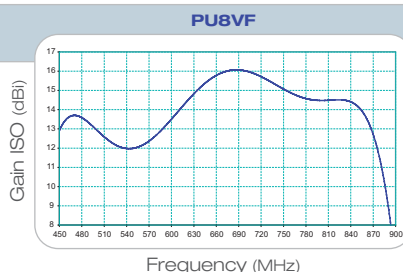
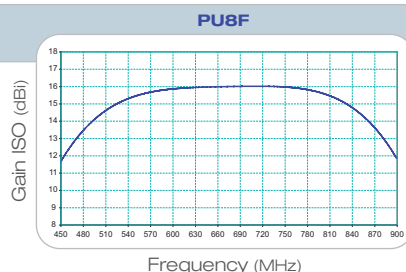
PU16F

Multiple panel aerials with F connector.
High gain and directivity of the multiple panel series are ideal for the reception of weak signals and signals from lots of different transmitters.

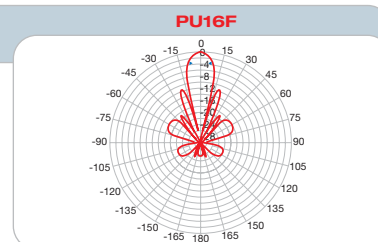
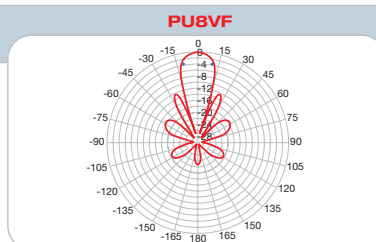
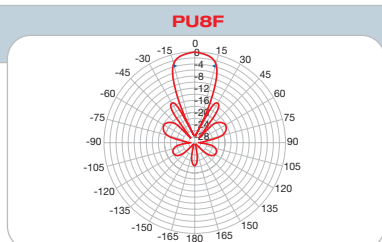


Item Code		PU8F 217428	PU8VF 217429	PU16F 217436
Band		UHF	UHF	UHF
Channels		E21-E69	E21-E69	E21-E69
Bandwidth	MHz	470-862	470-862	470-862
Maximum gain	dBi	16	16	18.5
Front-to-back ratio	dB	26	26	28
Return loss	dB	-10	-10	-10
Beamwidth (-3dB)	°	+/-15	+/-10	+/-10
Wind load at 120Km/h (720N/m²)	Kg(N)	13 (127.53)	13 (127.53)	26 (255.06)
Impedance	Ohm	75	75	75
Maximum mast Ø	mm	60	60	60
Dimensions (L x W)	cm	88.5x72	15.6x40	167x72
Packaging				
Quantity	pcs	1	1	1
Unit weight	Kg	2.9	3.02	5.28
Total weight	Kg	2.9	3.02	5.28
Accessories				
Horizontal polarisation			included	
Horizontal polarisation with tilt adj.			N/A	
Vertical polarisation			N/A	
Vertical polarisation with tilt adj.			N/A	
Auxiliary boom			N/A	

Gain



Pattern



Aerials

LOG-PERIODIC aerials

LP Series with F connector

Log-periodic pre-assembled aerials characterised by: easy connection due to the connector being located near the mast clamp. High level design of the dipole connection guarantees a highly reliable RF contact. Due to the specific mast clamp these aerials can be assembled in vertical or horizontal polarisation without additional accessories.

They have excellent mechanical clamp resistance of the boom elements, great mechanical resistance at the rotation around the mast and good electrical performances.

F connector is protected by a cap with bayonet clamp.



New

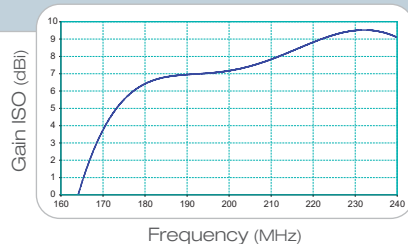
New

Item Code	LP345F 216170	LP345MF 216169	LP4F 216151	LP45NF 216150
Band	III+UHF	III+UHF	IV	UHF
Channels	E5-E12 / E21-E69	E5-E12 / E21-E69	E21-E37	E21-E69
Bandwidth MHz	174-230 / 470-862	174-230 / 470-862	470-606	470-862
Maximum gain dBi	9.5 / 11	8.5 / 9.5	10	11.5
Front-to-back ratio dB	24 / 32	22 / 30	32	36
Return loss dB	-16 / -16	-14 / -13	-18	-15
Beamwidth (-3dB) °	+/-34 +/-31	+/-34 +/-30	+/-25	+/-25
Wind load at 120Km/h (720N/m²) Kg (N)	3.9 (38.25)	2.7 (26.48)	2.8 (27.46)	3.0 (29.43)
Impedance Ohm	75	75	75	75
Maximum mast Ø mm	60	60	60	60
Dimensions (L x W) cm	115x86	77x86	65x33	115x86
Packaging				
Quantity pcs	20	20	60	20
Unit weight Kg	1.12	0.9	0.56	0.792
Total weight Kg	22.9	18.5	38	15.84
Accessories				
Horizontal polarisation	included			
Horizontal polarisation with tilt adj.	PV10			
Vertical polarisation	included			
Vertical polarisation with tilt adj.	PV10			
Auxiliary boom	N/A			

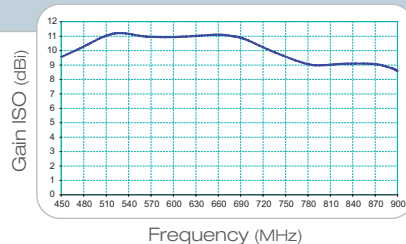
*For more information see www.dtg.org.uk web site.

Gain

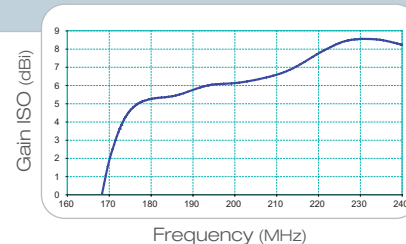
LP345F - Band III



LP345F - UHF Band

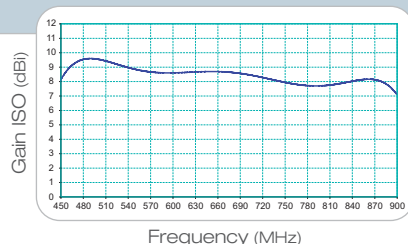


LP345MF - Band III

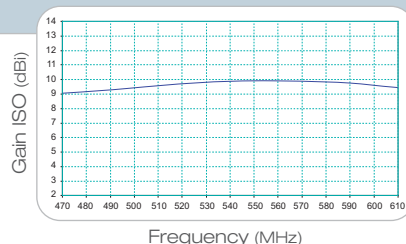


Gain

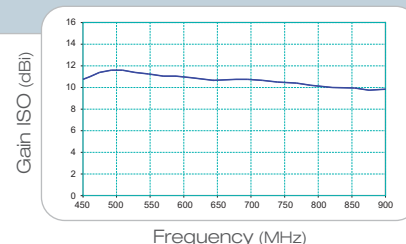
LP345MF - UHF Band



LP4F - Band IV

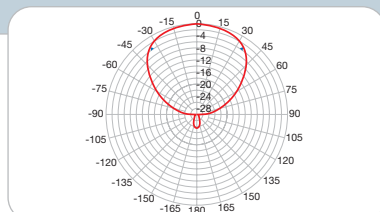


LP45NF - UHF Band

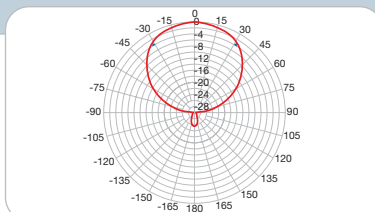


Pattern

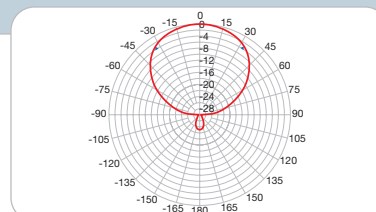
LP345F - Band III



LP345F - UHF Band

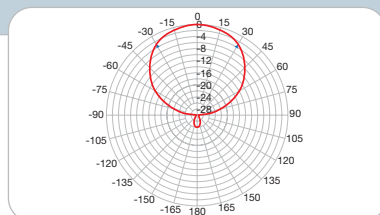


LP345MF - Band III

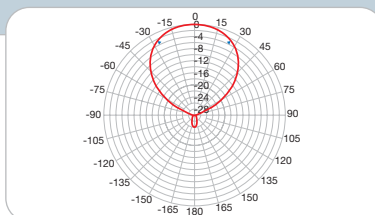


Pattern

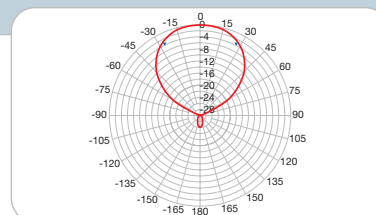
LP345MF - UHF Band



LP4F - Band IV



LP45NF - UHF Band



Aerials

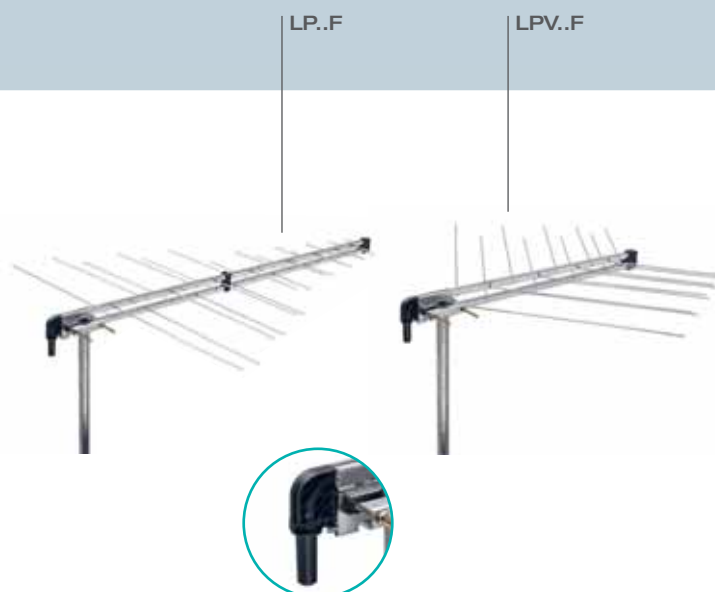
LOG-PERIODIC aerials

LP Series with F connector

Log-periodic pre-assembled aerials characterised by: easy connection due to the connector being located near the mast clamp. High level design of the dipole connection guarantees a highly reliable RF contact. Due to the specific mast clamp these aerials can be assembled in vertical or horizontal polarisation without additional accessories.

They have excellent mechanical clamp resistance of the boom elements, great mechanical resistance at the rotation around the mast and good electrical performances.

F connector is protected by a cap with bayonet clamp.

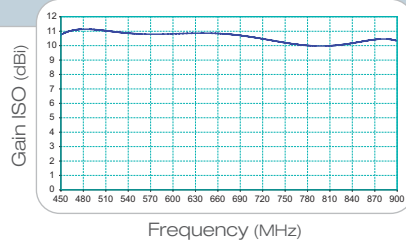


F connector detail

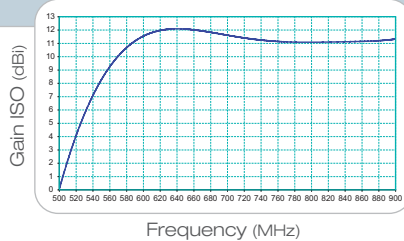
Item Code		LP45F 216149	LP5F 216108	LPV345F 217350	LP34F 216135
Band		UHF	V	III+UHF	III+IV
Channels		E21-E69	E38-E69	E5-E12 / E21-E37	E5-E12
Bandwidth	MHz	470-862	606-862	174-230 / 470-606	174-230
Maximum gain	dBi	11	12	9 / 11.5	9.5 / 11
Front-to-back ratio	dB	36	36	24 / 32	21 / 25
Return loss	dB	-15	-15	-18 / -13	-18 / -15
Beamwidth (-3dB)	°	+/-28	+/-25	+/-23 +/-21	+/-35 +/-28
Wind load at 120Km/h (720N/m²)	Kg (N)	3.0 (29.43)	3.0 (29.43)	2.8 (27.46)	2.8 (27.46)
Connector	type	F	F	F	F
Impedance	Ohm	75	75	75	75
Maximum mast Ø	mm	60	60	60	60
Dimensions (L x W)	cm	99x32	99x24	75x79	115x86
Packaging					
Quantity	pcs	20	20	20	20
Unit weight	Kg	0.792	0.767	0.85	1.125
Total weight	Kg	16.34	15.84	17.5	23
Accessories					
Horizontal polarisation		included			
Horizontal polarisation with tilt adj.		PV10			
Vertical polarisation		included			
Vertical polarisation with tilt adj.		PV10			
Auxiliary boom		N/A			

Gain

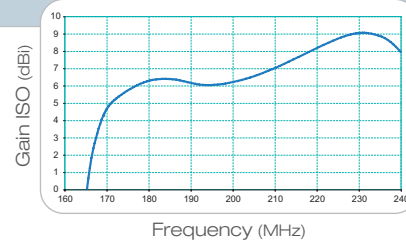
LP45F - UHF Band



LP5F - Band V

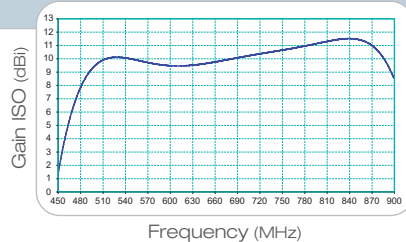


LPV345F - Band III

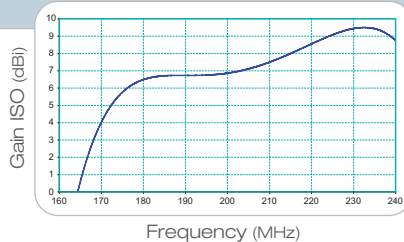


Gain

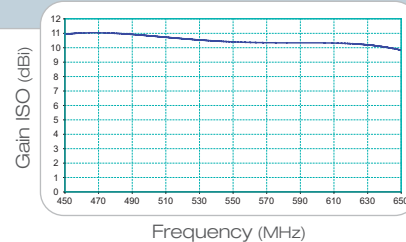
LPV345F - UHF Band



LP34F - Band III

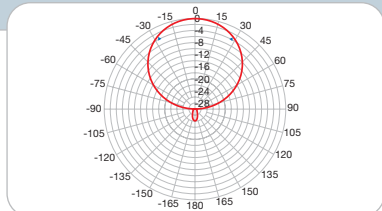


LP34F - Band IV

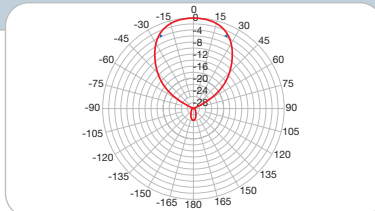


Pattern

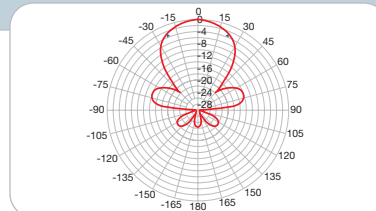
LP45F - UHF Band



LP5F - Band V

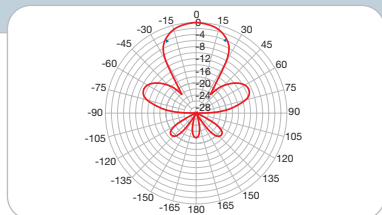


LPV345F - Band III

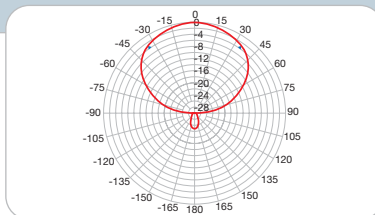


Pattern

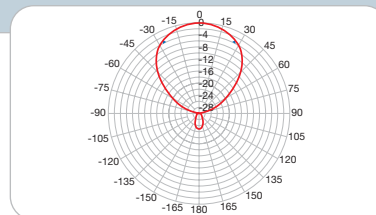
LPV345F - UHF Band



LP34F - Band III



LP34F - Band IV

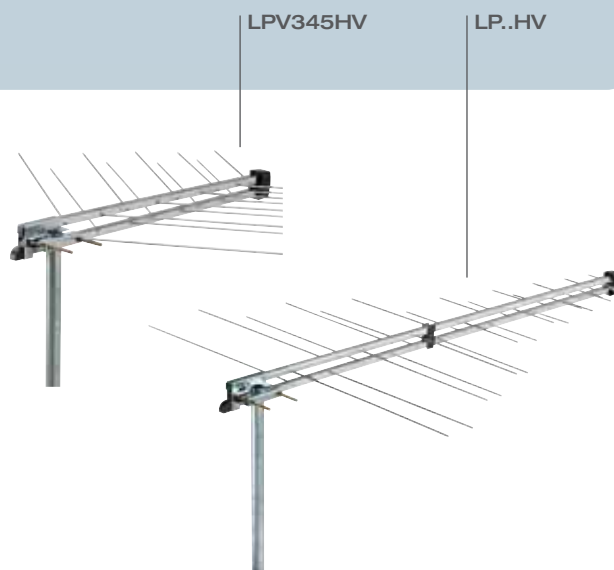


Aerials

LOG-PERIODIC aerials

LP Series

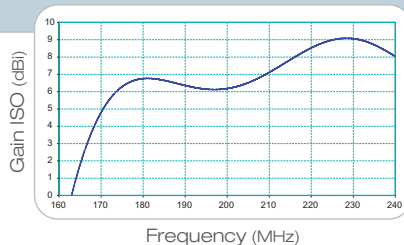
Pre-assembled aerials that are easy to install and characterised by a highly reliable RF connection. They are available in various models in order to fulfil most installations.



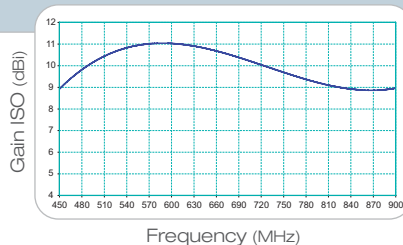
Item Code		LP345HV 216168	LP345MHV 216167	LP45HV 216147	LP5HV 216107	LPV345HV 217349	LP34HV 216134
Band		III+UHF	III+UHF	UHF	V	III+UHF	III + IV
Channels		E5-E12 E21-E69	E5-E12 E21-E69	E21-E69	E38-E69	E5-E12 E21-E69	E5-E12 E21-E37
Bandwidth	MHz	174-230 470-862	174-230 470-862	470-862	606-862	174-230 470-862	174-230 470-606
Maximum gain	dBi	9 / 11	8.5 / 9.5	10	11	9 / 11.5	9 / 10.5
Front-to-back ratio	dB	24 / 32	22 / 30	36	36	24 / 32	21 / 25
Return loss	dB	-13/-13	-14 /-12	-15	-15	-18 / -18	-18 / -13
Beamwidth (-3dB)	°	+/-34 +/-31	+/-34 +/-30	+/-28	+/-25	+/-23 +/-21	+/-35 +/-28
Wind load at 120Km/h (720N/m²)	Kg (N)	3.9(38.25)	2.7(26.48)	3.0(29.43)	3.0(29.43)	3.9(38.25)	2.8(27.46)
Impedance	Ohm	75	75	75	75	75	75
Maximum mast Ø	mm	60	60	60	60	60	60
Dimensions (L x W)	cm	111x86	72x86	94x32	94x24	111x86	111x86
Packaging							
Quantity	pcs	20	20	20	20	20	20
Unit weight	Kg	1.04	0.83	0.78	0.74	0.8	1.04
Total weight	Kg	21.3	17.1	16.1	15.3	16.5	21.3
Accessories							
Horizontal polarisation				included			
Horizontal polarisation with tilt adj.				PV10			
Vertical polarisation				included			
Vertical polarisation with tilt adj.				PV10			
Auxiliary boom				N/A			

Gain

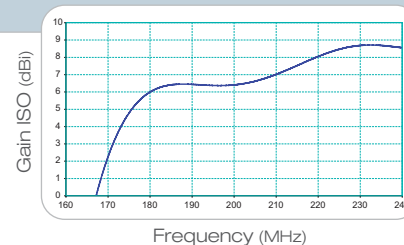
LP345HV - Band III



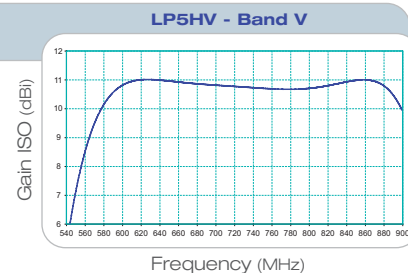
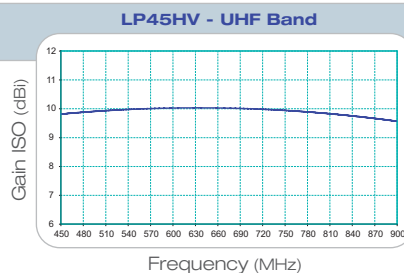
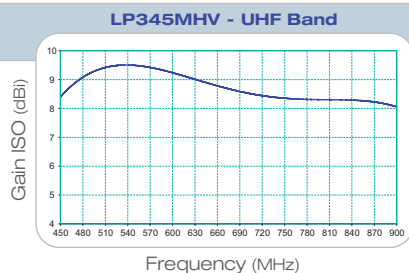
LP345HV - UHF Band



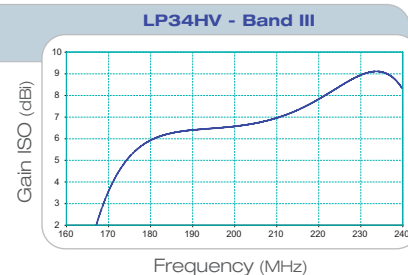
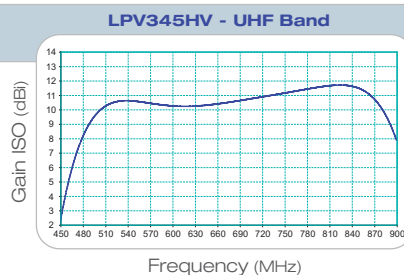
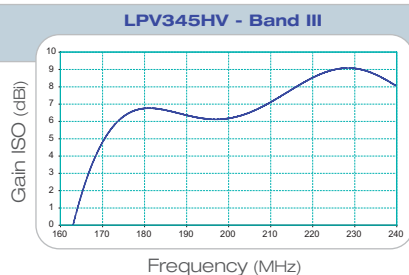
LP345MHV - Band III



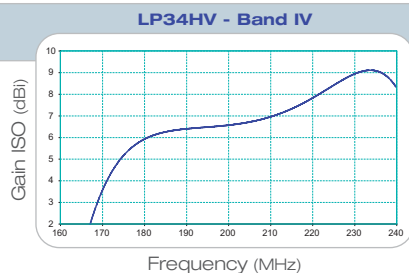
Gain



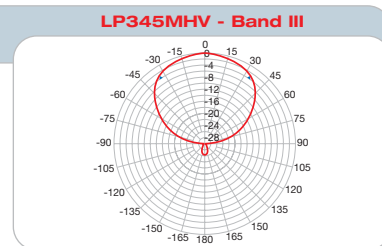
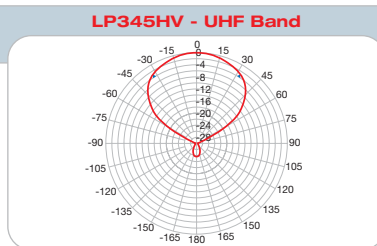
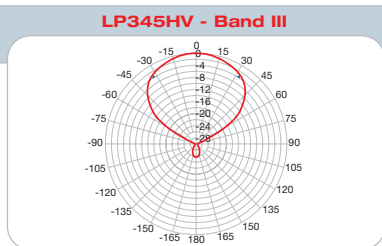
Gain



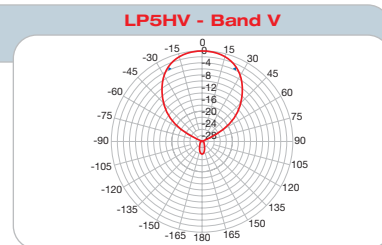
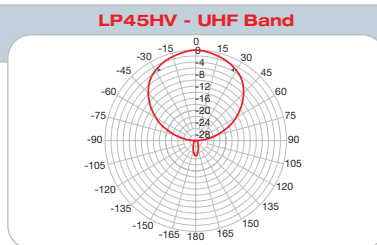
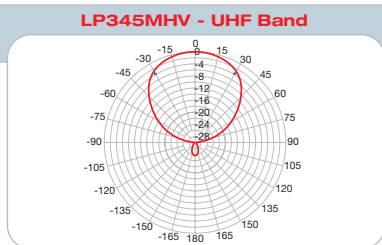
Gain



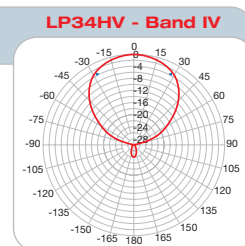
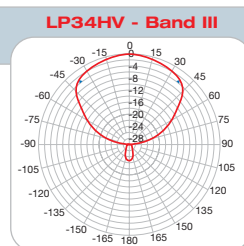
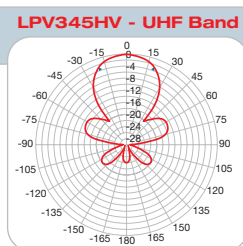
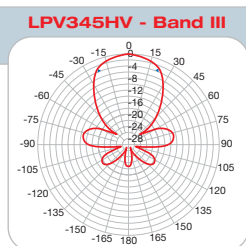
Pattern



Pattern



Pattern



Aerials

Indoor aerials

Amplified indoor aerial

DOMUS

All the aerials from the Fracarro range are capable of receiving analogue and digital terrestrial signals (ready for DTT).

Power supply: 230Vac - 50Hz or 12Vdc

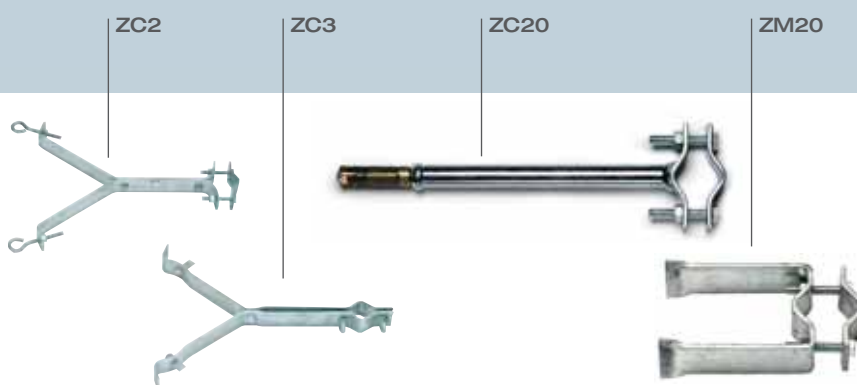


Item	Code	VHF Gain dB	UHF Gain dB
DOMUS	289560	20	32

Aerial accessories

Mast brackets

Treated galvanised steel.
For masts: TN15, TN25, TN32, TK4
and TK5.
See page 48



Item	Code	Description	Packaging pcs
ZC2	293302	Reinforced - Chimney mount - for Ø 25-48mm - overhang 16.5cm	25
ZC3	293330	Chimney mount - for Ø 25-35mm - overhang 17cm	40
ZC20	293320	Wall mount - for Ø 25-48mm - length 20cm	50
ZM20	289541	Wall bracket for elbow-shaped mast	20
AN1	293301	Corner plate with grooves for iron wire lashings	100
BA6	293400	Base for telescopic masts suitable for ridged roofs - for Ø 25-48mm.	20

Aerial accessories

Auxiliary booms

CA1

CA1 and CA2 are designed to be used with different aerials.
Auxiliary boom increases the mechanical strength of these aerials.



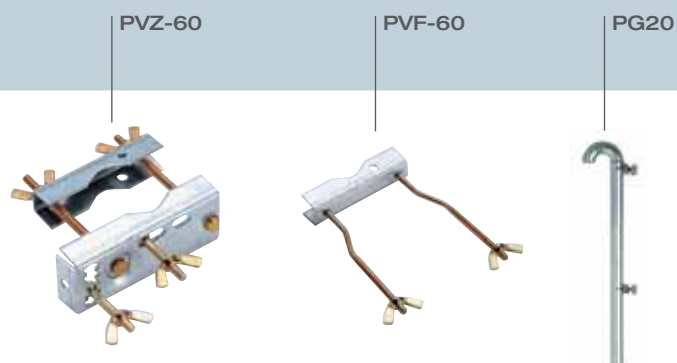
Item	Code	Wind load at 120Km/h Kg	Packaging pcs	Kg
CA1	219600	0.8	20	6.2
CA2	219602	0.8	20	6.2

Check the technical data of each antenna for the required auxiliary boom.

Aerial accessories

Aerial fittings

Treated galvanised steel.

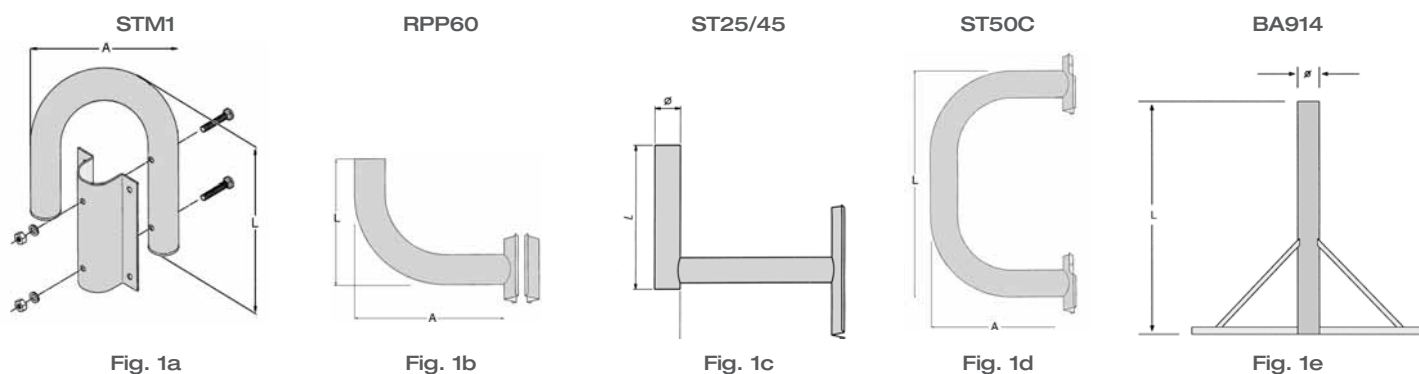


Item	Code	Description	Length mm	Packaging pcs
PV10	210011	For vertical polarisation. Max. mast Ø 60mm	280	30
PV20	210022	For vertical polarisation of two coupled band III or IV aerials	950	20
For maximum mast Ø 60mm				
PVZ-60	210065	For zenithal orientation		25
PVF-60	210064	Fixed horizontal polarisation		25
PVP	210002	For vertical polarisation panel aerials		20

Item	Code	Description	Length m	Packaging pcs
PG20	289540	Elbow shaped mast for roof Diameter 42x3mm - Tube grip: diameter 25-45mm	2	1

Aerial accessories

Mechanical accessories for satellite dishes



Item	Code	Description	Fig.	Ø mm	L cm	H cm	Mast bracket mm	Packaging pcs	Weight Kg
STM1	281801	Wall mast	1a	40	31	25	-	1	1.5
ST25M	289280	Wall mast	1c	40	23	25	30-80*	1	1.73
ST45M	289281	Wall mast	1c	40	23	45	30-80*	1	2.26
ST50C	289173	Wall chimney bracket	1d	50	42	25	-	10	2.2
RPP60	289182	Dish mount	1b	40	25	25	30-60	20	1.25
BA914	280674	Base for dish mount	1e	76	100	-	-	1	13
STF	289282	Mast mounting kit for ST25M and ST45M		30-80				1	0.56
STK	289174	ST50C accessories chimney						1	0.4

* Use STF kit for mast installation.

Aerials - SAT dishes

Aerial accessories

Self-supporting masts

Dip treated galvanised steel.

TN..



TK..



Item	Code	Description	Height m	Weight Kg	Ø mm	Wind speed Km/h	Wind load Kgm
Single section model (packaging 10 pcs)							
TN15	293115	Can support one 10 element UHF aerial + one 4 element VHF b.3 aerial.	1.5*	0.9	25x1	100	3.1
TN25	293125	Can support one 10 element UHF aerial + one 2 element VHF b.1 or one 6 element VHF b.3 aerial.	2.5	1.5	25x1	110	5.1
TN32	293132	Can support any type of VHF aerial + one UHF aerial.	2.5	3.8	32x2	-	22.0

Item	Code	Description	Height m	Weight Kg	Two sections upper Ø lower Ø	Wind load Kgm
Single section model (packaging 5 pcs)						
TK4	293140	Can support one 10 element UHF aerial + one 2 element VHF b.1 or one 6 element VHF b.3. - with tapered joint	4	4.2	25x1 32x2	15.4
TK5	293150	Can support one 10 element UHF aerial + one 4 element VHF b.3. with tapered joint	5	5.2	25x1 32x2	8.8

* Two TN15 are mounted together to obtain a height of 3 metres: all performances refer to this height.

Aerial accessories

Guyed extendable masts

Dip treated galvanised steel complete with brace attachment rings and section end markers.

PT..



Item	Code	Description	Wind load Kgm
PT4	293104	Height 3.80m - 2x2m - Weight 3.85Kg - Ø 25x1.5 - 30x1.5mm - Packaging 5 pcs	7.2**
PT6	293106	Height 5.60m - 3x2m - Weight 6.3Kg - Ø 25x1.5 - 30x1.5 - 35x1.5mm - Packaging 3 pcs	7.2**
PT8	293108	Height 7.40m - 4x2m - Weight 9.2Kg - Ø 25x1.5 - 30x1.5 - 35x1.5 - 40x1.5mm - Packaging 2 pcs	7.2**

** Loading at the highest fixing point.

SAT dishes

PENTA Series

Penta
White

Penta
Grey

Penta
Brick red



Back of Penta85



Dual feed support



Item		PENTA DIGIT		PENTA85	
Frequency range	GHz	10.7-12.75		10.7-12.75	
Dimensions Ø	mm	624x624		775x775	
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	
Beamwidth (-3dB)	°	3		2.2	
LNB clamp	mm	23-28; 40; 60		23-28; 40; 60	
Elevation angle		maximum tilt 60°		maximum tilt 60°	
Mast clamp	mm	35-80		35-80	
Material		aluminium/steel		aluminium/steel	
Bracket material		steel - aluminium/zinc treatment		steel - aluminium/zinc treatment	
Wind load at 150Km/h	Kg	53		81	

INDIVIDUAL PACKAGING

Equivalent Ø cm*	Model	Item	Code	Material	Colours	Dual feed support		Mounting kit	Packaging
						6°	4°		pcs
68	DIGIT	DIGIT-A	211104	Steel	white	DFPDIGIT (211003)	LNB dual feed 9+13	Included	1
		DIGIT-GA	211105		grey				
		DIGIT-RA	211106		brick red				
		DIGIT	211101	Aluminium	white				
		DIGIT-G	211102		grey				
		DIGIT-R	211103		brick red				
85	PENTA	PENTA85-A	211205	Steel	white	DFP85R (211002)	MB3UZ (289777)	Included	1
		PENTA85G-A	211206		grey				
		PENTA85R-A	211207		brick red				
		PENTA85	211201	Aluminium	white	DFP85 (211001)			
		PENTA85G	211203		grey				
		PENTA85R	211204		brick red				

MULTIPLE PACKAGING

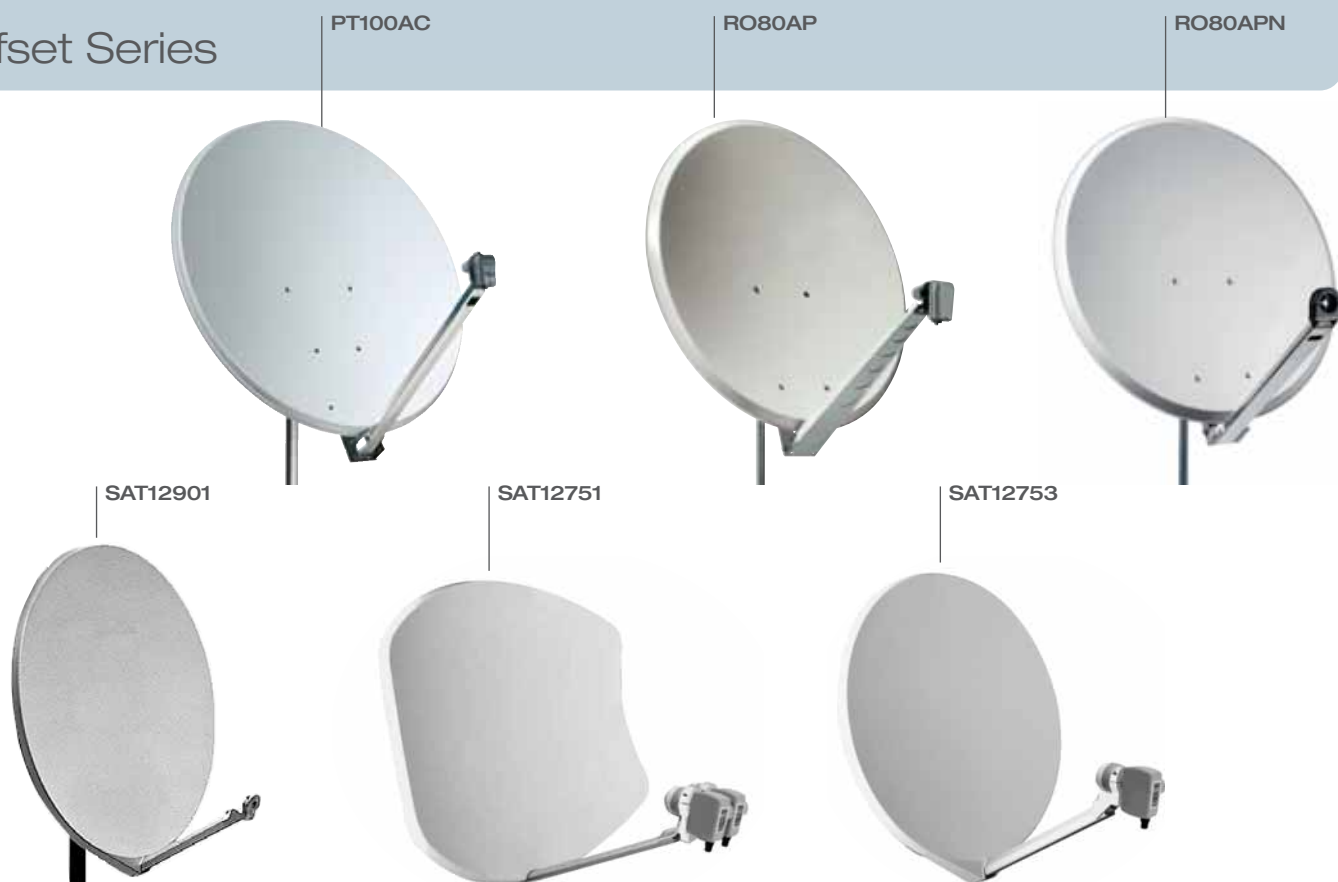
Equivalent Ø cm*	Model	Item	Code	Material	Colours	Dual feed support		Mounting kit	Packaging
						6°	4°		pcs
68	DIGIT	DGTX10-A	211112	Steel	white	DFPDIGIT (211003)	LNB dual feed 9+13	ZNC DGTX10 (211110)	10
		DGTX10-GA	211116		grey				
		DGTX10-RA	211115		brick red				
		DGTX10	211111	Aluminium	white				
85	PENTA	P85X10-A	211210	Steel	white	DFP85R (211002)	MB3UZ (289777)	ZNC85X10 (211208)	
		P85GX10-A	211217		grey				
		P85RX10-A	211216		brick red				
		P85X10	211209	Aluminium	white	DFP85 (211001)			
		P85GX10-B	211212		grey				
		P85RX10-B	211211		brick red				

* Diameter equivalent to that of a traditional offset dish.

