



GENERAL CATALOGUE





GENERAL CATALOGUE



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MECHANICAL ACCESSORIES

TERRESTRIAL ANTENNAS

RADIO ANTENNAS



reception

ANF RADIO Series

Terrestrial antennas for analog and digital DAB radio.

APPLICATION

Community and individual installations of digital and analog radio reception.

FEATURES

- Made of aluminium.
- Waterproof connection box.
- F connectors.
- Quick installation.
- Omnidirectional.
- ANF DAB: Antenna for digital radio reception.



MODEL		ANF FM	ANF FMS	ANF DAB
Reference		80024	80025	80026
Frequency range	MHz	87,5 ÷ 108		193 ÷ 230
Gain	dB	0		
Impedance	Ω	75		
Polarization		H	H/V	V
Packing dimensions (10 u.)	mm	490 x 220 x 600	650 x 280 x 320	800 x 200 x 250
Weight (10 u.)	Kg	7.2	6.8	6.1

TERRESTRIAL ANTENNAS

UHF ANTENNAS



reception

RHOMBUS Series

OPTIMISED DIGITAL TV HDTV ANTENNA with high gain and excellent mechanical resistance.

FEATURES

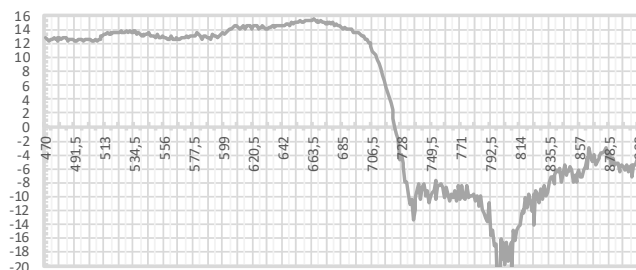
- Modern, optimised design to achieve optimum gain/size ratio.
- Self-adapting: provides a constant, balanced signal, minimizing loss and maximizing adaptation.
- Light weight and robust, designed with state-of-the-art technology to guarantee an excellent response and a long lifetime.
- Active/passive dipole.
- Easy installation, in just 3 clicks, no tools needed.
- Compact, small-sized single-unit packing.
- Simple, ergonomic mast fixing system to guarantee secure mounting.



PASSIVE DIPOLE



The new passive dipole incorporates SRR (Split Ring Resonator) technology that ensures maximum rejection of 5G signals, while maintaining the gain characteristics of the TV band. There is no need to add external filters.



MODEL		RHOMBUS A/P 48	RHOMBUS 5 A/P 48	RHOMBUS P 48	RHOMBUS 5 P 48
Reference		84410	84412	84411	84413
Channels		21 ÷ 48			
Gain	dB	17 (34 active)			17
Power supply	V	12-24			-
Current drawn	mA	45			-
Impedance	Ω	75			
Return losses	dB	>10			
Back-to-front ratio	dB	24			
Horizontal opening angle	°	25			
Noise figure	dB	2			
Windload	130 km/h	65			
	160 km/h	92			
Packing dimensions (1 u.)	mm	600 x 375 x 170	600 x 400 x 690	600 x 375 x 170	600 x 400 x 690
Weight	Kg	2.15	10	2.15	10



LIGHTWEIGHT,
BUT ROBUST



SELF-ADAPTING



LTE MAXIMUM
PROTECTION



HIGH
RESISTANCE



EASY
INSTALLATION



COMPACT
SINGLE-UNIT
PACKAGING

TERRESTRIAL ANTENNAS

UHF ANTENNAS



reception

DIGIT 25 D2 Series

UHF antenna which offers high gain and great mechanical resistance.

APPLICATION

Digital and analog TV reception in individual and community installations.

FEATURES

- Compact and resistant with strong, undeformable clip.
- It has stud bolts to avoid being lost or dropped during assembly operations.
- Immune to most interference generated by different sources.
- It has an F connector which gives it high shielding.



MODEL		Digit 25 LTE D2 6u
Reference		84405
Channels		21 ÷ 48
Gain	dB	13
Impedance	Ω	75
Return losses	dB	10
Front-to-back ratio	dB	24
Horizontal opening angle at -3 dB °<	°	36
Length	mm	1006
Windload 130 km/h	N	65
150 km/h		92
Packing units		6
Packing dimensions	mm	1030 x 370 x 355
Weight	Kg	1.45

TERRESTRIAL ANTENNAS

UHF ANTENNAS



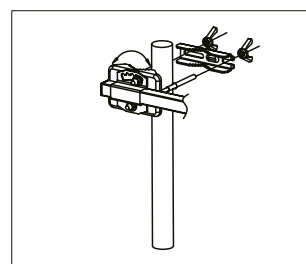
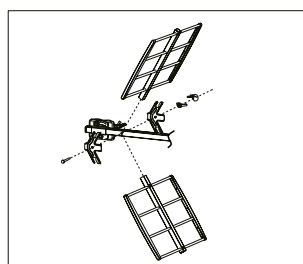
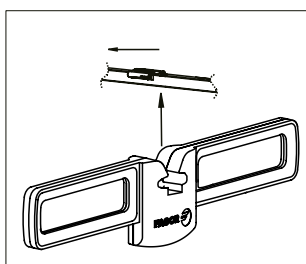
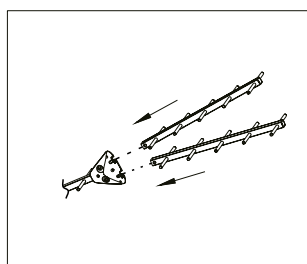
reception

EVA Series

Digital and analog television reception in community and individual installations fully adapted to LTE.

FEATURES

- Reduced size, minimum aesthetic impact, maximizing electrical parameters.
- High gain/length ratio.
- Easy installation, no tools required.
- Multiple packaging for better transport optimization.



MODEL		EVA D2
Reference		84415
Channels		21 ÷ 48
Gain	dB	14
Impedance	Ω	75
Return losses	dB	15
Front-to-back ratio	dB	15
Horizontal opening angle	°	39
Length	mm	780
Packing dimensions	mm	559 x 310 x 500
Weight	Kg	5

TERRESTRIAL ANTENNAS

UHF ANTENNAS



reception

Aura Series

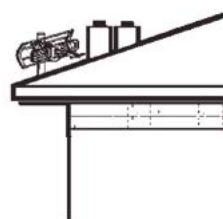
Antenna for digital and analog TV reception in community and individual installations, fully adapted to LTE.

FEATURES

- Small size for minimum aesthetic impact.
- High gain / length ratio.
- Easy installation, no tools required.
- Optimized unit packaging.



EXAMPLE



MODEL		AURA D2
Reference		84402
Channels		21 ÷ 48
Gain	dB	12
Impedance	Ω	75
Return losses	dB	15
Front-to-back ratio	dB	15
Horizontal opening angle	°	15
Length	mm	430
Packing dimensions	mm	530 x 180 x 80
Weight	Kg	1.1

SATELLITE DISHES

DISHES



reception

Dishes

Satellite dishes manufactured of electro zinc-coated steel with a polyester coating ensuring high level of resistance to weather conditions.

APPLICATION

Suitable for community and individual Satellite TV installations. Available a wide range of diameters according to the size of the installation.

FEATURES

- The parabolic reflectors are designed to achieve high gain.
- Pole or wall mounting.



MODEL		PO 064	PO 081	DPO 105
Reference		86064	86081	86105
Diameter	cm	51 x 57	73 x 80	91 x 100
Focal distance	cm	32.7	46.8	58.3
Type of reflector		Offset		
Material		Electro zinc-coated steel		
Coating		Polyester		
Type of fixing		Floor / Wall / Pole		Mast
Mast diameter	mm	30 ÷ 60		
Elevation	°	17 ÷ 55		-5 ÷ 82
Offset angle	°	19		
Azimuth	°	180		
LNB fixing Ø	mm	25 ÷ 40		
Frequency range	GHz	10 ÷ 12.75		
Gain (11,7 GHz)	dB	35	38	39.2
Efficiency	%	>60		
Beam width (-3 dB)	°	2.8	2.4	2.1
F/D relation		0.64		
Wind speed		Operating: up to 100 km/h Maximum: up to 130 km/h		
Packing dimensions	mm	610 x 610 x 110	830 x 840 x 120	1020 x 1000 x 120
Weight	Kg	5	9	10



reception

SATELLITE DISHES

KITS PO

Satellite dish + LNB Kits

Kits composed of Offset satellite dishes manufactured of eletro-zinc coated steel with a polyester coating and LNB converters.

APPLICATION

Suitable for community and individual satellite TV installations.

FEATURES

- The parabolic reflectors are designed to achieve high gain, guaranteeing great strength and mechanical resistance.
- Easy fitting system.
- Universal LNB: low noise figure and high gain.



MODEL		KIT PO 064		KIT PO 081	
Reference		86164		86181	
Packing dimensions (4 u.)	mm	630 x 605x 113		850 x 844 x 125	
Weight (4 u.)	Kg	14.7		17	
SATELLITE DISH					
Diameter	cm	51 x 57		73 x 79	
Focal distance	cm	32.7		53	
Type of reflector		Offset			
Material		Electro zinc-coated steel			
Coating		Polyester			
Mast diameter	mm	30 ÷ 60			
Elevation		10° ÷ 90°			
Offset angle		28°		26°	
Azimut		360°			
Frequency range	GHz	10,7 ÷ 12,75			
Gain (10.7 GHz)	dBi	33.5		35.9	
Gain (11.7 GHz)	dBi	34.8		37.4	
Gain (12.7 GHz)	dBi	35.4		38.0	
Efficiency	%	> 70			
F/D relation		0.64			
Wind speed		Operating: up to 130 km/h Maximum: up to 150 km/h			
UNIVERSAL LNB					
Number of inputs		1			
Polarity		VL, HL, VH, HH			
Input frequency	GHz	Low Band 10.7 ÷ 11.7 High Band 11.7 ÷ 12.75			
Oscillator frequency	GHz	Low Band 9.75 High Band 10.60			
Output frequency range	MHz	Low Band 950 ÷ 1950 High Band 1100 ÷ 2150			
Noise figure at 20° C	dB	0.2			
Conversion gain	dB	50 ÷ 65 (typical 55)			
Output level (1 dB of compression)	dB	> 0 (typical 5)			
Power supply	V	11.5 ÷ 14 (V); 16 ÷ 19 (H);			
22 KHz tone		0.6 Vpp ± 0,2 for High band			
Consumption	mA	< 150			
Output connectors		F (h)			
Operating temperature range		- 25 ÷ + 60			

CONVERTERS



LNB Series

Universal LNB for the satellite TV signal reception.

FEATURES

- Stand out for their low noise figure and high gain which together with Offset type satellite dishes make it possible to obtain merit factors ideal for collective installations.
- Big Cross Polarity Rejection: 25 dB.



MODEL	LNB 201 Universal	LNB 222 TWIN	LNB 244 QUAD	LNB 248 OCTO
Reference	86129	86132	86134	86138
Number of outputs	1	2	4	8
Polarity	VL, HL, VH, HH			
Input frequency	GHz	Low band 10.7 ÷ 11.7 High band 11.7 ÷ 12.75		
Oscillator frequency	GHz	Low band 9.75 ± 2 MHz High band 10.60 ± 2 MHz		
Output frequency range	MHz	Low band 950 ÷ 1950 High band 1100 ÷ 2150		
Noise figure at 20° C	dB	0.2		
Cross polarity rejection	dB	25		25
Conversion gain	dB	50 ÷ 65 (typical 58)		
Output level (1 dB of compression)	dBm	>0		
Power supply	V	11.5 ÷ 14 (V); 16 ÷ 19 (H)		11.5 ÷ 19
22 KHz tone		0.6 Vpp ± 0,2 for High band		-
Consumption	mA	<200	<300	215
Output connectors		F (f)		
Operating temperature range	°C	- 25 ÷ + 60		
Packing dimensions	mm	85 x 110 x 60	100 x 125 x 60	120 x 125 x 65
Weight	Kg	0.110	0.190	0.235

MODEL	LNB 182 Monoblock TWIN	LNB 184 Monoblock QUAD	LNB 204 Quattro
Reference	86136	86137	86131
Number of outputs	2	4	
Polarity	VL, HL, VH, HH Astra - Hotbird separate 6°		VL HL VH HH
Input frequency	GHz	Low band 10.7 ÷ 11.7 High band 11.7 ÷ 12.75	
Oscillator frequency	GHz	Low band 9.75 ± 2 MHz High band 10.60 ± 2 MHz	
Output frequency range	MHz	Low band 950 ÷ 1950 High band 1100 ÷ 2150	
Noise figure at 20° C	dB	0.2	
Cross polarity rejection	dB	25	-
Conversion gain	dB	50 ÷ 65 (typical 58)	
Output level (1 dB of compression)	dBm	>0	
Power supply	V	11.5 ÷ 14 (V); 16 ÷ 19 (H)	
22 KHz tone		0.6 Vpp ± 0,2 for High band	
Consumption	mA	<200	
Output connectors		F (f)	
Operating temperature range	°C	- 25 ÷ + 60	
Packing dimensions	mm	110 x 120 x 130	110 x 125 x 60
Weight	Kg	0.555	0.570

MECHANICAL ACCESSORIES



reception

Supports for Antennas

FLOOR MOUNT

Floor mount support 200 x 200 mm.

MODEL	PPA 200	
Reference	86104	
Distance between holes	mm	200 x 200
Hole diameter	mm	20
Height	mm	820
Tube diameter	mm	60
Units per package	1	
Packing dimensions	mm	920 x 280 x 270
Weight	Kg	6.7



PPA 200

SUPPORT FOR WALL AND FLOOR

Allows mounting on both, wall or floor

MODEL	PPS 100	PPS 806
Reference	86101	86102
Distance between holes	mm	190 x 100
Hole diameter	mm	11.5
Height	mm	468 (squad) 713 (vertical)
Tube diameter	mm	50
Units per package	1	2
Packing dimensions	mm	525 x 280 x 260
Weight	Kg	4



PPS 100

PPS 806

DISH BASE

Base for embedded mounting. 200 x 200 mm.

MODEL	BPP 200	
Reference	82436	
Units per package	2	
Packing dimensions	mm	480 x 290 x 320
Weight	Kg	6



BPP 200

WALL MOUNT SUPPORTS

PML 32: L-shaped wall-mast support for parabolic dish 65 cm.

SPU 40: U-shaped wall bracket for dishes 65/80 cm.

MODEL	PML 32	SPU 40
Reference	86103	86106
Tube diameter	mm	32
Units per package	10	10
Packing dimensions	mm	440 x 380 x 130
Weight	Kg	8



PML 32

SPU 40

INSTALLATION OF AN ANTENNA SUPPORT



MECHANICAL ACCESSORIES



reception

Towers

Triangular profile towers composed of several sections and an upper section to attach an antenna mast to them.

APPLICATION

Installations where antennas need to be placed higher or the antenna mast installation needs to be reinforced.

FEATURES

- Made of zinc-plated iron.
- Round tube diameter 20 mm.
- The towers are fixed to the ground or to the roof by means of a base that can be screwed or embedded.



PNT 15



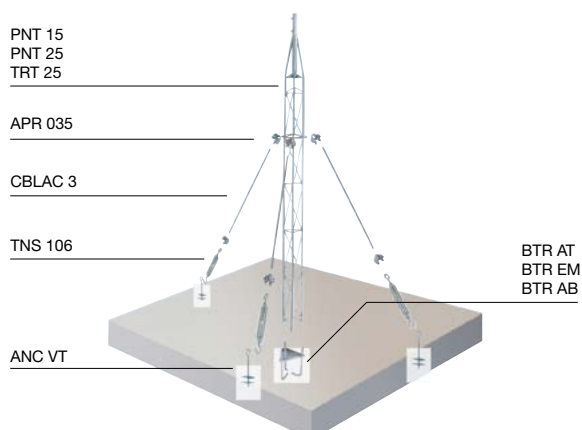
PNT 25



TRT 25

MODEL		PNT 15	PNT 25	TRT 25
Reference		82401	82402	82403
Tower type	m	upper section		inferior
Height	mm	1500	2500	
Width	mm	180		
Max. mast diameter	mm	46		
Material		Zinc-plated iron		
Units per package		1		
Packing dimensions	mm	1500 x 180 x 180	2700 x 180 x 180	2500 x 180 x 180
Weight	Kg	5	8	7

TOWER INSTALLATION



MECHANICAL ACCESSORIES



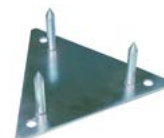
reception

Accessories Towers

TOWER BASE FOR SCREWING

Base to screw tower in zinc-plated iron.

MODEL	BTR AT	
Reference	82405	
Width	mm	180
Units per package		4
Packing dimensions	mm	310 x 310 x 220
Weight	Kg	6



TOWER BASE FOR EMBEDDING

Base for embedding tower in zinc-plated iron.

MODEL	BTR EM	
Reference	82406	
Width	mm	180
Units per package		4
Packing dimensions	mm	510 x 310 x 220
Weight	Kg	8



HINGED TOWER BASE FOR EMBEDDED INSTALLATION

MODEL	BTR AB	
Reference	82407	
Width	mm	180
Units per package		4
Packing dimensions	mm	510 x 310 x 220
Weight	Kg	8



WIND CABLE

Manufactured in 3 mm braided steel.

MODEL	CBL AC3	
Reference	82411	
Cable length	m	100
Packing dimensions	mm	190 x 190 x 60
Weight	Kg	1,5



WIND TENSOR

1/4" wind tensor. M8.

MODEL	TNS 106	
Reference	82427	
Units per package		25
Packing dimensions	mm	150 x 25 x 20
Weight	Kg	1



WIND ANCHORAGE

Wind anchorage with plates. M12.

MODEL	ANC VT	
Reference	82408	
Thread diameter	M12	
Units per package	7	
Packing dimensions	mm	515 x 305 x 120
Weight	Kg	28



WIND RING

Wind ring and mast stop flange.

MODEL	ARG V35	ARG V40
Reference	82410	82409
Mast diameter	35	40
Units per package	20	
Packing dimensions	mm	150 x 230 x 150
Weight	Kg	3



MECHANICAL ACCESSORIES



reception

Masts

Antenna masts with sections to be assembled to form a longer mast.

APPLICATION

Installations where it is required to place terrestrial TV and radio antennas at a greater height.

FEATURES

- Made of galvanized steel.
- MTS 430 is applied on the tower toe.



MODEL		MST 430	MST 325	MST 315
Reference		82414	82416	82415
Height	mm	3000	2500	1500
Diameter	mm	40	35	
Thickness	mm	2	1.5	
Units per package		6	6	
Packing dimensions	mm	3000 x 125 x 100	2500 x 105 x 70	1500 x 105 x 70
Weight	Kg	34	18	9

Accessories Masts

BRACKETS FOR MASTS

Folding base of 41 mm. inside diameter for masts of 35 and 40 mm. diameter.

MODEL		BTJ 035
Reference		82418
Units per package		6
Packing dimensions	mm	310 x 310 x 220
Weight	Kg	6



CHIMNEY BRACKET

To install a mast on a chimney without making works on the facade.

MODEL		ACH 045
Reference		82419
Mast diameter	mm	Hasta 45
Units per package		8
Packing dimensions	mm	500 x 470 x 270
Weight	Kg	13



WIRE TIGHTENERS

Tightens cables for winds of 3 mm diameter M5.

MODEL		APR 035
Reference		82429
Units per package		25
Packing dimensions	mm	150 x 230 x 150
Weight	Kg	0.6



CLAMP

Clamp closed with nail.

MODEL		GRP 001
Reference		82428
Units per package		100
Packing dimensions	mm	150 x 230 x 150
Weight	Kg	1.5



MECHANICAL ACCESSORIES



reception

Claws

Reinforced claws for fixing masts to a wall, both for screwing and embedding.

APPLICATION

Installations where it is required to place terrestrial TV and radio antennas on a mast to a wall.

FEATURES

- Manufactured in zinc-plated iron.



MODEL		GRM U50	GRM U30	GRM A20	GRP AT	GRE AT
Reference		82423	82422	82421	82434	82435
Dimensions	mm	500	300	200	270 x 80	170 x 110
Fixing		embedded		screw		
Max. mast diameter	mm	60				
Units per packing		14				
Packing dimensions	mm	510 x 310 x 110	310 x 230 x 100	150 x 230 x 150	310 x 230 x 100	150 x 250 x 150
Weight	Kg	10	8	10	8	5

Flange

DOUBLE FLANGE

Zinc-plated U-bolt with three clamping jaws for attachment to the mast. For mast up to 60 mm diameter. M8.

MODEL	BRI D68
Reference	82425
Units per packing	25
Packing dimensions	mm 310 x 230 x 100
Weight	Kg 8



SINGLE FLANGE

Zinc-plated U-bolt with one clamp for attachment to the mast. For mast up to 60 mm diameter. M8.

MODEL	BRI SD68
Reference	82426
Units per packing	25
Packing dimensions	mm 310 x 230 x 100
Weight	Kg 5



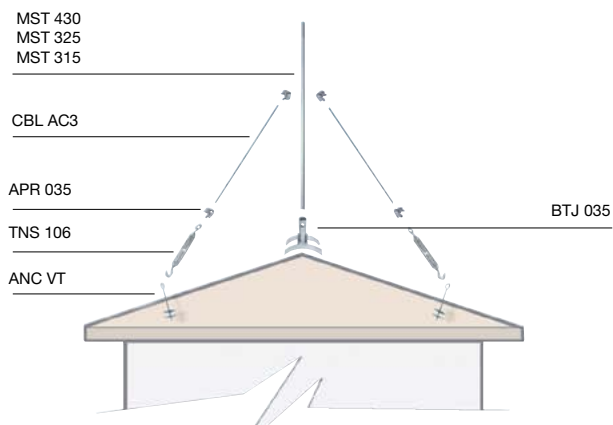
MECHANICAL ACCESSORIES



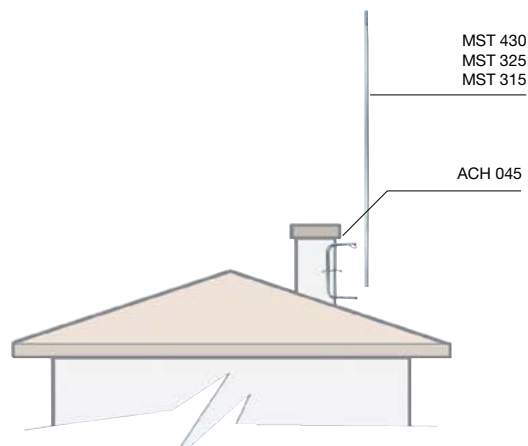
reception

Application Examples

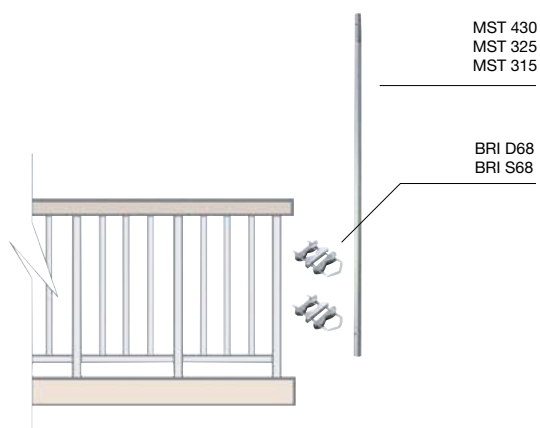
INSTALLATION OF A MAST ON A **ROOF**



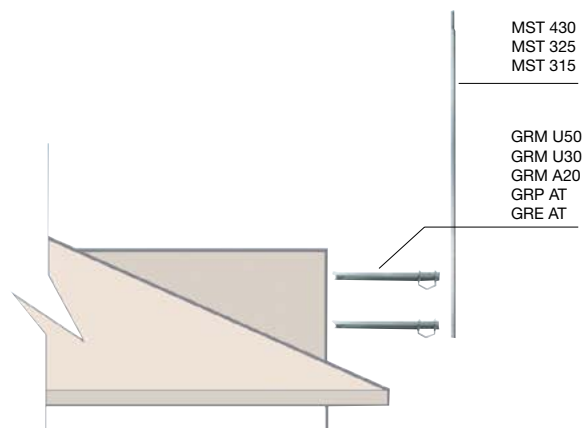
INSTALLATION OF A MAST ON A **CHIMNEY**



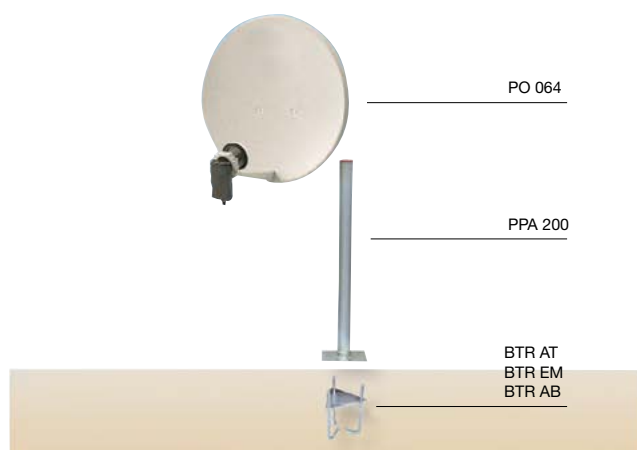
INSTALLATION OF A MAST ON A **RAILING**



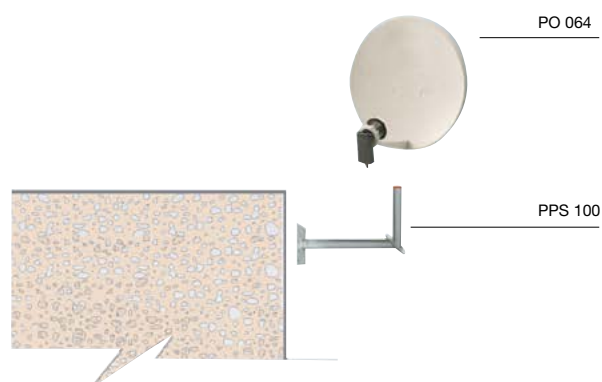
INSTALLATION OF A MAST ON A **WALL**



INSTALLATION OF A DISH ON A **BALCONY**



INSTALLATION OF A DISH ON A **WALL**





EVO
PRO 300

FAGOR

FM

VHF

UHF 1

UHF 2

SAT

RF

RF+SAT



Headends

20 - 37

MULTI-PROCESSING HEADENDS

38 - 40

IP STREAMING HEADENDS

41 - 45

CHANNEL AMPLIFIERS

46 - 47

PROGRAMMABLE AMPLIFIERS

MULTI-PROCESSING HEADENDS

SAT TO COFDM TRANSMODULATOR



headends

STT 8000 Series

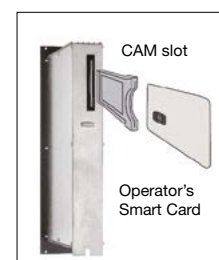
Digital/digital transmutation of a transponder on the 1st IF Satellite band (950 ÷ 2150 MHz) modulated in QPSK or 8PSK to a channel modulated in COFDM on the 47 ÷ 862 MHz band. De-encryption of one or more services when CAM+Smart Card are inserted (CI model).

APPLICATION

Large and medium size installations where it is necessary to distribute digital satellite signals (in any format), through the terrestrial RF band (47 ÷ 862 MHz).

FEATURES

- Selection of services of interest at the output, adapting the transport stream. Channel occupancy indication.
- LCN (channel number) assignment to services to facilitate automatic tuning of STBs.
- Transport stream processing: regeneration of tables, date and time correction, editing of program names, ...
- PID (Packet ID) filtering.
- SID (Service ID) editing.
- Nit table regeneration in the module and installation levels.
- Editing of names and network IDs.
- Software upgradeable with MCU / LPU.
- Allows to combine services from two different inputs on each of the two outputs.



Supply voltage	V	5	12	17	30
Current drawn STT (CI)	mA	720 (850)	375	20	2
Current drawn STT-TWIN (CI)	mA	860	420	20	2
Total Power without CAM	W	9.5 (STT) / 9.75 (STT-TWIN)			
Operating temperature range	°C	0 ÷ 45			

MODEL		STT-TWIN 8000	STT-TWIN MS 8000	STT-TWIN-CI 8000	STT 8000	STT-CI 8000
Reference		08275	08289	08276	08280	08281
INPUT						
Multiplex number		2 loop or independent)	1	2 loop or independent)	1	
Frequency band	MHz	950 ÷ 2150				
Input level	dBμV	40 ÷ 86				
Modulation type		QPSK - 8PSK				
Symbol rate	MB	1 ÷ 45				
Through losses	dB	< 2				
LNB control		22 KHz 13/17 V or DiSEqC 1.2				
Selection of multiple PLPs		-	Yes	-		
OUTPUT						
Multiplex number		Selectable 2 or 1	1	Selectable 2 or 1	1	
Frequency band	MHz	47 ÷ 862				
COFDM modulation type		2K; 8K				
Modulation parameters		DVB-T				
Output constellation		QPSK, 16 QAM, 64 QAM				
MER	dB	> 38				
Output level	dBμV	78	80	78	80	
Regulation of output level		15				
CAM module (not included)		No		According to Norm EN 50221	No	According to Norm EN 50221
CAM module current drawn		mA		-	5V-250 MA	5V-250 MA
Programming		UCF 300 / PC (with MCU/LPU 8000)				
Packing dimensions		mm				
Weight		Kg				

MULTI-PROCESSING HEADENDS

COFDM TO COFDM REGENERATION



headends

TTT 8000 Series

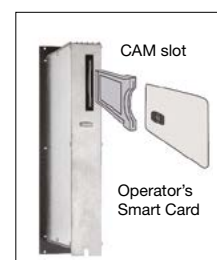
Transmodulation from one or two DVB-T/T2 multiplexes to one or two DVB-T output multiplexes in the RF band (47÷862 MHz). Regeneration of those multiplexes contains.

