

UK

# Televes®

QUICK  
PRODUCT  
GUIDE 2018

Televes UK Est. 1988

*30 years that you made possible.  
Thank you!*

**PASSION** for QUALITY

# THE POWER OF USER EXPERIENCE

Its innovative **gesture-control tactile display** allows you to operate MOSAIQ6 like a smartphone or tablet, **managing up to 6 simultaneous real-time widgets** on its high resolutions 8" screen.



**ULTRA-FAST SPECTRUM ANALYSER**  
Real time digital processing



**ALWAYS READY**  
Field-replaceable battery



**EFFICIENT MANAGEMENT**  
Meter always updated with the cloud



**ERGONOMICS**  
Optimized shape to maximize the effectiveness of movement



 WATCH THE VIDEO: [EN.TELEVES.COM/MOSAIQ6](http://EN.TELEVES.COM/MOSAIQ6)

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**JANUARY**

Week	M	T	W	T	F	S	S
1	1	2	3	4	5	6	7
2	8	9	10	11	12	13	14
3	15	16	17	18	19	20	21
4	22	23	24	25	26	27	28
5	29	30	31	1			

**FEBRUARY**

Week	M	T	W	T	F	S	S
5			31	1	2	3	4
6	5	6	7	8	9	10	11
7	12	13	14	15	16	17	18
8	19	20	21	22	23	24	25
9	26	27	28	1			

**MARCH**

Week	M	T	W	T	F	S	S
9			28	1	2	3	4
10	5	6	7	8	9	10	11
11	12	13	14	15	16	17	18
12	19	20	21	22	23	24	25
13	26	27	28	29	30	31	1

**APRIL**

Week	M	T	W	T	F	S	S
13						31	1
14	2	3	4	5	6	7	8
15	9	10	11	12	13	14	15
16	16	17	18	19	20	21	22
17	<sup>23</sup> <sub>30</sub>	24	25	26	27	28	29

**MAY**

Week	M	T	W	T	F	S	S
18	30	1	2	3	4	5	6
19	7	8	9	10	11	12	13
20	14	15	16	17	18	19	20
21	21	22	23	24	25	26	27
22	28	29	30	31	1		

**JUNE**

Week	M	T	W	T	F	S	S
22				31	1	2	3
23	4	5	6	7	8	9	10
24	11	12	13	14	15	16	17
25	18	19	20	21	22	23	24
26	25	26	27	28	29	30	1

**JULY**

Week	M	T	W	T	F	S	S
26						30	1
27	2	3	4	5	6	7	8
28	9	10	11	12	13	14	15
29	16	17	18	19	20	21	22
30	<sup>23</sup> <sub>30</sub>	<sup>24</sup> <sub>31</sub>	25	26	27	28	29

**AUGUST**

Week	M	T	W	T	F	S	S
31		31	1	2	3	4	5
32	6	7	8	9	10	11	12
33	13	14	15	16	17	18	19
34	20	21	22	23	24	25	26
35	27	28	29	30	31	1	

**SEPTEMBER**

Week	M	T	W	T	F	S	S
35					31	1	2
36	3	4	5	6	7	8	9
37	10	11	12	13	14	15	16
38	17	18	19	20	21	22	23
39	24	25	26	27	28	29	30

**OCTOBER**

Week	M	T	W	T	F	S	S
40	1	2	3	4	5	6	7
41	8	9	10	11	12	13	14
42	15	16	17	18	19	20	21
43	22	23	24	25	26	27	28
44	29	30	31	1			

**NOVEMBER**

Week	M	T	W	T	F	S	S
44			31	1	2	3	4
45	5	6	7	8	9	10	11
46	12	13	14	15	16	17	18
47	19	20	21	22	23	24	25
48	26	27	28	29	30	1	

**DECEMBER**

Week	M	T	W	T	F	S	S
48					30	1	2
49	3	4	5	6	7	8	9
50	10	11	12	13	14	15	16
51	17	18	19	20	21	22	23
52	<sup>24</sup> <sub>31</sub>	25	26	27	28	29	30

★ New

📦 Pack boxed in

TBA To Be Announced

TFORCE TForce Technology

**Integrated protection against LTE:**

LTE790 Channel 60 filtering (790MHz)

LTE700 Channel 48 filtering (694MHz)



Identifying colour in product



Orange



Graphite



White



Black



Red



Violet



Grey

Packaging type for coaxial cable



Plastic reel

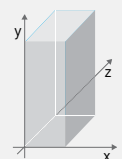


Wooden drum



Cardboard reel

Dimensions: xyz  
(width x height x depth)



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**TERRESTRIAL ANTENNAS**

Ref.	Description			
<b>INTELLIGENT BOSS ANTENNAS</b>				
<b>DAT SERIES - with TForce Technology</b>				
149921	DAT BOSS Terrestrial Antenna UHF (Ch21-48) G 17dBi BOSS OFF, G 42dBi BOSS ON (Single Packing)	LTE700	⊙	1/5
149922	DAT BOSS Terrestrial Antenna UHF (Ch21-48) G 17dBi BOSS OFF, G 42dBi BOSS ON (Multiple Packing)	LTE700	⊙	6
149941	DAT BOSS Terrestrial Antenna UHF (Ch21-60) G 17dBi BOSS OFF, G 45dBi BOSS ON (Single Packing)	LTE790	⊙	1/5
149942	DAT BOSS Terrestrial Antenna UHF (Ch21-60) G 17dBi BOSS OFF, G 45dBi BOSS ON (Multiple Packing)	LTE790	⊙	6
149721	DAT BOSS LR Terrestrial Antenna UHF (Ch21-48) G 19dBi BOSS OFF, 47dBi BOSS ON (Single Packing)	LTE700	⊙	1
149740	DAT BOSS LR Terrestrial Antenna UHF (Ch21-60) G 19dBi BOSS OFF, 47dBi BOSS ON (Single Packing)	LTE790	⊙	1
<b>NOVA SERIES - with TForce Technology</b>				
★ 144021	DINOVA BOSS Terrestrial Antenna UHF (Ch21-48) G 7dBi BOSS OFF, G 34dBi BOSS ON	LTE700	⊙	1
★ 144022	DINOVA BOSS Terrestrial Antenna UHF (Ch21-48) G 7dBi BOSS OFF, G 34dBi BOSS ON (Kit with accessories)	LTE700	⊙	1
★ 144011	DINOVA BOSS Terrestrial Antenna UHF (Ch21-60) G 7dBi BOSS OFF, G 34dBi BOSS ON	LTE790	⊙	1
★ 144012	DINOVA BOSS Terrestrial Antenna UHF (Ch21-60) G 7dBi BOSS OFF, G 34dBi BOSS ON (Kit with accessories)	LTE790	⊙	1
<b>NOVA SERIES (CARAVAN AND SHIP ANTENNAS)</b>				
144501	CAMPNOVA BOSS Terrestrial Antenna FM/BIII/UHF G -2/10/22dBi (Kit with accessories)	LTE790	⊙	1
144441	OMNINOVA BOSS Terrestrial Antenna BI/FM/BIII/UHF G 26/20/28/30dBi (Kit with accessories)	LTE790	⊙	1
<b>TV MOTION SYSTEM - DTT ON THE MOVE</b>				
144740	TRINOVA BOSS Terrestrial Antenna UHF G 25dBi (for Ref. 512501)	LTE790	⊙	1
512501	TRIMOTION Digital Terrestrial Set-top Box (for Ref. 144740)	LTE790	⊙	1
<b>INDOOR</b>				
130201	INNOVA BOSS Indoor Terrestrial Antenna UHF (Ch21-60) G 30dBi	LTE790	⊙	1
<b>Q-BOSS</b>				
561902	Q-BOSS 782 "EasyF" UHF (Ch21-59) G 15dB Vo 101dBμV	LTE790		10
561901	Q-BOSS 790 "EasyF" UHF (Ch21-60) G 15dB Vo 101dBμV	LTE790		10
<b>INTELLIGENCE ACTIVATION ACCESSORIES (BOSS Tech)</b>				
5796	PicoKom Domestic Power Supply Unit 1i/1o "EasyF" SATmix: 5...2500MHz 12V-220mA			1/10
5501	Domestic Power Supply Unit 1i/2o "F": 5...862MHz 12V-220mA			1
<b>PROTECTION ACCESSORIES</b>				
4947	Coaxial Atmospheric Surge Arrestor 90V 0...3GHz			1/20

**DAT BOSS** **TFORCE TECHNOLOGY**



TForce Technology featured in the intelligence system (BOSS) antenna provide a high dynamic range, a higher gain and a low noise figure improving the coverage range in DTT installations.

**IF DAT BOSS CAN'T RECEIVE IT, NOTHING CAN!**



SCAN TO WATCH THE VIDEO  
EN.TELEVES.COM/DATBOSS

A00401



▲ DAT BOSS LR

**TFORCE TECHNOLOGY**



▲ DINOVA BOSS

**TFORCE TECHNOLOGY**



▲ Q-BOSS



▲ CAMPNOVA BOSS



▲ OMNINOVA BOSS



▲ TV MOTION System

# TERRESTRIAL ANTENNAS

Ref.	Description		
<b>PASSIVE ANTENNAS</b>			
<b>FM</b>			
1201	FM Terrestrial Antenna 88...108MHz Circular G 1dBi	○	1/5
<b>VHF, BAND III &amp; DAB</b>			
1050	BIII/DAB Terrestrial Antenna 174...240MHz 3 Elements G 8dBi (Single Packing)	○	1
105001	BIII/DAB Terrestrial Antenna 174...240MHz 3 Elements G 8dBi (Multiple Packing)	○	5
<b>UHF</b>			
802440	Yagi Terrestrial Antenna UHF (Ch21-60) 10 Elements G 8.5dBi	LTE790 ○	15
802441	Yagi Terrestrial Antenna UHF(Ch21-60) 10 Elements G 8.5dBi Black	LTE790 ●	15
111940	Yagi Edge Terrestrial Antenna UHF (Ch21-60) 10 Elements G 10dBi (Multiple Packing)	LTE790 ○	15
111941	Yagi Edge Terrestrial Antenna UHF (Ch21-60) 10 Elements G 10dBi Black (Multiple Packing)	LTE790 ●	15
cai 112140	L 790 Terrestrial Antenna UHF (Ch21-60) 17 Elements G 13dBi	LTE790 ○	6
cai 112141	L 790 Terrestrial Antenna UHF (Ch21-60) 17 Elements G 13dBi Black	LTE790 ●	6
149221	V ZENIT Terrestrial Antenna UHF (Ch21-48) G 13dBi (Single Packing)	LTE700 ○	1/6
149222	V ZENIT Terrestrial Antenna UHF (Ch21-48) G 13dBi (Multiple Packing)	LTE700 ○	10
cai 149201	V ZENIT Terrestrial Antenna UHF (Ch21-58/59/60 Configurable bandwidth) G 15dBi (Single Packing)	LTE790 ○	1/6
cai 149202	V ZENIT Terrestrial Antenna UHF (Ch21-58/59/60 Configurable bandwidth) G 15dBi (Multiple Packing)	LTE790 ○	10
cai 149212	V ZENIT Terrestrial Antenna UHF (Ch21-58/59/60 Configurable bandwidth) G 15dBi (Multiple Packing), Black	LTE790 ●	10
<b>EXTENDED 4G COVERAGE</b>			
650101	4GNOVA Antenna 4G/LTE 698...960/1700...2700MHz G 7dBi (0.7m Female "N")	Ⓜ	1



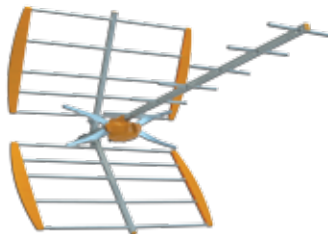
▲ Yagi



▲ Yagi Edge



▲ V ZENIT



▲ L 790



▲ 4GNOVA

What you need to know to choose the right NOVA special antenna?

	ANTENNA	RECEPTION TYPE	INSTALLATION RECOMMENDED FOR	HIGHLIGHT
	<b>DI</b> NOVA	STATIC	Emblematic buildings, Facades, Balconies	<ul style="list-style-type: none"> <li>Low visual impact.</li> </ul>
	<b>CAMP</b> NOVA	STATIC (Long term stay)	Caravans	<ul style="list-style-type: none"> <li>Low visual impact.</li> <li>Mounting optimized to be installed in a caravan.</li> </ul>
	<b>OMNI</b> NOVA	STATIC (Short term stay)	Caravans & Ships	<ul style="list-style-type: none"> <li>No need to be oriented.</li> </ul>
	<b>TRI</b> NOVA	IN MOTION	Caravans, Ships & Buses	<ul style="list-style-type: none"> <li>Low visual impact.</li> <li>No need to be oriented.</li> <li>It is part of the complete <b>system TVMotion</b> (antenna + receiver) which is able to receive signals in all the directions and always choose the best one.</li> </ul>
	<b>4G</b> NOVA	STATIC	Housing	<ul style="list-style-type: none"> <li>Low visual impact.</li> <li>Reception of LTE 4G signals to extend the telephone coverage.</li> </ul>

SATELLITE DISHES

Ref.	Description		
<b>QSD SERIES (Quality Satellite Dishes)</b>			
<b>ALUMINIUM OFFSET DISHES</b>			
7902	QSD High Quality Offset Dish 75 Aluminium G 38.5dBi (750x850mm) Orange	o	1
790204	QSD High Quality Offset Dish 75 Aluminium G 38.5dBi (750x850mm) White	w	1
790202	QSD High Quality Offset Dish 75 Aluminium G 38.5dBi (750x850mm) Graphite	Gr	1
7903	QSD High Quality Offset Dish 85 Aluminium G 39.5dBi (850x950mm) Orange	o	1
790304	QSD High Quality Offset Dish 85 Aluminium G 39.5dBi (850x950mm) White	w	1
790302	QSD High Quality Offset Dish 85 Aluminium G 39.5dBi (850x950mm) Graphite	Gr	1

<b>ISD SERIES (Inox Satellite Dishes)</b>			
<b>ALUMINIUM OFFSET DISHES</b>			
793101	ISD Offset Dish 830 Aluminium G 39dBi Orange	o	1
793102	ISD Offset Dish 830 Aluminium G 39dBi White	w	1
793103	ISD Offset Dish 830 Aluminium G 39dBi Graphite	Gr	1
793109	ISD Offset Dish 830 Aluminium G 39dBi Graphite (No Televés logo)	Gr	1
793111	ISD Offset Dish 830 Aluminium G 39dBi Orange (Multiple packing)	o	5
793112	ISD Offset Dish 830 Aluminium G 39dBi White (Multiple packing)	w	5
793113	ISD Offset Dish 830 Aluminium G 39dBi Graphite (Multiple packing)	Gr	5
763119	ISD Offset Dish 830 Aluminium G 39dBi Graphite (No Televés logo, multiple packing)	Gr	5

<b>SATELLITE DISHES</b>			
<b>STEEL OFFSET DISHES</b>			
★ 792002	Offset Dish 630 Steel G 36.2dBi White (No Televés logo)	w	1
792012	Offset Dish 630 Steel G 36.2dBi White (No Televés logo, multiple packing)	w	10
792022	Offset Dish 630 Steel G 36.2dBi White (No Televés logo, multiple packing)	w	100
★ 792102	Offset Dish 830 Steel G 39dBi White (No Televés logo)	w	1
★ 792103	Offset Dish 830 Steel G 39dBi Graphite (No Televés logo)	Gr	1
792112	Offset Dish 830 Steel G 39dBi White (No Televés logo, multiple packing)	w	5
792113	Offset Dish 830 Steel G 39dBi Graphite (No Televés logo, multiple packing)	Gr	5
792122	Offset Dish 830 Steel G 39dBi White (No Televés logo, multiple packing)	w	100
753402	Offset Dish 1000 Steel G 40.5dBi Graphite (No Televés logo)	Gr	1
753411	Offset Dish 1000 Steel G 40.5dBi White (Multiple packing)	w	5
753421	Offset Dish 1000 Steel G 40.5dBi White (Multiple packing)	w	100
757201	Offset Dish 1100 Steel G 41.5dBi White	w	1
7575	Offset Dish 1300 Steel G 42dBi White (Multiple packing)	w	20

Compatibility between wall brackets & dishes							
Ø Support	35	40	45			60	
Dishes	7393	719203	7349	7371	719202	7576	719201
630	✓	✓	✓	✓	✓	x	x
830	✓	✓	✓	✓	✓	✓	✓
1000	x	x	x	x	✓	✓	✓
1100	x	x	x	x	x	✓	✓
1300	x	x	x	x	x	✓	✓
ISD	✓	✓	✓	✓	✓	✓	✓
QSD	x	✓	✓	✓	✓	✓	✓

QSD SERIES



The long life aluminium dish, quality signal reception for life.  
TÜV approved (German certifying organization).



ISD Series

This range of satellite dishes is built using aluminium and stainless steel to guarantee the protection against rust.

The bracket and LNB holder are built using a special polymer widely used in a highly professional sector, and reinforced with fiberglass for an extreme resistance.

Its improved structure has been designed to make assembly easier.



A00388



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EN.TELEVÉS.COM/630-830



830 Offset Dish

Ref.	Description		
<b>LNBs</b>			
<b>OFFSET</b>			
7475	Offset LNB Single (Universal) Hh/Vh/HI/VI G 60dB		1/10
746902	Offset LNB Single (Universal) Hh/Vh/HI/VI G 60dB Grey		1/100
747802	Offset LNB Twin (2 Outputs Hh/Vh/HI/VI) G 60dB		1/30
747002	Offset LNB Twin (2 Outputs Hh/Vh/HI/VI) G 60dB Grey		1/50
761001	Offset LNB Quad (4 Outputs Hh/Vh/HI/VI) G 60dB		1/30
747202	Offset LNB Quad (4 Outputs Hh/Vh/HI/VI) G 60dB Grey		1/50
7613	Offset LNB Octo (8 Outputs Hh/Vh/HI/VI) G 60dB		1/30
761301	Offset LNB Octo (8 Outputs Hh/Vh/HI/VI) G 60dB Grey		1/30
747701	Offset LNB Quattro Hh-Vh-HI-VI G 60dB		1/30
747102	Offset LNB Quattro Hh-Vh-HI-VI G 60dB Grey		1/50
<b>OPTICAL FIBRE</b>			
2353	Offset Optical LNB 1310nm "FC/PC" G 72dB Po 7dBm (Up to 32 converters), Grey		1
<b>ACCESSORIES</b>			
7450	Current Injector 10...2150MHz 24Vdc-1A		1/20
7485	Line Amplifier 1i/2o "F": UHF/SAT[dc] G -2,5/20dB Vo 112.5dBµV		1/10
7268	DiSEqC 2.0 Switch 2i/1o 0...2400MHz		1/10
7269	DiSEqC 2.0 Switch 4i/1o 5...2150MHz (with Weatherproof Case)		1/10
4163	Outdoor Case Grey Large Model Dimensions: External 136x127x45mm Internal 125x97x35mm		1/5
<b>MASTS, BRACKETS &amp; FIXING ACCESSORIES</b>			
<b>MASTS</b>			
3010	Mast Zinc+RCP 3m x Ø 45mm x Thickness 2mm		4
<b>GALVANIZED BRACKETS</b>			
719201	"Y" Bracket Galvanized Wall/Ground Mount 551x439mm or 620x247mm / Ø 60mm x Thickness 1.5mm		5
719202	"Y" Bracket Galvanized Wall/Ground Mount 728x473mm or 720x481mm / Ø 45mm x Thickness 1.5mm		1
<b>RCP BRACKETS</b>			
7393	"L" Bracket Zinc+RCP Wall Mount 284x194mm / Ø 35mm x Thickness 1.5mm		10
7349	"L" Bracket Zinc+RCP Wall Mount 380x350mm / Ø 45mm x Thickness 1.5mm		5
7371	"L" Bracket Zinc+RCP Wall Mount 500x450mm / Ø 45mm x Thickness 2mm		5
7576	"T" Bracket Zinc+RCP Ground Mount 750x200mm / Ø 60mm x Thickness 2.9mm		1
<b>MULTI-SATELLITE SUPPORTS</b>			
790901	Multi-feed Support Up to 4 SAT, QSD Dishes Includes: Rail (up to 20°) + 1 LNB Support (Ref.790902)		1/10
790902	LNB Support for QSD Dishes		1/10



▲ 7475 (SINGLE)

▲ 747802 (TWIN)



▲ 747701 (QUATTRO)

▲ 761001 (QUAD)



▲ 2353

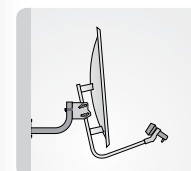


▲ 3010

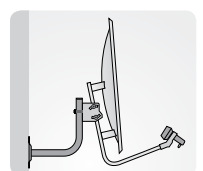
▲ 7393



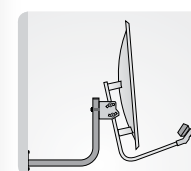
▲ 790901



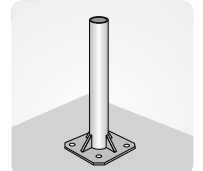
▲ 7393



▲ 7349



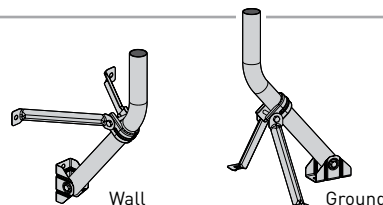
▲ 7371



▲ 7576

**Galvanized brackets**

Ref.	Wall mount (mm)	Ground mount (mm)
719201	551 x 439	620 x 247
719202	728 x 473	720 x 481



Wall

Ground



**TOWERS**

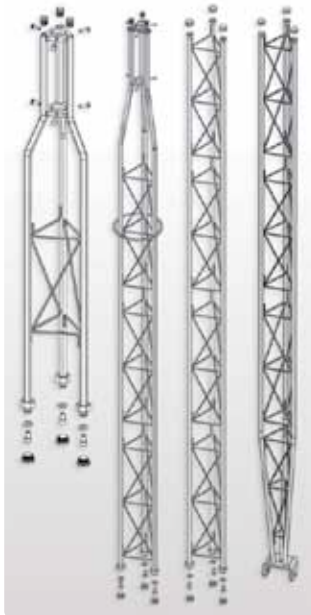
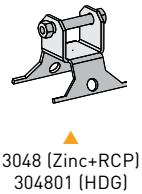
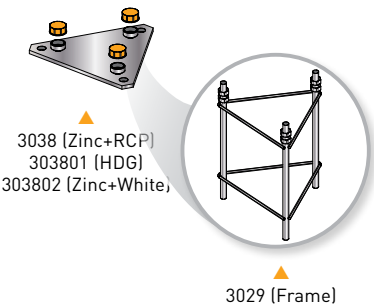
Ref.	Description		
<b>PACK TOWER</b>			
<b>COMPLETE TOWER</b>			
306501	"Pack" Tower Galvanized+Orange 2.2m (Mast and Accessories included)		1
<b>180 SE TOWER</b>			
<b>ZINC+RCP SECTIONS</b>			
3014	Upper Section 180 SE Tower Zinc+RCP 1.25m (mast Ømax 35mm)		1
3015	Upper Section 180 SE Tower Zinc+RCP 2.5m, with Wire Ring (mast Ømax 35mm)		1
3017	Middle Section 180 SE Tower Zinc+RCP 2.5m		1
<b>ACCESSORIES</b>			
3019	Fixed Embedded Base 180 SE Tower Zinc+RCP		1
3020	Fixed Bolting Base 180 SE Tower Zinc+RCP		1
<b>180 TOWER</b>			
<b>ZINC+RCP SECTIONS</b>			
3021	Upper Section 180 Tower Zinc+RCP 1m (mast Ømax 46mm)		1
3032	Upper Section 180 Tower Zinc+RCP 3m (mast Ømax 46mm)		1
3031	Middle Section 180 Tower Zinc+RCP 3m		1
3037	Lower Section Pivoting 180 Tower Zinc+RCP 3m		1
<b>HOT-DIP GALVANIZED SECTIONS</b>			
303201	Upper Section 180 Tower HDG 3m (mast Ømax 46mm)		1
303101	Middle Section 180 Tower HDG 3m		1
303701	Lower Section Pivoting 180 Tower HDG 3m		1
<b>ACCESSORIES</b>			
3058	Guy Wire Ring 180/360 Tower Zinc+RCP		1
305801	Guy Wire Ring 180/360 Tower HDG		20
3029	Embedded Frame 180 Tower Zinc+RCP for Fixed Base (Ref. 3038)		1
3038	Fixed Bolting/Embedded (with frame) Base 180 Tower Zinc+RCP		1
303801	Fixed Bolting/Embedded (with frame) Base 180 Tower HDG		1
3048	Pivoting Embedded Base 180 Tower Zinc+RCP		1
304801	Pivoting Embedded Base 180 Tower HDG		1
305001	Structural Cube 180 Tower Zinc+RCP 200mm		1
3034	Galvanized Steel Wire Ø 4mm		100



▲ Pack Tower (Ref. 306501)  
Compatible with support ref. 7349.