SAT dishes

SAT dishes

Offset Series



Diameter cm	Item	External dimensions mm	Offset angle °	Focal length mm	F/D	Elevation range °	Wind load at 120Km/h Kg	Efficiency %	Gain at 10.7GHz dB	Gain at 11.7GHz dB	Gain at 12.7GHz dB
60	SAT11601	632x583	24	380	0.66	4 / 55	40	>69	34.8	35	36.4
	RO60AX10	632x583	24	383	0.66	4 / 55	40	>69	34.4	35	36.4
75	SAT12751*	750x640	23	525	0.7	0 / 55	51	>70	35.6	36.5	36.9
	SAT12753	830x750	23	487	0.65	15 / 48	57	>70	37.5	37.8	38
80	P80APN	768x846	23	521	0.66	0 / 80	55	>75	36.7	37.7	38.3
	RO80APX50	768x846	23	521	0.66	0 / 80	55	>75	36.7	37.7	38.3
	RO80ACCPX50GN	845x779	23	521	0.66	17 / 58	55.2	>75	37.0	37.8	38.5
85	RO85APX5G	910x837	21	558	0.66	1 / 60	70	>70	37.4	38.2	38.9
90	SAT12901	1030x900	21	450	0.5	5 / 55	92	>70	38.1	38.8	39.5
100	PT100C	970x1040	21	648	0.66	0 / 80	91	>70	39.4	39.9	40.2
	PT100AC	970x1040	21	648	0.66	0 / 80	91	>70	39.4	39.9	40.2
	RO100CRX6	970x1040	21	648	0.66	0 / 80	91	>70	39.4	39.9	40.2
	RO100ACX6	970x 1040	21	648	0.66	0 / 80	91	>70	39.4	39.9	40.2
	RO100APX5G	1032x952	23	648	0.66	0 / 90	91	>72	38.6	39.4	40.1
120	RO120N	1164x1240	23	778	0.66	20 / 50	109.2	>70	41.3	42	42.8
125	RO125APX3G	1345x1240	23	842	0.66	0 / 90	148	>74	41.0	41.8	42.5
150	RO150	1614x1488	21.3	972	0.66	20 / 90	235	>70	43.3	44.1	44.9

* Bi-SAT 6°/9°

INDIVIDUAL PACKAGING

Equivalent Ø cm	Item	Code	Material	Colour	Dual feed support		Mounting kit	Packaging pcs
					6°	4°		
75	SAT12751	SAT12751	Composit	White	-	-	Included	1
	SAT12753	SAT12753	Composit	White	-			
80	P80APN*	211316	Steel	White	DFAN (289487)	MB3UZ (289777)	Included	
90	SAT12901	SAT12901	Composit	White	-	-	Included	
100	PT100C	289291	Aluminium	White	DFO100C (289294)	-	Included	
	PT100AC	289293	Steel	White	DFO100C (289294)	-	Included	
120	RO120N	289197	Aluminium	White	DFO120N (289199)	-	AZO120N-PP (289949)	
150	RO150	289139	Aluminium	White	DFO120N (289199)	-	AZO150 (289140)	

MULTIPLE PACKAGING

Equivalent Ø	Item	Code	Material	Colour	Dual feed support		Mounting kit	Packaging
cm					6°	4°		pcs
60	RO60AX10	280610	Steel	White	-	-	ZNO60AC (289279)	10
	SAT11601X500	289428	Steel	White			ZNO60AV (289430)	500
80	RO80APX50*	289479	Steel	White	DFAN (289487)	-	ZNO80AP (289271)	50
	RO80APX200*	289283					ZNO80APN (289480)	200
	RO80ACCPX 50GN*	289834	Steel	White	DFAN (289487)	DFP 9-13 (289513)	ZNO80ACN (289825)	50
	RO80ACCPX 200GN*	289826	Steel	White				200
85	RO85APX5G	289828	Aluminium	White	DFO100C (289294)	-	ZNO85PX5G (289829)	5
100	RO100APX5G	289830	Aluminium	White	DFAN (289487)	-	ZNO100PX5 (289831)	5
	RO100CRX6	289287	Aluminium	Red	DFO100C (289294)		ZNO100C (289285)	6
	RO100ACX6	289299	Steel	Red				6
125	RO125APX3G	289832	Aluminium	Red	-	-	ZNO125PX3 (289833)	3

Wind load refers to the diameter of the reflector with 120Km/h wind speed (Kg)

Ø (cm) dish	60	65	75	80	85	90	100	120	150
Wind load @ 120Km/h (Kg)	34	42	47	55.2	70	80	91	145	235

* SKY approved

SAT dishes

Kit system

Digital Kits

Digital Kit

Offset Kit

Penta Kit



Item	Code	Description	Item	Code	Description
P80RFK	211309	• White parabolic 80cm offset dish • Universal LNB • Digital free to air satellite receiver	DIGIT-AK	211108	• DIGIT-A dish • Universal LNB
P80RFK-DF	211310	• White parabolic 80cm offset dish • Universal 6° monobloc LNB • Digital free to air satellite receiver	DIGITK	211107	• DIGIT dish • Universal LNB
P80RCIK	211313	• White parabolic 80cm offset dish • Universal LNB • Common Interface digital satellite receiver	P85AK	211220	• PENTA85-A dish • Universal LNB
P80APK	211308	• RO80AP dish • Universal LNB	P85K	211219	• PENTA85 dish • Universal LNB
			SAT21601	211311	• White parabolic 60cm offset dish • Universal LNB

Kit system

Kit Sat

9+13



via
eutelsat

www.doppiofeed.com



Offset Kit



Offset Kit
with STB



Penta Kit



Penta Digit Kit



Packaging

Item	Code	Description	Item	Code	Description
Kit 9/13 RO80	211319	• Offest 80cm dish • 4° monobloc LNB	Kit 9/13 80 CI	211318	• Offest 80cm dish • 4° monobloc LNB • Common Interface digital satellite receiver
Kit 9/13 80 FTA	211317	• Offest 80cm dish • 4° monobloc LNB • FTA SAT receiver	Kit 9/13 P85	211320	• PENTA85 dish • 4° monobloc LNB
			Kit 9/13 DIGIT	211321	• DIGIT dish • 4° monobloc LNB

LNB'S

Universal LNB'S

The Fracarro range of LNB'S guarantee excellent signal quality and can be used for all requirements, from a simple individual installation to the most complex DTH installation and for multipoint distribution. Low phase noise and high reliability guarantee a maximum quality reception of all High Definition (HD) programs.



UNIVERSAL SINGLE LNB

Item	Code	Number of outputs	Gain dB	Power consumption mA
LSU05*	289504	1	55	70

UNIVERSAL TWIN LNB

Item	Code	Number of outputs	Gain dB	Power consumption mA
CDPUTZN	289822	2	55	200

UNIVERSAL QUAD LNB

Item	Code	Number of outputs	Gain dB	Power consumption mA
CDPU4ZN*	289823	4	55	200

UNIVERSAL OCTO LNB

Item	Code	Number of outputs	Gain dB	Power consumption mA
CDPU8ZN	289824	8	55	250

UNIVERSAL MONOBLOC LNB'S

Item	Code	Number of outputs	Gain dB	Satellite orbital distance	Power consumption mA
MBUZ	289129	1	55	6°	120
MB3UZ	289777	1	55	4°	120
MBUTZ	289307	2	55	6	200
MBU4Z	289306	4	55	6	220

UNIVERSAL QUATTRO LNB

Item	Code	Number of outputs	Gain dB	Power consumption mA
CHVU4ZN*	289821	4	55	200

* SKY approved

SAT dishes

LNB'S

SCR LNB'S

SCR41LZN

This universal LNB allows up to 4 decoders to be connected simultaneously (it can receive all satellite channels independently) using a simple splitter, enhancing the performance of the existing TV installation. Exclusive technical solutions ensure all 4 outlets work constantly.

- Low phase noise
- Low consumption
- 4 SCR outputs + 1 legacy (universal) output
- High frequency stability



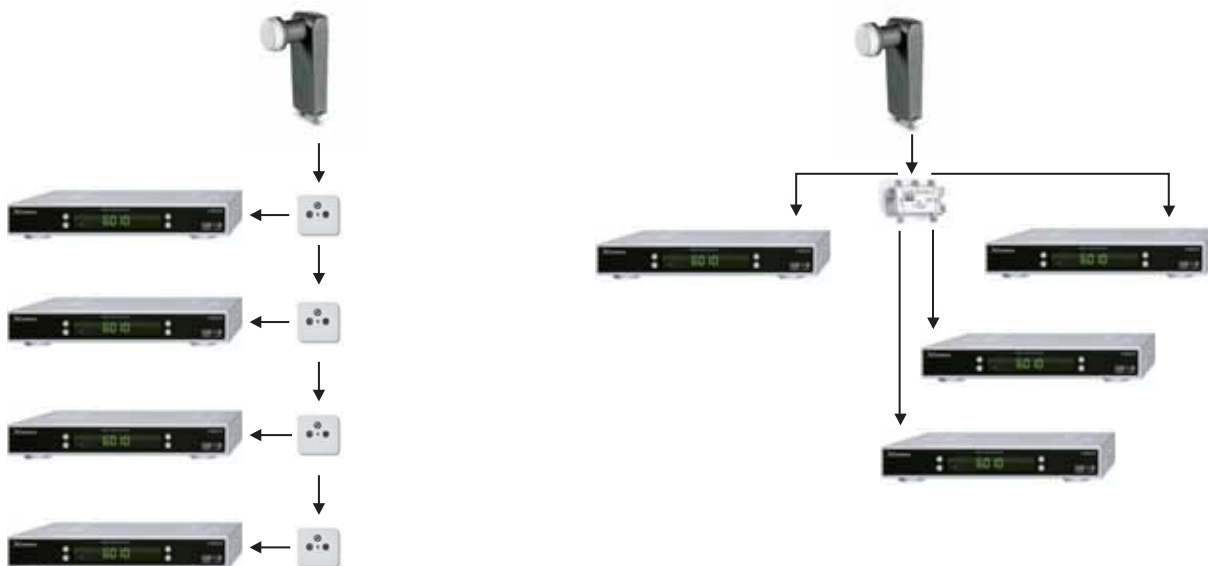
Item Code	SCR41LZN 289843	SCR output	LEGACY output
No. of users		4	1
Input frequency	GHz	10.7 to 11.7 - 11.7 to 12.75	10.7 to 11.7 - 11.7 to 12.75
Gain	dB	60-72	50-62
Consumption	mA	300 max	200 max
Output frequency	MHz	1210 - 1420 - 1680 - 2040	950-2150
Band and polarity selection		DiSEqC-ST command	Vertical 11.5 to 14.2V - Horizontal 15.8 to 19V Horizontal low 0KHz - Vertical low 22KHz±4KHz

Installation example

New SCR LNBs allow up to 4 satellite receivers to be connected to the same dish by using a single cable. SCR LNBs have a double output:

- "Legacy" behaves like a universal one output LNB,
- "Unicable" connects the cable to the 4 satellite receivers.

By simultaneously using the 2 outputs, it is possible to connect up to 5 satellite receivers.



DiSEqC switches

Line switches with DiSEqC control on coaxial cable, controlled by satellite receivers with built-in DiSEqC tone generator.



Item	Code	Band MHz	Inputs no.	Outputs no.	Insertion loss dB	DiSEqC	Isolation dB	Packaging pcs
PAS7212101*	PAS7212101	950-2300	2	1	3	1.0	30	1
DSQ21J*	289588	950-2300	2	1	4	2.0	35	1
DSQ41J*	289589	950-2300	4	1	4	2.0	35	1

* Outdoor plastic box included.

Line amplifiers

To amplify satellite signals to power a small system or preamplify satellite signals to power 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.



Item	Code	Band MHz	Gain dB	Noise dB	Op. voltage V	Consump. mA	Impedance Ohm	Connectors	Output dBμV	Packaging pcs	Dimensions mm
AS10	289253	950-2150	9-12	<7	13-18	25@13V	75	F female	110	10	Ø 17 - l=70
AMP6600	AMP6600	950-2150	12-17	8	13-18	40@13V	75	F female	105	1	1x1.5x70
AS20**	284013	950-2150	17-20	10	13-20	80@13V	75	F female	120	1	71.5x51x21

** Mast housing (product CNJS) available for external use.

Electronic mast and indoor equipment

Fracarro offers a wide range of filters, combiners and amplifiers that provides excellent performance and functionality.

They are a result of exclusive design projects specifically to create easy to install and use systems.



Mast equipment

Combiners - Attenuators

▶ Mast combiners with F connectors	58
▶ Mast combiners with saddle and clamp connections	59
▶ Channel mast combiners	59
▶ Indoor combiner with F connectors	60
▶ Indoor combiners	60
▶ Channel attenuators	60

Mast amplifiers

▶ ES.. Series	61
▶ JS2RT	61
▶ MAP 12 Volt Series	62
▶ MAP 24 Volt Series	63
▶ MAP INTERSTAGE 12-14 Volt Series	63
▶ MAK Series	64

Power supplies

▶ AM.. Series	65
▶ PSU.. Series	65

Indoor electronic equipment

Indoor amplifiers

▶ AFI Series	66
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Indoor modulators

▶ MOD90-MOD90R	67
▶ AVM..N Series	67

Multiband amplifiers and equaliser filters

Multiband amplifiers

▶ MBJ Series	68
▶ MBX Series	69
▶ AMP9202W-AMP9202U	70

Headend amplifier

▶ AMP9764	70
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Equaliser filters

	71
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Programmable equaliser filters

▶ FIL.. Series	72
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Programmable headends

▶ SIG80.. Series	73
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Mast equipment

Combiners - Attenuators

Mast combiners with F connectors

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

- Totally shielded metal frame

MX..



Dimensions
74x36x58mm

Item	Code	Inp. 1	Inp. 2	Inp. 3	Output 1	Output 2	Insertion loss dB			Return loss dB	Mul. pack. Pcs.
							Inp. 1	Inp. 2	Inp. 3		
MX201	223201	VHF + DC	UHF	-	Mix + DC	-	0.2	0.2	-	20	6
MX202	223202	VHF + UHF + DC	VHF + UHF (with or without DC)	-	Mix + DC	-	4	4	-	10	6
MX203	223203	VHF + DC	UHF	-	Mix + DC	Mix + DC	3.5	3.5	-	10	6
MX204	223204	Band V + DC	Band V + DC	-	Mix + DC	-	0.2	0.2	-	20	6
MX205	223217	VHF + UHF	Sat + DC	-	Mix + DC	-	0.5	1	-	15	6
MX206	223218	B. I + FM	B. III	UHF + DC	Mix + DC	-	0.5	0.5	1	15	6
MX208	223220	VHF (DC selectable via Jumper)	UHF (DC selectable via Jumper)	-	Mix + DC	-	0.5	1	-	15	6

Combiners - Attenuators

Mast combiners with saddle and clamp connections

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



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

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

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

Combiners - Attenuators

Channel mast combiners

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



Item	Code	Operating freq. MHz	Insertable channels	CHANNELS INPUT		TV INPUT		Pack. Pcs.
				Insertion loss dB	Non-adjacent channels selectivity dB	Insertion loss dB	Channel traps attenuation dB	
MEF1/..⁽¹⁾	225882	470-862	1	4	20	5	15	1
MEF2/..⁽¹⁾	225992	470-862	2	4	20	5	15	1
MEF3/..⁽¹⁾	225993	470-862	3	4	20	5	15	1

⁽¹⁾ Complete the code by inserting the channel reference.

Mast equipment

Combiners - Attenuators

Indoor combiner with F connectors

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

- Totally shielded metal frame

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

Combiners - Attenuators

Indoor combiners

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

- High isolation between inputs

MXST



Dimensions
48x50x20mm

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

Combiners - Attenuators

Channel attenuators

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

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

FUS45



Dimensions
85x115x64mm

SF..



Dimensions
28x78x20mm

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

Item	Code	Two cells - For outdoor installations
FUS45	226745	Stops one or two UHF band channels. Attenuation from 25 to 35dB per section. For mast Ø 60mm max. Waterproof housing. Screw terminal connectors.

Item	Code	Five cells - For indoor installations
FESU	257900	May be tuned onto any UHF channel. 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. Female coaxial connectors Ø 9.5mm. Can be used outside if placed inside a CN1 housing.

Mast amplifiers

ES.. Series

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

ES..



Dimensions
74x36x58mm

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

Mast amplifiers

JS2RT

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

JS2RT



Dimensions
74x35x89mm

- Totally shielded metal frame with F connectors

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

Accessories

IZ2

Item	Code	Description
IZ2	290018	Impedance for D.C. transfer between two terminals on multi-band amplifiers. Packaging 100 pcs.

Mast equipment

Mast amplifiers

MAP 12 Volt Series

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

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



Item	Code	Inputs	Input band	Gain dB	Output level dBμV	Gain adj. dB	Noise figure dB	Power consump. mA@12VDC	Mul. pack. Pcs.
MAP108	223112	1	I+III	25	108	15	5	65	10
MAP107	223110	1	IV	24	108	15	5	60	10
MAP104	223111	1	V	25	108	15	5	60	10
MAP105	223120	1	UHF	33	108	15	6	85	10
MAP106⁽⁴⁾	223122	1	VHF+UHF	34	108	15	5	75	10
MAP109⁽²⁾	223160	1	VHF+UHF, V OUT	17	5 OUT x 92	15	4	65	10
MAP210	223124	2	VHF+IV, V	-2, 11	105	-, -	-, 5	40	10
MAP210/S⁽¹⁾	223125	2	VHF+IV, V	-2, 11	105	-, -	-, 5	40	10
MAP210/..⁽⁵⁾	223126	2	VHF+IV, V	-2, 11	105	-, -	-, 5	40	10
MAP204⁽⁴⁾	223148	2	VHF, UHF	26, 24	108	15, 15	5, 5	65	10
MAP207	223147	2	III+UHF, UHF	21, 21	108	15, 15	8, 8	65	10
MAP208	223161	2	III+UHF	34, 35	108	15, 15	4, 3	80	10
MAP206⁽⁴⁾	223150	2	VHF, UHF	35, 36	108	15, 15	5, 5	75	10
MAP303	223130	3	VHF, IV, V	-2, -2, 12	105	-, -, -	-, -, 5	40	10
MAP303/S⁽¹⁾	223131	3	VHF, IV, V	-2, -2, 12	105	-, -, -	-, -, 5	40	10
MAP303/..⁽⁵⁾	223132	3	VHF, IV, V	-2, -2, 12	105	-, -, -	-, -, 5	40	10
MAP310⁽³⁾	223145	3	FM, DAB, UHF	-1, 14, 14	108	-, -, -	4, 4	35	10
MAP311⁽³⁾	223146	3	FM, DAB, UHF	-1, 25, 24	105	-, 15, 15	4, 5	60	10
MAP312⁽⁴⁾	223142	3	VHF, IV, V	25, 24, 25	108	15, 15, 15	5, 6, 6	65	10
MAP312/..⁽⁴⁾⁽⁵⁾	223159	3	VHF, IV, V	25, 24, 25	108	15, 15, 15	5, 6, 6	65	10
MAP313⁽⁴⁾	223152	3	VHF, UHF, UHF	24, 30, 30	108	15, 15, 15	5, 8, 8	80	10
MAP315⁽⁴⁾	223163	3	VHF, UHF, UHF	34, 40, 40	108	15, 15, 15	5, 8, 8	95	10
MAP400⁽⁴⁾	223141	4	VHF, VHF, UHF, UHF	-4, 21, 19, 19	105	-, 15, 15, 15	-, 5, 8, 8	60	5
MAP401 New	223195	4	I+III, FM, UHF, SAT	20,20,30,-2	104,104,108,-	15,15,15,-	5,5,6,-	85 (without LNB)	5
MAP500	223133	5	I, III, IV, V, UHF	16, 15, 10, 10, 11	108	-, -, -, -, -	4, 4, 8, 8, 8	40	5
MAP500/S⁽¹⁾	223134	5	I, III, IV, V, UHF	16, 15, 10, 10, 11	108	-, -, -, -, -	5, 5, 9, 9, 9	40	5
MAP500/..⁽⁵⁾	223135	5	I, III, IV, V, UHF	16, 15, 10, 10, 11	108	-, -, -, -, -	4, 4, 8, 8, 8	40	5
MAP501	223137	5	I, III, IV, V, UHF	24, 24, 19, 20, 20	108	15, 15, 15, 15, 15	4, 4, 8, 8, 8	60	5
MAP501/S⁽¹⁾	223138	5	I, III, IV, V, UHF	24, 24, 19, 20, 20	108	15, 15, 15, 15, 15	5, 5, 9, 9, 9	60	5
MAP501/..⁽⁵⁾	223136	5	I, III, IV, V, UHF	24, 24, 19, 20, 20	108	15, 15, 15, 15, 15	5, 5, 9, 9, 9	60	5

⁽¹⁾ Band IV = ch 21-32 and band V ch = 36-69

⁽²⁾ 1 input and 5 outputs

⁽³⁾ DAB = 210-240MHz

⁽⁴⁾ Able to filter the FM band

⁽⁵⁾ Models with suffix /.. are tuned specially, the last channel of band IV and the first channel of band V must be specified on order (e.g. MAP501/38-41)

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

Mast amplifiers

MAP 24 Volt Series

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

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



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

Mast amplifiers

MAP INTERSTAGE 12-24 Volt Series

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

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

Item	Code	Inputs	Input band	Gain dB	Output level dBμV	Gain adj. dB	Noise figure dB	Power consump. mA@12VDC	Pack. Pcs.
MAP112	223181	1	III + UHF	15	107	-	3	30	10
MAP113I	223182	1	UHF	27	107	10	3	60	10
MAP213I	223185	2	VHF, UHF	24, 33	107	10	5, 3	70	10
MAP223I⁽³⁾	223190	2	III, UHF	24, 33	107	10, 10	4, 2.5	60	10
MAP224I⁽⁴⁾	223191	2	III, UHF	24, 33	107	10, 10	4, 2.5	60	10
MAP212	223184	2	III, UHF	18, 27	107	-, -	4, 2.5	45	10
MAP317I	223187	3	I+FM, III, UHF	12, 24, 33	107	10, 10, 10	4.5, 4, 3	70	10
MAP316I	223186	3	VHF, UHF, UHF	22, 20, 32	107	10, 10, 10	4.5, 4, 3	70	10

⁽¹⁾ Able to filter the FM band

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

⁽³⁾ 12 VDC

⁽⁴⁾ 24 VDC

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

Mast equipment

Mast amplifiers

MAK Series

MAK amplifiers are used to mix and amplify signals from different aerials in small to medium installations.

The compact housing enables installation in confined spaces. Power requirement 12VDC. Adjustable gain 0-20dB on each input. Compatible with DTT signals in COFDM modulation. Adjustable plastic strap for mast mounting Ø 60mm max. Operating temperature: -10 to 55°C.

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

MAK..



Dimensions
127x58x129mm

Item	Code	Inputs	Inputs		Inputs / Gain		Inputs		Noise figure dB VHF/UHF	Output level dBμV VHF/UHF	Power consump. mA@12VDC	Pack. Pcs.
			B. I	B. III	B. IV	B. V	B. UHF	B. UHF				
MAK2510	223344	1	-	21	25	25	-	-	4/8	109/113	105	1
MAK2331	223343	3	21		-	-	23	23	4/8	109/112	85	1
MAK2331/O ⁽¹⁾	223346	3	21		-	-	23	23	4/8	109/112	85	1
MAK2332	223341	3	21		26	24	-	-	4/5	109/112	85	1
MAK2332/S ⁽²⁾	223342	3	21		26	24	-	-	4/5	109/112	85	1
MAK2332/.. ⁽³⁾	223348	3	21		26	24	-	-	4/5	109/112	85	1
MAK2350	223340	5	21	19	22	22	22	-	4/8	109/112	85	1
MAK2350/S	223345	5	21	19	22	22	22	-	4/8	109/112	85	1
MAK2350/.. ⁽³⁾	223347	5	21	19	22	22	22	-	4/8	109/112	85	1
MAK2650	223351	5	30	30	30	30	30	-	4/8	109/114	175	1
MAK2650/.. ⁽³⁾	223352	5	30	30	30	30	30	-	4/8	109/114	175	1

⁽¹⁾ In models with suffix /O, the band I input is 47-88MHz

⁽²⁾ In models with suffix /S, band IV includes channels E21-E32 and band V includes channels E36-E69

⁽³⁾ Models with suffix /.. are tuned specially, the last channel of band IV and the first channel of band V must be specified on order (e.g. MAK2332/38-41)

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

Power supplies

AM.. Series

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

Terminal connectors. Compatible with DTT signals in COFDM modulation.

Operating temperature: -10 to 55°C.

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



Dimensions
50x87x46mm

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

Power supplies

PSU.. Series

Totally shielded in a metallic case to prevent any kind of interference.

Available with 12 or 24VDC output voltage. Isolation class: II. F connectors. Fully compatible with DTT signals in COFDM modulation. Operating temperature: -10 to 55°C.

- Switch mode power supply, high efficiency and low consumption
- Plastic case suitable for fixing to a table or wall
- Protected against accidental short circuits, operation is restored after a short circuit



Dimensions
92X49X109mm

Item	Code	Mains voltage input Vac, Hz	Mains voltage output VDC	Max. output current mA	RF bandwidth MHz	No. of outputs	Insertion loss dB	Pack. Pcs.
PSU411*	289561	220-240, 50-60	12	200	5-862	1	0.2	1
PSU412	289562	220-240, 50-60	12	200	5-862	2	4	1
PSU341	289563	220-240, 50-60	24	100	5-862	1	0.2	1
PSU342	289564	220-240, 50-60	24	100	5-862	2	4	1
PSU511**	New 289851	220-240, 50-60	12	200	5-2400	1	2	1

* Also available with UK plug: PSU411UK - Code 289559

** DiSEqC pass-through available

Indoor electronic equipment

Indoor amplifiers

AFI Series

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

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



Dimensions
120x97x43mm

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

General features

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

Indoor modulators

MOD90 - MOD90R

New

MOD90
MOD90R

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

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



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

Indoor modulators

AVM..N Series

AVM45N
AVM3N
AVM1N

Double side band audio/video modulators with PLL frequency programming. Modulator with built in plastic housing. Audio/video inputs with RCA connectors. RF input loop-through. Packaging 1 pc.

- Mains powered
- Complete range to modulate bands I, III and UHF
- Audio input level and RF output level adjustable via potentiometer



Dimensions
118x78x47mm

Item Code		AVM45N 288013	AVM3N 288015	AVM1N 288014
Video input	Frequency range Level/Impedance		20Hz - 6MHz 1Vpp - 75 Ohm	
Audio input	Frequency range Level/Impedance Level/Impedance-deviation		20Hz - 15KHz 1 to -14 775mVrms/10 Ohm/50KHz	
RF output	Typ. level/Impedance		90, 75	
	Output channels	I/G/H/K: 21-69 (470-862)	D: 6-SR18 (174-294)	B: E2-E4 (47-68)
	(Frequency range)	M/N: 14-78 (470-862)	B: E5-S20 (174-230)	D: 1-3 (48.5-84)
Output level adjustment	dB		0 to 15	
TV insertion loss	dB max		3	
Video carrier fine tuning	MHz max		± 2.25 with steps of 250KHz	
Audio carrier fine tuning	MHz		4.5 / 5.5 / 6.0 / 6.5	
Power consumption	VA		3	
Mains voltage	Vac, Hz		220-240, 50-60	
Operating temperature	°C		-10 to +50	

Multiband amplifiers and equaliser filters

Multiband amplifiers

MBJ Series

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

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



Item	Code	Inputs no.	Inputs / Gain dB								Output level dB μ V VHF/UHF	Noise figure dB VHF/UHF	Power cons. W
			VHF E2-S30	B. I+FM+C	B. I	B. III	B. IV	B. V	B. UHF	B. UHF			
MBJ2510	223301	1	-	-	-	21	25	25	-	-	109/113	4/8	5
MBJ2510/..⁽⁶⁾	223302	1	-	-	-	21	25	25	-	-	109/113	4/8	5
MBJ2320	223334	2	24	-	-	-	-	-	24	-	109/112	5/6	5
MBJ2331	223303	3	-	-	21	-	-	-	23	23	109/112	4/8	5
MBJ2331/O⁽¹⁾	223304	3	-	-	21	-	-	-	23	23	109/112	4/8	5
MBJ2332	223305	3	-	-	21	-	26	24	-	-	109/112	4/8	5
MBJ2332/..⁽⁶⁾	223306	3	-	-	21	-	26	24	-	-	109/112	4/8	5
MBJ2350	223308	5	-	-	21	19	22	22	22	-	109/112	4/8	5
MBJ2350/..⁽⁶⁾	223309	5	-	-	21	19	22	22	22	-	109/112	4/8	5
MBJ2350/O⁽¹⁾	223310	5	-	-	21	19	22	22	22	-	109/112	4/8	5
MBJ2350/38-41⁽⁴⁾	223318	5	-	-	21	19	22	22	22	-	109/112	4/8	5
MBJ2350/41-45⁽⁵⁾	223311	5	-	-	21	19	22	22	22	-	109/112	4/8	5
MBJ2350/S⁽²⁾	223312	5	-	-	21	19	22	22	22	-	109/112	4/8	5
MBJ2356	223313	5	-	21	-	19	22	22	22	-	109/112	4/8	5
MBJ2356/..⁽⁶⁾	223314	5	-	21	-	19	22	22	22	-	109/112	4/8	5
MBJ2620	223335	2	30	-	-	-	-	-	30	-	109/114	4.5/5.5	5
MBJ2640	223336	4(2 out)	-	25	-	25	-	-	30	30	106/110	4/8	5
MBJ2650	223316	5	-	-	30	30	30	30	30	-	109/114	4/8	5
MBJ2650/..⁽⁶⁾	223319	5	-	-	30	30	30	30	30	-	109/114	4/8	5
MBJ3620	223333	2	35	-	-	-	-	-	35	-	110/117	4/6	7
MBJ3631	223322	3	-	-	33	-	-	-	33	33	110/117	4/8	7
MBJ3631/O⁽¹⁾	223323	3	-	-	33	-	-	-	33	33	110/117	4/8	7
MBJ3650	223324	5	-	-	33	33	33	33	34	-	110/117	4/8	7
MBJ3650/..⁽⁶⁾	223325	5	-	-	33	33	33	33	34	-	110/117	4/8	7
MBJ3650/32-34⁽³⁾	223332	5	-	-	33	33	33	33	34	-	110/117	4/8	7
MBJ3650/38-41⁽⁴⁾	223331	5	-	-	33	33	33	33	34	-	110/117	4/8	7
MBJ3650/41-45⁽⁵⁾	223326	5	-	-	33	33	33	33	34	-	110/117	4/8	7
MBJ3650/S⁽²⁾	223327	5	-	-	33	33	33	33	34	-	110/117	4/8	7
MBJ3656	223328	5	-	33	-	31	31	32	32	-	110/117	4/8	7
MBJ3656/..⁽⁶⁾	223329	5	-	33	-	31	31	32	32	-	110/117	4/8	7

General features

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

⁽¹⁾ In models with suffix /O, the band I input is 47-88MHz

⁽²⁾ In models with suffix /S, band IV includes channels E21-E32 and band V includes channels E36-E69

⁽³⁾ In models with suffix /32-34 band IV includes channels E21-E32 and band V includes channels E34-E69

⁽⁴⁾ In models with suffix /38-41 band IV includes channels E21-E38 and band V includes channels E41-E69

⁽⁵⁾ In models with suffix /41-45 band IV includes channels E21-E41 and band V includes channels E45-E69

⁽⁶⁾ Models with suffix /.. are tuned specially, the last channel of band IV and the first channel of band V must be specified on order (e.g. MBJ3650/38-40)

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

Multiband amplifiers

MBX Series

Multiband amplifiers to amplify and mix signals from several sources. Die-cast housing, totally shielded with F connectors. Separate VHF and UHF band amplification on the 119dB μ V version, broadband push-pull amplification on the 124dB μ V version. High gain and high output level allow the use of these products in medium to large networks. Cover fixed with safety screws. Compatible with DTT signals in COFDM modulation. Packaging 1 pc.

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



Item	Code	Inputs no.	Inputs / Gain dB									Output level (-60dB 3 eq. carr.) dB μ V VHF/UHF	Noise figure dB VHF/UHF	Power consump. W
			VHF 47-238MHz E2-S30	FM 87.5-108MHz	B. I	B. III	B. IV	B. V	B. UHF	B. UHF	B. UHF			
MBX5541	235002	4	-	31	30	-	-	30	30	-	-	116/119	4.5/7.5	8.5
MBX5550	235004	5	-	-	31 ⁽¹⁾	31	30	30	30	-	-	116/119	4.5/8.5	8.5
MBX5550S⁽³⁾	235017	5	-	-	31 ⁽¹⁾	31	30	30	30	-	-	116/119	4.5/8.5	8.5
MBX5550/..⁽⁴⁾	235008	5	-	-	31 ⁽¹⁾	31	30	30	30	-	-	116/119	4.5/8.5	8.5
MBX5551⁽²⁾	235015	5	-	34	34	34	-	-	32	32	-	116/119	5/8.5	8.5
MBX5720	235021	2	43	-	-	-	-	-	43	-	-	116/119	4.5/6	8.5
MBX5741*	235001	4	-	35	B. I 36	B. III 38	-	-	43	43	-	116/119	4.5/7.5	8.5
MBX5750	235003	5	-	-	35 ⁽¹⁾	38	43	43	43	-	-	116/119	4.5/8.5	8.5
MBX5750S⁽³⁾	235007	5	-	-	35 ⁽¹⁾	38	43	43	43	-	-	116/119	4.5/8.5	8.5
MBX5750/..⁽⁴⁾	235009	5	-	-	35 ⁽¹⁾	38	43	43	43	-	-	116/119	5/8.5	8.5
MBX5752⁽²⁾	235014	5	-	35	B. I 36	B. III 38	-	-	30	42	42	116/119	5/8.5	8.5
MBX5851⁽²⁾	235016	5	-	34	34	34	-	-	44	44	-	116/119	5/8.5	8.5
MBX7741	235006	4	-	40	40	-	-	40	40	-	-	124	11	13.5
MBX7750	235005	5	-	-	40 ⁽¹⁾	40	40	40	40	-	-	124	11	13.5
MBX7750S⁽³⁾	235018	5	-	-	40 ⁽¹⁾	40	40	40	40	-	-	124	11	13.5
MBX7750/..⁽⁴⁾	235010	5	-	-	40 ⁽¹⁾	40	40	40	40	-	-	124	11	13.5

* Also available with UK plug: MBX5741UK - Code 235012

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

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

⁽¹⁾ Ability to extend the band up to 108MHz using an internal jumper

⁽²⁾ MBX0001 spacing kit included in the packaging

⁽³⁾ In models with suffix /S, band IV includes channels E21-E32 and band V includes channels E36-E69

⁽⁴⁾ Models with suffix /.. are tuned specially, the last channel of band IV and the first channel of band V must be specified on order (e.g. MBX5750/38-40)

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

Multiband amplifiers and equaliser filters

Multiband amplifiers

AMP9202W – AMP9202U

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

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



Dimensions
283X125X74mm

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

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

* with UK plug

Headend amplifier

AMP9764

Mains powered amplifier to amplify satellite signals with passive loop-through of the TV signal. To be used as a launch amplifier in IF systems or as a SAT line amplifier. Allows gain and slope adjustment in the SAT band. Cover fixed with safety screws. No DC pass from the output to the inputs. Compatible with DTT signals in COFDM modulation. For installation, supports are available (item MBX0001, see page. 69) that leave a space of 19mm between the amplifier and the wall, allowing room for cables or the amplifier to be mounted in different positions. Packaging 1 pc.

