



Aerials | Dishes | Set-top boxes | Headends | Fibre optic | Multi switches | Amplifiers | Outlets | Home accessories | Fibre cabinets | Enclosures

# TRIAX Multimedia Main Catalogue



TRIAX - your ultimate connection

# Let us guide you...

- picking the right solution of Triax products for your job

## Sharp and powerful TV signals – that's what we want

Yet, just think about what happens when you turn on your TV. Signals rush from your antenna through a coax cable and into your TV set – feeding live pictures to your screen. But that's not all. Every time a signal travels through your cable – and through all the other components of your network – disturbing background noise runs along with it. The main component and the coax cable will always generate interference in your system. The longer the cable, the more significant the noise – and the weaker the signal. But don't worry about it.

Triax can easily help you find the optimal amplifier to compensate for that and power up your signals. And that's not all.

## One-stop-shopping solutions for all your job needs

In fact, no matter which particular job you need to do – delivering efficient direct-to-home and SMATV solutions, Triax offers you easy access to all relevant products. For a closer look at the wide range of products, we can supply you with, please browse through this catalogue – which includes data on all Triax Multimedia products.

## Triax is about you saving time and trouble

In our experience, every individual Triax customer has a different need. We bear this in mind when we develop new products – and this approach has made Triax a leading European supplier of products for the distribution of satellite, cable and TERrestrial signals. Whether you're an installer, operator or distributor, we want you to save time and trouble, every time you choose one of our products. Our market scope today is worldwide.

## Benefit your own business – make Triax your preferred supplier

Whether you're looking for physical cable connections or personal business relations – Triax offers you everything from specialised products to quality support and in-time delivery. Complex, cutting-edge technology gives users access to an ever-growing number of programs and services offered by today's TV broadcasters.

### All Triax products share this:

They make complex technology available to more people – through simplicity in design, installation and use.

### Enjoy these general benefits – no matter which Triax product you choose:

- One-stop-shopping. You get access to the widest range of product solutions on the world market
- All Triax products combine advanced technology with ease of use
- From the very small to the REALLY BIG and complex projects, we have the right products for you. Your project and business determines the choice of product – not vice versa
- Think of Triax as a strong, personal partner who can help you turn practically any project into a success. We'll be happy to make our more than sixty years of experience work for you
- Expect the highest level of service, from specific advice on how to make the most of your particular Triax product – to upgrades, spare parts, maintenance and repair work
- Install. Adjust. Plug in. It's that simple
- Best quality products at a fair price

### In-time delivery from your local or international Triax warehouse

Please contact your nearest Triax dealer for prices and in-depth information on the products they keep in stock. Or else, you can have all Triax products sent to you from one of our international storehouses as quickly as possible.

### Plug into your ultimate connection...

Get started now by visiting

**[www.com](http://www.com)**

Here you'll find useful information on all products and applications.

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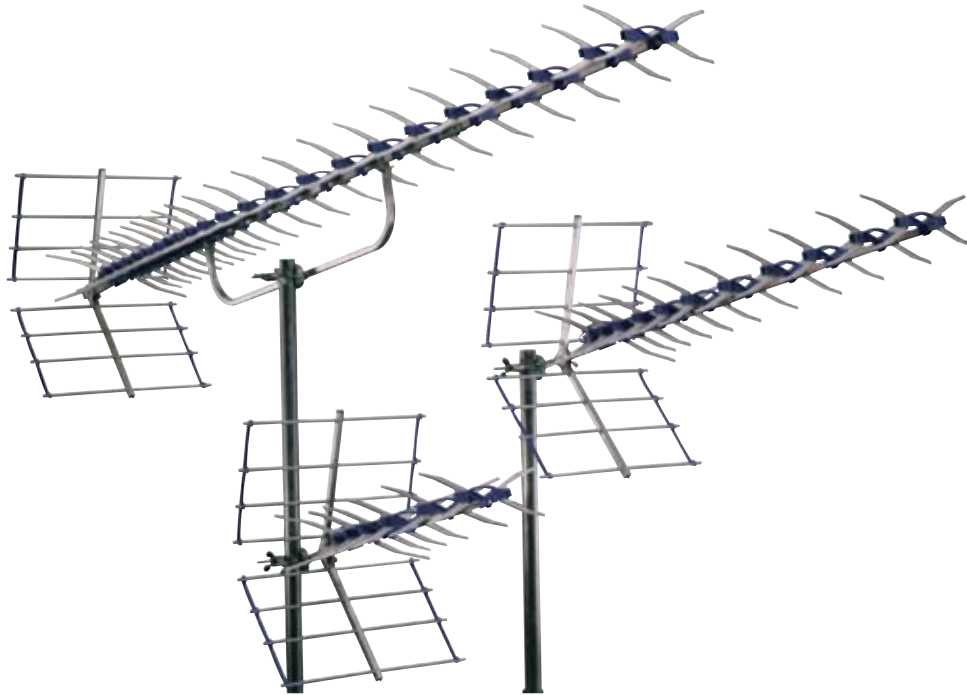
## General sales and delivery conditions

Thank you for choosing Triax.



TRIAx - your ultimate connection

# Construction and type overview



## Aerials

Continuous development is taking place in the field of terrestrial aerials requiring us always to stay one step ahead. Our development and design expertise enables us to develop new products quickly for changing markets.

TRIAX develops and produces a wide range of aerials covering the VHF and UHF frequency bands. In our development work we utilise the latest technology of computer simulation and testing.

TRIAX aerials are manufactured with the utmost accuracy to ensure maximum gain.

TRIAX aerials comply with the DS/EN 60728-11 standard and are fatigue tested by exposure to more than 100.000 vibrations at the physical resonant frequency and to salt mist in order to ensure long life even under the most hostile weather conditions.

## Construction and type overview

For the mechanical construction of all TRIAX aerials a strong and stable aluminium boom is used. The dipole and elements are mounted with a strong bracket made of metal or plastic.

The dipole is mounted with a cable housing made of polyethylene which is resistant to thermal fluctuations and sunlight (UV-radiation)

The cable housing contains an impedance transformer 300/75 Ohm. Furthermore the boom is provided with a strong mast bracket to enable mounting on the mast without using any tools.

## Types of aerials

Triax range of BIII aerials is manufactured in many different types as the following:

- MT** = Standard, horizontal mounting, mast bracket
- MTD** = Standard with dual reflector, horizontal mounting, mast bracket
- MTL** = Standard, vertical mounting, mast bracket
- MTH** = Lightweight, horizontal or vertical mounting, mast bracket
- MTHD** = Lightweight with dual reflector, horizontal mounting, mast bracket
- MTHV** = 3 and 4 elements, lightweight, window bracket, horizontal or vertical mounting
- MTHV** = 5 elements or FM omni, lightweight, window bracket, horizontal mounting

## Application

Triax standard range of aerials covers the following VHF and UHF frequency bands:

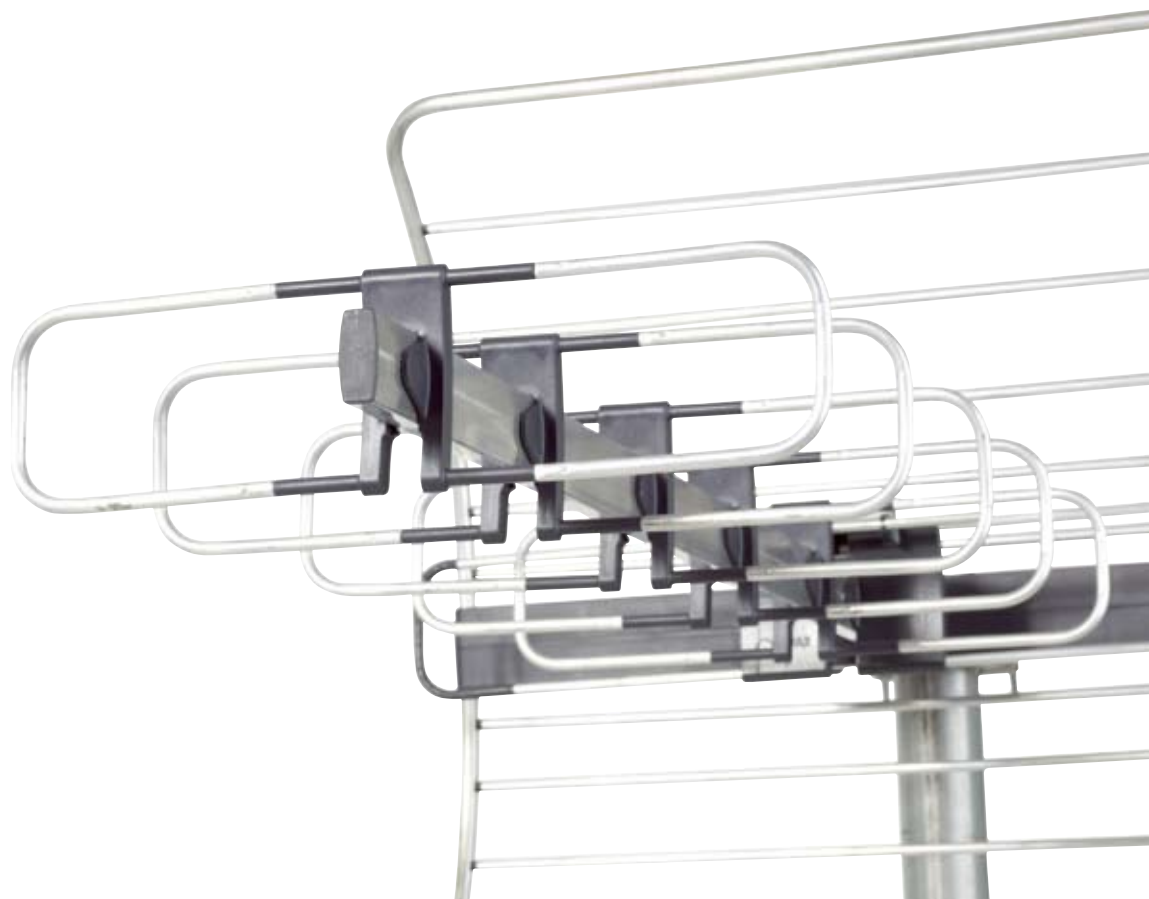
Frequency Range	Band	Frequency (MHz)	Reception	Channel
VHF	BI	47-68	TV	2-4
VHF	BII	87-108	Radio	FM
VHF	BIII	174-230	TV/DAB	5-12
UHF	BIV	470-622	TV	21-39
UHF	BV	622-862	TV	40-69

- more information in „Technical appendix“.