▲ 180 SE Tower



▲ 180 Sections

**Types of finishing**

<b>HDG</b> Hot-Dip Galvanized	<b>Zinc + RCP</b> Zinc plated + Reactive Coating Process	<b>HDG + Painting</b> Hot-Dip Galvanized + Lacquered in oven with electrostatic powder of polyester	<b>Zinc + Painting</b> Zinc plated + Lacquered in oven with electrostatic powder of polyester

Ref.	Description		
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## 360 TOWER

### ZINC+RCP SECTIONS

3085	Upper Section 360 Tower Zinc+RCP 3m (mast Ømax 52mm)	G	1
3087	Middle Section 360 Tower Zinc+RCP 3m	G	1
3086	Lower Section Pivoting 360 Tower Zinc+RCP 3m	G	1

### ZINC+COLOUR SECTIONS

308501	Upper Section 360 Tower Zinc+Red 3m (mast Ømax 52mm)	R	1
308502	Upper Section 360 Tower Zinc+White 3m (mast Ømax 52mm)	W	1
308701	Middle Section 360 Tower Zinc+Red 3m	R	1
308702	Middle Section 360 Tower Zinc+White 3m	W	1
308601	Lower Section Pivoting 360 Tower Zinc+Red 3m	R	1
308602	Lower Section Pivoting 360 Tower Zinc+White 3m	W	1

### HOT-DIP GALVANIZED SECTIONS

308503	Upper Section 360 Tower HDG 3m (mast Ømax 52mm)	G	1
308703	Middle Section 360 Tower HDG 3m	G	1
308603	Lower Section Pivoting 360 Tower HDG 3m	G	1

### HOT-DIP GALVANIZED+COLOUR SECTIONS

308504	Upper Section 360 Tower HDG+Red 3m (mast Ømax 52mm)	R	1
308704	Middle Section 360 Tower HDG+Red 3m	R	1
308705	Middle Section 360 Tower HDG+White 3m	W	1
308604	Lower Section Pivoting 360 Tower HDG+Red 3m	R	1
308605	Lower Section Pivoting 360 Tower HDG+White 3m	W	1

### ACCESSORIES

3088	Pivoting Embedded Base 360 Tower Zinc+RCP	G	1
308801	Pivoting Embedded Base 360 Tower HDG	G	1
3089	Fixed Embedded Base 360 Tower Zinc+RCP	G	1
308901	Fixed Embedded Base 360 Tower HDG	G	1
3058	Guy Wire Ring 180/360 Tower Zinc+RCP	G	1
305801	Guy Wire Ring 180/360 Tower HDG	G	20
3059	Galvanized Steel Wire Ø 5mm		100

## 450 TOWER

### ZINC+COLOUR SECTIONS

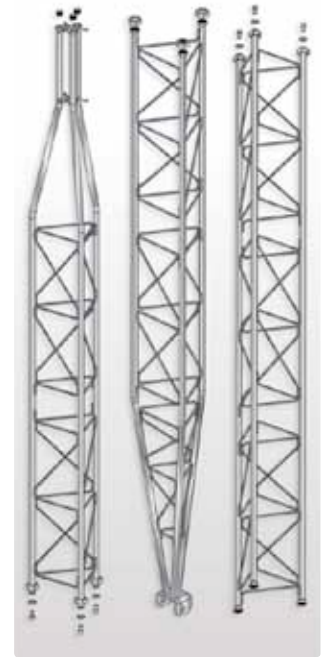
3133	Upper Section 450 Tower Zinc+Red 3m (mast Ømax 62mm)	R	1
3132	Middle Section Reinforced 450 Tower Zinc+Red 3m	R	1
313201	Middle Section Reinforced 450 Tower Zinc+White 3m	W	1
3131	Middle Section 450 Tower Zinc+Red 3m	R	1
313101	Middle Section 450 Tower Zinc+White 3m	W	1
3130	Lower Section Pivoting Reinforced 450 Tower Zinc+Red 3m	R	1

### HOT-DIP GALVANIZED+COLOUR SECTIONS

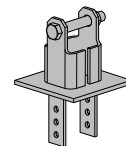
313301	Upper Section 450 Tower HDG+Red 3m (mast Ømax 62mm)	R	1
313202	Middle Section Reinforced 450 Tower HDG+Red 3m	R	1
313203	Middle Section Reinforced 450 Tower HDG+White 3m	W	1
313102	Middle Section 450 Tower HDG+Red 3m	R	1
313103	Middle Section 450 Tower HDG+White 3m	W	1
313001	Lower Section Pivoting Reinforced 450 Tower HDG+Red 3m	R	1

### ACCESSORIES

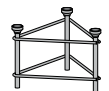
3134	Pivoting Embedded/Bolting (with plate) Base 450 Tower Zinc+Red	R	1
313401	Pivoting Embedded/Bolting (with plate) Base 450 Tower HDG	G	1
312901	Surface Plate 450/550 Tower for Pivoting Base (Refs. 3134/01 & 3142/01) Zinc+RCP	G	1
313501	Fixed Embedded Base 450 Tower Zinc+RCP	G	1
★ 313502	Fixed Embedded Base 450 Tower HDG	G	1
3144	Guy Wire Ring 450/550 Tower Zinc+RCP	G	1
314401	Guy Wire Ring 450/550 Tower HDG	G	1
306001	Galvanized Steel Wire Ø 6mm		200



▲ 360 Sections



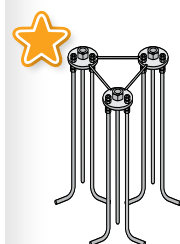
▲ 3088 (Zinc+RCP)  
308801 (HDG)



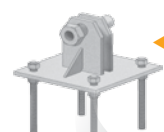
▲ 3089 (Zinc+RCP)  
308901 (HDG)



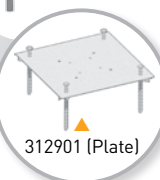
▲ 450 Sections



▲ 313501 (Zinc+RCP)  
313502 (HDG)



▲ 3134 (Zinc+Red)  
313401 (HDG)



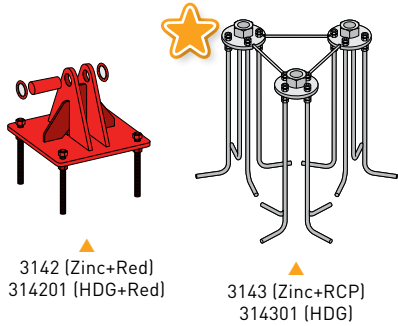
▲ 312901 (Plate)

**TOWERS**

Ref.	Description		
<b>550 TOWER</b>			
<b>ZINC+COLOUR SECTIONS</b>			
3141	Transition Section 550 to 450 Tower Zinc+Red 3m	R	1
3140	Middle Section 550 Tower Zinc+Red 3m	R	1
314001	Middle Section 550 Tower Zinc+White 3m	W	1
313901	Lower Section Pivoting 550 Tower Zinc+Red 3m	R	1
<b>HOT-DIP GALVANIZED+COLOUR SECTIONS</b>			
314101	Transition Section 550 to 450 Tower HDG+Red 3m	R	1
314002	Middle Section 550 Tower HDG+Red 3m	R	1
314003	Middle Section 550 Tower HDG+White 3m	W	1
313902	Lower Section Pivoting 550 Tower HDG+Red 3m	R	1
<b>ACCESSORIES</b>			
3142	Pivoting Embedded/Bolting (with plate) Base 550 Tower Zinc+Red	R	1
314201	Pivoting Embedded/Bolting (with plate) Base 550 Tower HDG+Red	R	1
312901	Surface Plate 450/550 Tower for Pivoting Base (Refs. 3134/01 & 3142/01) Zinc+RCP	G	1
3143	Fixed Embedded Base 550 Tower Zinc+RCP	G	1
★ 314301	Fixed Embedded Base 550 Tower HDG	G	1
3144	Guy Wire Ring 450/550 Tower Zinc+RCP	G	1
314401	Guy Wire Ring 450/550 Tower HDG	G	1
306001	Galvanized Steel Wire Ø 6mm		200
<b>550XL - REINFORCED TOWER <sup>(1)</sup></b>			
<b>HOT-DIP GALVANIZED+COLOUR SECTIONS</b>			
313810	Top Mast Holder 550XL Reinforced Tower HDG+Red 0.25m (mast Ømax 62mm)	R	1
314010	Middle Section 550XL Reinforced Tower HDG+Red 3m	R	1
314011	Middle Section 550XL Reinforced Tower HDG+White 3m	W	1
313911	Lower Section Pivoting 550XL Reinforced Tower HDG+Red 3m	R	1
<b>ACCESSORIES</b>			
314210	Pivoting Embedded Base 550XL Reinforced Tower HDG+Red	R	1
314401	Guy Wire Ring 450/550 Tower HDG	G	1

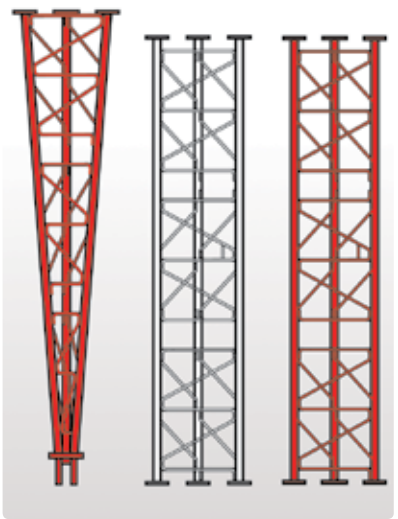


▲ 550 Sections

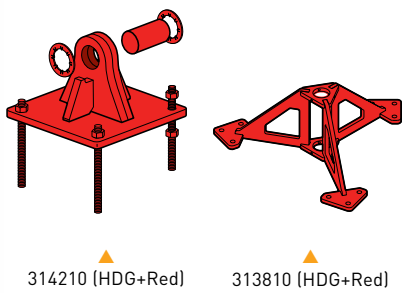


▲ 3142 (Zinc+Red)  
314201 (HDG+Red)

▲ 3143 (Zinc+RCP)  
314301 (HDG)

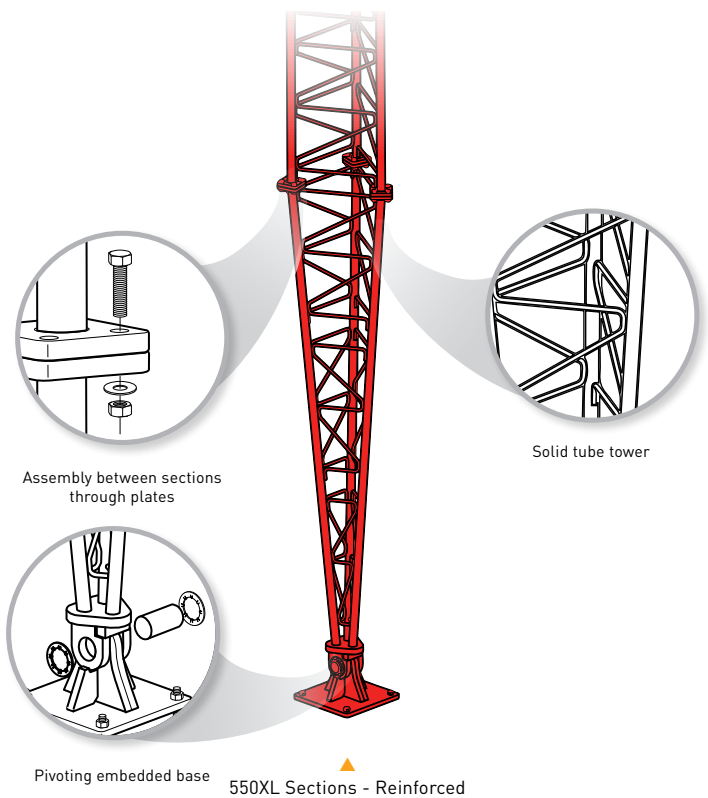


▲ 550XL Sections - Reinforced



▲ 314210 (HDG+Red)

▲ 313810 (HDG+Red)



▲ 550XL Sections - Reinforced

(1) Due to its assembly system with plates, the sections of the 550XL tower are not compatible with the rest of the tower range.

Ref.	Description		
<b>LTE FILTERS</b>			
<b>"EasyF" CONNECTOR (OUTDOORS)</b>			
★ 405202	High Rejection LTE Filter (HR) "EasyF" 47...698MHz VHF/UHF (Ch21-48) Outdoor	LTE700	1/10
405101	Medium Rejection LTE Filter (MR) "EasyF" 470...774MHz UHF (Ch21-58) Outdoor	LTE790	1/10
405402	High Rejection LTE Filter (HR) "EasyF" 47...782MHz VHF/UHF (Ch21-59) Outdoor	LTE790	1/10
405403	High Rejection LTE Filter (HR) "EasyF" 47...782MHz VHF/UHF (Ch21-59) Outdoor (DC Pass)	LTE790	1/10
405401	High Rejection LTE Filter (HR) "EasyF" 47...790MHz VHF/UHF (Ch21-60) Outdoor	LTE790	1/10
<b>"F" CONNECTOR (INDOORS)</b>			
★ 403201	Medium Rejection LTE Filter (MR) "F" 47...694MHz VHF/UHF (Ch21-48), Indoor	LTE700	1/10
403101	Medium Rejection LTE Filter (MR) "F" 470...774MHz UHF (Ch21-58) Indoor	LTE790	1/10
403402	High Rejection LTE Filter (HR) "F" 47...782MHz VHF/UHF (Ch21-59) Indoor	LTE790	1/10
403401	High Rejection LTE Filter (HR) "F" 47...790MHz VHF/UHF (Ch21-60) Indoor	LTE790	1/10
403301	Very High Rejection LTE Microcavities Filter (VHR) "F" 5...782MHz VHF/UHF (Ch21-59) Selective, Indoor	LTE790	1/14
403302	Very High Rejection LTE Microcavities Filter (VHR) "F" 5...790MHz VHF/UHF (Ch21-60) Selective, Indoor	LTE790	1/14
4163	Outdoor Case Grey Large Model Dimensions: External 136x127x45mm Internal 125x97x35mm	ⓐ	1/5
<b>"IEC" CONNECTOR: AT800 (INDOORS)</b>		<b>LTE790</b>	
404410	High Rejection LTE Filter (HR) "IEC" 47...782MHz VHF/UHF (Ch21-59) Indoor (Blister S)		10
<b>"IEC" CONNECTOR (INDOORS)</b>		<b>LTE790</b>	
404411	Medium Rejection LTE Filter (MR) "IEC" 470...774MHz UHF (Ch21-58) Indoor (Bag B3)		10
404412	High Rejection LTE Filter (HR) "IEC" 47...790MHz VHF/UHF (Ch21-60) Indoor (Bag B3)		10
<b>COMBINERS</b>		<b>LTE790</b>	
<b>TERRESTRIAL</b>			
404010	Mast Triplexer 3i/1o "EasyF": BI/FM-BIII/DAB-UHF[dc], Outdoor	ⓐ	1/10
404011	Mast Triplexer 3i/1o "EasyF": BI/FM-BIII/DAB-UHF[dc], Outdoor Black	ⓑ	1/10
404110	Mast Triplexer 3i/1o "EasyF": VHF-UHF[dc]-UHF, Outdoor	ⓐ	1/10
<b>TERRESTRIAL + 1 SATELLITE</b>			
745210	Mixer MATV-SAT 2i/1o "F": 47..790-950..2400MHz[dc]		1/10
★ 745220	Mini-mixer MATV-SAT 2i/1o "F": 47..790-950..2400MHz[dc]		10
417801	Outdoor Case Black Model for Mini Series Dimensions: External 88x78x39mm Internal 57x47x13mm	ⓑ	1/10
<b>TERRESTRIAL + 2 SATELLITES</b>			
740710	Double Mixer (47...790/950...2400MHz[dc]) 3i/2o "F": SAT1-MATV-SAT2 / SAT1+MATV-SAT2+MATV		1/10



▲ 405202



▲ 745220



▲ 745210

▲ 740710

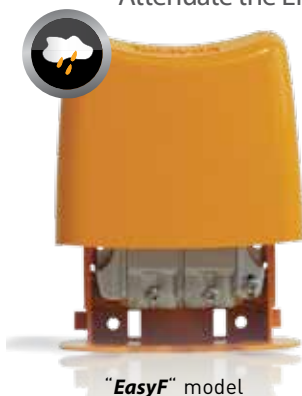


LET'S BE CLEAR 800

▲ 404410

## LTE FILTERS

Attenuate the LTE/4G or LTE/5G signals passing through the antenna towards active devices susceptible of being affected by them.



"EasyF" model



Plug-in model  
("F" or "IEC" connection)



Filter based on microcavities  
Minimal insertion losses

**LTE ADAPTATION**  
**ALL SOLUTIONS FOR ALL CASES**

**AMPLIFICATION**

Ref.	Description			
<b>MASTHEAD AMPLIFIERS</b>				
<b>NANOKOM SERIES</b>				
561501	NanoKom Mast Amplifier 3i/1o "EasyF": BIII/UHF[dc]-FMmix-SATmix[dc] G 20/29- [-2] - [-2]dB Vo 105/107dB $\mu$ V w/USOS 12...24V Powering (Switchable DC Pass)	LTE790	○	1/10
★ 561620	NanoKom Mast Amplifier 3i/1o "EasyF": UHF[dc]-VHFmix-SATmix[dc] G 30- [-1] - [-2]dB Vo 107dB $\mu$ V w/USOS. 12...24V Powering (Automatic LTE Filter & Switchable DC Pass)	LTE700 LTE790	○	1/10
561601	NanoKom Mast Amplifier 3i/1o "EasyF": UHF[dc]-VHFmix-SATmix[dc] G 30- [-1] - [-2]dB Vo 107dB $\mu$ V w/USOS 12...24V Powering (Switchable DC Pass)	LTE790	○	1/10
561701	NanoKom Mast Amplifier 3i/1o "EasyF": UHF[dc]-UHF-VHFmix G 27-27- [-1]dB Vo 107dB $\mu$ V 12...24V Powering (Switchable DC Pass)	LTE790	○	1/10
561801	NanoKom Mast Amplifier 3i/1o "EasyF": BIII-UHF[dc]-FMmix G 21-29- [-2]dB Vo 107dB $\mu$ V w/USOS 12...24V Powering (Switchable DC Pass)	LTE790	○	1/10
<b>SAT-MIX SERIES: VARIABLE GAIN - LOW OUTPUT LEVEL - 12...24V POWERING</b>				
535401	Mast Amplifier 2i/4o "EasyF": UHF/Vmix[dc]-SATmix[dc] G 20/(-9) - [-12]dB Vo 93dB $\mu$ V 12...24V Pow. Black		ⓑ	1/5
<b>DOMESTIC POWER SUPPLY UNITS: PICOKOM SERIES</b>				
579401	PicoKom Domestic Power Supply Unit 1i/2o "EasyF" 5...2400MHz 12V-200mA			1/10
5796	PicoKom Domestic Power Supply Unit 1i/1o "EasyF" SATmix: 5...2500MHz 12V-220mA			1/10
<b>DOMESTIC POWER SUPPLY UNITS</b>				
5501	Domestic Power Supply Unit 1i/2o "F": 5...862MHz 12V-220mA			1
<b>KITS: MAST AMPLIFIER + PSU</b>				
567802	NanoKom Mast Amplifier 3i/1o "EasyF": UHF[dc]-VHFmix-SATmix[dc] with USOS + PicoKom PSU 1i/1o "EasyF" 12V-220mA. Kit with Refs.: 561601 & 5796	LTE790	○	1
8048	Mast Amplifier 2i/4o "EasyF": UHF/Vmix[dc]-SATmix[dc] + Domest.PSU 1i/2o "F" 12V-220mA (Ref.535401+5501) Black		ⓑ	5

≡ MAST NANOKOM SERIES



Dimensions: 90 x 80 x 38mm

The ultra-small size series with very low noise figure and automatic output level adjusting (USOS System).



▲ Mast Amplifier: 126 x 134 x 38 mm



▲ Domestic PSU: PicoKom Series 90 x 68 x 28 mm



▲ Domestic PSU: F Connector 145 x 35 x 45 mm

Ref.	Description		
<b>MATV DOMESTIC AMPLIFIERS (47...694/790/862MHz)</b>			
<b>"EasyF" CONNECTOR: NANOKOM SERIES</b>			<b>LTE790</b>
562701	NanoKom Domestic Amplifier 1i/1o "EasyF": 47...790/862MHz G 13/26dB Vo 98/106dBµV w/USOS + Preamp.Pow. 12V-150mA Switchable LTE Filter. Remote Powering (PSU included)		1/10
562702	NanoKom Domestic Amplifier 1i/2o "EasyF": 47...790/862MHz G 10/23dB Vo 95/103dBµV w/USOS + Preamp.Pow. 12V-150mA Switchable LTE Filter. Remote Powering (PSU included)		1/10
562703	NanoKom Domestic Amplifier 1i/(2o+TV) "EasyF": 47...790/862MHz G 9/22dB Vo 94/102dBµV w/USOS + Output TV Outlet G 13dB + Preamp.Pow. 12V-150mA Switchable LTE Filter. Remote Powering (PSU included)		1/10
<b>"EasyF" CONNECTOR: PICOKOM SERIES</b>			<b>LTE790</b>
560541	PicoKom Domestic Amplifier 1i/1o "EasyF": 47...790MHz G 12/24dB Vo 100/105dBµV Auto-Adjustment + Preamp.Pow. 12V-150mA		1/10
560542	PicoKom Domestic Amplifier 1i/2o "EasyF": 47...790MHz G 10/20dB Vo 100/105dBµV Auto-Adjustment + Preamp.Pow. 12V-150mA		1/10
560543	PicoKom Domestic Amplifier 1i/(2o+TV) "EasyF": 47...790MHz G 10/20dB Vo 100/105dBµV Auto-Adjustment + Preamp.Pow. 12V-150mA		1/10
<b>"IEC" CONNECTOR</b>			
552741	Domestic Amplifier 1i/1o "IEC": 47...790MHz G 25dB Vo 112dBµV (UK plug)	<b>LTE790</b>	5
★ 552120	Domestic Amplifier 1i/2o "IEC": 47...694MHz G 22dB Vo 104dBµV (Blister T1)	<b>LTE700</b>	8
552840	Domestic Amplifier 1i/(2o+TV) "IEC": 47...790MHz G 20dB Vo 106dBµV + Output TV Outlet G 12dB (Blister T1)	<b>LTE790</b>	8
★ 545720	Domestic Amplifier 1i/(2o+TV) "IEC": 47...694MHz G 20dB Vo 110dBµV + Output TV Outlet G 12dB + Preamp.Pow. 12V-100mA (Blister T1)	<b>LTE700</b>	8
552940	Domestic Amplifier 1i/(4o+TV) "IEC": 47...790MHz G 16dB Vo 102dBµV + Output to a TV Outlet G 11dB (Blister T1)	<b>LTE790</b>	8
<b>"F" CONNECTOR</b>			
★ 552220	Domestic Amplifier 1i/(2o+TV) "F": 47...694MHz G 20dB Vo 110dBµV + Output TV Outlet G 12dB (Blister T1)	<b>LTE700</b>	1
★ 5531	Domestic Amplifier 1i/6o "F": 47...862MHz G 16dB Vo 103dBµV (Blister T1)		8
<b>SKY PASS AMPLIFIERS</b>			
<b>"F" CONNECTOR</b>			
5517	Domestic Amplifier 2i/4o "F": 47..232-5..30/470..862MHz G 16-6/16dB Vo 108-110/105dBµV 11V-10mA Sky Power. <sup>(1)</sup>		1/5

## DOMESTIC NANOKOM SERIES



Dimensions: 64 x 45 x 28 mm

The discreet and ultra-small size range with automatic level adjusting (USOS System) and the possibility to be powered remotely.