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



Dimensions
194x143x64mm

Item	Code	Inputs no.	Bandwidth MHz	Gain dB	Gain adjustment dB	Tilt adjustment dB	Output level dBμV	Noise figure dB
AMP9764	235053	2	940-2400	40	0-20	±2	125	10
			47-862	-2	-	-	-	-

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

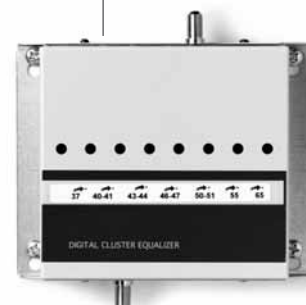
Equaliser filters

FIL..., PAS..

Made to order filters

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

Mans Mayet transmitter



Example of the use of a channel group equaliser filter



Analogue channels

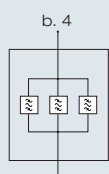


Digital channels

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

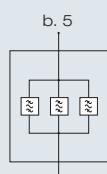
Item **FIL132200**
Code 226611

1 input UHF band 4
3 clusters
1 output



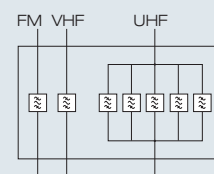
Item **FIL132201**
Code 226612

1 input UHF band 5
3 clusters
1 output



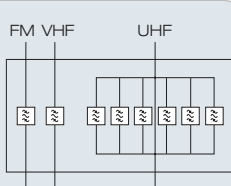
Item **PAS0436301**
Code 226625

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



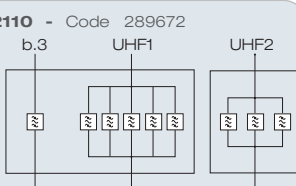
Item **PAS0437301**
Code 226626

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



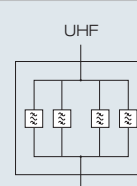
Item **FIL392110** - **Code** 289672

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



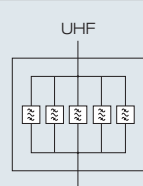
Item **FIL141200**
Code 226618

1 input UHF
4 clusters
1 output



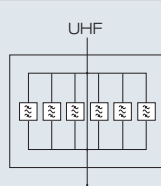
Item **FIL151200**
Code 226619

1 input UHF
5 clusters
1 output



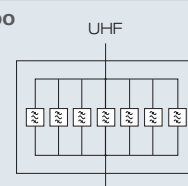
Item **FIL161200**
Code 226620

1 input UHF
6 clusters
1 output



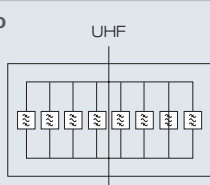
Item **FIL171200**
Code 226621

1 input UHF
7 clusters
1 output



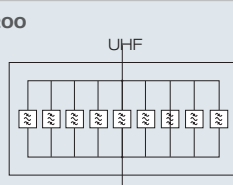
Item **FIL181200**
Code 226622

1 input UHF
8 clusters
1 output



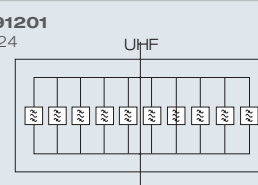
Item **FIL191200**
Code 226623

1 input UHF
9 clusters
1 output



Item **FIL191201**
Code 226624

1 input UHF
10 clusters
1 output



Multiband amplifiers and equaliser filters

Programmable equaliser filters

FIL.. Series

FIL261000

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

FIL262000

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

FIL391000

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

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

FIL392000

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



Item code	FIL261000 289804	FIL262000 289803	FIL391000 289805	FIL392000 289806
No. of inputs	2	2	3	3
No. of outputs	1	2	1	2
No. of clusters	6	6	10	9 (UHF) + 1 (VHF)
Antenna input	UHF1-UHF2	UHF1-UHF2	UHF1-UHF2-UHF3	VHF-UHF1-UHF2
Channels	21-69			5-12 (VHF), 21-69 (UHF)
Bandwidth MHz	470-862			174-230, 470-862
Cluster bandwidth MHz	8-56 1 to 7 channels			8-16 1 ch. (VHF) up to 2 channels (UHF)
Cluster configuration	6 (UHF1) - 0 (UHF2) 5 (UHF1) - 1 (UHF2) 3 (UHF1) - 3 (UHF2)	3 (UHF1) - 3 (UHF2)	2 (UHF1) - 8 (UHF2) - 0 (UHF3) 2 (UHF1) - 7 (UHF2) - 1 (UHF3) 2 (UHF1) - 5 (UHF2) - 3 (UHF3)	1 (VHF) - 9 (UHF1) - 0 (UHF2) 1 (VHF) - 6 (UHF1) - 3 (UHF2) 1 (VHF) - 5 (UHF1) - 4 (UHF2)
Gain dB	5			
Attenuator dB	30 (steps 1dB)			
Max. input level dBμV	95			85 (VHF), 95 (UHF)
Max. output level (IM3/-54dB) dBμV	75			
Selectivity dB	10@10MHz			15@10MHz (VHF) 10@10MHz (UHF)
IN/OUT return loss dB	>10			
OUT/IN DC pass	programmable			
Mains voltage Vac/VDC	230-240/5 Ø 2.1 mm DC jack			
Power consumption mA	300			500
Dimensions (LxHxD) mm	157x142x65			222x142x65
Operating temperature °C	-5 to +50			

Programmable headends

SIG80.. Series

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

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

General features

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

SIG8008
SIG8009
SIG8010

SIG8011



Dimensions
265x220x95mm



Dimensions
231x185x53mm

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

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

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

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

Headends

Available in a complete range to fulfil all installation and signal distribution requirements.

Along with solutions provided by the 'plug and play' of the Compact Line, suitable for small and medium installations, Fracarro proposes the K series. This is a modular system that adapts to medium and large installations and the highly professional Head Line system designed for large SMATV headends and CATV networks.

Now the Fracarro range of headends has been expanded with new products that guarantee innovative electrical performance and can be installed in a variety of configurations. These systems allow high selective and agile filtering of signals and the distribution of codified programs.



Compact headends

Compact Line Series

‣ SIG9506 - SIG9606	76
‣ Filtered band coupler	77

Mid level headends

K Series

‣ Modular systems for MATV/SMATV systems	78
‣ Channel amplifiers	79
‣ DAB amplifiers	79
‣ 120dB μ V output channel amplifiers	79
‣ Channel amplifiers with automatic gain control (AGC)	80
‣ Band amplifiers	80
‣ Channel amplifiers for DTT	80
‣ Digital QPSK receiver with full band DSB modulator	81
‣ QPSK receivers with vestigial side band modulator	82
‣ COFDM receivers with vestigial side band modulator	83
‣ Fully agile terrestrial converter	84
‣ Vestigial side band modulators	85
‣ SAT amplifiers + TV mixer	86
‣ Amplified SAT filters	86
‣ Transponder amplified selective filter	86
‣ Programmable IF-IF DVB-S2 converter	87
‣ Return channel amplifiers	88
‣ Final push-pull amplifiers	88
‣ Splitters	89
‣ Power supplies	89
‣ Accessories	90-91

MATV headend with selective agile filters

‣ SAF Series	92-93
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SMATV headend with 8 digital receivers with common interface

‣ Digiflex Series	94-95
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High level headends

Headline Series

‣ The professional solution	95
‣ Controller host	96
‣ Programming software	96
‣ Modulators	97
‣ Receivers	98-99
‣ DVB-S2 receiver	100
‣ COFDM modulator	100
‣ Transmitters	101
‣ Optical splitters	101
‣ IP encoders (FTA)	102
‣ IP encoder with CI	102
‣ Interconnection module	103
‣ Accessories	103-104
‣ 19" rack cabinets	104
‣ Rack accessories	105



Compact headends

Compact Line Series

SIG9506 - SIG9606

New

SIG9506..

SIG9606..

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

A/V outputs are available to connect external modulators. Earth bonding connection. Compliant to EN50083-2.

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

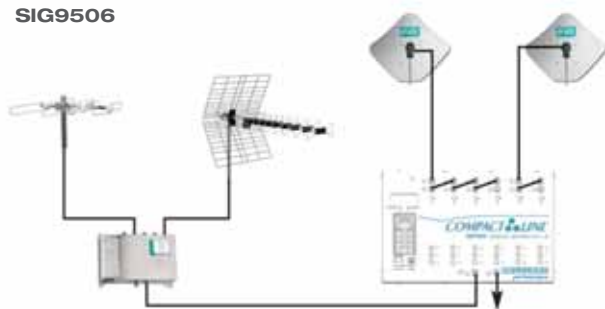


Installation example

QPSK and COFDM headends

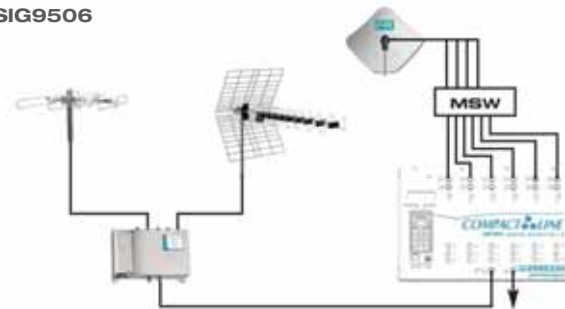
Connecting several receivers to the same polarity

SIG9506



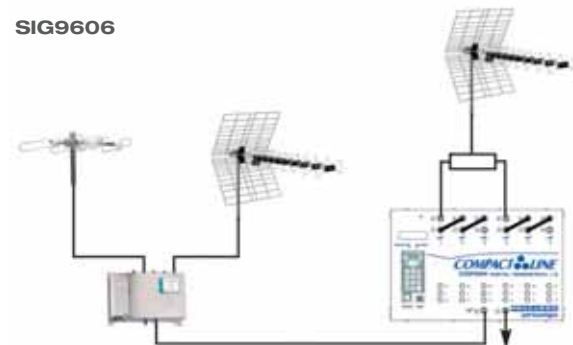
Using a multiswitch to distribute signals to all receivers

SIG9506



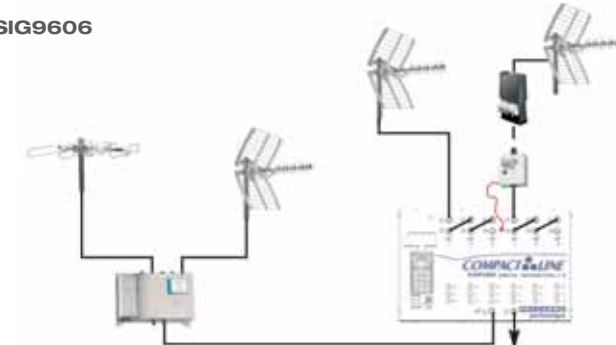
Connecting several receivers to the same antenna

SIG9606



Using a masthead amplifier to amplify the signal

SIG9606



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

* UK versions available: SIG9606U/UK - Code 283124, SIG9606US/UK - Code 283125

Compact Line Series

Filtered band coupler

4 input coupler to create a 24 channel headend. Input filtering to improve C/N. With F connector.

Item Code		PAS0322011 PAS0322011
Input 1	MHz	118-446 (S3-S38)
Input 2	MHz	470-582 (E21-E34)
Input 3	MHz	606-726 (E38-E52)
Input 4	MHz	750-862 (E56-E69)
Outputs	MHz	118-862
Impedance	Ohm	75
Insertion loss	dB	2.5
Dimensions	mm	122x67x42

Mid level headends

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 (particularly for the integration between traditional TV, satellite TV and satellite IF)
- Solid and inexpensive without compromising performance
- Ready for future product ranges
- In compliance with all European and international regulations in force, including electromagnetic compatibility (mark, according to 2004/108/EC directive).

The main features of K series products are:

- All products are fully compatible with digital (terrestrial and satellite) programs
- Fixing to a standard DIN bar provides good mechanical strength and maximum density when assembling the headends. It also allows the use of a wide range of standard accessories available on the market
- Single voltage feed (12V, negative). A local power supply is provided where necessary. It is quick and easy to replace and keeps spare parts down to a minimum
- All modules have a solid mechanical structure. In particular, channel filters - where dimensional stability and surface conductivity are critical features - come in die-cast small silver plated boxes
- For RF connections, all modules use "F" connectors with quick fit interconnection bridges
- Wide range of products dedicated to digital terrestrial and satellite signals. They perfectly integrate with existing headends, fulfilling any installation requirement
- Adjacent channel distribution is possible due to the channel filters selectivity together with the vestigial sideband (VSB) modulators used in satellite receivers
- Active filters for digital terrestrial have been developed using the KF and K120 active channel filters. These have been calibrated specially for the distribution of new COFDM modulated signals
- 19" rack installation possible
- Software can be upgraded on site using the KRS-RJ adaptor (not included)
- Programmable using a TPE or via FHM software (these items are not included)



K Series

Channel amplifiers

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



Dimensions
32x129x86mm

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

K Series

DAB amplifiers

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

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

K Series

120dBμV output channel amplifiers

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

Item	Code	Gain (adj.) dB	Selectivity dB Standard B/G*				Output level dBμV	Noise figure dB	Channels	Max. power consumption mA
			ACn-2	ACn-1	VCn+1	VCn+2				
K120/..	2702xx	45 (40)	35	5	9	35	120	8	E2-E4	180@12VDC
		40 (40)	-	-	-	-	112	5	FM	200@12VDC
		45 (40)	40	5	10	44	120	9	S1-S10	180@12VDC
		45 (40)	40	5	10	44	120	9	E5-E12	180@12VDC
		45 (30)	35	5	10	40	120	10	S11-S20	200@12VDC
		45 (30)	42	10	16	46	120	9	S21-S38	200@12VDC
		45 (30)	42	10	16	46	120	9	S39-S41	200@12VDC
		45 (30)	42	10	16	46	120	9	E21-E69	200@12VDC
		45 (30)	42	10	16	46	120	9		
		45 (30)	42	10	16	46	120	9		

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

Mid level headends

K Series

Channel amplifiers with automatic gain control (AGC)

K120A/..
KFB..
KF/...DT
K120/...DT

Channel amplifiers with five resonant circuits for VHF and UHF bands.
Excellent selectivity allows the distribution of adjacent channels.
The automatic gain control gives a constant output level even with a varying input level.
Essential in conditions where the signal reception level may vary and also useful in CATV networks with cascaded line amplifiers and for the inputs of fibre optic links.
Output power: 120dBμV. Gain: 45dB. Max. output level: 120dBμV.
Operating temperature: -10° to +55°C.
Packaging 1 pc.



Dimensions
32x129x86mm

Item	Code	Max. input level dBμV	Selectivity dB Standard B/G*		Output level adj. dBμV	AGC Dynamic (max) dB	Noise figure dB	Channels	Max. power consumption mA
			ACn-2	VCn+1					
K120A/..	2707xx	90	5	9	110-120	25	8	E2-E4	210@12VDC
		95	5	10	110-120	30	9	E5-E12	210@12VDC
		95	12	49	110-120	30	10	E21-E69	210@12VDC

K Series

Band amplifiers

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

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

K Series

Channel amplifiers for DTT

Single channel amplified filters, KF/...DT 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 disrupting the existing setup. Due to the high selectivity of the filter, the frequency response and the output level adjustment, it is simple to combine these modules with others giving a clean output signal. Each module has self-mixing and self-demixing capabilities, with low losses, simplifying the installation of the distribution system. Packaging 1pc.

Item	Code	Gain (adj.) dB	Selectivity dB Standard B/G*				Return loss input dB	Return loss output dB	Output level max. dBμV	Noise figure dB	Channels	Max. power consumption mA
			ACn-2	ACn-1	VCn+1	VCn+2						
KF/...DT	2702xx	11 (35)	>38	>8	>11	>42	10	10	95	10	E21-E69	38@12VDC
K120/...DT	2707xx	45(30)	>38	>8	>11	>42	10	10	115	9	E21-E69	200@12VDC

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

K Series

Digital QPSK receiver with full band DSB modulator

KDF

QPSK digital satellite PAL receiver to receive all free-to-air satellite channels. Equipped with DSB multistandard modulator to distribute signals to all TV's within the installation
Possible to receive SCPC programs. Automatic PID updating.

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



Dimensions
74x188x112mm

Item Code	KDF 282646		
Input SAT QPSK	Input frequency	MHz	950-2150
	Input level	dBμV	45-80
	Impedance	Ohm	75
	Bandwidth	MHz	36
	Input step tuning	MHz	1
	AFC range	MHz	-2.5 to 2.5
	Loop-through insertion loss	dB	-4 to +4
	Max. no. of modules possible to loop-through	Depends on the frequency and the level of the input signal	
	LNB power supply	0/12V, 22KHz, DiSEqC 1.1 (4 positions), max. 250mA	
QPSK demodulation	Symbol rate	2 - 35 (compatible SCPC/MCPC)	
	FEC	auto	
MPEG specification	Video decoder	MPEG-2 Main profile, Main level (MP @ ML)	
	Audio decoder	MPEG-2 Layer I and Layer II	
	Colour standard	PAL, SECAM, NTSC	
	Video format	16:9, Pan scan, Letter box	
	Audio format	mono, language 1, language2	
	Teletext	yes	
TV modulator	Modulator	DSB (double side band)	
	Standard	PAL (B/G, D/K, I, N, H, M), SECAM L, NTSC M	
	Output frequency	MHz	174-446 + 470-862
	Channels	E5-S38 + E21-E69	
	Output level	dBμV	90
	Output level adjustment	dB	15 by means of trimmer
	Audio level adjustment	dB	0-10
	S/N weighted	dB	52
	Output channel programming	By frequency (steps of 250KHz) or by channel	
	No. of outputs	2 outputs (output and mix input)	
	TV mixing input	MHz	47-862
	TV mixing insertion loss	dB	<2
	Test signal	Black screen or white rows. With radio signal distribution, a picture with the radio name is shown	
General features	Connectors	F	
	Programming unit	TPE	
	Power supply	VDC	12
	Consumption	mA	without LNB: 500, with LNB: 850
	Compliant to	EN 50083-2	
	Operating temperature	°C	-10 to +55

Mid level headends

K Series

QPSK receivers with vestigial side band modulator

KDSR
KDSR-M
KDSR-S
KDSR-AV

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

- Wideband modulator distributes signals from 47 to 862MHz
- Vestigial side band modulator allows adjacent channel distribution
- LNB power supply, 14/18V 0/22KHz, DiSEqC 1.0
- RCA connectors with audio/video signal available on all versions



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

K Series

COFDM receivers with vestigial side band modulator

KDTR
KDTR-S
KDTR-M
KDTR-AV

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

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



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

Mid level headends

K Series

Fully agile terrestrial converter

KCP

Fully agile converter to process analogue and digital terrestrial channels.
To move a channel from band III or UHF (174-230MHz or 470-862MHz) into band 118-862MHz. Self-demixing line, to split the input signal between several modules.

- Input and output frequency adjustment. AGC (automatic gain control) facility to maintain a stable output level
- Enables the conversion to lower frequencies of digital and analogue channels received in UHF high band to reduce losses due to cable attenuation
- The double SAW filter makes the product particularly suitable for the conversion of adjacent digital channels
- Used as a filter, it enables high selectivity and excellent output signal quality



Dimensions
40x200x155mm

Item Code		KCP 282618
TV Standard:	Digital	DVB-T 2K-8K
	Analogue	B/G/I/L/D/K
Input frequency	MHz	174-230 + 470-862
Tuner loop-through gain	dB	2 ± 3
Output frequency	MHz	118-862
Loop-through loss	dB	<1.5
Frequency step adjustment	KHz	166.667
Bandwidth (adjustable)	MHz	7-8
Flatness (audio and video carrier)	dB	<2
Input level analogue channels	dBμV	60-90
Input level digital channels	dBμV	40-85
Max. output level (analogue channels)	dBμV	95
Max. output level (digital channels)	dBμV	85
Output level adjustment	dB	15
Selectivity, N+1, N-1	dB	>50
Noise figure	dB	7
Total phase noise	dBc/Hz@KHz	>65@1
Impedance	Ohm	75
Power supply	VDC	12 ± 5%
Max. consumption	mA	430
Operating temperature	°C	-10 to +55

K Series

Vestigial side band modulators

New

KM
KMS
KMM

Audio video vestigial side band modulators.

Three versions for each model are available: PAL B/G mono, PAL B/G stereo and multistandard mono.

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



Dimensions
40x200x155mm

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

Mid level headends

K Series

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

KX125
KX125NT
KX125E



Dimensions
32x129x86mm

K Series

Amplified SAT filters

To filter and amplify the SAT band, select the IF band that contains the required transponders. Two types of filter are available to provide different solutions as required.

Item	Code	Bandwidth MHz	Gain (adj.) dB	Max. output level dBμV	Flatness dBμV	Max. power consumption mA	Packaging pcs
K1150-1490	288005	1150-1490	15 (15)	90	< 5	70@12VDC	1
K2015-2150	288003	2015-2150	15 (15)	90	< 5	70@12VDC	1

K1150-1490
K2015-2150



Dimensions
32x129x86mm

K Series

Transponder amplified selective filter

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

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

KFT



Dimensions
32x129x86mm

K Series

Programmable IF-IF DVB-S2 converter

New

KIF-S2

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

DVB-S2 transponders are fully compliant with DVB-S and analogue transponders.

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



Dimensions
32x129x86mm

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

Mid level headends

K Series

Return channel amplifiers

The KW530 amplifies the return channel 5-30MHz and mixes the TV signal between 47 and 862MHz. The KW540 amplifies the return channel 5-40MHz and mixes the TV signal between 54 and 862MHz. They can be used in installations where an interactive distribution network is present.



Dimensions
32x129x86mm

Item	Code	Input frequency range MHz	Gain (adj.) dB	Output level dBμV	Noise figure dB	Max. power consumption mA	Packaging pcs
KW530	270056	5-30 47-862	20 (20) -1.5	105 -	5 -	30@12VDC	1
KW540	270057	5-40 54-862	20(20) -1.5	105 -	5 -	30@12VDC	1

K Series

Final push-pull amplifiers

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



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

K Series

Splitters

The K1-2 supplies the converters with a selectable voltage level of 14V to 18V starting from a 12V feed and also allows the insertion of a 22KHz tone. It splits the input in two with an insertion loss of 5dB.

K1-2



Dimensions
32x129x86mm

Item	Code	Input frequency MHz	Gain dB	No. of inputs	No. of outputs	Remote power supply for LNB V, KHz	Max. power consumption mA	Packaging pcs
K1-2	282102	40-2150	-5	1	2	14/18 (250mA) 0/22	500@12VDC	1

K Series

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. Isolation: class II. Operating temperature: -10°C to +55°C.

KP15



Dimensions
40x130x86mm

KP35



Dimensions
63x165x107mm

KP62



Dimensions
63x165x107mm

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

Mid level headends

K Series

Accessories

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

- Perforated back for attaching the DIN bar. Thickness: 1.5mm
- Single structure (sides plus back) to be fixed at the rear
- Door with lock

KA400


KA600
KA800


Item	Code	Width mm	Height mm	Depth mm	Packaging pcs
KA400 New	270001	390	340	170	1
KA600	293433	600	500	180	1
KA800	293434	800	500	180	1

K Series

Accessories

KD100

TPE

KRS-RJ

Item	Code	Description	Packaging pcs
KD100	289539	DIN BAR (35x15x1.5mm) galvanised. Length 1m, used for installing K series modules.	20
TPE	282733	Programming unit Programming unit with numeric keypad and graphic display	1
TRRJ-DIN	289546	TRANSITION RJ45 female - mini DIN male To convert the KTP programmers with RJ45 to mini DIN.	1
PATCH-RJ45	289548	PATCH CORD CAT5 cable, RJ45 connectors, length 1m.	1
CROSS-RJ45	289549	CROSS CABLE Cross over CAT5 cable, RJ45 connectors, length 1m.	1
CVDC50	280376	12V cable feed Length 50cm.	1
KRS-RJ	282732	USB-RJ45 adapter	1



K Series

Accessories

Plug-in "F" bridges

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

- Shielded

KRF15
KRF45

Item	Code	Length mm	Compatible with	Packaging pcs
KRF15	289537	150	KDTR, KDSR, KCP, KM, KDF	20
KRF45	289538	450	KW and KX125, K1-2	10



K Series

Accessories

Plug-in "F" bridges

These are shielded quick snap-in connectors. For connecting modules.

- Shielded

Item	Code	Length mm	Compatible with	Packaging pcs
KPR37	289485	37	KF, K120, K120A, KIF-S2, KFT, KFB4, KFB5	20
KPR41	289486	41	Headline modules, KF, K120, K120A, KIF-S2, KFT, KFB4, KFB5	10
KPR52	289491	52	KDTR, KDSR, KCP	10



KPR37
KPR41
KPR52

KPN42
KPN51

Plug-in "F" bridges

These are shielded twist-on connectors. For connecting modules.

- Shielded

Item	Code	Length mm	Compatible with	Packaging pcs
KPN42	289245	42	KF, K120, K120A, KIF-S2, KFT, KFB4, KFB5	10
KPN51	289244	51	KDTR, KDSR, KCP	10



K Series

Accessories

Broadband pre-amplifiers

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



Dimensions
46x65x23mm

MP04AF
MP05AF
MP45AF
MP13AF

MPCCF

Item	Code	Band inputs	Gain dB	Noise figure dB	Max. output level dBμV	Bandwidth MHz	Max. power consumption mA	Packaging pcs
MP04AF	236505	IV	17	3	108	470-590	20	10
MP05AF	236506	V	14	4	108	606-862	20	10
MP45AF	236507	UHF	15	4	108	470-862	20	10
MP13AF⁽¹⁾	236504	VHF	20	3	108	47-300	25	10

Item	Code	Description
MPCCF	236508	D.C. Inserter For supplying D.C. to pre-amplifiers. With plug, socket and 20cm lead for D.C. Ø 2.3mm. With "F" connector.

⁽¹⁾ With FM trap filter.

Mid level headends

MATV headend with selective agile filters

SAF Series

SAF12U
SAF7U
SAF-CA

SAF6U1V
SAF11U1V

MATV headend with selective agile filters to distribute and filter analogue and digital TV signals.

Due to its flexibility and easy programming, SAF is particularly suitable when used for frequency changes or if new transmitters are switched on. The headend can easily be reprogrammed at any time to change the frequency and the type of the filter (analogue or digital) without having to change the product. The headend contains up to 12 filters and has 4 inputs, one dedicated to the FM band. Each filter can be connected in varying combinations to the 3 inputs.

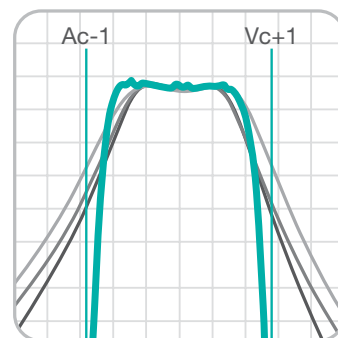
The UHF modules are equipped with a SAW filter allowing them to be highly selective and adjacent channel rejection is over 45dB (see figure). It also enables the conversion of channels received from other frequencies.

SAF headends, available in 4 models, can be used in any installation where highly selective filtering and excellent signal quality are required. They can also be used to convert on free frequencies the programs received in isofrequency from different aeriels.



Dimensions
439x196x105mm

- Agile filters enable the headend to be used in different installations and can easily be reprogrammed for frequency changes or if new transmitters are switched on
- UHF modules have a SAW filter so they are highly selective (adjacent channel rejection >45dB) with good channel flatness of <1dB and AGC to keep the output level stable
- High gain of up to 50dB and high output level of 109dB μ V for all analogue channels, 99dB μ V for all digital multiplexes in the UHF band
- Compact housing - one unit contains a power supply, signal distributing matrix, UHF or VHF filters (12 filters for SAF12U and SAF11U1V versions, 7 filters for SAF7U and SAF6U1V versions) and final amplifier. Single filter modules are available individually packed, products SAF-U and SAF-V, to be added to existing headends
- 3 inputs can be used flexibly by all 12 modules due to a signal distributing matrix
- Remote power supply for mast amplifier available on any input, 12 or 24V, selected by means of a dip-switch
- The UHF modules can be used as filters or converters to solve frequency collision
- VHF filter based on tracking filter technology, to cut unwanted carriers in band III
- Offset adjustment from +500 to -500KHz to change filtering to greatly reduce either the upper or lower adjacent channel
- Programmable using a TPE programmer or PC with FHIM (Fracarro headend management) programmable software
- Wall or 19" rack installation
- Independent output level adjustment for each channel
- Heat dissipation by natural convection, no fans required



— SAF

≡ Resonant circuits

Item		SAF12U - SAF7U - SAF11U1V - SAF6U1V	
Code		272001 - 272003	272004 - 272006
Frequency	TV input	MHz	174-230 + 470-862
	FM input	MHz	87-108
	TV output	MHz	87-108, 174-230, 470-862
Connectors	Inputs		4 F connectors (IN1, IN2, IN3, FM)
	RF output		2 F connectors (RF OUT/Test-30dB)
	Programming		1 RJ45 connector
Input signal	Impedance	Ohm	75
	Analogue channels - input level	dB μ V	63-83
	Digital channels - input level	dB μ V	53-73
	Max. input level for all inputs	dB μ V	92 (over the whole band)
	FM band - input level	dB μ V	40-80
	Return Loss	dB	10
UHF and VHF filters characteristics	Frequency		UHF: 470-862MHz, VHF: 174-230MHz
	Filter bandwidth		UHF: 8MHz, VHF: 15MHz
	Filter selectivity (referring to B/G PAL standard)	dB	Audio carrier N/Video carrier UHF: N+1 45dB, VHF: N+2 $\geq$ 12dB Video carrier N/Audio carrier UHF: N-1 45dB, VHF: N-2 $\geq$ 12dB
	Flatness	dB	UHF: $\pm$ 1
	AGC dynamic	dB	UHF: 20
	Level adjustment	dB	UHF: 10 (1dB steps), VHF: 20 (2dB steps)
	Frequency programming steps	KHz	UHF: 250
	Offset	KHz	UHF: $\pm$ 250, $\pm$ 500
	Output frequency accuracy	KHz	UHF: <20 (isofrequency conversion), <70 (channel conversion)
	Frequency	MHz	87-108
FM filters characteristics	Level adjustment	dB	20 (1dB steps)
	Gain	dB	20-40 adj.
	Selectivity	dB@MHz	50@174
	Max. output level (analogue channels)	dB μ V	109 per channel
Output signal	Max. output level (digital channels)	dB μ V	99 per channel
	Max. output level (FM band)	dB μ V	99
	Test output	dB	-30
	Noise figure	dB	10
	MER of DTT signal	dB	25 (with input MER >30dB)
	Spurious rejection	dB	54
	Standard		PAL B/G, PAL I, SECAM L, PAL B/H
	Programming unit		TPE
General features	Mains voltage	Vac, Hz	220-240, ~ 50-60, Class: II
	Max. consumption	W	70
	Remote power supply for must amplifier	V	12/24 on each TV input, selectable by means of dip-switch
	Max. remote power supply current	mA@V	Max. 200@12, 100@24
	Input demixing		Modules 1-4: antenna 1,2,3 Modules 5-8: antenna 1,2 Modules 9-12: antenna 1
	Compliant to		EN50083-2, EN60065
	Operating temperature	$^{\circ}$ C	-10 to +55

Item	Code	Description
SAF-U	272002	UHF programmable filter UHF filter individually packed, for installation in SAF headends
SAF-V New	272005	VHF programmable filter VHF filter, individually packed, for installation in SAF headends
SAF-CA New	272007	SAF housing with power supply



Installation example

SAF



Mid level headends - High level headends

SMATV headend with 8 digital receivers with common interface

Digiflex Series

SIG9708CI
SIG9708PS
SIG9708MR
SIG9708CA

SIG9808CI
SIG9808MR
SIG9808LT

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

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



Dimensions
430X305X200mm

New

Item Code	SIG9708CI 283141		SIG9808CI 283145
SAT QPSK/TV COFDM Input	Input frequency	MHz	950-2150
	Input level	dBuV	45-80
	Impedance	Ohm	75
	Bandwidth	MHz	36
	Input step tuning	MHz	1
	AFC range	MHz	-3 to +3
	LNB power supply	0/14/18VDC, 0/22KHz, max400@14VDC, DiSEqC 1.0	
COFDM Demodulation	Demodulation	ETS 300744	
	FEC	1/2, 2/3, 3/4, 5/6, 7/8, AUTO	
	Carriers	2K, 8K	
	Modulation	QPSK, 16-QAM, 64-QAM	
	Guard interval	1/4, 1/8, 1/16, 1/32	
QPSK Demodulation	Symbol rate	1-40 Msymb/sec (compatible SCPC/MCPC)	
	FEC	1/2,2/3,3/4,5/6,7/8, auto	
MPEG Specification	Video decoder	MPEG-2 Main profile, Main level (MP @ ML)	
	Audio decoder	MPEG-2 Layer I and Layer II	
	Colour standard	PAL	
	Video format	4:3, 16:9, pan scan, letter box	
	Audio format	Stereo, dual sound	
	Teletext	yes	
TV modulator	Modulator	VSB	
	Standard	PAL B/G Stereo	
	Output frequency	MHz	47-862
	Channels	MHz	E2-E69
	Output level	dBuV	98
	Output level adjustment	dB	10 (independent for every channel)
	Audio level adjustment	dB	10 (adjustment steps)
	S/N weighted	dB	54
	Output channel programming	By frequency (steps of 250KHz) or by channel	
	No. of outputs	2 outputs (output and mix input)	
	TV mixing input	MHz	47-862
	TV mixing insertion loss	dB	4
	Test signal	Black screen or white rows to be used for radio signal distribution	
General features	Input connectors	1 F connector for every channel	
	Output connectors	2 F connectors (output and mix input)	
	A/V input connectors	2 x SUB-D 15 pin	
	Programming unit	TPE (not included)	
	Mains voltage	Vac, Hz	220-240, 50-60
	Power consumption	W	130
	Compliant to	EN50083-2, EN60065, EN50221, ETSI TS101699	
	Operating temperature	°C	-10 to +45

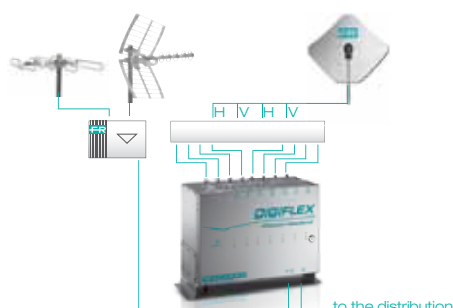
Item		Code	Description
SIG9708PS	New	283144	Power supply for installation in Digiflex headends
SIG9708MR	New	283143	QPSK CI receiver for installation in Digiflex headends
SIG9708CA	New	283142	Digiflex housing with power supply
SIG9808MR	New	283146	COFDM CI receiver for installation in Digiflex headends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



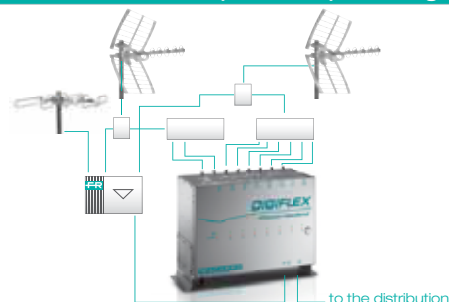
Installation example

Digiflex Series

SIG9708CI - Using a msw to distribute signals to all receivers



SIG9808CI - External splitter to split the signal



Headline Series

The professional solution

The design targets for the Headline Series are:

- 19" rack mounting for professional installation
- Flexibility in headend composition, easy integration of different modules
- Constant operation of the installation, the hot insertion of modules allows modules to be added or changed without switching off the whole headend
- Easy maintenance, programming the modules is possible from any interconnection module or remotely via PC, Ethernet or GSM
- The headend will continue to work even if one module fails, every module is powered by its own power supply unit
- Efficiency, each single module has its own power supply, no need for power supply redundancy to ensure the correct functionality of the headend
- Quick and easy installation, modules are compact in size: up to 11 modules can be fitted in one row and up to 80 modules can be installed in one 19" rack



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

Main features:

- Fully agile output modulators with double conversion, saw filter and tracking filter built in, able to distribute more than 95 channels in only one headend
- Complete range of products equipped with different technological solutions: analogue and digital modulators, IP encoders and fibre optic modules
- Easy integration of different modules
- 220V mains voltage distributed to all the modules through the interconnection module
- All the connectors are located on the front panel
- Premounted sub-rack to install the modules in a 19" rack cabinet with interconnection module included. The installer can easily fit the racks in the cabinet and add new Headline modules

High level headends

Headline Series

Controller host

New
SIG7905

Module for local and remote connectivity of the professional Headline headends via Ethernet (LAN or WAN) and GSM.