# Terrestrial reception

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Terrestrial reception >> Aerials		
- BI	(VHF)	6
- BII - DAB	(FM)	7-8
- BIII	(VHF)	9-10
- BIV/V	(UHF)	11-19
- Combi		20-21
- UFO		22
- GSM		23
- Indoor		24

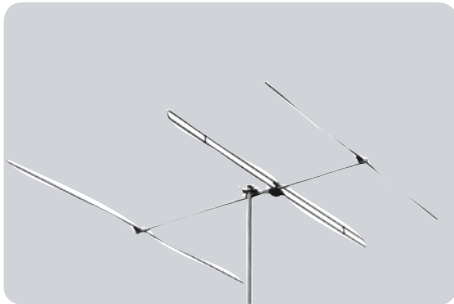


# Triax band I aerial (VHF)

All TRIAX band I aerials are provided with a light-alloy metal boom made of 18 x 18 mm square tubes.

The dipole and the elements are made of Ø12 mm tube provided with strings to dampen vibrations and to prevent element resonance.

All band I aerials are provided with brackets for aerial masts up to Ø60 mm.



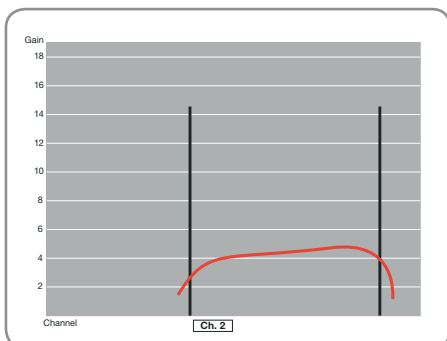
Channel 2-4 - 3 elem.



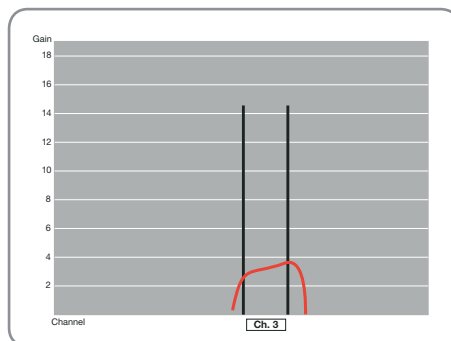
Channel 3 - 2 elem.

## Technical data

Type		Channel 2-4	Channel 3
Art. No.		100014	100012
Channel		2-4	3
Band		BI	BI
Elements	pcs.	3	2
Gain	dBi	4.5	3.5
Front to back ratio	dB	16	10
Beamwidth hor.	deg. (°)	± 34	± 36
Windload	N	88	72
Weight	kg	1.9	1.7
Material		Aluminium	Aluminium
Dimensions			
length	mm	2180	1260
width	mm	3180	2730
Connector		SC-type	SC-type
Construction type		MT	MT
Remarks		2-part reflector	1



Channel 2 - 2 elem.



Channel 3 - 2 elem.

# Triax band II aerial (FM)

TRIAX band II aerials are wide band aerials covering the entire frequency range from 87 to 108 MHz.

Band II aerials are provided with a light-alloy metal boom made of 18 x 18 mm square tubes. The dipole and the elements are made of Ø12 mm tube provided with strings to damp vibrations and to prevent element resonance. All aerials are provided with brackets for aerial masts up to Ø60 mm.

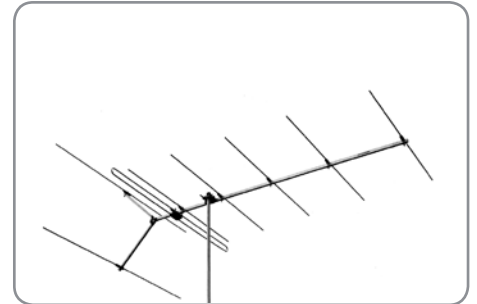
The MT-D types feature dual reflectors.



FM 2 - 2 elem.



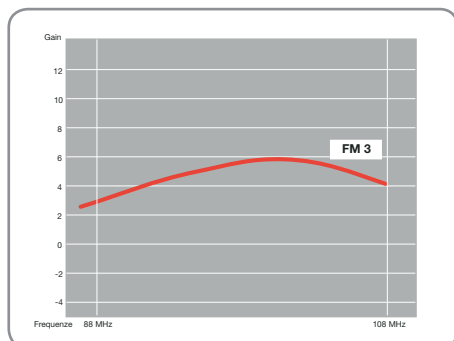
FM 4 - 4 elem.



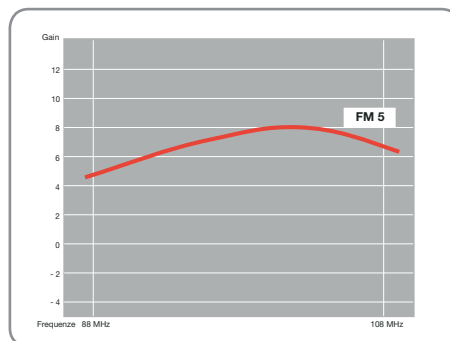
FM 8S - 8 elem.

## Technical data

Type		FM 1	FM 2	FM 3	FM 4	FM 5	FM 5	
Art. No.		100160	100161	100162	100163	100164	100184	
Channel								
Band		BII	BII	BII	BII	BII	BII	
Elements	pcs.	1	2	3	4	5	5	
Gain	dBi	2.1	4.0	6.0	7.0	8.0	8.0	
Front to back ratio	dB	0	10	16	18	20	20	
Beamwidth hor.	deg. (°)	± 90	± 37	± 35	± 32	± 27	± 27	
Windload	N	28	40	56	64	80	80	
Weight	kg	0.3	1.1	1.3	1.5	1.7	1.7	
Material		Aluminium	Aluminium	Aluminium	Aluminium	Aluminium	Aluminium	
Dimensions								
	length	mm	100	820	1188	1572	1932	1932
	width	mm	1500	1577	1577	1577	1577	1577
Connector		SC-type	SC-type	SC-type	SC-type	SC-type	SC-type	
Construction type		MTH	MT	MT	MT	MT	MTD	
Remarks							Split beam	



FM 3 elem.



FM 5 elem.

# Triax band II (FM) and DAB aerial

The FM omni-directional aerial is specially designed for areas with many powerful stations transmitting from many directions.

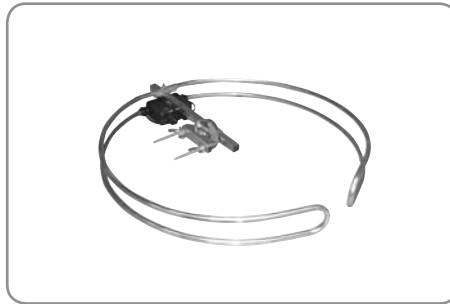
FM omni-directional is available with mast brackets or window brackets.

The Zigma aerial is a dual-polarisation 1 element aerial.

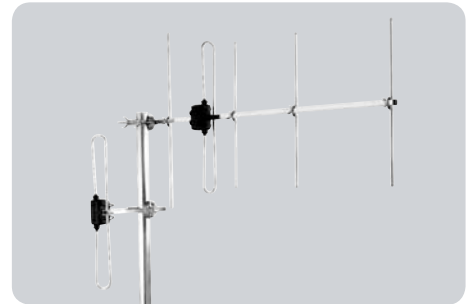
The DAB aerial covers the frequency range 200-240 MHz (VHF Ch. 9-13)



FM Zigma



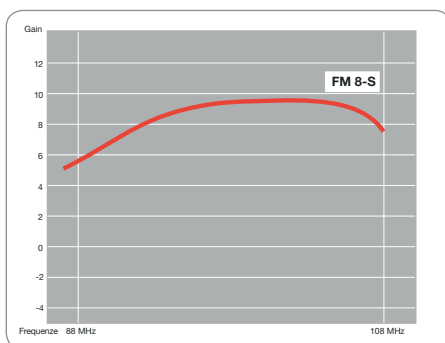
FM Omni



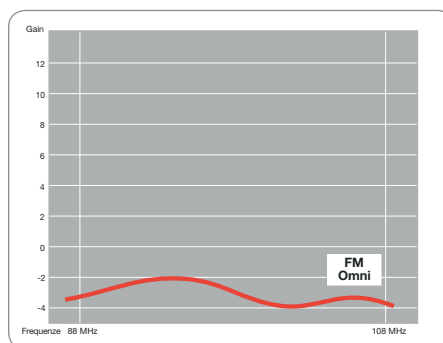
DAB 1 - DAB 5

## Technical data

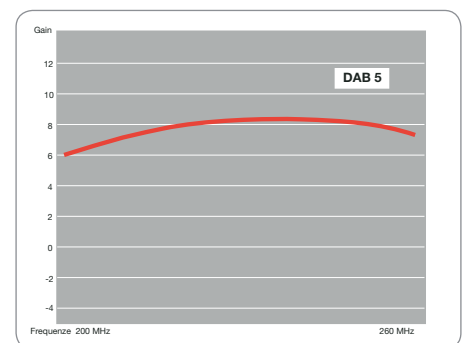
Type		FM 8	FM Omni Mast	FM Omni Window	FM Zigma	DAB 1	DAB 5
Art. No.		100197	100189	100192	100193	100170	100171
Channel						9-13	9-13
Band		BII	BII	BII	BII	BIII	BIII
Elements	pcs.	8	1	1	1	1	5
Gain	dBi	9.5	- 2.0	- 2.0	- 1.0	2.2	8.0
Front to back ratio	dB	24	0	0	0		> 12
Beamwidth hor.	deg. (°)	± 21	± 180	± 180	± 45H/± 180V	± 180	± 33-43
Windload	N	128	16	16	31	20	43
Weight	kg	3.2	0.6	0.6	0.7	0.45	0.75
Material		Aluminium	Aluminium	Aluminium	Aluminium	Aluminium	Aluminium
Dimensions							
length	mm	2383	Ø 505	Ø 505	550	400	1095
width	mm	1699			1140	625	705
Connector		SC-type	SC-type	SC-type	SC-type	SC-type	SC-type
Construction type		MTD	MT	MTHV	MT	MTH	MTH
Remarks		Split beam				200-240 MHz	200-240 MHz



FM 8S elem.



FM Omni-directional

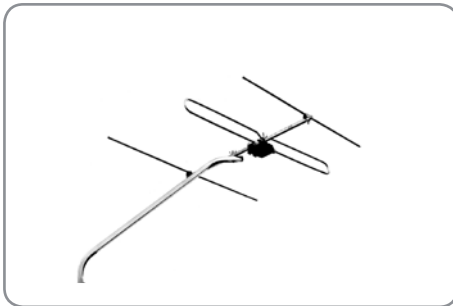


DAB 5

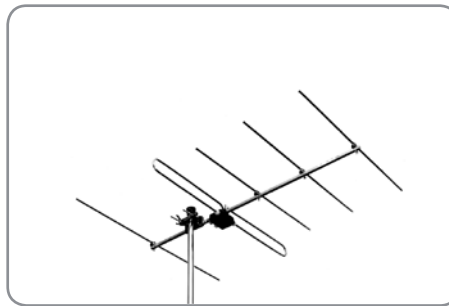


# Triax band III wideband aerial (VHF)

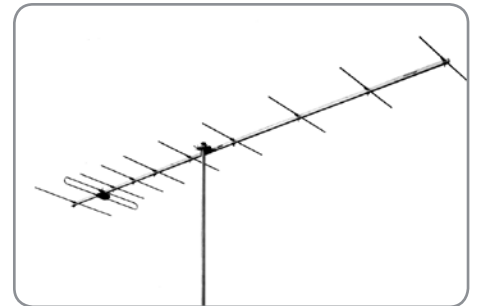
Band III aerials are wideband, channel or channel group types for horizontal or vertical mounting. The aerials are provided with brackets for masts up to Ø60 mm or with window brackets.