APPLICATION

Ideal for its use in hotel, hospital and public buildings installations and small CATV networks, for the distribution through a single cable of digital terrestrial signals modulated in DVB-T2. The Common Interface models (8291 and 8293) allow opening scrambled signals using CAM modules with cards with the rights.

FEATURES

- Selection of services of interest at the output, adapting the transport stream.
- Opening of the scrambled services with the CI models (8291/8293). The Twin model allows opening services from both inputs.
- Transport Stream processing:
 - DVB-SI table regeneration: table version edition.
 - Nit table regeneration in the module and installation levels.
 - Transport Stream parameters edition: tsid, onid.
 - Service parameters edition: name and service identifier (SID).
 - Network parameters edition: name and network identifier (NID).
 - LCN (Logic Channel Number) edition.
 - PID filtering, for eliminating the not interesting PID or fixing a PID Audio.
- Transport Stream frame correction and output MER regeneration.
- Upgradable software through control unit MCU/LPU.



Supply voltage	V	5	12	30
Current drawn TTT/TTT-CI	mA	600/730	375	2
Current drawn TTT TWIN-CI	mA	900	450	2
Total Power without CAM	W	7.5 (TTT), 8 (TTT-CI) / 10 (TTT-TWIN-CI)		
Operating temperature range	°C	0 ÷ 45		

MODEL	TTT 8000	TTT-CI 8000	TTT-TWIN-CI 8000
Reference	08290	08291	08293
INPUT			
Multiplex number	1		2
Standard	DVB-T (EN 300744)		DVB (EN 302755)
Frequency band	MHz	174 ÷ 862 (Δ = 166 KHz)	
Input level	dBμV	40 ÷ 90	47 ÷ 90
Input loop through losses	dB	± 1	< 1.5
TRANSPORT STREAM PROCESSING			
Conditional access	No	Yes	Si (EN 50221)
Table processing	PAT, CAT, PMT, SDT, NIT, EIT, BAT, TDT/TOT		
Parameter edition	tsid, onid, sid, nid, service_name, network_name, LCN		
OUTPUT			
Multiplex number	1		2
Standard	DVB-T (EN 300744)		
Band width	MHz	6, 7, 8	
MER	dB	> 38	
RF OUTPUT			
Frequency band	MHz	50.5 ÷ 858 (Δ = 166 KHz)	
Output level	dBμV	65 ÷ 80 (Δ = 0.5 dBμV)	65 ÷ 78 (Δ = 0.5 dBμV)
Output loop through losses	dB	< 1.5	
Spurious in band	dBc	< - 54	
Packing dimensions	mm	265 x 195 x 40	
Weight	Kg	1.33	

MULTI-PROCESSING HEADENDS

SAT TO QAM TRANSMODULATOR

SCT 8000 Series

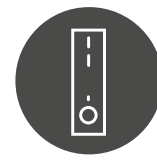
Digital transmutation of one or two transponders from the 1st IF Satellite band (950 ÷ 2150 MHz) to a QAM channel modulated in the 47 ÷ 862 MHz band. The SCT-CI model decrypts one or more services by inserting the CAM + Smart.

APPLICATION

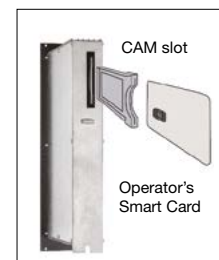
Large and medium size installations where it is necessary to distribute digital satellite signals (in any format), through the terrestrial RF band (47 ÷ 862 MHz).

FEATURES

- Demodulation, detection and correction of received signal errors.
- Optimal output signal quality with very high MER level.
- Independent LNB control: 22 KHz tone, 13/17V and DiSEqC commands.
- New Linux based software platform: faster software update and module programming.
- New chipset with very low power consumption: lower heating, longer life. Selection of services of interest within the transport frame.
- Indication of residual channel capacity.
- LCN (channel number) assignment to services to facilitate automatic tuning of STBs.
- Transport Stream processing: regeneration of tables, date and time correction, editing of program names, ...
- Regeneration of the NIT table at individual and installation level.
- Edition of the name and network IDs.
- Upgradable software through control unit MCU/LPU.
- Allows to combine services from two different inputs on each of the two outputs.



headends

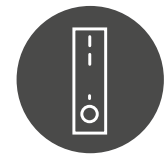


Supply voltage	V	5	12	17	30
Current drawn SCT (CI)	mA	720 (850)	375	20	2
Current drawn SCT-TWIN (CI)	mA	860	420	20	2
Total Power without CAM	W	9.5 (STT) / 9.75 (SCT-TWIN)			
Operating temperature range	°C	0 ÷ 45			

MODEL		SCT-TWIN 8000	SCT-TWIN-CI 8000	SCT 8000	SCT-CI 8000
Reference		08272	08273	08270	08271
INPUT					
Multiplex number		2 (loop or independent)		1	
Frequency band		MHz	950 ÷ 2150		
Input level		dBµV	40 ÷ 86		
Modulation type		QPSK - 8PSK			
Symbol rate		Mbaud	1 ÷ 45		
Through losses		dB	< 2		
LNB control		22 KHz 13/17 V or DiSEqC 1.2			
Conditional access		No	According to norm EN 50221	No	According to norm EN 50221
TRANSPORT STREAM					
PCR correction		Yes			
Table processing		PAT, CAT, PMT, SDT, NIT, EIT, BAT, TDT/TOT			
LCN insertion		Yes			
PID filtering		Yes			
OUTPUT QAM MODULATION					
Modulation parameters		QAM			
Symbol rate		Mbaud	1 ÷ 6.96		
QAM order		16, 32, 64, 128, 256			
MER		dB	> 38		
RF OUTPUT					
Number of channels		15			
Frequency band		MHz	47 ÷ 862 (Δ = 166 KHz)		
COFDM modulation		dBµV	65 ÷ 78 (Δ = 0.5 dBµV)	65 ÷ 80 (Δ = 0.5 dBµV)	
Spurious in band		dBc	- 54		
CAM module current drawn		-		5V-250 mA	-
Programming		UCF 300 / PC (with MCU/LPU 8000)			
Packing dimensions		mm	265 x 195 x 40		
Weight		Kg	1.33		

MULTI-PROCESSING HEADENDS

COFDM TO QAM TRANSMODULATOR



headends

TCT 8000 Series

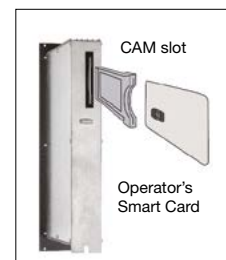
Digital transmutation of the content of one or two COFDM modulated terrestrial digital multiplexes (COFDM) to one or two QAM modulated channels in the 47 ÷ 862 MHz band for distribution on cable networks. The CI models allow decrypting services by inserting a CAM and card with rights.

APPLICATION

Distribution of content from terrestrial broadcasts on cable networks modulating the signal in QAM.

FEATURES

- Selection of the services of interest from any input to any output, indicating the channel capacity.
- Decryption of closed programs with CI models (8261/8263). The twin model allows simultaneous opening of services from both inputs.
- Transport-Stream processing.
- Regeneration of DVB- SI tables: editing of table versions.
- Regeneration of the NIT table at module level or at installation level.
- Editing of transport stream parameters: tsid, onid.
- Editing service parameters: name and service identifier (sid).
- Editing network parameters: name and network identifier (nid).
- Insertion of LCN (channel number).
- Removal of PIDs that are not of interest.
- Correction of errors in the transport frame and regeneration of the output MER.
- Software upgradeable with MCU / LPU.



Supply voltage	V	5	12	30
Current drawn TCT/TCT-CI	mA	580/710	340	2
Current drawn TCT TWIN-CI	mA	900	450	2
Total Power without CAM	W	7.5 (TCT), 8 (TCT-CI) / 10 (TCT-TWIN-CI)		
Operating temperature range	°C	0 ÷ 45		

MODEL	TCT 8000	TCT-CI 8000	TCT-TWIN-CI 8000
Reference	08260	08261	08263
INPUT			
Multiplex number	1		2
Standard	DVB-T (EN 300744)		DVB (EN 302755)
Frequency band	MHz	174 ÷ 862 (Δ = 166 KHz)	
Input level	dBμV	40 ÷ 90	47 ÷ 90
Input loop through losses	dB	± 1	< 1.5
TRANSPORT STREAM PROCESSING			
Conditional access	No	Yes (EN 50221)	
Table processing	PAT, CAT, PMT, SDT, NIT, EIT, BAT, TDT/TOT		
Parameter edition	tsid, onid, sid, nid, service_name, network_name, LCN		
OUTPUT			
Multiplex number	1		2
Standard	QAM		
Symbol rate	MB	1 ÷ 6,96	
QAM order	16, 32, 64, 128, 256		
MER	dB	> 38	
RF OUTPUT			
Frequency band	MHz	50.5 ÷ 858 (Δ = 166 KHz)	
Output level	dBμV	65 ÷ 80 (Δ = 0.5 dBμV)	65 ÷ 78 (Δ = 0.5 dBμV)
Output loop through losses	dB	< 1.5	
Spurious in band	dBc	< - 54	
Packing dimensions	mm	265 x 195 x 40	
Weight	Kg	1.33	

MULTI-PROCESSING HEADENDS

A/V → RF DIGITAL ENCODER

DEN 8000



headends

APPLICATION

The DEN 8000 encoder, modulates the content of 4 analogue audio/video signals to a DVB-ASI format.

FEATURES

- Multiplexer function for up to 4 analogue A/V sources (PAL, NTSC).
- MPEG-2 MP@ML output video encoding, bit rate 1-15Mbps.
- MPEG-1 Layer 1, Layer 2 audio encoding.
- Programming via front panel (keyboard + LCD display) or PC (local or remote).
- Mountable in 19" rack.
- Includes:
 - 4 x 3RCA-3BNC cables for 4 analogue A/V sources.
 - 1 x BNC-F(m) cable for one COFDM output.
 - 1 x user's manual.
 - 1 x 230Vac cable



Supply voltage	V	90 ÷ 250
Consumption	W	25
Operating temperature range	°C	0 ÷ 45

MODEL		DEN 8000
Reference		08200
INPUT		
Video format		4 x CVBS
Video Standard		PAL, NTSC
Video connectors		BNC, 75 Ohm
A/V connectors		3 RCA / BNC
Input audio		1 x Stereo / 2 x Mono
OUTPUT		
Standard		DVB-ASI
ASI connectors		2 x BNC, 75 Ohm
Video encoding		MPEG-1, MPEG-2 MP@ML
Bit Rate video	Mbps	1 - 15
Video format		Full D1, Half D1, SIF
Audio encoding		MPEG-1 Layer 1, Layer 2
Sample Rate audio		32, 44.1, 48
Packing dimensions	mm	580 x 580 x 135
Weight	Kg	6.2

MULTI-PROCESSING HEADENDS

ASI → QAM DIGITAL MODULATOR

ACM 8000



headends

APPLICATION

Modulates the incoming MPEG-2 TS in DVB-ASI signal into a DBV-C channel.

FEATURES

- Indication of residual channel capacity.
- Regeneration of the Network Information Table (NIT), either locally for each module or for the entire installation.
- TS processing with LCN insertion, PCR restamping and TS remapping.
- Selection of programmes.



Supply voltage	V	5	12	17	30
Consumption (6 W)	mA	800	360	0	2
Operating temperature range	°C	0 ÷ 45			

MODEL		ACM 8000
Reference		08202
INPUT		
Standard		DVB-ASI
Package length		Automatic detection 188/204 Bytes
Input connector		F(H)
TS PROCESSING		
LCN insertion		Yes
Operating modes		Transparent / Re-multiplexer
QAM OUTPUT		
Standard		QAM
Symbol rate	Mbaud	1 ÷ 6.96
QAM order		16, 32, 64, 128, 256
MER	dB	>38
Through losses	dB	1.5
RF OUTPUT		
Frequency band	MHz	50.5 ÷ 858 ($\Delta = 166$ KHz)
Output level	dB μ V	65 ÷ 80 ($\Delta = 0,5$ dB μ V)
Through losses	dB	< 1.5
Spurious in band	dBc	< - 54
Programming		UCF 300 / PC (with MCU / LPU 8000)
GENERAL		
Packing dimensions	mm	265 x 194 x 55
Weight	Kg	1.33

MULTI-PROCESSING HEADENDS

ASI → DVB-T DIGITAL MODULATOR



headends

DMT 8000

APPLICATION

The DMT 8000 digital modulator modulates the incoming MPEG-2 TS in DVBASI signal into a COFDM channel.

FEATURES

- Indication of residual channel capacity.
- Regeneration of the Network Information Table (NIT), either locally for each module or for the entire installation.
- TS processing with LCN insertion, PCR restamping and TS remapping.
- Selection of programmes.



Supply voltage	V	5	12	17	30
Consumption (8.4 W)	mA	800	360	0	2
Operating temperature range	°C	0 ÷ 45			

MODEL		DMT 8000
Reference		08201
INPUT		
Standard		DVB-ASI
Package length		Automatic detection 188/204 Bytes
Input connector		F(F)
TS PROCESSING		
LCN insertion		Yes
Operating modes		Transparent / Re-multiplexer
OUTPUT		
Standard		DVB-T
Frequency band	MHz	47 - 862
COFDM modulation		2K/8K
Constellation type		QPSK/16 QAM / 64 QAM
MER	dB	> 38
Output level	dBμV	80
Output level adjustment	dB	15
Programming		UCF 300 / PC (con MCU / LPU 8000)
Packing dimensions	mm	265 x 195 x 40
Weight	Kg	1.33

MULTI-PROCESSING HEADENDS

DVB-S2 MPEG-4 ENCODING + ANALOGUE MODULATING

SRD 8000 Series

SRD 8000 is a quad DVB-S/S2 decoder that supports the MPEG-4 and MPEG-2 video standards and the MPEG-1 audio encoding. It has 4 Audio/Video plus 4 HDMI outputs.

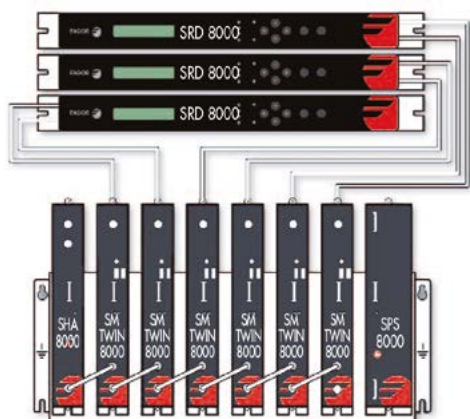
FEATURES

- Support DVB-S/S2 input.
- Support HDMI and AV output.
- Support H.264/MPEG4 AVC and MPEG-2 video and MPEG-1 and AAC audio coding.
- Support PAL/NTSC.
- Real-time monitoring of input and output signal.
- LCD/Keyboard control by front panel and network management by Ethernet.



MODEL		SRD 8000
Reference		08210
INPUT		4 (female "F")
Frequency range	MHz	950 ÷ 2150
Max. input level	dB	83
Modulation type		QPSK, 8 PSK (Satellite)
LNB control		22 KHz 13/17 V
Outputs		4 HDMI 1.4 4 CVBS Video (BNC) 4 Audio 1xStereo / 2xMono (BNC) MPEG-2 SD 4:2:0 MP@ML MPEG-4 AVC SD MP@L4 MPEG-4 AVC HD MP@L5.0/HP@5.0 MPEG-1 layer2/MP3
VIDEO DECODE MODE		Dolby digital (AC-3): Dolby Digital Plus (E-AC-3) MPEG-4 AAC7AAC Plus (HE-AAC v)
Audio decode mode		
Supply voltage	Vac	90 ÷ 250
Consumption	W	25
Operating temperature range	°C	0 - 45
Packing dimensions	mm	580 x 580 x 135
Weight	Kg	6.2

Example



4 DVB-S2/MPEG TO ANALOGUE (PAL/SECAM)

Reference	Model	UN
08210	SRD 8000	3
18902	SM TWIN 8000	6
68001	SPS 8000 - LP	1
35083	SHA 8000	1
83814	PMD 800	6
83807	BA 807	1
83805	BST 807	1
84033	CMD 3 RCA	12

Headend for distributing in PAL analogue modulation, up to 12 digital services from DVB-S/S2 satellite transponders.

MULTI-PROCESSING HEADENDS

A/V TO RF MODULATORS



headends

SM-TWIN-8000

Twin modulator with VSB outputs, that allows adjacent channel operation. A programmable output channel means that the modulator can easily be inserted into the headend since it operates in any TV channel (BI,BIII, "S" Bands and UHF). The stereo model includes STEREO/DUAL signals processing.

APPLICATION

Analogue satellite TV community installations, where locally produced channels insertion is needed.

FEATURES

- It offers the possibility of fine tuning the output channel frequency to disperse intermodulation products in installations with many channels.
- RF output signal ON/OFF switchable for analysis and headend adjustment.
- Incorporates black video generator.



Supply voltage	V	5		12		17		30	
Model		Mono	Stereo	Mono	Stereo	Mono	Stereo	Mono	Stereo
Consumption	mA	570	590	330	350	0		2	
Total power	W	6.9 (Mono) - 7.2 (Stereo)							
Operating temperature range	°C	0 ÷ 45							

MODEL	SM-TWIN 8000	SM-TWIN-ST 8000	SM-TWIN-W 8000
Reference	19802	19803	19807
Output connectors	F(f)		
Audio/video input connector	MINI DIN 6 routes		
Audio Pre-emphasis	μs	50	
Video input level (75 ohm)	Vpp	1	
Audio input level (10 Kohm)	Vpp	1	
Output channels VSB	MHz	47 to 862 (2 adjacent channels)	
Channels band width		7 / 8 (programmable)	8
Output level	dBμV	86 with 15 dB regulation	
Spurious in channel	dBc	60	
Spurious in band	dBc	56	
C/N ratio (8 modules)	dB	In channel: 56 In band for min. output level: 63	
Carrier accuracy	KHz	±30	
Carrier stability	KHz	±10	
Output frequency resolution	KHz	125	
Video modulation depth	%	85	
Vc / Ac ratio	dB	15	
Programming		UCF 300 / PC (with MCU / LPU 8000)	
TV Standard		PAL B/G	SECAM L, SECAM D/K, PAL I, PAL D/K
Vc / Ac separation	MHz	5.5	PAL (I:6,0., D/K:6,5) / SECAM (L:6,5, D/K:6,5)
Audio output modes		Mono	Stereo / Dual switchable (A/B - B/A)
Packing dimensions	mm	265 x 195 x 40	
Weight	Kg	1.0	

MULTI-PROCESSING HEADENDS

FM AMPLIFIER



headends

RHA 8000

FM amplifier that allows radio signal FM & DAB processing in community headends.

APPLICATION

Community installations where FM & DAB radio signal distribution is needed.

FEATURES

- Incorporates an RF signal combiner with the FM/DAB signal.
- Allows selective attenuation of the FM signals by means of its selective Notch Filters.



Supply voltage	V	5	12	17	30
Consumption	mA	15	195	-	<5
Total power	W	2.5			
Operating temperature range	°C	0 ÷ 45			

MODEL		RHA 8000
Reference		35080
FM frequency range	MHz	87.5 ÷ 108
DAB frequency range	MHz	195 ÷ 223
RF frequency range	MHz	47 ÷ 862
FM gain	dB	>10
DAB gain	dB	>5
FM regulation	dB	40±2
DAB regulation	dB	20±2
Operative FM input level	dBμV	60 ÷ 100
Operative DAB input level	dBμV	60 ÷ 80
FM noise figure	dB	7
DAB noise figure	dB	6
FM output level DIN45004B (-35dBc)	dBμV	80
DAB output level DIN45004B (-35dBc)	dBμV	75
Selective attenuation (notch filters)	dB	>10dB (1 filter) >15dB (2 filters) >19dB (3 filters)
Through losses RF	dB	< 1.5
Packing dimensions	mm	265 x 195 x 40
Weight	Kg	1.33

MULTI-PROCESSING HEADENDS

HEADEND AMPLIFIER



headends

SHA-SAC 8000

Broadband Amplifiers for 8000 series headends. The SHA model is a single input amplifier. The SAC Amplifier is a 4 input model to combine and amplify up to 4 frames.

APPLICATION

TV community installations, both SMATV and CATV.

FEATURES

- They have gain regulation and a TEST output.
- Low noise figure and output level regulation.
- Screws and power supply cable included.
- Optimum frequency response.
- High dynamic threshold.



		SHA		SAC	
Supply voltage	Vdc	5	12	5	12
Consumption	mA	20 (10W)	825 (10,3W)	20 (10W)	825 (10,3W)
Total power	W	2,5			
Operating temperature range	°C	0 ÷ 45			

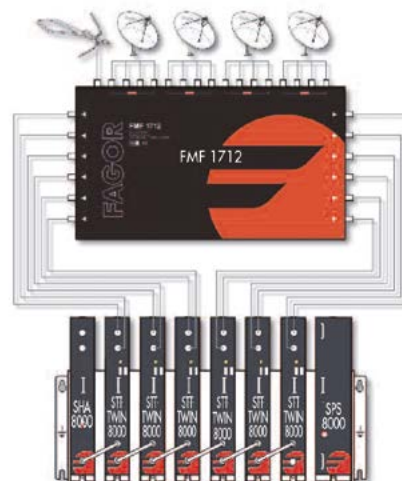
MODEL		SAC 8000	SHA 8000
Reference		35081	35083
N° inputs		4	1
Frequency band	MHz	47 ÷ 862	
Input impedance	Ohm	75	
Gain	dB	43	
Regulation	dB	20	
Noise figure	dB	7	
IM3 output level (-60 dBc DIN 45004B)	dBμV	120	
Output level stability	dB	± 2	
Packing dimensions	mm	265 x 195 x 40	
Weight	Kg	1.25	

Example

Reference	Model	UN
86471	FMF 1712	1
08275	STT-TWIN-CI 8000	6
68000	SPS 8000	1
35083	SHA 8000	1
83814	PMD 800	6
83807	BA 807	1
83805	BST 807	1

12 MUX DVB-T output transmodulator headends.

Through the use of a multiswitch, the headend can select any service available in the polarities connected to the multiswitch.





headends

MULTI-PROCESSING HEADENDS

HEADEND CONTROL WITH PC MASTER CONTROL UNIT

MCU-ETH 8000 / ECU 8000

MCU 8000: Control Unit for the permanent supervision of the headend.

FEATURES

- Access to the 8000 series headend modules:
 - Local: with a PC connected to the USB port of the MCU.
 - Local: through a LAN network via Ethernet.
 - Remote: via Internet access, and with the MCU connected to a LAN gateway.
- Upgrading of the firmware.
- Monitoring of alarms generated by the headend modules.
- Utilities to speed up the programming of installations (copy-paste, save-import module or installation).
- Management of output channels and their automatic assignment.
- Diagnosis of the headend.



Extension unit, that in combination with the Master Control Unit allows a permanent supervision of the headend (1 ECU x frame).

FEATURES

- Configuration of the headend through the USB port on a PC.
- Upgrading of the firmware.
- Monitoring of the main parameters.
- Diagnosis of the headend.



		MCU-ETH 8000	ECU 8000
Supply voltage	Vdc	5	12
Consumption	mA	260	160
Operating temperature range	°C	0 ÷ 45	

MODEL	MCU-ETH 8000	ECU 8000
Reference	85110	85114
Local communication with PC	USB 2.0 12 Mbps	-
LAN network communication	Ethernet 100-BaseT over RJ-45	-
Com. with processing module	BUS CAN 1 Mbps	
Packing dimensions	mm	270 x 195 x 40
Weight	Kg	1.50

MULTI-PROCESSING HEADENDS

POWER SUPPLY

SPS 8000

The SPS 8000 model is a multi-voltage power supply that can be connected to a common power BUS shared with various power supplies.

APPLICATION

Power supply for 8000 series headends, its capacity for sharing the load makes it suitable for redundant systems.

FEATURES

- “ Load sharing technology (SPS 8000).
- In case of failure of one power supply, the 3 remaining ones feed the racks (see example).

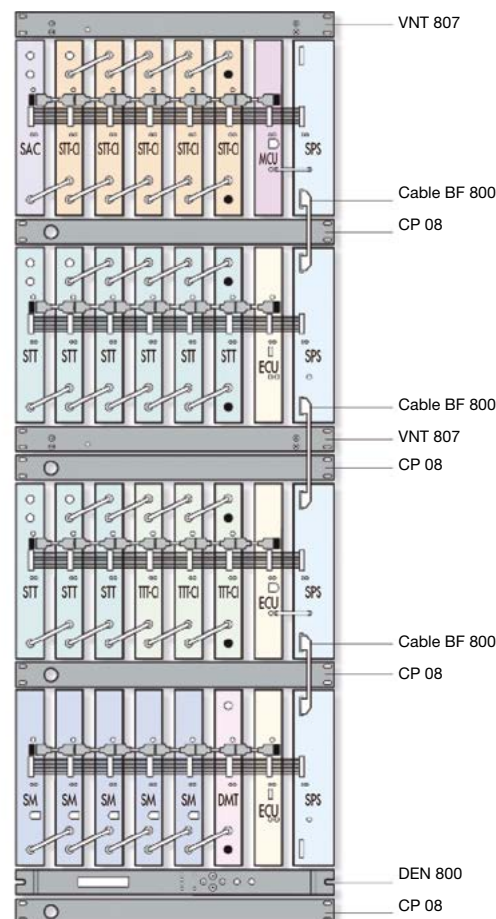
RECOMMENDED LOAD LIMIT (SPS-LP): 55W

5 x STT + 2 LNB
4 x STT + 3 LNB
4 x STT + SHA + 1 LNB
4 x STT-CI + 3 LNB
4 x STT-TWIN + 2 LNB
3 x STT-TWIN + SHA + 1 LNB
4 x STT-TWIN-CI + 2 LNB
3 x STT-TWIN-CI + SHA + 1 LNB
4 x TTT-TWIN-CI
5 x SM-TWIN-ST + SAC

Example



headends



MODEL		SPS 8000				SPS-LP 8000			
Reference		68000				68001			
Input voltage	Vac	187 ÷ 264				195 ÷ 265			
Output voltages	Vdc	30	17	12	5	30	17	12	5
Max. current per output	A	0.1	0.5	4	7.5	0.03	0.2	2.5	4
Output current drawn	W	95				55			
Packing dimensions	mm	275 x 185 x 60				265 x 185 x 60			
Weight	Kg	1.5				1.4			

MULTI-PROCESSING HEADENDS

PORTABLE CONTROL UNIT



headends

LPU 8000

Portable control unit for local programming via PC of a 8000 series headend.

FEATURES

- Software and firmware upgrading.
- Main parameters control.
- Headend setting up through the USB port of a PC.



Supply voltage	Vdc	5
Consumption	mA	260
Operating temperature range	°C	0 ÷ 45

MODEL		LPU 8000
Reference		86116
Local communication with PC		USB 2.012 Mbps
Com. with processing module		BUS CAN 1 Mbps
Packing dimensions	mm	270 x 195 x 40
Weight	Kg	1.50

MULTI-PROCESSING HEADENDS

MCU-2G/ETHERNET-GATEWAY



headends

MGG / MEG 8000

The 8000 series headend can be programmed remotely through Ethernet router (MEG 8000) or 2G/3G modem (MGG 800) plus a LPU 8000 or MCU 8000 unit.

FEATURES

- Internal configuration web server.
- Remote firmware update.
- DHCP server (for Ethernet and Wi-Fi interfaces).
- 3G supervision to keep the connection always active.