Fracarro Headend Management (FHM) software enables the headend devices' firmware to be updated remotely.

The SIG7905 also enables all the modules installed in a rack to be monitored.

Firmware can also be upgraded (for the SIG7905 and for the other modules) by using a USB pen drive.



Item		SIG7905
Code		283941
Mass memory		SD Slot (SD card not supplied)
Connection to external peripheral units		RS-232 serial port
Connection to the Ethernet network		Ethernet RJ-45
Connection to pen drive		USB 1 (200mA), USB2 (400mA)
Digital video input		RJ-45 10-pole connector
Front key to change status (temporary suspension of the Controller Host – Master/Slave activities)		Key to change status
General parameters		
Mains voltage	Vac, Hz	220-240~, 50-60
Consumption	W	4
Compliant to		EN50083-2, EN60065
Dimensions (rack version)	mm	35.5 (7e) x 133.3 (3U) x 240
Operating temperature	°C	-10 to +45

Headline Series

Programming software

New
FHM

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

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



Item	Code	Description
FHM	289888	Programming software for Fracarro headends: K Series, SAF, Digiflex, Headline

Headline Series

Modulators

SIG7282
SIG7282S
SIG7281

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

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



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

High level headends

Headline Series

Receivers

SIG7530

COFDM digital receiver with audio/video outputs on RCA (cinch) connectors to receive free-to-air digital terrestrial programs. One input and one loop-through output for the connection of several receivers to the same antenna.

- Software download possible at the installation site
- KPR41 solid bridge is included in the packaging
- Programmable via FHM software



Item Code				SIG7530* 283937				
TV COFDM Input	Input frequency	MHz	174-230 + 470-862	RCA outputs	Video type	composite		
	Input level	dBuV	35-80		Video level	Vpp - Ohm	1-75	
	Impedance	Ohm	75		S/N weighted	dB	>65	
	Bandwidth	MHz	7 or 8		Max. audio level	Kohm - Vrms	10-0.5	
	Input step tuning	KHz	166.7		Audio band frequency	Hz	20-15000	
	AFC range	KHz	±285 (2K) ±142 (8K)		S/N audio weighted	dB	>60	
	Loop-through insertion loss	dB	-2 to +3		General features	Input connectors	2 F connectors (input + loop-through)	
	Max. no. of modules possible to loop-through	Depends on the frequency and the level of the input signal				A/V connectors	3 x RCA	
COFDM Demodulation	Carriers	2K, 8K		Programming unit		TPE		
	Modulation	QPSK, 16QAM, 64QAM		Mains voltage		Vac, Hz	220-240, 50-60 by means of SIG7901 or SIG7902	
	Hierarchy	high/low priority		Consumption		W	8	
	Guard interval	1/4, 1/8, 1/16, 1/32		Compliant to		EN60065: 2004-06, EN50083-2: 2002-05		
	FEC	1/2,2/3,3/4,5/6,7/8, auto		Dimensions		e (mm) U (mm) mm	width 7 (35.5) height 3 (133.3) depth 240	
MPEG Specification	Video decoder	MPEG-2 Main profile, Main level (MP @ ML)		Operating temperature		°C		
	Audio decoder	MPEG-2 Layer I and Layer II			-10 to +45			
	Colour standard	PAL, SECAM, NTSC						
	Video format	Normal, letter box, pan scan						
	Audio format	mono, stereo, dual sound						
	Teletext	yes						

* UK version available: SIG7530/UK - Code 283939

Headline Series

Receivers

New
SIG7540

The SIG7540 module, with its Common Interface, distributes an encrypted or free-to-air digital signal from terrestrial digital signal (DVB-T). In the typical application, it can be connected to an SIG7120 module (COFDM modulator) that, using Transport Stream flow, creates COFDM multiplex. It can be also connected to SIG7720 IP encoder creating many IP multicast streaming.

- CI slot for encrypted programs
- Ideal solution for regeneration of DTT signals
- Compatible with MPEG2/MPEG4 encryption
- Remote configuration and monitoring (via SIG7905 Controller Host and FHM software)
- HD compliant



Item Code				SIG7540 283951			
DTT Input	Bandwidth	MHz	174-230, 470-862	Audio/video outputs	Output connector		RCA Female
	Min. frequency step tuning	KHz	167		Standard Video		PAL, SECAM, NTSC
	Channel bandwidth	MHz	7, 8		Video format		16/9, Letter Box, Pan & Scan, Combined
	Loop-through bandwidth	MHz	47-862		Video level		Vpp1 typical
	Loop-through insertion loss	dB	1		Audio format		Mono, Mono lang. 1, Mono lang. 2, Stereo
	Input level	dBuV	30-80		Audio level		mVrms550 max.
	AFC (2K, 8K)	KHz	±285, ±142		SINAD		dB45
	Carrier	MSy/s	2-30		Video decoder		MPEG-2 ML@MP
	Guard interval	1/4, 1/8, 1/16, 1/32			Audio decoder		MPEG-2 Layer I and II
	Modulation	QPSK, 16QAM, 64QAM			TS output	Connector	
Hierarchy	High/Low		Type			Parallel	
FEC	1/2, 2/3, 3/4, 5/6, 7/8, auto		Mains voltage			Vac, Hz220-240~, 50-60	
Common Interface	Connector	PCMCIA		General features	Power consumption		W11
	Standard	EN50221, TS101699			Dimensions (rack version)		mm35.5 (7e) x 133.3 (3U) x 240
					Operating temperature		°C-10 to +45

Headline Series

Receivers

SIG7310

QPSK receiver with audio/video outputs on RCA (cinch) connectors to receiver free-to-air digital satellite programs. One input and one loop-through output for the connection of several receivers at the same SAT polarity.

- LNB supply, 14/18V 0/22KHz, DiSEqC 1.0
- Software download possible at the installation site
- KPR41 solid bridge is included in the packaging
- Programmable via FHM software



Item Code		SIG7310 283938	
SAT QPSK Input	Input frequency	MHz	950-2150
	Input level	dBuV	43-84
	Impedance	Ohm	75
	Bandwidth	MHz	36
	Input step tuning	MHz	1
	AFC range	MHz	±3
	Loop-through insertion loss	dB	+4 to -6
	Max. no. of modules possible to loop-through		Depends on the frequency and the level of the input signal
QPSK Demodulation	LNB power supply		0/14/18VDC, 0-22KHz max 200mA@14VDCDiSEqC 4 pos
	Symbol rate	Msymb/sec	1-40
	FEC		1/2,2/3,3/4,5/6,7/8, auto
	Video decoder		MPEG-2 Main profile, Main level (MP @ ML)
	Audio decoder		MPEG-2 Layer I and Layer II
	Colour standard		PAL, SECAM, NTSC
	Video format		Normal, letter box, pan scan
	Audio format		mono, stereo, dual sound
MPEG Specification	Teletext		yes
		RCA outputs	
		Video type	
		Video level	Vpp-Ohm 1-75
		S/N weighted (video)	dB >65
		Max. audio level	Kohm-Vrms 10-0.5
		Audio band frequency	Hz 20-15000
		S/N weighted (audio)	dB >60
		Input connectors	2 F connectors (input + loop-through)
		A/V connectors	3 x RCA
		Programming unit	TPE
		Mains voltage	Vac, Hz 220-240, 50-60 by means of SIG7901 or SIG7902
		Power consumption	W 10
		Compliant to	EN60065: 2004-06, EN50083-2: 2002-05
		Dimensions	e (mm) width 7 (35.5), U (mm) height 3 (133.3), mm depth 240
		Operating temperature	°C -10 to +45
		General features	

Headline Series

Receivers

New

SIG7320

QPSK receiver with Common Interface to receive free-to-air or encrypted digital satellite programs available on audio/video outputs with RCA (cinch) connectors. Loop-through output for the connection of several receivers at the same SAT polarity.

- CI slot available to decode the encrypted programs. Compatible with more than 150 existing CAM
- It can generate 14 or 18V, 22 KHz tone and DiSEqC 1.0, suitable to feed LNB or to control multiswitch output
- Programmable via FHM software



Item Code		SIG7320 283940	
SAT QPSK Input	Input frequency	MHz	950-2150
	Input level	dBuV	30-85
	Input step tuning	MHz	1
	Loop-through insertion loss	dB	2
	Max. no. of modules possible		Depends on the frequency and the level of the input signal
	Input return loss	dB	>10
	DiSEqC		1.0 4 positions
		V, KHz	0/14/18, 0-22
QPSK Demodulation	AFC	MHz	±3
	Symbol rate	Msymb/sec	2-40
	FEC		auto, 1/2,2/3,3/4,5/6,7/8
	Colour standard		PAL, SECAM, NTSC
	Video format		16/9, letter box, pan scan
	Output video level	Vpp-Ohm	1-75
	S/N not weighted	dB	>65
	Audio format		Mono/Mono Language 1, Mono Language 2/Stereo
		Audio/video outputs	
		Max. audio level	mV rms 550
		Input connectors	2xF female (input + loop-through)
		A/V output connectors	RCA
		Programming unit	TPE
		CAM housing	PCMCIA
		Mains voltage	Vac, Hz 220-240, 50-60
		LNB power supply	mA, V max 200@14
		Power consumption	W 11
		Compliant to	EN60065: 2004-06, EN50083-2: 2002-05
		Dimensions	e (mm) width 7 (35.5), U (mm) height 3 (133.3), mm depth 240
		Operating temperature	°C -10 to +45

High level headends

Headline Series

DVB-S2 receiver

New

SIG7100

The SIG7100 module, with its Common interface, distributes an encrypted or free-to-air digital signal from satellite in DVB-S or DVB-S2 standard.

It can be installed as a standalone unit to distribute one program through the RCA outputs or it can be connected to an SIG7120 module (COFDM modulator) or SIG728x modules (analogue modulators). When connected to the SIG7120 it enables the distribution of a compressed MPEG-4 channel.

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



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

Headline Series

COFDM modulator

New

SIG7120

The SIG7120 modulates a signal (TS) received in the input from the back panel in COFDM DVB-T standard. The main application is DVB-S2 to COFDM transmutation, when connected to an SIG7100 module.

On the front panel there is an additional F connector for output loop-through feature.

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



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

Headline Series

Transmitters

SIG7600-HTX

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

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



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

Headline Series

Optical splitters

SIG7622
SIG7624

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

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



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

High level headends

Headline Series

IP encoders (FTA)

New

SIG7710
SIG7730

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

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



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

Headline Series

IP encoder with CI

New

SIG7720

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

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



Item Code		SIG7720 283947	
Input	Connector	type	48 poles on back panel
	Max. bit rate	Mbit/s	100
Output	LAN interface		IEEE 802.3 100BaseT
	Incapsulation		ETSI TS102034
	Type of streaming		Multicast/Unicast
	Web services		DVB Encapsulation, http, TELNET, FTP, SAP
General features		Mains voltage	Vac, Hz
		Power consumption	W
		Dimensions	e (mm)
			U (mm)
			mm
		Operating temperature	°C

Headline Series

Interconnection module

SIG7900

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



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

Headline Series

Accessories

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

High level headends

Headline Series

Accessories

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

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



TPE

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

Item	Code	Description	
CV-RCA/HQ	288952	High quality A/V cable with 3 RCA connectors 27.5cm in length, 38.5cm in length with 3 connectors	
New			

Headline Series

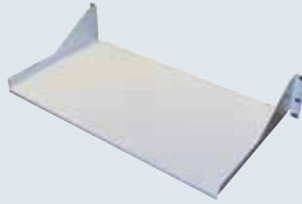
19" rack cabinets

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

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

Headline Series

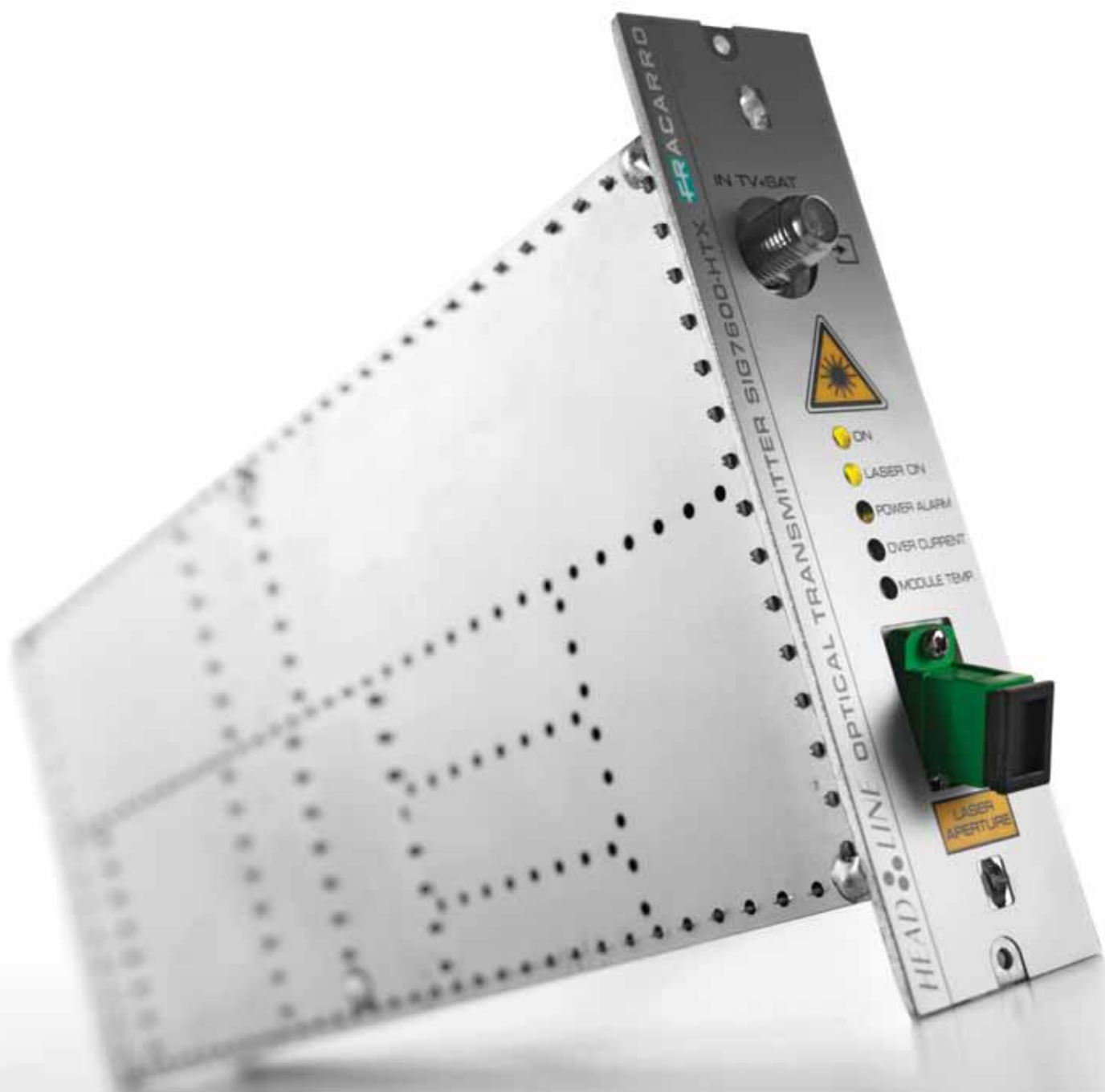
Rack accessories

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

CATV systems and fibre optic solutions

The CATV range of amplifiers are designed to distribute signals in large installations. These solutions, along with Fracarro headends, allow central installations for the reception, filtering and amplification of signals and distribution to all outlets.

For professional installations over long distances for the distribution of TV and Satellite (from 47 to 2150MHz), a range of Fracarro fibre optic equipment has been designed, including optic transmitters and receivers, splitters and a wide range of accessories. The fibre optic devices are available in a modular version (K Series) and a professional version (Headline).



CATV systems

TV amplifiers

▶ J21B - J31B	108
▶ AMP9762 - AMP9762B	108

CATV amplifiers

▶ AMP5121.. Series	109
▶ AMP522.. Series	110

Accessories

▶ Diplexer modules	111
▶ Splitter modules	111
▶ Link modules	111
▶ Interstage modules	112
▶ Pad attenuator modules for AMP522Px	112

UBB amplifiers

▶ AMP9763 - AMP9763B	113
----------------------	-----

CATV C4 UBB amplifiers

▶ AMP523.. Series	114
-------------------	-----

Accessories

▶ Adaptors and accessories box	115
▶ PSU8510	115

Fibre optic solutions

Fibre optic characteristics	116
------------------------------------	-----

Optical trasmitters and receivers

▶ OPT.. Series	116
▶ KTX-KRX	117
▶ KTX-RC/KRX-RC	117

Optical splitters

▶ KSP..and SIG76.. Series	117
---------------------------	-----

Fibre optic cables

▶ OPC.. Series	118
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Accessories

▶ Patch cables, adaptor and fibre organiser	118
▶ Splice box	118

Quick reference guide for optical link design

119

CATV systems

TV amplifiers

J21B - J31B

Push-pull amplifiers with excellent performance in band linearity and flatness. This unit conforms to standard EN60065 and is manufactured in die cast housing with F connectors and direct connection to the mains. Shielding factor to standard EN50083-2. It is possible to equalise cable losses from 0 to 20dB. Mains voltage 220-240V~, 50-60Hz. Power consumption 3.5W.

J21B
J31B



Item	Code	Gain (adj.) dB	No. of outputs	Output level dB μ V	Noise figure dB	Frequency MHz	Operating temperature °C	Packaging pcs.
J21B	223023	21 (20)	1	117	10	47-862	-10 to +55	1
J31B	223024	31 (20)	1	117	10	47-862	-10 to +55	1

TV amplifiers

AMP9762 - AMP9762B

Terrestrial line amplifiers with return path. To be used as the final amplifier before wall outlets. Normally used to amplify signals in small distribution networks. These amplifiers can be used at the output of an optical link.

All the adjustments are internally located under the die cast cover to prevent unauthorised access.

The die cast cover is secured with safety screws. For installation, supports are available (item MBX0001 see page 69) that leave a space of 19mm between the amplifier and the wall, allowing room for cables or the amplifier to be mounted in different positions. Packaging 1 pc.

- Gain and slope can be adjusted
- Passive or active return path, switchable by the installer

AMP9762
AMP9762B



Item Code		AMP9762* - AMP9762B		New
		235051	235055	
Bandwidth	MHz	5-30 (AMP9762), 5-65 (AMP9762B)		47-862
Gain	dB	25 **		40
Flatness	dB	±2		±2
Gain adjustment	dB	-		0-20
Slope adjustment	dB	-		0-20
Max. output level				
IM3 -60dB 3 unequal tones	dB μ V	100		120
IM3 -54dB 2 equal tones	dB μ V	100		120
IM3 -52dB 3 equal tones	dB μ V	98		118
IM3 -60dB 3 equal tones	dB μ V	94		114
IM3 -60dB 2 equal tones	dB μ V	97		117
IM2 -60dB 2 equal tones	dB μ V	95		115
Noise figure	dB	3		8
Impedance	Ohm	75		
Connectors	Type	F		
Test point	dB	-30		
Mains voltage	Vac, Hz	220-240, 50-60		
Power consumption	W	9		
Protection index		IP20		
Dimensions (w x h x d)	mm	194x143x53		
Operating temperature	°C	-10 to +55		

* UK version available: AMP9762UK - Code 235054

** Return path gain can be set to -2dB.

CATV amplifiers

AMP5121.. Series

AMP5121L
AMP5121M

Distribution amplifiers to be used in HFC (hybrid fibre cable) networks.

- High output level and low power consumption using GaAs FET hybrid technology
- Gain and tilt adjustment using attenuators
- Integrated active or passive return path, selected by a switch
- 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



ACCESSORIES AMP5121 SERIES

- Diplexer filter modules: MDA.. , 2 pieces per product
- Interstage modules: MEX.. , 1 piece per product
- Output splitter modules: MS.. , 1 piece per product

ATTENTION: the products need further accessories and connectors to function which are not included in the packaging

Minimum configuration requires:

- 2 x diplexer filter modules MDA (see page 111), if not required replace them with two ML02 link modules
- 1 piece x interstage module MEX (see page 112), if not required replace it with one ML01 module
- The amplifier is supplied with PG11 threads, adaptors not included. Page 115 shows the list of available adaptors

Item Code		AMP5121L 289696	AMP5121M 289695
Forward path, bandwidth (depends on diplexer modules)	MHz	47-862	
Gain	47/862MHz - dB	38/38	
Attenuation	dB	0-18	
Equaliser	dB	0-18	
Linearity	dB	±1	
Output level, 3 rd order (DIN 45004 B)	dBμV	124	
Output level, 2 nd order (DIN 45004 B)	dBμV	122	
Output level, CTB (42 ch CENELEC)	flat/8dB tilt - dBμV	108.5/111	
Output level, CSO (42 ch CENELEC)	dBμV	112	
Noise figure	47/862MHz - dB	5/6.5	
Return loss, @40 MHz	dB	18-1.5/oct	
Return path, bandwidth (depends on diplexer modules)	MHz	5-65	
Line power, voltage	Vac	24-65	-
Line power, current	mA	750-330	-
Mains power, voltage	Vac	-	175-260
Power consumption (incl. return path)	W	13.5	
Operating temperature	°C	- 10 to 55	
Dimensions (w x h x d)	mm	200x180x82	
Packaging	pcs	5	3

Note: All specifications are with ML01 modules.

CATV systems

CATV amplifiers

AMP522.. Series

AMP522AL - AMP522AM
AMP522PL - AMP522PM

Distribution amplifiers to be used in HFC (hybrid fibre cable) networks

- High output level and low power consumption using GaAs FET hybrid technology
- Gain and tilt adjustment using attenuators (AMP522AL - AMP522AM) or using PAD (AMP522PL - AMP522PM)
- Mains or line powered with switch mode power supply
- Integrated active or passive return path, selected by a switch
- 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



ACCESSORIES AMP522Ax - AMP522Px SERIES

- Diplexer filter modules: MDA for the return path, 2 pieces per product
- Interstage module: MEX, 1 piece per product
- Output splitter module: MSxx, 1 piece per module
- DIB module: MDIB, to reduce noise from the return path
- Link module MLxx, to be used to replace MDA, MS
- Pad modules: MPG, to be used to set the attenuation and tilt (only for AMP522Px)

ATTENTION: the products need further accessories and connectors to function which are not included in the packaging

Minimum configuration requires:

- 2 x diplexer filter modules MDA (see page 111), if not required replace them with two ML02 link modules
- The amplifier is supplied with PG11 threads, adaptors not included. Page 115 shows the list of available adaptors
- Only for AMP522Ax: 1 piece x interstage module MEX (see page 112), if not required replace it with one ML01 module
- Only for AMP522Px: 6 pieces of MPG pad modules (see page 112)

Item Code		AMP522AL 289602	AMP522AM 289604	AMP522PL 289601	AMP522PM 289603
Forward path					
Bandwidth (depends on diplexer modules)	MHz	47-862			
Gain (8dB gain switch)	47/862 MHz - dB	30/38			
Gain adjustment	dB	0-18 by attenuators		0-22 by pads	
Gain adjustment	dB	0-18 by attenuators		0-18 by pads	
Linearity	dB	±1			
3 rd order (DIN 45004 B)	dBμV	124			
2 nd order (DIN 45004 A1)	dBμV	121			
CTB (42 ch CENELEC)	flat/8dB tilt - dBμV	108/110			
CTB (42 ch CENELEC) by 6dB interstage att.	flat/8dB tilt - dBμV	107.5/109.5			
CSO (42 ch CENELEC)	dBμV	110			
Noise Figure	47/862 MHz - dB	5/6.5			
Noise Figure by 6dB interstage att.	47/862 MHz - dB	6/8	5/7	6/8	5/7
Return loss, @40MHz	dB	18-1.5/oct			
Return path					
Bandwidth (depends on diplexer modules)	MHz	5-65			
Gain	dB	23			
Gain adjustment	dB	0-18 by attenuators		0-18 by pads	
Equaliser	dB	0-8 by attenuators		0-8 by pads	
Linearity	dB	± 1			
3 rd order (DIN 45004 B)	dBμV	119			
2 nd order (DIN 45004 A1)	dBμV	104			
Noise Figure	dB	6			
General features					
Line power, voltage	Vac	24-65	-	24-65	-
Line power, current	mA	540-250	-	540-250	-
Mains power, voltage	Vac		175-260		175-260
Power consumption (incl. return path)	W	12.5			
Dimensions (w x h x d)	mm	200x180x82			
Operating temperature	°C	-10 to +55			

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

Accessories

Diplexer modules

MDA3047 - MDA4254 - MDA5573
MDA6080 - MDA6587

Diplexer filter modules to be used with the AMP522.. amplifier range.
To mix/demix the return path and forward path.
Packaging 10 pcs.



Item Code		MDA3047 289613	MDA4254 289614	MDA5573 289615	MDA6080 289616	MDA6587 289617
Frequency range, forward path	MHz	47-862	54-862	73-862	80-862	87-862
Frequency range, return path	MHz	5-30	5-42	5-55	5-60	5-65
Insertion loss return path	dB	0.6@30MHz	0.7@40MHz	0.7@55MHz	0.7@60MHz	0.7@65MHz
		-	1.0@42MHz	-	-	-
Insertion loss forward path	dB	-	-	1.0 @ 73MHz	-	-
		0.6@47MHz	0.7@54MHz	0.7@75MHz	0.8@80MHz	0.7@87MHz
		0.3@862MHz	0.3@862MHz	0.3@862MHz	0.3@862MHz	0.3@862MHz

Accessories

Splitter modules

MS100 - MS101 - MS110 - MS114
MS118 - MS207 - MS404

Splitter modules to be used with the AMP522.. amplifier range to
set the outputs.
Packaging 10 pcs.



Item Code		MS100 289650	MS101 289651	MS110 289652	MS114 289653	MS118 289654	MS207 289690	MS404 289656
Frequency range	MHz	5-1000	5-1000	5-1000	5-1000	5-1000	5-1000	5-1000
Insertion loss, output A 5 / 606 / 862 / 1000MHz	dB	0	no pass	-	-	-	-	-
		-	-	10.2/9.9/9.9/10	14.2/14/14/14	18.2/18/17.8/18	7.3/6.8/6.8/6.9	3.3/3.5/3.7/3.9
Insertion loss, output B 5 / 606 / 862 / 1000MHz	dB	no pass	0	-	-	-	-	-
		-	-	0.9/1.1/1.3/1.4	1.1/0.7/0.9/1.2	0.7/0.4/0.5/0.7	1.8/2.2/2.4/2.5	3.3/3.5/3.7/3.9
Isolation, out A - out B @ 40	MHz	-	-	>29-1.5/oct	>34-1.5/oct	>38-1.5/oct	>23-1.5/oct	>20-1.5/oct

Accessories

Link modules

Item	Code	Description	
ML01	289627	Link module ML01 is used as a bridge socket for the interstage modules and/or socket for return path modules (2 pcs). ML02 link module is used as a bridge in the splitter and diplex filter sockets. Frequency range: 5-1000MHz - Insertion loss: 0dB Return loss: 26-1.5/oct. - Packaging 10 pcs	
ML02	289628		
MP20	289629	Test module to be inserted in the MS-module socket to avoid interrupting the connected distribution network. Frequency range: 5-1000MHz - Tap loss: 20dB Linearity: ±0.5dB - Packaging 5 pcs.	

CATV systems

Accessories

Interstage modules

Interstage modules designed to provide attenuation and slope between the two different forward amplifier stages in AMP5121.. and AMP522.. amplifiers.
Packaging 10 pcs.

MEX800 - MEX802
MEX804 - MEX806



Item Code		MEX800/08 289620	MEX802/08 289622	MEX804/08 289624	MEX806/08 289626	MEX800/06 289619	ME/802/06 289621	MEX804/06 289623	MEX806/06 289625
Frequency	MHz	47-862	47-862	47-862	47-862	47-862	47-862	47-862	47-862
Insertion loss, pos. A 47/862MHz	dB	0/0	2/2	4/4	6/6	0/0	2/2	4/4	6/6
Insertion loss, pos. B 47/862MHz	dB	8/0.3	10/2	12/4	14/6	6/0.3	8/2	10/4	12/6

Accessories

Pad attenuator modules for AMP522Px

High quality gold plated 1GHz pads for amplifier slope and attenuation.
Packaging 10 pcs.

MPG..



Item	Code	Attenuation - tilt	Item	Code	Attenuation - tilt
MPG00	289630	attenuation 0dB - tilt 0dB	MPG09	289639	attenuation 9dB - tilt 9dB
MPG01	289631	attenuation 1dB - tilt 1dB	MPG10	289640	attenuation 10dB - tilt 10dB
MPG02	289632	attenuation 2dB - tilt 2dB	MPG12	289641	attenuation 12dB - tilt 11.5dB
MPG03	289633	attenuation 3dB - tilt 3dB	MPG14	289642	attenuation 14dB - tilt 13dB
MPG04	289634	attenuation 4dB - tilt 4dB	MPG16	289643	attenuation 16dB - tilt 14.5dB
MPG05	289635	attenuation 5dB - tilt 5dB	MPG18	289644	attenuation 18dB - tilt 16dB
MPG06	289636	attenuation 6dB - tilt 6dB	MPG20	289645	attenuation 20dB - tilt 17dB
MPG07	289637	attenuation 7dB - tilt 7dB	MPG22	289646	attenuation 22dB - tilt 18.5dB
MPG08	289638	attenuation 8dB - tilt 8dB			

UBB amplifiers

AMP9763 - AMP9763B

AMP9763
AMP9763B

UBB (ultra broadband) line amplifiers with return path. To be used as the final amplifier before wall outlets. Normally used to amplify signals in small distribution networks. Can be used to amplify the signals after an optical link. All adjustments are internally located under the die cast cover secured with safety screws to prevent unauthorised access. Packaging 1 pc.

- Gain and slope adjustment in TV and SAT band
- Passive or active return path, switchable by the installer



Item Code		AMP9763 - AMP9763B 235052 - 235056		New
Bandwidth	MHz	5-30 (AMP9763) , 5-65 (AMP9763B)	47-862	950-2400
Gain	dB	25 *	40	40
Flatness	dB	±2	±2	±2
Gain adjustment	dB	-	0-20	0-20
Slope adjustment	dB	-	0-20	0-20
Max. output level				
IM3 -60 dB 3 unequal tones	dBμV	100	120	-
IM3 -54 dB 2 equal tones	dBμV	100	120	-
IM3 -52 dB 3 equal tones	dBμV	98	118	-
IM3 -60 dB 3 equal tones	dBμV	94	114	-
IM3 -60 dB 2 equal tones	dBμV	97	117	-
IM2 -60 dB 2 equal tones	dBμV	95	115	-
IM2 -35 dB 2 equal tones	dBμV	-	-	125
Noise figure	dB	3	8	10
Connectors			F	
Impedance	Ohm		75	
Test point	dB		-30	
Mains voltage	Vac, Hz		220-240, 50-60	
Power consumption	W		16	
Protection index			IP20	
Dimensions (w x h x d)	mm		194x143x53	
Operating temperature	°C		-10 to +55	

* Return path gain can be set to -2dB.

Note: Spacers available (item MBX0001 see page 69) for installation to leave a 19mm gap between the amplifier and the wall to allow cable to be run neatly behind the amplifier.

CATV systems

CATV C4 UBB amplifiers

AMP523.. Series

AMP523L
AMP523M

These amplifiers are used as trunk distribution amplifiers in large networks with TV and SAT band distribution. They amplify the forward and return path. Mains and remote powered versions available. PG11 thread for different connector types. Packaging 1 pc.

- High output level and low power consumption
- Switchable passive or active return path
- Gain and tilt adjustment using attenuators
- LED operating indication
- Minimal noise figure through equalisation and attenuation after pre-amplifier stage



Item Code		AMP523L - AMP523M		
		289896	-	289895
Frequency	MHz	4-65	86-862	950-2400
Gain	dB	switchable	34	40
Flatness	dB	-	±1	±1.5
Gain adjustment	dB	-	0-20	0-20
Noise figure	dB	6.5	7	8.5
Equalisation	dB	-	0-20	0-20
Max. output level				
60dB IMA3 (DIN45004B)	dBμV	119		
60dB IMA2 (DIN45004A1)	dBμV	111		
60dB CTB	dBμV	105		
60dB CSO	dBμV	106		
35dB IMA3/2150	dBμV	-	-	120
Return loss	dB	20@40MHz - 1.5/oct		
Operating voltage	Vac	AMP523L: 24-70 AMP523M: 180-265		
Consumption	W	AMP523L: 13-15 AMP523M: 13		
Transit current	A	- AMP523M: 2.5		
Connectors		PG11		
Dimensions (w x h x d)	mm	242x163x60 (IP66)		
Operating temperature	°C	- 10 to 55		

Attention: The product has to be completed with connectors, not included in the packaging (see following page).

Accessories

Adaptors and accessories box

Item	Code	Description	
PG11-3,5/12	289658	PG11 to 3.5/12 adaptor - packaging 10 pcs	
PG11-5/8	289659	PG11 to 5/8" reduction ring - packaging 100 pcs	
PG11-F	289660	PG11 to F adaptor - packaging 10 pcs	
PAD-BOX	289661	Box with a variety of pads and other accessories.	
		MPG00 - Pack. 12 pcs	
		ML01 - Pack. 6 pcs	
		MPG02 to 22 - Pack. 3 pcs each	
		5A fuses - Pack. 5 pcs	
		MS100 - Pack. 2 pcs	
		O rings - Pack. 10 pcs	
		MS101 - Pack. 2 pcs	
		Terminals - Pack. 10 pcs	
		MS404 - Pack. 2 pcs	

Accessories

PSU8510

New

PSU8510

Power supply for CATV networks, to be used to feed line and distribution amplifiers (AMP5121L, AMP522AL, AMP522PL and AMP523L) through the cable. Power inserter built-in, with two outputs.

Output voltage (48, 60 or 68Vac,selectable by means of a fuse) can be injected in one or both trunk. PG11 tread, 5/8" reduction ring included. Operating temperature: -10 to +55 °C

- High output current, 10A max
- Die-cast housing, IP65
- Output voltage can be injected in both outputs
- Protected against accidental short circuit and overload



Item Code		PSU8510 289847
Outputs	n°	2
Bandwidth	MHz	5-862
Output voltage	Vac	Selectable 48, 60 or 68 means of fuse
Output current	A	10@48Vac
Mains voltage	Vac, Hz	230, 50-60
Connector	type	PG11 with 5/8" reduction ring
Max. power consumption	W	600 @ 48Vac
Dimensions	mm	210x170x115
Operating temperature	°C	- 10 to + 55

Fibre optic solutions

Fibre optic characteristics

- Suitable for TV and satellite applications
- Optimal electrical performance
- Low signal loss over long distances
- Installation problems and signal quality degradation reduced as line amplifiers not required
- Large bandwidth ideal for both analogue and digital distribution
- Excellent linearity, well above coaxial standards
- Easy and cost effective to install
- 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
- The Fracarro range allows you to create customised interactive networks due to return path modules.



K Series system: applications

- Multi-dwelling units
- Hotels
- Hospitals
- Commercial sites
- Sports stadiums
- Areas where electromagnetic interference is a problem
- Sites where a degree of waterproofing is required

Headline Series

High power optical transmitter available in the Headline range (see page 101)

Optical transmitters and receivers

OPT.. Series

New

OPT-RX51
OPT-RX54

OPT-TX51
OPT-TX54

OPT-TX 51 converts and distributes terrestrial and 4 satellite polarities through one single cable, saving time and money in installation.

Viceversa OPT-RX51 converts back these terrestrial and satellite signals.

OPT-TX54 and OPT-RX54 are respectively a 4 optical transmitter and a 4 optical receiver for TV-SAT signals in the same housing.