Channel 5-12 - 4 elem. window



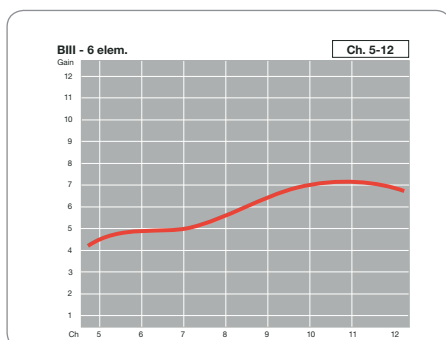
Channel 5-12 - 6 elem.



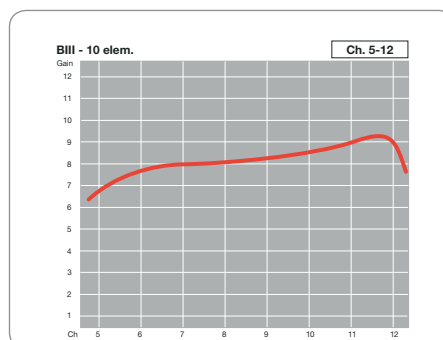
Channel 5-12 - 10 elem.

## Technical data

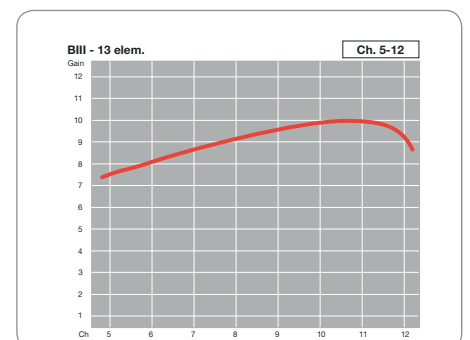
Type		Channel	Channel	Channel	Channel	Channel	Channel	Channel
Art. No.		5-12	5-12	5-12	5-12	5-12	5-12	5-11
		104663	106663	103861	103862	104665	104579	100582
Channel		5-12	5-12	5-12	5-12	5-12	5-12	5-11
Band		BIII	BIII	BIII	BIII	BIII	BIII	BIII
Elements	pcs.	4	4	4	6	6	10	13
Gain	dBi	5.0	5.0	5.0	7.5	7.5	9.5	11.5
Front to back ratio	dB	14	14	14	16	16	22	25
Beamwidth hor.	deg. (°)	± 34	± 34	± 34	± 26	± 26	± 23	± 18
Windload	N	34	34	34	48	48	78	120
Weight	kg	0.7	0.7	0.7	0.9	0.9	1.3	3.0
Material		Alu.	Alu.	Alu.	Alu.	Alu.	Alu.	Alu.
Dimensions								
length	mm	852	852	852	1410	1410	1735	3580
width	mm	800	800	800	800	800	880	810
Connector		SC-type	SC-type	F-con	F-con	SC-type	SC-type	SC-type
Construction type		MTH	MTHV	MTHV	MTH	MTH	MTHD	MTD
Remarks			Vertical					Split beam



Ch. 5-12 6 elem.



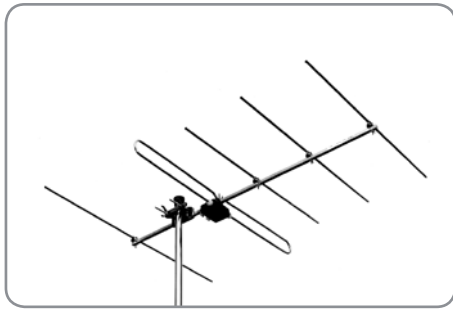
Ch. 5-12 10 elem.



Ch. 5-12 13 elem.

# Triax band III group channel aerial (VHF)

Band III aerials are wideband, channel or channel group types for horizontal or vertical mounting. The aerials are provided with brackets for masts up to Ø60 mm or with window brackets.



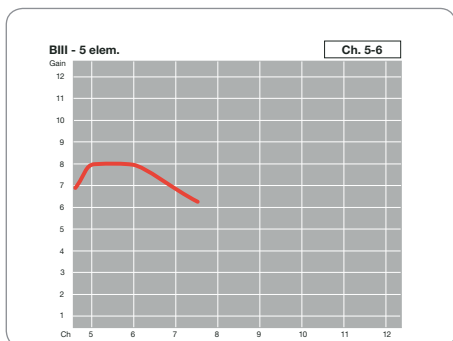
Channel 5-6 - 5 elem.



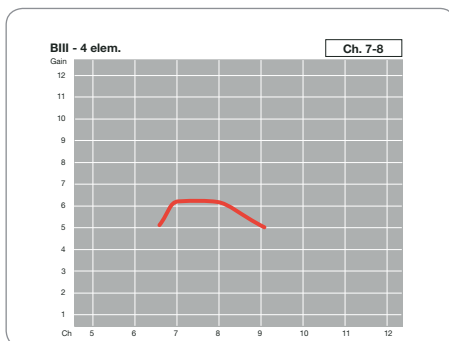
Channel 7-8 - 4 elem.

## Technical data

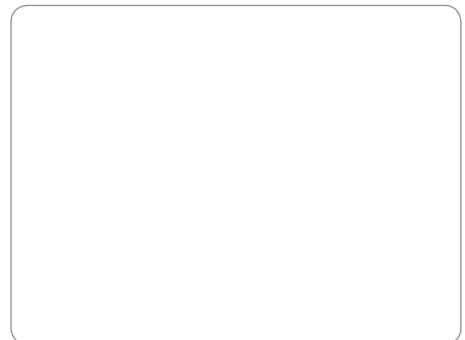
Type		Channel 5-6	Channel 7-8
Art. No.		100604	104623
Channel		5-6	7-8
Band		BIII	BIII
Elements	pcs.	5	4
Gain	dBi	8.0	6.0
Front to back ratio	dB	15	13
Beamwidth hor.	deg. (°)	± 28	± 32
Windload	N	38	34
Weight	kg	0.85	0.75
Material		Alu.	Alu.
Dimensions			
length	mm	988	852
width	mm	845	845
Connector		SC-type	SC-type
Construction type		MT	MTH
Remarks			



Ch. 5-6 5 elem.



Ch. 7-8 4 elem.

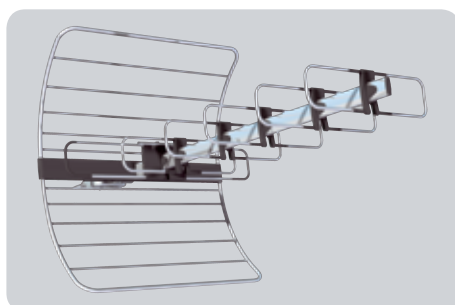


# Beam™ - band IV/V aerial (UHF)



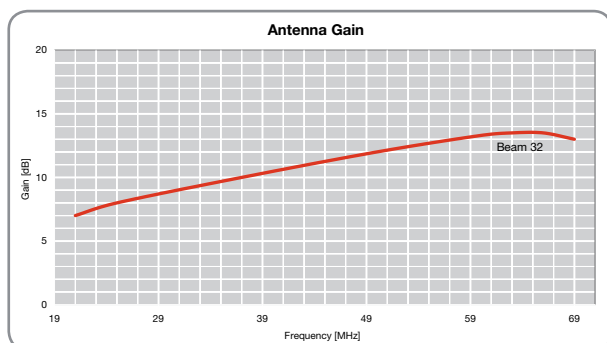
Developed by installers for installers.  
We simply cannot give you a better mark of quality.

- Easy mounting - easy assembly
- CAI - approved
- High feel good factor
- Ready for HD digital - crystal clear performance guaranteed
- With elevation mastbracket
- Weather resistant

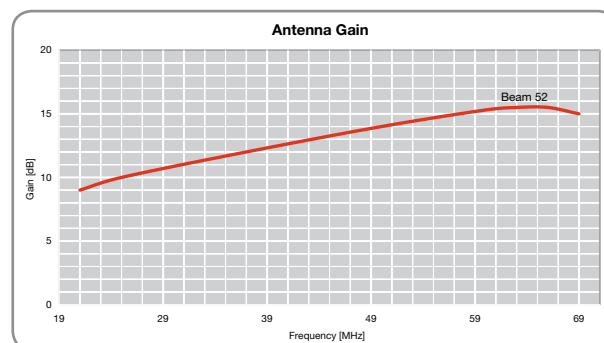


## Technical data

Type		Beam 32 digital	Beam 32 digital	Beam 52 digital	Beam 52 digital	
Art. No.		108810	108814	108811	108815	
Channel		21-69	21-69	21-69	21-69	
Band		BIV/V	BIV/V	BIV/V	BIV/V	
Elements	pcs.	32	32	52	52	
Gain	dBi	13.5	13.5	15.5	15.5	
Front to back ratio	dB	26	26	28	28	
Beamwidth hor.	deg. (°)	± 20	± 20	± 13	± 13	
Windload	N	55	55	78	78	
Weight	kg	1.7	1.7	2.2	2.2	
Material		Alu./plast	Alu./plast	Alu./plast	Alu./plast	
Dimensions						
	length	mm	884	884	1475	1475
	width	mm	496	496	496	496
Connector		<b>F-con</b>	<b>F-con</b>	<b>F-con</b>	<b>F-con</b>	
Remarks		2 colour box	brown box	2 colour box	brown box	



Beam 32 - 32 elem. wideband



Beam 52 - 52 elem. wideband

# Triax Digi - band IV/V aerial (UHF)

TRIAx Digi aerials have been designed for UHF-reception and are available in band IV (ch 21-37) and band IV/V (ch 21-69) versions, featuring high gain and channel selectivity. With their excellent gain and excellent front to back ratios these aerials ensure superior TV reception. The Digi 6 aerial is only available in channel 21-69 versions. The aerials are made of an aluminium, magnesium and manganese alloy which is extremely resistant to sea fog and acid rain.