MODEL		MGG 8000	MEG 8000
Reference		85117	85118
Interfaces	USB	USB 2.0 OTG	
	ETHERNET	10/100 Base-T RJ45	
	SIM	-	SIM Card interface 1.8V/3V
	Antenne GSM	-	FME 3m GSM5 antenna included
Router 3G	UMTS/HSPA+	-	Five-Band 800/850/900/1900/2100MHz
	GSM/GPRS/EDGE	-	GPRS class 12 Quad band 850/900/1800/1900MHz
AC input	V _{AC}	90 a 264 (adapter included)	
DC input	V _{DC}	24V (7 ÷ 50V _{DC})	
Operating temperature range	°C	-40°C to +85°C	
Packing dimensions	mm	201 x 163 x 98	
Weight	Kg	< 0.5	

MULTI-PROCESSING HEADENDS



headends

Accessories

COMMUNICATION BUS BETWEEN MODULES

Reference	83811
Application	PC programming
Mod.	USB 800



COMMUNICATION BUS BETWEEN FRAMES

Reference	83812
Application	PC programming
Mod.	USB 801



120 OHMS USB LOAD

Reference	83813
Application	8000 Series
Mod.	CU 120



POWER BUS

Reference	83807
Application	7 modules + power supply
Mod.	BA 807



RF BRIDGE

Reference	83814
Application	8000 Series
Mod.	PMD 800



19" RACK BLIND COVERS

Reference	83803	83816
Application	19" rack frame	
Mod.	CC 08	CC FR 08

CC 08

CC FR 08



PASSAGE COVER BETWEEN FRAMES

Reference	83817
Application	19" rack frame
Mod.	CP 08



POWER SUPPLY BUS

Reference	83810
Application	19" rack
Mod.	BF 800



MINI DIN - 3RCA CABLE

Reference	84033
Application	MINI DIN 5 / 3 RCA
Mod.	CDM 3 RCA



MULTI-PROCESSING HEADENDS



headends

Accessories for **Wall mounting**

VENTILATED HOUSING

Designed for wall mounting.
Includes all necessary accessories.
Ventilation unit and 3 power socket.
With safety lock.
Dimensions: 515 x 250 x 370 mm.
Weight: 6,9 Kg.

Reference	83806
Application	7 modules + power supply
Mod.	CFR 807



FRAME

Designed for installation and protection of the 8000 series headend.
Includes all necessary accessories for wall mounting.
Dimensions: 450 x 15 x 170 mm.
Depth with modules: 200 mm.

Reference	83805
Application	7 modules + power supply
Mod.	BST 807



19" RACK VENTILATION UNIT

Designed for installation on BST 807 frame.
Dimensions: 160 x 135 x 50 mm.
Supply voltage: 230V / 200 mA.
Weight: 0,8 Kg.

Reference	83818
Application	Frame without housing
Mod.	VNT 800



Accessories for **Rack 19"** mounting

19" RACK FRAME

Designed for mounting the 8000 series modules on 19" rack.
Dimensions: 485 x 185 x 265 mm.

Reference	83800
Application	7 modules + power supply
Mod.	BSR 807



VENTILATION UNIT

Designed for installation on 19" rack.
Dimensions: 485 x 285 x 45 mm.
Supply voltage: 230V / 200 mA.

Reference	83801
Application	19" Rack
Mod.	VNT 807



19" RACK ADJUSTMENT PLATES ON

CAM 08: for module.
CAF 08: for power supply.

Reference	83802 83804
Application	19" Rack
Mod.	CAM 08 CAF 08



MULTI-PROCESSING HEADENDS



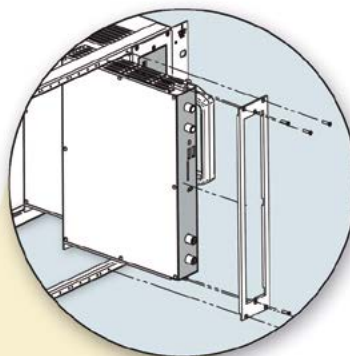
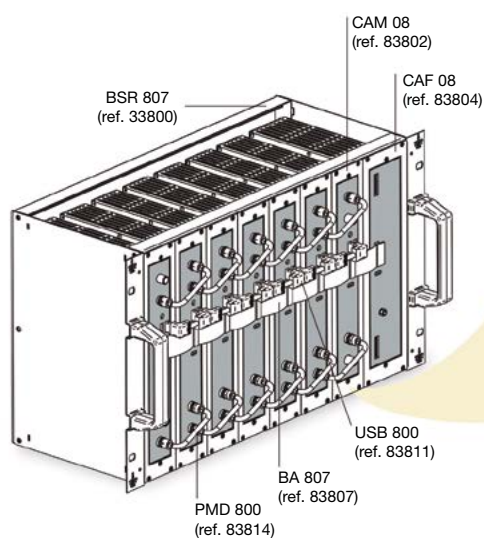
headends

Application examples



Reference	Model	UN
08200	DEN 8000	1
08205	HAN 8000	4
08201	DMT 8000	5
35083	SHA 8000	1
68000	SPS 8000	1
85110	MCU 8000	1
85118	MGG 8000	1
83801	VNT 807	1
83802	CAM 08	7
83804	CAF 08	1
83814	PMD 800	6
83811	USB 800	7
83813	CU 120	1
83807	BA 807	1
83800	BSR 807	1
84019	CX 75 F	6

Headend for the distribution up to 20 channels coming from different sources such as DVD or Blue Ray players , CCTV cameras, or STB receivers. The input signal can be analogue (composed video) or digital HDMI input.



IP STREAMING HEADENDS

SAT TO IP STREAMER



headends

SIT Series

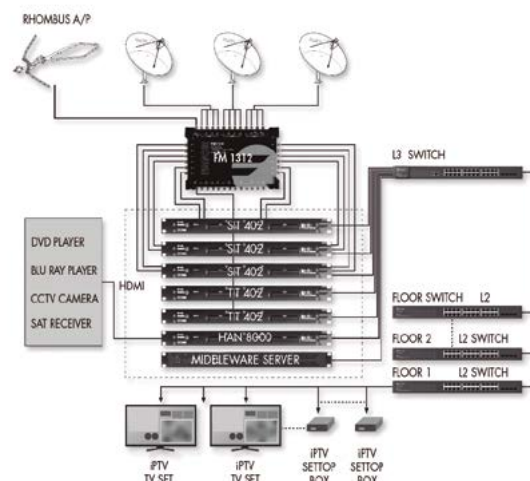
ipolo
IP SYSTEM

These devices take services from satellite transponders and after selecting them, transmit them in IP packages for their distribution in an Ethernet network. The Common Interface models allow to decrypt scrambled services using CAM's and cards with rights.

FEATURES

- The metal case is ready for the 19" rack mounting and has the possibility of adding ventilation fans.
- Each module has two independent streaming outputs with a capacity of more than 12 services each one.
- The modules are programmable through its web server locally or in remote mode.
- PID filtering.
- Possibility of creating services mixing Audio PID's with Video PID's. For instance, two services with the same video but with audio in two different languages.

Example



MODEL		SIT 402	SIT 422
Reference		08240	08241
INPUT			
Inputs		4 (2 + 2, Loop or independent)	
Modulation type		QPSK, 8-PSK	
Frequency range	MHz	950 ÷ 2150	
Input level	dBµV	47 ÷ 86	
Symbol Rate	MB	1 ÷ 62 / 1 ÷ 45	
Code rate		1/2, 2/3, 3/5, 3/4, 4/5, 5/6, 7/8, 8/9, 9/10	
Roll-Off		0.15, 0.20, 0.25, 0.35	
LNB control		22 KHz 13/17 V or DiSEqC 1.0	
DVB-SI AND TS PROCESSING			
Conditional access		NO	EN 50221
Table processing		PAT, PMT, SDT, PID filtering, Service creation and edition	
Output format		SPTS/MPTS	
OUTPUT			
Number		2 independent	
Number of services		32 (2x16)	
Physical interface		Ethernet 100-BaseT over RJ-45 (IEEE 802.3u)	
TCP/IP Streaming protocol		IP multicast (RTP or UDP)	
Signalling protocols		SAP	
CONTROL INTERFACE			
Number		2 independent	
Physical Standard		Ethernet 100/1000-BaseT over RJ-45	
Protocol		Web Server	

IP STREAMING HEADENDS

TERRESTRIAL TV TO IP STREAMER



headends

TIT Series

ipolo
IP SYSTEM

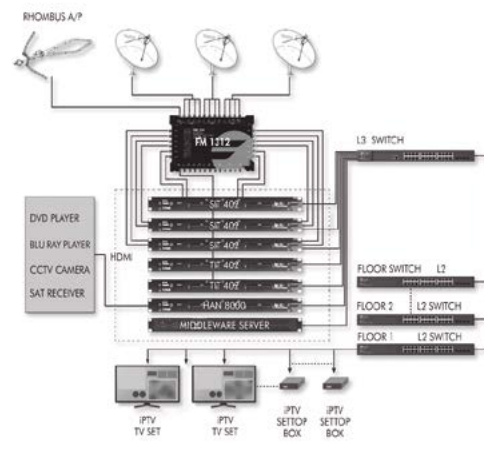
These transmodulators take services from digital Terrestrial TV channels and, after selecting the desired services, convert them for IPTV distribution into an Ethernet network. Common Interface models allow you to decode encrypted services using CAM modules and subscriber cards.



FEATURES

- The metal case is ready for the 19" rack mounting and has the possibility of adding ventilation fans.
- Each module has two independent streaming outputs with a capacity of more than 12 services each one.
- The modules are programmable through its web server locally or in remote mode.
- PID filtering.
- Possibility of creating services mixing Audio PID's with Video PID's. For instance, two services with the same video but with audio in two different languages.

Example



MODEL	TIT 402	TIT 422
Reference	08245	08246
INPUT		
Inputs	4 (2 +2)	
Standard	DVB-T (EN 300 744, EN 302 755)	
Frequency range	MHz	174 ÷ 862
Input level	dBµV	47 ÷ 90
FEC mode	LDPC+BCH/ Convolutional Coding+Reed Solomon	
Code rate	1/2,3/5, 2/3, 3/4,4/5, 5/6, 7/8	
Guard interval	1/4, 1/8, 1/16, 1/32; (19/128, 19/256, 1/128)	
FFT	2K, 8K / 1K, 2K, 4K, 8K, 16K, 32K	
DC pass	Switchable 12Vdc 100mA	
DVB-SI & TS PROCESSING		
Conditional access	NO	EN 50221
Table processing	PAT, PMT, SDT, PID filtering, Service creation and edition	
Output format	SPTS/MPTS	
OUTPUT		
Number	2 independents	
Number of services	32 (2x16)	
Physical interface	Ethernet 100-BaseT over RJ-45 (IEEE 802.3u)	
TCP/IP Streaming protocol	IP multicast (RTP or UDP)	
Signalling protocols	SAP	
CONTROL INTERFACE		
Number	2 independents	
Physical Standard	Ethernet 1000-BaseT over RJ-45	
Protocol	Web Server	

IP STREAMING HEADENDS

STREAMER HDMI A IP

HAN Series

The HAN 8000 encoder modulates the content of 4 HDMI input (MPEG-4 AVC/H.264 HD) signals to a DVB-ASI or IP output.

APPLICATION

It is used to watch the content of several HD digital sources, such as satellite receivers, DVD or Blue-ray players, etc, on a TV equipped with a DTT receiver

FEATURES

- Multiplexer function for 4 HDMI inputs (MPEG-4 AVC/H.264 HD).
- Supports HDCP
- HD resolution up to 1920*1080_60p.
- MPEG-1 Layer 1, Layer 2 audio encoding.
- Programming via front panel (keyboard + LCD display) or PC (local or remote).
- Mountable in 19" rack.
- Includes:
 - 1 x BNC-F(m) cable for one COFDM output.
 - 1 x user's manual.
 - 1 x 230Vac cable.



headends

Supply voltage	V	90 ÷ 250
Consumption	W	25
Operating temperature range	°C	0 ÷ 45

MODEL		HAN 8000
Reference		08205
VIDEO ENCODING		H.264/AVC High Profile Level 4.0 (HD)
Input		HDMI x 4 + ASI
Resolution		1920*1080_60p, 1920*1080_50p; 1920*1080_60i, 1920*1080_50i; 1280*720_60p, 1280*720_50p
AUDIO ENCODING		MPEG1 Layer II
Sample rate	KHz	34/44,1/48
Bit rate	Kbps	128, 160, 192, 224, 256, 320, 384
ASI OUTPUT		DVB-ASI
Connector type		2 x BNC, 75 Ohm
IP OUTPUT		IP/UDP (TS over IP); MOTPS/SPTS/Unicast/Multicast
Connector Type		RJ-45
Output bit rate		80 (4:2:0)
Programming		Keyboard + LCD / NMS (Ethernet RJ-45)
Packing dimensions		580 x 580 x 135
Weight		6.2

CHANNEL AMPLIFIERS

DVB-T/H CHANNEL AMPLIFIERS



headends

NEXUM Series

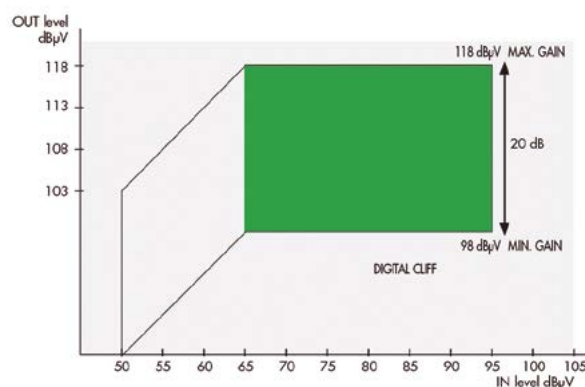
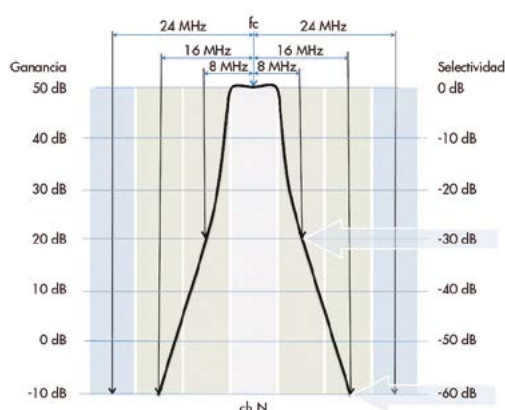
AGC Channel amplifier suitable for channel amplification of the DTT multiplex in MATV systems. The Nexum DVB-T / H series allows operation in adjacent channel, both in VHF and UHF.

APPLICATION

Medium- to large-sized community digital and analogue TV installations located in poor reception areas with big level differences between channels.

FEATURES

- Exceptional selectivity and high output level.
- Constant Output Level within the Input Operative Range, maintaining the quality of the signal.
- High shielding degree, metal **chassi** (zamak) with "F" connectors.
- Modular design that allows channel configuration according to installation needs.
- Easy to set-up due to its system of splitting at input and combining at output.



MODEL	NEX 645		
Reference	34121...69	39821...69	39725...32
Channels	21...69		05...12
Max. output level (DIN K)	125 dBμV		120
Max. COFDM output level	118 IMD3 - 35 dB		115 IMD3 - 35 dB
Gain	53 dB		43
Manual output regulation	20 dB		30
Operative input range	65...95 dBμV		72...102
Min. input level	45 dBμV		45
Band width	8 MHz		7
Selectivity	30 fc N ± 8 MHz 60 fc N ± 16 MHz 70 fc N ± 24 MHz		30 fc N ± 7 MHz 60 fc N ± 14 MHz 70 fc N ± 21 MHz
Return losses	9 dB		
Noise figure	11 dB		
Supply voltage	24 Vdc	12	24
Consumption	125 mA	200	120
Operating temperature range	0 ÷ 50 °C		
Packing dimensions	195 x 70 x 32 mm		
Weight	0.45 Kg		

* MER OUT: 30 dB; MER IN 38 dB, OUT Level 75 ÷ 118 dBμV.

CHANNEL AMPLIFIERS

DAB, FM AMPLIFIERS AND MULTICHANNEL



headends

NEX Series

Multichannel amplifier, suitable for amplifying and filtering of TV signals in MATV headend systems. These amplifiers are perfect for working in adjacent channels.

APPLICATION

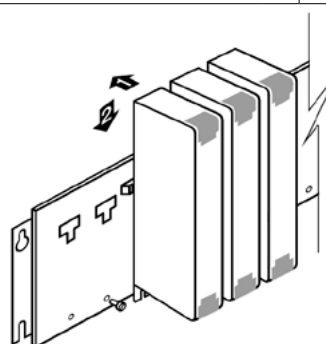
Medium- to large-sized community digital and analogue TV installations located in poor reception areas with big level differences between channels.

FEATURES

- Metal chassis (zamak), integrating the input/output connectors to give the unit great strength.
- High shielding degree.
- High reliability and screening factor due to "F" connectors.
- Modular design that allows channel configuration according to installation needs.
- The use of filters with high "Q" factor (quality factor) inductive lines guarantees a high channel selectivity.
- Easy to set-up due to its system of splitting at input and combining at output.



Supply voltage	Vdc	24
Consumption (24 Vdc)	mA	110
Operating temperature range	°C	0 ÷ 50



MODEL		NEX 402	NEX DAB	NEX 545 2 channels	NEX 545 3 channels
Reference		39200	39201	39501...20	39580...600
Channels		FM 87 ÷ 108	DAB 195 ÷ 223	— *	— *
Max. output level	dBμV	115 (DIN B –35 dB)		112 (2 Ch AM-TV) 109 (2 Ch COFDM)	111 (3 Ch AM-TV) 107 (3 Ch COFDM)
Gain	dB	40		50	
Gain adjustment	dB	30			
Band width	MHz	21	28	16	24
Selectivity	dB	@ –15 MHz		— 30 30	
PV _N -PAN-1		35 23			
PAN-PV _N +1		@ +15 MHz			
PV+20 MHz		30 8			
Return losses	dB	9			
Noise figure	dB	4	5	11	
Input-Output impedance	Ω	75			
Input-Output connectors		F (h)			
Packing dimensions	mm	195 x 70 x 32			
Weight	Kg	0.45			

* Different configurations upon request.

CHANNEL AMPLIFIERS

NEXUM SERIES 1st FI SAT AMPLIFIER



headends

IFA 400

Equalized amplifier for the 950 to 2300 MHz band. Amplifies the 1st IF SAT signal and mixes it with terrestrial channels.

APPLICATION

Community digital and analogue satellite TV installations where the 1st IF SAT signal has to be distributed.

FEATURES

- Metal chassis (zamak), integrating the input/output connectors to give the unit great strength.
- High shielding degree.
- High reliability and screening factor due to its "F" connectors.
- Easy to set-up due to its system of splitting at input and combining at output.



Supply voltage	Vdc	24 (130 mA)
Consumption	mA	65
Operating temperature range	°C	0 ÷ 50

MODEL		IFA 400
Reference		39204
Frequencies covered	MHz	950 ÷ 2150
Number of inputs 1 st IF		1 (950 ÷ 2150 MHz)
Number of inputs RF		1 (5 ÷ 862 MHz)
Gain (1 st FI)	dB	40 (950 MHz) 48 (2150 MHz)
Noise figure	dB	7
RF signal rejection (1 st IF input)	dB	40 (5÷862 MHz)
Through losses RF	dB	1,5 (5 ÷ 862 MHz)
Gain adjustment	dB	20 (950 ÷ 2150 MHz)
Output level @2150 MHz	dBμV	125 (DIN 45004B, DIM -35 dBc) 113 (30 transponders, DIM -35 dBc)
Return losses	dB	9
Voltage to LNB		13 VDC / 300 mA
Packing dimensions	mm	195 x 70 x 32
Weight	Kg	0.35

CHANNEL AMPLIFIERS

NEXUM SERIES



headends

Accessories

FRAME

Designed for mounting modules of the Nexum Series Modular System. The kit supplied includes all necessary accessories for wall mounting.

Raster 40 mm.

Dimensions:

Ref. 83109: 531 x 139 x 15 mm.

Ref. 83110: 747 x 139 x 15 mm.

Ref. 83111: 480 x 177 x 70 mm.

Ref. 83112: 325 x 140 x 15 mm.

Reference	83112	83109	83110	83111
Application	6 mod. + power supply	12 mod. + power supply	18 mod. + power supply	10 mod. + power supply for 19" Rack mounting
Mod.	BST N06	BST N12	BST N18	BSK N10

BST N12 and BST N18



BSK N10



HOUSING

Designed for installation and protection of Nexum system. Includes all necessary accessories for wall mounting. With safety lock. Allows KIT VNT 56 (Ref. 83004) to be mounted.

Dimensions:

Ref. 83608: 365 x 165 x 250 mm. (2 Kg)

Ref. 83609: 570 x 165 x 250 mm. (4 Kg)

Ref. 83607: 725 x 165 x 250 mm. (6 Kg)

Ref. 83604: 790 x 209 x 595 mm. (8 Kg)

Reference	83608	83609	83607	83604
Application	6 mod. Nexum+power supply	12 mod. Nexum+power supply	18 mod. Nexum+power supply	Housing for 2x18 (2x12) Nexum or 1x18 (1x12) Nexum + 1x8 SCM 6000 ventilation unit 83004
Mod.	CFR N106	CFR N112	CFR N118	CFR N218

CFR N218



CFR N118



75 Ω F-F COAXIAL BRIDGE

Rigid 75 Ω coaxial bridge for splitting or combining RF signals.

Raster 40 mm.

Reference	84034
Application	F(m)-F(m)
Mod.	PMD FFN



POWER SUPPLY

Power supply module for providing operating voltage to the Nexum series modular system.

Zamak chassis with metal covers.

High degree of shielding.

Reference	69023	69610	69620
Output voltage	24 ± 5% Vac		12 ± 5% Vac
Consumption (55 W output)	70 VA	24 VA	
Number of modules	till 18	till 8	till 10
Dimensions	205 x 70 x 80 mm	260 x 75 x 35 mm	
Weight	0.75 Kg		
Mod.	SPS 523	SPS 610	SPS 620

SPS 523



CHANNEL AMPLIFIERS

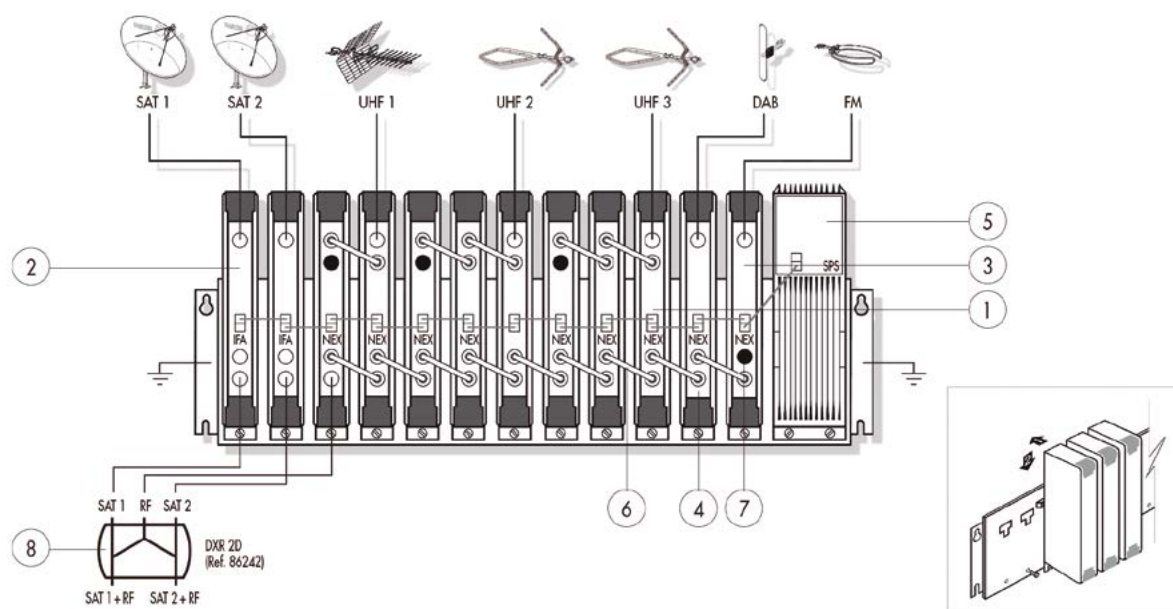
NEXUM SERIES



headends

Application examples

- 47 ÷ 2150 MHz
- 2 polarities of 1st IF SAT
- 8 terrestrial channels, analogue or digital
- FM radio
- DAB radio



N.	Description	Nexum Series
1	Channel amplifier	- NEX 645 DVB-T/H Ref. 34121...69
2	1 st IF SAT amplifier	- IFA Ref. 39204
3	Amplifier FM radio	- NEX 402 Ref. 39200
4	Amplifier DAB radio	- NEX DAB Ref. 39201
5	Power supply	- SPS Ref. 69023
6	75Ω F-F coaxial bridge	- PMD FFN Ref. 84034
7	Load	- CX 75F Ref. 84011
8	Splitter- Combiner	- DRX 2D Ref. 86242

PROGRAMMABLE AMPLIFIERS

SELECTIVE PROGRAMMABLE RF CONVERTER



headends

EVO PRO Series

Programmable converter that allows filtering, converting and amplifying up to 32 digital signals from the terrestrial band.

APPLICATION

Distribution of RF band signals for individual and collective installations.

FEATURES

- 4 VHF/UHF band inputs. 1 FM input.
- The 300 model incorporates 1st IF SAT amplification, with input polarity selection.
- Up to 32 VHF and UHF channel filters, with the possibility of conversion to another output channel.
- Automatic search of the channels present in each VHF/UHF input, adding them to the channel list.
- Automatic level detection of VHF/UHF input signals.
- CAG with wide dynamic range at the input.
- Programmable VHF/UHF internal pre-amplifier.
- Activation of power supply to pre-amplifiers.
- High selectivity (>65dB) and rejection to adjacent channels.
- High rejection SAW filters for LTE bands (4G / 5G).
- Automatic band selection for each input, according to the channel configuration (model 100).
- In the PRO 100 D2 model, each input is assigned to a specific band, to optimize its operation.
- Programming via keypad or Android application.



Supply voltage	V	100 ÷ 240
Consumption	W	10
Operating temperature range	°C	-10 ÷ 50

MODEL		EVO PRO 100		EVO PRO 100 D2			EVO PRO 300			
Reference		35570		35540			35590			
Frequency bands		FM	VHF/UHF	FM	VHF	UHF	FM	VHF	UHF	SAT
Multiplex number		1	4	1	1	3	1	1	2	1
Band	MHz	88÷108	VHF: 174÷240 UHF: 470÷862 UHF: 470÷790 UHF: 470÷694	88÷108	174÷230	470÷694	88÷108	174÷230	470÷694	950÷2150
Operational input level	dBμV	<78	<108	<78	<108		<78	<108		68÷88
Number of filters		-	32 programmable	-	32 programmable		-	32 programmable		-
Return losses	dB	>10								
Digital output level	dBμV	-	93 ÷ 115	-	93 ÷ 115		-	89 ÷ 109		-
Test output level	dB	-30		-30			-			
Gain	dB	5/35	CAG	5/35	CAG		5/35	CAG		25 ÷ 45
Tilt	dB	0 ÷ 9		0 ÷ 9			0 ÷ 9			8
Output MER	dB	-	35 (for MER input >38 dB)	-	35 (for MER input >38 dB)		-	35 (for MER input >38 dB)		-
DC current Pass		NO	12V / 100mA	NO	12V / 100mA		NO	12V / 100mA		13V-17V 0-22KHz 150mA
Packing dimensions	mm	230 x 218 x 54								
Weight	Kg	1.04								

PROGRAMMABLE AMPLIFIERS

PROGRAMMABLE SELECTIVE AMPLIFIER



SURF PRO 6

Robust and compact amplifier for distribution of terrestrial television signals in medium sized installations. Programming via UCF 300 remote control.

APPLICATION

Distribution of the RF signal for medium-sized installations.

FEATURES

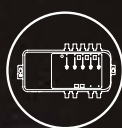
- 2 programmable UHF inputs with 6 channel filters with variable width from 1 to 6 channels.
- 1 BI / BIII / VHF input
- 1 FM input.
- 1 auxiliary input
- Automatic adjustment system (AES) to ensure proper adjustment of output levels.
- Metal housing for maximum protection and high shielding.
- Easy programming via the UCF 300 remote control.
- Possibility to add 3 additional filters via the Book Extend.
- Ref. 35562 adapted to the second digital dividend up to CH48.



Supply voltage	Va	185 ÷ 265
Consumption	W	13 W (<120 mA)
Operating temperature range	°C	-10 ÷ 50

MODEL	SURF PRO 6 D2			
Reference	35562			
Band	BI/BIII	UHF	FM	Auxiliary
Number of outputs	1	2	1	1
Number of filters	Broadband	6	Broadband	1
Input and filter configuration	-	6 - 0 4 - 2 3 - 3	-	-
Bandwidth	MHz	47 ÷ 68 174 ÷ 230	470 ÷ 694	87,5 ÷ 108 47 ÷ 68 132 ÷ 862
Programmable filter width		1 ÷ 6 channels	-	-
Gain	dB	35	45	30
Independent regulation per filter	dB	≥30		
Selectivity N (±16 MHz)	dB	-	20	-
Noise figure	dB	6		
Operational input level	dBμV	55	50 ÷ 93	71 ÷ 101
Output level DIN 45004B	dBμV	117		107 @ -35 dBc
Output level 10 channels	dBμV	107		
Programmable output level	dB	95 ÷ 107		
Isolation between inputs	dB	UHF > 20 dB VHF/UHF/FM > 50		
DC pass		-	12-24V / 50mA (Programmable)	-
Packing dimensions	mm	195 x 70 x 32		
Weight	Kg	0.45		





Electronics

50 - 54

MAST AMPLIFIERS

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MULTIBAND AMPLIFIERS

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DISTRIBUTION AMPLIFIERS

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INDOOR AMPLIFIERS

65 - 67

INDOOR MODULATORS

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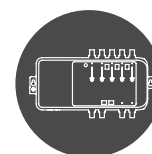
DTT RECEIVERS

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MULTISWITCHES

MAST AMPLIFIERS

MAST BAND AMPLIFIER



electronics

AML 500 Series

Professional mast band amplifiers, LTE protected (700 MHz band - second Digital Dividend) immune to all signals from other services which share the radioelectric spectrum, such as mobile phones, wireless transmissions, terrestrial communications...