A00328



SCAN TO WATCH THE VIDEO

EN.TELEVES.COM/NANOKOM

**easyF**



▲ Domestic Amplifier: PicoKom Series  
90 x 68 x 28 mm



▲ Domestic Amplifier: "IEC" Connector  
145 x 35 x 45 mm



▲ Domestic Amplifier: "F" Connector  
145 x 35 x 45 mm

(1) Variable gain in UHF and VHF with detachable mains lead.

AMPLIFICATION

Ref.	Description	
<b>LAUNCH AMPLIFIERS: MINIKOM "EasyF" SERIES</b> <span style="float: right;">LTE790</span>		
<b>TERRESTRIAL - MATV</b>		
562501	MiniKom Amplifier MATV 3i/1o "EasyF": FM-VHF-UHF G 15-{22 32}-{30 40}dB Vo 113-114-117dB $\mu$ V Preamp. Powering 12V-200mA (Switchable DC Pass)	1
562401	MiniKom Amplifier MATV 4i/1o "EasyF": FM-VHF-UHF-UHF G 15-{22 32}-{26 36}-{26 36}dB Vo 113-114-117-117dB $\mu$ V Preamp. Powering 12V-200mA (Switchable DC Pass)	1
562301	MiniKom Amplifier 5i/1o "EasyF": FM-V-U-21..36-38..60 G 15-{22 32}-{26 36}-{24 34}-{24 34}dB Vo 113-114-117-117-117dB $\mu$ V Preamp. Powering 12V-200mA (Switchable DC Pass)	1
<b>TERRESTRIAL + SATELLITE - SMATV</b>		
562601	MiniKom Amplifier MATV+SAT 4i/1o "EasyF": FM-VHF-UHF-SAT G 15-{21 31}-{27 37}-35dB Vo 114-114-115-119dB $\mu$ V Preamp. Powering 12V-200mA (Switchable DC Pass)	1
<b>LAUNCH AMPLIFIERS: MINIKOM "F" SERIES</b>		
<b>TERRESTRIAL - MATV: LINE</b>		
537302	MiniKom Amplifier MATV 1i/1o "F": 47...454/470...862MHz G {20 30}/{27 37}dB Vo 114/116dB $\mu$ V	1
<b>TERRESTRIAL - MATV</b>		
539201	MiniKom Amplifier MATV 4i/1o "F": FM-BIII/DAB-UHF-UHF G 15-{20 30}-{27 37}-{27 37}dB Vo 114-114-117-117dB $\mu$ V 12V-70mA Preamp.Pow.	1
<b>RETURN PATH + TERRESTRIAL + SATELLITE - SMATV/CATV: LINE</b>		
★ 531710	MiniKom Amplifier Return Path + MATV + SAT 1i/1o "F": 5..30/47..862/950..2150MHz G -5/30/33..38dB Vo (MATV/SAT) 114/123dB $\mu$ V	1
<b>RETURN PATH + TERRESTRIAL + SATELLITE - SMATV/CATV</b>		
5317	MiniKom Amplifier Return Path + MATV + 2SAT 2i/2o "F": {5..30/47..862/950..2150}-{950..2150}MHz G (for 2 outputs) -5/30/33..38dB Vo (MATV/SAT) 114/123dB $\mu$ V	1
<b>TERRESTRIAL + SATELLITE - SMATV</b>		
5396	MiniKom Amplifier MATV + SAT 4i/1o "F": BI/FM-BIII-UHF-FI G 33/20-35-40-35..42dB Vo 112-112-115-121dB $\mu$ V 12V-70mA Preamp. Pow.	1
5363	MiniKom Amplifier MATV + SAT 2i/1o "F": {47...862}-{950...2150}MHz G -1.5-35..45dB Vo(SAT) 124dB $\mu$ V	1
<b>SKY PASS - TERRESTRIAL - MATV</b>		
5372	MiniKom Amplifier Return Path + MATV 2i/(7+1)o "F": FM/VHF-5..7MHz/UHF G 5-0.5/15dB Vo 89-108/89dB $\mu$ V {+1@16-15/27dB} 12V 30/10mA Preamp. Powering (UK Plug)	1
<b>LAUNCH AMPLIFIERS: DTKOM SERIES</b>		
<b>TERRESTRIAL - MATV: LINE</b>		
5338	DTKom Amplifier MATV 1i/1o "F": 47...862MHz G {41 53}dB Vo 123dB $\mu$ V (Remote Powering)	1
<b>TERRESTRIAL - MATV</b>		
534040	DTKom Amplifier MATV 3i/1o "F": FM-BIII-UHF G {21 25}-{36 44}-{45 55}dB Vo 123dB $\mu$ V 12V-50mA Preamp. Powering	LTE790 1
534140	DTKom Amplifier MATV 5i/1o "F": FM-BIII-21..35-38..60-UHF G {21 25}-{36 44}-{40 50}-{42 52}-{42 52}dB Vo 123dB $\mu$ V 12V-50mA Preamp. Powering	LTE790 1
4508	DTKom Amplifier MATV 4i/1o "F": FM-VHF-UHF-UHF G 30-{32 45}-{40 52}-{40 52}dB Vo 129dB $\mu$ V 12V-70mA Preamp. Pow.	1
<b>RETURN PATH + TERRESTRIAL + SATELLITE - SMATV/CATV: LINE</b>		
533501	DTKom Amplifier Return Path + MATV + SAT 1i/1o "F": 5..65/87..862/950...2150MHz G 20/{40 53}/42dB Vo 115/124/121dB $\mu$ V	1
5337	DTKom Amplifier Return Path + MATV + 2SAT 2i/2o "F": {5..30/47..862/950..2150MHz} - {950..2150MHz} G (for 2 outputs) {-5 17}/{34 47}/42dB Vo 113/120/120dB $\mu$ V	1
<b>RETURN PATH + TERRESTRIAL - CATV: LINE</b>		
451203	DTKom Amplifier Return Path + MATV 1i/1o "F": 5...65/87...1006MHz G 28/{30 40}dB Vo 118/129dB $\mu$ V	1

MINIKOM EasyF SERIES



▲ Amplifiers  
Dimensions: 100 x 100 x 50 mm

High efficiency launch / splitband amplifiers, with selectable gain and LTE rejection.



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A00329



▲ Amplifiers: MiniKom "F" Series  
185 x 112 x 70 mm



▲ Amplifiers: DTKom Series  
284 x 140 x 50 mm

# AMPLIFICATION

Ref.	Description		
<b>AMPLIFIERS: OUTDOOR SERIES</b>			
<b>RETURN PATH + TERRESTRIAL - CATV</b>			
★ 451310	Outdoor Amplifier Return Path + MATV 35...90Vac Powered 1i/1o 5/8": 5...65/87...1006MHz G (- 128 /30 40)dB Vo 128/118dBμV (Passive/Active Return Path)	1	
4513	Outdoor Amplifier Return Path + MATV 40...60Vac Powered 1e/1s 5/8": 5...65/87.5...862MHz G 12/[26 136]dB Vo 118 dBμV (Active Return Path)	1	
5456	Outdoor Power Supply Unit 57Vac - 5A	1	
<b>PROGRAMMABLE AMPLIFIERS: AVANT SERIES</b>			
<b>AVANT 3</b>			
532740	Avant 3: Programmable Amplifier (5 Filters AGC) 5i/2o "F": BI/FM-VHF-2UHF-INmix G 32/15-35-50-3dB Vo 114-114-116-114/116dBμV	LTE790	1
<b>AVANT 9 (1)</b>			
532001	Avant 9 Basic: Programmable Amplifier (10 Filters). 5i/1o "F": FM-BIII/DAB-(120.862)-2xUHF G 34-49-41-51-55dB Vo 122-122-122-122dBμV	LTE790	1
532011	Avant 9 Basic-Sat: Programmable Amplifier (10 Filters). 6i/2o "F": FM-BIII/DAB-(120.862)-2xUHF-SAT G 34-49-41-51-45dB Vo 118-118-118-118-123dBμV	LTE790	1
532021	Avant 9 Pro: Programmable Amplifier (10 Filters). 6i/1o "F": FM-BIII/DAB-(120.862)-3xUHF G 30-45-37-55dB Vo 122-122-122-122dBμV With Autoprogramming, Monitoring and Report Generation	LTE790	1
★ 532022	Avant 9 Pro with Auto-LTE: Programmable Amplifier (10 Filters). 6i/1o "F": FM-BIII/DAB-(120.862)-3xUHF G 30-45-37-55dB Vo 122-122-122-122dBμV With Autoprogramming, Monitoring and Report Generation	LTE790 LTE700	1
532031	Avant 9 Pro-Sat: Programmable Amplifier (10 Filters). 7i/2o "F": FM-BIII/DAB-(120.862)-3xUHF-SAT G 30-45-37-51-45dB Vo 118-118-118-118-123dBμV With Autoprogramming, Monitoring and Report Generation	LTE790	1
<b>ACCESSORIES</b>			
7234	Universal Programmer T.OX/T05/AVANT		1
400610	Line Amplifier UHF 1i/1o "F": 470...790MHz G 13dB Vo 98dBμV (Plug-in)		1/10
4007	Notch Filter "F" UHF (Ch21-69) 1 Channel & 1 Adjustment		1/10
4162	Notch Filter "IEC" BI/FM/BIII/UHF 2 Channels & 2 Adjustments		1/10
4061	Terminal Load "F" 750hm with DC Blocked		10/200



▲ Amplifiers: Outdoor Series  
290 X 220 X 100 mm



▲ Programmable Amplification: Avant 3  
198 x 119 x 65 mm

(1) OTG cable for an ASuite programming included in all the AVANT 9 versions

## BEYOND YOUR EXPECTATIONS

CHOOSE THE PROGRAMMING MODE YOU WISH...

# Avant 9

PROGRAMMABLE HEADEND AMPLIFIER  
FOR MATV & SMATV (IRS)



**SMALL AND LIGHT-WEIGHT**  
(273 x 203 x 57 mm)



**HIGH REJECTION TO ADJACENT CHANNELS**



**25% REDUCTION IN POWER CONSUMPTION**



**MANUFACTURED IN EUROPE**



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WITH OUR CLASSIC  
UNIVERSAL PROGRAMMER



A SIMPLE AND INTUITIVE  
APPLICATION FOR ANDROID AND PC  
USB connection (OTG cable)



PERFORM  
AUTOMATIC PROGRAMMING  
WITH A SINGLE BUTTON\*



PDF REPORT  
GENERATION\*

\* [PRO VERSION]



# AMPLIFICATION

Ref.	Description	
<b>SINGLE CHANNEL AMPLIFIERS: T12 SERIES</b>		
<b>SINGLE CHANNEL AMPLIFIERS</b>		<b>LTE790</b>
508212	T12 Single Channel Amplifier FM 88..108MHz G 35dB Vo 114dB $\mu$ V	1
509912	T12 Single Channel Amplifier DAB 195..232MHz G45dB Vo114dB $\mu$ V	1
509812	T12 Single Channel Amplifier UHF High Selectivity 470...862MHz G 55dB Vo 125dB $\mu$ V	1
<b>POWER SUPPLY UNITS</b>		
549812	T12 Switch-mode Power Supply Unit 60W 24V-2.5A	1
<b>SUPPORTS &amp; ENCLOSURES</b>		
5071	Wall Mount 498mm (1 PSU + 7 T.0X Modules or 10 T12/T05 Modules) <sup>(1)</sup>	1
5239	Wall Mount 560mm (1 PSU + 8 T.0X Modules or 12 T12/T05 Modules) <sup>(1)</sup>	1
5301	19" Rack Frame 5RU (1 PSU + 7 T.0X Modules or 10 T12/T05 Modules) <sup>(1)</sup>	1
5072	Lockable Cabinet 498mm (1 PSU + 10 Modules T12/T05) <sup>(1)</sup>	1
5069	Lockable Cabinet 648mm (1 PSU + 14 T12/T05 Modules) <sup>(1)</sup>	1
5331	19" Rack Cabinet 28RU. Ventilation, Wheels, Glazed Door	1
5332	19" Rack Cabinet 37RU. Ventilation, Wheels, Glazed Door	1
<b>ACCESSORIES</b>		
400610	Line Amplifier UHF 1i/1o "F": 470...790MHz G 13dB Vo 98dB $\mu$ V (Plug-in)	1/10
4007	Notch Filter "F" UHF (Ch21-69) 1 Channel & 1 Adjustment	1/10
4162	Notch Filter BI/FM/BIII/UHF 2 Channels & 2 Adjustments "IEC"	1/10
4005	Adjustable Attenuator "F" 0 to 20dB 5...2200MHz DC Pass	1/10
5074	T12 "F" Connector Link Push Fit Type, 48mm	10
4061	Terminal Load "F" 75ohm with DC Blocked	10/200



▲ 509812



▲ 549812



▲ 5301

▲ 549812



▲ 5069 / 5072



▲ 400610



▲ 4162

(1) The number of modules indicated is based solely on the available space; but the number of installable modules may be limited by other restrictions such as consumption or temperature.

Ref.	Description	
<b>T.OX SERIES</b>		
<b>SMATV HEADENDS</b>		
563101	T.OX Transmodulator DVBS/S2-COFDM (BIII/UHF)	1
563301	T.OX Transmodulator DVBS/S2-COFDM CI (BIII/UHF) <sup>(1)</sup>	1
564201	T.OX Transmodulator DVBS/S2-COFDM CI (UHF) Multiplexer: 3 Transponders(2Sat): 1Ch or 3 Transponders(1Sat+LoopThru): 1Ch <sup>(1)</sup>	1
564301	T.OX Twin Transmodulator DVBS/S2-COFDM CI (47...862MHz) Multiplexer: 3 Transponders(2Sat): 2Ch or 3 Transponders(1Sat+LoopThru): 2Ch <sup>(1)</sup>	1
★ 563001	T.OX Twin Transmodulator DVBS/S2-QAM (47...862MHz)	1
564501	T.OX Hexa Transmodulator DVBS/S2-QAM (47...862MHz)	1
563501	T.OX Transmodulator DVBS/S2-QAM CI (47...862MHz) <sup>(1)</sup>	1
564101	T.OX Transmodulator DVBS/S2-QAM CI (47..862MHz) Multiplexer: 3 Transponders(2Sat): 1C or 3 Transponders(1Sat+LoopThru): 1Ch <sup>(1)</sup>	1
564401	T.OX Twin Transmodulator DVBS/S2-QAM CI (47..862MHz) Multiplexer: 3 Transponders(2Sat): 2Ch or 3 Transponders(1Sat+LoopThru): 2Ch <sup>(1)</sup>	1
553701	T.OX Twin Transmodulator QPSK-PAL CI Stereo (VSB 47..862MHz) <sup>(1)</sup>	1
553702	T.OX Twin Transmodulator QPSK/PAL CI Stereo (VSB 47..862MHz) Pro CAM compatible. Simultaneous decryption of 2 services <sup>(1) (2)</sup>	1
<b>MATV HEADENDS</b>		
566001	T.OX Encoder/Modulator Single 1i: HDMI / Component(YPbPr) / CVBS - 1Mux: COFDM/QAM (MPEG2/4) (Standalone support + PSU 18V included)	1
★ 566011	T.OX Encoder/Modulator Twin, 2i: CVBS - 1Mux: COFDM/QAM (MPEG2) (Standalone Support + PSU18V included)	1
563822	T.OX Encoder/Modulator Quad, 4i A/V: CVBS - 1Mux: COFDM/QAM (MPEG2/4)	1
563832	T.OX Encoder/Modulator Twin, 2i: HDMI / Component (YPbPr) - 1Mux: COFDM/QAM (MPEG2/4)	1
563852	T.OX Encoder/Modulator IP Twin (MPEG2/4), 2 Modes: 2i: HDMI / Component(YPbPr) / CVBS - 1Mux: IP/COFDM/QAM 2i: HDMI / Component(YPbPr) / CVBS / IP - 1Mux: COFDM/QAM	1
565101	T.OX Twin Transmodulator DVBT/T2-COFDM CI (47...862MHz) Multiplexer: 2 Channels (DVB-T/T2): 2 Channels (DVB-T) <sup>(1)</sup>	1
565201	T.OX Twin Transmodulator DVBT/T2-QAM CI (47...862MHz) Multiplexer: 2 Channels (DVB-T/T2): 2 Channels (DVB-T) <sup>(1)</sup>	1
564901	T.OX Twin Processor Analogue/Digital Channel (47...862MHz)	1
5806	T.OX Twin Modulator Analogue A/V-PAL Stereo (VSB 47...862MHz)	1
<b>POWER SUPPLY UNITS</b>		
562802	Power Supply Unit 38.4W 24V-1.6A (T.OX standalone mounting)	1
562910	T.OX Switch-mode Power Supply Unit 60W 24V-2.5A	1
5629	T.OX Switch-mode Power Supply Unit 120W 24V-5A	1
<b>AMPLIFIER</b>		
5575	T.OX Amplifier Push-Pull 47...862MHz G 44dB Vo 120dBμV	1
<b>COMBINER</b>		
565002	Combiner 7i/1o: 5...1002MHz, 19" Rack Mount, 1RU	1



▲ 564401 ▲ 564301



▲ T.OX Encoders

Generate your own DTT content in High Definition.



▲ 565101 ▲ 565201



▲ 564501



▲ 565002

(1) In case of modules with CI, it is the responsibility of the installer to consult Teledes and check compatibility of CAM and card with the module.

(2) If CAM and card allow it.

# PROCESSING HEADENDS

Ref.	Description	
<b>T.OX SERIES</b>		
<b>REMOTE CONTROL, PROGRAMMER &amp; SW</b>		
5559	T.OX Headend Management Unit CDC IP	1
555901	T.OX Headend Management Control CDC IP/GSM	1
7234	Universal Programmer T.OX/T05/AVANT	1
216801	Kit: PC-Module Cable & USB-Serial Adapter Utilities: TSuite (T.OX, T05)	1
<b>SUPPORTS &amp; ENCLOSURES</b>		
567401	Standalone Support (1 T.OX Module)	1
5071	Wall Mount 498mm (1 PSU + 7 T.OX Modules or 10 T12/T05 Modules) <sup>(1)</sup>	1
5301	19" Rack Frame 5RU (1 PSU + 7 T.OX Modules or 10 T12/T05 Modules) <sup>(1)</sup>	1
507202	Lockable Cabinet with Forced Ventilation 498mm (1 PSU + 7 T.OX Modules) <sup>(1)</sup>	1
5331	19" Rack Cabinet 28RU. Ventilation, Wheels, Glazed Door	1
5332	19" Rack Cabinet 37RU. Ventilation, Wheels, Glazed Door	1
<b>ACCESSORIES</b>		
5673	T.OX Blank Plate 50mm - 5RU	1
★ 533153	T.OX Panel for Rack 19" 1RU, Up to 2x7 "F" connectors	1
4061	Terminal Load "F" 750hm with DC Blocked	10/200
4071	DC Blocker "F"	10
422601	Patch Cable for Powering T.OX from T05 0.4m	1/5
422602	Patch Cable for Interconnection of T.OX Bus Control to T05 or vice versa 1m	1/10



▲ 5559

▲ 555901



▲ 567401



▲ 5071



▲ 5301



▲ 422602



▲ Pre-assembled Rack Cabinet  
(on request)



▲ 507202  
(T.OX units not included)

(1) The number of modules indicated is based solely on the available space; but the number of installable modules may be limited by other restrictions such as consumption or temperature.

Ref.	Description	
<b>NEVOSWITCH SERIES: STAND ALONE &amp; CASCADE MULTISWITCHES <sup>(1)</sup> <sup>(2)</sup></b>		
<b>5 INPUTS (1 SATELLITE + TERRESTRIAL)</b>		
714503	Multiswitch 5x5x8 "F" Terminal/Cascade	1
714504	Multiswitch 5x5x12 "F" Terminal/Cascade	1
714505	Multiswitch 5x5x16 "F" Terminal/Cascade	1
714506	Multiswitch 5x5x24 "F" Terminal/Cascade	1
714507	Multiswitch 5x5x32 "F" Terminal/Cascade	1
714508	Amplifier 5x5 "F" MATV/IF G 12/15dB Vo 110dB $\mu$ V	1
714509	Amplifier 5x5 "F" MATV/IF G 27/25dB Vo 110dB $\mu$ V	1
714906	Tap 5x5x5 "F" 8dB	1
714901	Tap 5x5x5 "F" 12dB	1
714902	Tap 5x5x5 "F" 15dB	1
714903	Tap 5x5x5 "F" 20dB	1
714904	Tap 5x5x5 "F" 25dB	1
714905	Splitter 5x5x5 4/4dB	1
<b>5 INPUTS (1 SATELLITE + TERRESTRIAL) - QUAD COMPATIBLE</b>		
714413	Quad Compatible Multiswitch 5x5x8 "F" Terminal/Cascade (12V-1.5A PSU with <i>UK plug</i> included)	1
714414	Quad Compatible Multiswitch 5x5x12 "F" Terminal/Cascade (12V-1.5A PSU with <i>UK plug</i> included)	1
714415	Quad Compatible Multiswitch 5x5x16 "F" Terminal/Cascade (12V-1.5A PSU with <i>UK plug</i> included)	1
★ 714416	Quad Compatible Multiswitch 5x5x24 "F" Terminal/Cascade (12V-1.5A PSU with <i>UK plug</i> included)	1
★ 714417	Quad Compatible Multiswitch 5x5x32 "F" Terminal/Cascade (12V-1.5A PSU with <i>UK plug</i> included)	1
<b>5 INPUTS (1 SATELLITE + TERRESTRIAL) - dCSS TECHNOLOGY <sup>FORCE</sup></b>		
★ 714101	dCSS Multiswitch 5x5x2 "F" Terminal/Cascade, Switchable Adjustable/Passive Terrestrial	1
★ 714102	dCSS Multiswitch 5x5x4 "F" Terminal/Cascade, Switchable Adjustable/Passive Terrestrial	1
★ 714191	dCSS Multiswitch 5x5x8 "F" Terminal/Cascade, Switchable Adjustable/Passive Terrestrial	1
★ 714192	dCSS Multiswitch 5x5x12 "F" Terminal/Cascade, Switchable Adjustable/Passive Terrestrial	1
★ 714193	dCSS Multiswitch 5x5x16 "F" Terminal/Cascade, Switchable Adjustable/Passive Terrestrial	1
<b>9 INPUTS (2 SATELLITES + TERRESTRIAL)</b>		
714601	Multiswitch 9x9x8 "F" Terminal/Cascade	1
714602	Multiswitch 9x9x12 "F" Terminal/Cascade	1
714603	Multiswitch 9x9x16 "F" Terminal/Cascade	1
714604	Multiswitch 9x9x24 "F" Terminal/Cascade	1
714605	Multiswitch 9x9x32 "F" Terminal/Cascade	1
714609	Amplifier 9x9 "F" Ret.P/MATV/IF G -/27/25dB Vo 110dB $\mu$ V	1
<b>9 INPUTS (2 SATELLITES + TERRESTRIAL) - QUAD COMPATIBLE</b>		
★ 714211	Quad Compatible Multiswitch 9x9x8 "F" Terminal/Cascade (12V-1.5A PSU with <i>UK plug</i> included)	1
★ 714212	Quad Compatible Multiswitch 9x9x12 "F" Terminal/Cascade (12V-1.5A PSU with <i>UK plug</i> included)	1
★ 714213	Quad Compatible Multiswitch 9x9x16 "F" Terminal/Cascade (12V-1.5A PSU with <i>UK plug</i> included)	1
<b>13 INPUTS (3 SATELLITES + TERRESTRIAL)</b>		
714701	Multiswitch 13x13x8 "F" Terminal/Cascade	1
714702	Multiswitch 13x13x12 "F" Terminal/Cascade	1
714703	Multiswitch 13x13x16 "F" Terminal/Cascade	1
714704	Multiswitch 13x13x24 "F" Terminal/Cascade	1
714705	Multiswitch 13x13x32 "F" Terminal/Cascade	1
714709	Amplifier 13x13 "F" Ret.P/MATV/IF G -/27/25dB Vo 110dB $\mu$ V	1
<b>17 INPUTS (4 SATELLITES + TERRESTRIAL)</b>		
714801	Multiswitch 17x17x8 "F" Terminal/Cascade	1
714802	Multiswitch 17x17x12 "F" Terminal/Cascade	1
714803	Multiswitch 17x17x16 "F" Terminal/Cascade	1
714804	Multiswitch 17x17x24 "F" Terminal/Cascade	1
714805	Multiswitch 17x17x32 "F" Terminal/Cascade	1
714809	Amplifier 17x17 "F" Ret.P/MATV/IF G -/27/25dB Vo 110dB $\mu$ V	1

Sky Q

## NEVOSWITCH SERIES



Scalable multiswitches range, european design, manufacturing and quality.