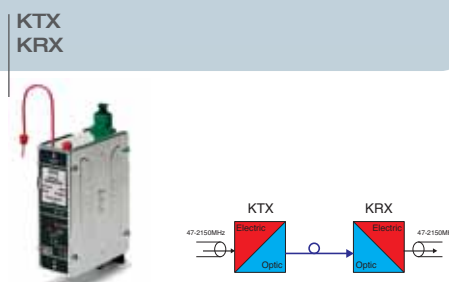


Item	Code	OPTICAL INTERFACE			RF SECTION						
		Wave length nm	Input power dBm	Output power dBm	Bandwidth MHz	Gain dB	Max. input level dBμV	Max. output level dBμV	Power consumption mA@14V	Power supply Vac, Hz	LNB supply mA
OPT-TX51	270690	1260-1600	-	10	47-862, 950-2200	4	-	110	-	220-240, 50-60	300
OPT-TX54	270692	1260-1600	-	4	47-862, 950-2200	9	-	115	-	220-240, 50-60	300
OPT-RX54	270689	1260-1600	-12 to +5	-	47-862, 950-2200	4	120	-	240	14-18V	-
OPT-RX51	270691	1260-1600	-12 to +5	-	47-862, 950-2200	4	117	-	240	14-18V	-

Optical transmitters and receivers

KTX - KRX

KTX optical transmitter converts an RF TV-SAT signal into an optical signal.
KRX optical receiver converts the optical signal into a TV-SAT signal.
SC/ACP connectors on the optical interface.



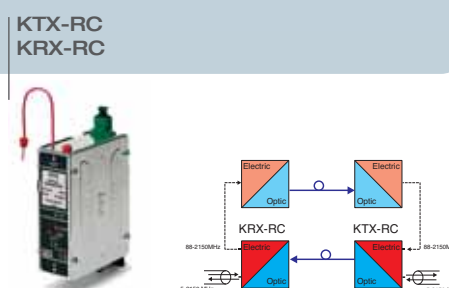
Item	Code	OPTICAL INTERFACE			Bandwidth MHz	Return loss dB	Gain dB	RF SECTION		Power consumption mA	Power supply V
		Wave length nm	Input power dBm	Output power dBm				Max. input level dBμV	Max. output level dBμV		
KTX	270686	1310±20	-	6	47-2150	>12	-20	89 (88-860MHz)* 79 (950-2150MHz)	-	80	12
KRX	270677	1100±1600	-10 to +6	-	47-2150	>12	+25	-	94 (88-860MHz)** 84 (950-2150MHz)	150	12

* Set input level to obtain the following performances from the output of the KRX receiver with optic input 0dBm. TV band: SNR>51dB, CSO<-60dBc, CTB<-60dBc (42 CENELEC channels)
- SAT band: C/IMD>35dB (30 transponders)
** Optic input 0dBm received from KTX

Optical transmitters and receivers with return channel

KTX-RC / KRX-RC

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.
SC/ACP connectors on the optical interface.



Item	Code	OPTICAL INTERFACE			Bandwidth MHz	Diplexer MHz	Return loss dB	Gain dB	RF SECTION		Power consump. mA	Power supply V
		Wave length nm	Input power dBm	Output power dBm					Max. input level dBμV	Max. output level dBμV		
KTX-RC	270671	1310±20	-	0	5-65	5-65/88-2150	>10	-24	96 (5-65MHz)*	-	160	12
KRX-RC	270672	1100-1600	-10 to 0	-	5-65	5-65/88-2150	>10	+28	-	93 (5-65MHz)*	90	12

* Set up level to have IM2 and IM3<-47dBc with two tones as per specifications EUROINCSIG

Optical splitters

KSP.. and SIG76.. Series

KSP1_2 and SIG7622 split the optical signal into two outputs, KSP1_4 and SIG7624 into four outputs. These items can be installed anywhere in the distribution network without using a power supply.



Item	Code	OPTICAL INTERFACE					
		Wave length nm	No. of outputs	Insertion loss dB	Return loss dB	Isolation dB	Connectors type
KSP1_2	270679	1310, 1550	2	3.2	>45	>45	SC/ACP
KSP1_4	270680	1310, 1550	4	6.4	>45	>45	SC/ACP
SIG7622	270687	1310, 1550	2	3.2	>50	>50	SC/ACP
SIG7624	270688	1310, 1550	4	6.4	>50	>50	SC/ACP

Fibre optic solutions

Fibre optic cables

OPC.. Series

OPC40M - OPC80M
OPC40MA - OPC80MA
OPC410M.. - OPC810M..

Cables for indoor and outdoor applications.



Item	Code	Description
OPC40M	289397	Cable with 4 singlemode fibres for indoor and outdoor applications.
OPC80M	289401	Cable with 8 singlemode fibres for indoor and outdoor applications.
OPC40MA	289400	Cable with 4 singlemode fibres for outdoor installation. Metal armour for rodent protection.
OPC80MA	289399	Cable with 8 singlemode fibres for outdoor installation. Metal armour for rodent protection.
OPC410M1	289692	Cable with 4 singlemode fibres for indoor and outdoor applications - 1050m.
OPC410M2	289693	Cable with 4 singlemode fibres for indoor and outdoor applications - 2100m.
OPC810M1	289691	Cable with 8 singlemode fibres for indoor and outdoor applications - 1050m.
OPC810M2	289694	Cable with 8 singlemode fibres for indoor and outdoor applications - 2100m.

Accessories

Patch cables, adaptor and fibre organiser

Item	Code	Description
PIGTAIL New	287092	1m pigtail. SC/APC
BR2-AA	289360	Singlemode patch cables / 2m with connectors. SC/APC-SC/APC.
BR4-AA	289362	Singlemode patch cables / 4m with connectors. SC/APC-SC/APC
BFO-SC-APC	289349	Adaptor for single mode angled connectors. For mounting in patch panel.
OPO12P	289402	Extremely compact fibre organiser (12 positions). Developed to ensure the best position for fibre optic cables. Plastic casing - Dimensions : 150x95x10mm



Accessories

Splice box

OPB24I
OPB8I

OPB24IR

Wall and rack mounting solution.



Item	Code	Casing	Dimensions mm	Positions	Notes
OPB24I	289403	Painted steel	365x320x100	24 positions	For inserting additional optical cables
OPB8I	289405	Painted steel	160x140x50	8 positions	For inserting additional optical cables
OPB24IR	289404	Painted steel	240x43x223	19" Rack - 24 positions	For inserting additional optical cables

Quick reference guide for optical link design

This guide should be used in order to obtain optimum performance from your FRACARRO optical system.

STEP 1:

You need to know the number of inputs and the optical attenuation. Firstly, ensure you know what you are transmitting; how many analogue terrestrial channels, how many SAT transponders etc. For example, 20 analogue terrestrial channels, 6 digital terrestrial transponders and 30 SAT transponders. You will then need to know the amount of optical loss between the KTX and the KRX (for example, if there is a 1x2 optical splitters and 5Km of fibre optic, the loss will be around 6dB).

STEP 2:

You need to determine the optimum input level. The critical point is always the transmission of analogue terrestrial channels. So, if we consider the 20 analogue channels from the previous example the bottom row of the table shows that no more than 95dB μ V can be applied. If your headend equipment allows, set their power to this value; otherwise, ensure you do not exceed it. As a general rule, digital transponders' power must be 10dB-15dB lower than analogue channels: in this example, their optimum setting is 80-85dB μ V per transponder.

STEP 3:	Optical attenuation (dB)
	0dB

Then you need to calculate the SNR and output level. Considering an optical attenuation of 6dB (the middle green diagonal line) the SNR can be read at the intersection of the input level column and the optical attenuation diagonal. In the previous example, the SNR for analogue channels would be 53dB. The output level can then be read moving left until you reach the last column: in the example this would be 88dB μ V for each analogue channel. For digital transponders similar considerations should be applied. If you set either the DTT or SAT transponders' power at 85dB μ V, their SNR will be 43dB, and the output level will be 78dB μ V.

Further examples are shown in the user guide: we recommend they are read carefully!

90			50	51	52	53	54	54,5	55	55,5	56	56,5	57	
88		48	49	50	51	52	52,5	53	53,5	54	54,5	55		
86	46	47	48	49	50	50,5	51	51,5	52	52,5	53			

SNR

[illegible]

Multiswitches

More than 90 products are available in cascade and compact versions, divided into 17 families that are characterised by the number of inputs (from 2 to 17) and outputs (from 4 to 24).

The large product range enables Fracarro to be the market leader and to fulfil any installation need. The right solution can be found for any location from small installations to medium and large systems.

The multiswitch systems by Fracarro are “green products” as they have been carefully designed to reduce energy consumption.



Multiswitches

Compact multiswitches

▶ SWI95.. Series	122
▶ SWI45.. Series	123
▶ SWI55.. Series	123
▶ SWI55..A Series	124
▶ SWI5..DC Series	124
▶ SWI59..A Series	125
▶ SWI59..AS Series	126
▶ SWI517..AS Series	126

Cascadable multiswitches

▶ SWI44.. Series	127
▶ SWI35.. Series	128
▶ SWI85..PLUS Series	129
▶ SWI85..STPLUS Series	130
▶ SWI39.. Series	131
▶ SWI39AT	132
▶ SWI39..S Series	132
▶ SWI89..PLUS Series	133
▶ SWI317..S Series	134
▶ SCR Series	135

Amplifiers

Headend amplifiers

▶ AMP Series	136
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Line amplifiers

▶ SWA.. Series	137
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Power supplies - Accessories

Power supplies	138
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Accessories

▶ Splitters and taps	139
▶ Mini DiSEqC	139

Multiswitches

Compact multiswitches

SWI95.. Series

SWI9508
SWI9512
SWI9516

SWI9508/UK
SWI9512/UK
SWI9516/UK

5 input compact adjustable multiswitches (4 SAT + 1 TV)

- TV gain adjustment
- 2 x SAT gain adjustments (high and low band)
- Fixed gain on the return path
- Full HD compliant
- 2A power supply for mixed systems (like SWI85... MSW cascable series)
- Standard colour coding for easy installation



Item * Code		SWI9508 271109	SWI9512 271110	SWI9516 271111
No. of inputs		5 (4 SAT + 1 TV)	5 (4 SAT + 1 TV)	5 (4 SAT + 1 TV)
No. of outputs		8	12	16
SAT				
Bandwidth	MHz	950-2150	950-2150	950-2150
Gain	dB	5 to 10	5 to 10	3 to 9
Gain adjustment	dB	15	15	15
Maximum output level	dBμV	110 (-35dBc 2 tones)	110 (-35dBc 2 tones)	110 (-35dBc 2 tones)
TV				
Bandwidth	MHz	85-862	85-862	85-862
Gain	dB	2 to 5	2 to 5	1 to 4
Gain adjustment	dB	20	20	20
Maximum output level	dBμV	100 (-60dBc 3 tones)	100 (-60dBc 3 tones)	98 (-60dBc 3 tones)
RETURN PATH				
Bandwidth	MHz	5-65	5-65	5-65
Gain	dB	8	7	6
Maximum output level	dBμV	108	108	108
GENERAL PARAMETERS				
LBN power supply	mA	1550	1450	1360
Switching control	V, KHz	14/18, 0/22	14/18, 0/22	14/18, 0/22
Mains voltage	V, Hz	220-240, 50-60	220-240, 50-60	220-240, 50-60
Power consumption	mA	450	550	640
Dimensions (lxhxd)	mm	380x127x60	455x127x60	530x127x60
Operating temperature	°C	-10 to 55	-10 to 55	-10 to 55

* UK switches: SWI9508/UK - code 271106, SWI9512/UK - code 271107, SWI9516/UK - code 271108

Compact multiswitches

SWI45.. Series

SWI4508
SWI4512
SWI4516

5 input compact multiswitches (4 SAT + 1 TV)

- Active TV/SAT band
- Compact size
- Switch mode power supply guarantees high reliability
- Return path included
- Full HD compliant
- Standard colour coding for easy installation



Item Code		SWI4508 271101	SWI4512 271102	SWI4516 271103
No. of inputs		5 (4 SAT + 1 TV)	5 (4 SAT + 1 TV)	5 (4 SAT + 1 TV)
No. of outputs		8	12	16
Bandwidth SAT	MHz	950-2150	950-2150	950-2150
Gain SAT	dB	0	0	0
Maximum output level SAT	dBμV	95	95	95
Bandwidth TV	MHz	85-862	85-862	85-862
Gain TV	dB	-4	-5	-6
Maximum output level TV	dBμV	95	95	95
RETURN PATH				
Bandwidth	MHz	5-65	5-65	5-65
Gain	dB	-16	-17	-19
GENERAL PARAMETERS				
LNB power supply	mA, V	300, 14	300, 14	300, 14
Switching control	V, KHz	14/18, 0/22	14/18, 0/22	14/18, 0/22
Mains voltage	V, Hz	220-240, 50-60	220-240, 50-60	220-240, 50-60
Dimensions (lxhxd)	mm	245x125x45	325x125x45	405x125x45
Operating temperature	°C	-10 to 55	-10 to 55	-10 to 55

Compact multiswitches

SWI55.. Series

New

SWI5508
SWI5512
SWI5516

5 input compact multiswitches (4 SAT + 1 TV)

- Compact size
- Switch mode power supply guarantees high reliability
- Return path included
- Full HD compliant
- Standard colour coding for easy installation



Item Code		SWI5508 271045	SWI5512 271046	SWI5516 271047
No. of inputs		5 (4 SAT + 1 TV)	5 (4 SAT + 1 TV)	5 (4 SAT + 1 TV)
No. of outputs		8	12	16
Bandwidth SAT	MHz	950-2150	950-2150	950-2150
Gain SAT	dB	0	0	0
Maximum output level SAT	dBμV	95	95	95
Bandwidth TV	MHz	5-862	5-862	5-862
Gain TV	dB	-16	-17	-19
Maximum output level TV	dBμV	95 (-35dBc 2 tones)	95 (-35dBc 2 tones)	95 (-35dBc 2 tones)
RETURN PATH				
Bandwidth	MHz	5-65	5-65	5-65
Gain	dB	-16	-17	-19
GENERAL PARAMETERS				
LNB power supply	mA, V	300, 14	300, 14	300, 14
Switching control	V, KHz	14/18, 0/22	14/18, 0/22	14/18, 0/22
Mains voltage	V, Hz	220-240, 50-60	220-240, 50-60	220-240, 50-60
Dimensions (lxhxd)	mm	245x125x45	325x125x45	405x125x45
Operating temperature	°C	-10 to 55	-10 to 55	-10 to 55

Multiswitches

Compact multiswitches

SWI55..A Series

SWI5506A
SWI5508A
SWI5512A
SWI5516A

5 input compact multiswitches (4 SAT + 1 TV)

- Active satellite band to guarantee the quality of the satellite signal with long cable drops
- Dip switch to feed masthead amplifier
- Return path included
- Full HD compliant
- Switch mode power supply guarantees high reliability
- Standard colour coding for easy installation



Item Code		SWI5506A 271041	SWI5508A 271042	SWI5512A 271043	SWI5516A 271044
No. of inputs		5 (4 SAT + 1 TV)	5 (4 SAT + 1 TV)	5 (4 SAT + 1 TV)	5 (4 SAT + 1 TV)
No. of outputs		6	8	12	16
SAT					
Bandwidth	MHz	950-2150	950-2150	950-2150	950-2150
Gain (tilt)	dB	2 to 4	2 to 4	2 to 4	2 to 4
Maximum output level	dBμV	90 (-35dBc 2 tones)	90 (-35dBc 2 tones)	90 (-35dBc 2 tones)	90 (-35dBc 2 tones)
TV					
Bandwidth	MHz*	5-862	5-862	5-862	5-862
Gain	dB	-16	-17	-20	-20
GENERAL PARAMETERS					
LNB power supply	mA, V	300, 14	300, 14	300, 14	300, 14
Switching control	V, KHz	14/18, 0/22	14/18, 0/22	14/18, 0/22	14/18, 0/22
Mains voltage	V, Hz	220-240, 50-60	220-240, 50-60	220-240, 50-60	220-240, 50-60
Power consumption	mA	25	25	25	25
Dimensions (lxhxd)	mm	265x125x65	305x125x65	385x125x65	445x125x65
Operating temperature	°C	-10 to 55	-10 to 55	-10 to 55	-10 to 55

*Return path included

Compact multiswitches

SWI5..DC Series

New

SWI508DC
SWI516DC

5 input compact multiswitches (4 SAT +1 TV)

- The LNB and multiswitch can be powered from a decoder
- 12V automatic circuit to feed a masthead amplifier
- Additional connector to feed a high power masthead amplifier
- Compact size
- Full HD compliant



Item Code		SWI508DC 271115	SWI516DC 271117
No. of inputs		5 (4 SAT + 1 TV)	5 (4 SAT + 1 TV)
No. of outputs		8	16
SAT			
Bandwidth	MHz	950-2150	950-2150
Gain (tilt)	dB	-2 to 1	-2 to 1
Maximum output level	dBμV	105 (-35dBc 2 tones)	105 (-35dBc 2 tones)
TV			
Bandwidth	MHz*	5-862	5-862
Gain	dB	-14	-20
GENERAL PARAMETERS			
Switching control	V, KHz	14/18, 0/22	14/18, 0/22
Power consumption	mA	35	35
Dimensions (lxhxd)	mm	200x118x30	390x118x30
Operating temperature	°C	-10 to 55	-10 to 55

*Return path included

Compact multiswitches

SWI59..A Series

SWI5908A
SWI5912A
SWI5916A

9 input compact multiswitches (8 SAT +1 TV)

- Dip switch for each output to set the main satellite
- Dip switch to feed masthead amplifier
- Active satellite band to guarantee the quality of the satellite signal with long cable drops
- Return path included
- Full HD compliant
- Switch mode power supply guarantees high reliability



Item Code		SWI5908A 271052	SWI5912A 271053	SWI5916A 271054
No. of inputs		9 (8 SAT + 1 TV)	9 (8 SAT + 1 TV)	9 (8 SAT + 1 TV)
No. of outputs		8	12	16
SAT				
Bandwidth	MHz	950-2150	950-2150	950-2150
Gain	dB	3	2	4 to 1
Maximum output level	dBμV	90 (-35dBc 2 tones)	90 (-35dBc 2 tones)	90 (-35dBc 2 tones)
TV				
Bandwidth	MHz*	5-862	5-862	5-862
Gain	dB	-16	-18	-20
GENERAL PARAMETERS				
LNB power supply	mA, V	600/14	600/14	600/14
Switching control	V, KHz	14/18, 0/22 DISEqC 2.0	14/18, 0/22 DISEqC 2.0	14/18, 0/22 DISEqC 2.0
Mains voltage	V, Hz	220-240, 50-60	220-240, 50-60	220-240, 50-60
Power consumption	mA	25	25	25
Dimensions (lxhxd)	mm	305x125x65	385x125x65	445x125x65
Operating temperature	°C	-10 to 55	-10 to 55	-10 to 55

*Return path included

Multiswitches

Compact multiswitches

SWI59..AS Series

New

SWI5906AS
SWI5908AS
SWI5912AS
SWI5916AS

9 input compact multiswitches (8 SAT +1 TV)

- Dip switch to select terrestrial active or passive path
- Standalone power supply for easier installation
- Full HD compliant
- Bandwidth up to 2300MHz
- Standard colour coding for easy installation



Item Code		SWI5906AS 287035	SWI5908AS 287036	SWI5912AS 287037	SWI5916AS 287038
No. of inputs		9 (8 SAT + 1 TV)	9 (8 SAT + 1 TV)	9 (8 SAT + 1 TV)	9 (8 SAT + 1 TV)
No. of outputs		6	8	12	16
SAT					
Bandwidth	MHz	950-2300	950-2300	950-2300	950-2300
Gain	dB	0	-2	-2	-3
Maximum output level	dBμV	95 (-35dBc 2 tones)	95 (-35dBc 2 tones)	95 (-35dBc 2 tones)	95 (-35dBc 2 tones)
TV					
Bandwidth	MHz	47-862	47-862	47-862	47-862
Gain	dB	-7 (passive), 13 (active)	-7 (passive), 13 (active)	-10 (passive), 0 (active)	-10 (passive), 0 (active)
Maximum output level	dBμV	100 (passive), 90 (active)	100 (passive), 90 (active)	100 (passive), 90 (active)	100 (passive), 90 (active)
GENERAL PARAMETERS					
LNB power supply	mA, V	1600, 12	1600, 12	1600, 12	1600, 12
Switching control	V, KHz	14/18, 0/22 DISEqC 2.0	14/18, 0/22 DISEqC 2.0	14/18, 0/22 DISEqC 2.0	14/18, 0/22 DISEqC 2.0
Mains voltage	V, Hz	220-240, 50-60	220-240, 50-60	220-240, 50-60	220-240, 50-60
Power consumption	mA	40	40	40	40
Dimensions (l x h x d)	mm	300x105x51	300x105x51	300x195x51	300x195x51
Operating temperature	°C	-20 to 60	-20 to 60	-20 to 60	-20 to 60

Compact multiswitches

SWI517..AS Series

New

SWI51706AS
SWI51712AS
SWI51716AS

17 input compact multiswitches (16 SAT +1 TV)

- Dip switch to select terrestrial active or passive path
- Standalone power supply for easier installation
- Full HD compliant
- Bandwidth up to 2300MHz
- Standard colour coding for easy installation



Item code		SWI51706AS 287039	SWI51712AS 287040	SWI51716SS 2897041
No. of inputs		17 (16 SAT + 1 TV)	17 (16 SAT + 1 TV)	17 (16 SAT + 1 TV)
No. of outputs		6	12	16
SAT				
Bandwidth	MHz	950-2300	950-2300	950-2300
Gain	dB	-3	-3	-5
Maximum output level	dBμV	95 (-35dBc 2 tones)	95 (-35dBc 2 tones)	95 (-35dBc 2 tones)
TV				
Bandwidth	MHz	47-862	47-862	47-862
Gain	dB	-7 (passive), +3 (active)	-10 (passive), 0 (active)	-10 (passive), 0 (active)
Maximum output level	dBμV	100 (active), 90 (active)	100 (active), 90 (active)	100, 90 (passive/active)
GENERAL PARAMETERS				
LNB power supply	mA, V	1600, 12	1600, 12	1600, 12
Switching control	V, KHz	14/18, 0/22 DISEqC 2.0	14/18, 0/22 DISEqC 2.0	14/18, 0/22 DISEqC 2.0
Mains voltage	V, Hz	220-240, 50-60	220-240, 50-60	220-240, 50-60
Power consumption	mA	60	60	60
Dimensions (l x h x d)	mm	430x105x51	430x195x51	430x240x51
Operating temperature	°C	-20 to 60	-20 to 60	-20 to 60

Cascadable multiswitches

SWI44.. Series

4 input cascadable multiswitches (4 SAT)

- The LNB can be fed directly from the decoder
- Three different levels of attenuation -17dB, -8dB and 0dB for signal balancing
- Full HD compliant
- Plastic bracket for quick and easy installation
- Standard colour coding for easy installation

SWI4404-00
SWI4404-08
SWI4404-17

SWI4406-00
SWI4406-08
SWI4406-17

SWI4408-00
SWI4408-08
SWI4408-17



Item Code		SWI4404-00 271081	SWI4404-08 271082	SWI4404-17 271083
No. of inputs		4	4	4
No. of outputs		4	4	4
Bandwidth	MHz	950-2150	950-2150	950-2150
Gain (tilt)	dB	0	-8	-17
Insertion loss	dB	2	2	2
Maximum output level	dBμV	105 (-35dBc 2 tones)	105 (-35dBc 2 tones)	-
Switching control	V, KHz	14/18, 0/22	14/18, 0/22	14/18, 0/22
Power consumption	mA	35	35	15
Dimensions (lxhxd)	mm	90x70x20	90x70x20	90x70x20
Operating temperature	°C	-10 to 55	-10 to 55	-10 to 55

Item Code		SWI4406-00 271084	SWI4406-08 271085	SWI4406-17 271086
No. of inputs		4	4	4
No. of outputs		6	6	6
Bandwidth	MHz	950-2150	950-2150	950-2150
Gain (tilt)	dB	0	-8	-17
Insertion loss	dB	2	2	2
Maximum output level	dBμV	105 (-35dBc 2 tones)	105 (-35dBc 2 tones)	-
Switching control	V, KHz	14/18, 0/22	14/18, 0/22	14/18, 0/22
Power consumption	mA	35	35	15
Dimensions (lxhxd)	mm	119x70x20	119x70x20	119x70x20
Operating temperature	°C	-10 to 55	-10 to 55	-10 to 55

Item Code		SWI4408-00 271087	SWI4408-08 271088	SWI4408-17 271089
No. of inputs		4	4	4
No. of outputs		8	8	8
Bandwidth	MHz	950-2150	950-2150	950-2150
Gain (tilt)	dB	0	-8	-17
Insertion loss	dB	3	3	3
Maximum output level	dBμV	105 (-35dBc 2 tones)	105 (-35dBc 2 tones)	-
Switching control	V, KHz	14/18, 0/22	14/18, 0/22	14/18, 0/22
Power consumption	mA	35	35	15
Dimensions (lxhxd)	mm	150x70x20	150x70x20	150x70x20
Operating temperature	°C	-10 to 55	-10 to 55	-10 to 55

Multiswitches

Cascadable multiswitches

SWI35.. Series

5 input cascadable multiswitches (4 SAT + 1 TV)

- Three different levels of attenuation -17dB, -8dB and 0dB for signal balancing
- Terminal version available with 0dB attenuation
- Return path included on all switches
- With the MiniDiSeqC and Tool Kit it is possible to distribute up to 4 satellites (16 polarities) + TV
- The MiniDiSeqC with 2 SAT inputs has a dip-switch to select the main satellite input
- Full HD compliant
- Standard colour coding for easy installation



Item Code	SWI3504P. 271013-C	SWI3504A10 271008	SWI3504A. 271011-C	SWI3504T. 271015-C
No. of inputs	5 (4 SAT + 1 TV)	5 (4 SAT + 1 TV)	5 (4 SAT + 1 TV)	5 (4 SAT + 1 TV)
No. of outputs	4	4	4	4
Gain SAT (tilt)	dB	-20 to -16	-8	-2 to 1
Insertion loss SAT	dB	-2	-2	-1 to 2
Maximum output level SAT	dBμV	-	110 (-35dBc 2 tones)	105 (-35dBc 2 tones)
Tap loss TV	dB	-19	-15	-12
Through loss TV	dB	-2,5	-3	-
Switching control	V, KHz	14/18, 0/22	14/18, 0/22	14/18, 0/22
Power consumption	mA	15	40	35
Dimensions (lxhxd)	mm	120x118x30	120x118x30	120x118x30
Operating temperature	°C	-10 to 55	-10 to 55	-10 to 55

Item Code	SWI3506P. 271014-C	SWI3506A10 271009	SWI3506A. 271012-C	SWI3506T. 271016-C
No. of inputs	5 (4 SAT + 1 TV)	5 (4 SAT + 1 TV)	5 (4 SAT + 1 TV)	5 (4 SAT + 1 TV)
No. of outputs	6	6	6	6
Gain SAT (tilt)	dB	-21 to -16	-8	-3 to 1
Insertion loss SAT	dB	-2,5	-2,5	-2 to 2
Maximum output level SAT	dBμV	-	110 (-35dBc 2 tones)	105 (-35dBc 2 tones)
Tap loss TV	dB	-19	-15	-13
Through loss TV	dB	-4	-4,5	-5
Switching control	V, KHz	14/18, 0/22	14/18, 0/22	14/18, 0/22
Power consumption	mA	15	40	35
Dimensions (lxhxd)	mm	160x118x30	160x118x30	160x118x30
Operating temperature	°C	-10 to 55	-10 to 55	-10 to 55

Item Code	SWI3508P. 271018-C	SWI3508A10 271010	SWI3508A. 271017-C	SWI3508T. 271019-C
No. of inputs	5 (4 SAT + 1 TV)	5 (4 SAT + 1 TV)	5 (4 SAT + 1 TV)	5 (4 SAT + 1 TV)
No. of outputs	8	8	8	8
Gain SAT (tilt)	dB	-21 to -16	-8	-2 to 1
Insertion loss SAT	dB	-3,5	-3,5	-3,5
Maximum output level SAT	dBμV	-	110 (-35dBc 2 tones)	105 (-35dBc 2 tones)
Tap loss TV	dB	-25	-22	-14
Through loss TV	dB	-1	-3	-
Switching control	V, KHz	14/18, 0/22	14/18, 0/22	14/18, 0/22
Power consumption	mA	15	40	35
Dimensions (lxhxd)	mm	200x118x30	200x118x30	200x118x30
Operating temperature	°C	-10 to 55	-10 to 55	-10 to 55

Cascadable multiswitches

SWI85..PLUS Series

New

SWI8508PLUS
SWI8512PLUS
SWI8516PLUS

5 input cascadable adjustable multiswitches (4 SAT + 1 TV)

- Optimised energy consumption
- Capable of 100m loop length
- Very high isolation (45dB)
- Very high electrical performance
- TV gain adjustment
- 2 x SAT gain adjustments (high and low band)
- Fixed gain on the return path
- Full HD compliant
- Can be used with SWI95.. to create a mixed system
- Standard colour coding for easy installation



Item Code		SWI8508PLUS 271055	SWI8512PLUS 271056	SWI8516PLUS 271063
No. of inputs		5 (4 SAT + 1 TV)	5 (4 SAT + 1 TV)	5 (4 SAT + 1 TV)
No. of outputs		8	12	16
SAT				
Bandwidth	MHz	950-2150	950-2150	950-2150
Gain (tilt)	dB	-4 to 0	-4 to 0	-3 to 1
Gain adjustment	dB	15	15	15
Maximum output level	dBμV	110 (-35dBc 2 tones)	110 (-35dBc 2 tones)	108 (-35dBc 2 tones)
Through loss	dB	2	2.5	2.5
TV				
Bandwidth	MHz	85-862	85-862	85-862
Gain (tilt)	dB	-8 to -4	-8 to -4	-9 to -5
Gain adjustment	dB	20	20	20
Maximum output level	dBμV	100 (-60dBc 3 tones)	100 (-60dBc 3 tones)	97 (-60dBc 3 tones)
Through loss	dB	1.5	2	2
RETURN PATH				
Bandwidth	MHz	5-65	5-65	5-65
Gain	dB	-4	-5	-6
Through loss	dBμV	95 (-35dBc 2 tones)	95 (-35dBc 2 tones)	95 (-35dBc 2 tones)
Maximum output level	dB	1	1	1
GENERAL PARAMETERS				
Power supply	V	14-18	14-18	14-18
Switching control	V, KHz	14/18, 0/22	14/18, 0/22	14/18, 0/22
Power consumption	mA	280 (14V), 220 (18V)	280 (14V), 220 (18V)	280 (14V), 220 (18V)
Dimensions (LxHxD)	mm	260x120x30	340x120x30	425x120x30
Operating temperature	°C	-10 to 55	-10 to 55	-10 to 55

Multiswitches

Cascadable multiswitches

SWI85..STPLUS Series

New

SWI8524STPLUS
SWI8532STPLUS

5 input cascadable multiswitches (4 SAT + 1 TV)

- Optimised energy consumption
- Capable of 100m loop length
- Very high isolation (45dB)
- Very high electrical performance
- TV gain adjustment
- 2 x SAT gain adjustments (high and low band)
- Fixed gain on the return path
- Full HD compliant
- Can be used with SWI95.. to create a mixed system
- Standard colour coding for easy installation



Item Code		SWI8524STPLUS 271057	SWI8532STPLUS 271058
No. of inputs		5 (4 SAT + 1 TV)	5 (4 SAT + 1 TV)
No. of outputs		24	32
SAT			
Bandwidth	MHz	950-2150	950-2150
Gain (tilt)	dB	-6 to 0	-5 to +1
Gain adjustment	dB	15	15
Maximum output level	dBμV	110 (-35dBc 2 tones)	108 (-35dBc 2 tones)
Through loss	dB	5	5
TV			
Bandwidth	MHz	85-862	85-862
Gain (tilt)	dB	-9 to -6	-11 to -5
Gain adjustment	dB	20	20
Maximum output level	dBμV	100 (-60dBc 3 tones)	97 (-60dBc 3 tones)
Through loss	dB	4	4
RETURN PATH			
Bandwidth	MHz	5-65	5-65
Gain	dB	-5	-6
Through loss	dBμV	95 (-35dBc 2 tones)	95 (-35dBc 2 tones)
Maximum output level	dB	2	2
GENERAL PARAMETERS			
Power supply	V	14-18	14-18
Switching control	V, KHz	14/18, 0/22	14/18, 0/22
Power consumption	mA	560 (14V), 440 (18V)	560 (14V), 440 (18V)
Dimensions (lxhxd)	mm	352x120x60	440x120x60
Operating temperature	°C	-10 to 55	-10 to 55

Cascadable multiswitches

SWI39.. Series

9 input cascadable multiswitches (8 SAT + 1 TV)

- 3 types: Passive SAT, Active SAT and terminal with active SAT
- Dip-switch for each output to set the main satellite
- Return path included on all switches
- Full HD compliant
- Plastic bracket for quick and easy installation
- Standard colour coding for easy installation



Item Code	SWI3904P 271022	SWI3904A 271021	SWI3904T 271023
No. of inputs	9 (8 SAT + 1 TV)	9 (8 SAT + 1 TV)	9 (8 SAT + 1 TV)
No. of outputs	4	4	4
Gain SAT (tilt) dB	-20 to -16	0 to 2	2 to 4
Insertion loss SAT dB	-3	-3	-
Maximum output level SAT dBμV	-	105 (-35dBc 2 tones)	105 (-35dBc 2 tones)
Tap loss TV dB	-18	-15	-10
Through loss TV dB	-4	-4	-
Switching control V, KHz	14/18, 0/22 DiSEqC 2.0	14/18, 0/22 DiSEqC 2.0	14/18, 0/22 DiSEqC 2.0
Power consumption mA	35	50	50
Dimensions (lxhxd) mm	125x125x52	125x125x52	125x125x52
Operating temperature °C	-10 to 55	-10 to 55	-10 to 55

Item Code	SWI3906P 271025	SWI3906A 271024	SWI3906T 271026
No. of inputs	9 (8 SAT + 1 TV)	9 (8 SAT + 1 TV)	9 (8 SAT + 1 TV)
No. of outputs	6	6	6
Gain SAT (tilt) dB	-22 to -17	-3 to 0	0 to 3
Insertion loss SAT dB	-3	-3	-
Maximum output level SAT dBμV	-	105 (-35dBc 2 tones)	105 (-35dBc 2 tones)
Tap loss TV dB	-19	-16	-13
Through loss TV dB	-3	-4	-
Switching control V, KHz	14/18, 0/22 DiSEqC 2.0	14/18, 0/22 DiSEqC 2.0	14/18, 0/22 DiSEqC 2.0
Power consumption mA	35	50	50
Dimensions (lxhxd) mm	170x125x52	170x125x52	170x125x52
Operating temperature °C	-10 to 55	-10 to 55	-10 to 55

Item Code	SWI3908P 271028	SWI3908A 271027	SWI3908T 271029
No. of inputs	9 (8 SAT + 1 TV)	9 (8 SAT + 1 TV)	9 (8 SAT + 1 TV)
No. of outputs	8	8	8
Gain SAT (tilt) dB	-21 to -16	-2 to 0	1 to 3
Insertion loss SAT dB	-3	-3	-
Maximum output level SAT dBμV	-	105 (-35dBc 2 tones)	105 (-35dBc 2 tones)
Tap loss TV dB	-25	-22	-15
Through loss TV dB	-2	-3	-
Switching control V, KHz	14/18, 0/22 DiSEqC 2.0	14/18, 0/22 DiSEqC 2.0	14/18, 0/22 DiSEqC 2.0
Power consumption mA	35	50	50
Dimensions (lxhxd) mm	210x125x52	210x125x52	210x125x52
Operating temperature °C	-10 to 55	-10 to 55	-10 to 55

Multiswitches

Cascadable multiswitches

SWI39AT

SWI39AT

Adjustable shunt

- Enables the creation of a 9 input active TV system
- Adjustable gain on SAT/Terrestrial tap outputs
- Low insertion loss on trunk path
- Active return channel
- Full HD compliant
- Plastic bracket for quick and easy installation
- Standard colour coding for easy installation



Item Code		SWI39AT 271020
No. of inputs		9 (8 SAT + 1 TV)
No. of outputs		9
No. of tapped outputs		9
Bandwidth SAT	MHz	950-2150
Gain SAT (tilt)	dB	-1 to 2
Gain adjustment SAT	dB	12
Maximum output level SAT	dBμV	112 (-35dBc 2 tones)
Through loss SAT	dB	1.5
Bandwidth TV	MHz	85-862
Gain TV	dB	10 to 15
Gain adjustment TV	dB	15
Maximum output level TV	dBμV	116 (-60dBc 2 tones)
Through loss TV	dB	1.5
RETURN PATH		
Bandwidth	MHz	5-65
Gain	dB	10
Maximum output level	dBμV	106 (-35dBc 2 tones)
Through loss	dB	1.5
GENERAL PARAMETERS		
Power consumption	mA	320 (14V)
Dimensions (lxhxd)	mm	117x32x55
Operating temperature	°C	-10 to 55

Cascadable multiswitches

SWI39..S Series

SWI3906S - SWI3908S
SWI3912S - SWI3916S

9 input cascadable multiswitches (8 SAT + 1 TV)