APPLICATION

Suitable for individual systems or small installations, with high sensitivity and output power (114 dBμV), the AML is a heavy-duty amplifier, totally adapted to the new LTE signals of the second Digital Dividend.

FEATURES

- Very low noise figure and independent from gain regulation.
- Low noise figure in the high gain models.
- Allows high input levels in the low gain models.
- LTE ready.
- The mechanical solution guarantees an exceptional immunity against noise invasion, a critical aspect for DTT reception.
- F connectors.
- Output level Test.



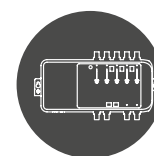
Supply voltage	V_{dc}	24 ± 10%
Operating temperature range	°C	- 20... +60

Reference	Model	Composition
36654	AML 510K	KIT AML 510 K amplifier + power supply
36656	AML 530 K	KIT AML 530 K amplifier + power supply
36658	AML 540K	KIT AML 540 K amplifier+ power supply

MODEL	AML 510	AML 530				AML 540			
Reference	36650	36651				36652			
Nbr. of inputs	1	3				4			
Bands	UHF*	FM	BIII-DAB	UHF*	FM	BIII-DAB	UHF*	UHF*	
Gain	dB	38	28	28	38	28	28	38	38
Gain regulation	dB	15	20	20	15	20	20	15	15
Output level DIN 45004B-60	dBμV	114							
Noise figure	dB	3	7	3	3	7	3	6	6
Rejection out of band	dB	Compliance with EN 5008, 3-2 "Antenna Input Resistance", LTE Ready							
Test output	dB	-30				-			
Supply voltage	V _{dc}	24V ± 10%							
Consumption	mA	80							
DC pass	mA	45	-	45	-	45	-	45	-
Operating temperature range	°C	- 20... +60							
Packing dimensions	mm	170 x 105 x 50							
Weight	Kg	0.355							

* UHF: 470-694 MHz

MAST AMPLIFIERS



electronics

MASTIO AML 900 Series

Mast band amplifier specially designed for the reception of DTT signals with optimum quality.

APPLICATION

Suitable for TV / FM signal distribution in individual systems or small installations.

FEATURES

- Small size.
- 100% protected zamak box provides excellent immunity against interference.
- Protected against LTE signals.



MODEL	AML 910 L D2		AML 910 DC D2		AML 920 L D2		AML 920 DC D2		AML 930 DC D2		
Reference	36961		36962		36963		36964		36965		
Nbr. of inputs	1		1		2		2		3		
Bands	UHF 470÷694	UHF 470÷694	BIII 174÷230	UHF 470÷694	BIII 174÷230	UHF 470÷694	BIII 174÷230	UHF 470÷694	BIII 174÷230	UHF 470÷694	UHF 470÷694
Gain	25		35		20		25		30		
Gain regulation	dB		dB		dB		dB		dB		
Output level	dB		dB		dB		dB		dB		
Input/output impedance	Ω		Ω		Ω		Ω		Ω		
Noise figure	dB		dB		dB		dB		dB		
Consumption	mA		mA		mA		mA		mA		
DC pass	mA		mA		mA		mA		mA		
Supply voltage	V _{DC}		V _{DC}		V _{DC}		V _{DC}		V _{DC}		
Packing dimensions	mm		mm		mm		mm		mm		
Weight	Kg		Kg		Kg		Kg		Kg		

MAST AMPLIFIER AND POWER SUPPLY KIT

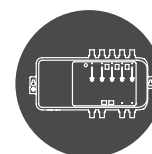
Reference	Model	Composition
36955	AML 910 L D2 K	Mast amplifier and power supply kit (24V, 150mA). 1 UHF input, 25dB gain, 108dB output level.
36956	AML 910 DC D2 K	Mast amplifier and power supply kit (24V, 150mA). 1 UHF input, 35dB gain, 108dB output level.
36958	AML 920 DC D2 K	Mast amplifier and power supply kit (24V, 150mA). 2 inputs, BIII;UHF, 30;35dB gain, 108dB output level.
36959	AML 910 L D2 K	Mast amplifier and power supply kit (24V, 150mA). 2 inputs, BIII;UHF, 25;25dB gain, 108dB output level.
36959	AML 930 DC D2 K	Mast amplifier and power supply kit (24V, 150mA). 3 inputs, BIII, UHF 1, UHF 2, 35dB gain, 108dB output level.

ALSO AVAILABLE WITH DIN RAIL ADAPTER

Reference	Model
36970	AML 910 L D2 K RD
36971	AML 910 DC D2 K RD
36972	AML 910 DC A D2 K RD



MAST AMPLIFIERS



electronics

AMS 130 Series

Terrestrial signal mast amplifier with SAT IF mix.

APPLICATION

Single home installations.

FEATURES

- Terrestrial VHF and UHF inputs.
- Satellite mix input.
- Noise figure independent of gain regulation.
- F connectors.
- Broad input level range.



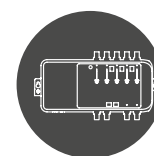
Reference	Model	Composition
36646	AMS 130 K	Mast amplifiers kit + FA 301 S

MODEL	AMS 130		
Reference	36645		
N° of inputs	3		
Bands	VHF 47÷230	UHF 470÷790	SAT 950÷2150
Gain dB	24	33	-2
Gain regulation dB	20	20	-
Output level DIN 45004B-60 dBμV	110		-
Input / output impedance Ω	75		
Test output dB	-30		
Consumption mA	85		
Packing dimensions mm	115 x 65 x 100		
Weight Kg	0.215		

MAST AMPLIFIERS

POWER SUPPLY

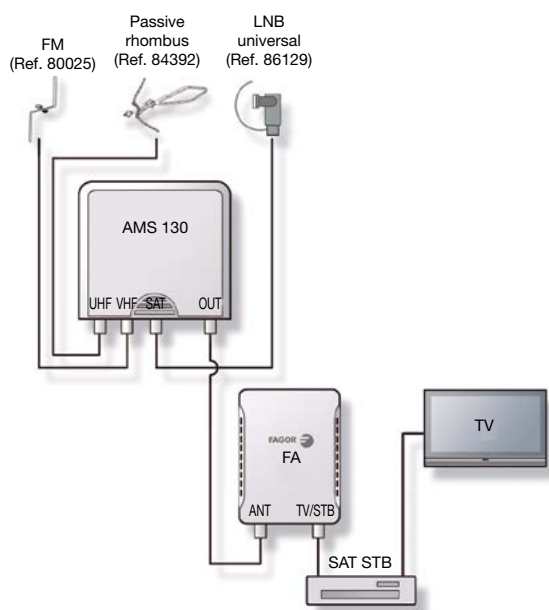
FA 301 S



electronics

12V power supply with set-top box presence detection.
In that case the set-top-box feeds the amplifier.

Example

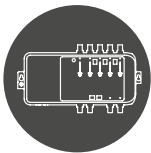


MODEL		FA 301 S
Reference		66109
N° of inputs		1
Band		5÷862
Supply voltage	V	12V and 13/17V through the STB
Gain regulation	dB	300
Packing dimensions	mm	110 x 40 x 120
Weight	Kg	0.215

MAST
AMPLIFIERS

POWER SUPPLY

FA 242/244 Series



electronics

Power supply suitable for powering an AMB 900 series mast band amplifier.

FEATURES

- Protected against short circuits.
- Shielded RF circuit according to CE standard.
- Class II power supply, reinforced insulation.



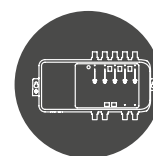
Supply voltage	V	195-265
Operating temperature range	°C	0-50

MODEL		FA 242	FA 244
Reference		66116	66117
N° of inputs		2	4
Frequency band	MHz	5÷862	
Insertion losses	dB	4	7
Input / output impedance	Ohm	75	
Supply voltage	Vdc	24±10%	
Max. current per output	mA	150	
Packing dimensions	mm	130 x 86 x 35	125 x 100 x 40
Weight	Kg	0.20	0.24

MULTIBAND AMPLIFIERS

1ST IF SAT AMPLIFIER

IFA 3000 Book



electronics

1st IF SAT amplifier with programmable supply voltage for a Universal LNB and diplexed combining of the VHF and UHF channels.

APPLICATION

Community satellite TV installations with IF processors.

FEATURES

- A high performance RF / 1st IF SAT diplexer guarantees a noise free terrestrial TV reception.
- High efficiency switching power supply.
- Amplification with pre-equalization in the satellite band to compensate for distribution network losses.
- High output power 120 dBμV.
- LNB polarity selection by 13/17V power supply and 0/22 KHz tone sending.



Supply voltage	Vac	195 - 265
Consumption	W	12
Operating temperature range	°C	-10 ÷ 50

MODEL		IFA 3000 BOOK
Reference		35911
Input/Output connectors		F (f)
Number of inputs		1 input 1 st FI SAT + 1 input RF
LNB DC pass		0, 13, 17 V / 0, 22 KHz (250 mA)
1 st IF SAT frequency range	MHz	950 ÷ 2300
1 st IF SAT input rejection	dB	40 @ 5 ÷ 862 MHz
RF frequency range	MHz	5 ÷ 862
RF through losses	dB	1,5
Output band covered	MHz	5 ÷ 2300
IF Input level	dBμV	68 ÷ 88
1st IF SAT gain	dB	35 @ 950 MHz 47 @ 2150 MHz
Gain regulation	dB	20
Noise figure	dB	8
Output level	dBμV	120 (DIN 45004B, -35 dBc) / 110 (15 transponders)
Packing dimensions	mm	103 x 171 x 23
Weight	Kg	0.75

MULTIBAND AMPLIFIERS

MULTIBAND AMPLIFIERS MOON SERIES

MAF Series

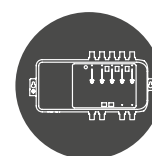
High power multiband amplifiers for the distribution of terrestrial and satellite television signals.

APPLICATION

Ideal for amplification of signals from various antennas in communities.

FEATURES

- High output power.
- Metal body in aluminum of reduced dimensions for a high gain and output level.
- Input switchable DC pass.
- High linearity.
- Integrated power supply, easily removable in case of reparation.
- Low noise figure at input.
- LTE protection filters for interfering signals (694 or 790 MHz depending on model).
- Models with satellite input available: MAF 311 and MAF 411.



electronics



Supply voltage	V	195 ÷ 265
Operating temperature range	°C	-10 ÷ 50

TERRESTRIAL INPUT MODELS

MODEL		MAF 301*			MAF 401*			
Reference		35100			35105			
Inputs		BI/FM	DAB/BIII	UHF	BI/FM	DAB/BIII	UHF	UHF
Frequency band	MHz	88÷108	174÷230	470÷694	88÷108	174÷230	470÷694	470÷694
Output level DIN 45004 B (-60dB)	dBμV	117		119	117		119	
Gain	dB	30		45	30		45	
Gain regulation	dB	20						
Test output level	dB	-30						
Noise figure	dB	6						
DC pass 24Vdc	mA	-		100	-	-	100	
Consumption	W	10						
Packing dimensions	mm	166 x 274 x 62						
Weight	Kg	0.65						

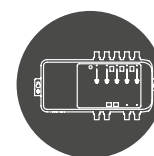
TERRESTRIAL + SATELLITE INPUT MODELS

MODEL		MAF 311				MAF 411				
Reference		35115				35120				
Inputs		BI/FM	DAB/BIII	UHF	SAT	BI/FM	DAB/BIII	UHF	UHF	SAT
Frequency band	MHz	88÷108	174÷230	470÷694	950÷2150	88÷108	174÷230	470÷694	470÷694	950÷2150
Output level DIN 45004 B (-60dB) SAT (-35dB)	dBμV	117		119	120	117		119		120
Gain	dB	30		45	35-43	30		45		35-43
Gain regulation	dB	20								
Test output level	dB	-30								
Noise figure	dB	6								
DC pass 24Vdc	mA	-		100	-	-	-	100		-
Supply voltage LNB 13/17Vdc/22KHz	mA	-			200	-				200
Consumption	W	12								
Packing dimensions	mm	166 x 274 x 62								
Weight	Kg	0.65								

*Models CH 60: MAF 300 (Ref. 35101) & MAF 400 (Ref. 35106)

MULTIBAND AMPLIFIERS

MINI MULTIBAND AMPLIFIER



electronics

AM Series

Self-powered multiband amplifier for indoor use, LTE adapted.

APPLICATION

Suitable for individual or small/medium size installations where it is necessary to amplify signals coming from several antenna inputs, achieving the best filtering and amplification of each one of them.

FEATURES

- RF circuit housed in a metal box that provides a CE degree of shielding.
- Small size minimizes visual impact and facilitates installation.
- Independent gain regulation on each VHF and UHF input.
- LTE ready models.



Supply voltage	V	195 ÷ 265
Consumption	W	2,2
Operating temperature range	°C	0 ÷ 50

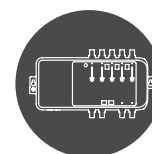
MODEL		AM 221*		AM 321*			AM 331		
Reference		35385		35386			35387		
Multiplex number		2		3			3		
Bands	MHz	BIII/DAB 174÷ 230	UHF 470 ÷ 694	BIII/DAB 174÷ 230	UHF 470 ÷ 694	UHF 470 ÷ 694	FM 88÷108	BIII/DAB 174÷ 230	UHF 470 ÷ 694
Gain	dB	30	38	30	35		30		35
Gain regulation	dB	20	15	20	15	15	20	15	15
Noise figure	dB	3		3	6		7	3	
Output level DIN B/60dB	dBμV	108							
Output level 6 MUX BIII/UHF		106							
Impedance	Ohm	75							
Packing dimensions	mm	125 x 100 x 40							
Weight	Kg	0.23							

*Models CH 60: AM 221 D (Ref. 35381) & AM 321 D (Ref. 35382)

DISTRIBUTION AMPLIFIERS

IP63 DISTRIBUTION AMPLIFIERS

SABAL Series



electronics

Amplifiers specially designed for the distribution of the RF and 1st IF SAT signal.

APPLICATION

Designed to work under adverse weather conditions, where a robust amplifier is needed.

FEATURES

- Their circuit is integrated in a Zamak box, which ensures correct operation of the amplifier, complies IP 63 standard.
- Allow return path operation and have slope control for the direct way.
- The DWBA 415 model is a double extension amplifier, valid for a two-cable system with two independent satellite TV circuits and a common one for terrestrial TV, in addition to the return path.
- The amplifier has been optimised by specific circuits which protect it against telecommunications services on adjacent frequency bands.
- Integrates a switch mode power supply to reduce the inside temperature and help extend the life of the equipment.



Supply voltage	Vac	230 ± 15 %
Operating temperature range	°C	0 ÷ 50

MODEL		DA 354		WBA 433			D WBA 415		
Reference		35924		35930			35934		
Numbers of inputs		1		1			2		
Band coverage	MHz	5 ÷ 30**	47 ÷ 862	5 ÷ 30**	47 ÷ 862	950 ÷ 2300	5 ÷ 30**	47 ÷ 862	950 ÷ 2300
Max. output level*	dBμV	117	121 (IM2=115 dBμV)	-	116	117	-	117	125
Input / output impedance	Ω	75							
Return losses	dB	15	10	15	10	6	15	10	6
Gain	dB	15	35	-2	35	34 - 41	-2	35	34 - 41
Level adjustment	dB	20	20	-	20	20	-	20	20
	Variable	-	20	-	20	-	0 - 18		-
	Switchable	-	-	-	-	7/14	-	-	7/14
Test output level	dB	1 IN - 1 OUT		1 IN - 1 OUT			2 OUT		
TEST output attenuation	dB	30							
Noise figure (typ.)	dB	9	6	-	6.5	8.5	-	6.5	8.5
Input / output connectors		F (h)							
Protection rating		IP63							
Consumption	VA	17					27.5		
Packing dimensions	mm	280 x 175 x 60							
Weight	Kg	3.1					3.2		

* 950 ÷ 2300 MHz: IM3 a - 35 dB
5 ÷ 862 MHz: IM3 a - 60dB

** DA 353 A (Ref. 35922): 5 ÷ 66 return path

** DA 354 A (Ref. 35925): 5 ÷ 66 return path

** WBA 433 A (Ref. 35932): 5 ÷ 66 return path

** D WBA 415 A (Ref. 35935): 5 ÷ 66 return path

DISTRIBUTION AMPLIFIERS

MOON DISTRIBUTION AMPLIFIERS

WAF Series

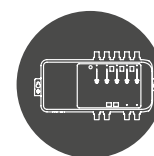
High power and high performance broadband amplifiers ideal for the distribution of terrestrial and satellite television signals.

APPLICATION

Ideal for the amplification of all TV channels in community installations.

FEATURES

- High power output.
- Aluminium metal body with reduced dimensions for high gain and high power output level.
- High linearity, power and gains, in a light and compact format.
- Output slope equalization.
- Integrated power supply, easily removable in case of repair needs.
- Allows the passage of the return path in extended band and has slope control for the direct path.
- The WAF 422 model is valid for a two-cable system with two independent satellite TV circuits and a common one for terrestrial TV, in addition to the return path.



electronics



Supply voltage	V	195 ÷ 265
Operating temperature range	°C	0 ÷ 50

MODEL		WAF 210		WAF 311			WAF 422			
Reference		35150		35152			35154			
Multiplex number		1		1			2			
Number of outputs		1		1			2			
Test		2 (Input + Output)		2 (Input + Output)			4 (2 Output + 2 Input)			
Band	MHz	5 ÷ 65	86 ÷ 862	5 ÷ 65	86 ÷ 862	950 ÷ 2150	4 ÷ 65	86 ÷ 862	950 ÷ 2150	950 ÷ 2150
Output level	dBμV	115	120	115	120		-	118	120	
Return losses	dB	≥10		≥10		≥6	≥10		≥6	
Gain	dB	15	40	15	40	35 ÷ 43	-2	40	35 ÷ 43	
Level adjustment	dB	0 ÷ 20		0 ÷ 20			0 ÷ 20			
Equalisation	dB	-	0 ÷ 20	-	0 ÷ 20	7	-	0 ÷ 20	7	
TEST attenuation	dB	30								
Noise figure	dB	≤10	≤8	≤10	≤8	≤10	-	≤8	≤10	
Connectors		F (female)								
Consumption	W	6		7			8			
Packing dimensions	mm	166 x 274 x 62								
Weight	Kg	0.65								

DISTRIBUTION AMPLIFIERS

RF DISTRIBUTION AMPLIFIER

SAB Series

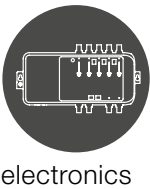
RF distribution amplifier (47 to 862 MHz).

APPLICATION

Designed as a distribution amplifier for medium size buildings.

FEATURES

- The circuit is housed in a single-part metal case.
- High linearity.
- DC pass for pre-amplifier powering.
- Switchable equalization 12dB.
- 10dB input switchable attenuation for high input levels.
- Test output for measurements.

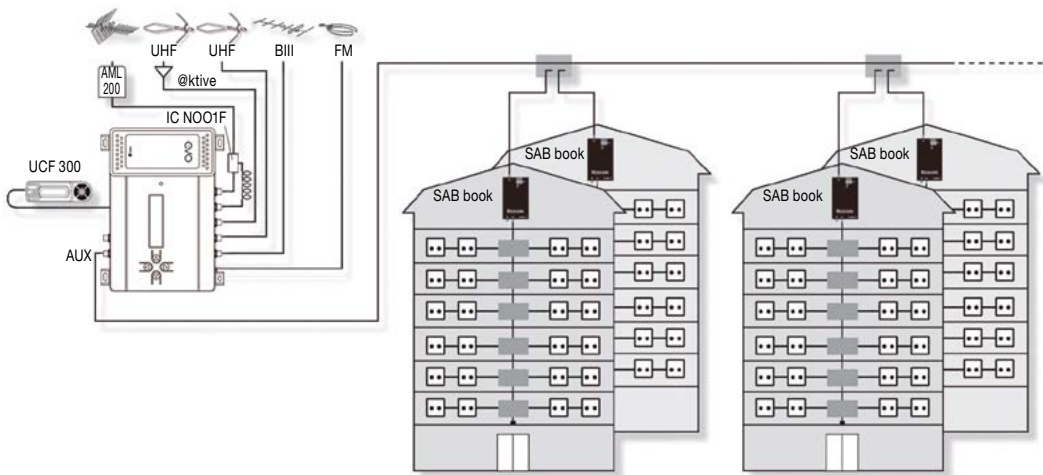


Supply voltage	Vac	185 - 265
Consumption	W	7 (70mA)
Operating temperature range	°C	- 0 ÷ 50

MODEL	SAB book*	SAB 101 D2**
Reference	35960	35971
Number of inputs	1	
Band width	MHz	47 ÷ 862
Gain	dB	37
Regulation	dB	20
Switchable attenuator	dB	10
Switchable equalization	dB	12 (47 MHz)
Noise figure (max. gain)	dB	5.5
Input level without attenuation	dBµV	40 ÷ 75 (50 ÷ 85)*
Output level DIN 45004 B (-60 dB)	dBµV	> 120
Return losses IN/OUT	dB	> 10
TEST output	dB	-30
DC pass 12V	12 V 100mA switchable	
Shielding	dB	class A
Packing dimensions	mm	290 x 156 x 47

 *BS plug model: SAB BOOK BS (Ref. 35961)
**Model CH 60: SAB 101 D(Ref. 35970)

Example
MicroMATV EVO + SAB book



INDOOR AMPLIFIERS

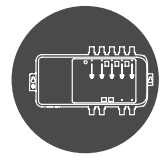
RF INDOOR AMPLIFIER

AD 620

Suitable for the distribution of TV/ M signals to one or more receivers away from the main socket.

FEATURES

- Two different models for 800 MHz and 700 MHz band LTE signals.
- Shielded RF circuit and VHF and UHF independent gain adjustment.
- Its small size minimizes visual impact
- 36440: AD 620 up to 790 MHz.
- 36441: AD 620 D2 up to 694 MHz.



electronics



Supply voltage	Vac	195-264 Vac 50/60 Hz
Consumption	W	1.5
Operating temperature range	°C	0 a 50

MODEL		AD 620		AD 620 D2	
Reference		36440		36441	
Multiplex number		1		1	
Number of outputs		2		2	
Band coverage	MHz	VHF 40-318	UHF 470-790	VHF 40-318	UHF 470-694
Gain	dB	15	22	15	22
Gain regulation	dB	15		15	
Max. output level (DIN 45004B)	dBμV	105 Min.		105 Min.	
Noise figure	dB	7	5	7	5
Impedance	Ω	75		75	
Input/output connectors		F (female)		F (female)	
Packing dimensions	mm	130 x 86 x 35			
Weight	Kg	0.20			

INDOOR AMPLIFIERS

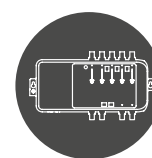
RF INDOOR AMPLIFIER

AD 640

Suitable for the distribution of TV/ FM signals to one or more receivers away from the main socket.

FEATURES

- Two different models for 800 MHz and 700 MHz band LTE signals.
- Shielded RF circuit and VHF and UHF independent gain adjustment.
- Its small size minimizes visual impact
- 36442: AD 640 D up to 790 MHz.
- 36443: AD 642 D2 up to 694 MHz.



electronics



Supply voltage	Vac	195-264 Vac 50/60 Hz
Consumption	W	1.5
Operating temperature range	°C	0 to 50

MODEL	AD 640 D	AD 640 D2
Reference	36442	36443
Multiplex number	1	1
Number of outputs	4	4
Frequency band	MHz	MHz
	47-790	47-694
Gain	dB	dB
	18	18
Gain regulation	dB	dB
	16	16
Max. output level (DIN 45004B)	dBμV	dBμV
	100	100
Noise figure	dB	dB
	4	4
Impedance	Ω	Ω
	75	75
Input/output connectors	F (female)	F (female)
Packing dimensions	mm	125 x 100 x 40
Weight	Kg	0.24

INDOOR AMPLIFIERS

RF+FI INDOOR AMPLIFIER

AD 2300

Self-powered broadband amplifier for indoor use.

APPLICATION

Suitable for individual digital terrestrial TV installations with several TV sets located away from the main socket.

FEATURES

- The circuit is housed in a zamak box that ensures a high level of shielding.
- Switching power supply, which reduces consumption and inner temperature and guarantees a long life product.
- Independent regulation.
- Allows DC pass between any output.
- AD 2300: it has two independent outputs, the second one attenuated 10 dB with respect to the first one.



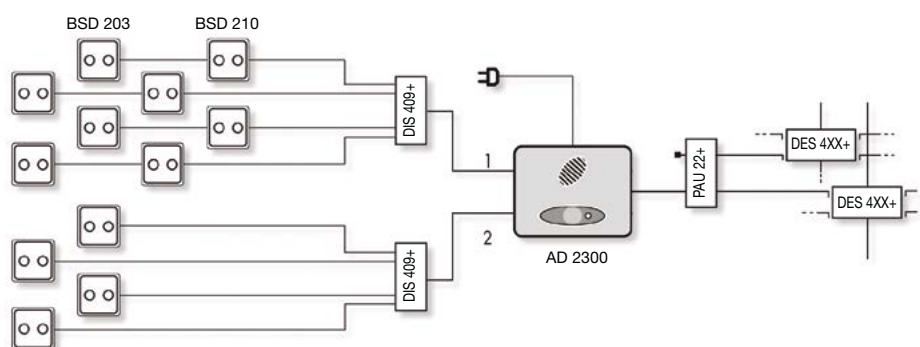
electronics

Supply voltage	V _{dc}	195 - 265
Power consumption	W	5.5 VA
Operating temperature range	°C	0 ÷ 50

MODEL	AD 2300			
Reference	36230			
Number of inputs	1			
Number of outputs	2			
Frequency band	MHz	RF 47 ÷ 862		SAT 950 ÷ 2150
Gain	dB	47 MHz	862 MHz	950 MHz
• Output 1		16	20	23
• Output 2		4	8	13
Max. output level DIN 4500 4B*	dBμV	108 (Output 1) 96 (Output 2)		114 (Output 1) 104 (Output 2)
Gain regulation		20		-
Impedance	Ω	75		
Return path through loss	dB	3,5 (Output 1)		
Input / output connectors		F(h)		
Max. current drawn	A	0.5		
Packing dimensions	mm	165 x 92 x 60		
Weight	Kg	0.4		

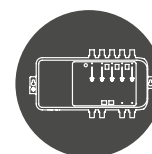
* 950 ÷ 2300 MHz: IM3 a -35 dB
47 ÷ 862 MHz: IM3 a - 60 dB

INDOOR AMPLIFICATION RF and 1st FI SAT



INDOOR AMPLIFIERS

DIGITAL MODULATOR HDMI COFDM



electronics

HTT 103

Digital modulator to distribute a modulated HDMI signal in COFDM, DVB-T...

APPLICATION

Distribution of HDMI signals from Satellite Receivers, Computers, Cameras or DVD and Blu-Ray Players in to COFDM signals.

FEATURES

- Fully compatible bitrate.
- Logical Channel Number LCN.
- Excellent modulation quality; MER $\geq$ 34dB.
- LCD display and local configuration.
- Metal housing with internal ventilation.

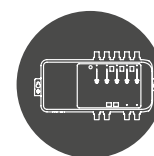


htt3
HDMI COFDM

MODEL		HTT 103
Reference		86541
VIDEO ENCODING		H.264
Inputs		HDMI x 1 + RF
Resolution		1920*1080_60p; 1920*1080_50p; 1920*1080_60i; 1920*1080_50i; 1280*720_60p, 1280*720_50p
AUDIO ENCODING		MPEG1 layer II
MODULATION STANDARD		EN300744
FFT modes		2K, 8K
Bandwidth	MHz	6, 7, 8
Constellation		64 QAM
Guard interval		1/32
FEC		7/8
MER	dB	>34dB
RF frequency	MHz	50 ÷ 860
RF output level	dBμV	70 ÷ 100, step 1dBμV
Programming		LCD + control buttons
Supply voltage		12V / 1.5A
Packing dimensions	mm	125 x 100 x 28
Weight	Kg	0.75

INDOOR MODULATORS

DIGITAL MODULATOR HDMI or A/V



electronics

HTT 113/114

Digital modulator that converts the HDMI or A/V signal into a DVB-T channel. It processes HDMI signals coming from satellite receivers, DVD computers or Blu Ray players into COFDM signals.