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THE NEW AND INNOVATIVE NEVOSWITCH IMPLEMENTING **dCSS TECHNOLOGY**, WITH **DCFLEX FUNCTIONALITY**



DCFLEX gives complete flexibility when choosing how to power the dCSS NevoSwitch to suit any installation scenario. This versatility is achieved by a toggle switch that can isolate the multiswitch from the cascade's DC power configuration.



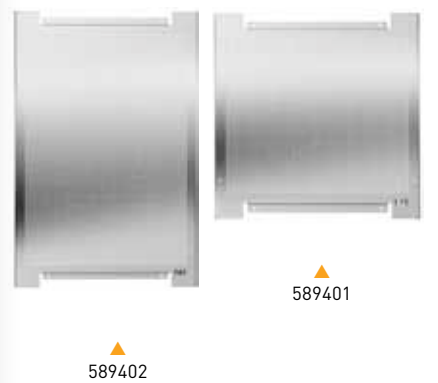
▲ 714211

(1) Output earth bonding bars included.

(2) PSU might be required.

MULTISWITCHES

Ref.	Description		
<b>NEVOSWITCH SERIES: STAND ALONE &amp; CASCADE MULTISWITCHES <sup>(1)</sup> <sup>(2)</sup></b>			
<b>POWER SUPPLY UNITS</b>			
732101	Power Supply Unit 12V-0.8A	1	
732210	Power Supply Unit 12V-1.5A (UKplug)	1	
★ 732802	Power Supply Unit 12.5V-2.8A	1	
★ 732010	Power Supply Unit 18V-2A (dCSS NevoSwitch, UKplug)	1	
<b>BONDING BARS</b>			
993810	Earth Bonding Bar 4 Connectors (9x/13x/17x NevoSwitch compatible)	1	
993811	Earth Bonding Bar 5 Connectors (5x/9x/13x/17x NevoSwitch compatible)	1	
<b>CABINETS AND ACCESSORIES</b>			
<b>CABINETS</b>			
5894	Perforated Mounting Plate 300x400mm, Distance from the wall 19mm	1	
589401	Perforated Mounting Plate 400x400mm, Distance from the wall 19mm	1	
589402	Perforated Mounting Plate 400x600mm, Distance from the wall 19mm	1	
5893	Indoor Lockable Cabinet with Mounting Plate, Dimensions: 300x400x200mm	1	
589301	Indoor Lockable Cabinet with Mounting Plate, Dimensions: 400x400x200mm	1	
589302	Indoor Lockable Cabinet with Mounting Plate, Dimensions: 400x600x200mm	1	
589303	Indoor Lockable Cabinet with Mounting Plate, Dimensions: 600x600x200mm	1	
589304	Indoor Lockable Cabinet with Mounting Plate, Dimensions: 600x800x200mm	1	
5749	Outdoor Lockable Cabinet (IP66 Standard), Dimensions: 600x380x210mm	1	
<b>ACCESSORIES</b>			
3821	Adapter "Quick F" Male - "F" Male, Plastic Box	50/500	
4174	Set of 5 Colour Coded Leads "Quick F" 260mm	1	
★ 3850	Coaxial Cable Lead "F" Compression 280mm White	Ⓜ	20
★ 385001	Coaxial Cable Lead "F" Compression 330mm White	Ⓜ	20
★ 385002	Coaxial Cable Lead "F" Compression 390mm White	Ⓜ	20
★ 385004	Coaxial Cable Lead "F" Compression 430mm White	Ⓜ	20
★ 385003	Coaxial Cable Lead "F" Compression 500mm White	Ⓜ	20



(1) Output earth bonding bars included.  
 (2) PSU might be required.

Ref.	Description	
<b>T.OX SERIES</b>		
<b>TRANSMISSION &amp; RECEPTION</b>		
233306	T.OX Optical Transmitter SMATV 1310nm "SC/APC" Po 6dBm w/o Return Path	1
233311	T.OX Optical Transmitter SMATV 1310nm "SC/APC" Po 10dBm w/o Return Path	1
234801	T.OX Optical Transmitter CATV 1310nm "SC/APC" Po 10dBm w/o Return Path RF Automatic Adjustment and Temperature Stability	1
234305	T.OX Optical Transmitter SMATV 1550nm "SC/APC" Po 4dBm w/o Return Path	1
★ 234806	T.OX Optical Transmitter MATV 1550nm "SC/APC" Po 6dBm w/o Return Path External modulation and RF Automatic Adjustment (up to 30Km)	1
234811	T.OX Optical Transmitter CATV 1550nm "SC/APC" Po 10dBm w/o Return Path RF Automatic Adjustment and Temperature Stability	1
2335	T.OX Optical Receiver SMATV 1200...1600nm "SC/APC" w/o Return Path	1
234901	T.OX Return Path Optical Receiver (5...300MHz) 1270...1650nm "SC/APC", with AGC	1
<b>SPLITTERS</b>		
2337	T.OX Optical Splitter 1260...1650nm "SC/APC" 2W 4dB	1
2339	T.OX Optical Splitter 1260...1650nm "SC/APC" 4W 7dB	1
234401	T.OX Optical Splitter 1260...1650nm "SC/APC" 8W 10dB	1
234501	T.OX Optical Splitter 1260...1650nm "SC/APC" 16W 14dB	1
234601	T.OX Optical Splitter 1260...1650nm "SC/APC" 32W 17dB	1
<b>POWER SUPPLY UNITS</b>		
562910	T.OX Switch-mode Power Supply Unit 60W 24V-2.5A	1
5629	T.OX Switch-mode Power Supply Unit 120W 24V-5A	1
<b>AMPLIFIERS</b>		
★ 234221	T.OX Optical Amplifier / Multiplexer "SC/APC" 19dBm (EDFA Technology) 2i: 1310/1490nm - 1550nm, 1o: 1310/1490/1550nm	1
234228	T.OX Optical Amplifier / Multiplexer "SC/APC" 20dBm (YEDFA Technology) 9i: 8x1310/1490nm - 1x1550nm, 8o: 8x1310/1490/1550nm	1
<b>MULTIPLEXER / DEMULTIPLEXER (WDM)</b>		
234701	T.OX Optical Multiplexer / Demultiplexer 1i/2o "SC/APC": GPON+RF: Data (1310/1490nm) - TV (1550nm)	1
234702	T.OX Optical Multiplexer / Demultiplexer 1i/2o "SC/APC": RFoG: Uplink (1610nm) - Downlink (1550nm)	1
<b>SUPPORTS &amp; ENCLOSURES</b>		
5071	Wall Mount 498mm (1 PSU + 7 T.OX Modules or 10 T12/T05 Modules) <sup>(1)</sup>	1
5301	19" Rack Frame 5RU (1 PSU + 7 T.OX Modules or 10 T12/T05 Modules) <sup>(1)</sup>	1
507202	Lockable Cabinet with Forced Ventilation 498mm (1 PSU + 7 T.OX Modules) <sup>(1)</sup>	1
5331	19" Rack Cabinet 28RU. Ventilation, Wheels, Glazed Door	1
5332	19" Rack Cabinet 37RU. Ventilation, Wheels, Glazed Door	1
<b>ACCESSORIES</b>		
5673	T.OX Blank Plate 50mm - 5RU	1
4061	Terminal Load "F" 75Ohm with DC Blocked	10/200
4071	DC Blocker "F"	10



▲ 234806

▲ 234801/234811



▲ 234401

▲ 234501

▲ 234601



▲ 234221

▲ 234228



▲ 234701

▲ 234702



▲ 5629



▲ 562910

(1) The number of modules indicated is based solely on the available space; but the number of installable modules may be limited by other restrictions as consumption or temperature.

Ref.	Description	
<b>F.O. DISTRIBUTION (Optical Nodes)</b>		
<b>OPTICAL NODES (OUTDOOR)</b>		
231020	Outdoor Optical Node 1200...1600nm "SC/APC" Return Path 1610nm with Amplifier 2o: 87...1006MHz, OLC Technology (Local Powering) <sup>(1)</sup>	1
231220	Outdoor Optical Receiver 1200...1600nm "SC/APC" without Return Path with Amplifier 2o: 40...1006MHz, OLC Technology (Local Powering) <sup>(1)</sup>	1
2310	Outdoor Optical Node 1200...1600nm "SC/APC" Return Path 1310nm with Amplifier 1o: 87...862/950...2150MHz (Local Powering)	1
231201	Outdoor Optical Receiver 1200...1600nm "SC/APC" without Return Path with Amplifier 1o: 87...862/950...2150MHz (Local Powering)	1
<b>OPTICAL MINI-NODES: FIBERKOM SERIES</b>		
238001	FiberKom Optical Mini-node 1200...1600nm "SC/APC" Return Path 1310nm (2 Fibres) with Amplifier 87...1218MHz, OLC Technology (Local Powering) <sup>(1)</sup>	1
238004	FiberKom Optical Mini-node 1550nm "SC/APC" Return Path 1610nm (1 Fibre) with Amplifier 105...1218MHz DOCSIS 3.0 Compatible. OLC Technology (Remote Powering) <sup>(1)</sup>	1
238005	FiberKom Optical Mini-node 1550nm "SC/APC" Return Path 1610nm (1 Fibre) with Amplifier 105...1218MHz DOCSIS 3.0 Compatible. OLC Technology (Local Powering) <sup>(1)</sup>	1
238101	FiberKom Optical Mini-receiver 1200...1600nm "SC/APC" without Return Path (1 Fibre) with Amplifier 47...1006MHz, OLC Technology (Remote Powering) <sup>(1)</sup>	1
<b>OPTICAL MICRO-NODES</b>		
231111	Domestic Optical Receiver 1550nm "SC/APC" with Amplifier 47...1006MHz, OLC Technology <sup>(1)</sup>	1
231110	Domestic Optical Receiver 1200...1600nm "SC/APC" with Amplifier 47...1006MHz, OLC Technology <sup>(1)</sup>	1
2311	Domestic Optical Receiver 1200...1600nm "SC/APC" with Amplifier 87...862/950...2150MHz with Automatic Adjustment	1



▲ Outdoor Node:  
232 x 140 x 90 mm

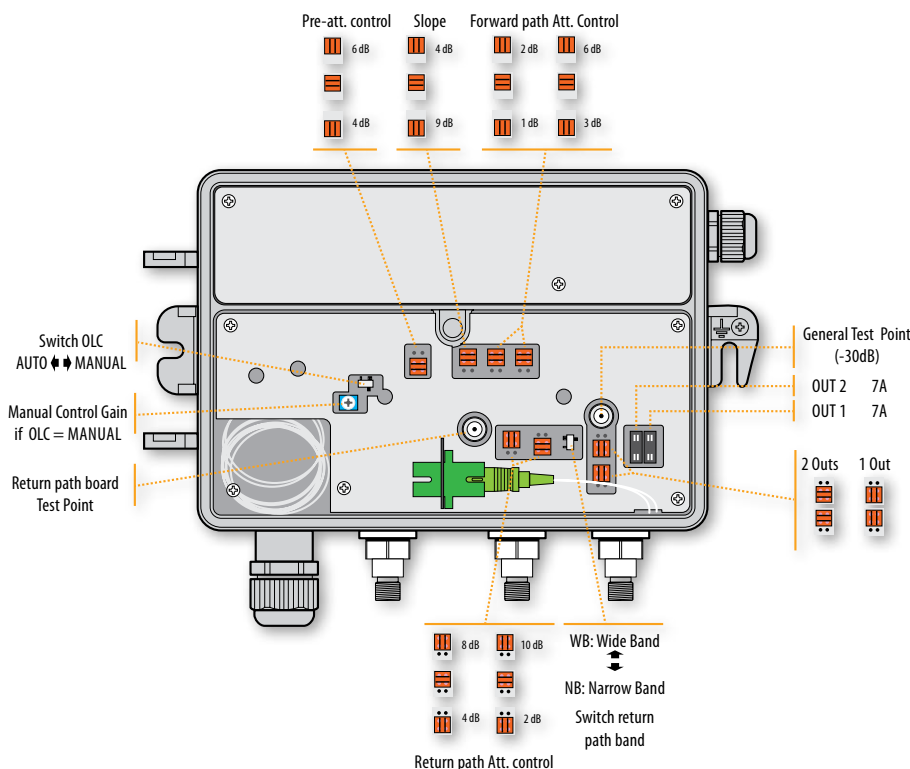


▲ Mini-Node: FiberKom Series  
185 x 80 x 35 mm



▲ Micro-Node:  
145 x 60 x 35 mm

### Optical node: Configuration Scheme



(1) OLC Technology: Optical Level Control.

Ref.	Description	
<b>F.O. DISTRIBUTION</b>		
<b>RACKS AND ACCESSORIES</b>		
533106	19" Rack Cabinet 6U. Glazed Door and Accesible from the side. Wall/Ground Mount	1
533108	19" Rack Cabinet 8U. Glazed Door and Accesible from the side. Wall/Ground Mount	1
533113	19" Rack Cabinet 13U. Glazed Door and Accesible from the side. Wall/Ground Mount	1
533117	19" Rack Cabinet 17U. Glazed Door and Accesible from the side. Wall/Ground Mount	1
533124	19" Rack Cabinet 24U. Glazed Door and Accesible from the side. Ground Mount	1
533150	Panel for Rack 19" Mount 1RU, Up to 24 "F" Connectors	1
★ 533153	T.OX Panel for Rack 19" 1RU, Up to 2x7 "F" connectors	1
533151	Panel for Rack 19" Mount 1RU, Up to 24 "RJ45" Connectors	1
★ 533154	Cable Management for Rack 19" 1RU, 5 Holes	1
★ 533156	Cable Management for Rack 19" 1RU, 5 Rings	1
533152	Splice Box for Rack 19" Mount 1RU, Up to 24 "SC" Connectors (Depth 230mm)	1
★ 533155	Tray for Rack 19" 2RU (Depth 265mm)	1
★ 533161	Blank Panel for Rack 19" 1RU	1
★ 533163	Blank Panel for Rack 19" 3RU	1
★ 533165	Blank Panel for Rack 19" 5RU	1
★ 533170	Screw Kit for Rack 19": Screw with washer and nut (50 units)	1
<b>ENCLOSURES</b>		
233002	Main Terminal Enclosure for F.O., Indoor (Up to 48 "SC/APC" connectors)	1
★ 233003	Stackable Main Enclosure for F.O., Indoor (Up to 48 "SC/APC" connectors)	1
231302	Splitting Terminal Enclosure for F.O., Indoor (Up to 24 fibres)	1
231301	Splitting Terminal Enclosure for F.O., Indoor (Up to 16 fibres)	1
231310	Splitting Terminal Enclosure for F.O., Indoor (Up to 8 fibres)	1
546701	Data/Coaxial/Fibre Network Terminal Enclosure	1
<b>PATCH BOXES</b>		
231502	F.O. Patch/Splitting Box 2 to 4 Outs <sup>(1)</sup>	1
231520	F.O. Patch Box 2 to 4 Outs: 2 Pre-terminated Fibres of 15m on one end <sup>(1) (2)</sup>	1
231521	F.O. Patch Box 2 to 4 Outs: 2 Pre-terminated Fibres of 25m on one end <sup>(1) (2)</sup>	1
231522	F.O. Patch Box 2 to 4 Outs: 2 Pre-terminated Fibres of 40m on one end <sup>(1) (2)</sup>	1
231523	F.O. Patch Box 2 to 4 Outs: 2 Pre-terminated Fibres of 55m on one end <sup>(1) (2)</sup>	1
231524	F.O. Patch Box 2 to 4 Outs: 2 Pre-terminated Fibres of 70m on one end <sup>(1) (2)</sup>	1
231525	F.O. Patch Box 2 to 4 Outs: 2 Pre-terminated Fibres of 85m on one end <sup>(1) (2)</sup>	1
231526	F.O. Patch Box 2 to 4 Outs: 2 Pre-terminated Fibres of 100m on one end <sup>(1) (2)</sup>	1
★ 231530	F.O. Patch Box 4 Outs: 4 Pre-terminated Fibres of 15m on one end <sup>(1) (2)</sup>	1
★ 231531	F.O. Patch Box 4 Outs: 4 Pre-terminated Fibres of 25m on one end <sup>(1) (2)</sup>	1
★ 231532	F.O. Patch Box 4 Outs: 4 Pre-terminated Fibres of 40m on one end <sup>(1) (2)</sup>	1
★ 231533	F.O. Patch Box 4 Outs: 4 Pre-terminated Fibres of 55m on one end <sup>(1) (2)</sup>	1
★ 231534	F.O. Patch Box 4 Outs: 4 Pre-terminated Fibres of 70m on one end <sup>(1) (2)</sup>	1
★ 231535	F.O. Patch Box 4 Outs: 4 Pre-terminated Fibres of 85m on one end <sup>(1) (2)</sup>	1
★ 231536	F.O. Patch Box 4 Outs: 4 Pre-terminated Fibres of 100m on one end <sup>(1) (2)</sup>	1



▲ 533113  
600 x 690 x 400mm



▼ 533152  
480 x 43 x 230mm



▼ 533156



▲ 233003  
444 x 180 x 125 mm



▲ 233002  
454 x 358 x 95 mm

▲ 231302  
206 x 300 x 110 mm



▲ 231301  
153 x 264 x 67 mm

▲ 231310  
203 x 106 x 30 mm



▲ 23152x / 23153x

Types of Rack Cabinets

Ref.	Dimensions (mm)
533106	600 x 380 x 400
533108	600 x 460 x 400
533113	600 x 690 x 400
533117	600 x 870 x 400
533124	600 x 1200 x 600

(1) "SC/APC" (Female - Female) Adapters and dispenser box included.

(2) ITU-T G657A2 single-mode fibres.



**FIBRE OPTICS**

Ref.	Description		
<b>F.O. CABLES (ITU-T G657A2)</b>			
<b>MULTI-FIBRE CABLES (TIGHT BUFFER Ø 250µm)</b>			
231612	Multi-fibre Cable 24 Single-mode Fibres LSFH	○	By m
231712	Multi-fibre Cable 48 Single-mode Fibres LSFH	○	By m
<b>MULTI-FIBRE CABLES (TIGHT BUFFER Ø 900µm)</b>			
231802	Multi-fibre Cable 12 Single-mode Fibres LSFH	○	By m
231603	Multi-fibre Cable 24 Single-mode Fibres LSFH	○	By m
231702	Multi-fibre Cable 48 Single-mode Fibres LSFH	○	By m
<b>4 FIBRE CABLES TIGHT BUFFER Ø 250µm)</b>			
★ 231911	4 Fibre Cable Single-mode Indoor LSFH	○	300
<b>2 FIBRE CABLES (TIGHT BUFFER Ø 900µm)</b>			
231901	2 Fibre Cable Single-mode Indoor LSFH	○	300
231902	2 Fibre Cable Single-mode Indoor LSFH	○	750
232001	2 Fibre Cable Single-mode Outdoor LSFH	ⓑ	200
232002	2 Fibre Cable Single-mode Outdoor LSFH	ⓑ	500
<b>PRE-TERMINATED PATCH CORDS (Ø 3mm)</b>			
★ 232622	F.O. Patch Cord Single-mode LSFH Pre-terminated "SC/APC" - "SC/PC" 0.2m		5
★ 232621	F.O. Patch Cord Single-mode LSFH Pre-terminated "SC/APC" 2m (Bag B4)		10
232640	F.O. Duplex Patch Cord Single-mode LSFH Pre-terminated "SC/APC" 10m		1
232641	F.O. Duplex Patch Cord Single-mode LSFH Pre-terminated "SC/APC" 15m		1
232642	F.O. Duplex Patch Cord Single-mode LSFH Pre-terminated "SC/APC" 20m		1
232643	F.O. Duplex Patch Cord Single-mode LSFH Pre-terminated "SC/APC" 25m		1
232644	F.O. Duplex Patch Cord Single-mode LSFH Pre-terminated "SC/APC" 30m		1
232645	F.O. Duplex Patch Cord Single-mode LSFH Pre-terminated "SC/APC" 40m		1
<b>ACCESSORIES</b>			
2328	Mechanical Splices of Fibre Optics (for Mechanical Splicer)		10
232602	F.O. Patch Cord Single-mode LSFH Pre-terminated "SC/APC" 2m (ITU-T G657A2, 900µm) Convertible to Pigtail		25
233203	Adapter "SC/APC" Female - "SC/APC" Female, with Auto-blocking Cap		25
212001	Optical Fibre Dispenser, Small model (plastic drums) <sup>(1)</sup>		1
212011	Optical Fibre Dispenser, Large model (plastic drums) <sup>(2)</sup>		1

\*By m\* = Cut to length.



▲ 232621: Patch cord



▲ 2120xx (Cable drum not included)



▲ 23264x: Duplex patch cord



▲ 2328



▲ 233203

**F.O. CABLES**

*Fibre's tight buffer Ø 250µm*



▲ 48 Fibres (231712)



▲ 24 Fibres (231612)



▲ 4 Fibres - Indoor (231911)



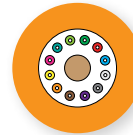
*Fibre's tight buffer Ø 900µm*



▲ 48 Fibres (231702)



▲ 24 Fibres (231603)



▲ 12 Fibres (231802)



▲ 2 Fibres - Indoor (231901 / 231902)



▲ 2 Fibres - Outdoor (232001 / 232002)



▲ 232602

(1) For 2 fibre cable in 200 or 300m drum.

(2) For 2 fibre cable in 500 or 750m drum.