- Isolation between outputs >30dB
- Cost effective
- Full HD compliant
- Bandwidth up to 2300MHz
- Standard colour coding for easy installation



Item Code		SWI3906S 289783	SWI3908S 289784	SWI3912S 289785	SWI3916S 289786
No. of inputs		9 (8 SAT + 1 TV)	9 (8 SAT + 1 TV)	9 (8 SAT + 1 TV)	9 (8 SAT + 1 TV)
No. of outputs		6	8	12	16
Bandwidth SAT	MHz	950-2300	950-2300	950-2300	950-2300
Gain SAT	dB	0	0	-2	-2
Maximum output level SAT	dBμV	100 (-35dBc 2 tones)	100 (-35dBc 2 tones)	100 (-35dBc 2 tones)	100 (-35dBc 2 tones)
Insertion loss SAT	dB	2	2	4	4
Bandwidth TV	MHz*	5-862	5-862	5-862	5-862
Gain TV	dB	-17	-17	-21	-21
Through loss TV	dB	4	4	4	4
GENERAL PARAMETERS					
Switching control	V, KHz	14/18, 0/22 DiSEqC 2.0	14/18, 0/22 DiSEqC 2.0	14/18, 0/22 DiSEqC 2.0	14/18, 0/22 DiSEqC 2.0
Power consumption	mA	40	40	40	40
Dimensions (lxhxd)	mm	215x105x40	215x105x40	215x195x40	215x195x40
Operating temperature	°C	-20 to 60	-20 to 60	-20 to 60	-20 to 60

*Return path included

Cascadable multiswitches

SWI89..PLUS Series

New

SWI8908PLUS
SWI8912PLUS
SWI8916PLUS

9 input cascadable adjustable multiswitches (8 SAT +1 TV)

- Optimised energy consumption
- Capable of 100m loop length
- Very high isolation (45dB)
- Very high electrical performance
- TV gain adjustment
- 2 x SAT gain adjustments (high and low band)
- Fixed gain on the return path
- Full HD compliant
- Can be used with SWI95.. to create a mixed system
- Standard colour coding for easy installation



Item Code		SWI8908PLUS 271067	SWI8912PLUS 271068	SWI8916PLUS 271069
No. of inputs		9 (8 SAT + 1 TV)	9 (8 SAT + 1 TV)	9 (8 SAT + 1 TV)
No. of outputs		8	12	16
SAT				
Bandwidth	MHz	950-2150	950-2150	950-2150
Gain	dB	-3 to 3	-4 to 2	-6 to 0
Gain adjustment	dB	15	15	15
Maximum output level	dBμV	110 (-35dBc 2 tones)	110 (-35dBc 2 tones)	110 (-35dBc 2 tones)
Through loss	dB	2	2,5	3
TV				
Bandwidth	MHz	85-862	85-862	85-862
Gain	dB	-7 to -3	-9 to -4	-11 to -5
Gain adjustment	dB	20	20	20
Maximum output level	dBμV	100 (-60dBc 3 tones)	100 (-60dBc 3 tones)	100 (-60dBc 3 tones)
Through loss	dB	2	2	2
RETURN PATH				
Bandwidth	MHz	5-65	5-65	5-65
Gain	dB	-3	-5	-7
Maximum output level	dBμV	95	97	97
Through loss	dB	1	2	2
GENERAL PARAMETERS				
Switching control	V, KHz	14/18, 0/22 DiSEqC 2.0	14/18, 0/22 DiSEqC 2.0	14/18, 0/22 DiSEqC 2.0
Power consumption	mA	350(14V), 280(18V)	350(14V), 280(18V)	350(14V), 280(18V)
Mains voltage	V	14 - 18	14 - 18	14 - 18
Dimensions (lxhxd)	mm	260x180x30	340x180x30	425x180x30
Operating temperature	°C	-10 to 55	-10 to 55	-10 to 55

Multiswitches

Cascadable multiswitches

SWI317..S Series

SWI31706S
SWI31712S
SWI31716S

17 input cascadable multiswitches (16 SAT +1 TV)

- Isolation between outputs >30dB
- Cost effective
- Full HD compliant
- Bandwidth up to 2300 MHz
- Standard colour coding for easy installation



Item Code		SWI31706S 289780	SWI31712S 289781	SWI31716S 289782
No. of inputs		17 (16 SAT + 1 TV)	17 (16 SAT + 1 TV)	17 (16 SAT + 1 TV)
No. of outputs		6	12	16
SAT				
Bandwidth	MHz	950-2300	950-2300	950-2300
Gain	dB	-3	-4	-5
Maximum output level	dBμV	100 (-35dBc 2 tones)	100 (-35dBc 2 tones)	100 (-35dBc 2 tones)
Insertion loss	dB	3	4	4
TV				
Bandwidth	MHz*	5-862	5-862	5-862
Gain	dB	-17	-21	-21
Through loss	dB	4	4	4
GENERAL PARAMETERS				
Switching control	V, KHz	14/18, 0/22 DiSEqC 2.0	14/18, 0/22 DiSEqC 2.0	14/18, 0/22 DiSEqC 2.0
Power consumption	mA	60	60	60
Dimensions (lxhxd)	mm	345x105x40	345x195x40	345x240x40
Operating temperature	°C	-20 to 60	-20 to 60	-20 to 60

*Return path included

Cascadable multiswitches

SCR.. Series

New

SCR4414

SCR8514

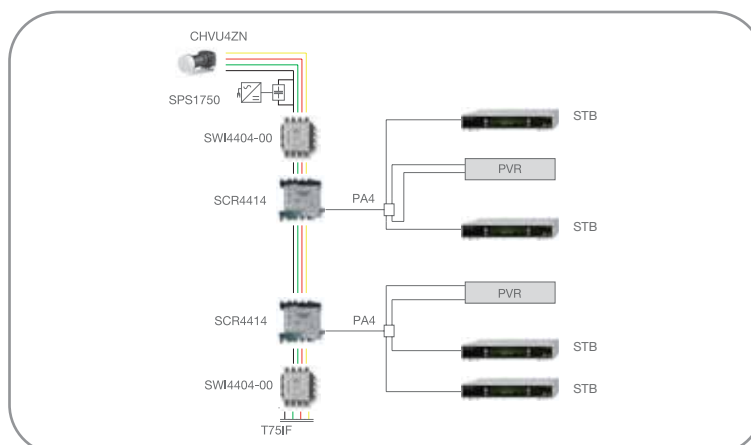
4 input and 5 input SCR cascadable adjustable multiswitches

- Multiple STBs and PVRs can be connected by a single cable
- Adjustable SAT and TV gain
- High gain for splitting compensation
- Low insertion loss
- Compact size
- Standard colour coding for easy installation



Item Code			SCR4414 271120	SCR8514 271121
No. of inputs			4 SAT	4 SAT + 1 TV
No. of outputs			1 output for 4 users	1 output for 4 users
SAT				
Output band frequency		MHz	1210, 1420, 1680, 2040	1210, 1420, 1680, 2040
Gain (tilted)	dip-switch position	1dB	12 to 6	12 to 16
	dip-switch position	2dB	4 to 8	4 to 8
Maximum output level		dBμV	105	105
Insertion loss		dB	1	1
TV				
Bandwdth		MHz	–	85-862
Gain		dB	–	12
Gain adjustment		dB	–	15
Maximum output level		dBμV	–	107 (-60dBc 3 tones)
Insertion loss		dB	–	1
GENERAL PARAMETERS				
Switching control		V, KHz	SCR	SCR
Power consumption		mA	210	280
Dimensions		mm	120x120x35	120x120x35
Operating temperature		°C	-10 to +55	-10 to +55

Installation example



Amplifiers

Headend amplifiers

AMP Series

AMP9254

Headend amplifier with 5 inputs (4 SAT + 1 TV)

- Gain adjustment for each SAT input
- For small and medium systems
- 400mA to feed the LNB

AMP9254A

Headend amplifier with 5 inputs (4 SAT + 1 TV)

- Tilt and gain adjustment for each SAT input
- There is a connector to insert DC on lines 1 and 2
- For medium and large systems or where there are long distances between switches
- 400mA to feed the LNB

AMP9294

Headend amplifier with 9 inputs (8 SAT + 1 TV)

- Gain adjustment for each SAT input
- For small and medium systems
- 600mA to feed the LNB

AMP9S, AMP17S

Headend amplifier with 9 inputs (8 SAT + 1 TV) and 17 outputs (16 SAT + 1 TV)

- Tilt and gain adjustment for each SAT input
- Gain adjustment for TV input
- High maximum output level
- Bandwidth up to 2300MHz
- 1800mA to feed the LNB

AMP9254

AMP9294

AMP9254A



AMP9S

AMP17S



Item Code		AMP9254 271031	AMP9254A 271033	AMP9294 271032	AMP9S 289778	AMP17S 289779
No. of inputs		5 (4 SAT + 1 TV)	5 (4 SAT + 1 TV)	9 (8 SAT + 1 TV)	9 (8 SAT + 1 TV)	17 (16 SAT + 1 TV)
SAT						
Bandwidth	MHz	950-2150	950-2150	950-2150	950-2300	950-2300
Gain	dB	19-25 (fixed tilt)	32	20-24 (fixed tilt)	27	27
Reg. gain	dB	15	15	15	10	10
Tilt adjustment	dB	-	12	-	4	4
Maximum output level	dBμV	112	116	112	115	115
TV						
Bandwidth	MHz	5-862	5-862	5-862	47-862	47-862
Gain	dB	-1	-1	-1	30	30
Gain adjustment	dB	-	-	-	10	10
Maximum output level	dBμV	-	-	-	114	114
GENERAL PARAMETERS						
Mains voltage	V, Hz	220-240, 50-60	220-240, 50-60	220-240, 50-60	220-240, 50-60	220-240, 50-60
LBN power supply	mA, V	400, 14	400, 14	600, 14	1800, 12	1800, 12
Dimensions (l x h x d)	mm	235x125x65	235x125x65	320x125x65	350x130x90	430x130x90
Operating temperature	°C	-10 to 55	-10 to 55	-10 to 55	-20 to 60	-20 to 60

Line amplifiers

SWA.. Series

SWA5424

SAT line amplifier with 4 SAT inputs

- Tilt and gain adjustment for each SAT input
- For small and medium systems
- Remote power supply through SAT trunk 1 (V/L) and 2 (H/L)

SWA5414

SAT line amplifier with 4 SAT inputs

- Fixed gain
- For small and medium systems
- Can be powered directly through the DC F connector or by using an external power supply connected to the trunk line 1 (V/L)

SWA5122

Line amplifier with 2 inputs (1 SAT + 1 TV)

- Tilt and gain adjustment on TV line
- Return path gain adjustment
- For small and medium systems
- Remote power supply through SAT trunk line



Item Code		SWA5424 271034	SWA5414 271036	SWA5122 271035
No. of inputs		4 SAT	4 SAT	2 (1 SAT + 1 TV)
SAT				
Bandwidth	MHz	950-2150	950-2150	950-2150
Gain	dB	25	12 to 16	-1
Gain adjustment	dB	15	-	-
Tilt adjustment	dB	15	-	-
Maximum output level	dBμV	116	108	-
Noise figure	dB	8	8	-
TV				
Bandwidth	MHz	-	-	85-862
Gain	dB	-	-	30
Reg. gain	dB	-	-	15
Gain adjustment	dB	-	-	15
Maximum output level	dBμV	-	-	116
Noise figure	dB	-	-	8
RETURN PATH				
Bandwidth	MHz	-	-	5-65
Gain	dB	-	-	15
Gain adjustment	dB	-	-	10
Maximum output level	dBμV	-	-	106
Noise figure	dB	-	-	7
GENERAL PARAMETERS				
Power supply	V	14-30	5-18	14-30 on SAT
Power consumption	mA, V	300, 14	120, 14	400, 14
Dimensions (l x h x d)	mm	198x108x30	90x90x20	198x108x30
Operating temperature	°C	-10 to 55	-10 to 55	-10 to 55

Power supplies - Accessories

Power supplies

AMP8331A

AMP8331A

Power supply with DC inserter

- 18Vcc 3A output voltage
- Supplied with 220-240V~, 50-60Hz.



AMP2000/UK

Power supply with DC inserter

- 14Vcc 2A output voltage
- Supplied with 220-240V~, 50-60Hz.

SPS1750

Power supply with DC inserter

- 15Vcc 0.5A output voltage
- Supplied with 220-240V~, 50-60Hz.

AMP4000+PI2W

Power supply with DC inserter

- 18Vcc 4A output voltage
- Supplied with 220-240V~, 50-60Hz.



AMP2000/UK

SPS1750

AMP4000
+PI-2W


New

Item Code		AMP8331A* AMP8331A	AMP2000/UK** 271140	SPS1750 289087	AMP4000+PI-2W 899614+899615
Bandwidth	MHz	5-2150	5-2400	40-2150	950-2150
Output voltage	V	18	14	15	18
Output current	A	3	2	0.5	4
Through loss	dB	1.5	1.5	1	2
GENERAL PARAMETERS					
Mains voltage	V, Hz	220-240, 50-60	220-240, 50-60	220-240, 50-60	220-240, 50-60
Isolation	class	II	II	II	II
Connector	type	F	F	F	2 x F
Dimensions (lxhxd)	mm	140x400x80	185x100x60	60x90x100	63x175x107 - 32x129x86
Operating temperature	°C	-10 to 55	-10 to 55	-10 to 55	-10 to 55

* Also available with UK plug: AMP8331 - Code AMP8331

** The UK plug is removable

Accessories

Splitters and taps

- SWI44T15 Tap: DC pass on each trunk line
- SWI44SP2 Splitter: DC pass from output ports to input port on each polarisation
- SWI85T15 Tap: DC pass on each SAT line
- SWI85SP2 Splitter: DC pass on each SAT line
- Additional F connector for power injection on each SAT input/output
- Plastic bracket for quick and easy installation
- Standard colour coding for easy installation

SWI44SP2
SWI44T15



SWI85SP2
SWI85T15



Item Code		SWI44SP2 271091	SWI44T15 271092	SWI85SP2 271094	New	SWI85T15 271095
No. of inputs		4 SAT	4 SAT	5 (4 SAT +1 TV)		5 (4 SAT +1 TV)
No. of outputs		4+4	4+4	5+5		5+5
Bandwidth SAT	MHz	950-2150	950-2150	950-2150		950-2150
Gain SAT	dB	-	-16 to -13	-4.5		-12
Insertion loss SAT	dB	-4.5	-1	-		-2
Bandwidth TV	MHz	5-862	5-862	5-862		5-862
Gain TV	dB	-	-	-4.5		-12
Insertion loss TV	dB	-	-	-		-2
GENERAL PARAMETERS						
Isolation SAT-SAT	dB	≥ 30	≥ 30	≥ 30		≥ 30
Isolation SAT-TV	dB	≥ 30	≥ 30	≥ 30		≥ 30
Dimensions (l x h x d)	mm	90x70x20	90x70x20	198x108x30		198x108x30
Operating temperature	°C	-10 to 55	-10 to 55	-10 to 55		-10 to 55

Accessories

Mini DiSEqC

- Accessory for modular 8SAT or 16SAT solutions + terrestrial

SWI1201B



SWI1401B



SWM1305A



Item Code		SWI1201B 271071	SWI1401B 271072	SWM1305A 271000
No. of inputs		2	4	
Input	A	SAT + TV	SAT + TV	
Input	B	SAT	SAT	
Input	C	-	SAT	
Input	D	-	SAT	
No. of outputs		1	1	
SAT				
Bandwidth	MHz	950-2150	950-2150	
Insertion loss	dB	-1.5	-1.5	
TV				
Bandwidth	MHz	5-862	5-862	
Insertion loss	dB	-2	1.5	
Power consumption	mA	25	25	
Dimensions (l x h x d)	mm	80x55x45	155x55x45	
Operating temperature	°C	-10 to 55	-10 to 55	

Kit to combine SWI35..
Multiswitches and Mini DiSEqC

Distribution components

A wide range of distribution products to complete the system.

These solutions, with their excellent performance and original mechanics, are designed to make the installation easier and more reliable. A few examples are splitters and taps for MATV and SMATV installations with F connector and clamp versions and a wide range of outlets with 1, 2 or more outputs for TV, SAT, FM, DATA signals and return channel.



Splitters and taps

Clamp distribution components

▶ 5-2400MHz	142-143
▶ Accessories	143

Distribution components with F connectors

▶ 5-2400MHz	144-147
▶ 950-2150MHz	147
▶ 5-1000MHz	148-149
▶ 5-862MHz	150-151

Saddle and clamp distribution components

▶ 47-862MHz	152-153
▶ Accessories	153

Outlets

5-2400MHz outlets

▶ SPI.. and SPF.. Series	154
▶ PDM.. Series	154

Adaptors for outlets

▶ SPI.., SPF.. and PDM Series	155
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CATV wall outlets

	156
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Wall outlets TV+SAT

	156
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Wall outlets TV+SAT+FM

	157
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Connectors

Connectors

▶ I.E.C. coaxial connectors	157
▶ F connectors	158

Accessories

▶ 75 Ohm load - Adaptors	158-159
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Cables

Coaxial cables

	159
▶ Coaxial cables for indoor installation, PVC sheath	160-161
▶ Coaxial cables for outdoor installation, PE sheath	162

Multicoax cables

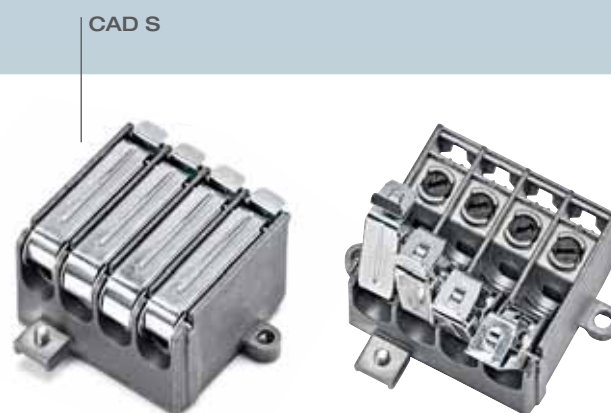
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Splitters and taps

Clamp distribution components

5-2400MHz

To complete the Fracarro range of distribution components the range called CAD S has been designed. Their patented features make them reliable and easy to install. They guarantee superb shielding (class A) and excellent impedance matching CAD S splitters and taps (1, 2 or 4 way) are the result of an intensive development project and are one of-a-kind with a UBB input to allow single cable connection



Class A

SPLITTERS

Item	Code	Splitters	Insertion loss dB					Output-output isolation dB				
			RC 5-40 MHz	TV 47-862 MHz	950-1750 MHz	SAT 1750-2150 MHz	2150-2400 MHz	RC 5-40 MHz	TV 47-862 MHz	950-1750 MHz	SAT 1750-2150 MHz	2150-2400 MHz
PP2	220802	2 way	4	4	4.5	5	5.5	25	22	20	20	18
PP3	220803	3 way	6.5	6.5	6.5	7	8	20	20	20	20	18
PP4	220804	4 way	9.5	9.5	10	10.5	11	20	25	25	20	18
PP5	220805	5 way	11	11	11.5	12	13	20	25	25	22	18

1 WAY TAPS

Item	Code	Insertion loss dB					Tap loss dB					Output-tap isolation dB				
		RC 5-40 MHz	TV 47-862 MHz	950-1750 MHz	SAT 1750-2150 MHz	2150-2400 MHz	RC 5-40 MHz	TV 47-862 MHz	950-1750 MHz	SAT 1750-2150 MHz	2150-2400 MHz	RC 5-40 MHz	TV 47-862 MHz	950-1750 MHz	SAT 1750-2150 MHz	2150-2400 MHz
CD1-10	220810	1.8	1.6	2	2.3	2.6	10	10	10	10	10	28	30	30	28	32
CD1-14	220814	0.8	0.8	1.3	1.5	2	14.5	14.5	14.5	14.5	14	30	33	25	25	24
CD1-18	220818	0.8	0.8	1.3	1.5	2	18	18	17.5	18	18	32	35	30	27	24
CD1-22	220822	0.8	0.8	1.3	1.5	2	22	22	21.5	22	22	36	40	35	30	27

2 WAY TAPS

Item	Code	Insertion loss dB					Tap loss dB					Output-tap isolation dB				
		RC 5-40 MHz	TV 47-862 MHz	950-1750 MHz	SAT 1750-2150 MHz	2150-2400 MHz	RC 5-40 MHz	TV 47-862 MHz	950-1750 MHz	SAT 1750-2150 MHz	2150-2400 MHz	RC 5-40 MHz	TV 47-862 MHz	950-1750 MHz	SAT 1750-2150 MHz	2150-2400 MHz
CD2-10	220830	3.5	3	3.3	4.2	4.7	11	10	10.5	10.5	11	25	28	23	20	18
CD2-14	220834	1.6	1.5	2.5	2.7	3.5	15	15	14.5	14.5	14.5	30	35	25	23	23
CD2-18	220838	2.6	1.5	2.5	2.7	3.5	18	18	18	18	18	32	37	28	26	26
CD2-22	220842	1.6	1.5	2.5	2.7	3.5	22	22	22	22	22	35	40	32	30	30

Clamp distribution components

5-2400MHz

CAD S

To complete the Fracarro range of distribution components the range called CAD S has been designed.

Their patented features make them reliable and easy to install. They guarantee superb shielding (class A) and excellent impedance matching; CAD S splitters and taps (1, 2 or 4 way) are the result of an intensive development project and are one of-a-kind with a UBB input to allow single cable connection.



Class A

4 WAY TAPS

Item	Code	Insertion loss dB					Tap loss dB					Output-tap isolation dB				
		RC 5-40 MHz	TV 47-862 MHz	SAT 950-1750 MHz 1750-2150 MHz 2150-2400 MHz			RC 5-40 MHz	TV 47-862 MHz	950-1750 MHz	1750-2150 MHz	2150-2400 MHz	RC 5-40 MHz	TV 47-862 MHz	950-1750 MHz	1750-2150 MHz	2150-2400 MHz
CD4-12	220852	4	3.7	4.5	5.5	6.5	13	12	12	12.5	13	27	27	27	25	25
CD4-14	220854	3.5	3.3	3.7	4.5	5	14	14	14.5	14.5	14.5	30	30	30	25	25
CD4-18	220858	1.6	1.5	2.5	3.5	4	19	18	18	18	18	33	35	33	30	25
CD4-22	220862	1.6	1.5	2.5	3.3	3.8	22	22	22	22	22	37	38	37	35	32

Clamp distribution components

Accessories

BIC

BOC

ARD

Indoor and outdoor boxes for CAD S.



Item	Code	Description
BIC	220800	Indoor box for CAD S
BOC	220801	Outdoor box for CAD S
ARD New	220891	Din rail adaptor for CAD S

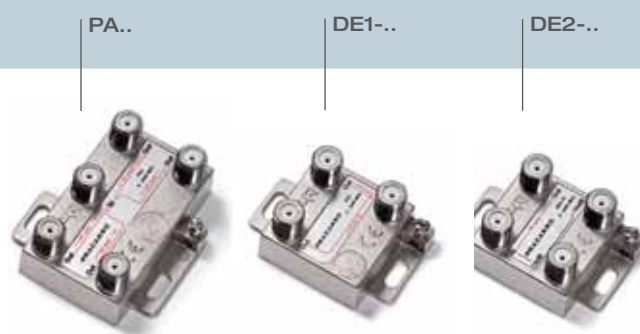
Splitters and taps

Distribution components with F connectors

5-2400MHz

These taps and splitters have been designed to be used in TV and Satellite distribution systems. Their compact design enable them 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.



SPLITTERS

Item	Code	Splitters	Insertion loss dB						Output-output isolation dB					
			5-40 MHz	40-470 MHz	470-1000 MHz	1000-1750 MHz	1750-2050 MHz	2050-2400 MHz	5-40 MHz	40-470 MHz	470-1000 MHz	1000-1750 MHz	1750-2050 MHz	2050-2400 MHz
PA2	280701	2 way	< 4	< 4	< 4.5	< 5.5	< 5.5	< 6	> 22	> 22	> 20	> 20	> 20	> 23
PA3	280703	3 way	< 7	< 8	< 8	< 10	< 10.5	< 11	> 22	> 22	> 22	> 22	> 22	> 22
PA4	280702	4 way	< 7.5	< 8.5	< 9	< 11	< 11.5	< 12	> 30	> 30	> 25	> 26	> 22	> 22
PA6	280704	6 way	< 10.5	< 10.5	< 12	< 13.5	< 14.5	< 16	> 22	> 22	> 22	> 22	> 22	> 22
PA8	280705	8 way	< 12	< 12	< 13.5	< 15.5	< 16.5	< 17	> 20	> 20	> 20	> 20	> 20	> 20

1 WAY TAPS

Item	Code	Insertion loss dB						Tap loss dB						Output-tap isolation dB					
		5-40 MHz	40-470 MHz	470-1000 MHz	1000-1750 MHz	1750-2050 MHz	2050-2400 MHz	5-40 MHz	40-470 MHz	470-1000 MHz	1000-1750 MHz	1750-2050 MHz	2050-2400 MHz	5-40 MHz	40-470 MHz	470-1000 MHz	1000-1750 MHz	1750-2050 MHz	2050-2400 MHz
DE1-10	280710	< 1.5	< 1.3	< 1.3	< 1.6	< 2	< 2	10.5	10.5	10.5	11	11	11	> 40	> 35	> 32	> 27	> 24	> 24
DE1-14	280711	< 1	< 0.8	< 0.8	< 1.2	< 1.3	< 1.5	14	14	14	14	14	14	> 32	> 29	> 28	> 28	> 30	> 25
DE1-18	280712	< 0.8	< 0.7	< 0.7	< 0.9	< 1	< 1.3	18.5	18.5	18.5	18.5	18	17.5	> 45	> 36	> 31	> 31	> 27	> 22
DE1-22	280713	< 0.6	< 0.6	< 0.5	< 0.8	< 1	< 1.7	22	22	22	22	22	22	> 50	> 38	> 33	> 33	> 31	> 27

2 WAY TAPS

Item	Code	Insertion loss dB						Tap loss dB						Output-tap isolation dB					
		5-40 MHz	40-470 MHz	470-1000 MHz	1000-1750 MHz	1750-2050 MHz	2050-2400 MHz	5-40 MHz	40-470 MHz	470-1000 MHz	1000-1750 MHz	1750-2050 MHz	2050-2400 MHz	5-40 MHz	40-470 MHz	470-1000 MHz	1000-1750 MHz	1750-2050 MHz	2050-2400 MHz
DE2-10	280714	< 2.5	< 2.5	< 2.5	< 2.5	< 2.8	< 3.5	10	10	10	10	11	11.5	> 25	> 28	> 28	> 25	> 25	> 23
DE2-14	280715	< 1.5	< 1.5	< 1.5	< 1.8	< 2	< 2.2	14	14	14	14	14	14	> 35	> 29	> 25	> 25	> 23	> 23
DE2-18	280716	< 1.2	< 1.2	< 1.2	< 1.5	< 1.8	< 2	18	18	18	18	18	19	> 45	> 35	> 30	> 27	> 27	> 25
DE2-22	280717	< 1.2	< 1.2	< 1.1	< 1.5	< 1.8	< 2.2	22	22	22	22	22	22	> 45	> 40	> 35	> 31	> 27	> 27

Distribution components with F connectors

5-2400MHz

DE4-..

DE6-..

These taps and splitters have been designed to be used in TV and Satellite distribution systems. Their compact design enable them 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 fixings.



4 WAY TAPS

Item	Code	Insertion loss dB						Tap loss dB						Output-tap isolation dB					
		5-40	40-470	470-1000	1000-1750	1750-2050	2050-2400	5-40	40-470	470-1000	1000-1750	1750-2050	2050-2400	5-40	40-470	470-1000	1000-1750	1750-2050	2050-2400
		MHz	MHz	MHz	MHz	MHz	MHz	MHz	MHz	MHz	MHz	MHz	MHz	MHz	MHz	MHz	MHz	MHz	MHz
DE4-12	280718	< 3.5	< 3.5	< 4.3	< 5.1	< 5.2	< 5.4	11.5	11.5	11.5	13	14	15.5	> 35	> 35	> 30	> 28	> 28	> 28
DE4-14	280719	< 2.5	< 2.3	< 2.5	< 3	< 3.5	< 4	14.5	14	13.5	14	14.5	15	> 32	> 32	> 35	> 30	> 27	> 30
DE4-18	280720	< 1.5	< 1.3	< 1.3	< 1.5	< 1.8	< 2	18	18	18	18.5	19	19	> 45	> 45	> 45	> 35	> 30	> 30
DE4-22	280721	< 1	< 1	< 1	< 1.2	< 1.5	< 1.5	21.5	21.5	22	22.5	23	24	> 38	> 37	> 33	> 31	> 27	> 26

6 WAY TAPS

Item	Code	Insertion loss dB						Tap loss dB						Output-tap isolation dB					
		5-40	40-470	470-1000	1000-1750	1750-2050	2050-2400	5-40	40-470	470-1000	1000-1750	1750-2050	2050-2400	5-40	40-470	470-1000	1000-1750	1750-2050	2050-2400
		MHz	MHz	MHz	MHz	MHz	MHz	MHz	MHz	MHz	MHz	MHz	MHz	MHz	MHz	MHz	MHz	MHz	MHz
DE6-16	280722	< 4.5	< 5	< 5	< 5.5	< 5.5	< 5.5	14±1	14±1	14±1	15±1	16.5±1.5	18±1.5	> 25	> 22	> 22	> 22	> 22	> 22
DE6-20	280723	< 2.5	< 3	< 3	< 4	< 4.5	< 5.5	19±1	19±1	19±1	19.5±1.5	20±1.5	20±1.5	> 30	> 25	> 22	> 22	> 22	> 22
DE6-25	280724	< 1.5	< 1.5	< 1.5	< 2	< 2.5	< 3.5	24±1	24±1	24±1	24±1	24±1.5	24.5±2	> 30	> 30	> 22	> 22	> 22	> 22

8 WAY TAPS

Item	Code	Insertion loss dB						Tap loss dB						Output-tap isolation dB					
		5-40	40-470	470-1000	1000-1750	1750-2050	2050-2400	5-40	40-470	470-1000	1000-1750	1750-2050	2050-2400	5-40	40-470	470-1000	1000-1750	1750-2050	2050-2400
		MHz	MHz	MHz	MHz	MHz	MHz	MHz	MHz	MHz	MHz	MHz	MHz	MHz	MHz	MHz	MHz	MHz	MHz
DE8-16	280725	< 4.5	< 5	< 5	< 5.5	< 5.5	< 5.5	14±1	15±1	15±1	16.5±1.5	18±1.5	19.5±1.5	> 30	> 25	> 25	> 25	> 25	> 25
DE8-20	280726	< 2.5	< 2.5	< 3.5	< 4.5	< 5	< 5.5	19±1	19±1	19±1	19±1	19±1.5	20±1.5	> 30	> 25	> 20	> 20	> 20	> 20
DE8-25	280727	< 1	< 1.5	< 1.5	< 2	< 2.5	< 2.5	23.5±1	23.5±1	23.5±1	24±1	24±1.5	25±3	> 30	> 30	> 25	> 20	> 20	> 20

Splitters and taps

Distribution components with F connectors

5-2400MHz

New

Splitters and taps with F connectors. Their compact design enables them to be installed in many locations. Their main features are: zinc die cast housing with nickel plate, low insertion loss, high isolation and return loss, earthing screws and wall fixings.



SPLITTERS

Item	Code	Outputs	Insertion loss dB				Output-output isolation dB			
			5-40 MHz	47-862 MHz	950 -2150 MHz	2150-2400 MHz	5-40 MHz	47-862 MHz	950 -2150 MHz	2150-2400 MHz
SPT2	289860	2	< 4	< 4	< 4.5	< 5	> 18	> 20	> 20	> 18
SPT3	289861	3	< 6	< 6.5	< 7	< 9	> 18	> 20	> 20	> 18
SPT4	289862	4	< 8	< 8	< 9	< 10	> 18	> 20	> 20	> 18
SPT6	289863	6	< 10	< 10	< 12	< 14	> 18	> 20	> 20	> 18
SPT8	289864	8	< 13	< 13	< 15	< 17	> 18	> 20	> 20	> 18

1 WAY TAPS

Item	Code	Tap loss dB	Insertion loss dB				Output-output isolation dB			
			5-40 MHz	47-862 MHz	950 -2150 MHz	2150-2400 MHz	5-40 MHz	47-862 MHz	950 -2150 MHz	2150-2400 MHz
TA1-11	289865	11 ± 1.5	< 2	< 2.5	< 3	< 3.5	> 23	> 23	>20	> 18
TA1-15	289866	15 ± 1.5	< 1.5	< 2	< 2.5	< 3	> 23	> 23	>20	> 18
TA1-20	289867	20 ± 1.5	< 1.3	< 1.8	< 2.8	< 3	> 23	> 23	>20	> 18

2 WAY TAPS

Item	Code	Tap loss dB	Insertion loss dB				Output-output isolation dB			
			5-40 MHz	47-862 MHz	950 -2150 MHz	2150-2400 MHz	5-40 MHz	47-862 MHz	950 -2150 MHz	2150-2400 MHz
TA2-11	289868	11 ± 1.5	< 3.5	< 4	< 4.5	< 5	> 23	> 23	>20	> 18
TA2-15	289869	15 ± 1.5	< 2.2	< 2.5	< 3.5	< 4	> 23	> 23	>20	> 18
TA2-20	289870	20 ± 1.5	< 2	< 2.5	< 3	< 4	> 23	> 23	>20	> 18
TA2-25	289871	25 ± 1.5	< 2	< 2.5	< 3	< 4	> 23	> 23	>20	> 18
TA2-30	289872	30 ± 1.5	< 2	< 2.5	< 3	< 4	> 23	> 23	>20	> 18

4 WAY TAPS

Item	Code	Tap loss dB	Insertion loss dB				Output-output isolation dB			
			5-40 MHz	47-862 MHz	950-2150 MHz	2150-2400 MHz	5-40 MHz	47-862 MHz	950-2150 MHz	2150-2400 MHz
TA4-13	289873	13 ± 1.5	< 4.5	< 5	< 5.5	< 6.5	> 23	> 23	> 20	> 18
TA4-16	289874	16 ± 1.5	< 3	< 4	< 5	< 5.5	> 23	> 23	> 20	> 18
TA4-21	289875	21 ± 1.5	< 2.5	< 3	< 3.5	< 4.5	> 23	> 23	> 20	> 18
TA4-25	289876	25 ± 1.5	< 2	< 3	< 3.5	< 4.5	> 23	> 23	> 20	> 18

6 WAY TAPS

Item	Code	Tap loss dB	Insertion loss dB				Output-output isolation dB			
			5-40 MHz	47-862 MHz	950-2150 MHz	2150-2400 MHz	5-40 MHz	47-862 MHz	950-2150 MHz	2150-2400 MHz
TA6-16	289877	16 ± 1.5	< 4	< 4	< 5.5	< 8	> 23	> 23	> 20	> 18
TA6-20	289878	20 ± 1.5	< 2.5	< 3	< 4	< 4.5	> 23	> 23	> 20	> 18
TA6-25	289879	25 ± 1.5	< 2	< 3	< 3.5	< 4.5	> 23	> 23	> 20	> 18

8 WAY TAPS

Item	Code	Tap loss dB	Insertion loss dB				Output-output isolation dB			
			5-40 MHz	47-862 MHz	950-2150 MHz	2150-2400 MHz	5-40 MHz	47-862 MHz	950-2150 MHz	2150-2400 MHz
TA8-15	289880	16 ± 1.5	< 4	< 4	< 5.5	< 8	> 23	> 23	> 20	> 18
TA8-20	289881	20 1.5	< 3	< 3.5	< 4.5	< 5	> 23	> 23	> 20	> 18
TA8-25	289882	25 1.5	< 2	< 3	< 3.5	< 4.5	> 23	> 23	> 20	> 18

Distribution components with F connectors

950-2150MHz

PAS12..

SAT splitters with F connector



Item	Code	Type	No. of outputs	Insertion loss	Isolation between outputs	Consumption	Dimensions
				dB	dB	mA	mm
PAS1224	PAS1224	Passive	2	-4	18	–	60x50x16
PAS1244	PAS1244	Passive	4	-8	18	–	118x67x17
PAS1244A	PAS1244A	Active	4	0 ± 1	18	60	118x67x17

Splitters and taps

Distribution components with F connectors

5-1000MHz

SPL..

TAP..

Splitters and taps designed to be used in CATV distribution systems. Their compact design enables them to be installed in many locations. Their main features are: zinc die cast housing with nickel plate; F connectors; high isolation and return loss in accordance with EN 50083-4; earthing screws and wall fixings; high screening efficiency in accordance with EN 50083-2: Class A.