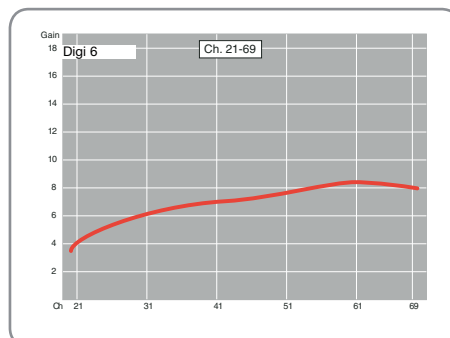
Digi 6W



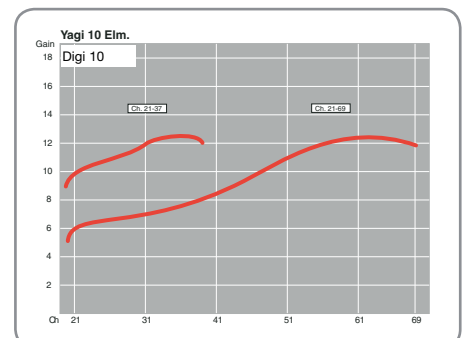
Digi 10

## Technical data

Type		Digi 6W	Digi 6W	Digi 6W	Digi 10A	Digi 10W	Digi 10W	Digi 10W
		UHF	UHF	UHF	UHF	UHF	UHF	UHF
Art. No.		108200	108800	108201	108310	108311	108808	108319
Channel		21-69	21-69	21-69	21-37	21-69	21-69	21-69
Band		BIV/V	BIV/V	BIV/V	BIV	BIV/V	BIV/V	BIV/V
Elements	pcs.	6	6	6	10	10	10	10
Gain	dBi	8.5	8.5	8.5	12.5	12.5	12.5	12.5
Front to back ratio	dB	17	17	17	21	21	21	21
Beamwidth hor.	deg. (°)	± 25	± 25	± 25	± 23	± 23	± 23	± 23
Windload	N	14	14	14	26	22	22	22
Weight	kg	0.45	0.45	0.45	0.70	0.65	0.65	0.65
Material		Alu.	Alu.	Alu.	Alu.	Alu.	Alu.	Alu.
Dimensions								
length	mm	718	718	718	1182	975	975	975
width	mm	260	260	260	350	350	350	350
Connector		SC-type	SC-type	SC-type	SC-type	SC-type	SC-type	SC-type
Remarks			w. filter	window bracket			w. filter	window bracket



Digi 6 - 6 elem. wideband



Digi 10 - 10 elem.

# Triax Digi - band IV/V aerial (UHF)

All of the Digi aerials are provided with the snap lock dipole house, made from UV-resistant plastic, which protects the balun with capacitive signal transfer against corrosion.

The aerials are provided with adjustable elevation mast brackets designed for masts up to Ø60 mm.



Digi 14



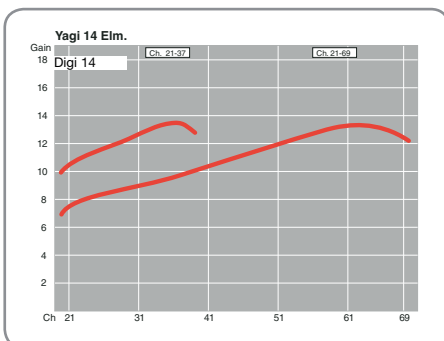
Digi 18 w. support boom



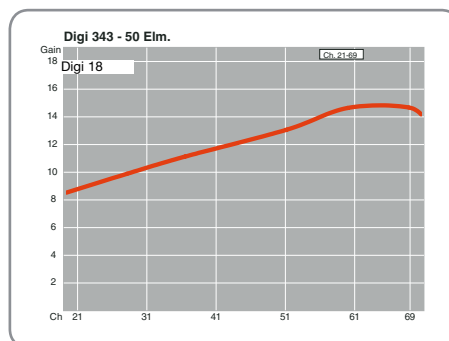
Digi 343

## Technical data

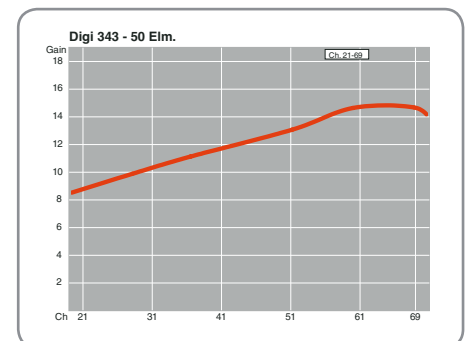
Type		Digi 14A	Digi 14W	Digi 14W	Digi 18W	Digi 343	
Art. No.		UHF 108340	UHF 108341	UHF 108612	UHF 108361	UHF 108970	
Channel		21-37	21-69	21-69	21-69	21-69	
Band		BIV	BIV/V	BIV/V	BIV/V	BIV/V	
Elements	pcs.	14	14	14	18	43	
Gain	dBi	13.5	13.5	13.5	14.5	15.5	
Front to back ratio	dB	25	25	25	25	27	
Beamwidth hor.	deg. (°)	± 21	± 21	± 21	± 18	± 15	
Windload	N	58	54	54	59	150	
Weight	kg	0.80	0.77	0.77	1.05	1.6	
Material		Alu.	Alu.	Alu.	Alu.	Alu.	
Dimensions							
	length	mm	1182	967	967	1446	1056
	width	mm	420	420	420	420	540
Connector		SC-type	SC-type	SC-type	SC-type	F-type	
Remarks				w. filter			



Digi 14 elem.



Digi 18 elem.



Digi 343 - 50 elem.

# Triax Yagi - band IV/V aerial (UHF)

TRIAx Yagi aerials have been designed for UHF-reception and are available in band IV (ch 21-37) and band IV/V (ch 21-69) versions, featuring high gain and channel selectivity. With their excellent gain and excellent front to back ratios these aerials ensure superior TV reception. The Yagi 6 aerial is only available in channel 21-69 versions. The aerials are made of an aluminium, magnesium and manganese alloy which is extremely resistant to sea fog and acid rain.



Yagi 6W



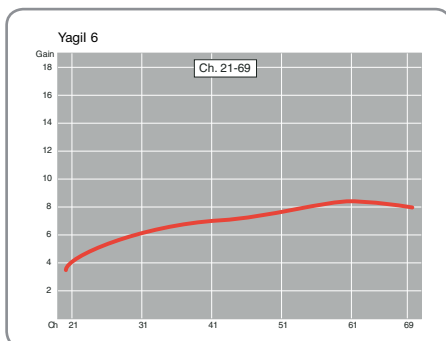
Yagi 10



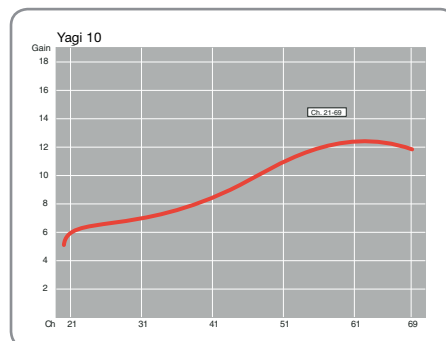
Yagi 15

## Technical data

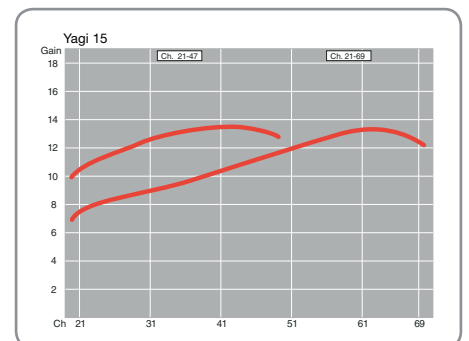
Type		Yagi 6	Yagi 10	Yagi 15	Yagi 15	Yagi 15	Yagi 15
Art. No.		107205	107317	107347	107348	107349	107350
Channel		21-69	21-69	21-47	28-56	36-69	21-69
Band		BIV/V	BIV/V	BIV/V	BIV/V	BIV/V	BIV/V
Elements	pcs.	6	10	15	15	15	15
Gain	dBi	8.5	12.5	13.5	13.5	13.5	13.5
Front to back ratio	dB	17	21	25	25	25	25
Beamwidth hor.	deg. (°)	± 25	± 23	± 21	± 21	± 21	± 21
Windload	N	14	22	58	54	54	54
Weight	kg	0.45	0.65	0.80	0.77	0.77	0.77
Material		Alu.	Alu.	Alu.	Alu.	Alu.	Alu.
Dimensions							
	length	mm	718	975			
	width	mm	260	350			
Connector		F-con	F-con	F-con	F-con	F-con	F-con
Remarks							



Yagi 6 - 6 elem. wideband



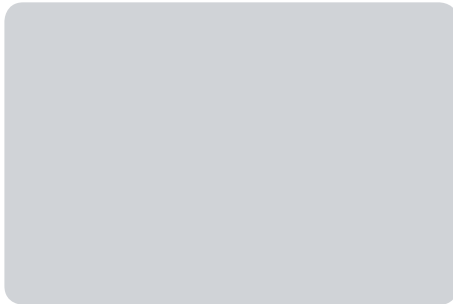
Yagi 10 - 10 elem. wideband



Yagi 15 - 15 elem.

# Triax Yagi - band IV/V aerial (UHF)

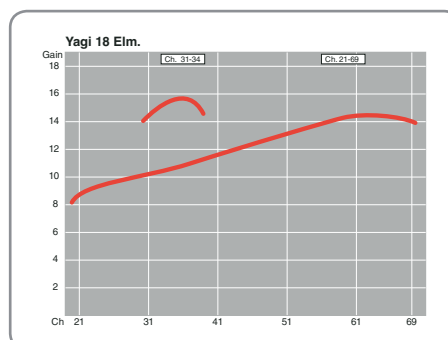
All of the YAGI aerials are provided with the snap lock dipole house, made from UV-resistant plastic, which protects the new and improved balun with capacitive signal transfer against corrosion. The Yagi 18 channelized aerial is designed for the highest gain and F/B ratio within a narrow frequency range. Yagi 18 channelized covers 3 to 7 channels. It simultaneously enhances the wanted and rejects the unwanted signals giving superior reception quality. The aerials are provided with adjustable elevation mast brackets designed for masts up to Ø60 mm.



Yagi 18 w. support boom

## Technical data

Type	Yagi 18		Yagi 18	Yagi 18	Yagi 18
Art. No.	107368		Ch. 31-34	Ch. 35-38	Ch. 63-69
Channel	21-69		31-34	35-38	63-69
Band	BIV/V		BIV/V	BIV/V	BIV/V
Elements	pcs.	18	18	18	18
Gain	dBi	14.5	15.5	15.5	15.5
Front to back ratio	dB	25	25	25	25
Beamwidth hor.	deg. (°)	± 18	± 17	± 17	± 17
Windload	N	59	64	64	64
Weight	kg	1.05	0.95	0.95	0.95
Material		Alu.	Alu.	Alu.	Alu.
Dimensions					
length	mm	1446	1800	1800	1800
width	mm	420	350	350	350
Connector		<b>F-con</b>	SC-type	SC-type	SC-type
Remarks					



Yagi 18 elem.

# Triax UNIX 32 - band IV/V aerial (UHF)

TRIAx UNIX aerials have been designed for UHF-reception.

With their excellent gain and excellent front to back ratios these aerials ensure superior TV reception.