Ref.	Description		
<b>F.O. DISTRIBUTION (Optical LNB)</b>			
<b>OPTICAL LNBs</b>			
2353	Offset Optical LNB 1310nm "FC/PC" G 72dB Po 7dBm (Up to 32 converters), Grey	G	1
<b>OPTICAL FIBRE / RF CONVERTERS: SATELLITE + TERRESTRIAL</b>			
236801	RF/Optical Converter ODU32 1310nm "F"- "N"- "FC/PC": DAB/UHF-SAT + Offset LNB + AC/DC Adapter + Interconnection Accessories		1
236810	RF/Optical Converter ODU32 1550nm "F"- "N"- "FC/PC": DAB/UHF-SAT + Offset LNB + AC/DC Adapter + Interconnection Accessories		1
★ 237201	dCSS Optical/RF Converter GTU "FC/PC"- "F" Twin FM/DAB/UHF-SAT		1
236903	Optical/RF Converter "FC/PC"- "F" Quad FM/DAB/UHF-SAT		1
237003	Optical/RF Converter "FC/PC"- "F" Quattro FM/DAB/UHF-SAT		1
<b>FTTH TRANSMISSION &amp; RECEPTION</b>			
★ 237301	Optical Transmitter / Multiplexer "SC/APC". 2i: 1310/1490nm(Sat) - RF(Terr.), 1o: 1310/1490/1550nm(Sat/Terr.)		1
★ 237311	Optical Receiver / Demultiplexer "SC/APC". 1i: 1310/1490/1550nm(Sat/Terr.), 2o: 1310/1490nm(Sat) - RF(Terr.)		1
<b>SPLITTERS</b>			
235701	Optical Splitter 1310/1550nm "FC/PC" 2W 4dB		1
235801	Optical Splitter 1310/1550nm "FC/PC" 3W 5.5dB		1
235901	Optical Splitter 1310/1550nm "FC/PC" 4W 7dB		1
236001	Optical Splitter 1310/1550nm "FC/PC" 8W 10.1dB		1
<b>ATTENUATORS</b>			
2364	Optical Attenuator 1310/1550nm "FC/PC" 5dB		1
2365	Optical Attenuator 1310/1550nm "FC/PC" 10dB		1
2366	Optical Attenuator 1310/1550nm "FC/PC" 15dB		1
<b>PRE-TERMINATED PATCH CORDS</b>			
★ 236110	F.O. Patch Cord Single-mode LSFH Pre-terminated "FC/PC" 1m		1
2361	F.O. Patch Cord Single-mode LSFH Pre-terminated "FC/PC" 3m		1
236101	F.O. Patch Cord Single-mode LSFH Pre-terminated "FC/PC" 5m		1
236102	F.O. Patch Cord Single-mode LSFH Pre-terminated "FC/PC" 10m		1
236103	F.O. Patch Cord Single-mode LSFH Pre-terminated "FC/PC" 20m		1
236104	F.O. Patch Cord Single-mode LSFH Pre-terminated "FC/PC" 30m		1
236105	F.O. Patch Cord Single-mode LSFH Pre-terminated "FC/PC" 40m		1
236106	F.O. Patch Cord Single-mode LSFH Pre-terminated "FC/PC" 50m		1
236107	F.O. Patch Cord Single-mode LSFH Pre-terminated "FC/PC" 75m		1
236108	F.O. Patch Cord Single-mode LSFH Pre-terminated "FC/PC" 100m		1
236109	F.O. Patch Cord Single-mode LSFH Pre-terminated "FC/PC" 200m		1
<b>ACCESSORIES</b>			
237050	Power Supply Unit 20V-1.2A (for Ref. 237003)		1
2354	Fibre Optics Connector for 2 "FC"- "FC" Pre-terminated Patch Cords Interconnection		5
2356	Fibre Optics Adapter for a "FC"- "SC" Connector Change, of 2 Pre-terminated Patch Cords		5



▲ 2361xx



▲ 2354

▲ 2356



▲ 237201

## ☰ FULL SAT + DTT (FTTH)



▲ Transmitter (237301)



▲ Receiver (237311)

Optical system with WDM (Full SAT + DTT) allows the distribution of the whole contents of a satellite and the whole terrestrial band on a single fibre.



▲ 236810



▲ 236903



▲ 237003

**DISTRIBUTION**

Ref.	Description		
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**SPLITTERS WITH "EasyF" CONNECTOR**

5...2400MHz			
543503	Mini-Splitter 5...2400MHz "EasyF" 2W 4.3/4dB Indoor DC Pass O-I		10
543603	Mini-Splitter 5...2400MHz "EasyF" 3W 8.5/7.5dB Indoor DC Pass O-I		10
543702	Splitter 5...2400MHz "EasyF" 4W 9/7.5dB Indoor DC Pass O-I		10
543802	Splitter 5...2400MHz "EasyF" 5W 10/9.5dB Indoor DC Pass O-I		10
5469	Splitter 5...2400MHz "EasyF" 6W 11/14dB Indoor DC Pass O-I		10
5489	Splitter 5...2400MHz "EasyF" 8W 14/16dB Indoor DC Pass O-I		10
434103	Mini-Splitter 5...2400MHz "EasyF" 2W 4.5/4.3dB DC Pass All With Outdoor Mounting Case (Blister T1)	B	10
434202	Splitter 5...2400MHz "EasyF" 4W 9/7dB DC Pass O-I With Outdoor Mounting Case (Blister T1)	B	8
546910	Splitter 5...2400MHz "EasyF" 6W 11/14dB DC Pass O-I With Outdoor Mounting Case	G	10
548910	Splitter 5...2400MHz "EasyF" 8W 14/16dB DC Pass O-I With Outdoor Mounting Case	G	10

**ACCESSORIES**

417801	Outdoor Case Black Model for Mini Series Dimensions: External 88x78x39mm Internal 57x47x13mm	B	1/10
★ 545501	Face Plate White 93x74x21mm	W	10
4177	Outdoor Case Black Small Model Dimensions: External 113x88x35mm Internal 92x66x27mm	B	1/5
4163	Outdoor Case Grey Large Model Dimensions: External 136x127x45mm Internal 125x97x35mm	G	1/5

**SPLITTERS WITH "F" CONNECTOR**

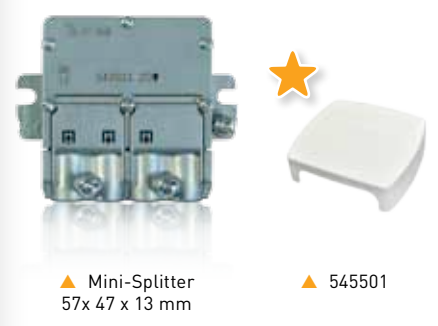
5...2400MHz			
5155	Splitter 5...2400MHz "F" 2W 4/5dB Indoor DC Pass All		1/10
5156	Splitter 5...2400MHz "F" 4W 7.5/10dB Indoor DC Pass All		1/10
5157	Splitter 5...2400MHz "F" 5W 10/12dB Indoor DC Pass All		1/10
5158	Splitter 5...2400MHz "F" 6W 10/12dB Indoor DC Pass All		1/10
5159	Splitter 5...2400MHz "F" 8W 11/14dB Indoor DC Pass All		1/10

**ACCESSORIES**

4177	Outdoor Case Black Small Model Dimensions: External 113x88x35mm Internal 92x66x27mm	B	1/5
4163	Outdoor Case Grey Large Model Dimensions: External 136x127x45mm Internal 125x97x35mm	G	1/5
4061	Terminal Load "F" 75Ohm with DC Blocked		10/200
4058	Terminal Load "F" 75Ohm without DC Blocked		10/200
★ 405802	Terminal Load "F" 75Ohm without DC Blocked, Plastic Box		100

**TAPS WITH "F" CONNECTOR**

5...2400MHz			
5130	Tap 5...2400MHz "F" 2W 12dB Indoor (TA - Floor 1)		1/10
5131	Tap 5...2400MHz "F" 2W 15dB Indoor (A - Floors 2 & 3)		1/10
5132	Tap 5...2400MHz "F" 2W 18dB Indoor (B - Floors 4 & 5)		1/10
5133	Tap 5...2400MHz "F" 2W 23dB Indoor (C - Floors 6 & 7)		1/10
5134	Tap 5...2400MHz "F" 2W 27dB Indoor (D - Floors 8...10)		1/10
514110	Tap 5...2400MHz "F" 4W 12dB Indoor DC Pass All (TA - Floor 1)		1/10
514210	Tap 5...2400MHz "F" 4W 16dB Indoor DC Pass All (A - Floors 2 & 3)		1/10
514310	Tap 5...2400MHz "F" 4W 19dB Indoor DC Pass All (B - Floors 4 & 5)		1/10
514410	Tap 5...2400MHz "F" 4W 24dB Indoor DC Pass All (C - Floors 6...8)		1/10
5135	Tap 5...2400MHz "F" 6W 19dB Indoor (TA - Floor 1)		1/10
5136	Tap 5...2400MHz "F" 6W 21dB Indoor (A - Floors 2 & 3)		1/10
5137	Tap 5...2400MHz "F" 6W 25dB Indoor (B - Floors 4...6)		1/10
5146	Tap 5...2400MHz "F" 8W 19dB Indoor (TA - Floor 1)		1/10
5147	Tap 5...2400MHz "F" 8W 20dB Indoor (A - Floors 2 & 3)		1/10
5148	Tap 5...2400MHz "F" 8W 25dB Indoor (B - Floors 4...6)		1/10



▲ Mini-Splitter 57x 47 x 13 mm

▲ 545501

**BLACK OUTDOOR CASE FOR MINI SERIES**



▲ 417801



▲ 543802

▲ 5155



▲ 5159



▲ 4163



▲ 514210

Ref.	Description	
<b>OUTLETS</b>		
<b>END OUTLETS</b>		
526001	Quad End Outlet 47...2150MHz, FM/DAB-TV-SAT1-SAT2 3.5-3-3-3dB with DC Pass + Face Plate	10
★ 524501	End Outlet Triplexed 5..2400MHz, TV/FM-SAT1-SAT2 1-1.5-1dB with DC Pass	10/100
<b>CONNECTORS</b>		
<b>"IEC" - Ø 9.5mm</b>		
4130	"IEC" Ø 9.5mm Connector Male Elbowed Shielded	25/250
4131	"IEC" Ø 9.5mm Connector Female Elbowed Shielded	25/250
413210	"PRO EasyF" "IEC" Ø 9.5mm Connector Male Elbowed Class A+ Shielded	25/250
413310	"PRO EasyF" "IEC" Ø 9.5mm Connector Female Elbowed Class A+ Shielded	25/250
<b>"F"</b>		
413410	"PRO EasyF" "Quick F" Connector Elbowed Class A+ Shielded	25/250
4176	"Quick F" Connector Elbowed Shielded	25/250
3802	"F" Connector Compression for TSH Triple Shielded Cables (SK), Plastic Box	50/500
4104	"F" Connector Compression for T-100 Cable	100/1000
4105	"F" Connector Compression for CXT-5 (Ø 5mm) Cable	100/1000
★ 417102	"F" Connector Threaded with O-ring for T-100 Cable, Plastic Box	50/500
417101	"F" Connector Threaded with O-ring for T-100 Cable, Plastic Box	100/1000
3808	"F" Connector Threaded with O-ring for CXT-5 (Ø 5mm) Cable, Plastic Box	100/1000
9349	"F" Connector Threaded for TR-165 Cable	10/100
<b>ACCESSORIES</b>		
3821	Adapter "Quick F" Male - "F" Male, Plastic Box	50/500
4173	Adapter "F" Female - "F" Female	10/200
4071	DC Blocker "F"	10
4061	Terminal Load "F" 750hm with DC Blocked	10/200
4058	Terminal Load "F" 750hm without DC Blocked	10/200
★ 405802	Terminal Load "F" 750hm without DC Blocked, Plastic Box	100
<b>TOOLS</b>		
216101	Hex-11 Wrench for "F" Connectors	1/250
2163	Tool for "F" Compression Connectors	1
216310	Insertion Tool for "F" Compression Connectors	1



▲ 216101



▶ 2163



▲ 216310



▲ 413210



▲ 413310



▲ 413410

**PRO EASYF CLASS A+ CONNECTORS**

THE EXCEPTIONAL SCREENING FOR A COAXIAL NETWORK



▲ 524501



▲ 526001



▲ 4130



▲ 4131



▲ 4176



▲ 3802



▲ 4104



▲ 4105



▲ 417101 / 417102



▲ 3808



▲ 9349



▲ 3821



▲ 4071



▲ 405802



▲ 4173



▲ 4061



▲ Plastic box

**COAXIAL CABLE**

Ref.	Description			
<b>COAXIAL CABLES</b>				
<b>Cu INNER CONDUCTOR / CuSn BRAID (CLASS A++ TRIPLE SHIELDED)</b>				
<b>EN 50117-2-4 / B2ca</b>				
★ 413910	Coaxial Cable SK2020plus LSFH UV Resistant B2ca Class A++ Triple Shielded TSH 18AtC Ø 1.05/4.6/6.9mm White	○	Ⓜ	100
★ 413911	Coaxial Cable SK2020plus LSFH UV Resistant B2ca Class A++ Triple Shielded TSH 18AtC Ø 1.05/4.6/6.9mm White	○	Ⓜ	250
★ 413912	Coaxial Cable SK2020plus LSFH UV Resistant B2ca Class A++ Triple Shielded TSH 18AtC Ø 1.05/4.6/6.9mm White	●	Ⓜ	500
<b>Cu INNER CONDUCTOR / CuSn BRAID (CLASS A+ TRIPLE SHIELDED)</b>				
<b>EN 50117-2-5 / Dca</b>				
★ 414002	Coaxial Cable SK2003plus LSFH UV Resistant Dca Class A+ Triple Shielded TSH 18AtC Ø 1.02/4.6/6.70mm Black	○	Ⓟ	100
★ 414003	Coaxial Cable SK2003plus LSFH UV Resistant Dca Class A+ Triple Shielded TSH 18AtC Ø 1.02/4.6/6.70mm Black	○	Ⓟ	250
★ 414004	Coaxial Cable SK2003plus LSFH UV Resistant Dca Class A+ Triple Shielded TSH 18AtC Ø 1.02/4.6/6.70mm Black	●	Ⓟ	500
<b>"Cu INNER CONDUCTOR + CuSn BRAID / CLASS A+ TRIPLE SHIELDED CAI BENCHMARK CABLE TUK100"</b>				
<b>EN 50117-2-4 / Eca</b>				
413705	Coaxial Cable SK110plus PVC Eca Class A+ Triple Shielded TSH 18VAAtC Ø 1.02/4.6/6.70mm White	○	Ⓜ	100
413704	Coaxial Cable SK110plus PVC Eca Class A+ Triple Shielded TSH 18VAAtC Ø 1.02/4.6/6.70mm White	○	Ⓜ	250
413707	Coaxial Cable SK110plus PVC Eca Class A+ Triple Shielded TSH 18VAAtC Ø 1.02/4.6/6.70mm Black	●	Ⓟ	250
413706	Coaxial Cable SK110plus PVC Eca Class A+ Triple Shielded TSH 18VAAtC Ø 1.02/4.6/6.70mm White	●	Ⓜ	500
<b>CCS (Cu+Ac) INNER CONDUCTOR + AI BRAID / CLASS A</b>				
<b>EN 50117-2-4 / Eca</b>				
2127	Coaxial Cable CXT-1 PVC Eca Class A 17VAAtC.A Ø 1.00/4.7/6.7mm White	○	Ⓜ	100
212701	Coaxial Cable CXT-1 PVC Eca Class A 17VAAtC.A Ø 1.00/4.7/6.7mm Black	○	Ⓟ	100
212703	Coaxial Cable CXT-1 PVC Eca Class A 17VAAtC.A Ø 1.00/4.7/6.7mm White	●	Ⓜ	250
212702	Coaxial Cable CXT-1 PVC Eca Class A 17VAAtC.A Ø 1.00/4.7/6.7mm Black	●	Ⓟ	250
212704	Coaxial Cable CXT-1 PVC Eca Class A 17VAAtC.A Ø 1.00/4.7/6.7mm White	●	Ⓜ	500
<b>UNDERGROUND CABLES</b>				
<b>Cu INNER CONDUCTOR + Cu BRAID</b>				
<b>EN 50117-2-5 / Fca</b>				
2140	Coaxial Cable 1/2" PE Cu/Cu Fca 7PRtC Ø 2.7/11.5/15.0mm Black	●	Ⓟ	500
214901	Coaxial Cable TR-165 PE Fca Class A 11PRtC Ø 1.63/7.2/10.1mm Black	●	Ⓟ	250
<b>ACCESSORIES</b>				
2145	Professional Coaxial Cable Stripper			10
2162	Coaxial Cable Stripper (Bag B2)			10



▲ 2162



▲ 2145



► MORE INFORMATION ABOUT CPR:  
EN.TELEVES.COM/CPR\_UK

**TRIPLE SHIELDED CABLES**

The Trishield cable provides the greatest immunity against interferences. Its use is specially recommend when trying to avoid interference.



COVERAGE UP TO 82%



SK2020plus (4139xx)

**CLASS A++**  
B2ca

An exceptional TSH cable with high screening attenuation, that offers an A++ class.

Additionally, due to its LSFH outer sheath, it complies with the requirements for CPR class B2ca, so it has a very low fire hazard.



SK2003plus (4140xx)

**CLASS A+**  
Dca



CAI type 100 approved cable. Fully tested in our in-house Cable Certification Center



▲ SK110plus (4137xx)

**CLASS A+**  
Eca



CAI type RG6 approved cable. Fully tested in our in-house Cable Certification Center



▲ CXT-1 (2127)

**CLASS A**  
Eca



▲ 1/2" (2140)

**CLASS A**  
Fca



▲ TR-165 (214901)

**CLASS A**  
Fca

CENELEC Standard:

Specifications for coaxial cable used in cabled distribution networks operating between 5...3000MHz.

Technical characteristics

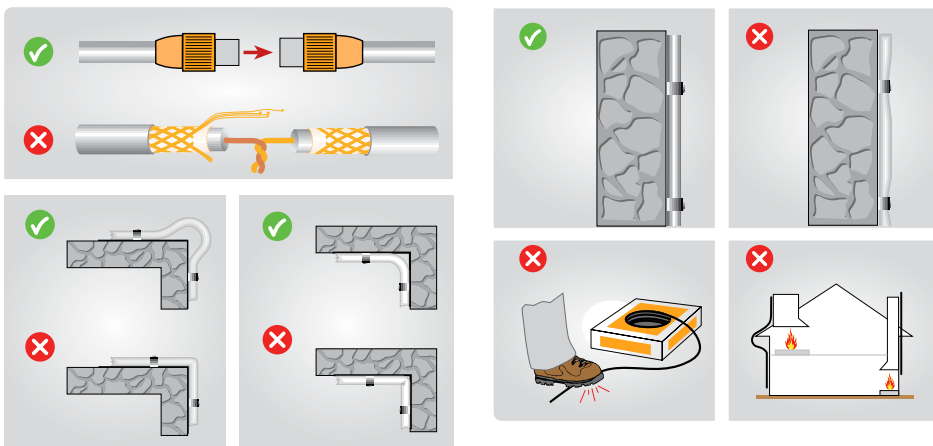
References		41391x	4140xx	4138xx	4137xx	2127xx	2140	214901
Type		SK2020plus <b>CLASS A++</b>	SK2003plus <b>CLASS A+</b>	SK2000plus <b>CLASS A+</b>	SK110plus <b>CLASS A+</b>	CXT-1 <b>CLASS A</b>	1/2"	TR-165 <b>CLASS A</b>
Inner Conductor	Ø mm	1.05	1.02	1.02	1.02	1.00	2.70	1.63
	Material	Cu	Cu	Cu	Cu	CCS	Cu	Cu
	Res. Ohm/Km	22	22	22	22	<120	3.2	<9
Dielectric	Ø mm	4.6	4.6	4.6	4.6	4.7	11.5	7.2
	Material	PEE	PEE	PEE	PEE	PEE	PEE	PEE
Over Lapped Foil	Material	B	B	B	B	B	C	D
Braid	Material	CuSn (98% Cu)	CuSn (98% Cu)	CuSn (98% Cu)	CuSn (98% Cu)	Al	Cu	Cu
	Coverage %	82	82	82	55	77	53	70
	Res. Ohm/Km	<11	10.5	10.5	10.5	<60	7	<7.2
2 <sup>nd</sup> shielding foil		Yes	Yes	Yes	Yes	No	No	No
Petro-Jelly		No	No	No	No	No	Yes	Yes
Outer sheath	Ø mm	6.9	6.7	6.7	6.7	6.7	15.0	10.1
	Material	LSFH UV Resistant	LSFH UV Resistant	PVC	PVC	PVC	PE	PE
Minimum bending radius	mm	34.5	33.5	33.5	33.5	33	75	50
Screening Attenuation @ 1GHz	dB	>105	>95	>95	>95	>85	>75	>85
Impedance	Ohm	75	76	75	75	75	75	75
Velocity Ratio	%	84	84	84	84	82	82	84
<b>Attenuations</b>								
Frequency (MHz)	50	0.05	0.05	0.05	0.05	0.05	< 0.01	0.02
	200	0.09	0.09	0.09	0.09	0.09	0.03	0.05
	500	0.14	0.14	0.14	0.14	0.15	0.05	0.09
	800	0.18	0.18	0.18	0.18	0.17	0.07	0.11
	1000	0.21	0.21	0.21	0.21	0.23	0.08	0.16
	1350	0.25	0.25	0.25	0.25	0.27	0.10	0.18
	1750	0.28	0.28	0.28	0.28	0.32	0.12	0.19
	2050	0.31	0.30	0.30	0.30	0.35	0.13	0.21
2300	0.32	0.32	0.32	0.32	0.37	0.14	0.21	

**Over Lapped Foil composition Environment**

- B** Aluminium + Polyester
- C** Copper + Polyester
- D** Aluminium + Polypropylene

**Other abbreviations**

- PE** Polyethylene
- PEE** Foam Polyethylene
- PVC** Polyvinyle Clorhidre
- Al** Aluminium
- Cu** Copper
- CCS** Copper Clad Steel
- CuSn** Tinned Copper



**DATA ENCLOSURES AND CABLES**

Ref.	Description	
<b>RACKS, ENCLOSURES AND BOXES</b>		
<b>RACKS AND ACCESSORIES</b>		
533106	19" Rack Cabinet 6U. Glazed Door and Accesible from the side. Wall/Ground Mount	1
533108	19" Rack Cabinet 8U. Glazed Door and Accesible from the side. Wall/Ground Mount	1
533113	19" Rack Cabinet 13U. Glazed Door and Accesible from the side. Wall/Ground Mount	1
533117	19" Rack Cabinet 17U. Glazed Door and Accesible from the side. Wall/Ground Mount	1
533124	19" Rack Cabinet 24U. Glazed Door and Accesible from the side. Ground Mount	1
533150	Panel for Rack 19" 1RU, Up to 24 "F" connectors	1
★ 533153	T.OX Panel for Rack 19" 1RU, Up to 2x7 "F" connectors	1
533151	Panel for Rack 19" 1RU, Up to 24 "RJ45" connectors	1
★ 533154	Cable Management for Rack 19" 1RU, 5 Holes	1
★ 533156	Cable Management for Rack 19" 1RU, 5 Rings	1
533152	Splice Box for Rack 19" 1RU, Up to 24 "SC" connectors (Depth 230mm)	1
★ 533155	Tray for Rack 19" 2RU (Depth 265mm)	1
★ 533161	Blank Panel for Rack 19" 1RU	1
★ 533163	Blank Panel for Rack 19" 3RU	1
★ 533165	Blank Panel for Rack 19" 5RU	1
★ 533170	Screw Kit for Rack 19": Screw with washer and nut (50 units)	1
<b>ENCLOSURES</b>		
★ 546610	Open Main Terminal Panel for Data/Coaxial Distribution (Up to 24 connections)	1
★ 546701	Data/Coaxial/Fibre Network Terminal Enclosure	1
★ 546620	Coaxial Adapter Support "F" Female - "F" Female, for Panels (Ref. 546610)	1
<b>BOX</b>		
★ 209910	Data Terminal Box with 1 Cat.-6 Female RJ45 Connector	1
<b>DATA CABLES</b>		
<b>CAT 5E</b>		
★ 219502	Data Cable F/UTP Cat.-5E Eca Cu LSFH Ø 6.3mm Grey	305
★ 219602	Data Cable U/UTP Cat.-5E Eca Cu LSFH Ø 5.5mm Grey	305
★ 219701	Data Cable U/UTP Cat.-5E Fca Cu PE Ø 5.5mm Black	305
<b>CAT 6</b>		
★ 212101	Data Cable F/UTP Cat.-6 Dca Cu LSFH Ø 7.2mm Violet	500
★ 2199	Data Cable U/UTP Cat.-6 Eca Cu PVC Ø 6.2mm White	305
★ 2123	Data Cable U/UTP Cat.-6 Dca Cu LSFH Ø 6.2mm Violet	305
★ 212310	Data Cable U/UTP Cat.-6 Eca Cu LSFH Ø 6.2mm Violet	305
★ 212302	Data Cable U/UTP Cat.-6 Dca Cu LSFH Ø 6.2mm Violet	1000
★ 212201	Data Cable U/UTP Cat.-6 Fca Cu PE Ø 6.2mm White	305
<b>DATA CONNECTORS</b>		
★ 209901	Data Connector RJ45 UTP Cat.-6 Female	10
★ 209902	Data Connector RJ45 UTP Cat.-6 Male	100
<b>ACCESSORIES</b>		
★ 209801	Crimping Tool RJ45/RJ11/RJ12 and 4P4C/4P2C	1
<b>SET TOP BOXES &amp; HOME ACCESSORIES</b>		
<b>DTH STBs</b>		
<b>SATELLITE TV</b>		
7118	Slim FTA SAT Set-top Box - DiSeqC 1.2 - USALS - with modulator - Freesat Compatible	1/5
717501	Satellite Digital Set-top Box FTA "zAs HD SAT" (FreeSat)	1/10
<b>MODULATOR</b>		
585801	Domestic Modulator with Display (VHF/UHF)	1
<b>AUDIO/VIDEO &amp; IR TRANSMISSION</b>		
730704	Digidom Transmitter + Receiver Audio/Video 2.4GHz 3 Channels	1/10
7167	Digidom Transmitter + Receiver Audio/Video 5.8GHz 8 Channels	1/10
<b>IR OVER RF TRANSMISSION</b>		
723702	Digidom Universal Transmitter + Receiver, Remote Control Extender, 8 Channels	1/30
721902	Digidom Universal Transmitter, Remote Control Extender, 8 Channels	1/30