SPLITTERS

Item	Code	No. of outputs	Insertion loss dB			Isolation dB min.			Return loss dB min.			Dimensions mm
			5-47MHz	47-470MHz	470-1000MHz	5-47MHz	47-470MHz	470-1000MHz	5-47MHz	47-470MHz	470-1000MHz	
SPL12	280788	2	<3.5	<3.7	<4.0	>20	>25	>24	>22	>20	>17	54x48x19
SPL13	280789	3	<6.3	<6.8	<7.0	>25	>23	>20	>22	>20	>16	75x48x19
SPL13A	280790	3	<7.2(out 2-3) <3.7(out 1)	<7.5(out 2-3) <3.9(out 1)	<8.0(out 2-3) <4.2(out 1)	>28	>25	>22	>22	>20	>16	
SPL14	280791	4	<7.0	<7.5	<8.0	>28	>25	>22	>22	>20	>18	120x60x24
SPL16	280792	6	<9.6	<10.5	<11.2	>22	>20	>18	>22	>20	>18	

1 WAY TAPS

Item	Code	Tap loss dB	Insertion loss dB			Isolation dB min.			Return loss dB min.			Dimensions mm
			5-47MHz	47-470MHz	470-1000MHz	5-47MHz	47-470MHz	470-1000MHz	5-47MHz	47-470MHz	470-1000MHz	
TAP1106	280760	6	<2.4	<2.6	<3.0	≥>23	>25	>20	>16	>16	>16	54x48x19
TAP1108	280761	8	<1.8	<1.8	<2.4	>25	>28	>22	>15	>18	>18	
TAP1111	280762	11	<1.0	<1.0	<1.5	>30	>27	>24	>16	>18	>15	
TAP1114	280763	14	<1.0	<1.0	<1.4	>30	>27	>24	>16	>18	>15	
TAP1117	280764	17	<0.8	<0.8	<1.3	>30	>27	>24	>18	>20	>15	
TAP1120	280765	20	<1.0	<1.2	<1.3	>30	>27	>24	>21	>16	>15	
TAP1123	280766	23	<0.8	<1.0	<1.2	>30	>27	>24	>21	>16	>15	

2 WAY TAPS

Item	Code	Tap loss dB	Insertion loss dB			Isolation dB min.			Return loss dB min.			Dimensions mm
			5-47MHz	47-470MHz	470-1000MHz	5-47MHz	47-470MHz	470-1000MHz	5-47MHz	47-470MHz	470-1000MHz	
TAP1208	280767	8	<3.7	<3.7	<4.0	>28	>24	>20	>16	>18	>15	75x48x19
TAP1211	280768	11	<2.2	<2.5	<3.0	>22	>22	>20	>12	>18	>14	
TAP1214	280769	14	<2.2	<2.5	<3.0	>27	>25	>22	>15	>18	>15	
TAP1217	280770	17	<1.2	<1.5	<2.0	>27	>24	>20	>16	>17	>14	
TAP1220	280771	20	<1.2	<1.5	<2.0	>30	>25	>20	>16	>18	>15	
TAP1223	280772	23	<1.2	<1.5	<2.0	>35	>33	>27	>16	>18	>15	

4 WAY TAPS

Item	Code	Tap loss	Insertion loss dB			Isolation dB min.			Return loss dB min.			Dimensions mm
		dB	5-47MHz	47-470MHz	470-1000MHz	5-47MHz	47-470MHz	470-1000MHz	5-47MHz	47-470MHz	470-1000MHz	
TAP1408	280773	8	-	-	-	>22	>22	>20	>13	>18	>14	87x55x37
TAP1411	280774	11	< 3.7	< 4.0	< 5.0	>22	>24	>20	>13	>18	>14	
TAP1414	280775	14	< 2.4	< 2.8	< 3.5	>22	>24	>20	>13	>17	>14	
TAP1417	280759	17	< 1.9	< 1.9	< 1.9	>22	>24	>20	>13	>18	>14	
TAP1420	280776	20	< 1.1	< 1.2	< 1.6	>22	>20	>20	>13	>18	>14	
TAP1423	280777	23	< 0.8	< 1.0	< 1.4	>24	>20	>20	>13	>18	>14	

6 WAY TAPS

Item	Code	Tap loss	Insertion loss dB			Isolation dB min.			Return loss dB min.			Dimensions mm
		dB	5-47MHz	47-470MHz	470-1000MHz	5-47MHz	47-470MHz	470-1000MHz	5-47MHz	47-470MHz	470-1000MHz	
TAP1611	280778	11	-	-	-	>16	>20	>15	>16	>16	>16	87x55x37
TAP1614	280779	14	< 3.0	< 3.6	< 4.0	>16	>20	>15	>16	>16	>16	
TAP1617	280780	17	< 2.0	< 2.3	< 2.5	>16	>20	>15	>16	>16	>16	
TAP1620	280781	20	< 1.3	< 1.4	< 1.9	>16	>20	>15	>16	>16	>16	
TAP1623	280782	23	< 1.0	< 1.0	< 1.6	>16	>20	>15	>16	>16	>16	

8 WAY TAPS

Item	Code	Tap loss	Insertion loss dB			Isolation dB min.			Return loss dB min.			Dimensions mm
		dB	5-47MHz	47-470MHz	470-1000MHz	5-47MHz	47-470MHz	470-1000MHz	5-47MHz	47-470MHz	470-1000MHz	
TAP1812	280783	12	-	-	-	>22	>22	>20	>15	>18	>14	119x55x37
TAP1814	280784	14	< 3.7	< 4.0	< 5.0	>22	>22	>20	>15	>18	>14	
TAP1817	280785	17	< 2.4	< 2.8	< 3.5	>22	>22	>20	>15	>18	>14	
TAP1820	280786	20	< 1.2	< 1.4	< 1.8	>22	>22	>20	>15	>18	>14	
TAP1823	280787	23	< 0.9	< 1.1	< 1.6	>22	>22	>20	>16	>17	>16	

Splitters and taps

Distribution components with F connectors

5-862MHz

PAS12(X)2011

2, 3 and 4 way splitters

PAS12(X)2011



Item	Code	Insertion loss dB			Isolation between outputs dB			Dimensions	Weight
		5-40MHz	40-470MHz	470-862MHz	5-40MHz	40-470MHz	470-862MHz	mm	g
PAS1222011, 2 out.	PAS1222011	3.4 ± 0.3	3.4 ± 0.3	3.6 ± 0.4	16	22	20	53x50x25	55
PAS1232011, 3 out.	PAS1232011	5.3 ± 0.3	5.3 ± 0.3	5.6 ± 0.5	16	20	18	74x50x25	76
PAS1242011, 4 out.	PAS1242011	7.2 ± 0.3	7.2 ± 0.3	7.5 ± 0.5	18	20	16	74x50x25	8

Distribution components with F connectors

5-862MHz

PAS2212(X)11

PAS2222(X)11

PAS22(X)2811

PAS2242(X)11

1, 2, 4, 6 and 8 way taps



PAS2212(X)11 - 1 WAY TAPS

Item	Code	Tap loss dB			Insertion loss dB			Output-tap isolation dB		
		5-40MHz	40-470MHz	470-862MHz	5-40MHz	40-470MHz	470-862MHz	5-40MHz	40-470MHz	470-862MHz
PAS2212111	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	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	PAS2212311	16 ± 1	16 ± 1	16 ± 1	0.5 ± 0.2	0.5 ± 0.2	0.6 ± 0.3	28	26	26
PAS2212411	PAS2212411	20 ± 1	20 ± 1	20 ± 1	0.5 ± 0.2	0.5 ± 0.2	0.6 ± 0.3	30	30	26
PAS2212511	PAS2212511	24 ± 1	24 ± 1	24 ± 1	0.5 ± 0.2	0.5 ± 0.2	0.6 ± 0.3	32	32	28

PAS2222(X)11 - 2 WAY TAPS

Item	Code	Tap loss dB			Insertion loss dB			Output-tap isolation dB		
		5-40MHz	40-470MHz	470-862MHz	5-40MHz	40-470MHz	470-862MHz	5-40MHz	40-470MHz	470-862MHz
PAS2222111	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	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	PAS2222311	16 ± 1	16 ± 1	16 ± 1.5	1.2 ± 0.3	1.2 ± 0.3	1.5 ± 0.4	28	24	22
PAS2222411	PAS2222411	20 ± 1	20 ± 1	20 ± 1.5	0.5 ± 0.2	0.5 ± 0.2	0.6 ± 0.3	30	28	26
PAS2222511	PAS2222511	24 ± 1	24 ± 1	24 ± 1.5	0.5 ± 0.2	0.5 ± 0.2	0.6 ± 0.3	30	30	30
PAS2222611	PAS2222611	27 ± 1	27 ± 1	27 ± 1.5	0.5 ± 0.2	0.5 ± 0.2	0.6 ± 0.3	30	30	30

PAS2242(X)11 - 4 WAY TAPS

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

PAS22(X)2811 - 4, 6, 8 WAY TAPS

Item	Code		Tap loss dB			Insertion loss dB	Output-tap isolation dB		
			5-40MHz	40-470MHz	470-862MHz		5-40MHz	40-470MHz	470-862MHz
PAS2242811 4 channels	PAS2242811	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 channels	PAS2262811	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 channels	PAS2282811	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				

Splitters and taps

Saddle and clamp distribution components

47-862MHz

PP12 PP12DC
PP13 PP14DC
PP14

Fully shielded metal housing screw and saddle clamp splitters. It is not advisable to feed the output sockets directly because of the low separation. Socket should be connected to a tap output. One input - several outputs. V.S.W.R. <1.2



Item	Code	No. of outputs	Attenuation dB		Packaging pcs
			input and output	between two outputs	
PP12	220370	2	4	18	10
PP13	220376	3	6	15	10
PP14	220390	4	7	10	10
PP12DC ⁽¹⁾	220375	2	4	18	10
PP14DC ⁽¹⁾	220392	4	8	10	10
IP2 ⁽¹⁾	220322	2	4	18	10

(1) With DC pass between input and one output

Saddle and clamp distribution components

47-862MHz

CD..

Fully shielded metal housing screw and saddle clamp taps. 1 input, 1 through-line output, 1 or more tapped outputs. Suitable for through-line or as terminal as well, by fitting a resistive load CR75I.



1 output												
Item	Code	Insertion loss		Output-tap isolation dB				Isolation between outputs dB				V.S.W.R input
		dB		Bands				Bands				
		min	max	1	3	4	5	1	3	4	5	
CD11	220660	0.8	1.1	10	10	10	10	—	—	—	—	1.2
CD141	220651	0.3	0.5	15	14	14	14	—	—	—	—	1.2
CD201	220671	0.2	0.6	21	20	20	20	—	—	—	—	1.3
CD261	220681	0.2	0.7	26	26	26	25	—	—	—	—	1.1

2 outputs												
Item	Code	Insertion loss		Output-tap isolation dB				Isolation between outputs dB				V.S.W.R input
		dB		Bands				Bands				
		min	max	1	3	4	5	1	3	4	5	
CD12	220670	1.3	1.8	11	11	10	10	21	21	19	19	1.4
CD142	220652	0.6	1.1	15	15	14	14	28	27	26	25	1.2
CD202	220672	0.6	1.1	22	21	20	19	23	25	27	27	1.3
CD262	220682	0.7	1.2	28	27	26	26	35	36	36	36	1.2

4 outputs												
Item	Code	Insertion loss		Output-tap isolation dB				Isolation between outputs dB				V.S.W.R input
		dB		Bands				Bands				
		min	max	1	3	4	5	1	3	4	5	
CD144	220654	0.8	2.8	16	16	15	15	13/21	16/27	18/35	18/40	1.5
CD204	220674	0.3	1.2	23	23	21	20	15/25	16/27	18/28	18/28	1.2
CD264	220684	0.3	1.2	27	27	26	25	25/35	27/37	28/37	29/37	1.3

Saddle and clamp distribution components

47-862MHz

CAD

Directional taps with fixed separation from the main line for all frequencies



Item	Code	Insertion loss		Output-tap isolation dB				Isolation between outputs dB				V.S.W.R input <
		dB		Bands				Bands				
		min	max	1	3	4	5	1	3	4	5	
		1 output										
CAD11	220451	0.1	0.7	27	17	11	12	45	38	36	35	1.1
		2 outputs										
CAD12	220452	0.1	0.8	27	18	12	13	53	43	30	26	1.2
		3 outputs										
CAD13	220453	0.2	2	27	17	12	15	44/40	35/30	34/25	32/35	1.3
		4 outputs										
CAD14	220454	0.1	1.9	27	17	12	15	48/60	37/60	29/52	25/45	1.2

Saddle and clamp distribution components

Accessories

CN9

Indoor box for 47-862MHz splitters and taps



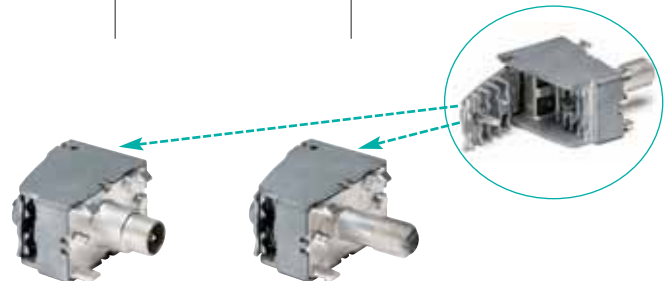
Item	Code	Description
CN9	256309	Indoor box for CAD

Outlets

5-2400MHz outlets

SPI.. and SPF.. Series

Single outlets 5-2400MHz. High screening efficiency to standard EN 50083-4 Class A.
The outlet is designed with an innovative system to connect to coaxial cable. It enables the user to connect to a cable with a diameter between 5 and 7mm. Terminal outlets allow the current to pass through the input and user output. Pass-through outlets allow the current to pass through input and output and blocks it on user output.



Item	Code	Insertion loss dB				Distribution loss dB				Outlet type	Connector
		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		
SPI00 ⁽¹⁾	220711	—	—	—	—	< 0.5	< 0.5	< 0.8	< 0.8	Terminal	IEC male
SPI05	220712	< 5	< 5	< 7	< 8	< 5	< 5	< 7	< 8	Pass-through	
SPI10	220713	< 2.5	< 2.5	< 3	< 3.2	10.5	10	10.5	11		
SPI14	220714	< 1.5	< 1.2	< 2.2	< 2.5	15	14.5	14.5	15		
SPI18	220715	< 1.5	< 1.2	< 2.2	< 2.5	18.5	18	18	18.5		
SPI22	220716	< 1.5	< 1.2	< 2.2	< 2.5	22.5	22	22	22.5		

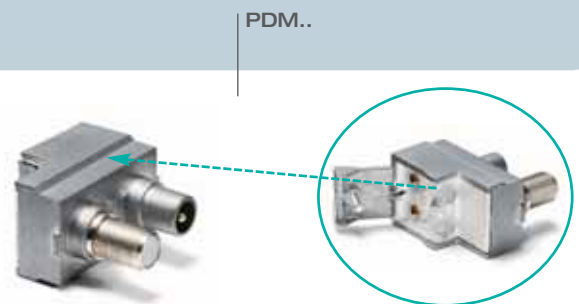
Item	Code	Insertion loss dB				Distribution loss dB				Outlet type	Connector
		Return path	TV	SAT		Return path	TV	SAT			
		5-40 MHz	47-862 MHz	950-2150 MHz	2150-2400 MHz	5-40 MHz	47-862 MHz	950-2150 MHz	2150-2400 MHz		
SPF00 ⁽¹⁾	220721	—	—	—	—	< 0.5	< 0.5	< 0.8	< 0.8	Terminal	F female
SPF05	220722	< 5	< 5	< 7	< 8	< 5	< 5	< 7	< 8	Pass-through	
SPF10	220723	< 2.5	< 2.5	< 3	< 3.2	10.5	10	10.5	11		
SPF14	220724	< 1.5	< 1.2	< 2.2	< 2.5	15	14.5	14.5	15		
SPF18	220725	< 1.5	< 1.2	< 2.2	< 2.5	18.5	18	18	18.5		
SPF22	220726	< 1.5	< 1.2	< 2.2	< 2.5	22.5	22	22	22.5		

(1) DC passes between the input and the output connector

5-2400MHz outlets

PDM.. Series

Demix outlets allow the user to split, via two different connectors, TV-SAT signals (5-2400MHz). They have a clamp connection to insert the cable. It enables the user to connect a cable with a diameter between 5 and 7mm. This range of outlets allow the current to pass through the input and user SAT output. It is a special pass-through outlet and for this reason the last outlet has been closed with an isolated 75 Ohm load.



Item	Code	Insertion loss dB		Distribution loss dB		Pack. Pcs.	Outlet type
		TV	SAT	TV	SAT		
		47-862 MHz	950-2400 MHz	47-862 MHz	950-2400 MHz		
PDM00	220003	—	—	< 2	< 2	10	Terminal
PDM05	220002	< 6.0	< 6.0	< 6	< 6		Pass-through
PDM10	220001	< 4.0	< 4.0	10	11		
PDM14	220004	< 3	< 3.5	14	15		
PDM18	220005	< 2.5	< 3.5	19	19		
PDM22	220006	< 2.5	< 3.5	22	23		

Adaptors for outlets

SPI..., SPF..., and PDM.. Series

PL1



Adaptors	Item	Code	Type	Packaging Pcs
Ticino Axolute Silver ®	BT-AXS	289737	Single	20
	BT-AXS2	289739	Demix	10
Ticino Axolute Black ®	BT-AXB	289738	Single	20
	BT-AXB2	289740	Demix	10
Ticino International ®	BT-INT	280754	Single	20
	BT-INT2	280801	Demix	10
Ticino Light ®	BT-LIG	280752	Single	20
	BT-LIG2	280802	Demix	10
Ticino Light Tech ®	BT-LIGT	280699	Single	20
	BT-LIGT2	280803	Demix	10
Ticino Magic ®	BT-MA	280755	Single	20
	BT-MA2	280804	Demix	10
Ticino Living ®	BT-LIV	280753	Single	20
	BT-LIV2	280805	Demix	10
Ticino Luna ®	BT-LU	280756	Single	20
	BT-LU2	280806	Demix	10
Ticino Matix ®	BT-MAT	280757	Single	20
	BT-MAT2	280807	Demix	10
Ticino Magic TT ®	BT-TT	280742	Single	20
	BT-MATT2	280808	Demix	10
Vimar Eikon Next ®	VI-EKN	289798	Single	20
	VI-EKN2	289799	Demix	10
Vimar Eikon White ®	VI-EKW	280839	Single	20
	VI-EKW2	280840	Demix	10
Vimar Eikon Black ®	VI-EKB	289741	Single	20
	VI-EKB2	289742	Demix	10
Vimar Idea ®	VI-ID	280749	Single	20
	VI-ID2	280810	Demix	10
Vimar Idea Bianca ®	VI-IDB	280748	Single	20
	VI-IDB2	280811	Demix	10
Vimar 8000 ®	VI-80	280750	Single	20
	VI-802	280809	Demix	10
Vimar Plana ®	VI-PL	280751	Single	20
	VI-PL2	280812	Demix	10
Gewiss Chorus Bianco Lucido ®	GW-CB	280837	Single	20
	GW-CB2	280838	Demix	10
Gewiss Chorus Nero Satinato ®	GW-CN	280835	Single	20
	GW-CN2	280836	Demix	10
Gewiss Chorus Titanio Verniciato ®	GW-CT	280833	Single	20
	GW-CT2	280834	Demix	10
Gewiss Playbus ®	GW-PL	280797	Single	20
	GW-PL2	280813	Demix	10
Gewiss System Black ®	GW-SYB	280796	Single	20
	GW-SYB2	280814	Demix	10
Gewiss System White ®	GW-SYW	280798	Single	20
	GW-SYW2	280815	Demix	10
ABB Chiara ®	AB-CH	280831	Single	20
	AB-CH2	280832	Demix	10
Ave Sistema 45 Noir ®	AV-SNO	280743	Single	20
	AV-SNO2	280816	Demix	10
Ave Sistema 45 Banquise ®	AV-SBA	280745	Single	20
	AV-SBA2	280817	Demix	10
Ave Sistema 45 Blanc ®	AV-SBL	280746	Single	20
	AV-SBL2	280818	Demix	10
Ave Sistema 45 Ral ®	AV-SGR	280744	Single	20
	AV-SRA2	280819	Demix	10
Legrand Cross ®	LG-CR	280747	Single	20
	LG-CR2	280820	Demix	10
Legrand Vela Scura ®	LG-VES	280800	Single	20
	LG-VES2	280821	Demix	10
Legrand Vela Chiara ®	LG-VEC	280799	Single	20
	LG-VEC2	280822	Demix	10

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Item	Code	Description
PL1	280736	Cover for SPI.. and SPF.. - For European boxes ø 60mm
PL1UK	280794	Cover for SPI.. and SPF.. - For UK boxes

Outlets - Connectors

CATV wall outlets

PAS0021...

Wall outlets with FM and TV outputs. Terminal and pass-through versions available. Return channel on TV output.
Terminal version with RC on FM outlet (PAS0021411) also available.



Item	Code	Output	Connector type	Bandwith MHz	Tap loss dB	Insertion loss dB	Outlet type
PAS0021411	PAS0021411	R TV	IEC female IEC male	5-108 120-862	-	2	Terminal
PAS0021511	PAS0021511	R TV	IEC female IEC male	88-108 5-68/120-862	-	2	Terminal
PAS0023211	PAS0023211	R TV	IEC female IEC male	88-108 5-68/120-862	8	2.5	Pass-through
PAS0023311	PAS0023311	R TV	IEC female IEC male	88-108 5-68/120-862	11	1.5	Pass-through
PAS0023411	PAS0023411	R TV	IEC female IEC male	88-108 5-68/120-862	14	1	Pass-through
PAS0032101*	PAS0032101	R TV DATA	IEC female IEC male F female	120-862 88-108 5-1000	-	4 4 5	Terminal
PAS5321	PAS5321	Wall mounting box					

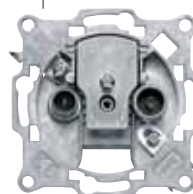
*with data input

Wall outlets TV + SAT

PRI..

PL2

Wall outlets with TV and SAT outputs.
One terminal version and 5 pass-through versions available:
from 6dB loss up to 22dB loss.



Item	Code	Output	Connector	Bandwith MHz	Tap loss dB	Insertion loss dB	Outlet type	Dimensions mm
PRI00	280730	TV SAT	IEC male F female	5-40/47-862 950-2300	-	1.5 2	Terminal	76 x 76 x 32
PRI06	280731	TV SAT	IEC male F female	5-40/47-862 950-2300	6	2 2.5	Pass-through	
PRI10	280732	TV SAT	IEC male F female	5-40/47-862 950-2300	10	1.5 2	Pass-through	
PRI14	280733	TV SAT	IEC male F female	5-40/47-862 950-2300	14	1.5 2	Pass-through	
PRI18	280734	TV SAT	IEC male F female	5-40/47-862 950-2300	18	1.5 2	Pass-through	
PRI22	280735	TV SAT	IEC male F female	5-40/47-862 950-2300	22	1.5 2	Pass-through	
PL2	280737	Cover						
CAPL	280741	Box						

Wall outlets TV + SAT + FM

Wall outlets with FM + TV + SAT outputs.
Terminal and pass-through versions available. PR3-10-DC allows DC to pass from OUT to IN and from SAT to IN.



Item	Code	Output	Connector type	Bandwith MHz	Tap loss dB	Insertion loss dB	Outlet type
PAS0032	PAS0032	TV R SAT*	IEC female IEC male F female	5-68/120-862 88-108 950-2150	-	1.5 2 2	Terminal
PAS0032D*	PAS0032D	FM+DAB TV SAT *	IEC female IEC male F female	87-240 5-68/260-862 950 - 2300	-	1.5 1.5 2	Terminal
PAS0032211	PAS0032211	TV R SAT*	IEC female IEC male F female	5-68/120-862 88-108 950-2150	8	2 4 4	Pass-through
PR3-10-DC	289795	TV R SAT*	IEC male IEC female F male	5-74/120-862 87.5-108 950-2150	10	3 2.5 3	Pass-through
PAS0042	PAS0042	TV R SAT1* SAT2*	IEC female IEC male F female F female	5-68/120-862 88-108 950-2150 950-2150	-	2.5 2.5 2 3	Terminal

* D.C. pass: 500mA max

Connectors

I.E.C. coaxial connectors



MALE CONNECTORS

Item	Code	Type	Copper plated		ø mm 9.5	Packaging pcs
			screw	shielded		
SP1	290351	Cable connector - straight	x		x	100
SP5	290354	Cable connector - straight		x	x	100

FEMALE CONNECTORS

Item	Code	Type	Copper plated		ø mm 9.5	Packaging pcs
			screw	shielded		
PR1	290451	Cable connector - straight	x		x	100
PR5	290454	Cable connector - with screw		x	x	50
PR11	290365	For wall outlets - L shaped		x	x	50

Connectors - Cables

Connectors

F connectors


CF..

CFR..

CAP

CCF..

PAS3212C

PAS3214B

F MALE TWIST ON CONNECTORS

Item	Code	Description	Cables Ø mm	Packaging pcs
CF50	280340	Quick F male	4.9-5.0	50
CF60	280341		5.9-6.0	
CF66	280342		6.5-6.6	
CF70	280346		6.9-7.0	

F MALE QUICK CONNECTORS

Item	Code	Description	Cables Ø mm	Packaging pcs
CFR50	280343	Plug-in F male	4.9-5.0	50
CFR60	280344		5.9-6.0	
CFR66	280345		6.5-6.6	
CAP	280347	Quick F male	4.0-7.0	

CRIMP F CONNECTORS

Item	Code	Description	Cables Ø mm	Packaging pcs
CCF66	289768	Plug-in F male	6.6-6.8	100
CCF102	289769		10:02	20

COMPRESSION F CONNECTORS

Item	Code	Description	Cables	Packaging pcs
PAS3212B	PAS3212B	Universal - for indoor/outdoor applications	PAS4036 - PAS4016 PAS4136 - PAS4116	50
PAS3212C	PAS3212C		PAS4037 - PAS4017 PAS4007 - PAS4117 - PAS4107	50
PAS3214B	PAS3214B		PAS4009 - PAS4109 - PAS4110	25
PAS3664D	PAS3664D		Tool for PAS3214B	1

Accessories

75 Ohm load - Adaptors


CA75F

T75IF

CR75I

TF90

GCF

GC1

PAUTV

PAS3236Q

PAS3213001

PAS61..

Item	Code	Description	Packaging pcs
CA75F	289085	Single load - F male connector	100
T75IF	290002	Isolated load - F male connector	20
CR75I	289776	Coaxial for TV	20

ADAPTORS

Item	Code	Description	Packaging pcs
TF90	289543	Right angle F male to F female	50
GCF	289544	F female - F female	50
GC1	290030	Cable connector	100
PAUTV	280373	Dual F female - F female - F female grounding back	250
PAS3236Q	PAS3236Q	F male - F male quick	1
PAS3213001	PAS3213001	F female - F female with DC block	20
PAS6106	289770	5-2400MHz attenuator - Att. 6dB - DC pass	5

ACCESSORIES

Item	Code	Description	Packaging pcs
PRT1	210095	Earth terminal board - For earth connection of 6 coaxial cables in a TV distribution network. Best fitted near the amplifier	25

Coaxial cables

Coaxial cables for indoor installation with PVC sheath

Fracarro offers both single installation cable (class B) or large network cables (class A) e.g. hotels, resorts, hospitals, etc. Double screened cable is available for high screening efficiency (more than 90dB), required for professional installations.

Coaxial cables for outdoor installation with PE sheath

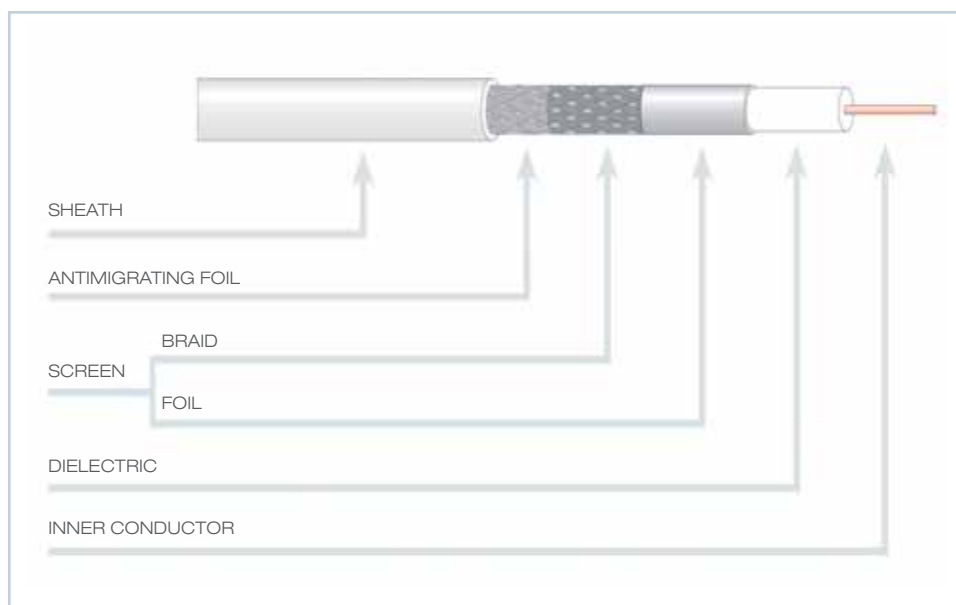
Class A cables with high screening efficiency and low attenuation. The PE sheath allows the cables to be installed in external or damp environments.

Multicoax cables

These cables can be used in multiswitch networks where a large number of cables are installed. Inside one sheath there are 4, 5 or 9 cables with different colours to make identification and connection to switches easier.

General features

Installation temperature: -5°C to +50°C. Operating temperature: -15°C to +55°C . Compliant to EN50117.



Legend

Cu:		Copper
AL:		Aluminium
CuSn:		Tinned copper
PEE:		Physical foam polyethylene
PE:		Polyethylene
PET:		Pet foil
PVC:		Polyvinyl chloride
PVC LSZH:	..	Polyvinyl chloride low smoke zero halogens
AL/PET:		Aluminium + Pet foil
AL/PET/AL:	..	Aluminium + Pet + Aluminium foil
Cu/PET:		Copper + Pet foil
Cu/PET/Cu:	..	Copper + Pet + Copper foil

Cables

Coaxial cables

Coaxial cables for indoor installation, PVC sheath

Item	PAS4025	PAS4206 New	PAS4206 New	PAS4046	PAS4036	PAS4037
Inner conductor Composition	Cu	Cu	Cw	Cw	Cu	Cu
Ø mm	0.80	0.80	1.02	1.02	1	1.13
Dielectric Composition	PEE	PEE	PEE	PEE	PEE	PEE
Ø mm	3.5	3.5	4.6	4.6	4.7	4.85
Screen Foil	AL/PET/AL	AL/PET/AL	AL/PET/AL	AL/PET/AL	AL/PET/AL	AL/PET/AL
%	100%	100%	100%	100%	100%	100%
Braid	CuSn	CuSn	CuSn	AL	CuSn	AL
%	40%	40%	64.5%	64.5%	30%	35%
Foil	-	-	-	-	-	-
%	-	-	-	-	-	-
Antimigrating foil	PET	PET	PET	PET	PET	PET
Sheath Composition	PVC White	PVC LSZH	PVC LSZH	PVC White	PVC White	PVC White
Ø mm	5	5	6.9	6.9	6.7	6.8
ELECTRICAL PERFORMANCE						
Impedance @ 200MHz	Ohm	75 ± 3	75 ± 3	75 ± 3	75 ± 3	75 ± 3
Capacitance	pF/m	52	52	52	52	53
Velocity ratio		84%	84%	84%	84%	85%
Min. bending radius	mm	35	35	35	35	35
Attenuation @ 20°C dB/100mt						
MHz	5	2.0	3.0	3.0	2.1	1.5
MHz	50	5.9	5.9	5.9	5.1	4.3
MHz	200	11.3	12	8	9.5	8.4
MHz	470	17.6	18	12.3		13.6
MHz	800	23.3	23	14.2	20.6	17.2
MHz	1000	26.3	26.8	23	23.4	19.8
MHz	1350	30.8	31.5	23.2	-	23.3
MHz	1750	35.6	36.2	27	-	27.0
MHz	2150	40.0	40.4	30.2	-	30.6
MHz	2400	42.2	42.5	32.5	-	32.5
MHz	2700	45.2	45.2	34.5	-	35.0
Return loss dB						
MHz	50-470	>28	>20	>28	>30	>29
MHz	470-862	>26	>18	>25	>25	>25
MHz	862-1750	>20	>16	>20	>20	>20
MHz	1750-2400	>20	-	>20	>20	>20
Screening efficiency dB						
MHz	5-30	>65	>70	>65	>65	>65
MHz	30-1000	>80	>75	>75	>75	>80
MHz	1000-2150	>85	>75	>75	>75	>70
DC Resistance						
Inner	Ohm/Km	35	37	103	103	22.5
Outer	Ohm/Km	33	44	64	64	31
PACKAGING						
Plastic Reel	100m	Item		PAS4206100	PAS4046100	PAS4036104
		Code		287033	289802	PAS4036104
	200m	Item	PAS4025202	PAS4206200	PAS4206201	
		Code	289700	287031	287034	
	250m	Item				
		Code				
Wooden Reel	500m	Item		PAS4206500		PAS4046500
		Code		287032		*289841
						PAS4036504

*Available on request (min. 4000 mt).