APPLICATION

Distribution of signals from equipment with HDMI output in digital TV signal distribution networks. Ideal for installations in bars, hotels, etc.

FEATURES

- Possibility of modulating an HDMI or A/V signal, resolution up to 1080p and 4K in the case of HTT 114.
- HDMI loop output same resolution as input.
- Antenna input for mixing with the modulated signal.
- Excellent MER modulation quality > 35 dB.
- Programming via display and built-in keyboards.

htt113

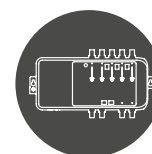


htt114

MODEL	HTT 113	HTT 114
Reference	86545	86546
VIDEO ENCODING	H.264	H.264
Inputs	HDMI x 1 + 1 CVBS + RF	HDMI x 1 + 1 CVBS + RF
Resolution	576i PAL / 480i NTSC / 1920*1080_60p; 1920*1080_50p; 1920*1080_60i; 1920*1080_50i; 1280*720_60p, 1280*720_50p	576i PAL / 480i NTSC / 1920*1080_60p; 1920*1080_50p; 1920*1080_60i; 1920*1080_50i; 1280*720_60p, 1280*720_50p / 4K
AUDIO ENCODING	MPEG1 layer II	
Audio input format	Stereo channel L/R	
Input audio	RCA	
MODULATION STANDARD	EN300744	
FFT modes	2K, 8K	
Channel width	MHz	6, 7, 8
Constellation	QPSK, 16 QAM, 64 QAM	
Guard interval	1/4, 1/8, 1/16, 1/32	
FEC	1/2, 2/3, 2/4, 5/6, 7/8	
MER	dB	>35dB
RF frequency	MHz	50 ÷ 860
RF output level	dBμV	70 ÷ 100, step 1dBμV
Supply voltage	12V / 1,5A	
Working temperature	0 ÷ +50°C	
Packing dimensions	mm	297 x 157 x 81
Weight	Kg	0.9

INDOOR MODULATORS

HDMI/DOWN SCALER DISTRIBUTOR



electronics

HHD 102 S

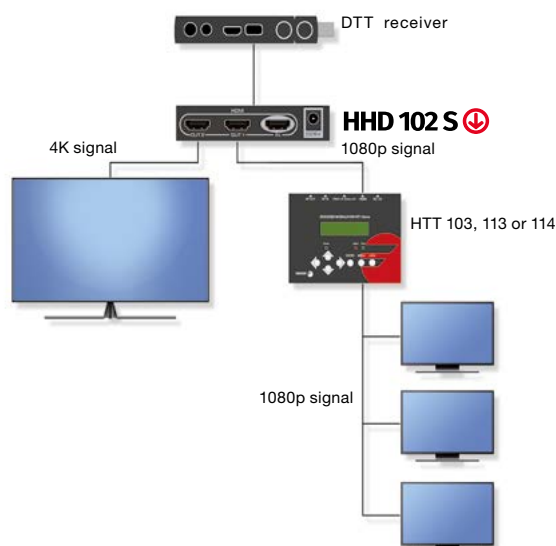
The HHD 102 S Converter/Distributor is a device that allows to distribute the signal at the HDMI input to two HDMI outputs. At the same time, it adapts the resolution of the HDMI signal at the output to the resolution of the equipment connected to it, lowering the resolution to the required format.

FEATURES

- One HDMI 2.0 input/ two HDMI 2.0 outputs.
- Supports resolutions up to 4K*2K@60Hz.
- HDR support.
- Downscales the input resolution (up to 4K@60Hz) to the format supported by output devices up to 480i.
- Can be powered at 5V through any USB input of a TV.
- A 220Vac to 5Vdc power supply is included.



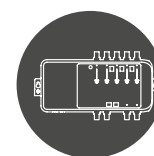
HHD 102 S



MODEL		HHD 102 S
Reference		
HDMI Resolution		4K@60Hz /4K@30Hz/3D/1080P/1080i/720p/576p/576i/480P/480i
Audio Format		DTS-HD/Dolby-trueHD/LPCM7.1/DTS/Dolby-AC3/DSD
Maximum bandwidth	MHz	600
Maximum baud rate	Gbps	18Gbps
TMDs input/output signal		0.5~1.5Volts p-p (TTL)
DDC input/output signal		5Volts p-p (TTL)
Input cable distance		≤10m(1080P)/5M(4K) AWG24 HDMI standard cable
Output cable distance		≤10m(1080P)/5M(4K) AWG24 HDMI standard cable
Maximum working current	mA	400
Mains adapter input		AC (50HZ, 60HZ) :100V-240V; Output: DC5V/1A
Operating temperature range		-0 to +40°C
Storage temperature range		-20 to +60°C
Operating humidity limits		5 to 85%HR (without condensation)
Storage humidity limits		5 to 85%HR (without condensation)
Packing dimensions	mm	95 x 53 x 22
Weight	Kg	0.138

INDOOR MODULATORS

SELF-POWERED AUDIO/VIDEO MODULATOR



electronics

MOD 500 N

Self-powered modulator which generates an RF channel with the Audio and Video information coming from a Video, DVD, IRD, video door entry system, security cameras, etc.

APPLICATION

This modulator enables the reception of a signal coming from a receiver with Audio and Video output, on a TV set without Audio and Video input. The antenna signal from an outlet socket can be combined with a newly generated channel and both are delivered at the output, thus enabling their coaxial cable distribution throughout the dwelling.

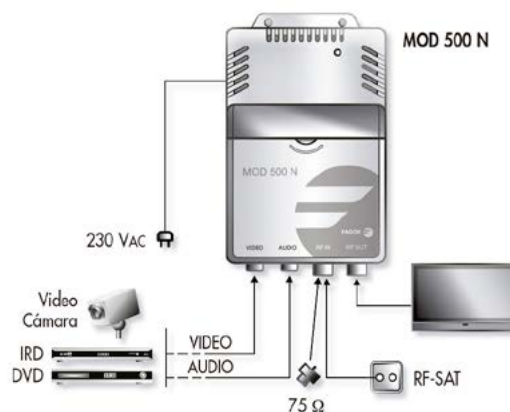
FEATURES

- Compact design, making it easy to install.
- The output channel is easily programmed by two buttons and an alphanumerical display.
- Audio volume can be adjusted to be equalised with the volume of other programmes.
- Incorporates a video-test bar generator making TV tuning easier.
- Multi-standard and multi-band, with one single model covering all standards and channels.
- A PLL circuit ensures high stability of the output channel.



Supply voltage	Vdc	198 - 250
Consumption	W	2.5 VA
Operating temperature range	°C	0 ÷ 50

Application example



MODEL		MOD 500 N	
Reference		86521	
Output frequency	MHz	47 ÷ 862	BI E2-4 BIII E5 ÷ E12 BS S11 ÷ S20 UHF 21 ÷ 69
Output level	dBμV	60 ÷ 75 (adjustable)	
Passage band	MHz	47 ÷ 2150	
Through losses	dB	47 ÷ 862 MHz : 2.5 862 ÷ 2150 MHz : 4	
Video input level	Vpp	1	
Audio input level	Vpp	0.15 ÷ 0.77	
Connectors		FR: F (f) VIDEO / AUDIO: RCA (f)	
Packing dimensions	mm	110 x 50 x 134	
Weight	Kg	0.3	

DTT RECEIVERS

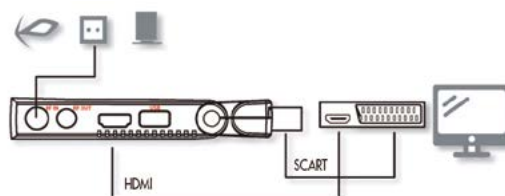
HIGH & STANDARD DEFINITION DTT RECEIVER

Tedi 5000 HD

DTT receiver for High Definition and standard definition broadcasts with a small size suitable for any type of TV. It has an HDMI output for connection to HDTV compatible televisions and an audio/video output (SCART). It also has a USB 2.0 port for recording or playback of photos, movies...

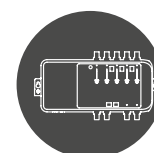
FEATURES

- DVB-T/T-2, MPEG-4, MPEG-2 standard.
- USB 2.0 port.
- HDMI 1.3b output.
- "Time Shift" via USB 2.0. with recording option.
- Media player: plays photos, music, videos.. (MP3, JPEG, BMP and OGC files).
- Screen-format 16:9/4:3.
- DVB EN300743 teletext and DVB ETS300472 teletext by VBI and OSD.
- Parental lock.
- Auto save function for last channel used.
- Low consumption.



MODEL	Tedi 5000 HD
Reference	86537
Power supply	90 ~ 250V; 50/60Hz
Standby	0.5 W MAX.
Current drawn (max.)	10 W
Input impedance	75 Ohm
Input connector	RF IEC female, 9.5mm
Input frequency	VHF:173.5MHz - 230MHz UHF:474MHz - 866MHz
Input level	64QAM:-78.5 ~ -8.75dBm /16QAM:-84 ~ -8.75dBm / QPSK:-90.3 ~ -8.75dBm
RF channel bandwidth	6, 7, 8 MHz
HDMI output	19 PIN female; HDMI 1.3b
Input connector	IR minijack 3.5mm
USB	USB 2.0
Constellation	QPSK, 16QAM, 64QAM
Video decode	MPEG2 ISO/IEC 13818-2 MP@ML, H.264 (MPEG4 part 10) 4.1/MPEG-2 MP@HL
Video resolution	480i, 480p, 576i, 576p, 720p, 1080i, 1080p
Audio decode	MPEG-1, MPEG-2 (Layer I/II), MP3, AC-3 (Dolby Digital), AAC-LC, WMA
Audio mode	Left/Right/Stereo/Mono
Operating temperature range	°C 0-40
Weight	Kg 0.90

MULTISWITCHES



electronics

MFC Series

SAT-IF cascadable multiswitches.

4, 8, 12 & 16 SAT inputs + 1 Terrestrial input.

APPLICATION

For the distribution of satellite TV signal up to 16 polarities. Each user receives both satellite and terrestrial signal by only one coaxial cable and any satellite polarisation can be selected from each user's receiver.

FEATURES

- Low cascading loss at high subscriber extensions.
- Cascade distribution of 4, 8, 12 and 16 satellite polarizations.
- Input for terrestrial signal, compatible with terrestrial digital broadcast (DVB-T).
- Control by voltage/tone from the user's receiver. Satellite selection through DiSEqC 2.0.-2.1.
- The high selectivity of the input filters guarantees the maximum quality of the signal.
- Terminal multiswitches and amplifiers: power supply included.
- LNB Quattro & LNB Quad compatible.



8 POLARITIES/ 48 SUBSCRIBERS



POWER SUPPLY WITH EUROPEAN PLUG

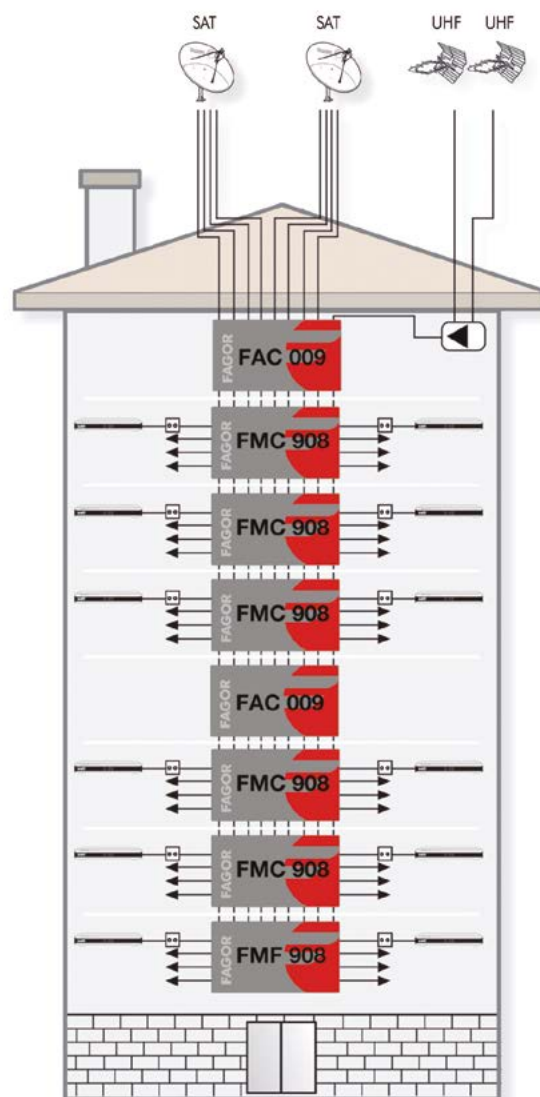
MODEL	SPS 1825	SPS 1825 
Reference	86430	86480
Output voltage	18 Vcc 2.5A	18 Vcc 2.5A
Input voltage	Vac	80-260

PROGRAMMING

The UCM 100 programming unit allows to modify the output configuration:

- Give priority to one of the polarities to work with receivers without DiSEqC commands.
- Blocking the signal of one, several or all polarities.

MODEL	UCM 100
Reference	86599
Connector	F (female)



MULTISWITCHES

CASCADABLE MULTISWITCHES 5 INPUTS SYSTEM

FMC Series

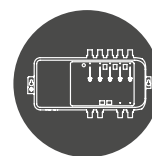
SAT-IF cascade **multiswitches** 4 SAT inputs +
1 Terrestrial input.

APPLICATION

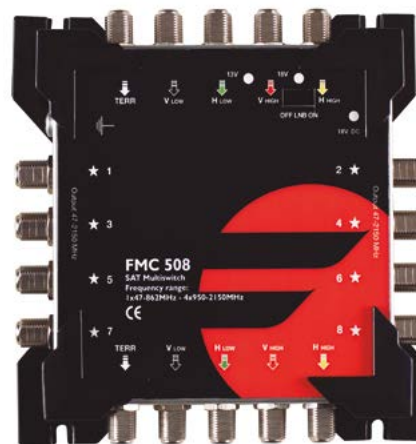
For the distribution of satellite TV signal up to 5 polarities.
Each user receives both satellite and terrestrial signal by
only one coaxial cable.

FEATURES

- FMC series, cascade models, FMF series final models.
- Input for terrestrial signal, compatible with terrestrial digital broadcast (DVB-T).
- Control by voltage/tone from the user's receiver. Satellite selection through DiSEqC 2.0.-2.1.
- FMF models include power supply SPS 1825.



electronics



MODELS WITH BS PLUG

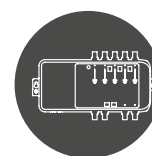


	FMF 508 BS	FMF 512 BS	FMF 516 BS	FMF 524 BS	FMF 532 BS
Reference	86484	86485	86486	86487	86488

MODEL			FMC 508	FMC 512	FMC 516	FMC 524	FMC 532	FMF 508	FMF 512	FMF 516	FMF 524	FMF 532	
Reference			86432	86433	86434	86445	86446	86460	86461	86462	86463	86464	
Inputs			4 SAT + 1 TERR										
Subscriber outputs			8	12	16	24	32	8	12	16	24	32	
Frequency range	TERR	dB	70÷862										
	SAT		950÷2150										
Tap gain / loss	TERR	dB	-2 ± 2	-2 ± 2	-3 ± 2	-7 ± 2	-8 ± 2	2 ± 2	2 ± 2	-0 ± 2	-2 ± 2	-3 ± 2	
	SAT		-2÷2 (±2)	-2÷2 (±2)	-2÷2 (±2)	-2÷2 (±2)	-2÷2 (±2)	-2÷2 (±2)	-2÷2 (±2)	-2÷2 (±2)	-2÷2 (±2)	-2÷2 (±2)	
Passage loss	TERR	dB	-4	-4	-4,5	-5	-6	-					
	SAT		-1,5	-2	-2,5	-3	-4						
Isolation	SAT-SAT		>40										
	SAT-TERR	dB	>35										
	OUT-OUT		>35										
Max. Output level (SAT-35dB IM3)	SAT	dBµV	102										
Satellite and polarity selection			13 Vdc / 18 Vdc - 0 / 22 KHz DiSEqC 2.0-2.1										
Max. current consumption (without LNB)		mA	180			300		180			300		
Supply voltage		Vac	-					195-265 Vac / 18Vdc / 2.5 A					
Operating temperature range			°C	-10 to 40									
Packing dimensions			mm	220 x 245 x 50			233 x 315 x 50	233 x 350 x 50	220 x 245 x 50			233 x 315 x 50	233 x 350 x 50
Weight		Kg	0.55	0.6	0.75	1.15	1.3	0.6	0.65	0.8	1.2	1.35	

MULTISWITCHES

CASCADABLE MULTISWITCHES 9 INPUTS SYSTEM



electronics

MFC Series

SAT-IF cascade **multiswitches** 8 SAT inputs +
1 Terrestrial input.

APPLICATION

For the distribution of satellite TV signal up to 9 polarities.
Each user receives both satellite and terrestrial signals by
only one coaxial cable.

FEATURES

- MFC series, cascade models, MFF series final models.
- Input for terrestrial signal, compatible with terrestrial digital broadcast (DVB-T).
- Control by voltage/tone from the user's receiver. Satellite selection through DiSEqC 2.0.-2.1.
- MFF models include power supply SPS 1825.



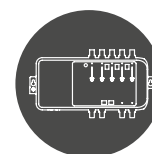
MODELS WITH BS PLUG

	FMF 908	FMF 912	FMF 916	FMF 924	FMF 932
Reference	86489	86490	86491	86492	86493

MODEL			MFC 908	MFC 912	MFC 916	MFC 924	MFC 932	MFF 908	MFF 912	MFF 916	MFF 924	MFF 932			
Reference			86723	86721	86719	86715	86713	86722	86720	86718	86714	86712			
Inputs			8 SAT + 1 TERR												
Subscriber outputs			8	12	16	24	32	8	12	16	24	32			
Frequency range	TERR SAT	MHz	47 - 862												
			950 - 2150												
Tap gain / loss	TERR SAT	dB	-20	-23	-24	-27	-28	-16	-19	-20	-23	-24			
			-2..2 (±2)	-2..2 (±2)	-2..2 (±2)	-2..2 (±2)	-2..2 (±2)	-2..2 (±2)	-2..2 (±2)	-2..2 (±2)	-2..2 (±2)	-2..2 (±2)			
Passage loss	TERR SAT	dB	-3	-3	-3,5	-4	-5	-							
			-1,5	-2	-2,5	-3	-4								
Isolation	SAT-SAT	dB	>34												
	SAT-TERR														
	OUT-OUT														
Max. Output level (Ter.-60 dBIM3, SAT -35dB IM3)	TERR	dBμV	90												
	SAT														
	102														
Satellite and polarity selection											DiSEqC 2.0-2.1 / 13Vdc / 18Vdc-				
Max. current consumption (without LNB)			mA			180		300		180		300			
Operating temperature range			°C			-10 to 40									
Packing dimensions			mm			236 x 315 x 50		235 x 630 x 50		235 x 315 x 50		235 x 630 x 50			
Weight			Kg			0.62	0.65	0.77	1.12	1.37	0.52	0.65	0.77	1.12	1.37

MULTISWITCHES

CASCADABLE MULTISWITCHES 13 INPUTS SYSTEM



electronics

MFC Series

SAT-IF cascade **multiswitches** 12 SAT inputs +
1 Terrestrial input.

APPLICATION

For the distribution of satellite TV signal up to 12 polarities.
Each user receives both satellite and terrestrial signals by
only one coaxial cable.

FEATURES

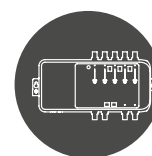
- MFC series, cascade models, MFF series final models.
- 12-polarity cascade distribution of 3 satellites.
- Input for terrestrial signal, compatible with terrestrial digital broadcast (DVB-T).
- Control by voltage/tone from the user's receiver. Satellite selection through DiSEqC 2.0.-2.1.
- MFF models include power supply SPS 1225.



MODEL		MFC 1308	MFC 1312	MFC 1316	MFC 1320	MFC 1324	MFC 1332	MFF 1308	MFF 1312	MFF 1316	MFF 1320	MFF 1324	MFF 1332
Reference		86735	86733	86731	86729	86727	86725	86734	86732	86730	86728	86726	86724
Inputs		12 SAT + 1 TERR											
Subscriber outputs		8	12	16	20	24	32	8	12	16	20	24	32
Frequency range	TERR	47÷862											
	SAT	950÷2150											
Tap gain / loss	TERR	-20	-23	-24	-26	-27	-28	-16	-19	-20	-22	-23	-24
	SAT	-2÷2 (±2)	-2÷2 (±2)	-2÷2 (±2)	-2÷2 (±2)	-2÷2 (±2)	-2÷2 (±2)	-2÷2 (±2)	-2÷2 (±2)	-2÷2 (±2)	-2÷2 (±2)	-2÷2 (±2)	-2÷2 (±2)
Passage loss	TERR	-3	-3	-3,5	-4	-4	-5	-					
	SAT	-1,5	-2	-2,5	-3	-3	-4						
Isolation	SAT-SAT	>34											
	SAT-TERR	>36											
	OUT-OUT	>34											
Max. Output level (SAT-35dB IM3)	SAT	90											
		102											
Satellite and polarity selection		13 Vdc / 18 Vdc - DiSEqC 2.0-2.1											
Max. current consumption (without LNB)		180			300			180			300		
Supply voltage		-						195-265 Vac / 12Vdc / 2500					
Operating temperature range		-10 to 40											
Packing dimensions		370 x 245 x 50			10 x 350 x 50			370 x 245 x 50			10 x 350 x 50		
Weight		0.8	1	1.1	1.30	1.5	1.7	1	1.2	1.3	1.5	1.7	1.9

MULTISWITCHES

CASCADABLE MULTISWITCHES 17 INPUTS SYSTEM



electronics

FMC Series

SAT-IF cascade **multiswitches** 16 SAT inputs +
1 Terrestrial input.

APPLICATION

For the distribution of satellite TV signal up to 16 polarities.
Each user receives both satellite and terrestrial signals by
only one coaxial cable.

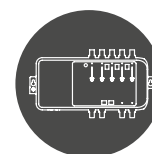
FEATURES

- MFC series, cascade models, MFF series final models.
- 15-polarity cascade distribution of 3 satellites.
- Input for terrestrial signal, compatible with terrestrial digital broadcast (DVB-T).
- Control by voltage/tone from the user's receiver. Satellite selection through DiSEqC 2.0.-2.1.
- MFF models include power supply SPS 1825.



Reference	86440	08275	35083	85016
Model	MFC-1712	STT-TWIN	SHA	LPU

MODEL		MFC 1708	MFC 1712	MFC 1716	MFC 1720	MFC 1724	MFC 1732	MFF 1708	MFF 1712	MFF 1716	MFF 1720	MMF 1724	MMF 1732										
Reference		86747	86745	86743	86741	86739	86737	86746	86744	86742	86740	86738	86736										
Inputs		16 SAT + 1 TERR																					
Subscriber outputs		8	12	16	20	24	32	8	12	16	20	24	32										
Frequency range	TERR SAT	dB	47÷862																				
			950÷2150																				
Tap gain / loss	TERR SAT	dB	-20 -2÷2 (±2)	-23 -2÷2 (±2)	-24 -2÷2 (±2)	-26 -2÷2 (±2)	-27 -2÷2 (±2)	-28 -2÷2 (±2)	-16 -2÷2 (±2)	-19 -2÷2 (±2)	-20 -2÷2 (±2)	-22 -2÷2 (±2)	-23 -2÷2 (±2)	-24 -2÷2 (±2)									
Passage loss	TERR SAT	dB	-3 -1,5	-3 -2	-3,5 -2,5	-4 -3	-4 -3	-5 -4	-														
Isolation	SAT-SAT	>34																					
	SAT-TERR														>36								
	OUT-OUT												>34										
Max. Output level (SAT-35dB IM3)	SAT	dBµV	90 102																				
Satellite and polarity selection			13 Vdc / 18 Vdc DiSEqC 2.0-2.1																				
Max. current consumption (without LNB)		mA	180			300			180			300											
Supply voltage		Vac	-						195-265 Vac / 12 Vdc / 2500														
Operating temperature range °C			-10 to 40																				
Weight		Kg	0.97	1.12	1.51	1.84	2.15	2.67	1.27	1.51	1.81	2.14	2.45	2.3									



electronics

MULTISWITCHES

CASCADABLE MULTISWITCHES AMPLIFIER SERIES

FAC Series

Amplifier up to 16 polarities + terrestrial input.

APPLICATION

Suitable as head amplifiers or distribution amplifiers in cascade multiswitch installations.

FEATURES

- 4, 8, 12 and 16 satellite polarities amplifier.
- High linearity with 4dB slope to compensate distribution losses.
- Passive terrestrial input.
- Includes SPS 1825 power supply.



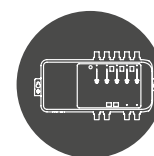
MODELS WITH BS PLUG

	FAC 005	FAC 009	FAC 013	FAC 017
Reference	86481	86482	86449	86483

MODEL			FAC 005	FAC 009	FAC 013	FAC 017
Reference			86442	86443	86630	86444
Inputs			4 SAT + 1 TERR	8 SAT + 1 TERR	12 SAT + 1 TERR	16 SAT + 1 TERR
Frequency band	TERR	dB	70÷790			
	SAT		950÷2150			
Gain	TERR	dB	-1± 2			
	SAT		22 ± 1 (4DB tilt)			
Regulation gain	TERR	dB	20			
	SAT		20			
Isolation	SAT-SAT	dB	>33	>33	>33	>33
	SAT-TERR		>50	>50	>50	>50
Max. output level (TERR. -60 dB IM3, SAT -35dB IM3)	SAT	dBμV	120			
	TERR		110			
Consummation (without LNB)		mA	50			
Supply voltage			18Vdc 2.5A			
Operating temperature range		°C	-10 to 40			
Packing dimensions		mm	220 x 250 x 50	235 x 315 x 50	230 x 310 x 50	250 x 500 x50
Weight		Kg	0.55	1.21	1.35	1.51

MULTISWITCHES

SPLITTERS AND TAP-OFFS SERIES



electronics

FSP/FTP Series

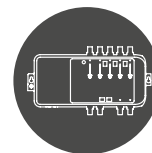
Splitters and tap-offs that allow to enlarge the size of the installation.



MODEL			SPLITTERS			TAP-OFFS					
			FSP 005	FSP 009	FSP 017	FTP 505	FTP 510	FTP 909	FTP 918	FTP 1717	FTP 1734
Reference			86451	86454	86457	86452	86453	86455	86456	86458	86459
Inputs			4 SAT + 1 TERR	8 SAT + 1 TERR	16 SAT + 1 TERR	4 SAT + 1 TERR		8 SAT + 1 TERR		16 SAT + 1 TERR	
Outputs			2x5 (4+1)	2x9 (8+1)	2x17 (16+1)	5 (4+1)	2x5 (4+1)	9 (8+1)	2x9 (8+1)	17 (16+1)	2x17 (16+1)
Bands	TERR	MHz	47÷862								
	SAT		950÷2150								
Derivation	TERR	dB				-12	-12	-12	-12	-12	-12
	SAT					-12	-12	-12	-12	-12	-12
Attenuation	TERR	dB	-4	-4	-4	-1,5	-2	-1,5	-2	-1,5	-2
	SAT		-4	-4	-4	-0,5	-1	-0,5	-1	-0,5	-1
Isolation	SAT-SAT	dB	>35			>35					
	SAT-TERR		>35			>35					
	OUT-OUT		>20			>30					
Operating temperature range		°C	-10 to 40								
Packing dimensions		mm	220 x 250 x 50	235 x 315 x 50	150 x 500 x 50	220 x 250 x 50		235 x 315 x 50		150 x 500 x 50	
Weight		Kg	0.25	0.4	0.6	0.25	0.28	0.4	0.4	0.6	0.6

MULTISWITCHES

PROGRAMMABLE MULTISWITCH UNICABLE II



electronics

FMU 402 Series

Unicable II compatible programmable multiswitch for distribution of terrestrial and satellite signal through a single cable up to 32 users.

APPLICATION

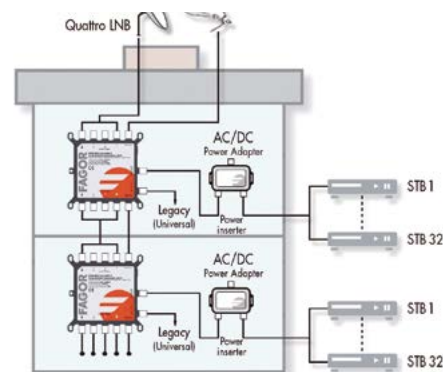
Distribution of satellite signals minimizing the installation cost and time. Small hotels, rural houses, etc.

FEATURES

- dCSS technology.
- 4 satellite polarity input plus terrestrial input.
- Unicable output + Legacy output.
- Pass-through outputs for cascade installation.
- Programmable output bands configuration.
- Unicable II (EN50607) and Unicable I (EN50494) compatible.
- Packing includes power supply and power inserter.