★ 533124  
600 x 1200 x 600 mm



★ 533154



★ 546701  
600 x 500 x 80mm



★ 546620

★ 209901

★ 209902



★ 219502



★ 2123



★ 585801

Ref.	Description	
<b>SPECTRUM ANALYZERS</b>		
<b>H30FLEX</b>		
593301	H30FLEX: DVB-S/S2 + DVB-T	1
593302	H30FLEX: DVB-S/S2 + DVB-T/T2	1
593303	H30FLEX: DVB-S/S2 + DVB-C	1
593304	H30FLEX: DVB-S/S2 + DVB-T/T2 + DVB-C	1
<b>H30FLEX OPTIONS</b>		
593231	Option DVB-T	1
593232	Option DVB-T2 (DVB-T required)	1
593233	Option DVB-C	1
593234	Option dCSS	1
593235	Option Extended Terrestrial Input to 120dBμV	1
<b>H30 (DVB-C)</b>		
593102	H30: DVB-C + Remote Control (Ethernet) + IP Speed Test	1
593104	H30D3: DVB-C + Remote Control (Ethernet) + IP Speed Test + DOCSIS 3.0	1
<b>H30/H30D3 OPTIONS</b>		
593210	Option MPEG Service Information	1
<b>H30FLEX / H30 / H30D3 ACCESSORIES</b>		
593201	Protective Sleeve (Included by Default in H30 and H30D3 models)	1
<b>H45 COMPACT</b>		
599020	H45 COMPACT: Full HD + CI	1
599021	H45 COMPACT: Full HD + CI + DVB-T2	1
599022	H45 COMPACT: Full HD + CI + F.O.	1
599024	H45 COMPACT: Full HD + CI + DVB-T2 + F.O.	1
<b>H45 COMPACT OPTIONS</b>		
598901	Option DVB-T2(1)	1
5999	Option Fibre Optic Interface <sup>(1)</sup>	1
5909	Calibration of H-Series Spectrum Analyzer (Certificate Included) <sup>(1)</sup>	1
<b>H45 ACCESSORIES</b>		
5995	Weatherproof Bag	1
405701	Twin Adaptor "EasyF" Male - "F" Female	10
<b>MOSAIQ6</b>		
★ 596101	MOSAIQ6: DVB-T/T2 + DVB-S/S2 + DVB-C + ISDB-T/Tb, CI, F.O.	1
★ 596111	MOSAIQ6: DVB-T/T2 + DVB-S/S2 + DVB-C + ISDB-T/Tb, CI, Selective F.O. Interface (CWDM Filter)	1
<b>MOSAIQ6 OPTIONS</b>		
★ 596201	Option GPS Drive Test	1
★ 596202	Option WiFi 5GHz	1
★ 596203	Option Analogue Measures	1
★ 596204	Option DAB/DAB+	1
★ 596205	Option 4K - Ultra High Definition (UHD)	1



## MOSAIQ6



Portable meter with high performance and high accuracy for professional installers.

### THE POWER OF USER EXPERIENCE

#### 6 SCREENS IN 1

Thanks to its configurable interface, you choose which widgets (up to 6) you want to simultaneously display in the 8" high resolution screen. Check the installation status at a glance.

#### A TRUE TOUCH SCREEN

This new interface has been designed and also programmed to take full advantage of a touch screen with touch gestures (tap, double tap, long press, drag, spread or pinch). Only in this way is it possible to operate so easily a meter with so many performances.



A00412



SCAN TO WATCH VIDEO  
EN.TELEVES.COM/MOSAIQ6

## H30FLEX



### ALL THE FUNCTIONS YOU NEED IN YOUR HAND

A pocket size meter which allows you to customize upgrade choice with downloadable software.

[h30flex.televes.com](http://h30flex.televes.com)



A00399



SCAN TO WATCH VIDEO  
EN.TELEVES.COM/H30FLEX



**MEASURING EQUIPMENT & TOOLS**

Ref.	Description	
<b>FIBRE OPTIC TOOLS</b>		
<b>KITS</b>		
232130	F.O Kit: Handheld Arc Fusion Splicer + Stripper + Cleaver	1
232103	F.O Kit: Arc Fusion Splicer + Stripper + Cleaver + Accessories for fusioning Connectors <sup>(1)</sup>	1
2341	F.O Kit: Connector & Mechanical Splice + Stripper (Ref. 2324) + Cleaver (Ref. 232301) + Cleaning Tools <sup>(2)</sup>	1
<b>ACCESSORIES</b>		
★ 2327	Splicing Protection Sleeve 60mm for FO fusion	200
★ 232701	Splicing Protection Sleeve 43mm for FO fusion	200
2322	Fibre Mechanical Splicer	1
2328	Fibre Mechanical Splices	10
★ 232301	Cleaver of Fibre Optics	1
232310	Kevlar Scissors for Optical Fibres	1
2325	Stripper for Multi-fibre Cables	1
2324	Precision Stripper for Optical Fibres	1
232910	Cleaner for Fibre Optic Connectors	1
232710	F.O. Cleaning Kit: 50 isopropyl alcohol Wipes + 25 Sticks	1
<b>SIGNAL GENERATORS</b>		
4008	SAT Simulator 950...2150MHz	1
593001	SAT Simulator and Noise Generator 5...3000MHz	1
7301	SAT Finder 950...2050MHz	1



▲ 232130



▲ 2341



▲ 232301



▲ 232910



▲ 2325



▲ 232103

(1) Also includes: Spare set of electrodes, tweezers and carrying case.

(2) Also includes: ref.2328 (5 units), ref.2329 (10 units), ref.232910 (1unit and a replacement reel), 10 isopropyl alcohol wipes, 10 sticks for connectors cleaning & carrying bag.

Ref.	Description	
<b>COAXDATA SERIES</b>		
<b>GIGABIT: 1Gbps</b>		
769301	Transmitter/Receiver Router 1Gbps-HDTV Data over Coaxial, PLC and WiFi (Low Power WiFi option), 3 Ethernet Connectors & 2 "F" Connectors	1
769201	Transmitter/Receiver 1Gbps-HDTV Data over Coaxial and PLC, 2 Ethernet Connectors & 2 "F" Connectors	1
769202	Transmitter/Receiver 1Gbps-HDTV Data over Coaxial and PLC, 1 Ethernet Connector, 1 SFP (Optical Fibre) Connector & 2 "F" Connectors	1
769203	Transmitter/Receiver 1Gbps-HDTV Data over Coaxial, 1 Ethernet Connector & 2 "F" Connectors	1
<b>ACCESSORIES</b>		
769210	Ethernet - SFP Adapter 1000Base-X 2 Fibres, Point to Point (Media Converter)	1
769220	Diplexer Filter 2i/1o "F": LPF[2...68MHz] - HPF[87...2150MHz]	1/10
640301	Wall Mount (for CoaxData ref. 769301)	1
<b>FIBREDATA SOLUTIONS: GPON (Gigabit-capable Passive Optical Networks)</b>		
<b>GPON HEADENDS</b>		
769401	OLT512: 8x PON + 4x Gb Ethernet + 4x 10GbEthernet/Gb Ethernet (Up to 512 users) <sup>(1)</sup>	1
★ 769420	Modular OLT3072, for 3 16xPON cards and 2 2x10Gb switch cards, (Up to 3072 users) <sup>(1)</sup>	1
★ 769421	2x10Gb Switch Card (for OLT3072, Ref. 769420)	1
★ 769422	16xPON Card (for OLT3072, Ref. 769420)	1
769601	Double Power Supply Unit -48Vdc. 19" Rack Mount, 1RU (for OLT)	1
769410	SFP GPON B+ 1 Fibre "SC/PC"	1
769413	SFP GPON C+ 1 Fibre "SC/PC"	1
769411	SFP Gb Ethernet "RJ45"	1
769412	SFP 10Gb Ethernet 2 Fibres	1
<b>VIDEO OVERLAY HEADENDS: T.OX SERIES</b>		
234801	T.OX Optical Transmitter 1310nm "SC/APC" Po 10dBm w/o Return Path RF Automatic Adjustment and Temperature Stability	1
234305	T.OX Optical Transmitter 1550nm "SC/APC" Po 4dBm w/o Return Path	1
★ 234806	T.OX Optical Transmitter MATV 1550nm "SC/APC" Po 6dBm w/o Return Path External modulation and RF Automatic Adjustment (up to 30Km)	1
234811	T.OX Optical Transmitter 1550nm "SC/APC" Po 10dBm w/o Return Path RF Automatic Adjustment and Temperature Stability	1
769610	Optical Amplifier / Multiplexer 8o: "SC/APC" 20dBm (YEDFA Technology) + Double Power Supply Unit -48Vdc. 19" Rack Mount, 1RU (for OLT)	1
★ 769611	Optical Amplifier / Multiplexer 32o: "SC/APC" 20dBm (YEDFA Technology) 19" Rack Mount, 2RU	1
234228	T.OX Optical Amplifier / Multiplexer "SC/APC" 20dBm (YEDFA Technology) 9i: 8x1310/1490nm - 1x1550nm, 8o: 8x1310/1490/1550nm	1
5629	T.OX Switch-mode Power Supply Unit 120W 24V-5A	1
2337	T.OX Optical Splitter 1260...1650nm "SC/APC" 2W 4dB	1
2339	T.OX Optical Splitter 1260...1650nm "SC/APC" 4W 7dB	1
234401	T.OX Optical Splitter 1260...1650nm "SC/APC" 8W 10dB	1
234501	T.OX Optical Splitter 1260...1650nm "SC/APC" 16W 14dB	1
234601	T.OX Optical Splitter 1260...1650nm "SC/APC" 32W 17dB	1



▲ 769610



▲ 769611

**COAXDATA SERIES**



▶ 769301

**MULTIMEDIA SERVICES INTEGRATION OVER EXISTING COAXIAL NETWORKS**

Televés' Mynet WiFi technology allows you to configure your CoaxData Wireless Access Point in low power mode, hence the possibility to create network access microcells providing an improved performance to all users connected.



▲ 769220

**FIBREDATA SOLUTIONS**

**TELEVÉS COST-EFFECTIVE QUAD PLAY SOLUTIONS OVER OPTICAL FIBRE**



▲ ONT

▶ ONU



▶ OLT3072



▶ OLT512

**Compact, reliable, affordable and easy to manage GPON and RF overlay products.**

Multiple-play service enabling high speed data, VoIP, 802.11Ac Wi-Fi, video (IPTV and RF overlay) PoE, etc.



▶ CHECK OUR FIBREDATA BROCHURE: [EN.TELEVES.COM/FIBREDATA](http://EN.TELEVES.COM/FIBREDATA)

(1) AC/DC Adapter included.

Ref.	Description	
<b>FIBREDATA SOLUTIONS: GPON (Gigabit-capable Passive Optical Networks)</b>		
<b>DISTRIBUTION</b>		
233750	Optical Splitter, PLC Component, 1260...1650nm "SC/APC" 2W 4dB	1
233950	Optical Splitter, PLC Component, 1260...1650nm "SC/APC" 4W 7dB	1
234450	Optical Splitter, PLC Component, 1260...1650nm "SC/APC" 8W 10dB	1
234550	Optical Splitter, PLC Component, 1260...1650nm "SC/APC" 16W 14dB	1
234650	Optical Splitter, PLC Component, 1260...1650nm "SC/APC" 32W 17dB	1
231502	F.O. Patch/Splitting Box 2 to 4 Outs <sup>(1)</sup>	1
★ 232622	F.O. Patch Cord Single-mode LSFH Pre-terminated "SC/APC"-"SC/PC" 0.2m	5
★ 232621	F.O. Patch Cord Single-mode LSFH Pre-terminated "SC/APC" 2m (Bag B4)	10
★ 236410	Optical Attenuator 1310/1550nm "SC/APC" 2dB	1
★ 236411	Optical Attenuator 1310/1550nm "SC/APC" 5dB	1
★ 236412	Optical Attenuator 1310/1550nm "SC/APC" 10dB	1
<b>CUSTOMER PREMISE EQUIPMENT: ONT (Optical Network Terminal)</b>		
769507	ONU Basic Module: 1x GB Ethernet	1
769508	ONU Standard Module: 1x GB Ethernet, RF Overlay	1
769501	Office ONT Module: 4x GB Ethernet + 2x FXS + 2x USB, WLAN	1
769506	Office AC ONT Module: 4x GB Ethernet + 2x FXS + 2x USB, WLAN b/g/n/ac	1
769502	Home ONT Module: 4x GB Ethernet + 2x FXS + 2x USB, WLAN, RF Overlay	1
769504	Home ONT Module: 4x GB Ethernet + 2x FXS + 2x USB, WLAN b/g/n/ac, RF Overlay	1
<b>OPTICAL MICRO-NODES</b>		
231111	Domestic Optical Receiver 1550nm "SC/APC" with Amplifier 47...1006MHz, OLC Technology (Optical Level Control)	1



**Technical Characteristics: ONT + ONU**



References		769501	769506	769502	769504	769507	769508
Models		ONT				ONU	
		OFFICE	OFFICE	HOME	HOME	BASIC	STANDARD
RF-Overlay		✗	✗	✓	✓	✗	✓
WiFi (802.11 b/g/n) (2x2) 2.4		✓	✓	✓	✓	✗	✗
WiFi (802.11 b/g/n/ac) (2x2) 2.4/5		✗	✓	✗	✓	✗	✗
USB		2	2	2	2	✗	✗
FXS Ports		2	2	2	2	✗	✗
ETH 10/100/1000BASE-T Ports		4	4	4	4	1	1
NAT/NAPT		✓	✓	✓	✓	✗	✗
Firewall		✓	✓	✓	✓	✗	✗
VPN pass-through		✓	✓	✓	✓	✗	✗
PPPoE Terminal		✓	✓	✓	✓	✗	✗
OMCI		✓	✓	✓	✓	✗	✗
TR-069		✓	✓	✓	✓	✗	✗
CLI		✓	✓	✓	✓	✗	✗
WebGUI		✓	✓	✓	✓	✗	✗
<b>General</b>							
Temperature conditions	°C	-5... 65				-5... 65	
	°F	23...149				23...149	
Relative humidity	%	0...95				0...95	
Power consumption	W	19	19	19	19	7	7
Dimensions (Width x Hight x Depth)	mm	210 x 40 x 210				142 x 30,5 x 112	
	inch	8.25 x 1.57 x 8.25				5.57 x 1.20 x 4.4	

(1) OLC: Optical Level Control.

Ref.	Description			
<b>KITS</b>				
<b>TERRESTRIAL</b>				
149921	DAT BOSS Terrestrial Antenna UHF (Ch21-48) G 17dBi BOSS OFF, G 42dBi BOSS ON (Single Packing)	LTE700 <b>T</b> FORCE	⊙	1/5
149941	DAT BOSS Terrestrial Antenna UHF (Ch21-60) G 17dBi BOSS OFF, G 45dBi BOSS ON (Single Packing)	LTE790 <b>T</b> FORCE	⊙	1/5
149721	DAT BOSS LR Terrestrial Antenna UHF (Ch21-48) G 19dBi BOSS OFF, G 47dBi BOSS ON (Single Packing)	LTE700 <b>T</b> FORCE	⊙	1
149740	DAT BOSS LR Terrestrial Antenna UHF (Ch21-60) G 19dBi BOSS OFF, G 47dBi BOSS ON (Single Packing)	LTE790 <b>T</b> FORCE	⊙	1
★ 144022	DINOVA BOSS Terrestrial Antenna UHF (Ch21-48) G 7dBi BOSS OFF, G 34dBi BOSS ON (Kit with accessories)	LTE700 <b>T</b> FORCE	Ⓜ	1
★ 144012	DINOVA BOSS Terrestrial Antenna UHF (Ch21-60) G 7dBi BOSS OFF, G 34dBi BOSS ON (Kit with accessories)	LTE790 <b>T</b> FORCE	Ⓜ	1
144501	CAMPNOVA BOSS Terrestrial Antenna FM/BIII/UHF G -2/10/22dBi (Kit with accessories)	LTE790	Ⓜ	1
144441	OMNINOVA BOSS Terrestrial Antenna BI/FM/BIII/UHF G 26/20/28/30dBi (Kit with accessories)	LTE790	Ⓜ	1
<b>ANTENNAS</b>				
<b>SET TOP AERIALS</b> <span style="float: right;">LTE790</span>				
130201	INNOVA BOSS Indoor Terrestrial Antenna UHF (Ch21-60) G 30dBi		Ⓟ	1
<b>HOME ACCESSORIES</b>				
<b>AUDIO/VIDEO &amp; IR TRANSMISSION</b>				
730704	Digidom Transmitter + Receiver Audio/Video 2.4GHz 3 Channels			1/10
7167	Digidom Transmitter + Receiver Audio/Video 5.8GHz 8 Channels			1/10
<b>IR OVER RF TRANSMISSION</b>				
723702	Digidom Universal Transmitter + Receiver, Remote Control Extender, 8 Channels			1/30
721902	Digidom Universal Transmitter, Remote Control Extender, 8 Channels			1/30
<b>DIGITAL RECEIVERS</b>				
<b>SATELLITE TV</b>				
711801	Slim FTA SAT Set-top Box - DiSeqC 1.2 - USALS - with modulator - Freesat Compatible			1/5
7118	Slim FTA SAT Set-top Box - DiSeqC 1.2 - USALS - with modulator - Freesat Compatible			1/5
717501	Satellite Digital Set-top Box FTA "zAs HD SAT" (FreeSat)			1/10
<b>LTE FILTERS</b> <span style="float: right;">LTE790</span>				
<b>"IEC" CONNECTOR</b>				
404411	Medium Rejection LTE Filter (MR) "IEC" 470...774MHz UHF (Ch21-58) Indoor (Bag B3)			10
404410	High Rejection LTE Filter (HR) "IEC" 47...782MHz VHF/UHF (Ch21-59) Indoor (Blister S)			10
404412	High Rejection LTE Filter (HR) "IEC" 47...790MHz VHF/UHF (Ch21-60) Indoor (Bag B3)			10
<b>MODULATOR</b>				
585801	Domestic Modulator with Channel (VHF/UHF)			1



▲ 149941



▲ 144501



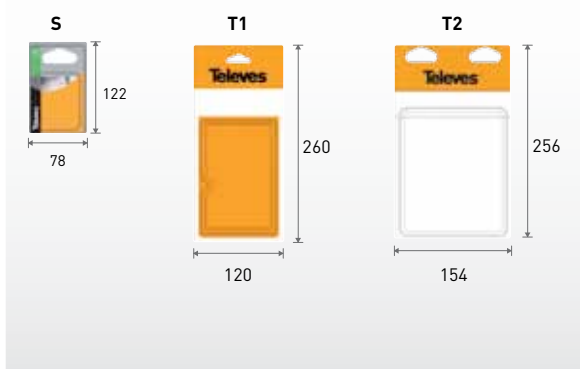
▲ 144441



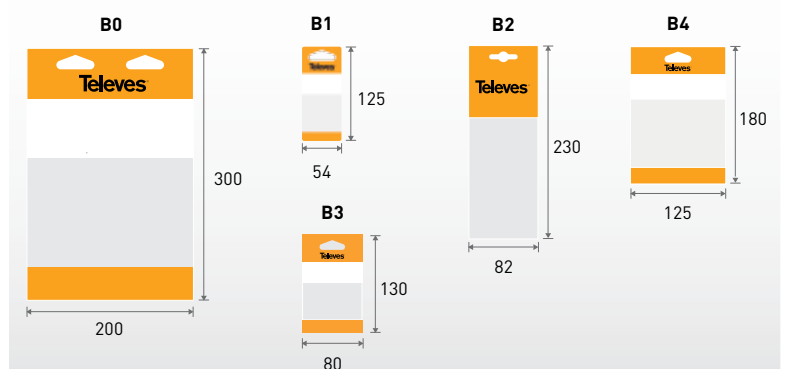
▲ 404410

Packaging types (mm)

BLISTERS



BAGS



Ref.	Description		
<b>DOMESTIC AMPLIFIERS</b>			
552840	Domestic Amplifier 1i/(2o+TV) "IEC": 47..790MHz G 20dB Vo 106dBµV + Output TV Outlet G 12dB (Blister T1)	LTE790	8
★ 545720	Domestic Amplifier 1i/(2o+TV) "IEC": 47...694MHz G 20dB Vs 110dBµV + Output TV Outlet G 12dB + Preamp.Pow. 12V-100mA (Blister T1)	LTE700	8
552940	Domestic Amplifier 1i/(4o+TV) "IEC": 47..790MHz G 16dB Vo 102dBµV + Output to a TV Outlet G 11dB (Blister T1)	LTE790	8
★ 552220	Domestic Amplifier 1i/(2o+TV) "F": 47...694MHz G 20dB Vo 110dBµV + Output TV Outlet G 12dB (Blister T1)	LTE700	1
★ 5531	Domestic Amplifier 1i/6o "F": 47...862MHz G 16dB Vo 103dBµV (Blister T1)		8
<b>ATTENUATORS</b>			
4315	Adjustable Attenuator "IEC" Ø 9.5mm 1 to 25dB VHF/UHF DC Pass (Bag B1)		10
<b>SPLITTERS</b>			
434103	Mini-Splitter 5...2400MHz "EasyF" 2W 4.5/4.3dB DC Pass All With Outdoor Mounting Case (Blister T1)	B	10
434202	Splitter 5...2400MHz "EasyF" 4W 9/7dB DC Pass All With Outdoor Mounting Case (Blister T1)	B	8
<b>COAXIAL</b>			
<b>CLASS A+ CABLE LEADS</b>			
3851	Coaxial Cable Lead "F" Compression 1.5m White (Bag B0)	W	30
385101	Coaxial Cable Lead "F" Compression 3m White (Bag B0)	W	20
385102	Coaxial Cable Lead "F" Compression 5m White (Bag B0)	W	15
3852	Coaxial Cable Lead "IEC" Male-Female Compression 1.5m White (Bag B0)	W	30
385201	Coaxial Cable Lead "IEC" Male-Female Compression 3m White (Bag B0)	W	20
385202	Coaxial Cable Lead "IEC" Male-Female Compression 5m White (Bag B0)	W	15
3856	Coaxial Cable Lead "F" - "IEC" Male Compression 1.5m White (Bag B0)	W	30
385601	Coaxial Cable Lead "F" - "IEC" Male Compression 3m White (Bag B0)	W	20
385602	Coaxial Cable Lead "F" - "IEC" Male Compression 5m White (Bag B0)	W	15
3854	Coaxial Cable Lead "F" - "IEC" Female Compression 1.5m White (Bag B0)	W	30
385401	Coaxial Cable Lead "F" - "IEC" Female Compression 3m White (Bag B0)	W	20
385402	Coaxial Cable Lead "F" - "IEC" Female Compression 5m White (Bag B0)	W	15
3853	Coaxial Cable Lead "F" Compression - "Quick F" "PRO EasyF" 1,5m White (Bag B0)	W	30
385301	Coaxial Cable Lead "F" Compression - "Quick F" "PRO EasyF" 3m White (Bag B0)	W	20
385302	Coaxial Cable Lead "F" Compression - "Quick F" "PRO EasyF" 5m White (Bag B0)	W	15
385501	Coaxial Cable Lead "F" Compression - "IEC" Female "PRO EasyF" 3m White (Bag B0)	W	20
385701	Coaxial Cable Lead "F" Compression - "IEC" Male "PRO EasyF" 3m White (Bag B0)	W	20
3858	Coaxial Cable Lead "IEC" Male Compression - "IEC" Female "PRO EasyF" 1.5m White (Bag B0)	W	30
385801	Coaxial Cable Lead "IEC" Male Compression - "IEC" Female "PRO EasyF" 3m White (Bag B0)	W	20
385802	Coaxial Cable Lead "IEC" Male Compression - "IEC" Female "PRO EasyF" 5m White (Bag B0)	W	15
<b>CABLE LEADS</b>			
431001	Coaxial Cable Lead "IEC" Ø 9.5mm Elbowed Shielded Male-Female 1.5m Grey (Blister T1)	G	8
431002	Coaxial Cable Lead "IEC" Ø 9.5mm Elbowed Shielded Male-Female 2.5m Grey (Blister T1)	G	8
<b>ACCESSORIES</b>			
2162	Coaxial Cable Stripper (Bag B2)		10
<b>FIBRE OPTICS CONNECTION</b>			
★ 232621	F.O. Patch Cord Single-mode LSFH Pre-terminated "SC/APC" 2m (Bag B4)		10
<b>AUDIO/VIDEO CONNECTION</b>			
494501	HDMI Cable Male-Male 1.5m Black (Blister T1)	B	8
494502	HDMI Cable Male-Male 3m Black (Blister T2)	B	10
494503	HDMI Cable Male-Male 5m Black (Blister T2)	B	10
494505	HDMI Cable Male-Male 1.5m Black (Bag)	B	100
495790	HDMI Rotating Cable 0-90° Male-Male 1.5m Black	B	100
<b>MAST ACCESSORIES</b>			
4361	Guy Wire Mounting Kit Ø 45mm (Blister T2)		10



▲ 545720



▲ 434103



▲ 4315

Cable lead made with SK2000plus, a trishielded high screening cable. **A+**



▶ 3851xx



▶ 3852xx



▶ 3856xx

See technical specifications of SK2000plus cable on page 30.