Coaxial cables

Coaxial cables for indoor installation, PVC sheath

Item		PAS4016 Class A	PAS4017 Class A	PAS4007 Class A	PAS4067 Class B	PAS4009 Class A
Inner conductor	Composition	Cu	Cu	Cu	Cu	Cu
	Ø mm	1	1.13	1.13	1.13	1.7
Dielectric	Composition	PEE	PEE	PEE	PEE	PEE
	Ø mm	4.7	4.8	4.8	4.8	7.2
Screen	Foil	AL/PET/AL	AL/PET/AL	AL/PET/AL	Cu/PET	AL/PET/AL
	%	100%	100%	100%	100%	100%
	Braid	CuSn	CuSn	CuSn	Cu	CuSn
	%	40%	40%	40%	40%	56%
	Foil	-	-	AL/PET	-	-
	%	-	-	100%	-	-
Antimigrating foil		PET	PET	PET	PET	PET
Sheath	Composition	PVC White	PVC White	PVC White	PVC White	PVC White
	Ø mm	6.7	6.8	6.8	6.8	10.2
ELECTRICAL PERFORMANCE						
Impedance @ 200MHz	Ohm	75 ± 3	75 ± 3	75 ± 3	75 ± 3	75 ± 3
Capacitance	pF/m	52	52	52	52	52
Velocity ratio		84%	85%	85%	85%	85%
Min. bending radius	mm	35	35	35	35	115
Attenuation @ 20°C dB/100mt						
MHz	5	1.6	1.3	1.3	1.2	0.8
MHz	50	4.6	4.3	4.1	2.7	2.6
MHz	200	9.0	8.4	8.0	6.5	5.4
MHz	470	14.5	13.4	12.6	11.9	8.5
MHz	800	18.6	17.2	16.8	16.7	11.0
MHz	1000	21.1	19.5	18.9	18.9	12.9
MHz	1350	25.0	23.0	22.3	22.5	15.2
MHz	1750	27.9	26.2	25.5	26	17.6
MHz	2150	31.7	29.5	28.7	29.3	19.8
MHz	2400	33.2	31.9	30.4	31.2	21.5
MHz	2700	35.8	33.0	32.8	33.2	23.2
Return loss dB						
MHz	50-470	>30	>30	>30	>30	>30
MHz	470-862	>25	>28	>28	>28	>28
MHz	862-1750	>20	>23	>25	>25	>25
MHz	1750-2400	>20	>23	>20	>20	>18
Screening efficiency dB						
MHz	5-30	>75	>75	>85	>75	>80
MHz	30-1000	>85	>85	>95	>75	>85
MHz	1000-2150	>85	>85	>90	>85	>85
DC Resistance						
Inner	Ohm/Km	22.5	18	18	18	9
Outer	Ohm/Km	27	26	21	24	9.7
PACKAGING						
Plastic Reel	100m	Item	PAS4016102	PAS4017101	PAS4007111	PAS4067103
		Code	PAS4016102	PAS4017101	PAS4007111	289819
	200m	Item				
		Code				
	250m	Item		PAS4017251		
		Code		PAS4017251		
Wooden Reel	500m	Item	PAS4016502	PAS4017501		PAS4009501
		Code	PAS4016502	PAS4017501		PAS4009501

Cables

Coaxial cables

Coaxial cables for outdoor installation, PE sheath

Item		PAS4136	PAS4116 Class A	PAS4117 Class A	PAS4107 Class A	PAS4109 Class A	PAS4110 Class A	PAS4102 Class A
Inner conductor	Composition	Cu	Cu	Cu	Cu	Cu	Cu	Cu
	Ø mm	1.0	1.0	1.13	1.13	1.7	1.7	3.4
Dielectric	Composition	PEE	PEE	PEE	PEE	PEE	PEE	PEE
	Ø mm	4.7	4.7	4.8	4.8	7.2	7.2	14.9
Screen	Foil	AL/PET/AL	AL/PET/AL	AL/PET/AL	AL/PET/AL	AL/PET/AL	Cu/PET/Cu	Cu
	%	100%	100%	100%	100%	100%	100%	100%
	Braid	CuSn	CuSn	CuSn	CuSn	CuSn	Cu	Cu
	%	30%	40%	40%	40%	56%	56%	60%
	Foil	-	-	-	AL/PET	-	-	-
	%	-	-	-	100%	-	-	-
Antimigrating foil		PET	PET	PET	PET	-	-	-
Sheath	Composition	PE Black	PE Black	PE Black	PE Black	PE Black	PE Black	PE Black
	Ø mm	6.7	6.7	6.8	6.8	10.2	10.2	19.8
ELECTRICAL PERFORMANCE								
Impedance @ 200MHz	Ohm	75 ± 3	75 ± 3	75 ± 3	75 ± 3	75 ± 3	75 ± 3	75 ± 3
Capacitance	pF/m	52	52	52	52	52	53	53
Velocity ratio		84%	84%	85%	85%	85%	85%	84%
Min. bending radius	mm	35	35	35	35	115	115	200
Attenuation @ 20°C dB/100mt								
MHz	5	1.6	1.6	1.3	1.3	0.8	0.8	0.4
MHz	50	4.6	4.6	4.3	4.1	2.6	2.5	1.2
MHz	200	9.0	9.0	8.4	8.0	5.4	5.3	3.0
MHz	470	14.5	14.5	13.4	12.6	8.5	8.4	4.2
MHz	800	18.6	18.6	17.2	16.8	11.0	11.0	5.7
MHz	1000	21.1	21.1	19.5	18.9	12.9	12.7	6.6
MHz	1350	25.0	25.0	23.0	22.3	15.2	15.0	7.8
MHz	1750	27.9	27.9	26.2	25.5	17.6	17.3	8.9
MHz	2150	31.7	31.7	29.5	28.7	19.8	19.6	10.0
MHz	2400	33.2	33.2	31.9	30.4	21.5	21.3	10.6
MHz	2700	35.8	35.8	33.0	32.8	23.2	23.0	-
Return loss dB								
MHz	30-470	>30	>30	>30	>30	>30	>30	>26
MHz	470-862	>25	>25	>28	>28	>28	>28	>22
MHz	862-1750	>20	>20	>23	>25	>25	>25	>20
MHz	1750-2400	>20	>20	>23	>20	>18	>18	>18
Screening efficiency dB								
MHz	10-30	>65	>75	>75	>85	>80	>80	>90
MHz	30-1000	>75	>85	>85	>95	>85	>85	>100
MHz	1000-2150	>80	>85	>85	>90	>85	>85	>100
DC Resistance								
Inner	Ohm/Km	22.5	22.5	18	18	9	9	1.9
Outer	Ohm/Km	31	27	26	21	9.7	8.9	4.5
PACKAGING								
Plastic Reel	100m	Item	PAS4136104	PAS4116102	PAS4117101	PAS4107111	PAS4109101	
		Code	PAS4136104	PAS4116102	PAS4117101	PAS4107111	PAS4109101	
	250m	Item			PAS4117251			
		Code			PAS4117251			
Wooden Reel	500m	Item		PAS4116502	PAS4117501		PAS4109501	PAS4110511
		Code		PAS4116502	PAS4117501		PAS4109501	PAS4110511
	700m	Item						PAS4102001
		Code						PAS4102001

Multicoax cables

Item			4 x PAS4016 Class A		4 x PAS4116 Class A		5 x PAS4016 Class A		9 x PAS4017 Class A	
Inner conductor	Composition	Cu		Cu		Cu		Cu		
	Ø mm	1.0		1.0		1		1.13		
Dielectric	Composition	PEE		PEE		PEE		PEE		
	Ø mm	4.7		4.7		4.7		4.8		
Screen	Foil	AL/PET/AL		AL/PET/AL		AL/PET/AL		AL/PET/AL		
	%	100%		100%		100%		100%		
	Braid	CuSn	CuSn	CuSn	CuSn					
	%	40%	40%	40%	40%					
	Foil	-	-	-	-					
	%	-	-	-	-					
Internal Sheath	Composition	PVC 4 Colours	PVC 4 Colours	PVC 5 Colours	PVC 9 Colours					
	Ø mm	6.6	6.6	6.6	6.6					
External Sheath	Composition	PVC White	PVC White	PVC White	PVC Black					
	Ø mm	19	19	20.5	25					
ELECTRICAL PERFORMANCE										
Impedance @ 200MHz	Ohm	75 ± 3	75 ± 3	75 ± 3	75 ± 3					
Capacitance	pF/m	52	52	52	52					
Velocity ratio		84%	84%	84%	85%					
Min. bending radius	mm	35	35	35	35					
Attenuation @ 20°C dB/100m										
MHz	5	1.6	1.6	1.6	1.3					
MHz	50	4.6	4.6	4.6	4.3					
MHz	200	9.0	9.0	9.0	8.4					
MHz	470	14.5	14.5	14.5	13.4					
MHz	800	18.6	18.6	18.6	17.2					
MHz	1000	21.1	21.1	21.1	19.5					
MHz	1350	25.0	25.0	25.0	23.0					
MHz	1750	27.9	27.9	27.9	26.2					
MHz	2150	31.7	31.7	31.7	29.5					
MHz	2400	33.2	33.2	33.2	31.9					
MHz	2700	35.8	35.8	35.8	33.0					
Return loss dB										
MHz	30-470	>30	>30	>30	>30					
MHz	470-862	>25	>25	>25	>28					
MHz	862-1750	>20	>20	>20	>23					
MHz	1750-2400	>20	>20	>20	>23					
Screening efficiency dB										
MHz	10-30	>75	>75	>75	>75					
MHz	30-900	>85	>85	>85	>85					
MHz	900-2150	>85	>85	>85	>85					
DC Resistance										
Inner	Ohm	22.5	22.5	22.5	18					
Outer	Ohm	27	27	27	26					
PACKAGING										
Wooden Reel	100m	Item Code	PAS4004112 PAS4004112	PAS4304102 PAS4304102	PAS4004102 PAS4004102	PAS4004109 PAS4004109				

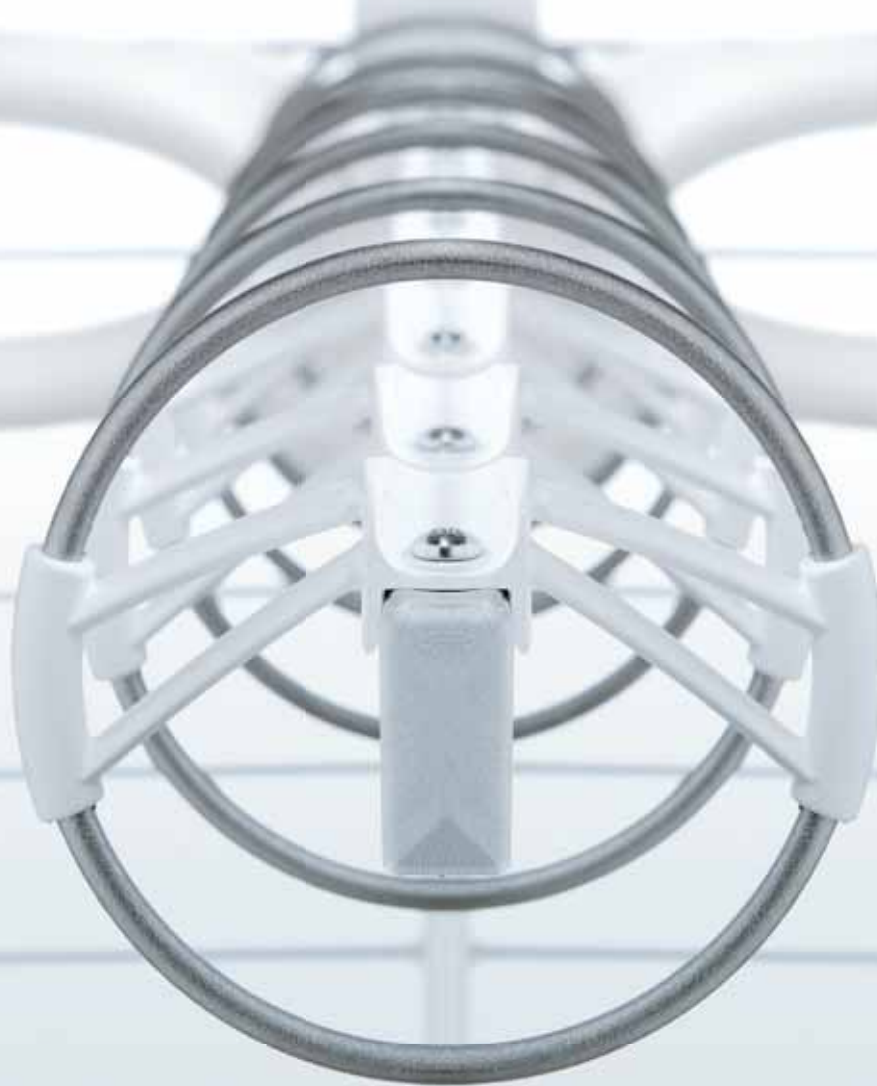
Index of products

Item	Code	Page	Item	Code	Page	Item	Code	Page	Item	Code	Page
10/3539R	219535	33	ANT5093802	213051	28	CD204	220674	153	FE5U	257900	60
10/860960	219486	21	ANT5096902	213053	28	CD2-10	220830	142	FHM	289888	96
10BL45F	219446	34	ANT5143802	213054	28	CD2-14	220834	142	FIL132200	226611	71
10BL4F	219406	34	ANT5146902	213056	28	CD2-18	220838	142	FIL132201	226612	71
10BL5F	219407	34	ARD	220891	143	CD2-22	220842	142	FIL141200	226618	71
10F2126	219525	33	AS10	289253	55	CD261	220681	152	FIL151200	226619	71
10F2734	219532	33	AS20	284013	55	CD262	220682	152	FIL161200	226620	71
10F3546	219541	33	AVMIN	288014	67	CD264	220684	153	FIL171200	226621	71
10F4769	219543	33	AVM3N	288015	67	CD4-12	220852	143	FIL181200	226622	71
10RD45F	219546	36	AVM45N	288013	67	CD4-14	220854	143	FIL191200	226623	71
10RD4F	219506	36	AV-SBA	280745	155	CD4-18	220858	143	FIL191201	226624	71
10RD5F	219507	36	AV-SBA2	280817	155	CD4-22	220862	143	FIL261000	289804	72
20BL45F	219646	35	AV-SBL	280746	155	CDPU4ZN	289823	53	FIL262000	289803	72
20BL4F	219606	35	AV-SBL2	280818	155	CDPU8ZN	289824	53	FIL391000	289805	72
20RD45F	219746	37	AV-SGR	280744	155	CDPUTZN	289822	53	FIL392000	289806	72
20RD4F	219706	37	AV-SNO	280743	155	CF50	280340	158	FIL392110	289672	72
20RD5F	219707	37	AV-SNO2	280816	155	CF60	280341	158	FM OMNI	213009	14
4D_F	218701	15	AV-SRA2	280819	155	CF66	280342	158	FUS45	226745	60
4E_F	218702	15	BA6	293400	46	CF70	280346	158	GC1	290030	159
4E512_F	218706	19	BA914	280674	47	CFR50	280343	158	GCF	289544	159
4F_F	218703	15	BFO-SC-APC	289349	118	CFR60	280344	158	GW-CB	280837	155
4G_F	218704	15	BIC	220800	143	CFR66	280345	158	GW-CB2	280838	155
4H_F	218705	15	BLU220F	217850	25	CHVU4ZN	289821	53	GW-CN	280835	155
6D_F	218711	16	BLU220PLUS	217857	27	CN9	256309	153	GW-CN2	280836	155
6E_F	218712	16	BLU224F	217851	25	CR75I	289776	158	GW-CT	280833	155
6E12_F	218717	16	BLU225F	217852	25	CROSS-RJ45	289549	90	GW-CT2	280834	155
6E512_F	218718	19	BLU420F	217853	26	CVDC50	280376	90	GW-PL	280797	155
6F_F	218713	16	BLU420PLUS	217858	27	CV-RCA/HQ	288952	104	GW-PL2	280813	155
6G_F	218714	16	BLU424F	217854	26	DAB	213010	14	GW-SYB	280796	155
6H_F	218715	16	BLU425F	217855	26	DE1-10	280710	144	GW-SYB2	280814	155
6H1_F	218716	16	BLU920F	217856	26	DE1-14	280711	144	GW-SYW	280798	155
AB-CH	280831	155	BLU920PLUS	217859	27	DE1-18	280712	144	GW-SYW2	280815	155
AB-CH2	280832	155	BLV4F	218038	20	DE1-22	280713	144	IP2	220322	152
AF112T	223230	66	BLV6F	218058	20	DE2-10	280714	144	IZZ	290018	61
AF112T	223231	66	BOC	220801	143	DE2-14	280715	144	J21B	223023	108
AF1122T	223233	66	BR2-AA	289360	118	DE2-18	280716	144	J31B	223024	108
AF1123T	223235	66	BR4-AA	289362	118	DE2-22	280717	144	JS2RT	223101	61
AF1123W	223237	66	BT-AXB	289738	155	DE4-12	280718	145	JSVU3	223109	60
AF1313T	223236	66	BT-AXB2	289740	155	DE4-14	280719	145	K1150-1490	288005	86
AM100N	289113	65	BT-AXS	289737	155	DE4-18	280720	145	K1-2	282102	89
AM102N	289119	65	BT-AXS2	289739	155	DE4-22	280721	145	K120/...	2702xx	79
AM50N	289112	65	BT-INT	280754	155	DE6-16	280722	145	K120/...DT	2707xx	80
AMP17S	289779	136	BT-INT2	280801	155	DE6-20	280723	145	K120/DAB1	270278	79
AMP2000/UK	271140	138	BT-LIG	280752	155	DE6-25	280724	145	K120A/...	2707xx	80
AMP4000	899614	138	BT-LIG2	280802	155	DE8-16	280725	145	K2015-2150	288003	86
AMP5121L	289696	109	BT-LIGT	280699	155	DE8-20	280726	145	KA400	270001	90
AMP5121M	289695	109	BT-LIGT2	280803	155	DE8-25	280727	145	KA600	293433	90
AMP522AL	289602	110	BT-LIV	280753	155	DFAN	289487	51	KA800	293434	90
AMP522AM	289604	110	BT-LIV2	280805	155	DFO100C	289294	51	KCP	282618	84
AMP522PL	289601	110	BT-LU	280756	155	DFO120N	289199	51	KD100	289539	90
AMP522PM	289603	110	BT-LU2	280806	155	DFF 9-13	289513	51	KDF	282646	81
AMP523L	289896	114	BT-MA	280755	155	DFF85	211001	49	KDSR	270624	82
AMP523M	289895	114	BT-MA2	280804	155	DFF85R	211002	49	KDSR-AV	270621	82
AMP6600	AMP6600	55	BT-MAT	280757	155	DFFDIGIT	211003	49	KDSR-M	270622	82
AMP8331	AMP8331	138	BT-MAT2	280807	155	DGTXT10	211111	49	KDSR-S	270623	82
AMP8331A	AMP8331A	138	BT-MATT2	280808	155	DGTXT10-A	211112	49	KDTR	270619	83
AMP9202U	AMP9202U	70	BT-TT	280742	155	DGTXT10-GA	211116	49	KDTR-AV	270616	83
AMP9202W	AMP9202W	70	CA1	219600	46	DGTXT10-RA	211115	49	KDTR-M	270617	83
AMP9254	271031	136	CA2	219602	46	DIGIT	211101	49	KDTR-S	270618	83
AMP9254A	271033	136	CA75F	289085	158	DIGIT-A	211104	49	KF/...	2701xx	79
AMP9294	271032	136	CAD11	220451	153	DIGIT-AK	211108	52	KF/...DT	2702xx	80
AMP9762	235051	108	CAD12	220452	153	DIGIT-G	211102	52	KF/DAB	270058	79
AMP9762B	235055	108	CAD13	220453	153	DIGIT-GA	211105	49	KF/DAB1	270060	79
AMP9763	235052	113	CAD14	220454	153	DIGITK	211107	52	KFB3	270063	80
AMP9763B	235056	113	CAP	280347	158	DIGIT-R	211103	49	KFB4	270054	80
AMP9764	235053	70	CAPL	280741	156	DIGIT-RA	211106	49	KFB5	270055	80
AMP9S	289778	136	CCF102	289769	158	DOMUS	289560	46	KFB5/...	270062	80
ANI	293301	46	CCF66	289768	158	DSQ21J	289588	55	KFBU	270064	80
ANT1200A	213001	14	CD11	220660	152	DSQ41J	289589	55	KFT/...	282614	86
ANT3030507	213002	17	CD1-10	220810	142	ES1/Q	226905	61	KFT/...	282615	86
ANT3030810	213003	17	CD1-14	220814	142	ES1/RVU	226909	61	KFT/...	282616	86
ANT3060510	213004	18	CD1-18	220818	142	ES2/Q	226913	61	KIF-S2	282589	87
ANT3070507	213005	17	CD12	220670	152	ES2/RU	226917	61	KIT 9/13 80 CI	211318	52
ANT3070810	213006	17	CD1-22	220822	142	ES2RT	226912	61	KIT 9/13 80 FTA	211317	52
ANT3100510	213007	18	CD141	220651	152	ES54V	226805	59	KIT 9/13 DIGIT	211321	52
ANT41538	ANT41538	30	CD142	220652	152	ESV45	226804	59	KIT 9/13 P85	211320	52
ANT41600	ANT41600	30	CD144	220654	153	ESV45S	226807	59	KIT 9/13 RO80	211319	52
ANT42200	ANT42200	30	CD201	220671	152	ESVU	226801	59	KM	270630	85
ANT42238	ANT42238	30	CD202	220672	152	ESVUU	226806	59	KMM	270632	85

Item	Code	Page	Item	Code	Page	Item	Code	Page	Item	Code	Page
KMS	270631	85	MAP303	223130	62	MEX802/06	289621	112	PAD-BOX	289661	115
KP15	270018	89	MAP303/..	223132	62	MEX802/08	289622	112	PAS0021411	PAS0021411	156
KP35	270017	89	MAP303/S	223131	62	MEX804/06	289623	112	PAS0021511	PAS0021511	156
KP62	270019	89	MAP306	223155	63	MEX804/08	289624	112	PAS0023211	PAS0023211	156
KPN42	289245	91	MAP306/..	223154	63	MEX806/06	289625	112	PAS0023311	PAS0023311	156
KPN51	289244	91	MAP310	223145	62	MEX806/08	289626	112	PAS0023411	PAS0023411	156
KPR37	289485	91	MAP311	223146	62	ML01	289627	111	PAS0032	PAS0032	157
KPR41	289486	91	MAP312	223142	62	ML02	289628	111	PAS0032101	PAS0032101	156
KPR52	289491	91	MAP312/..	223159	62	MOD90	280001	67	PAS0032211	PAS0032211	157
KRF15	289537	90	MAP313	223152	62	MOD90R	280002	67	PAS0032D	PAS0032D	157
KRF45	289538	90	MAP314	223153	63	MP04AF	236505	91	PAS0042	PAS0042	157
KRS-RJ	282732	90	MAP315	223163	62	MP05AF	236506	91	PAS0303011	PAS0303011	60
KRX	270677	117	MAP316I	223186	63	MP13AF	236504	91	PAS0322001	PAS0322001	77
KRX-RC	270672	117	MAP317I	223187	63	MP20	289629	111	PAS0436301	226625	71
KSP1_2	270679	117	MAP400	223141	62	MP45AF	236507	91	PAS0437301	226626	71
KSP1_4	270680	117	MAP401	223195	62	MPCCF	236508	91	PAS1222011	PAS1222011	150
KTX	270686	117	MAP402	223166	63	MPG00	289630	112	PAS1224	PAS1224	147
KTX-RC	270671	117	MAP402/..	223165	63	MPG01	289631	112	PAS1232011	PAS1232011	150
KW20D	270049	88	MAP500	223133	62	MPG02	289632	112	PAS1242011	PAS1242011	150
KW33B	270050	88	MAP500/..	223135	62	MPG03	289633	112	PAS1244	PAS1244	147
KW33C	270053	88	MAP500/S	223134	62	MPG04	289634	112	PAS1244A	PAS1244A	147
KW35D	270061	88	MAP501	223137	62	MPG05	289635	112	PAS2212111	PAS2212111	150
KW35E	270059	88	MAP501/..	223136	62	MPG06	289636	112	PAS2212211	PAS2212211	150
KW44C	270051	88	MAP501/S	223138	62	MPG07	289637	112	PAS2212311	PAS2212311	150
KW530	270056	88	MB3UZ	289777	53	MPG08	289638	112	PAS2212411	PAS2212411	150
KW540	270057	88	MBJ2320	223334	68	MPG09	289639	112	PAS2212511	PAS2212511	150
KX125	282104	86	MBJ2331	223303	68	MPG10	289640	112	PAS2222111	PAS2222111	151
KX125E	282106	86	MBJ2331/O	223304	68	MPG12	289641	112	PAS2222211	PAS2222211	151
KX125NT	282105	86	MBJ2332	223305	68	MPG14	289642	112	PAS2222311	PAS2222311	151
LG-CR	280747	155	MBJ2332/..	223306	68	MPG16	289643	112	PAS2222411	PAS2222411	151
LG-CR2	280820	155	MBJ2350	223308	68	MPG18	289644	112	PAS2222511	PAS2222511	151
LG-VEC	280799	155	MBJ2350/..	223309	68	MPG20	289645	112	PAS2222611	PAS2222611	151
LG-VEC2	280822	155	MBJ2350/O	223310	68	MPG22	289646	112	PAS2242211	PAS2242211	151
LG-VES	280800	155	MBJ2350/38-41	223318	68	MS100	289650	111	PAS2242311	PAS2242311	151
LG-VES2	280821	155	MBJ2350/41-45	223311	68	MS101	289651	111	PAS2242411	PAS2242411	151
LP345F	216170	40	MBJ2350/S	223312	68	MS110	289652	111	PAS2242511	PAS2242511	151
LP345HV	216168	44	MBJ2356	223313	68	MS114	289653	111	PAS2242811	PAS2242811	151
LP345MF	216169	40	MBJ2356/..	223314	68	MS118	289654	111	PAS2262811	PAS2262811	151
LP345MHV	216167	44	MBJ2510	223301	68	MS207	289690	111	PAS2282811	PAS2282811	151
LP34F	216135	42	MBJ2510/..	223302	68	MS404	289656	111	PAS3212B	PAS3212B	158
LP34HV	216134	44	MBJ2620	223335	68	MX201	223201	58	PAS3212C	PAS3212C	158
LP45F	216149	42	MBJ2640	223336	68	MX202	223202	58	PAS3213001	PAS3213001	159
LP45HV	216147	44	MBJ2650	223316	68	MX203	223203	58	PAS3214B	PAS3214B	158
LP45NF	216150	40	MBJ2650/..	223319	68	MX204	223204	58	PAS3236Q	PAS3236Q	159
LP4F	216151	40	MBJ3620	223333	68	MX205	223217	58	PAS3664D	PAS3664D	158
LP5F	216108	42	MBJ3631	223322	68	MX206	223218	58	PAS4004102	PAS4004102	163
LP5HV	216107	44	MBJ3631/O	223323	68	MX208	223220	58	PAS4004109	PAS4004109	163
LPV345F	217350	42	MBJ3650	223324	68	MX21	226400	60	PAS4004112	PAS4004112	163
LPV345HV	217349	44	MBJ3650/..	223325	68	OMEGA14	213023	29	PAS4007111	PAS4007111	161
LSU05	289504	53	MBJ3650/32-34	223332	68	OMEGA5	213021	29	PAS4009101	PAS4009101	161
MAK2331	223343	64	MBJ3650/38-41	223331	68	OMEGA8	213022	29	PAS4009501	PAS4009501	161
MAK2331/O	223346	64	MBJ3650/41-45	223326	68	OPB24I	289403	118	PAS4016102	PAS4016102	161
MAK2332	223341	64	MBJ3650/S	223327	68	OPB24IR	289404	118	PAS4016502	PAS4016502	161
MAK2332/..	223348	64	MBJ3656	223328	68	OPB8I	289405	118	PAS4017101	PAS4017101	161
MAK2332/S	223342	64	MBJ3656/..	223329	68	OPC4IOM1	289692	118	PAS4017251	PAS4017251	161
MAK2350	223340	64	MBU4Z	289306	53	OPC4IOM2	289693	118	PAS4017501	PAS4017501	161
MAK2350/..	223347	64	MBUTZ	289307	53	OPC4IOM	289397	118	PAS4025202	289700	160
MAK2350/S	223345	64	MBUZ	289129	53	OPC4IOMA	289400	118	PAS4036104	PAS4036104	160
MAK2510	223344	64	MBX0001	235000	69	OPC8IOM1	289691	118	PAS4036504	PAS4036504	160
MAK2650	223351	64	MBX5541	235002	69	OPC8IOM2	289694	118	PAS4037104	PAS4037104	160
MAK2650/..	223352	64	MBX5550	235004	69	OPC8IOM	289401	118	PAS4046100	289802	160
MAP102	223121	63	MBX5550/..	235008	69	OPC8OMA	289399	118	PAS4046500	289841	160
MAP103	223123	63	MBX5550S	235017	69	OPO12P	289402	118	PAS4067103	289819	161
MAP104	223111	62	MBX5551	235015	69	OPT-RX51	270691	116	PAS4102001	PAS4102001	162
MAP105	223120	62	MBX5720	235021	69	OPT-RX54	270689	116	PAS4107111	PAS4107111	162
MAP106	223122	62	MBX5741	235001	69	OPT-TX51	270690	116	PAS4109101	PAS4109101	162
MAP107	223110	62	MBX5750	235003	69	OPT-TX54	270692	116	PAS4109501	PAS4109501	162
MAP108	223112	62	MBX5750/..	235009	69	P54F	217425	38	PAS4110511	PAS4110511	162
MAP109	223160	62	MBX5750S	235007	69	P80APK	211308	52	PAS4116102	PAS4116102	162
MAP112	223181	63	MBX5752	235014	69	P80APN	211316	51	PAS4116502	PAS4116502	162
MAP113I	223182	63	MBX5851	235016	69	P80RCIK	211313	52	PAS4117101	PAS4117101	162
MAP201	223162	63	MBX7741	235006	69	P80RFFK	211309	52	PAS4117251	PAS4117251	162
MAP202	223151	63	MBX7750	235005	69	P80RFFK-DF	211310	52	PAS4117501	PAS4117501	162
MAP204	223148	62	MBX7750/..	235010	69	P85AK	211220	52	PAS4136104	PAS4136104	162
MAP206	223150	62	MBX7750S	235018	69	P85GX10-A	211217	49	PAS4206100	287033	160
MAP207	223147	62	MDA3047	289613	111	P85GX10-B	211212	49	PAS4206200	287031	160
MAP208	223161	62	MDA4254	289614	111	P85K	211219	52	PAS4206201	287034	160
MAP209	223149	63	MDA5573	289615	111	P85RX10-A	211216	49	PAS4206500	287032	160
MAP210	223124	62	MDA6080	289616	111	P85RX10-B	211211	49	PAS4304102	PAS4304102	163
MAP210/..	223126	62	MDA6587	289617	111	P85X10	211209	49	PAS5321	PAS5321	156
MAP210/S	223125	62	MEF1/..	225882	59	P85X10-A	211210	49	PAS6106	289770	159
MAP212	223184	63	MEF2/..	225992	59	PA2	280701	144	PAS7212101	PAS7212101	55
MAP213I	223185	63	MEF3/..	225993	59	PA3	280703	144	PATOH-RJ45	289548	90
MAP223I	223190	63	MEMOSIG80	289807	73	PA4	280702	144	PAUTV	280373	159
MAP224I	223191	63	MEX800/06	289619	112	PA6	280704	144	PDM00	220003	154
MAP300	223164	63	MEX800/08	289620	112	PA8	280705	144	PDM05	220002	154

Item	Code	Page	Item	Code	Page	Item	Code	Page	Item	Code	Page
PDM10	220001	154	RO85APX5G	289828	51	STK	289174	47	T75IF	290002	158
PDM14	220004	154	RPP60	289182	47	STM1	281801	47	TA1-11	289865	146
PDM18	220005	154	SAF11U1V	272004	93	SWA5122	271035	137	TA1-15	289866	146
PDM22	220006	154	SAF12U	272001	93	SWA5414	271036	137	TA1-20	289867	146
PENTA85	211201	49	SAF6U1V	272006	93	SWA5424	271034	137	TA2-11	289868	146
PENTA85-A	211205	49	SAF7U	272003	93	SW1201B	271071	139	TA2-15	289869	146
PENTA85G	211203	49	SAF-CA	272007	93	SW1401B	271072	139	TA2-20	289870	146
PENTA85G-A	211206	49	SAF-U	272002	93	SW131706S	289780	134	TA2-25	289871	146
PENTA85R	211204	49	SAF-V	272005	93	SW131712S	289781	134	TA2-30	289872	146
PENTA85R-A	211207	49	SAT11601X500	289428	51	SW131716S	289782	134	TA4-13	289873	147
PG11-3,5/12	289658	115	SAT12751	SAT12751	51	SW13504A.	271011-C	128	TA4-16	289874	147
PG11-5/8	289659	115	SAT12753	SAT12753	51	SW13504A10	271008	128	TA4-21	289875	147
PG11-F	289660	115	SAT12901	SAT12901	51	SW13504P.	271013-C	128	TA4-25	289876	147
PG20	289540	47	SAT21601	211311	52	SW13504T.	271015-C	128	TA6-16	289877	147
PI-2W	899615	138	SCR41LZN	289843	54	SW13506A.	271012-C	128	TA6-20	289878	147
PIGTAIL	287092	118	SCR4414	271120	135	SW13506A10	271009	128	TA6-25	289879	147
PL1	280736	155	SCR8514	271121	135	SW13506P.	271014-C	128	TA8-15	289880	147
PL1UK	280794	155	SF4	226707	60	SW13506T.	271016-C	128	TA8-20	289881	147
PL2	280737	156	SF5	226708	60	SW13508A.	271017-C	128	TA8-25	289882	147
PP12	220370	152	SIG71100	283949	100	SW13508A10	271010	128	TAP1106	280760	148
PP12DC	220375	152	SIG7120	283950	100	SW13508P.	271018-C	128	TAP1108	280761	148
PP13	220376	152	SIG7281	283933	97	SW13508T.	271019-C	128	TAP1111	280762	148
PP14	220390	152	SIG7282	283943	97	SW13904A	271021	131	TAP1114	280763	148
PP14DC	220392	152	SIG7282S	283944	97	SW13904P	271022	131	TAP1117	280764	148
PP2	220802	142	SIG7310	283938	99	SW13904T	271023	131	TAP1120	280765	148
PP3	220803	142	SIG7320	283940	99	SW13906A	271024	131	TAP1123	280766	148
PP4	220804	142	SIG7530	283937	98	SW13906P	271025	131	TAP1208	280767	148
PP5	220805	142	SIG7540	283951	98	SW13906S	289783	132	TAP1211	280768	148
PR1	290451	157	SIG7600-HTX	270678	101	SW13906T	271026	131	TAP1214	280769	148
PR11	290365	157	SIG7622	270687	101, 117	SW13908A	271027	131	TAP1217	280770	148
PR3-10-DC	289795	157	SIG7624	270688	101, 118	SW13908P	271028	131	TAP1220	280771	148
PR5	290454	157	SIG7710	283945	102	SW13908S	289784	132	TAP1223	280772	148
PRI00	280730	156	SIG7720	283947	102	SW13908T	271029	131	TAP1408	280773	149
PRI06	280731	156	SIG7730	283946	102	SW13912S	289785	132	TAP1411	280774	149
PRI10	280732	156	SIG7900	283935	103	SW13916S	289786	132	TAP1414	280775	149
PRI14	280733	156	SIG7901	283930	103	SW139AT	271020	132	TAP1417	280759	149
PRI18	280734	156	SIG7902	283929	103	SW14404-00	271081	127	TAP1420	280776	149
PRI22	280735	156	SIG7903	283928	103	SW14404-08	271082	127	TAP1423	280777	149
PRT1	210095	159	SIG7904	283927	103	SW14404-17	271083	127	TAP1611	280778	149
PSU341	289563	65	SIG7905	283941	96	SW14406-00	271084	127	TAP1614	280779	149
PSU342	289564	65	SIG8008	289484	73	SW14406-08	271085	127	TAP1617	280780	149
PSU411	289561	65	SIG8009	289729	73	SW14406-17	271086	127	TAP1620	280781	149
PSU412	289562	65	SIG8010	289730	73	SW14408-00	271087	127	TAP1623	280782	149
PSU511	289851	65	SIG8011	289842	73	SW14408-08	271088	127	TAP1812	280783	149
PSU8510	289847	115	SIG9506	283126	77	SW14408-17	271089	127	TAP1814	280784	149
PT100AC	289293	51	SIG9506S	283127	77	SW144SP2	271091	139	TAP1817	280785	149
PT100C	289291	51	SIG9606	283128	77	SW144T15	271092	139	TAP1820	280786	149
PT4	293104	48	SIG9606S	283129	77	SW14508	271101	123	TAP1823	280787	149
PT6	293106	48	SIG9708CA	283142	95	SW14512	271102	123	TAU11/4	213096	31
PT8	293108	48	SIG9708CI	283141	94	SW14516	271103	123	TAU11/45	213101	31
PU16F	217436	39	SIG9708MR	283143	95	SW1508DC	271115	124	TAU11/5	213097	31
PU4AF	217423	38	SIG9708PS	283144	95	SW1516DC	271117	124	TAU15/4	213094	32
PU4F	217424	38	SIG9808CI	283145	94	SW151706AS	287039	126	TAU15/45	213100	32
PU8F	217428	39	SIG9808LT	283147	95	SW151712AS	287040	126	TAU15/5	213095	32
PU8VF	217429	39	SIG9808MR	283146	95	SW151716AS	287041	126	TAU21/45	213102	31
PV10	210011	47	SIGMA 6HD	213201	24	SW15506A	271041	124	TF90	289543	159
PV20	210022	47	SIGMA COMBO	213202	23	SW15508	271045	123	TK4	293140	48
PVF-60	210064	47	SP1	290351	157	SW15508A	271042	124	TK5	293150	48
PVP	210002	47	SP5	290354	157	SW15512	271046	123	TN15	293115	48
PVZ-60	210065	47	SPF00	220721	154	SW15512A	271043	124	TN25	293125	48
RACK01	289708	105	SPF05	220722	154	SW15516	271047	123	TN32	293132	48
RACK02	289709	105	SPF10	220723	154	SW15516A	271044	124	TPE	282733	90, 104
RACK03	289710	105	SPF14	220724	154	SW15906AS	287035	126	TRRJ-DIN	289546	90
RACK04	289711	105	SPF18	220725	154	SW15908A	271052	125	VI-80	280750	155
RACK05	289712	105	SPF22	220726	154	SW15908AS	287036	126	VI-802	280809	155
RACK06	289713	105	SPI00	220711	154	SW15912A	271053	125	VI-EKB	289741	155
RACK07	289714	105	SPI05	220712	154	SW15912AS	287037	126	VI-EKB2	289742	155
RACK08	289715	105	SPI10	220713	154	SW15916A	271054	125	VI-EKN	289798	155
RACK09	289716	105	SPI14	220714	154	SW15916AS	287038	126	VI-EKN2	289799	155
RACK10	289717	105	SPI18	220715	154	SW18508PLUS	271055	129	VI-EKW	280839	155
RACK11	289718	105	SPI22	220716	154	SW18512PLUS	271056	129	VI-EKW2	280840	155
RACK12	289719	105	SPL12	280788	148	SW18516PLUS	271063	129	VI-ID	280749	155
RACK27U	289721	104	SPL13	280789	148	SW18516STPLUS	271057	130	VI-ID2	280810	155
RACK42U	289722	104	SPL13A	280790	148	SW18524STPLUS	271058	130	VI-IDB	280748	155
RACK6U	289720	104	SPL14	280791	148	SW185SP2	271094	139	VI-IDB2	280811	155
RO100ACX6	289299	51	SPL16	280792	148	SW185T15	271095	139	VI-PL	280751	155
RO100APX5G	289830	51	SPS1750	289087	139	SW18908PLUS	271067	133	VI-PL2	280812	155
RO100CRX6	289287	51	SPT2	289860	146	SW18912PLUS	271068	133	ZC2	293302	46
RO120N	289197	51	SPT3	289861	146	SW18916PLUS	271069	133	ZC20	293320	46
RO125APX3G	289832	51	SPT4	289862	146	SW19508	271109	122	ZC3	293330	46
RO150	289139	51	SPT6	289863	146	SW19508/UK	271106	122	ZM20	289541	46
RO60AX10	280610	51	SPT8	289864	146	SW19512	271110	122	ZNC85X10	211208	49
RO80ACCPX200GN	289826	51	ST25M	289280	47	SW19512/UK	271107	122	ZNCDGTX10	211110	49
RO80ACCPX50GN	289834	51	ST45M	289281	47	SW19516	271111	122			
RO80APX200	289283	51	ST50C	289173	47	SW19516/UK	271108	122			
RO80APX50	289479	51	STF	289282	47	SWM1305A	271000	139			

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