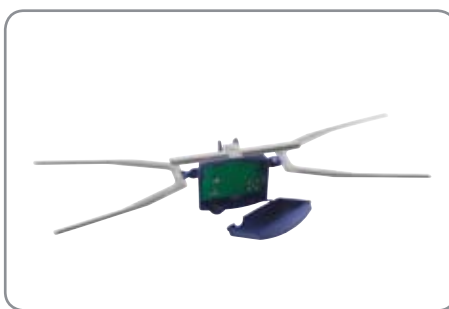
The aerials have been designed to ensure optimum reception even under difficult conditions.

Easy and uncomplicated mounting is ensured by the snap-lock dipole house made of UV-resistant plastic.

The balun with capacitive signal transfer from the dipole ensures matching adjustment with lower insertion loss.

At the same time galvanic corrosion between the different materials in contact with each other is avoided.

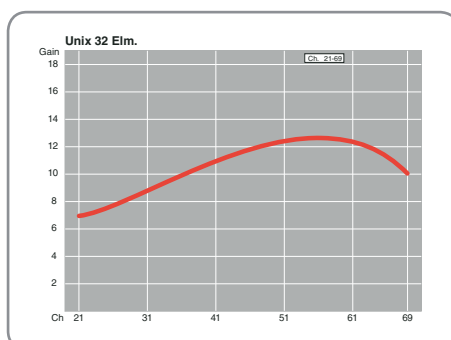
The aerials are made of salt water resistant aluminium, ensuring long service life.



UNIX 32

## Technical data

Type		UNIX 32	UNIX 32
Art. No.		<i>digital</i> <b>108750</b>	<i>digital</i> <b>107750</b>
Channel		21-69	21-69
Band		BIV/V	BIV/V
Elements	pcs.	32	32
Gain	dBi	12.5	12.5
Front to back ratio	dB	24	24
Beamwidth hor.	deg. (°)	± 20	± 20
Windload	N	58	58
Weight	kg	1.45	1.45
Material		Alu.	Alu.
Dimensions			
length	mm	791	791
width	mm	500	500
Connector		SC-type	F-con
Remarks			

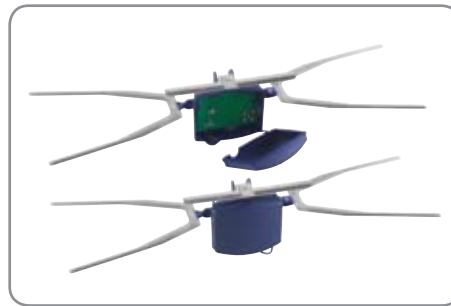


UNIX 32 elem.

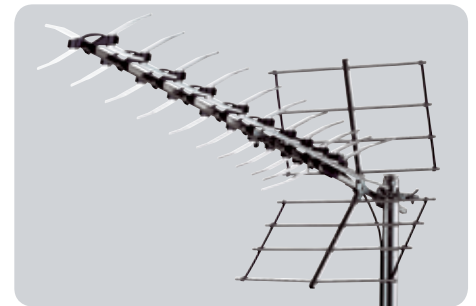


# Triax UNIX 52 - band IV/V aerial (UHF)

TRIAx UNIX aerials have been designed for UHF-reception and are available in a 52 element version for channel groups as well as wideband. With their excellent gain and excellent front to back ratios these aerials ensure superior TV reception. The aerials have been designed to ensure optimum reception even under difficult conditions. Easy and uncomplicated mounting is ensured by the snap-lock dipole house made of UV-resistant plastic. The balun with capacitive signal transfer from the dipole ensures matching adjustment with lower insertion loss. At the same time galvanic corrosion between the different materials in contact with each other is avoided. The aerials are made of salt water resistant aluminium, ensuring long service life.



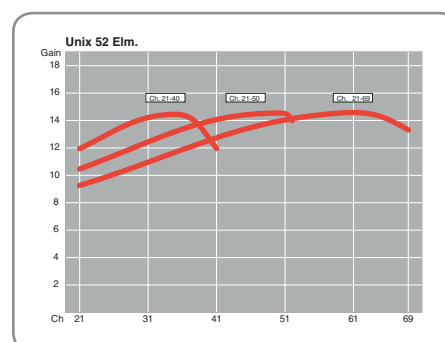
Dipol housing



UNIX 52

## Technical data

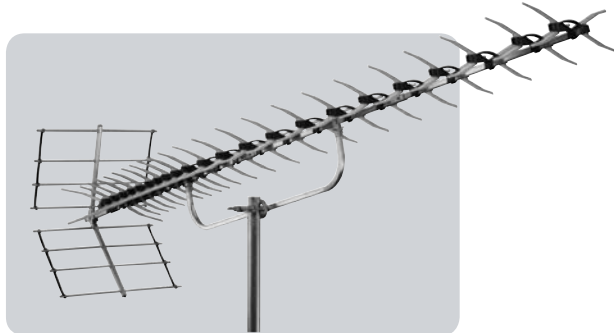
Type		UNIX 52	UNIX 52 <i>digital</i>	UNIX 52	UNIX 52	UNIX 52 <i>digital</i>	UNIX 52 <i>digital</i>
Art. No.		108752	108753	107770	107766	107767	107776
Channel		21-50	21-69	21-40	21-50	21-69	21-69
Band		Group	BIV/V	Group	Group	BIV/V	BIV/V
Elements	pcs.	52	52	52	52	52	52
Gain	dBi	14.5	14.5	14.5	14.5	14.5	14.5
Front to back ratio	dB	25	25	25	25	25	25
Beamwidth hor.	deg. (°)	± 15	± 15	± 15	± 15	± 15	± 15
Windload	N	96	96	96	96	96	96
Weight	kg	1.68	1.63	1.72	1.68	1.63	1.63
Material		Alu.	Alu.	Alu.	Alu.	Alu.	Alu.
Dimensions							
	length	mm	1410	1297	1512	1410	1297
	width	mm	500	500	500	500	500
Connector		SC-type	SC-type	F-con	F-con	F-con	F-con
Remarks							



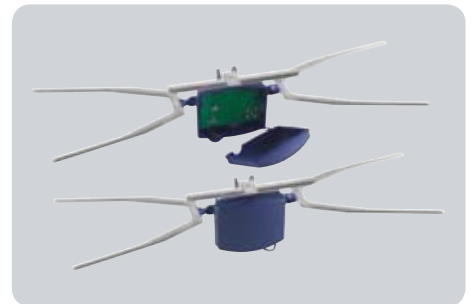
UNIX 52 elem.

# Triax UNIX 100 - band IV/V aerial (UHF)

TRIAx UNIX aerials have been designed for UHF-reception and are available in a 100 element version for channel groups as well as wideband. With their excellent gain and excellent front to back ratios these aerials ensure superior TV reception. The aerials have been designed to ensure optimum reception even under difficult conditions. Easy and uncomplicated mounting is ensured by the snap-lock dipole house made of UV-resistant plastic. The balun with capacitive signal transfer from the dipole ensures matching adjustment with lower insertion loss. The aerials are made of salt water resistant aluminium, ensuring long service life. UNIX 100 is provided with a support boom, and all types are provided with elevation type mast brackets.

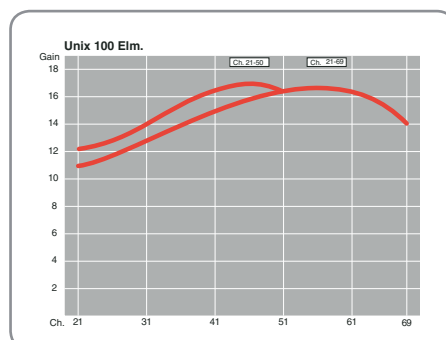


UNIX 100



## Technical data

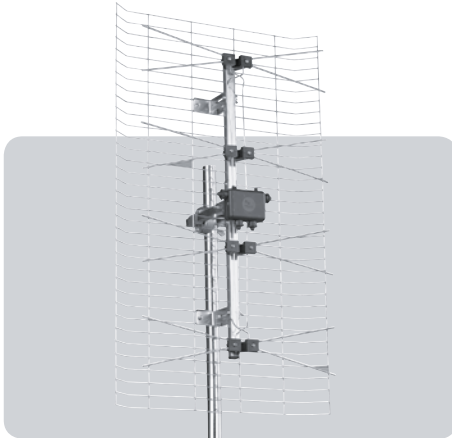
Type	UNIX 100	UNIX 100	UNIX 100	UNIX 100	UNIX 100
Art. No.	108755	<i>digital</i> 108756	107768	<i>digital</i> 107769	<i>digital</i> 107756
Channel	21-50	21-69	21-50	21-69	21-69
Band	Group	BIV/V	Group	Group	BIV/V
Elements	pcs. 100	100	100	100	100
Gain	dBi 17.0	17.0	17.0	17.0	17.0
Front to back ratio	dB 27	27	27	27	27
Beamwidth hor.	deg. (°) ± 11	± 11	± 11	± 11	± 11
Windload	N 152	152	176	152	152
Weight	kg 2.50	2.46	2.50	2.46	2.46
Material	Alu.	Alu.	Alu.	Alu.	Alu.
Dimensions					
length	mm 2332	2257	2332	2257	2257
width	mm 500	500	500	500	500
Connector	SC-type	SC-type	<b>F-con</b>	<b>F-con</b>	<b>F-con</b>
Remarks					



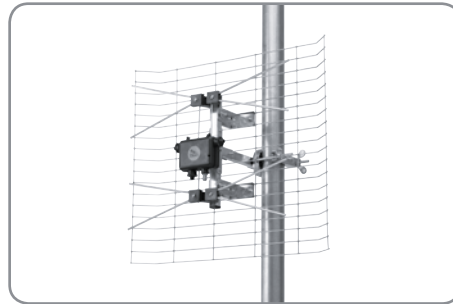
UNIX 100 elem.

# Triax BB Grid - band IV/V aerial (UHF)

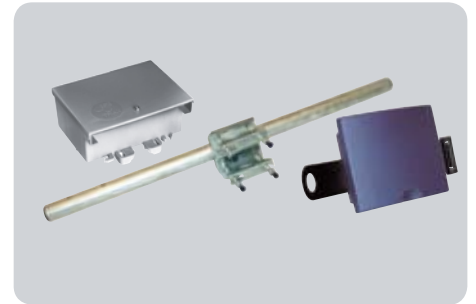
With high gain and an excellent front to back ratio this aerial ensures perfect TV reception. The reflector grid is galvanised ensuring long service life. The aerial has a very even gain curve and is suitable for stacking, e.g. on a special tube for 2 or a double tube for 4 aerials. The UHF grid aerials are packed in cartons of two.