▶ 4310xx

# ARANTIA.TV

## ▶ IPTV AND INTERACTIVE TELEVISION ◀

ARANTIA TV INCLUDES ALL THE SERVICES NEEDED to respond to its customers' requirements within a simple IPTV platform in all kinds of projects, including hotels, hospitals, operators, companies and residential buildings. Indeed, it provides additional **new tools in order to enhance business operations.**

- **Two Middleware Versions available:** Chronos STB Middleware and LG and Samsung televisions Middleware\*.
- **Multiple Interactive Services:** Television, Video on Demand, News, Messages, Check Expenses, Information Services...
- **Powerful System Management Tool.**
- Third party systems integration: Property Management Systems, NO/NC Alarm Systems.
- User Interface that can be customized according to each project requirements.
- Integration with Arantia DS.

\* Check compatible TV models.

Ref.	Description	
<b>COMPACT HE-21 IPTV HEADEND</b>		
831010	HE-21 4U Chassis	1
831011	HE-21 4U Chassis with Redundant Power Supply	1
831012	HE-21 1U Chassis	1
831110	HE-21 DVB-S/S2 Dual Input	1
831111	HE-21 DVB-S/S2 Quad Input	1
831115	HE-21 DVB-T/T2 Dual Input	1
831114	HE-21 DVB-T/T2 Quad Input	1
★ 831123	HE-21 DVB-S/S2/T/T2/C/ISDB-T Dual Input with Dual CI	1
★ 831121	HE-21 ATSC Quad Input	1
831118	HE-21 DVB-IP Input	1
831122	HE-21 HDMI Quad Input	1
831119	HE-21 Corporate Channel License	1
830318	HE-21 Arantia TV Middleware up to 50 Users	1
★ 830325	HE-21 Middleware Lite & STB/TV Management Tool	1
<b>ENCODERS / TRANSCODERS</b>		
832103	Encoder 8 HDMI Inputs MPEG4 IP	1
832201	Transcoder/Streamer Live	1
<b>ITV HEADEND (INTERACTIVE TELEVISION)</b>		
830320	Arantia TV Middleware up to 100 Users	1
830321	Arantia TV Middleware from 101 to 499 Users	1
830322	Arantia TV Middleware from 500 to 1000 Users	1
830323	Arantia TV Middleware over 1000 Users	1
830319	Arantia TV Set-Top Box License	1
830507	Arantia TV Television License	1
830311	VOD Server 20 Streams 1TB SATA	1
83031201	VOD Server 95 Streams 500GB (1.2TB) SAS	1
83031203	VOD Server 95 Streams 1TB (2.4TB) SAS	1
830316	IPTV Remote Management Server	1
832001	Server Upgrade to Redundant Power Supply	1
<b>ITV PERSONALIZATION &amp; OPTIONS</b>		
830501	Property Management System Interface	1
830502	User Interface Personalization Manager	1
830103	Chronos Alarm Monitor	1
830506	NO/NC Alarm System Integration	1
831310	Payment Terminal Kiosk	1

## IPTV HE-21 HEADEND



Arantia IPTV HE-21 headend allows the reception of digital services through its DVB-T/T2, DVB-S/S2, DVB-C, ISDB-T, ATSC, HDMI & IP input modules that are encapsulated in IP packages and streamed through an IPTV network.

- **Cost-effective:** Adjusted price taking into account all the features that incorporates, such as the Session Announcement Protocol (SAP) or Universal Plug and Play (UPnP).
- **High Density:** Many inputs and software options in a reduced space of 4U.
- **Multi-Standard:** Support for most of the European and American Digital TV (DTV) standards.
- **Web Administration.**
- **Descrambling** with DVB-CI.
- **HEVC & 4K** compatible.
- **Optional Products:** Corporate Channel Licence and Interactive Services Middleware.

## TRANSCODER LIVE

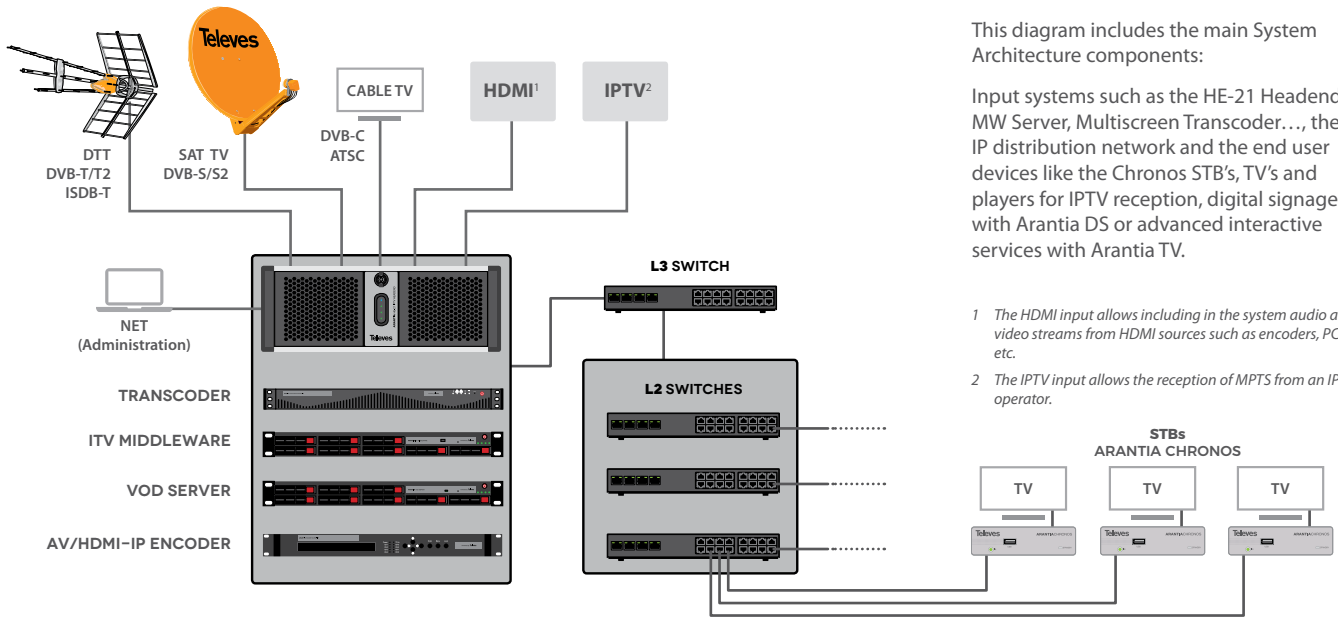


### TELEVISION AT YOUR FINGERTIPS

Arantia Multiscreen Transcoder (Ref.832201) allows you to send television channels to any device (Smartphones, Tablets, STB, PC, Smart TV,...) through any kind of network.

- Two functions on a single equipment: Transcoding and Streaming.
- Adaptive streaming.
- HEVC Compatibility.
- Up to 4K (2160p) output resolution.
- Casting services compatible.

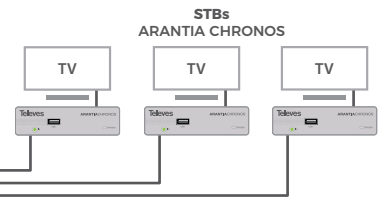
Arantia TV: Main System Components



This diagram includes the main System Architecture components:

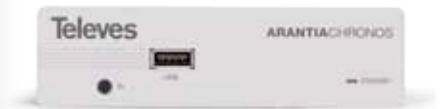
Input systems such as the HE-21 Headend, MW Server, Multiscreen Transcoder..., the IP distribution network and the end user devices like the Chronos STB's, TV's and players for IPTV reception, digital signage with Arantia DS or advanced interactive services with Arantia TV.

- 1 The HDMI input allows including in the system audio and video streams from HDMI sources such as encoders, PCs, etc.
- 2 The IPTV input allows the reception of MPTS from an IPTV operator.



Ref.	Description	
<b>IPTV - ITV IN ROOM EQUIPMENT</b>		
830102	Chronos Set-Top Box	1
830104	Chronos Set-Top Box WiFi	1
830105	Chronos Set-Top Box PoE	1
830207	Universal Remote Control	1
830210	Premium Universal Remote Control	1
830209	Power Supply Unit for Set-Top Box (EU plug)	1
830208	Power Supply Unit for Set-Top Box (UK plug)	1
830203	Set-Top Box IR Extension	1
830213	Set-Top Box TVI Extension - Samsung	1
830215	Set-Top Box TVI Extension - LG	1
831504	CAT6 UTP Cable 1m	1
830212	Set-Top Box Wall Mounting Kit	1
830205	Vesa 200x200mm Set-Top Box Wall Mount	1

Ref.	Description	
<b>IPTV - ITV ACCESSORIES</b>		
831304	19" Rack 22U Mounted & Adjusted	1
831301	19" Rack 27U Mounted & Adjusted	1
831302	19" Rack 37U Mounted & Adjusted	1
831303	19" Rack 42U Mounted & Adjusted	1
★ 831311	Rack Rails for HE-21	1
831404	VPN Router	1
831701	Uninterruptible Power Supply (UPS)	1
831401	Layer 3 Ethernet Switch 1000TX 24 Ports + 4 SFP Ports	1
831405	Layer 3 Switch 24 Ports 1000TX/SFP Combo	1
831406	Layer 2+ Ethernet Switch 1000TX 24 Ports + 4 Ports SFP	1
831402	Layer 2 Ethernet Switch 100TX 24 Ports + 2 Ports 1000TX + 2 Ports SFP	1
831403	Layer 2 Ethernet Switch 100TX 48 Ports + 2 Ports 1000TX + 2 Ports SFP	1
831408	Layer 2 Ethernet Switch 100TX 24 Ports PoE + 4 Ports SFP	1
831407	Layer 2 Ethernet Switch 100TX 48 Ports PoE + 4 Ports SFP	1
831503	Transceiver 1000SX SFP LC MMF (Multi-Mode Fibre)	1
831506	Transceiver 1000LX SFP LC SMF (Single-Mode Fibre)	1
★ 831505	Transceiver 1000T SFP RJ-45	1



▲ 830102



▶ Rack 27U (Mounted and adjusted)



# ARANTIA.DS

Promote your business in a simple, intuitive and profitable way through attractive multimedia content thanks to Arantia DS.

Create, manage and deliver attractive, flexible and tailor made information to different Digital Signage Players through the system management tool.

## DIGITAL SIGNAGE SOLUTION FOR YOUR BUSINESS

### MAIN FEATURES:

- Web based Management Tool.
- Users and groups management.
- Secured Content Download.
- Smart Content Scheduling.
- Scalable solution.
- DS Players Management.
- Templates and Content Designer.
- Displays Switch ON / OFF Scheduling.
- Cloud based & in-house Server architecture.
- Media library Management.
- Content Carousels.
- Room Booking Application.

Ref.	Description	
<b>DIGITAL SIGNAGE CLOUD</b>		
831810	Chronos DS Player	1
★ 831812	Nemesis DS Player	1
831801	Totem with Vertical Display DS Player	1
831811	DS Annual Cloud Hosting per Player	1
830209	Power Supply Unit for Set-Top Box (EU plug)	1
830208	Power Supply Unit for Set-Top Box (UK plug)	1
830213	Set-Top Box TVI Extension - Samsung	1
830215	Set-Top Box TVI Extension - LG	1
<b>LOCAL DIGITAL SIGNAGE</b>		
831805	Arantia DS Server up to 150 Users	1
831810	Chronos DS Player	1
★ 831812	Nemesis DS Player	1
831801	Totem with Vertical Display DS Player	1
830209	Power Supply Unit for Set-Top Box (EU plug)	1
830208	Power Supply Unit for Set-Top Box (UK plug)	1
830213	Set-Top Box TVI Extension - Samsung	1
830215	Set-Top Box TVI Extension - LG	1

### DS NEMESIS STB



#### THE NATURAL EVOLUTION OF STB's

Nemesis STB is the natural evolution of Chronos as a Digital Signage Player for Arantia DS.

- With the same shape as the Chronos STB, it is a powerful and reliable STB with low power consumption and better performance.
- It supports vertical and horizontal orientation, which is very useful for certain types of contents.
- It includes expandable storage via microSD.



Arantia DS: Cloud based & in-house Server based operation modes

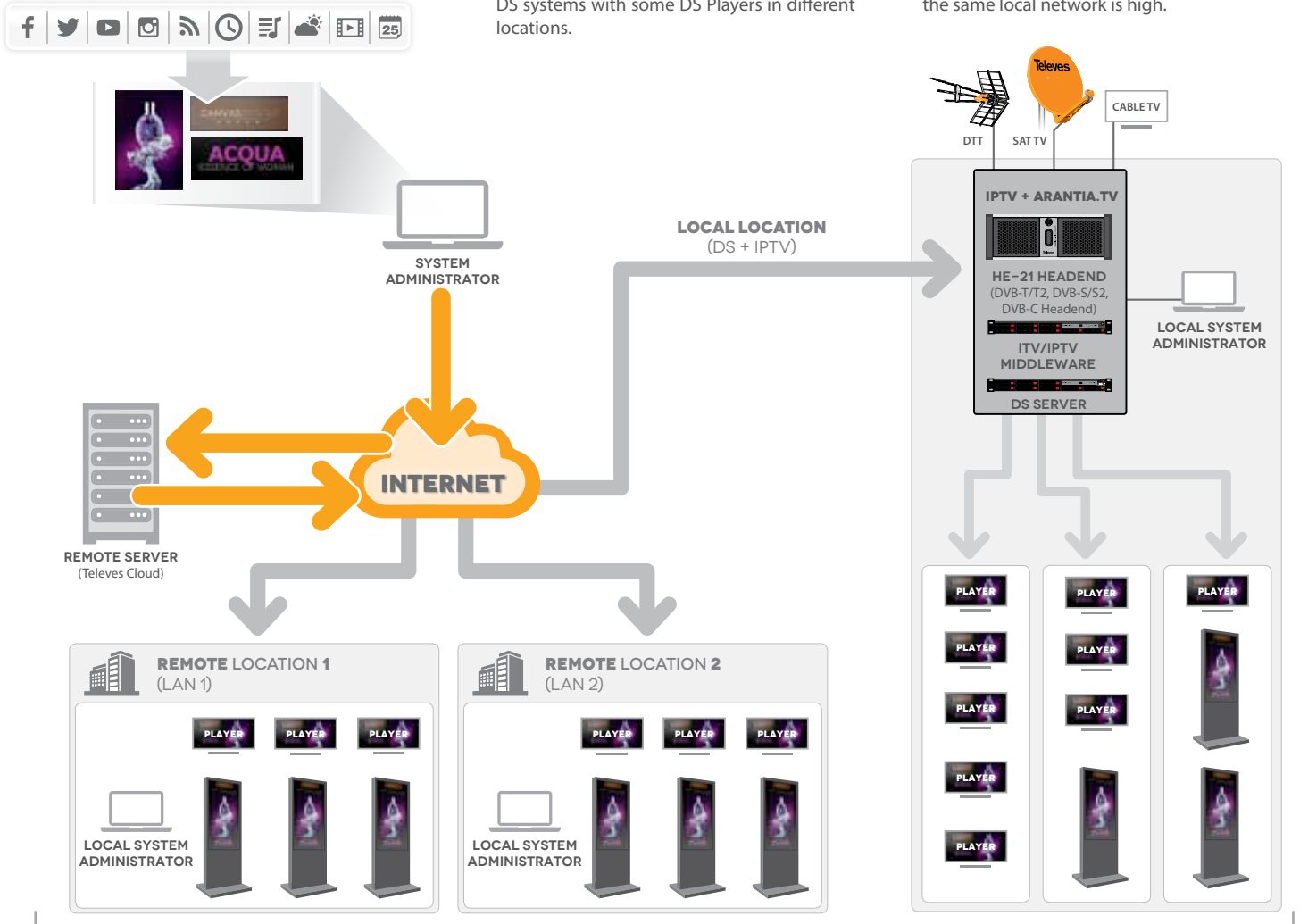
Arantia DS offers two operation modes through a Cloud based or an in-house Server based architecture:

**CLOUD BASED ARANTIA DS:** The core DS management application is hosted inside Televes Cloud infrastructure and the distributed DS Players access to it from any place with Internet access.

► **This architecture is perfect** for distributed DS systems with some DS Players in different locations.

**IN-HOUSE SERVER BASED ARANTIA DS:** The core DS management application and the DS Players are located in the same local area network.

► **This architecture is perfect** for DS systems where the number of DS Players located in the same local network is high.



DS TOTEM

★ A NEW POWERFUL TOOL FOR DIRECT COMMUNICATION

ArantaDS Totem provides a new powerful tool for direct communication with your audience, fully integrated in the establishment environment at any location thanks to its innovative and customized design.

- It allows to display different types of digital information (information on events, addresses, advertisement and promotion) at one signalling point.
- It offers the possibility of customization, emphasizing the company's corporate image.
- It is made up of a light extruded aluminium chassis with a slim and sophisticated design.
- It has a IPS FHD 55" screen with integrated audio and Smart Energy Saving, specially conceived for Digital Signage, with a 24/7 operation mode and electronic protection against external agents as dust and humidity.
- It offers an optimal view of the displayed contents thanks to the frontal extra clear laminated glass.

## DEFINITIONS

- 1.1. "Contract" means the contract for the sale of the Goods by the Supplier to the Purchaser.
- 1.2. "Goods" means the goods (including any installment of the goods or any part of them) agreed to be sold by the Supplier to the Purchaser.
- 1.3. "Purchaser" means the person, firm or company ordering Goods from the Supplier.
- 1.4. "Supplier" means Televes UK Limited (registered number 2280583) whose principal place of business is at Unit 11 Hill Street Industrial Estate, Cwmbran, Gwent, NP44 7PG.

## GENERAL

- 2.1. These Conditions shall not be affected by any previous dealings between the Supplier and the Purchaser. Each Contract entered into by the Purchaser and the Supplier shall be regarded as a separate and new contract having no relation to other contracts between the Purchaser and the Supplier.
- 2.2. Any reference in these Conditions to a statute or a provision of statute shall be construed as a reference to that statute or provision as amended re-enacted or extended at the relevant time.
- 2.3. The headings in these Conditions are for convenience only and shall not affect their interpretation.

## VARIATION

- 3.1. Neither the Purchaser and the Supplier shall be bound by any variation, waiver of, or addition to these Conditions except as agreed by both parties in writing and signed on their behalf. In the event of any such variation, waiver of, or addition to these Conditions the provisions of these Conditions not so varied or waived shall continue to apply to the Contract along with the condition or conditions as varied or added to these Conditions.
- 3.2. These Conditions can only be varied by a director of the Supplier in writing.

## DESCRIPTION / SAMPLE

- 4.1. Any description of the Goods is given by way of identification only and the use of such description shall not constitute the sale a sale by description.
- 4.2. Notwithstanding that a sample of the Goods may be exhibited to and inspected by the Purchaser, it is hereby declared that such sample is exhibited and inspected solely to enable the Purchaser to judge for itself the quality of the bulk, and not so as to constitute the sale a sale by sample.

## EXCLUSIONS

5.1. Without prejudice to Condition 12, no liability whatsoever shall be incurred by the Supplier in respect of any representation made by the Supplier or its agents to the Purchaser or the Purchaser's agents before the contract was made nor in respect of any express terms of the Contract whether a condition, warranty or intermediate stipulation (including any liability arising from the breach of such term) where such representation or express term relates or refers in any way to:

- a) The correspondence of the Goods to any description or
- b) The quality of the Goods or
- c) The fitness of the Goods for any purpose whatsoever.

All implied terms, conditions or warranties whether statutory or otherwise as to

- a) The correspondence of the goods to any description or the merchantable quality of the Goods or
- b) The fitness of the Goods for any purpose whatsoever (whether made known to the Supplier or not) are hereby excluded from the contract (other than as may be expressly set out in these Conditions).

5.2. The Supplier does not seek to exclude liability for death or personal injury caused by the Supplier's negligence, or (where the Purchaser deals as a consumer within the meaning of section 12 of the Unfair contract terms Act 1977) to exclude liability or breach of the obligations arising from Sections 13 to 15 of the Sale of Goods Act 1979.

## DELIVERY

The Supplier shall deliver the Goods to the Purchaser on an "ex works" basis.

- 6.1. Delivery of the Goods shall be made to Purchaser's delivery address as notified by the Purchaser. The Purchaser shall make all arrangements to take delivery of the Goods whenever they are tendered for delivery.
- 6.2. The Purchaser shall be deemed to have accepted the Goods after delivery to the Purchaser.
- 6.3. The Supplier has the right to deliver the Goods by installments in any sequence. If the Goods are delivered by installments each installment will be deemed to be the subject of a separate contract and any default or failure by the Supplier in respect of one or more installments will not vitiate the Contract in respect of the Goods previously delivered or undelivered Goods.

6.4. Any dates stated by the Supplier for the delivery of the Goods are approximated only and do not form part of the contract and the Purchaser agrees that the time of delivery shall not be of the essence of the Contract. The Goods may be delivered by the Supplier in advance of any quoted delivery date upon giving reasonable notice to the Purchaser.

6.5. If the Purchaser fails to take delivery of the Goods (or any part of them) on the due date the Supplier will be entitled, upon giving written notice, delivery will be deemed to have taken place, risk in the goods will pass to the Purchaser and the Purchaser will pay to the Supplier on demand all costs and expenses (including but not limited to storage and insurance charges) arising from the failure.