Example



MODEL			FMU 402
Reference			86550
Inputs			4 SAT (950-2150 MHz) + 1 TERR (47-862 MHz)
Loop-through losses (max)	SAT		3
	TERR	dB	3
Outputs			4 loop through satellite IF + 1 loop through terrestrial 1 Unicable output up to 32 users 1 legacy output (terr+sat)
Input level range		dBμV	59 ÷ 94
Output signal level		dBμV	83 dBμV (with CAG)
Band width		MHz	Configurable 10-80 (36MHz default)
Gain		dB	< 3
Frequency range			Configurable Unicable II (EN50607) / Unicable I (EN50494)
Isolation	SAT-SAT		> 28
	SAT-TERR	dB	
	SAT channel-channel		
Integrated phase noise			1,5° max
Legacy port switching			VL: 13V/0KHz; VH: 13V/22KHz HL: 18V/0KHz; HH: 18V/22KHz
LNB power supply			13/18V, max 300mA
Consumption			450mA @ 13Vdc (max)
Operating temperature range		°C	-20 ÷ +60
Packing dimensions		mm	120 x 125 x 75
Weight		Kg	0.5

CCF series

COAXIAL CABLE
CABLE COAXIAL
CABLE COAXIAL
KABLE KOAXIAL

www.fagorelectronica.com



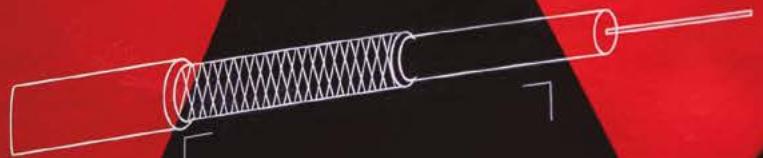
LOW
ATTENUATION

5G

100

FAGO
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Distribution

80

DISTRIBUTION COMPONENTS 1 GHz

81 - 84

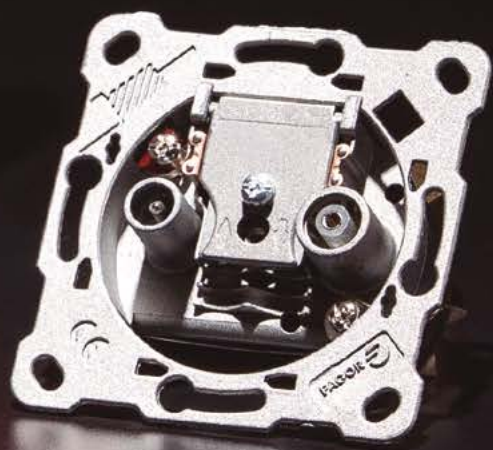
DISTRIBUTION COMPONENTS 2 GHz

85 - 89

OUTLET SOCKETS

90

COAXIAL CABLE



DISTRIBUTION COMPONENTS 1GHz

TAP-OFFS & SPLITTERS WITH "F" CONNECTOR



distribution

REP / DER 1GHz series

Tap-offs and splitters with "F" connector totally shielded.

APPLICATION

TV installation both individual or community.

FEATURES

- Tap-offs: 2 and 4 outputs.
- Splitters: 2, 4 and 6 outputs.
- DC pass: DC block



SPLITTERS

MODEL		REP 204 C	REP 306 C	REP 408 C	REP 612 C
Reference		85470	85471	85472	85474
Number of outputs		2	3	4	6
Covered band	MHz	5 ÷ 1000			
Tap loss	5 - 1000 MHz dB	-			
Through loss	5 - 47 MHz	3.6	7	7.1	9.5
	47 - 470 MHz dB	3.6	7	7.5	9.5
	470 - 862 MHz	3.8	7	8	10.5
	862 - 1000 MHz	4	7	8	11
Output isolation	5 - 47 MHz	20	22	20	18
	47 - 470 MHz dB	22	22	22	18
	470 - 862 MHz	22	22	22	18
	862 - 1000 MHz	22	22	22	18
Return losses	dB	20			
Shielding efficiency	dB	-110			
Packing dimensions (10 u.)	mm	115 x 105 x 57	115 x 105 x 57	160 x 105 x 57	205 x 125 x 67
Weight (10 u.)	Kg	0.50	0.50	0.60	1.10

TAP-OFFS

MODEL		DER 214 C	DER 217 C	DER 223 C	DER 226 C	DER 414 C	DER 417 C	DER 423 C	DER 426 C
Reference		85480	85481	85482	85483	85485	85486	85487	85488
Number of outputs		2				4			
Covered band MHz		5 ÷ 1000							
Tap loss	5 - 1000 MHz dB	14	17	23	26	14	17	23	26
Through loss	5 - 47 MHz	1.5	1.4	1.1	1.1	3.7	1.4	1.2	1.2
	47 - 470 MHz dB	2	1.5	1.2	1.2	3.8	1.5	1.2	1.2
	470 - 862 MHz	2	1.5	1.4	1.4	4	1.8	1.6	1.6
	862 - 1000 MHz	2.3	1.7	1.5	30	4.2	2	1.8	1.8
Output isolation	5 - 47 MHz	24	27	30	30	24	25	28	30
	47 - 470 MHz dB	24	27	30	30	24	25	28	30
	470 - 862 MHz	24	27	30	30	24	25	28	30
	862 - 1000 MHz	24	27	28	28	24	25	28	30
Return losses	dB	20							
Shielding efficiency	dB	-110							
Packing dimensions (10 u.)	mm	160 x 105 x 57				205 x 125 x 67			
Weight (10 u.)	Kg	0.60				0.70			

DISTRIBUTION COMPONENTS 2GHz

TAP-OFFS & SPLITTERS WITH "F" CONNECTOR



distribution

REP / DER 2GHz series

Tap-offs and splitters with "F" connector totally shielded.

APPLICATION

TV installations both individual or community.

FEATURES

- Tap-offs: 1. 2. 4. 6 and 8 outputs.
 - Splitters: 2. 3. 4. 6 and 8 outputs.
 - DC pass:
- REP: through the input/output (main)
DER: through all outputs. They allow cables to pass through the rear.



MODEL		SPLITTERS					TAP-OFFS								
		REP 204	REP 307	REP 409	REP 613	REP 815	DER 110	DER 115	DER 120	DER 125	DER 210	DER 215	DER 220	DER 225	
Reference		85261	85262	85263	85264	85265	85266	85267	85268	85269	85270	85271	85272	85273	
Number of outputs		2	3	4	6	8	1				2				
Covered band		MHz					5 ÷ 2300								
Tap loss		5 - 2300 MHz dB					-	-	-	-	-	-	-	-	
Through loss	5 - 47 MHz	4	6.5	7.5	10.5	11	2.2	1.3	1.1	1	3.5	2.5	1.5	1	
	47 - 862 MHz	4	7.5	8	11	12	2.2	1.5	1.1	1	3	2.2	1.5	1	
	950 - 2150 MHz	5.5	9	9.5	14.5	15.5	2.2	2.2	1.9	1.8	3.5	3	2.8	1.7	
	2150 - 2300 MHz	6	10	10.5	15	16	2.2	2.2	2.2	2.1	4	3	3	2.1	
Directional attenuation	5 - 47 MHz	-	-	-	-	-	25	25	27	30	20	25	30	35	
	47 - 862 MHz	-	-	-	-	-	24	24	25	27	23	22	25	35	
	950 - 2150 MHz	-	-	-	-	-	23	23	23	24	18	22	22	28	
	2150 - 2300 MHz	-	-	-	-	-	23	23	23	24	18	21	22	26	
Output isolation	5 - 47 MHz	20	20	21	22	24	-	-	-	-	40	45	60	22	
	47 - 862 MHz	21	21	21	22	22	-	-	-	-	30	35	45	22	
	950 - 2150 MHz	20	21	21	21	21	-	-	-	-	28	30	32	22	
	2150 - 2300 MHz	20	20	21	20	21	-	-	-	-	28	30	32	22	
Return losses		5 - 862 MHz					12								
		950 - 2150 MHz					10								
Min. screening factor		5 - 862 MHz					65								
		950 - 2150 MHz					55								
Packing dimensions (10 u.)		mm	115 x 105 x 57		160 x 105 x 57		205 x 125 x 67		118 x 108 x 61		115 x 105 x 57			160 x 105 x 57	
Weight (10 u.)		Kg	0.50		0.60		1.10		0.66		0.50			0.60	

MODEL		TAP-OFFS									
		DER 410	DER 415	DER 420	DER 425	DER 615	DER 620	DER 625	DER 815	DER 820	DER 825
Reference		85274	85275	85276	85277	85278	85279	85280	85281	85282	85283
Number of outputs		4				6			8		
Covered band MHz		5 ÷ 2300									
Through loss	5 - 2300 MHz dB	10	15	20	25	15	20	25	15	20	25
	5 - 47 MHz	4	2	1	1	3.5	1.5	0.5	3.5	1.5	1
	47 - 862 MHz dB	4	2.5	1	1	4	2	1.5	4	2	1
	950 - 2150 MHz	5	4	2	2	5	4.5	3.5	5	3.5	2
	2150 - 2300 MHz	5.5	4.5	3	2	5.5	5	5	5.5	3.7	2.5
Directional attenuation	5 - 47 MHz	25	30	38	45	25	30	30	25	30	30
	47 - 862 MHz dB	27	28	30	32	22	25	30	22	25	30
	950 - 2150 MHz	25	25	25	25	22	25	25	22	25	25
	2150 - 2300 MHz	25	25	25	25	21	24	24	20	24	24
	5 - 47 MHz dB	23	23	23	23	22	25	25	22	27	27
Output isolation	47 - 862 MHz	22	22	22	22	22	22	22	22	22	22
	950 - 2150 MHz dB	21	22	22	22	22	22	22	22	22	22
	2150 - 2300 MHz	21	21	21	21	16	16	16	16	16	22
	5 - 862 MHz dB	12									
	950 - 2150 MHz	10									
Min. screening factor	5 - 862 MHz dB	65									
	950 - 2150 MHz	55									
Packing dimensions (10 u.) mm		205 x 125 x 67				205 x 125 x 67					
Weight (10 u.) Kg		0.70				1.10					

DISTRIBUTION COMPONENTS 2GHz

SHIELDED TAP-OFFS AND SPLITTERS



distribution

DEF / DIF series

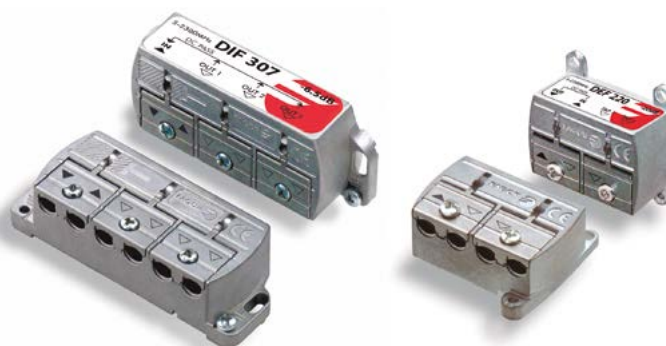
Shielded tap-offs and splitters with saddle & clamp.
Suitable for digital signal distribution in community installations.

APPLICATION

Analogue and Digital Terrestrial TV Installations, both individual or community.

FEATURES

- Maximum efficiency with minimum output level at headend.
- Same level between users in the same floor.
- Linear attenuation in the whole band.
- High signal levels can be used thanks to a special shielding design.
- Easy to set up.
- Valid for reduced space installations.



MODEL		PI-DES	PE-DES +	PI-DES/DIS+S
				
Reference		85013	85014	85016
Packing dimensions	mm	380 x 160 x 160	47 x 110 x 155	92 x 55 x 285
Weight	Kg	1.1	0.4	0.3

MODEL		SPLITTERS				TAP-OFFS				
		DIF 204	DIF 307	DIF 409	DIF 513	DEF 107	DEF 111	DEF 116	DEF 120	
Reference		85500	85501	85502	85503	85504	85505	85506	85507	
Number of outputs		2	3	4	5 3/2	1				
Covered band		MHz	5 ÷ 2300							
Insertion loss	5 - 47 MHz	dB	3.5	6.5	7.5	7.5 / 11	3.5	2	1.4	1.1
	47 - 550 MHz		3.5	6.5	7.5	7.5 / 11	2.5	1.7	1.4	1.1
	550 - 862 MHz		4	6.5	7.5	8 / 11.5	2.5	1.7	1.4	1.1
	950 - 1550 MHz		4.5	7.5	8.5	9 / 12.5	3	2	1.7	1.3
	1550 - 2150 MHz		5.5	8.5	9.5	10 / 13	3.5	2.3	2	1.5
	2150 - 2300 MHz		5.5	8.5	9.5	10.5 / 14	3.5	2.3	2	1.5
IN-TAP tap loss	5 - 47 MHz	dB					7	11	16	20
	47 - 550 MHz						7	11	16	20
	550 - 862 MHz						7	11	16	20
	950 - 1550 MHz						7	11	16	20
	1550 - 2150 MHz						7	11	16	20
	2150 - 2300 MHz						7	11	16	20
OUT-TAP isolation	47 - 950 MHz	dB					25	25	28	33
	950 - 2150 MHz						20	20	25	28
Output isolation	47 - 862 MHz	dB	24	24	24	24	-	-	-	-
	950 - 2150 MHz		22	22	22	22	-	-	-	-
IN return loss	47 - 862 MHz	dB	14	14	14	12	14	18	18	18
	950 - 2150 MHz		12	14	14	14	14	15	15	15
OUT return loss	47 - 862 MHz	dB	13	12	12	14	14	18	18	18
	950 - 2150 MHz		12	12	12	12	14	15	15	15
TAP return loss	47 - 862 MHz	dB					14	18	18	18
	950 - 2150 MHz						14	15	15	15
DC pass	IN - OUT		NO	NO	NO	NO	YES	YES	YES	YES
24 Vdc. 0. 5A. 22 KHz	OUT - IN		YES	YES	YES	YES	YES	YES	YES	YES
DC pass	IN - TAP						NO	NO	NO	NO
24 Vdc. 0. 5A. 22 KHz	TAP - IN						NO	NO	NO	NO
	TAP - TAP						-	-	-	-
Packing dimensions (10 u.)		mm	118 x 108 x 61		185 x 90 x 50		118 x 108 x 61			
Weight (10 u.)		Kg	0.66		0.85		0.66			

DISTRIBUTION COMPONENTS 2GHz

SHIELDED TAP-OFFS AND SPLITTERS



distribution

DEF / DIF series

Shielded tap-offs and splitters with saddle & clamp.
Suitable for digital signal distribution in community
installations.

APPLICATION

Analogue and Digital Terrestrial TV Installations, both individual
or community.

FEATURES

- Maximum efficiency with minimum output level at headend.
- Same level between users in the same floor.
- Linear attenuation in the whole band.
- High signal levels can be used thanks to a special
shielding design.
- Easy to set up.
- Valid for reduced space installations.



MODEL		TAP-OFFS							
		DEF 211	DEF 216	DEF 220	DEF 225	DEF 411	DEF 416	DEF 420	DEF 425
Reference		85505	85509	85510	85511	85512	85513	85514	85515
Number of outputs		2				4			
Covered band		MHz							
		5 ÷ 2300							
Insertion loss	5 - 47 MHz	2.5	1.2	0.7	0.5	4	1.8	0.9	0.6
	47 - 550 MHz	2.2	1.1	0.8	0.5	3.5	1.8	0.9	0.6
	550 - 862 MHz dB	2.4	1.1	0.8	0.6	4	1.9	0.9	0.7
	950 - 1550 MHz	2.9	1.5	1	1	4.2	2.8	1.4	1.1
	1550 - 2150 MHz	3.2	1.5	1.2	1.4	4.4	3.2	1.9	1.6
	2150 - 2300 MHz	3.7	2	1.5	1.8	4.5	3.5	2	1.7
IN-TAP tap loss	5 - 47 MHz	11	16	21	25	11	15.5	20	25
	47 - 550 MHz	11	16	21	25	11	16	20	25
	550 - 862 MHz	11	16	21	25	11	16	20	25
	950 - 1550 MHz	11	16	21	25	12	16	20	25
	1550 - 2150 MHz	11.5	16.5	21.5	25	13	16	20	25.5
	2150 - 2300 MHz	11.5	16.5	21.5	25.5	13	16.5	20.5	25.5
OUT-TAP isolation	47 - 950 MHz dB	23	24	25	25	23	25	25	25
	950 - 2150 MHz	20	21	25	25	23	25	25	25
Output isolation	47 - 862 MHz dB	21	22	22	25	21	21	22	21
	950 - 2150 MHz	21	22	22	25	21	21	22	23
IN return loss	47 - 862 MHz dB	17	20	20	22	15	16	20	22
	950 - 2150 MHz	20	20	25	17	18	18	18	19
OUT return loss	47 - 862 MHz dB	20	20	25	22	20	22	23	25
	950 - 2150 MHz	17	16	17	15	16	18	17	16
TAP return loss	47 - 862 MHz dB	12	13	17	16	18	19	21	20
	950 - 2150 MHz	12	12	12	12	16	16	16	16
DC pass	IN - OUT	YES							
24 Vdc. 0. 5A. 22 KHz	OUT - IN	YES							
DC pass	IN - TAP	NO							
24 Vdc. 0. 5A. 22 KHz	TAP - IN	NO							
	TAP - TAP	NO							
Packing dimensions (10 u.)	mm	118 x 108 x 61				185 x 90 x 50			
Weight (10 u.)	Kg	0.66				0.85			



distribution

DISTRIBUTION COMPONENTS 2GHz

SHIELDED DIPLEXERS

DXR + series

Shielded diplexers with saddle & clamp connection.

APPLICATION

Suitable for digital or analogue TV installations

- DXR 216 +: diplexer with 2 inputs / 1 output, suitable for splitting or combining RF / 1st IF SAT signals.
- DXR 2D +: distributes the RF signals, allowing to mix it with 1st IF SAT signals.

FEATURES

- High shielding zamak box.
- Low losses and excellent frequency response.
- Easy to install in small spaces.
- DXR 216 +: DiSEqC signal pass through from the output to the satellite input.



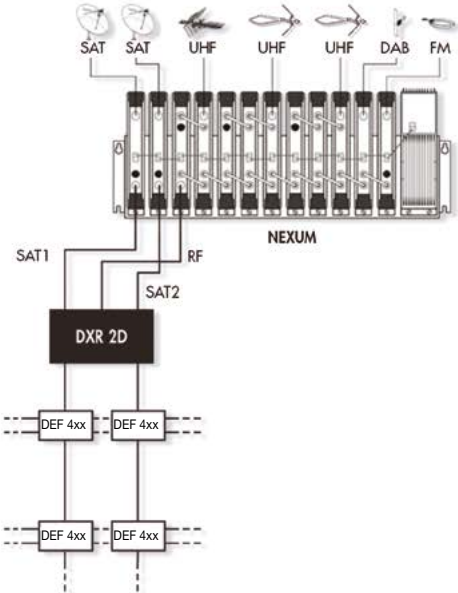
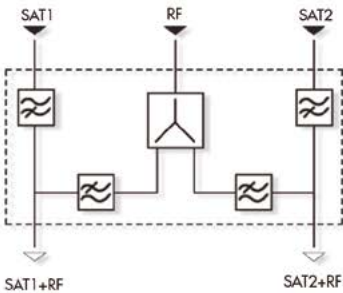
MODEL	DXR 216+		DXR 2D+	
Reference	86244		86243	
DC Pass 24 Vdc. 0 5A. 2 KHZ	SAT IN - OUT		-	
Covered band	RF	SAT	RF	SAT
Frequency range MHz	15 ÷ 862	950 ÷ 2300	15 ÷ 862	950 ÷ 2300
Number of inputs	1	1	1	2 (SAT 1 & SAT 2)
Number of outputs	1		2 (SAT 1 + RF & SAT 2 + RF)	
Through loss dB	1..7	2	5	1 (950-1200 MHz 2 dB)
Rejection SAT input to RF dB	33		25	
Rejection RF input to SAT dB	25		25	
Impedance Ω	75			
Return loss dB	10			
Packing dimensions mm	185 x 90 x 50			
Weight Kg	0.85			

Connections

Application example DXR 2D +



Internal diagram DXR 2D +



OUTLET SOCKETS

5 ÷ 1000 MHz



distribution

BRF Series

Outlet sockets with inductive devices for adequate filtering of the signals at the outputs, with minimum through losses.

APPLICATION

TV Installations, both individual or community up to 1000 MHz to be used as end socket or for cascading.

FEATURES

- The circuit has a metal (zamak) housing to achieve a high degree of shielding.
- It has a special shielding at the input and output connections, and it is designed for easy installation.
- Compatible with most of the electrical devices available.



Frequency (MHz)	5	68	87.5	106	118	1000
TV						
RADIO						

MODEL			BRF 01 S	BRF 11 S	BRF 01 N	BRF 05 N	BIF 09 N
Reference			86275	86274	86276	86277	85161
Technology			Inductive				
Band coverage		MHz	5 ÷ 1000	5 ÷ 1250	5 ÷ 1000		
Return path 5 - 68 MHz			Single*		End	25	15
Through losses	68 - 470 MHz dB	1					
	470 - 1000 MHz						
Return path 5 - 68 MHz			0.5		25	75	11
Derivation losses	TV	118 - 470 MHz dB			3	7	
		470 - 1000 MHz					
	R	87.5 - 108 MHz	6		6	125	18
TV - OUT dB			-		-	15	30
Directivity		R - OUT					
TV - OUTR			30				
40 - 470 MHz dB			75				
Shielding factor			65				
70 - 862 MHz							
Impedance Ω			75				
Return losses dB			9.5				
Output connectors (UNE 20-523-79)			IEC 9.5 (f)				
			IEC 9.5 (m)				
Packing dimensions (20 u.) mm			300 x 165 x 85				
Weight (20 u.) Kg			1.5				

* BRF 01 S model must be connected directly to tap-off or splitter.

TV - FM cover

MODEL		C BIF	C BIF B
Reference		85033	85034
Color		beige	white
Packing dimensions (20 u.)	mm	190 x 90 x 85	
Weight (20 u.)	Kg	0.5	

Supplement for surface mounting

MODEL		SS BT	SS BT B
Reference		85020	85031
Color		beige	white
Packing dimensions (15 u.)	mm	260 x 135 x 90	
Weight (15 u.)	Kg	0.5	

OUTLET SOCKETS

FOR DATA



distribution

BID N Series

Outlet sockets with inductive devices for adequate filtering of the signals at the outputs, with minimum through losses.

APPLICATION

TV Installations, both individual or community up to 1000 MHz to be used as end socket or for cascading.

FEATURES

- The circuit has a metal (zamak) housing to achieve a high degree of shielding.
- It has a special shielding at the input and output connections, and it is designed for easy installation.
- Compatible with most of the electrical devices available.



Frequency (MHz)	5	68	85	862
TV				
RADIO				

MODEL			BID 01 N		BID 10 N	
Reference			85167		85168	
Technology			Inductive			
Band coverage		MHz	5 ÷ 862			
Through losses		dB	End		4	
TV	87.5 ÷ 90 MHz		6		9	
	90 ÷ 862 MHz		5		8	
Derivation losses	DATA	5 ÷ 65 MHz	1		3.5	
		87.5 ÷ 862 MHz	5		10	
Directivity		TV - OUT	15			
		R - OUT	25			

OUTLET SOCKETS

5 ÷ 2300 MHz



distribution

BSF 200 Series

Outlet sockets with inductive devices for adequate filtering of the signals at the outputs, with minimum through losses.

APPLICATION

TV Installations up to 2300MHz, both individual or community to be used as end socket or for cascading.

FEATURES

- The circuit has a metal (zamak) housing to achieve a high degree of shielding.
- It has a special shielding at the input and output connections, and it is designed for easy installation.
- The outlet's directivity guarantees enough isolation between floors.



Frequency (MHz)	5	862	950	2300
TV				
SAT				

MODEL		BSF 201 S	BSF 201 S DC	BSF 203 N	BSF 203 DC	BSF 210 N	BSF 210 DC	BSF 215 N	BSF 220 N
Reference		86250	86253	86255	86254	86257	86256	86259	86258
Number of outputs		2							
Band coverage MHz		5 ÷ 2300							
DC pass	IN-OUT 300 mA max	-	SI	-	SI	-	SI	-	
	SAT 300 mA max	-	SI	-	SI	-	SI	-	
Through losses	5 - 30 MHz	Single*		End		3.0		3.0	
	47 - 862 MHz					2.5	2.0	3.0	1.8
	950 - 2150 MHz								
	2150 - 2300 MHz								
Derivation losses	5 - 30 MHz	0.5		2.0		10		15	16
	47 - 862 MHz	1		3.0		11.5		15	20
	950 - 2150 MHz	1		3.0		12		16	20
	2150 - 2300 MHz	1		3.0		12.5		16	22
Directivity	5 - 30 MHz	-		-		15		23	25
	47 - 862 MHz	-		-		22		23	25
	950 - 2150 MHz	-		-		18		20	25
	2150 - 2300 MHz	-		-		20		20	23
Isolation	5 - 30 MHz	30		30		30		25	35
	47 - 862 MHz	15		15		25		25	30
	950 - 2150 MHz	15		15		15		15	25
	2150 - 2300 MHz	18		18		25		20	30
Return losses	5 - 862 MHz	10							
	950 - 2300 MHz	6							
Shielding factor	VHF 30 - 300 MHz	75							
	UHF 300 - 862 MHz	65							
	SAT 950 - 2300 MHz	55							
Output connectors		TV	IEC 9.5 (m)						
(UNE 20-523-79)		SAT	IEC 9.5 (h)						
Packing dimensions (20 u.)		mm	300 x 165 x 85						
Weight (20 u.)		Kg	2						

* BSD 201 S and BSD 201 S DC models must be connected directly to tap-off or splitter.

TV - SAT cover

MODEL		C BSD	C BSD B
Reference		86230	86231
Color		beige	white
Packing dimensions (20 u.)	mm	190 x 90 x 85	
Weight (20 u.)	Kg	0.5	

Supplement for surface mounting

MODEL		SS BT	SS BT B
Reference		85020	85031
Color		beige	white
Packing dimensions (15 u.)	mm	260 x 135 x 90	
Weight (15 u.)	Kg	0.5	



distribution

OUTLET SOCKETS

5 ÷ 2300 MHz

BSF 400 Series

2GHz outlet sockets for cascading.

APPLICATION

Suitable for renovation in inhabited housing. Assembly in series or cascade, with the bases connected to each other. Select the model according to its attenuation and the level required in the installation.

FEATURES

- Current pass-through IN-OUT and SAT output (IEC female).
- Output 5 2300 MHz on IEC male and female connectors.
- Easy installation.
- High shielding factor.



Frequency (MHz)	5	862	950	2300
TV				
SAT				

MODEL		BSF 403 DC	BSF 411 DC	BSD 416 DC	BSD 425 DC
Reference		86265	86266	86225	86227
Number of outputs		2			
Band coverage MHz		5 ÷ 2300			
DC pass	IN-OUT 300 mA max	-	yes		
	SAT 300 mA max	yes			
Through losses	5 - 30 MHz	dB	3.0	1.4	0.9
	47 - 862 MHz		2.5	1.2	0.9
	950 - 2150 MHz		3.0	2.2	2.0
	2150 - 2300 MHz		3.5	2.5	2.2
Derivation losses	5 - 30 MHz	4.5	11	16.5	25
	47 - 862 MHz	3.5			
	950 - 2150 MHz	5.5			
	2150 - 2300 MHz	6			
Directivity	5 - 30 MHz	dB	20	23	30
	47 - 862 MHz		23	23	30
	950 - 2150 MHz		18	20	20
	2150 - 2300 MHz		16	17	20
Isolations	5 - 30 MHz	5	17	17	20
	47 - 862 MHz	10	20	20	25
	950 - 2150 MHz	12	18	18	20
	2150 - 2300 MHz	12	18	18	20
Return losses	5 - 862 MHz	dB	10		14
	950 - 2300 MHz		10		
Shielding factor	VHF 30 - 300 MHz	dB	75		
	UHF 300 - 862 MHz		65		
	SAT 950 - 2300 MHz		55		
Output connectors (UNE 20-523-79)		TV SAT	IEC 9.5 (m)		
			IEC 9.5 (f)		
Packing dimensions (20 u.)		mm	300 x 105 x 85		
Weight (20 u.)		Kg	2		

TV - SAT cover

MODEL		C BSD	C BSD B
Reference		86230	86231
Color		beige	white
Packing dimensions (20 u.)	mm	190 x 90 x 85	
Weight (20 u.)	Kg	0.5	

Supplement for surface mounting

MODEL		SS BT	SS BT B
Reference		85020	85031
Color		beige	white
Packing dimensions (15 u.)	mm	260 x 135 x 90	
Weight (15 u.)	Kg	0.5	

OUTLET SOCKETS

5 ÷ 2300 MHz



distribution

BSD 300 SB Series

Outlet sockets with 3 outputs TV. Radio and SAT.

APPLICATION

Suitable for Digital TV, up to 2300 MHz in individual and community installations.