UHF BB Grid



UHF BB Mini-Grid



Accessories for stacking BB Grid

- Stackingfilter
- Mounting pipe
- Mastamplifier

## Technical data

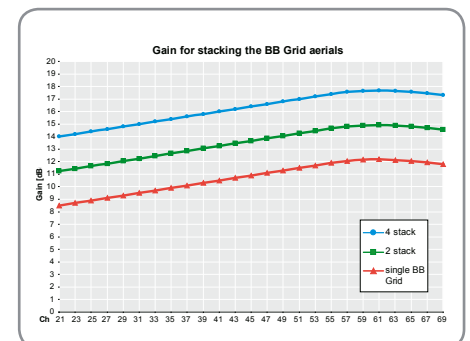
Type		BB	BB Grid	2 x	4 x
Art. No.		Mini-Grid	digital	BB Grid	BB Grid
		108010	108011	108013	2 x 108013
Channel		21-69	21-69	21-69	21-69
Band		BIV/V	BIV/V	BIV/V	BIV/V
Elements	pcs.	8	16	2 x 16	2 x 16
Gain	dBi	6.0	12.0	15.0	17.5
Front to back ratio	dB	28	20	25	28
Beamwidth hor.	deg. (°)	± 34	± 34	± 17	± 17
ver.	deg. (°)	± 20	± 20	± 20	± 10
Windload	N	38	71	196	392
Weight	kg	1.25	2.20	7.60	15.2
Material		Alu.	Alu.	Alu.	Alu.
Dimensions					
length	mm	480	840	840	1690
width	mm	480	480	970	970
Connector		SC-type	SC-type	SC-type	SC-type
Remarks					



BB Grid - 2 stacking



BB Grid - 4 stacking



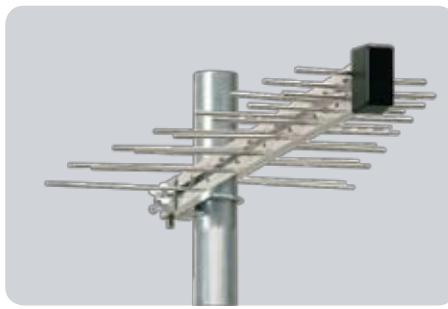
Gain for single and stacked BB Grid aerial

# Triax Log-periodic aerial (VHF/UHF - UHF)

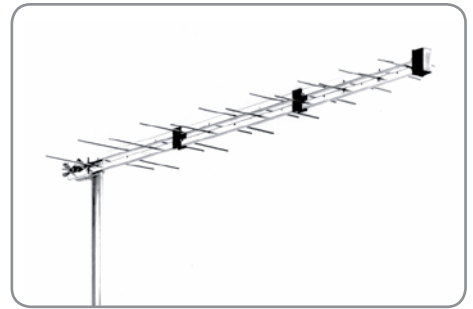
A log-periodic aerial is especially suitable for poor reception conditions, with reflection (shadows), but where the signal level is OK.



Log-periodic VHF/UHF



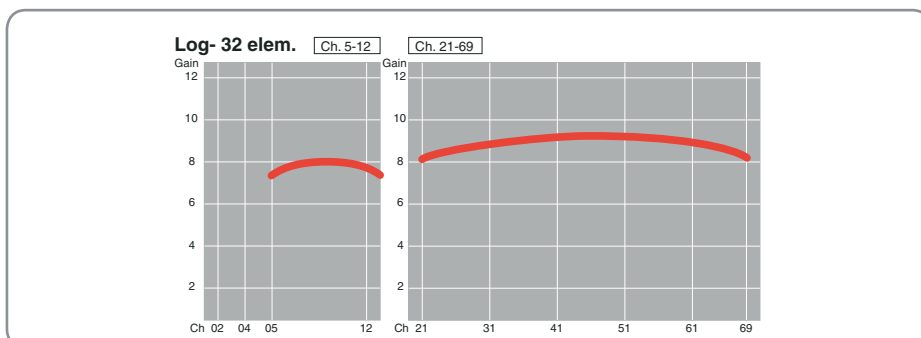
Log-periodic - mini UHF



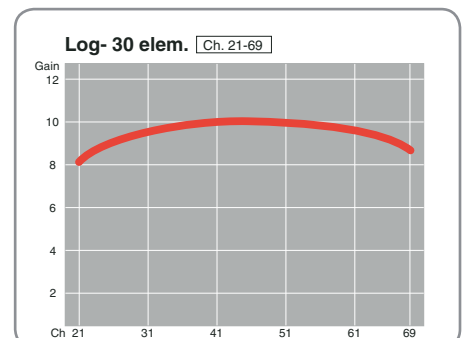
Log-periodic UHF (108680)

## Technical data

Type		Log-periodic VHF/UHF 108679	Log-periodic mini - UHF 108678	Log-periodic UHF 108680
Art. No.				
Channel		5-12/21-69	21-69	21-69
Band		BIII/BIV/V	BIV/V	BIV/V
Elements	pcs.	32	28	30
Gain	dBi	8.0/9.0	8.0	10.0
Front to back ratio	dB	> 25	> 22	> 30
Beamwidth hor.	deg. (°)	± 25	± 28	± 25
ver.	deg. (°)	± 20		
Windload	N	39	25	30
Weight	kg	0.70	0.54	0.60
Material		Alu.	Alu.	Alu.
Dimensions				
length	mm	1230	770	1210
width	mm	850	320	320
Connector		SC-type	F-con	F-con
Remarks				



Log-periodic UHF Log-periodic VHF/UHF



# Triax Combi aerial (VHF/UHF)

The combined aerials are designed for VHF/UHF reception and ensure perfect reception of the signals. All types are made of high-quality material and are extremely resistant to sea fog and hostile weather conditions. The aerials are provided with mast brackets designed for masts up to Ø60 mm.

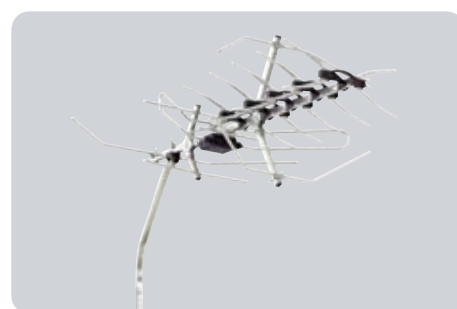
- Improved UHF/VHF gain
- Increased number of elements to provide the aerials with even more gain
- New balun which ensures improved matching
- Easy to install
- Elevation type mast brackets included



Combi 12 Window



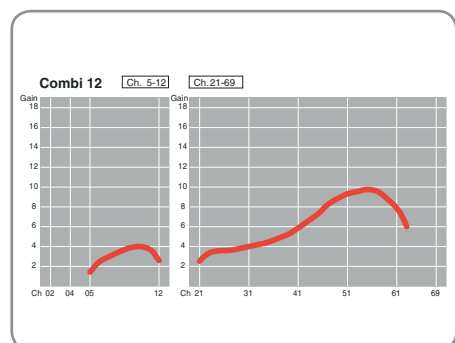
Combi 20



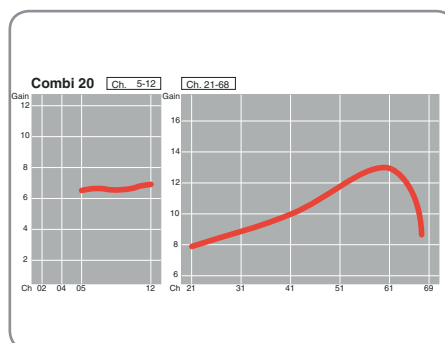
Combi 27 Window

## Technical data

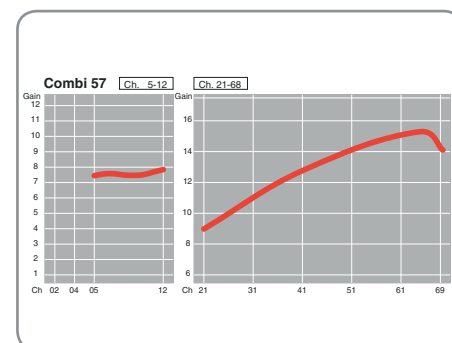
Type		Combi 12	Combi 12	Combi 20	Combi 27	Combi 27	Combi 57
Art. No.		Mast 108936	Window 108937	108694	Window 108687	Mast 108688	108696
Channel		5-12/21-60	5-12/21-60	5-12/21-69	5-12/21-69	5-12/21-69	5-12/21-69
Band		BIII/BIV-V	BIII/BIV-V	BIII/BIV-V	BIII/BIV-V	BIII/BIV-V	BIII/BIV-V
Elements	pcs.	4/8	4/8	5/15	4/23	4/23	5/52
Gain	VHF dBi	4.0	4.0	6.0	7.0	7.0	8.0
	UHF dBi	4.0/9.0	4.0/9.0	11.5	13.0	13.0	14.5
Front to back ratio - hor.	dB	12.0	12.0	12.0	17.0	17.0	17.0
	- ver. dB	15.0	15.0	17.0	25.0	25.0	25.0
Beamwidth - hor.	deg. (°)	± 32	± 32	± 35	± 31	± 31	± 31
	- ver. deg. (°)	± 15	± 15	± 25	± 22	± 22	± 15
Windload	N	34	34	56	72	72	146
Weight	kg	0.75	0.75	1.00	1.80	1.80	2.90
Material		Alu.	Alu.	Alu.	Alu.	Alu.	Alu.
Dimensions	length mm	866	866	815	490	490	1725
	width mm	855	855	760	880	880	880
Connector		SC-type	SC-type	SC-type	SC-type	SC-type	SC-type
Type		MTH	MTH	MTH	MTH	MTH	MTH



Combi 12



Combi 20

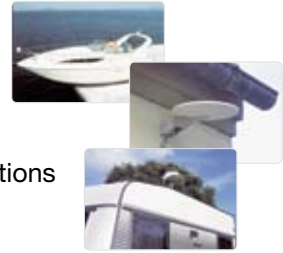


Combi 57

# Triax UFO aerial (VHF/UHF - digital)

A small and discreet antenna which can be placed almost everywhere on the house, roof or balcony.

- Compact 360° omnidirectional antenna
- Optimized for DVB-T, reception of FM/DAB/BIII/UHF signals
- Integrated 28dB amplifier
- The antenna is surface-treated to withstand impacts from saltwater and weather conditions
- Delivered with 4 brackets for all purposes
- The ideal flexible solution for home, caravan, boat, mobile home, bus and truck



UFO with plastic base



UFO with universal mount



UFO with centre mount

## Technical data

Type			UFO 100	UFO 120
Art. No.			<i>Digital</i> 109100	<i>Digital</i> 109120
Frequency range	FM	MHz	87.5-108	87.5-108
	VHF	MHz	174-230	174-230
	UHF	MHz	470-862	470-862
Channels			FM/5-12/21-69	FM/5-12/21-69
Elements	pcs.		1	1
Opening angle	ver./hor.	deg.	90/360	90/360
Windload	N		5.5	5.5
Gain	dB		28	28
Noise figure	dB		2.5	2.5
Max. output voltage	dB $\mu$ V		108	108
Supply voltage	V		5-24	5-24
Power consumption	mA		50	50
Dimensions	length	mm	325	325
	width	mm	255	255
	height	mm	65	65
Connector			F-connectors	F-connectors
Bracketry			Mast bracket Ø25-60 Plastic base	Mast bracket Ø25-60 Universal mount Plastic base Centre mount



**IFP 502**  
Power supply  
Art. No. 339502



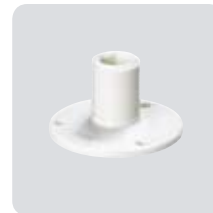
**IFP 529**  
Power inserter  
Art. No. 339529



**Mast bracket**  
Ø25-60  
Art. No. 133223



**Universal mount**  
Art. No. 133222



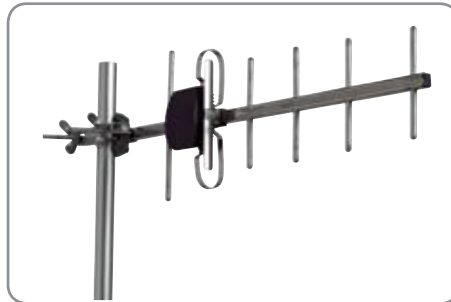
**Plastic base**  
Art. No. 133220



**Centre mount**  
Art. No. 133225

# Triax GSM aerial

TRIAX Yagi aerials for GSM reception have been designed for reception of the mobile-phone band, featuring high gain and band selectivity. With the high gain and excellent front to back ratio, this aerial ensures superior reception where there is a weak signal from the mobile-transmitters.