6.6. Without prejudice to condition 12, the Supplier will not be liable for any penalty loss, injury, damage or expense, arising from any delay or failure in delivery or performance from any cause at all, nor will any such delay or failure entitle the Purchaser to refuse to accept any delivery or performance of or to repudiate the contract.

6.7. Any claim for damage in transit, non-delivery of any Goods or that any Goods are not of the correct quantity must be notified in writing by the Purchaser to the Supplier within twenty days from the date of which the Goods were to be delivered or date of the Supplier's invoice, whichever is earlier. If the Purchaser proves that any goods have not been delivered or (subject to Condition 9) are not of the correct quantity the Supplier will replace the same with similar Goods.

6.8. Free delivery within the UK mainland on orders over £500 net. Freight charges for deliveries outside UK mainland will be charged to the buyer at cost.

## QUOTATION / PRICE

7.1. The price of the Goods ("the Price") shall be the Supplier's quoted price or, where no prices has been quoted, the price listed in the Suppliers published price list in use by the Supplier at the date of acceptance of the Contract. Such prices are based on the current cost of production (materials, hours and wages) and are subject to amendment to meet any rise or fall in such cost. Any variation to the Price as a result of government taxes or levies will be for the Purchaser's account.

7.2. Unless previously withdrawn the quotation is open for acceptance in writing for a period of thirty days from the date of the quotation after which period it is subject to review.

7.3. The Price is exclusive of any applicable valued added tax, which the Purchaser shall be additionally liable to pay to the Supplier.

## PAYMENT

8.1. Payment of Goods supplied under the Contract is due 30 days after the date of invoice (unless otherwise agreed in writing) and the Purchaser agrees that the Purchaser will not be entitled for any reason to make any deduction from or withhold any payment due to the Supplier.

8.2. Time for payment of sums payable to the Supplier shall be of the essence of the contract. If payment of the Price is not made in full by the due date for payment whether the same be demanded or not, the Supplier shall be entitled (without prejudice to any other rights it may have):

- 8.2.1. To charge interest (both before and after any judgment) on the outstanding amount remaining unpaid at either the rate of 2% per annum above the Base Rate of the Supplier's Bank, from time to time in force and accruing daily, or at the rate provided for in the Late Payment of Commercial Debts Act 1988; whichever is the higher; and
- 8.2.2. To require payment in advance of delivery of undelivered Goods; and
- 8.2.3. To refuse to make delivery of any undelivered Goods whether ordered under the contract or not and without incurring any liability whatever to the Purchaser for non-delivery or any delay in delivery; and
- 8.2.4. To terminate the Contract.

8.3. In the event of the Purchaser failing to make payments in respect of invoices due in terms of these Conditions, the Supplier shall be entitled to recover from the Purchaser all expenses relative to the recovering of outstanding sums. Such expenses to include all fees and relative outlays including those to third party collection agencies.

## VARIATIONS IN AMOUNT

9.1. The Supplier shall be entitled to deliver to the Purchaser in satisfaction of the Contract a quantity of the goods which is less than or which exceeds that specified in the contract (the Supplier giving credit for any undelivered Goods).

## TITLE

10.1. The property in the Goods will not pass to the Purchaser until payment of the Price for the Goods (and for all other goods agreed to be sold by the Supplier to the Purchaser for which payment is then due) has been made in full.

10.2. Until such time the Purchaser will hold the goods as the Supplier's bailee and fiduciary agent and will store the Goods separately from other goods so that they can be identified as the Supplier's property and keep the same protected and insured.

10.3. Until the property in the goods passes to the Purchaser, the Purchaser shall be entitled to resell or use the Goods in the ordinary course of its business but shall account to the Supplier for such element of the proceeds of sales or otherwise of the goods, whether tangible or intangible, including insurance proceeds, as is equivalent to the Price and shall keep all such proceeds separate from any monies or property of the Purchaser and other parties and, in the case of tangible proceeds, properly stored, protected and insured.

10.4. Until such time as property in the Goods passes to the Purchaser, the Supplier shall be entitled at any time to require the Purchaser to deliver up the Goods to the Supplier and if the Purchaser fails to do so forthwith to enter upon any premises of the Purchaser or any third party where the Goods are believed to be stored and repossess the Goods. The Purchaser shall indemnify the Seller in respect of any claims, costs or damages against or incurred by the Supplier as a result of entering such premises.

## PERFORMANCE

11.1. Unless otherwise stated any performance given are guidelines only based upon results obtained under test conditions and they do not form part of the Conditions of Sale or constitute a warranty on the part of the Supplier.

11.2. Where it is warranted that specific performance figures shall be achieved a warranty shall only be enforced where the Goods are installed and operated in accordance with the Supplier's instructions.

## GUARANTEE

12.1. The Supplier guarantees that subject to Conditions 12.2, 12.3 and 12.4 and for a period of 24 months, unless otherwise stated in written in the documentation included with the product, from the date of delivery of Goods to the Purchaser (in accordance with Condition 6), the Goods shall be of satisfactory quality within the meaning of the Sale of Goods Act 1979.

12.2. The Purchaser shall in relation to any claim made under Conditions 12.1 above give full details of the claim and shall afford the Supplier reasonable opportunity and facilities to investigate any claims made by the Purchaser and if requested in writing by the Supplier must promptly return any Goods, which are the subject of a claim (together with any packing) securely packed and carriage paid to the Supplier for examination.

12.3. Under no circumstances will be Supplier be liable for:

12.3.1. Damage resulting from fair wear and tear or improper use by the Purchaser or failure by the Purchaser to comply with the instructions or advice of the Supplier or the manufacturer of the Goods or neglect of any of the description;

12.3.2. Variations in the quantities or dimensions of any Goods or changes in specifications or substitution of any material or components if the variation or substitution does not materially affect the characteristics of the goods and the substituted materials or components are of a quality equal or superior to those originally specified.

12.3.3. Goods which have been adjusted, altered, adapted or repaired by any party other than the Supplier;

12.3.4. Any defect arising from any design or specification provided or made by the Purchaser or if any adjustments, alteration, adaptations or other work has been done to the Goods by any person other than the Supplier.

12.4. In no circumstances whatsoever shall be Supplier's liability to the Purchaser (on whatever ground) arising under out of or in connection with the Contract or the Goods exceed the Price of the particular Goods in regard to which complaint is made.

12.5. The Supplier will have no liability whatsoever in respect of claims made otherwise than in accordance with the provisions of conditions 12.1, 12.2 and 12.3 above.

12.6. Any Goods replaced shall belong to the Supplier and any repaired or replacement Goods shall be guaranteed on these terms for the unexpired portion of the guarantee period.

12.7. A handling charge of 10% of the Contract price shall be applied in the event that any Goods are returned to the Supplier which were correctly supplied to the Purchaser and do not breach the guarantee in condition 12.1.

## TERMINATION OF SUPPLY

13.1. The Supplier may (without prejudice to its other rights) in its absolute discretion suspend or terminate the supply of any goods if the Purchaser fails to make punctual payment of any sum due or if:

13.1.1. The Purchaser makes any voluntary arrangement with its creditors (within the meaning of the Insolvency Act 1986) becomes the subject of a petition for an Administration Order or goes into liquidation (otherwise than for the purpose of amalgamation or reconstruction without insolvency) or (being an individual or firm) is declared bankrupt; or

13.1.2. An encumbrancer takes possession of or a receiver is appointed of any of the property or assets of the Purchaser; or

13.1.3. The Purchaser ceases or threatens to cease to carry on its business; or

13.1.4. The Supplier reasonably apprehends any of the events mentioned above is about to occur in relation to the Purchaser and notifies the Purchasers accordingly.

13.2. The Supplier shall not be under any liability to the Purchaser for a failure to perform any of its obligations under the Contract which is caused by or connected with a failure by the party from whom the Supplier is to purchase the Goods to carry out any of its obligations under the contract between the Supplier and such party.

## INDEMNITY

14.1. The Purchaser shall indemnify the Supplier against all loss (including loss of profit), costs including the cost of all labour and materials used), damages, charges and expenses incurred by the Supplier as a result of any inadequacy of or lack of instruction by the purchaser or delay or default on the part of the Purchaser.

## FORCE MAJEURE

15.1. Neither the Supplier nor the Purchaser shall be liable to the other or be deemed to be in breach of the Contract by reason of any delay in performing, or any failure to perform, any of its obligations in relation to the Goods, if the or failure was beyond that party's reasonable control. Without prejudice to the generality of the foregoing, act of God, explosion, flood, tempest, fire or accident, war, sabotage, insurrection, civil disturbance or requisition, acts, restrictions, regulations, by-laws, prohibitions, or measures of any kind on the part of any governmental parliamentary or local authority, import or export regulations or embargoes shall be regarded as caused beyond either party's reasonable control.

15.2. If either of the parties claims that a force majeure event has occurred and is accordingly relieved from performing any of its obligations under the Contract for a continuous period in excess of 30 days then the other may, notwithstanding any other provisions of these Conditions, terminate the Contract by giving to the party claiming force majeure not less than 7 days written notice.

## PURCHASER'S SPECIFICATION

16.1. If the Goods are to be provided by the Supplier to a specifications submitted by the Purchaser, the Purchaser shall indemnify the Supplier against all losses, damages, costs and expenses awarded against or incurred by the Supplier in connection with or paid or agreed to be paid by the Supplier in settlement of any claim for infringement of any patent, copyright, design, trademark or other industrial or intellectual property rights of any other person which results from the Supplier's use of the Purchaser's specification.

## NOTICE

17.1. Any notice under the Contract shall be deemed to have been duly served if delivered by hand, when left at the proper address for service

17.2. If given or made by prepaid first class post 48 hours after being posted (excluding Saturdays, Sundays and public holidays)

17.3. If given or made by e-mail or fax at the time of transmission if the transmission occurs before 4pm on a working day (Monday to Friday inclusive) or on a day other than a working day service shall be deemed to occur at 10am on the next following working day (such times being local time at the address of the recipient).

17.4. Any notice shall be in writing or by e-mail or fax addressed to the recipient at its registered office or its address stated in the Contract (or such other address, e-mail address or fax number as may be notified in writing from time to time).

## LAW

18.1. These Conditions shall be governed by and construed according to English law and the parties to the Contract hereby submit to the non-exclusive jurisdiction of the English Courts.

## WEE COMPLIANCE B2B

19.1. The B2B end user is responsible for all liabilities regarding the environmentally sound disposal of this EEE when is discarded as WEEE.

19.2. The producer may, for commercial reasons only, offer a take back option when a B2B end user is purchasing a new product. However this will be decided on a case by case basis and may incur a charge.

## CLEARANCE EVENTS IN Q1 2018

### 700MHz clearance retunes for Q1 2018

Please find below a list of upcoming 700MHz clearance events in Q1 2018.

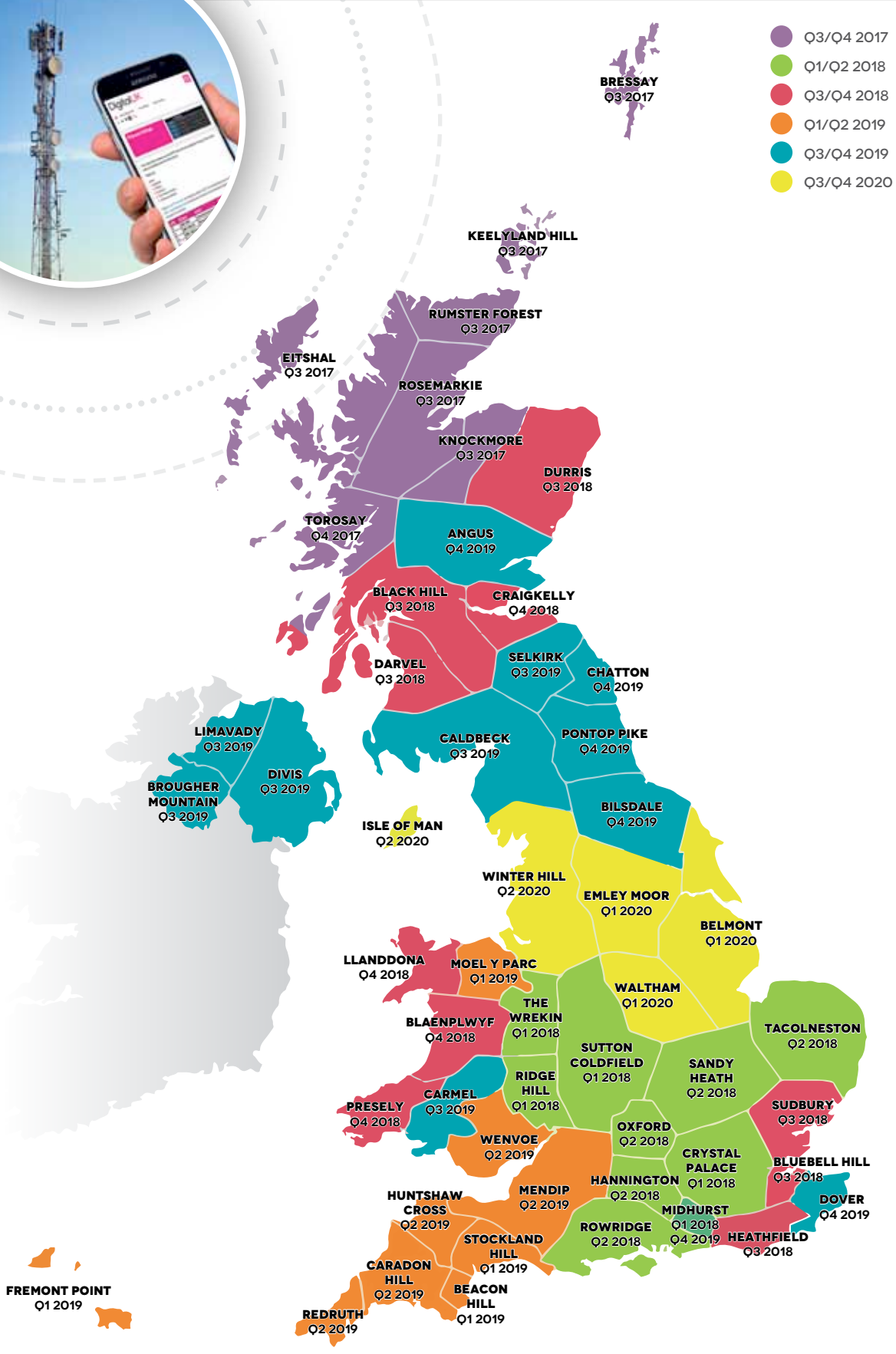
Detailed technical information for installers and industry, including UHF channel changes, is available in regional documents following this table. These will be updated as further information is released. Some transmitter groups will have multiple retunes between now and mid-2020 as airwaves are released in stages.

Viewers served by affected transmitters in the groups listed will need to retune their TV equipment on the date shown, where this does not happen automatically.

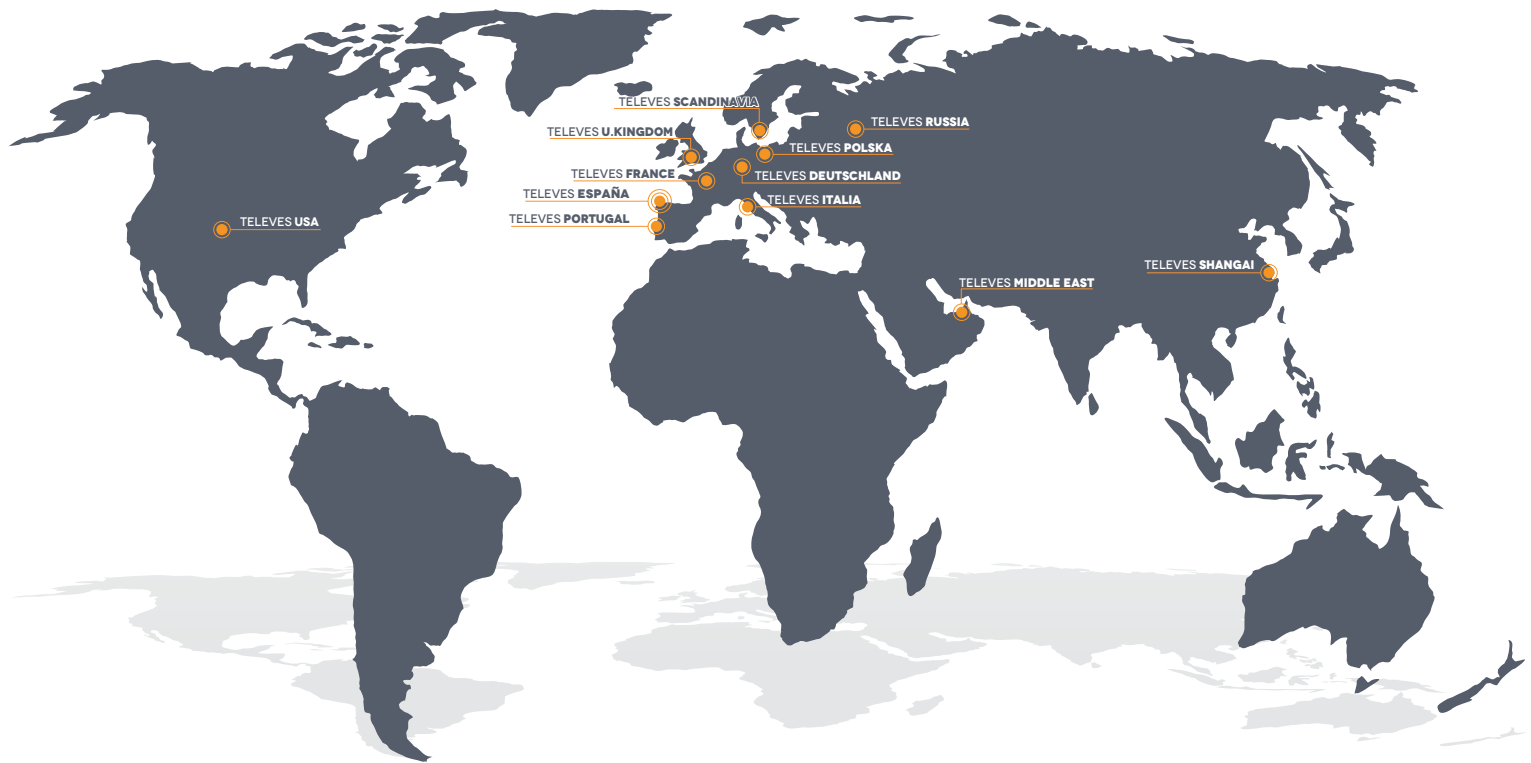


TRANSMITTER GROUP	AREA SERVED	RETUNE DATE
Mendip (Cirencester)	Cirencester	7 February 2018
Sudbury	parts of Suffolk and Essex	
Tacolneston	Norfolk and north Suffolk	
Waltham	much of the east Midlands	
Mendip	Bristol, parts of Somerset, Dorset, Wiltshire and Gloucestershire	27 February 2018
Oxford	Oxfordshire, parts of Berkshire and Buckinghamshire	
The Wrekin (Bucknell, Clun, Coalbrookdale, Halesowen)	Halesowen, Coalbrookdale, Ironbridge, and the Clun and Bucknell areas	
Brierley Hill	the Brierley Hill area	1 March 2018
Malvern	the Malvern area	
Mendip (Clearwell)	Clearwell	
Ridge Hill	Herefordshire, south Shropshire and parts of Gloucestershire	
Wenvoe (Monmouth)	Monmouth	
Brierley Hill	the Brierley Hill area	7 March 2018
Bromsgrove	the Bromsgrove area	
Fenton	Stoke-on-Trent and Newcastle-under-Lyme	
Lark Stoke	the Stratford-upon-Avon area	
Malvern	the Malvern area	
Sutton Coldfield	much of the West Midlands	
Waltham (Belper)	Belper	
Winter Hill	Liverpool, Manchester, Lancashire, Cheshire and north Staffordshire	
Guildford	the Guildford area	14 March 2018
Whitehawk Hill	the Brighton area	
Crystal Palace	Greater London and parts of the Home Counties	21 March 2018
Dover	south and east Kent, and parts of East Sussex	
Hemel Hempstead	the Hemel Hempstead area	
Midhurst	much of West Sussex	
Reigate	Reigate and parts of east Surrey and west Kent	
Rowridge	Hampshire, the Isle of Wight, parts of Dorset, Wiltshire and West Sussex	

Note: Table updated 29 November 2017 (The Wrekin removed from March 2018).



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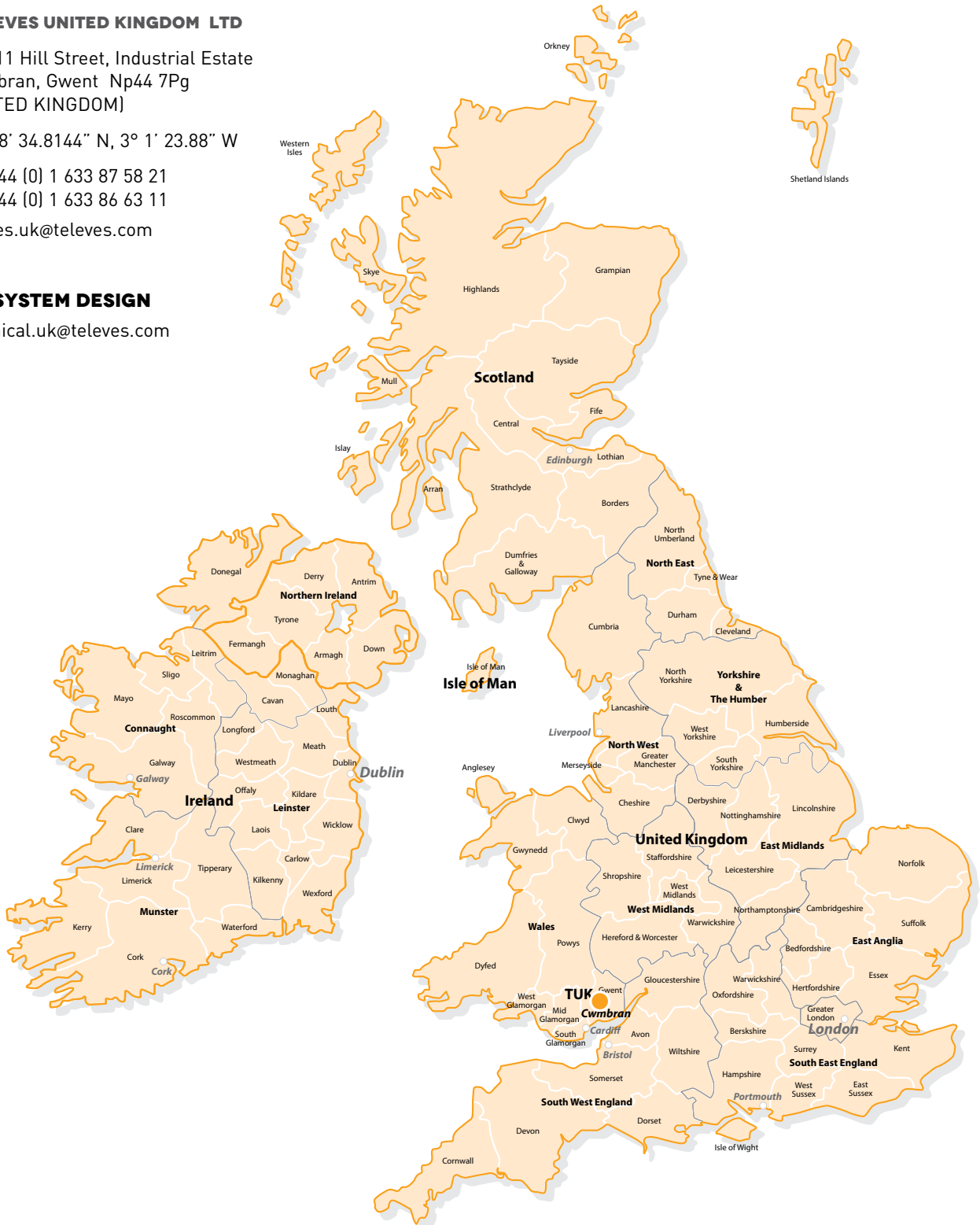
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