FEATURES

- The circuit has a metal (zamak) housing to achieve a high degree of shielding.
- It has a special shielding at the input and output connections, and it is designed for easy installation.
- The outlet's directivity guarantees enough isolation between floors.
- Compatible with most of the electrical devices available.



Frequency (MHz)	5	68	88	108	125	862	950	2300
TV								
RADIO								
SAT								

MODEL			BSD 301 SB (End)	BSD 310 SB (Cascade)
Reference			86236	86237
Number of outputs			3 (TV / FM / SAT)	
Banda coverage		MHz	5 ÷ 2300	
DC pass			SAT-IN	SAT-IN / OUT-IN
Through losses		5 - 2300 MHz dB	-	5
Derivation losses	TV	5 - 68 MHz	1	10
		125 - 862 MHz	1.5	
	FM	88- 108 MHz	1	
	SAT	950 - 2300 MHz	2	
Isolation	FM-TV	5 - 68 MHz	20	
		88 - 108 MHz		
		125 - 862 MHz		
	FM-SAT	88 - 108 MHz		
	TV-SAT	5 - 860 MHz		
		950 - 2300 MHz		
Output connectors		TV	IEC 9.5 (m)	
		FM	IEC 9.5 (f)	
		SAT	F (f)	
Packing dimensions (20 u.)		mm	300 x 165 x 85	
Weight (20 u.)		Kg	2	

COAXIAL CABLES

CCF Series



distribution

Low loss cables, manufactured with polyethylene dielectric with physical expansion to guarantee the maintenance of the characteristics over time with very slow deterioration.

APPLICATION

- CCF 021 CCA Dca: optimized for dispersion networks.
- CCF 019 CCA Dca and CCF 019 CCA Dca N: optimized for intra dwelling distribution.
- CCF 019 CCA Eca and CCF 019 CCA Eca N: especially suitable for home refurbishments
- CCF 020 A Eca: cable specially designed for DIGITAL SATELLITE CHANNEL installations.
- CCF 018-T A Eca: cable with high insulation against electrical noise, valid for environments such as industry.
- CCF SAT Eca: specially designed for use in 1st IF distributions.
- CCF TRA: valid for trunk installations.

FEATURES

- When distributing with cable exposed to sunlight, coaxial cable with black PE cover should be used.



MODEL			CCF 021 CCA Dca	CCF 019 CCA Dca N	CCF 019 CCA Dca	CCF 019 CCA Eca	CCF 020 A Eca	CCF 018-T A Eca	CCF 019 CCA Eca N	CCF 020 A Eca N	CCF SAT Eca	CCF 020 A Eca	CCF TRA Fca
Reference			84172	84173	84174	84125	84128	84132	84134	84138	84164	84175	84111
Coil length m			100					500	250	100		500	250
Coil support			Cardboard					Wood	Cardboard			Wood	
Coils per pack			5					1		5		1	
CPR class			Dca. s2-d2-a2			Eca							Fca
Class			Class B	Class A			Class B	Class A+	Class A	Class B	Class A	Class B	Class A
Internal conductor	Material		Cu			CCS	Cu		CCS	Cu	CCS	Cu	
	Diameter mm	1.02	1.13			1.02		1.13	1.02	1.13	1.02	1.63	
	Resistance Ω/Km	22	19			80	22	19	80	19	80	19	
Dielectric	Material		PEE										
	Diameter mm	4.7	4.8			4.7		4.8	4.7	4.8	4.7	7.2	
Shielding sheet	Material		Cu Al	Cu/P			Al/P/Al		Cu/P	Al/P/Al	Cu/P	Al/P/Al	
External conductor	Material		CCA			Al		CCA	Al	Cu	Al	CuSn	
	Resistance Ω/Km	35	30			60	22	30	60	21	60	8	
External cover	Material		PVC white	PVC black	PVC white			PE black		PVC white		PE black	
	Diameter mm	6.7	6.8			6.6	6.7	6.8	6.9	6.8	6.6	10.1	
	Min. curvature radius	mm	40			46	40		46	40	46	80	
Attenuation dB/100 m	5 MHz		4.5			4.8	4.5	4.8		3	4.8	3.1	
	100 MHz	5.8	6			6.6	5.8	6.7	6.6	6	6.6	4.4	
	200 MHz	8.2	8.1			8.6	8.2	8.3	8.6	8.1	8.6	5.92	
	300 MHz	10.2	10			10.2				10	10.2	7.2	
	470 MHz	13.2	12.6			12.7	13.2	12.8	12.7	12.6	12.7	9.6	
	600 MHz	14.8	14.3			15.1	14.8	15	15.1	14.3	15.1	10.3	
	860 MHz	18.2	17.4			19.5	18.2	17	19.5	17.4	19.5	12.8	
	1000 MHz	20.3	19.2			20.4	20.3	17.9	20.4	19.2	20.4	13.6	
	1350 MHz	24.1	21			24.1		20	24.1	21	24.1	16.2	
	1500 MHz	24.5	23			24.5		22.4	24.5	23	24.5	17.1	
	1750 MHz	26.7	25.4			26.7		24.5	26.7	25.4	26.7	18.5	
	2050 MHz	28.6	28.2			29.3	28.6	26.4	29.3	28.2	29.3	20	
	2150 MHz	30.4	29.1			30.7	30.4	28.6	30.7	29.1	30.7	21	
Shielding attenuation	5-1000 MHz	> 65	> 75			> 65	> 75		> 65	> 80	> 65	> 90	
	1000-3000 MHz	> 55	> 65			> 55	> 65		> 55	> 75	> 55	> 85	
Impedance Ω		75											
Packing dimensions mm		270x270x660					330x330x330	360x360x180	270x270x660		330x330x330	360x360x330	
Weight Kg		4.5/22.5	5/25			3.8/19	20	9.8	3.8/19	5/25	20	22	





Optical fiber

94 - 100

OPTICAL FIBER

101 - 105

RF OVER OPTICAL FIBER

106 - 110

GPON & RF OVERLAY

OPTICAL FIBER



optical fiber

DISTRIBUTION PATCH PANEL

RPR Series

Optical Fiber distribution patch panel and cabinet used as interconnection point between the optical cables of distribution networks of the operators and the distribution network of the building. Prepared to install adapters the panels come with splices trays to load the pigtails and splice sleeves. In addition, it provides robust fiber management and protection for FTTX network construction.



APPLICATION

- Widely used in FTTH access network
- Telecommunication networks
- CATV networks
- Data communications networks
- Local area networks

FEATURES

RPR024:

- 19 inch standard 1U size, light weight and robust structure.
- Pull-out design for easy fiber and splice access.
- Includes SC/APC adapters and splices trays for 24 ports.



RPP 048:

- Multi-operator cabinet with six trays and capacity for 48 fibers.
- Allow the connection between multiple operators and clients
- Separated compartments by a distribution panel of up to 48 optical fibers that allows the installation of the cables by means of fusion or direct connection.

MODEL	RPR 024	RPP 048
Reference	42411	42412
Inputs	4 port max. Ø21mm. 20 port max. 4mm	4+2 port max. Ø18mm
Outputs	24 ports SC/APC	48 ports SC
N° SC adapters	24 SC/APC adapters included	48 (not included)
N° Splices/tray	2*12	6*8
Splitter PLC	No	(1:2) (1:4) (1:8) (1:16) (not included)
IP protection	IP30	
Mounting type	Rack 19" 1U pull-out design	Wall mounting
Material	Cold steel of 1.2mm	PC+ABS RAL 7035
Dimensions	mm 435*242*45	450*150*180
Gross Weight	Kg	3.2

OPTICAL FIBER

TERMINAL BOX

RSP Series

Fiber termination boxes where drop cables are connected to the riser trunk cable in FTTx fiber optic network systems. Supports fiber splicing, connection via SC/APC connectors, installation of a splitter, distribution, storage and connection of cables in a single unit.

In addition, it provides robust fiber protection and management in buildings with FTTx networks.

APPLICATION

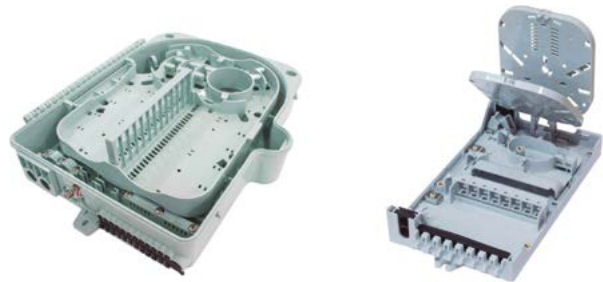
- Widely used in FTTH access network
- Telecommunication networks
- CATV networks
- Data communications networks
- Local area networks

FEATURES

- Waterproof design with high level of protection.
- Integrated with splice tray and cable management bars.
- Manages fibers in a reasonable fiber radius condition.
- Easy to maintain and expand capacity.
- Fiber bend radius control over 40 mm.
- Optionally allows the installation of a splitter.



optical fiber



MODEL	RSP 008	RSP 012	RSP 024
Reference	42401	42402	42403
Inputs	2 port max. Ø10mm	2 port max. Ø17mm	
Outputs	8 ports max. Ø5mm	12 ports max. Ø4mm	24 ports max. Ø4mm
N° SC adapters	8 (not included)	15 (not included)	24 (not included)
N° Splices/tray	2 x 8	1 x 20	1 x 46
Splitter PLC	(1:2) (1:4) (1:8) (not included)		(1:2) (1:4) (1:8) (1:16) (not included)
IP protection	IP65	IP66	
Mounting type	wall		
Material	PC+ABS	PC+ABS Anti-UV	
Dimensions	mm	235 x 126 x 52	233 x 214 x 71
Gross Weight	Kg	0.45	0.87
			333 x 280 x 100
			1.45

OPTIC FIBER

TERMINAL KIT

PAU Series

Kit consisting of a fiber optic terminal box (User Access Point) with 2 outlets ports and a 2-fiber drop cable connectorized at one end (connected inside the terminal box).

APPLICATION

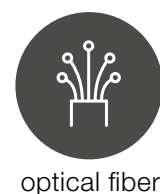
- Widely used in FTTH access network.
- Telecommunications networks.
- CATV networks.
- Data communications networks.
- Local area networks.

FEATURES

- 2 female SC/APC type adapters with self-closing cap included.
- Euroclass Dca -s2.d1. a1 cable.
- Wall or socket fixing by means of 2 screws and 2 plugs (included).
- Supplied in dispenser box.
- Available in various lengths.



MODELO		PAU PT 015	PAU PT 025	PAU PT 040	PAU PT 055
Reference		42422	42424	42427	42430
Inputs		ABS white color 2 ports. IP52. 100x80x23 mm			
Outputs		9/125. Single mode ITU-T G.657A2			
Fiber type		9/125. Single mode ITU-T G.657A2			
Fiber color		Red-green			
Reaction to fire	CPR	Dca s2.a1.d1			
Max. Attenuation	dB	0.4 (1310) / 0.3 (1550)			
Tensile strength	N	450			
Bending radius	mm	5 x cable diameter			
Diameter of cover	mm	4			
Packaging		Dispenser box 25x25x6cm			
Working temperature	°C	-20 to 60			
Length	m	15	25	40	55



OPTICAL FIBER

OPTICAL FIBER CABLE

CFO Series

Fiber Optic Cable composed of 2 fibers and LSFH sheath for indoor installation. Each fiber has its individual coating and is identified with a different color, allowing a better organization and facilitating the identification of each fiber, with a Euroclass CPR class D classification in terms of reaction to fire, thanks to its LSFH jacket.

APPLICATION

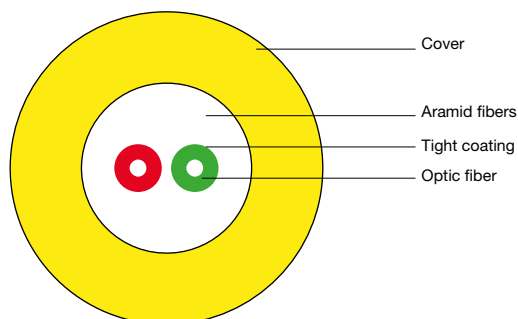
Optical fiber cable for indoor use.

FEATURES

- Low attenuation.
- Includes aramid fibers (kevlar) to reinforce its structure.
- DCA Euroclass.
- Fiber type 9/125. ITU-T G.657A2.
- Diameter of the fiber tight coating: 900µm.
- Supplied in boxes of 500 m.



CABLE SECTION DETAIL



MODEL			CFO ID 002 Dca
Article number			42501
Cable Type			2-Fiber Indoor Optical Drop Cable
Fiber type			9/125. ITU-T G657A2
Max. attenuation			0.40 (1310 nm) / 0.30 (1550 nm)
Fiber cladding	Material		PVC
	Diameter	mm	0.90 ± 0.05
Jacket	Material		LSFH (Low Smoke Free Halogen) and flame retardant
	Diameter	mm	4.0 ± 0.2
Reaction to fire			Dca-s2.d1.a1
Min. bending radius			5 x diameter
Traction resistance			450
Working temperature			-20 to 60
Supply			500 m
Cover color			PANTONE 115 C
Weight (kg/cardboard)			7.5
Dimensions (mm cardboard)			320 x 290 x 320



optical fiber

OPTICAL FIBER

OPTICAL FIBER CABLE

CFO Series

Fiber Optic Cable composed of 2 fibers and LSFH sheath for indoor installation. Each fiber has its individual coating and is identified with a different color, allowing a better organization and facilitating the identification of each fiber, with a Euroclass CPR class D classification in terms of reaction to fire, thanks to its LSFH jacket.

APPLICATION

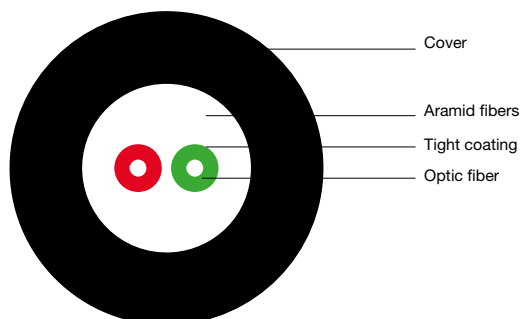
Optical fiber cable for outdoor use.

FEATURES

- Low attenuation.
- Includes aramid fibers (kevlar) to reinforce its structure.
- DCA Euroclass.
- Fiber type 9/125. ITU-T G.657A2.
- Diameter of the fiber tight coating: 900µm.
- Supplied in boxes of 500 m.



CABLE SECTION DETAIL



MODEL			CFO ED 002 Dca
Article number			42502
Cable Type			2-Fiber Indoor Optical Drop Cable
Fiber type			9/125. ITU-T G657A2
Max. attenuation			0.40 (1310 nm) / 0.30 (1550 nm)
Fiber cladding	Material		LSZH
	Diameter	mm	0.90 ± 0.05
Jacket	Material		LSFH (Low Smoke Free Halogen) and flame retardant
	Diameter	mm	4.0 ± 0.2
Reaction to fire			Dca-s2.d1.a1
Min. bending radius			5 x diameter
Traction resistance			450
Working temperature			-20 to 60
Supply			500
Cover color			black
Weight (kg/cardboard)			7.5
Dimensions (mm cardboard)			320 x 290 x 320

OPTICAL FIBER

MULTIFIBER CABLE

CFO Series

Optical fibre cable and LSFH sheath for indoor installation. Each fiber has its individual coating and is identified with a different color, allowing a better organization and facilitating the identification of each fiber. At the reaction to fire level. it has a Euroclass CPR class D classification, thanks to its LSFH jacket.

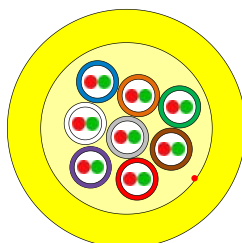
APPLICATION

Optical fiber cable for indoor connection.

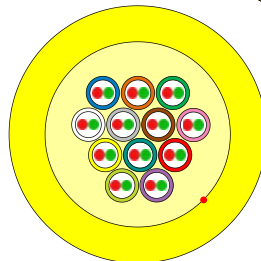
FEATURES

- Low attenuation.
- Includes aramid fibers (kevlar) to reinforce its structure.
- Euroclass Dca.
- Fiber type 9/125. ITU-T G.657A2.

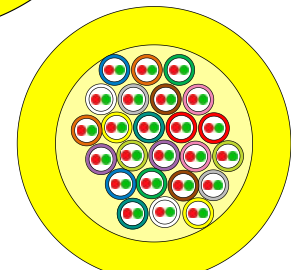
CABLE SECTION DETAIL



16 fibers



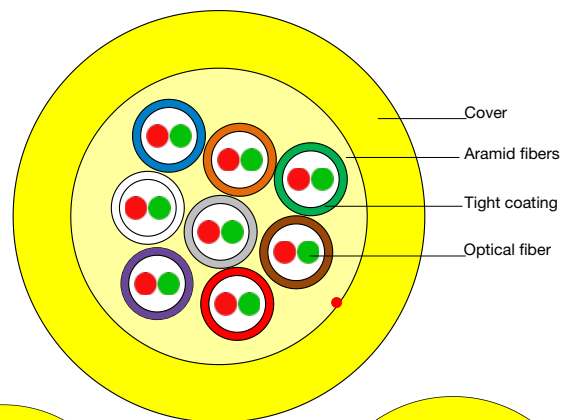
24 fibers



48 fibers



optical fiber



MODELO			CFO ID 016 Dca	CFO ID 024 Dca	CFO ID 048 Dca
Reference			42503	42504	42505
Cable type			Optica cable for indoor		
No. of fibers			16	24	48
Fiber type			9/125. ITU-T G.657A2		
Max. attenuation	1310 nm	dB/km	≤ 0.4		
	1550 nm		≤ 0.3		
Micromodule coating	Material	LSZH			
	Diameter	mm	0.90 ± 0.05		
Cover	Material	LSZH (Low Smoke Zero Halogen) &UV flame retardant			
	Diameter	mm	7.2 ± 0.3	8.4 ± 0.3	6.2 ± 0.3
Reaction to fire		CPR	Dca-s1.d0.a1		
Min. bending radius			10 x diameter		
Traction resistance		N	1000		
Working temperature		°C	-20 to 60		
Supply		m	1000	700	500
Cover color			PANTONE 115 C		
Weight		Kg	42	29.4	26.6
Dimensions		mm	520 x 350 x 520		

OPTICAL FIBER



optical fiber

PATCH CORDS

LFO Series

1 fiber DCa patch cords preconnectorized SC/APC at both ends. Available in various lengths. Diameter 3mm.



MODEL	LFO ID A 110	LFO ID A 115	LFO ID A 125	LFO ID A 140
Reference	42441	42442	42444	42447
Lengthm	10	25	25	40

ADAPTER CKF SA 001

Keystone adapter for SC/APC connector.



MODEL		CKF SA 001
Reference		42088
Units per packing	m	10

ADAPTER ACP 01N

Adapter for SC/APC connector.



MODEL		ACP 01N
Reference		42232
Units per packing	m	50

PIGTAIL PGT 01N

One meter pigtail with one SC/APC connector.



MODEL		PGT 01N
Reference		42201
Units per packing	m	10

SLEEVE PTR 01N

Splices sleeves



MODEL		PTR 01N
Reference		42234
Units per packing	m	100

CONNECTOR CNR 01N

Fast SC/APC connector



MODEL		CNR 01N
Reference		42223
Units per packing	m	10

RF OVER OPTICAL FIBER

OPTICAL FIBRE TRANSMITTERS



optical fiber

COMPACT Series

Optical fiber transmitter, designed for FTTH (fiber to the home) networks.

APPLICATION

Optical fiber transmitter, designed for FTTH (fiber to the home) networks.

FEATURES

- Die-cast aluminum housing, nickel plated.
- Excellent linearity and flatness.
- Uses active GaAs amplification devices.
- Ultra low noise.
- Smaller size and easier installation
- Red LED power indication.
- LNB polarity selection via 13/18V power supply and 0/22KHz tone sending.



MODEL		ROT 310C
Reference		88501
INPUT/OUTPUTS		
RF input		F-female
Optical output		SC/APC
Power input		F-female
OPTICAL PARAMETERS		
Optical output power	dBm	10
Optical return loss	dB	≥45
Output wavelength	nm	1310
Optic fiber type		single-mode
RF PARAMETERS		
Frequency range	MHz	47-2150
Flatness	dB	±0.75
CATV input level	dBμV	80±5
SMATV input level	dBμV	70±5
CNR	dB	≥52
CSO	dB	≥60
CTB	dB	≥63
Return loss	dB	≥16
Input impedance	Ω	75
OTHER PARAMETERS		
Supply voltage	VDC	12 V
Maximum current to LNB	mA	500
22KHz	KHz	22±4
Power consumption	W	<2
Operating temperature	°C	-5 ÷ 55
Dimensions	mm	100 x 98 x 28
Housing material		Aluminum alloy

RF OVER OPTICAL FIBER

OPTICAL FIBER RECEIVERS



optical fiber

COMPACT Series

Optical fiber receiver, designed for FTTH (fiber to the home) networks.

APPLICATION

Suitable for optical fiber signal distribution.

FEATURES

- Nickel-plated zinc die-cast housing.
- Excellent linearity and flatness.
- Uses active GaAs amplification devices.
- Ultra low noise.
- Smaller size and easier installation
- Red LED for power indication.
- Green/red LED for optical power indication.



MODEL		ROR 260C
Reference		88511
INPUTS/OUTPUTS		
RF input		F-female
Optical output		SC/APC
Power input		F-female
OPTICAL PARAMETERS		
Response capability	A/W	≥0.9
Optical input power	dBm	-14~+3
		-7~+2 (with CAG)
Optical return loss	dB	≥45
Output wavelength	nm	1260~1600
Optical fiber type		Single mode
RF PARAMETERS		
Frequency range	MHz	47-860
		950-2150
Flatness	dB	±0.75
Output level	dBμV	≥80 @CATV
		≥70 @SMATV
CNR	dB	≥50
CSO	dB	≥62
CTB	dB	≥65
Return loss	dB	≥1
AGC stability	dB	±1
Output impedance	Ω	75
OTHER PARAMETERS		
Supply voltage	VDC	12 V
Power consumption	W	<2
Operating temperature	°C	-5 ÷ 55
Dimensions	mm	75 x 63 x 17
Housing material		Aluminum alloy

RF OVER OPTICAL FIBER

SPLITTERS PLC

OSP Series

Passive optical fiber signal splitters for distribution in FTTH networks.

APPLICATION

Suitable for passive optical signal distribution.

FEATURES

- SC/APC connectors.
- PLC technology.
- Minimum attenuation.
- Compact format.



optical fiber



MODEL		OSP 102 P	OSP 104 P	OSP 108 P	OSP 116 P	OSP 132 P
Reference		10451	10452	10453	10454	10455
Inputs / Outputs		1/2	1/4	1/8	1/16	1/32
Fiber type		G657A1				
Fiber length	m	1				
Connector type		SC / APC				
Wavelength		1260 - 1650				
Insertion loss	dB @ 1310 nm	3.8	6.9	10.1	13.5	17.1
	dB @ 1490 nm	3.9	7	10.2	13.6	17.1
	dB @ 1550 nm	3.9	7	10.3	13.6	17.1
Polarization losses	dB	0.15				
Return loss	dB	>55				
Uniformity	dB	0.4				
Directivity	dB	>55				
Storage temperature.	°C	-40 ... +85				
Working temperature	°C	-40 ... +85				
Dimensions	mm	4 x 7 x 60			4 x 12 x 60	6 x 20 x 80

RF OVER OPTICAL FIBER

WALL-MOUNTED OPTICAL SPLITTERS

FOSP Series

Passive optical fibre signal splitters for distribution in FTTH networks.

APPLICATION

Suitable for optical fiber signal distribution.

FEATURES

- SC/APC connectors included.
- Minimal attenuation.
- Compact format for wall mounting.



optical fiber



MODEL		FOSP 108	FOSP 116
Reference		88060	88060
Inputs / Outputs		1/8	1/16
Connector type		SC / APC	
Wavelength		1260 - 1650	
Insertion losses	dB @ 1310 nm	10.1	13.5
	dB @ 1490 nm	10.2	13.6
	dB @ 1550 nm	10.3	13.6
Polarization losses	dB	0.15	
Return losses	dB	>55	
Uniformity	dB	0.4	
Directivity	dB	>55	
Storage temperature	°C	-40 ... +85	
Working temperature	°C	-5 ... +55	
Dimensions	mm	217 x 125 x 35	

RF OVER OPTICAL FIBER

RACK 19" OPTICAL SPLITTERS



optical fiber

FOSR Series

Passive optical fibre signal splitters for distribution in FTTH networks.

APPLICATION

Suitable for passive optical signal distribution.

FEATURES

- SC/APC connectors included.
- Minimum attenuation.
- 19" rack format.



MODEL		FOSR 108	FOSR 116	FOSR 132	FOSR 164
Reference		88070	88071	88072	88073
Inputs / Outputs		1/8	1/16	1/32	1/64
Connector type		SC / APC			
Wavelength		1260 - 1650 nm			
Insertion losses	dB @ 1310 nm	10.1	13.5	17.1	20.2
	dB @ 1490 nm	10.2	13.6	17.1	20.2
	dB @ 1550 nm	10.3	13.6	17.1	20.2
Polarization losses	dB	0.15			
Return losses	dB	>55			
Uniformity	dB	0.4			
Directivity	dB	>55			
Storage temperature	°C	-40 ... +85			
Working temperature	°C	-5 ... +55			
Dimensions	mm	435 x 325 x 55			

GPON & RF OVERLAY

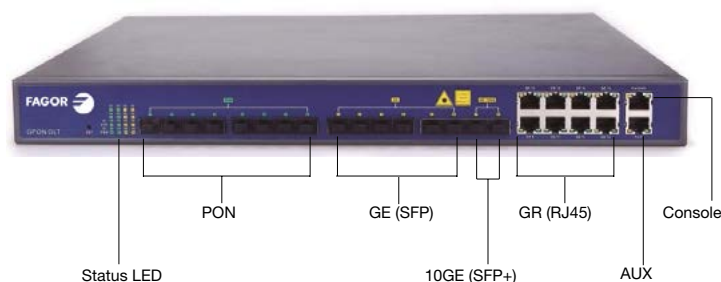
OPTICAL LINE TERMINATION FOR GPON NETWORKS

OLT Series

Headend equipment for GPON networks. Intuitive Web-based configuration without the need for external systems. 8 GPON downlink ports.

FEATURES

- 6 GE SFP ports. 2 10GE SFP+ ports. 8 GE RJ45 uplink ports.
- ITU-T G.984.x and G.988 compliant.
- Remote management via SNMP/WEB/EMS.
- Speed per PON port: downstream 2.5Gbps. upstream 1.25 Gbps.
- Supports ONT auto-discovery and remote software upgrade via OMCI.
- Dual hot-swappable power supply.
- 1U 19" rack.



optical fiber

MODEL		OLT 880
Reference		10421
INPUT		
Uplink Interfaces		2 ports 10GE (SFP+) 6 ports 1GE SFP 8 ports 1GE RJ45
Management Interfaces		1 RJ45 FE AUX 1RJ45 console
CATV input power	dBm	-5 to 10
OUTPUT		
No. of GPON ports		8 SFP ports
No. of splitting per port		1:128
Downstream bitrate per PON	Gbps	2.488
Upstream bitrate per PON	Gbps	1.244
GPON standard		ITU-T G.984.X/G-988
Transmission distance	km	20
Wavelengths	nm	TX 1490 / RX 1310
SFP connectors		SC/UPC
Fiber type		9/125um SM
No. of VLANs		4096
VLAN management		port VLAN. tag/untag. transparent transmission. VLAN translation. QinQ
Multicast		256 IP groups. IGMP snooping
DHCP		server. relay. snooping
QoS		per port. VID. TOS and MAC
Management interface		Web/Telnet/CLI/EMS
Management port		Ethernet RJ45
Status LED		IN/OUT/POWER
Mounting		19" rack 1U
Power supply (redundant)	Vac	100 ÷ 240. 50-60Hz
Consumption	W	45
Operating temperature	°C	0 ÷ 50
Storage temperature	°C	-40 ÷ 85
Storage humidity	%	5 ÷ 90
Dimensions	mm	422 × 200 × 44
Weight	Kg	3.1

GPON & RF OVERLAY

OPTICAL NETWORK UNIT FOR GPON NETWORKS

ONT Series

GPON optical network terminal.

FEATURES

- Several 10/100/1000BASE-T Ethernet ports.
- 1- and 2-band Wi-Fi with transfer rates from 300 to 1200 Mbps.
- POTS port for telephony.
- Compatible with ITU-T G.984.x standard.
- Compatible with Triple play services: Internet. VoIP and IPTV.
- Maximum speed: downstream 2.5Gbps. upstream 1.25 Gbps.
- Management via OMCI. Web. SSH. TR069.