GSM aerial - 50 Ohm

## Technical data

Type	GSM 900		
	872-960		
Art. No.	109812		
Channel	MHz	872-960	
Band	GSM		
Elements	pcs.	6	
Gain	dBi	9.0	
Front to back ratio	dB	15	
Beamwidth hor.	deg. (°)	± 25	
Windload	N	14	
Weight	kg	0.50	
Material	Alu.		
Dimensions			
length	mm	710	
width	mm	260	
Connector	SC-type		
Type	Window bracket		
Packing size	1		

# Triax indoor aerial (DVB-T, VHF/UHF)

Small and very elegant passive and active indoor antenna, some especially designed for reception of DVB-T signals. The DVB-T 300i antenna comes in an elegant blister pack and the indoor FM/TV aerial in a giftbox, ready for display in the shop.

Triax DIGIT-800 aerial is for UHF/DVB-T reception.

- Excellent reception from UHF band
- Optimized for DVB-T reception
- Modern, aesthetic, light and stable construction
- Both for indoor and outdoor use
- Easy mounting – without tools
- Very suitable as transmitter aerial for repeater applications
- For mast- and wall-mounting



Indoor aerial



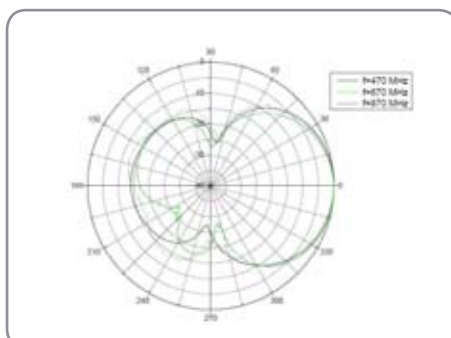
Active indoor aerial



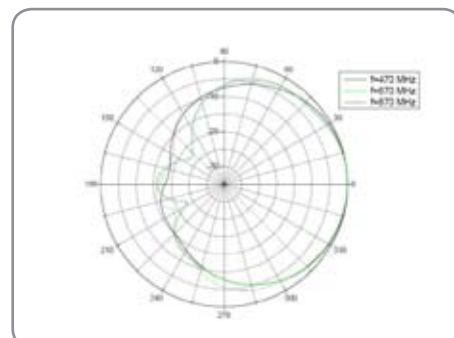
Digit 800 DVB-T aerial

## Technical data

TYPE		Indoor aerial	DVB-T 300i	Digit 800
Art. No.		Ch. 2-69 111000	- active aerial 111010	DVB-T 109800
Channel	Ch.	2-12	5-12	
	Ch.	21-69	21-69	21-69
Frequency range	MHz	47-862	174-230	
	MHz		470-862	470-862
Elements	Pcs.	1	1	1
Gain	dB		15.0	4.0
Noise figure (VHF/UHF)	dB		3.4/3.5	
Max. output voltage (IMA3)	dBμV		93.0	
Front to back ratio	dB		> 25.0	
Beamwidth hor.	deg.	± 180	± 180	± 30
Weight	kg		0.120	
Material		Aluminium	Aluminium	ABS plastic
Colour			Matt black	White
Dimensions	length	mm	1439	330
	width	mm	420	350
	depth	mm		145
Connector		IEC - type	IEC - type	F-con
Voltage	V/DC		+ 4.5 via coax cable	
Remarks		Also suitable for DVB-T	Suitable for DVB-T delivered in a 1 pcs.blister pack	For indoor or outdoor use



Digit 800 - horizontal beam



Digit 800 - vertical beam



# Terrestrial reception

## Terrestrial reception >> Terrestrial electronics

- |                      |       |
|----------------------|-------|
| - mast amplifiers    | 26-33 |
| - combiners          | 34-35 |
| - stacking combiners | 36    |

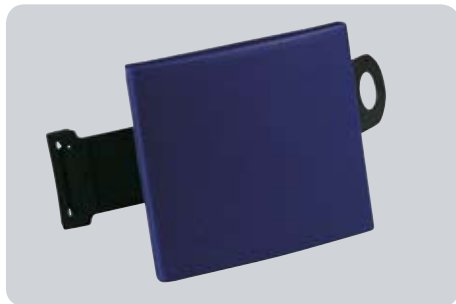


# Triax MFA mast amplifier series

## High-performance range of mast amplifiers with F-connector

- F-connectors on all in- and outputs
- Simple and easy installation
- Unique mounting system
- Attractive design in a 4-terminal waterproof masthousing
- Wide range with 1, 2 or 3 inputs and 1 output
- High gain and output voltage
- Fixed or adjustable gain
- Low noise figures
- Unique power stabiliser enables use of any power unit from 12 V to 24 V
- FM notch-version
- High output level
- RF shielded and CE compliant (EN 50083)

**MFA= Mast F-connector Amplifiers**



## Technical data

Type			MFA 302	MFA 304	MFA 307	MFA 308	MFA 309	MFA 310
Art. No.			340302	340304	340307	340308	340309	340310
Input 1	Channel Gain	Band dB	UHF+BIII 20	UHF 20-30	UHF 23-33	UHF 2 22-28	UHF 12-22	UHF 12-22
Input 2	Channel Gain	Band dB		VHF 12-22	BIII 13-24	UHF 1 12-22	BIII 12-22	VHF 12-22
Input 3	Channel Gain	Band dB				VHF 10-20	BI+FM 2-12	
Noise figure	UHF	dB	3.0	3.0	2.5	IN1/IN2 5.0/14.0	4.0	4.0
	VHF	dB	3.0	5.0	3.0		4.0	4.0
Max. output voltage @ -60 dB IMA		dB $\mu$ V	103	103	105	110	105	103
Numbers of in-/output			1/1	2/1	2/1	3/1	3/1	2/1
Voltage		VDC	12-24	12-24	12-24	12-24	12-24	12-24
Power		mA	30	45	45	45	45	45
DC throughpower							UHF	UHF
Connector			F-con	F-con	F-con	F-con	F-con	F-con
Weight		kg	0.230	0.230	0.230	0.230	0.230	0.230
Dimensions	Height	mm	108	108	108	108	108	108
	Depth	mm	50	50	50	50	50	50
	Width	mm	120	120	120	120	120	120

# Triax MFA mast amplifier series



## Technical data

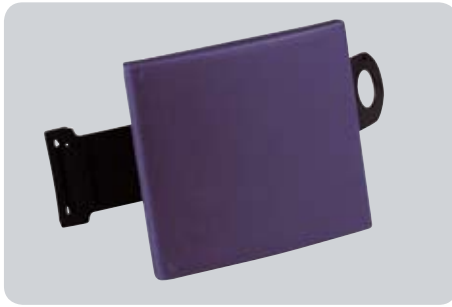
Type			MFA 311	MFA 312	MFA 313	MFA 314	MFA 320	MFA 321
Art. No.			340311	340312	340313	340314	340320	340321
Input 1								
Channel Gain	Band	dB	UHF 12-22	UHF/BI+III 25-35/15-25	UHF 1 20-30	UHF 22-33	UHF 25-35	TV 22-32
Input 2								
Channel Gain	Band	dB	VHF -2		UHF 2 20-30	BI+BIII 15-25	BIII 15-25	FM 10-20
Input 3								
Channel Gain	Band	dB			BI+BIII 15-25		BI+FM 15-25	
Noise figure								
UHF	dB		3.0	4.5	8.8/8.5-7.0/7.0	4.5	4.0	3.5
VHF	dB				4.0	4.0	4.0	5.0
Max. output voltage @ -60 dB IMA								
		dB $\mu$ V	103	103	103	103	103	103
Numbers of in-/output			2/1	1/1	3/1	2/1	3/1	2/1
Voltage			VDC	12-24	12-24	12-24	12-24	12-24
Power			mA	30	30	30	25	25
DC throughpower								
Connector			F-con	F-con	F-con	F-con	F-con	F-con
Weight			kg	0.230	0.230	0.230	0.230	0.230
Dimensions								
Height	mm		108	108	108	108	108	108
Depth	mm		50	50	50	50	50	50
Width	mm		120	120	120	120	120	120
Remarks				FM notch 2 input with 2 attenuators	FM notch	FM notch		TV: BI+BIII+UHF

# Triax MFA mast amplifier series

## High-performance range of mast amplifiers with F-connector

- F-connectors on all in- and outputs
- Simple and easy installation
- Unique mounting system
- Attractive design in a 4-terminal waterproof masthousing
- Wide range
- High gain and output voltage
- Fixed or adjustable gain
- Low noise figures
- Unique power stabiliser enables use of any power unit from 12 V to 24 V
- High output level
- RF shielded and CE compliant (EN 50083)

**MFA= Mast F-connector Amplifiers**



## Technical data

Type			MFA 322	MFA 323	MFA 324	MFA 325
Art. No.			340322	340323	340324	340325
Input 1	Channel Gain	Band dB	UHF 15	UHF 12	UHF 25	UHF/VHF 25
Input 2	Channel Gain	Band dB				
Input 3	Channel Gain	Band dB				
Input 4	Channel Gain	Band dB				
Noise figure	UHF	dB	1.8	1.8	1.8	2.2
	VHF	dB				2.2
Max. output voltage @ -60 dB IMA	dB $\mu$ V		4 x 85	105	105	105
Numbers of in-/output			1/4	1/1	1/1	1/1
Voltage	VDC		12-24	12-24	12-24	12-24
Power	mA		30	30	30	25
DC throughpower						
Connector			F-con	F-con	F-con	F-con
Weight	kg		0.230	0.230	0.230	0.230
Dimensions	Height	mm	108	108	108	108
	Depth	mm	50	50	50	50
	Width	mm	120	120	120	120
Remarks			Low noise	Low noise	Low noise	Low noise