MODEL	ONT 115	ONT 112 C	ONT 412 C	ONT 425
Reference	10433	10432	10431	10434
GPON Standard	ITU-T G.984.X (G.984.5 WBF)			
Class	B+			
Wavelengths	nm	Downlink 1490 / Uplink 1310		
SFP Connectors	SC/APC			
Authentication	SN or password according to G.984.3			
Other	Flexible mapping between GEM port and TCONT			
Ethernet ports	1GE+3FE RJ45		4GE RJ45	
Router functionality	Bridging & Switching (802.1d / 802.1q) 8 traffic priorities (802.1p). VLAN filtering. IGMP multicast for IPTV			
CATV				
Bandwidth	---	54-870MHz		---
Impedance	---	75		---
TELEPHONY POTS				
REN	Max. 4 REN			
Connectors	2 RJ11		1 RJ11	
Ring tones	DTMF			
Protocols	G.711A/μ. G.729a/b. and G.722. T.30/T.38/G.711 fax mode. SIP			
WIFI SPECIFICATION				
Standard	IEEE 802.11 /b/g/n (2.4) 2x2 MIMO			IEEE 802.11 a/b/g/n/ac (2.4/5G) 2x2 MIMO
Bandwidth	300Mbps			300Mbps (2.4G). 867Mbps (5G)
Antenna	2x5dBi	2x2dBi		2x5dBi
Others	4 different SSIDs. WPS/WMM			4+4 different SSIDs. WPS/WMM
Management interface	Web/OMCI/TR069			
Status LED	POWER/PON/LOS/LAN/TEL/USB/WLAN/WPS	POWER/PON/LOS/LAN/TEL/USB/WLAN/WPS/CATV		POWER/PON/LOS/LAN/TEL/USB/WLAN/WPS
Mounting	Wall and desktop			
Power supply (redundant)	V	11-14Vdc. 1.5A (AC adapter included)	11-14Vdc. 1A (AC adapter included)	11-14Vdc. 2A (AC adapter included)
Consumption	W	5.5	7.3	7.5
Operating temperature	°C	0 ÷ 40		
Storage temperature	°C	-40 ÷ 85		
Storage humidity	%	5 ÷ 95		
Dimensions	mm	176 x 138.5 x 28	175 x 115 x 34	173 x 120 x 30
Weight	Kg	0.28	0.27	0.4
				0.25



optical fiber

GPON & RF OVERLAY

OPTICAL TRANSMITTER



optical fiber

ROT Series

1550 nm optical transmitter for use in FTTH. FTTx PON. Triple-play and RF Overlay.

APPLICATION

Conversion of RF signals into amplitude-modulated optical signals for CATV HFC networks.

CARACTERÍSTICAS

- Equipped with DFB laser. for very good linearity and high optical output power.
- Advanced multi-frequency RF predistortion technology ensures perfect CTB and CSO performance at high standard CNR value.
- Automatic gain control (AGC) enables stable output at different RF input levels.
- Different networks can be optimized by OMI adjustment.
- Automatic temperature control, which ensures a long service life of the device.
- Built-in dual backup power supply.
- Configuration of system parameters controlled by the front panel keypad or by the user-friendly web interface.
- A standard RJ45 interface is provided. which supports SNMP and WEB remote network management.



MODEL		ROT 506
Reference		10400
OPTICAL PARAMETERS		
Output power	dBm	6
Output wavelength	nm	1550
Laser linewidth		0.65
SMSR	dB	≥45
XP	dB	≥20
RIN	dB/Hz	≤-160
Optical return loss	dB	≥50
Fiber connector		SC/APC
RF PARAMETER		
Frequency Range	MHz	47-862
Input level	dBμV	70...100
Flatness	dB	±0.75
CNR	dB	≥51
CTB	dB	≥65
CSO	dB	≥60
Return loss	dB	≥16
Input impedance	Ω	75
RF connector		F-female
OTHER PARAMETERS		
Network management interface		SNMP and WEB
Power supply	V	90 ÷ 265
Power consumption	W	≤30
Operating temperature	°C	-5 ÷ 55
Storage temperature	°C	-40 ÷ 85
Operating relative humidity	%	5 ÷ 95
Dimension	mm	370 × 483 × 44
Weight	Kg	4.1

GPON & RF OVERLAY

OPTICAL YEDFA AMPLIFIER

OYA Series

Optical amplifier in rack format, compatible with EPON/GPON systems.

APPLICATION

Suitable for fiber optic signal distribution.

FEATURES

- 8 WDM (RF Overlay+GPON) output ports.
- Output power 8*19dBm.
- Adjustable output power from -3 to 0 dB.
- Wide input range from -5 to 10 dBm.
- Very low noise figure.
- Input/output/status/power status indicator LEDs.
- Laser Bias input level and current monitoring and alarms.
- Dual hot-swappable power supply.
- Control and monitoring via WEB/SNMP.
- 1U 19" rack.



optical fiber



MODEL		OYA 819
Part number		10412
No. of ports OLT		8
INPUT		
CATV Wavelength	nm	1540-1560
OLT Wavelength	nm	1310/1490
CATV input power	dBm	-5 a 10
OUTPUT		
Output power	dBm	8*19
Output power regulation	dB	-3 a 0
Power stability per port	dB	0.1
Noise figure (@6dBm Input)	dB	4 (max. 5.8)
INPUT-OUTPUT		
Return loss	dB	55
IN-OUT isolation	dB	30
OLT optical connectors		SC/UPC
CATV+OUT optical connectors		SC/APC
OTHER PARAMETERS		
Management interface		SNMP/WEB
Management port		Ethernet RJ45
Display and buttons		LCD/4
Status LED		IN/OUT/POWER
Mounting		19" rack 1U
Power supply (redundant)	V	90 ÷ 265
Consumption	W	≤50
Operating temperature	°C	-5 ÷ 50
Storage temperature	°C	-20 ÷ 85
Storage humidity	%	5 ÷ 95
Dimension	mm	483 x422 x 44
Weight	Kg	11.5







Cabinets and racks

CABINETS AND RACKS

CABINET



cabinets
and racks

RSI Series

Cabinets built in DC01 cold rolled steel of 1mm thickness.

FEATURES

- Powder coated in oven-dried white RAL 9003.
- Incorporates lock with keys, built without hinges that allows the door to be interchangeable and can be opened to the right and to the left.
- Rear with wooden panel, to facilitate the placement of equipment and driving.



MODEL	RSI 441	RSI 511	RPR 571
Reference	60001	60002	60003
Dimensions	cm45 x 45 x 15	55 x 100 x 15	50 x 70 x 15

CABINETS AND RACKS

19" RACKS



cabinets
and racks

RAC Series

Cabinet made of cold rolled sheet metal powder coated in black RAL 9004.

FEATURES

- Removable side panels with quick locking system and housing for key lock.
- Front and rear 19" profiles adjustable in depth.
- Load capacity 60kg.
- Depth of 450mm.



MODEL		RAC 19 6U	RAC 19 9U	RAC 19 12U
Reference		60022	60023	60024
Dimensions	cm	36.8 x 60 x 45	50.1 x 60 x 45	63.5 x 60 x 45

CABINETS AND RACKS

NETWORK TERMINATION REGISTER



cabinets
and racks

RTR Series

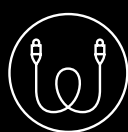
Network termination cabinet. made of cold rolled steel, hinged.

FEATURES

- Coated with RAL 9003 white oven-dried epoxy paint.
- Depth adjustable frame, to cover wall imperfections by means of adjusting screws.
- The door is equipped with vents, hinges, sliding quick release and ground sockets.
- Rear with wooden panel to facilitate the placement of equipment and conduction.



MODEL		RTR B568
Reference		60041
Dimensions	cm	50 x 60 x 8



Accessories



accessories

MALE F CONNECTOR

MODEL	CNR MF
Reference	84012
Type or cable	CCF 017/019/020/SAT or similar

ZAMAK SHIELDED CONNECTOR

MODEL	CNR MI S	CNR HI S
Reference	84038	84039
Type of connector	IEC 9.5 (m)	IEC 9.5 (f)

SHIELDED CONNECTOR

MODELO	CNR MI	CNR H
Reference	84028	84029
Type of connector	IEC 9.5 (m)	IEC 9.5 (f)

CONNECTOR

MODELO	CNR F TRN
Reference	84014
Type or cable	CCF TRN / CCF TRA

BROAD BAND AMPLIFIER (UHF)

MODEL	ABF 012
Reference	85053
Type of connector	F(f)-F(m)

1st IF SAT LINE AMPLIFIER

MODEL	AL 46
Reference	86246
Type of connector	F (f)-F (m)

ADJUSTABLE ATTENUATOR

MODEL	AT 020
Reference	85007
Type of connector	IEC (f)-IEC (m)

ADJUSTABLE ATTENUATOR

MODEL	ATV 020
Reference	85050
Type of connector	F(f)-F(f)

FIX ATTENUATOR

MODEL	FAT 010
Reference	85041
Type of connector	F(f)-F(m)

75 Ω F LOAD

MODEL	CX 75 F
Reference	84011
Type of connector	F (m)

TWO WAY SPLITTER COMBINER

MODEL	MB 021
Reference	85001
Type of connector	2 x IEC(f) - 1 x IEC (m)

TWO WAY SPLITTER COMBINER

MODEL	DB 012
Reference	85002
Type of connector	2 x IEC(f) - 1 x IEC (m)



accessories

TWO WAY SPLITTER COMBINER

Band coverage: 5 ÷ 862 MHz
Impedance: 75 Ω
Combining losses: 4 dB
Output isolation: 22 dB



MODEL	MD 012F
Reference	85028
Type of connector	F (f)

HIGH PASS FILTER

Passage band: 470÷1000 MHz
Insertion losses: 0.5 dB
Impedance: 75 Ω



MODEL	FPA 470
Reference	85042
Type of connector	F (m)-F (f)

ADAPTER

F female-female (5 ÷ 2300 MHz)
adapter.



MODEL	ADF HHS
Reference	84016
Type of connector	F(f)-F(f)

75 Ω F-F COAXIAL BRIDGE

Rigid 75 Ω coaxial bridge for splitting or combining RF signals.

- Raster: 47.7 mm. (Ref. 8314) 8000 Series
- Raster: 48 mm. (Ref. 84031 and 84003) Multi-processing system
- Raster: 40 mm. (Ref. 84034) Nexum system



MODEL	PMD 8000	PMD FFN
Reference	83814	84034
Type of connector	F (m) - F (m)	

SURGE ARRESTER 90V



MODEL	SAFE 100
Reference	85040
Type of connector	F(h)

SUPPLY INJECTOR

Suitable for amplifiers supply
Band coverage: 5 ÷ 2150 MHz
Return losses: -10 dB
Through losses: 0.5 dB
DC pass: 1 A



MODEL	ICF 001
Reference	85051
Type of connector	F(f)-F(m)

LOADING RESISTOR

75 Ω resistor suitable for loading unused inputs / outputs.



MODEL	RC 075
Reference	85010
Type of connector	-

COMPRESSION MALE F CONNECTOR



MODEL	CNR MFC
Reference	85095
Type of connector	F (m)

SAFETY 75 OHM CHARGE



MODEL	CXA 75 F
Reference	85090
Type of connector	F (m)

F CONNECTOR COMPRESSION TOOL



MODEL	UUH 01	UCC 01
Reference	85092	85097
Type of connector	RJ 45 MALE fast mounting	RJ 45 MALE

SAFETY 75 OHM CHARGE UNBLOCKING TOOL



MODEL	UCA 01
Reference	85091
Type of connector	-

Technical notes

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TECHNICAL NOTES

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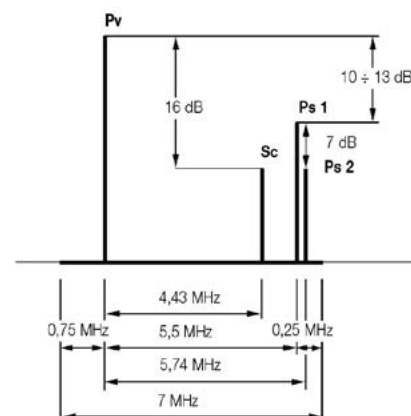
INDEX PER MODEL

TECHNICAL NOTES

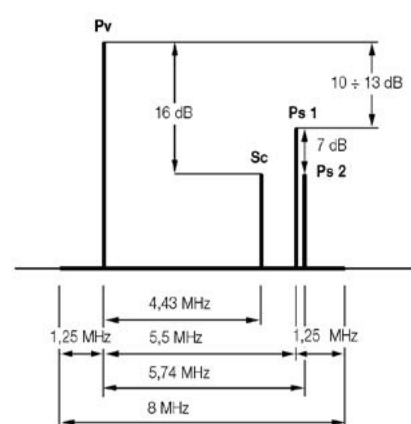
Channel assignment

TV BAND	CHANNEL	CHANNEL LIMITS	PICTURE CARRIER	AUDIO CARRIER
Standard B	Italy			
BI	A	52.5 - 59.5	53.75	59.25
	B	61 - 68	62.25	67.75
B (II)	C	81 - 88	82.25	87.75
B (III)	D	174 - 181	175.25	180.75
	E	182.5 - 189.5	183.75	189.25
	F	191 - 198	192.25	197.75
	G	200 - 207	201.25	206.75
	H	209 - 216	210.25	215.75
	H1	216 - 223	217.25	222.75
	H2	223 - 230	224.25	229.75
Standard D	OIRT			
BI	I	48.5 - 56.5	49.75	56.25
	II	58 - 66	59.25	65.75
	III	76 - 84	77.25	83.75
B (II)	IV	84 - 92	85.25	91.75
	V	92 - 100	93.25	99.75
B (III)	VI	174 - 182	175.25	181.75
	VII	182 - 190	183.25	189.75
	VIII	190 - 198	191.25	197.75
	IX	198 - 206	199.25	205.75
	X	206 - 214	207.25	213.75
	XI	214 - 222	215.25	221.75
	XII	222 - 230	223.25	229.75
Standard I	Ireland			
BI	A	44.5 - 52.5	45.75	51.75
	B	52.5 - 60.5	53.75	59.75
	C	60.5 - 68.5	61.75	67.75
BIII	D	174 - 182	175.25	181.25
	E	182 - 190	183.25	189.25
	F	190 - 198	191.25	197.75
	G	198 - 206	199.25	205.25
	H	206 - 214	207.25	213.25
	I	214 - 222	215.25	221.25
	J	222 - 230	223.25	229.20
Standard L	France			
BI	2	49.00 - 57.00	49.25	55.75
	3	53.75 - 61.75	54.00	60.50
	4	57.00 - 65.00	57.25	63.75
BIII	5	174.75 - 182.75	176.00	182.50
	6	182.75 - 190.75	184.00	190.50
	7	190.75 - 198.75	192.00	198.50
	8	198.75 - 206.75	200.00	206.50
	9	206.75 - 214.75	208.00	214.50
	10	214.75 - 222.75	216.00	222.50

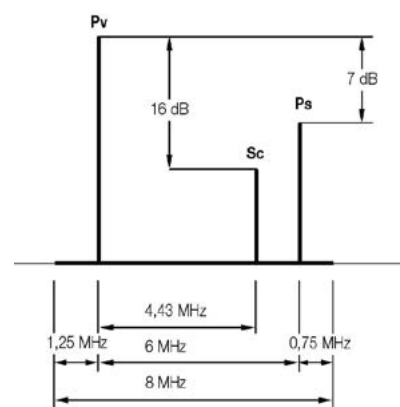
STANDARD B



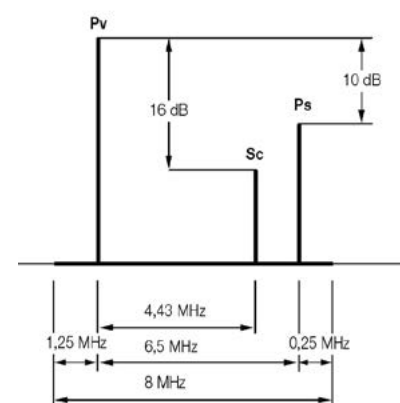
STANDARD D



STANDARD I



STANDARD L



TECHNICAL NOTES

CCIR standards

CCIRR-Standard	B	D	G	H	I	K	L	M	N
Number of lines	625								
Channel width	7	8						6	
Video bandwidth MHz	5	6	5		5.5	6		4.2	
Video-sound spacing	+5.5	+6.5	+5.5		+6	+6.5		+4.5	
Vestigial sideband MHz	0.75		1.25			0.75	1.25	0.75	
Video modulation	Neg.						Pos.	Neg.	
Sound modulation	FM						AM	FM	

COUNTRY	VHF	UHF	TV STANDARD
Argelia	B	H	PAL
Argentina	N	N	PAL-N
Australia	B	H	PAL
Austria	B	G	PAL
Bahrein	B	G	PAL
Belgium	B	H	PAL
Bulgary	D	K	SECAM
China	D	K	PAL
Cyprus	B	G	PAL/SECAM
Czech Rep.	D	K	SECAM
Denmark	B	G	PAL
Egypt	B	G, H	SECAM
Finland	B	G	PAL
France	L	L	SECAM
Germany	B	G	PAL
Gibraltar	B	G	PAL
Great Britain	I	I	PAL
Greece	B	G	SECAM
Holland	B	G	PAL
Hong Kong	I	I	PAL
Hungary	D	K	SECAM
Iceland	B	G	PAL
India	B	-	PAL
Indonesia	B	-	PAL
Irak	B	-	SECAM
Iran	B	G	SECAM
Ireland	I	I	PAL
Israel	B	G	PAL
Italy	B	G	PAL
Japan	M	M	NRSC
Jordan	B	G	PAL
Korea	M	-	NTSC
Kuwait	B	G	PAL
Lebanon	B	-	SECAM
Libya	B	H	SECAM

COUNTRY	VHF	UHF	TV STANDARD
Luxembourg	B/L	G/L	SECAM/PAL
Malaysia	B	G	PAL
Malta	B	H	PAL
Mexico	M	M	NTSC
Monaco	E	L/G	SECAM/PAL
Morocco	B	H	SECAM
Nigeria	B	G	PAL
Norway	B	G	PAL
Oman	B	G	PAL
Pakistan	B	G	PAL
Philippines	M	M	NTSC
Poland	D	K	SECAM
Portugal	B	G	PAL
Quatar	B	G	PAL
Romania	D	K	PAL
Russia	D	K	SECAM
Saudi Arabia	B	G	PAL/SECAM
Singapore	B	G	PAL
Southafrica	I	I	PAL
Spain	B	G	PAL
Sri Lanka	B	-	PAL
Sweden	B	G	PAL
Switzerland	B	G	PAL
Syria	B	-	SECAM
Thailand	B/M	-	PAL
Tunisia	B	G	SECAM
Turkey	B	G	PAL
U.A.E.	B	G	PAL
U.S.A.	M	M	NTSC
Yemen	B	-	PAL
Yugoslavia	B	G	PAL

CCIR = Comité Consultatif International des Radiocommunications

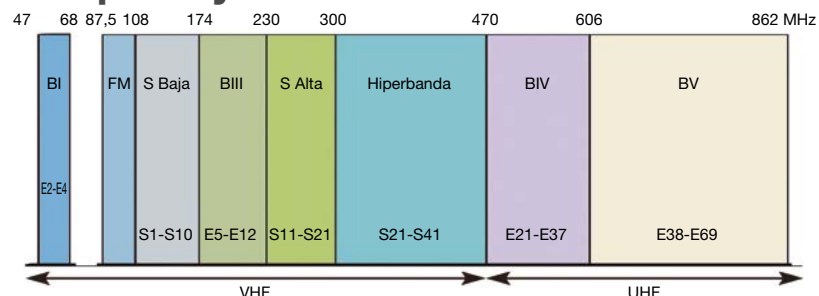
PAL = Phase Alternation Line

SECAM = Séquentielle à mémoire

NTSC = National Television System Committee

TECHNICAL NOTES

Frequency allocations



Channels according to CCIR. B. G. I (EUROPE) standards

CHAN- NEL	CHANNEL BANDWIDTH	VIDEO (B)	AUDIO (B)	FREC. CENTRAL	CANAL	CHANNEL BANDWIDTH	VÍDEO G. I	AUDIO G I	FREC. CENTRAL
MHz					MHz				
VHF Band I					UHF				
2	47...54	48.25	53.75	50.5	21	470...478	471.25	476.75	477.25
3	54...61	55.25	60.75	57.5	22	478...486	479.25	484.75	485.25
4	61...68	62.25	67.75	64.5	23	486...494	487.25	492.75	493.25
VHF Band S (low)					24	494...502	495.25	500.75	501.25
S1	104...111	105.25	110.75	107.5	25	502...510	503.25	508.75	509.25
S2	111...118	112.25	117.75	114.5	26	510...518	511.25	516.75	517.25
S3	118...125	119.25	124.75	121.5	27	518...526	519.25	524.75	525.25
S4	125...132	126.25	131.75	128.5	28	526...534	527.25	532.75	533.25
S5	132...139	133.25	138.75	135.5	29	534...542	535.25	540.75	541.25
S6	139...146	140.25	145.75	142.5	30	542...550	543.25	548.75	549.25
S7	146...153	147.25	152.75	149.5	31	550...558	551.25	556.75	557.25
S8	153...160	154.25	159.75	156.5	32	558...566	559.25	564.75	565.25
S9	160...167	161.25	166.75	163.5	33	566...574	567.25	572.75	573.25
S10	167...174	168.25	173.75	170.5	34	574...582	575.25	580.75	581.25
VHF Band S (high)					35	582...590	583.25	588.75	589.25
S11	230...237	231.25	236.75	233.5	36	590...598	591.25	596.75	597.25
S12	237...244	238.25	243.75	240.5	37	598...606	599.25	604.75	605.25
S13	244...251	245.25	250.75	247.5	38	606...614	607.25	612.75	613.25
S14	251...258	252.25	257.75	254.5	39	614...622	615.25	620.75	621.25
S15	258...265	259.25	264.75	261.5	40	622...630	623.25	628.75	629.25
S16	265...272	266.25	271.75	268.5	41	630...638	631.25	636.75	637.25
S17	272...279	273.25	278.75	275.5	42	638...646	639.25	644.75	645.25
S18	279...286	280.25	285.75	282.5	43	646...654	647.25	652.75	653.25
S19	286...293	287.25	292.75	289.5	44	654...662	655.25	660.75	661.25
S20	293...300	294.25	299.75	296.5	45	662...670	663.25	668.75	669.25
VHF Hyperband					46	670...678	671.25	676.75	677.25
S21	302...310	303.25	308.75	306	47	678...686	679.25	684.75	685.25
S22	310...318	311.25	316.75	314	48	686...694	687.25	692.75	693.25
S23	318...326	319.25	324.75	322	49	694...702	695.25	700.75	701.25
S24	326...334	327.25	332.75	330	50	702...710	703.25	708.75	709.25
S25	334...342	335.25	340.75	338	51	710...718	711.25	716.75	717.25
S26	342...350	343.25	348.75	346	52	718...726	719.25	724.75	725.25
S27	350...358	351.25	356.75	354	53	726...734	727.25	732.75	733.25
S28	358...366	359.25	364.75	362	54	734...742	735.25	740.75	741.25
S29	366...374	367.25	372.75	370	55	742...750	743.25	748.75	749.25
S30	374...382	375.25	380.75	378	56	750...758	751.25	756.75	757.25
S31	382...390	383.25	388.75	386	57	758...766	759.25	764.75	765.25
S32	390...398	391.25	396.75	394	58	766...774	767.25	772.75	773.25
S33	398...406	399.25	404.75	402	59	774...782	775.25	780.75	781.25
S34	406...414	407.25	412.75	410	60	782...790	783.25	788.75	789.25
S35	414...422	415.25	420.75	418	61	790...798	791.25	796.75	797.25
S36	422...430	423.25	428.75	426	62	798...806	799.25	804.75	805.25
S37	430...438	431.25	436.75	434	63	806...814	807.25	812.75	813.25
S38	438...446	439.25	444.75	442	64	814...822	815.25	820.75	821.25
S39	446...454	447.25	452.75	450	65	822...830	823.25	828.75	829.25
S40	454...462	455.25	460.75	458	66	830...838	831.25	836.75	837.25
S41	462...470	463.25	468.75	468	67	838...846	839.25	844.75	845.25
					68	846...854	847.25	852.75	853.25
					69	854...862	855.25	860.75	861.25

TECHNICAL NOTES

Conversion table

μV 75 Ω			mV 75 Ω			V 75 Ω			Relación tensión/dB		
μV	dB μV	dBm	mV	dB μV	dBm	V	dB μV	dBm	x(-)	dB	(+) x
1	0	-109	1	60	-149	1	120	+11	1.0	0.0	1.0
1.5	3.5	-105.5	1.5	63.5	-45.5	1.5	123.5	+14.5	0.94	0.5	1.06
2	6	-103	2	66	-43	2	126	+17	0.89	1	1.12
2.5	8.0	-101	2.5	68	-41	2.5	128	+19	0.84	1.5	1.19
3	9.5	-99.5	3	69.5	-39.5	3	129.5	+20.5	0.8	2	1.25
3.5	11	-98	3.5	71	-38	3.5	131	+22	0.75	2.5	1.33
4	12	-97	4	72	-37	4	132	+23	0.71	3	1.41
4.5	13	-96	4.5	73	-36	4.5	133	+24	0.67	3.5	1.5
5	14	-95	5	74	-35	5	134	+25	0.63	4	1.6
6	15.5	-93.5	6	75.5	-33.5	6	135.5	+26.5	0.6	4.5	1.67
7	17	-92	7	77	-32	7	137	+28	0.56	5	1.78
8	18	-91	8	78	-31	8	138	+29	0.53	5.5	1.88
9	19	-90	9	79	-30	9	139	+30	0.5	6	2.0
10	20	-89	10	80	-29	10	140	+31	0.47	6.5	2.12
15	23.5	-85.5	15	83.5	-25.5				0.45	7	2.24
20	26	-83	20	86	-23				0.42	7.5	2.37
25	28	-81	25	88	-21				0.4	8	2.5
30	29.5	-79.5	30	89.5	-19.5				0.38	8.5	2.66
35	31	-78	35	91	-18				0.35	9	2.82
40	32	-77	40	92	-17				0.33	9.5	3.0
45	33	-76	45	93	-16				0.32	10	3.16
50	34	-75	50	94	-15				0.28	11	3.55
60	35.5	-73.5	60	95.5	-13.5				0.25	12	4.0
70	37	-72	70	97	-12				0.22	13	4.5
80	38	-71	80	98	-11				0.2	14	5.0
90	39	-70	90	99	-10				0.18	15	5.62
100	40	-69	100	100	-9				0.16	16	6.3
150	43.5	-66.5	150	103.5	-5.5				0.14	17	7.1
200	46	-63	200	106	-3				0.125	18	8.0
250	48	-61	250	108	-1				0.11	19	8.9
300	49.5	-59.5	300	109.5	+0.5				0.10	20	10.0
350	51	-58	350	111	+2				0.089	21	11.2
400	52	-57	400	112	+3				0.08	22	12.5
450	53	-56	450	113	+4				0.071	23	14.1
500	54	-55	500	114	+5				0.063	24	16.0
600	55.5	-53.5	600	115.5	+6.5				0.056	25	17.8
700	57	-52	700	117	+8				0.05	26	20.0
800	58	-51	800	118	+9				0.045	27	22.4
900	59	-50	900	119	+10				0.04	28	25.0
			1.000	120	+11				0.035	29	28.2
									0.032	30	31.6
									0.028	31	35.5
									0.025	32	40
									0.022	33	45
									0.02	34	50
									0.018	35	56
									0.016	36	63
									0.014	37	71
									0.0125	38	80
									0.011	39	89
									0.010	40	100
									0.0056	45	178
									0.0032	50	316
									0.0018	55	562
									0.001	60	1.000

Broad band amplifiers

Reduction of the output level for broadband amplifiers according to the number of channels.

Nr. of digital channels		2	4	5	6	8	16	24	32	64
Reduction of the output level (Rc)	dB	-3	-6	-7	-8	-9	-12	-14	-15	-18

Nr. of analogue channels		2	4	5	6	8	16	24	32	64
Reduction of the output level (Rc)	dB	0	-3	-4	-5	-6	-9	-11	-12	-15

Cascade amplification

Reduction of output level for broadband amplifiers according to the number of cascade amplifiers in the system.

Nr. of amplifiers		-	2	3	4	5	6	7
Reduction of the output level (R _A)	dB	0	3	4.8	6	7	7.8	8.5

The output level of the amplifiers must be reduced according to the table above to keep the intermodulation products at the same level.

$N_o = N_s - R_c - R_A$
 N_o = Max. operating level.
 N_s = Output level (DIN 45004 B. IM3 -60 dB).
 R_c = Reduction by nr. of channels.
 R_A = Reduction by nr. of amplifiers

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AML 920 L D2	51	CBL AC3	14	DER 214 C	80	FMF 532 BS	70
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ANF FM	4	CCF 019 CCA Eca	90	DER 226 C	80	FMU 402	76
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APR 035	15	CCF 020 A Eca	90	DER 414 C	80	FOSP 116	104
ARG V35	14	CCF 020 A Eca N	90	DER 415	81	FOSR 108	105
ARG V40	14	CCF 021 CCA Dca	90	DER 417 C	80	FOSR 116	105
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ATV 020	120	CCF TRA Fca	90	DER 423 C	80	FOSR 164	105
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