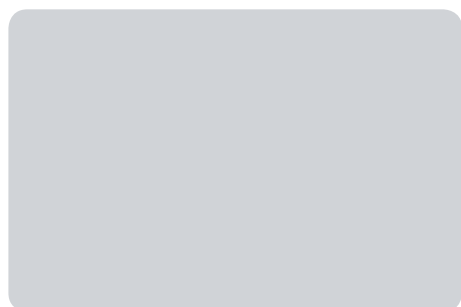
# Triax MFA mast amplifier series

## High-performance range of mast amplifiers with F-connector

- F-connectors on all in- and outputs
- Simple and easy installation
- Unique mounting system
- Attractive design in a 4-terminal waterproof masthousing
- Wide range with 1 or 2 inputs and 1 or 2 output
- High gain and output voltage
- Fixed or adjustable gain
- Low noise figures
- Unique power stabiliser enables use of 12 V to 24 V
- High output level
- RF shielded and CE compliant (EN 50083)

### UHF wide band amplifier - MFA 651

- 1 UHF input
- 5 V power supply from DVB-T receiver via output or from LNB power via i.e. Triax MFC 151 combiner



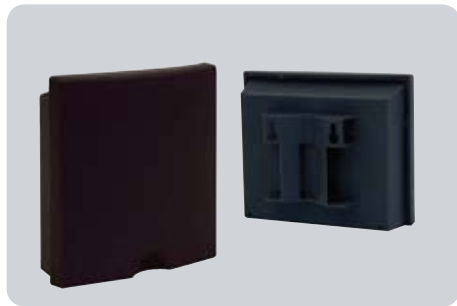
## Technical data

Type			MFA 615	MFA 622	MFA 625	MFA 651 DVB-T 340651
Art. No.			340615	340622	340625	340651
Input 1	Frequency	MHz	470-862	470-862	470-862	470-862
	Channel	Band	UHF	UHF	UHF	UHF
	Gain	dB	15	20-30	15	12
Input 2	Channel	Band		470-862		
	Gain	dB		UHF		
				20-30		
Input 3	Channel	Band				
	Gain	dB				
Input 4	Channel	Band				
	Gain	dB				
Noise figure	UHF	dB	2.5	6.5	2.5	1.8
	VHF	dB				
Max. output voltage @ -60 dB IMA		dBμV	105	105	105	105
Numbers of in-/output			1/1	2/2	1/1	1/1
Voltage	VDC		12	12-24	12	5-12
Power	mA		30	55	30	65
Switchable diode DC pass			Yes	Yes	Yes	
Connector			F-con	F-con	F-con	F-con
Weight	kg			0.230		0.230
Dimensions	Height	mm	124	115	124	108
	Depth	mm	55	60	55	50
	Width	mm	138	137	138	120
Remarks				2 inputs - 2 outputs		

# Triax MFA mast amplifier series

The new MFA mast amplifier series is multiband amplifiers featuring different combination of ports for UHF, BIII (DAB), VHF or BII (FM).

- F-connectors on all in- and outputs
- Simple and easy installation
- Attractive design in a waterproof masthousing
- High gain and output voltage
- Adjustable gain on alle inputs
- Unique power stabiliser enables use of any power unit from 12 V to 24 V
- High output level



MFA amplifier



MFA 641



MFA 665

## Technical data

Type			MFA 641	MFA 642	MFA 645	MFA 652	MFA 655	MFA 665
Art. No.			UHF/BII 340641	UHF/BII 340642	UHF/DAB 340645	UHF/VHF 340652	UHF/DAB/BII 340655	UHF/UHF/VHF 340665
Input 1	Channel	Band	UHF	UHF	UHF	UHF	UHF	UHF
	Gain	dB	24-34	24-34	24-34	13-23	13-23	13-23
Input 2	Channel	Band	BII	BII	BIII/DAB	VHF	BII	UHF
	Gain	dB	14-24	-2	14-24	13-23	2-12	12-22
Input 3	Channel	Band					BIII/DAB	VHF
	Gain	dB					13-23	13-23
Noise figure	UHF 1	dB	2.5	2.5	2.5	4.5	4.3	3.8
	UHF 2	dB						12.0
	BII/BIII/VHF	dB	4.5		4.5	4.0	6.5	4.5
	DAB						3.5	
Return loss	in/out	dB	10/10	10/10	10/10	10/10	10/10	10/10
Max. output voltage @ -60 dB IMA		dB $\mu$ V	105	105	105	102	105	109
Numbers of in-/output			2/1	2/1	2/1	2/1	3/1	3/1
Voltage		VDC	12-24	12-24	12-24	12-24	12-24	12-24
LED indicator		Green	Yes	Yes	Yes	Yes	Yes	Yes
Power		mA	60	60	60	53	48	48
Connector			F-con	F-con	F-con	F-con	F-con	F-con
Weight		kg	0.205	0.205	0.205	0.205	0.205	0.205
Dimensions	Height	mm	115	115	115	115	115	115
	Depth	mm	60	60	60	60	60	60
	Width	mm	117	117	117	117	137	137

# Triax MFA mast amplifier series

The new MFA mast amplifier series is wideband amplifiers featuring a single port for UHF with 1-4 outputs.

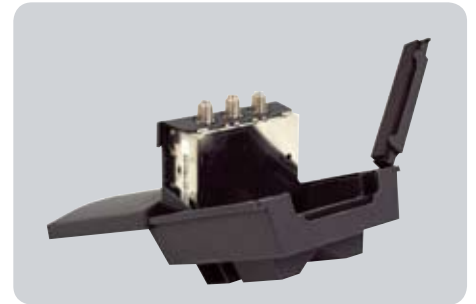
- F-connectors on all in- and outputs
- Simple and easy installation
- Attractive design in a waterproof masthousing
- High gain and output voltage
- Fixed or adjustable gain
- Unique power stabiliser enables use of any power unit from 12 V to 24 V
- High output level



MFA 612



MFA 614



MFA 633

## Technical data

Type			MFA 612	MFA 614	MFA 616	MFA 618	MFA 624	MFA 633
Art. No.			UHF 340612	UHF 340614	UHF 340616	UHF 340618	UHF 340624	UHF 340633
Input 1	Channel	Band	UHF	UHF	UHF	UHF	UHF	UHF
	Gain	dB	12	15	6.5	8.5	25.0	24-34
Input 2	Channel	Band						
	Gain	dB						
Input 3	Channel	Band						
	Gain	dB						
Noise figure	typ. (max.)							
	UHF 1	dB	1.9	1.9	3.5	2.5	2.5	2.5
	UHF 2	dB						
	BII/BIII/VHF DAB	dB						
Return loss	in/out	dB	10/10	10/10	10/10	10/10	10/10	10/10
Max. output voltage @ -60 dB IMA		dB $\mu$ V	105	4 x 95	4 x 95	102	105	105
Numbers of in-/output			1/1	1/4	1/4	1/1	1/1	1/1
Voltage		VDC	12-24	12-24	12-24	12-24	12-24	12-24
LED indicator		Green	Yes	Yes	Yes	Yes	Yes	Yes
Power		mA	26	60	58	28	48	60
Connector			F-con	F-con	F-con	F-con	F-con	F-con
Weight		kg	0.205	0.205	0.205	0.205	0.205	0.205
Dimensions	Height	mm	115	115	115	115	115	115
	Depth	mm	60	60	60	60	60	60
	Width	mm	117	137	137	117	117	117

# Triax MFA kit (amplifier + power supply)

High-performance range of MFA mast amplifiers combined with the excellent IFP power supply in a attractive modern housing design  
- both equipped with F-connector



## Available complete kit of MFA amplifier incl. power supply

Type Art. No.	MFA 402 340402	MFA 404 340404	MFA 407 340407	MFA 409 340409	MFA 410 340410	MFA 411 340411
Set consists of:						
- amplifier	MFA 302	MFA 304	MFA 307	MFA 309	MFA 310	MFA 311
- power supply	+ IFP 501	+ IFP 502	+ IFP 502	+ IFP 502	+ IFP 502	+ IFP 502
Weight	kg	0.645	0.645	0.645	0.645	0.645
Dimensions	Height	mm	170	170	170	170
	Depth	mm	78	78	78	78
	Width	mm	242	242	242	242

Type Art. No.	MFA 412 340412	MFA 413 340413	MFA 414 340414	MFA 420 340420	MFA 424 340424
Set consists of:					
- amplifier	MFA 312	MFA 313	MFA 314	MFA 320	MFA 324
- power supply	+ IFP 502	+ IFP 502	+ IFP 502	+ IFP 502	+ IFP 502
Weight	kg	0.645	0.645	0.645	0.645
Dimensions	Height	mm	170	170	170
	Depth	mm	78	78	78
	Width	mm	242	242	242

Type Art. No.	MFA 507 340507	MFA 511 340511	MFA 513 340513	MFA 514 340514
Set consists of:				
- amplifier	MFA 307	MFA 311	MFA 313	MFA 314
- power supply	+ IFP 503	+ IFP 503	+ IFP 503	+ IFP 503
Weight	kg	0.645	0.645	0.645
Dimensions	Height	mm	170	170
	Depth	mm	78	78
	Width	mm	242	242
Remarks	<b>24 V</b>	<b>24 V</b>	<b>24 V</b>	<b>24 V</b>



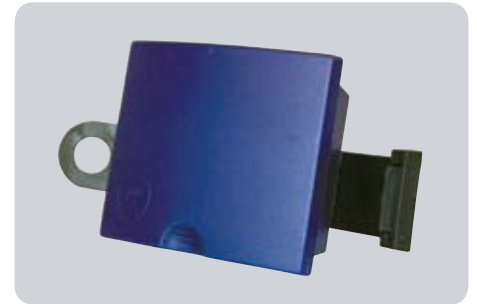
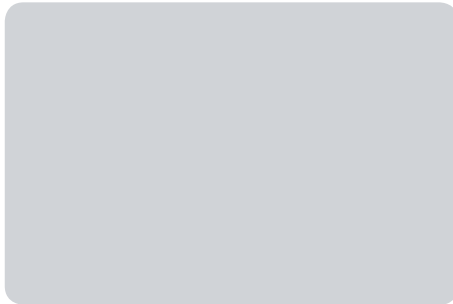
# Triax TA mast amplifier series

## TRIAX's TA 4000 amplifier

The series of masthead amplifiers includes a wide range of amplifiers to substitute and supplement many of the well-known types included in our product range so far.

- Saddle and clamp cable connection on all in- and outputs
- Unique mounting system
- Wide range

- Low noise figures
- Unique power stabilizer
- RF shielded
- Easy wall mounting



## Technical data

Type		TA 4013 -322R 330487	TA 4013 -30R 330502	TA 4213 -3R 330521	TA 4312 -3R 330541	TA 4312 -2R 330542
Input 1	Band	UHF	UHF	UHF	UHF	UHF
	Gain	dB	dB	dB	dB	dB
		20-30	24-34	22-32	22-32	13-23
Input 2	Band	VHF	VHF	FM	BIII	BIII
	Gain	dB	dB	dB	dB	dB
		10-20	- 1	0-10	14-24	13-23
Input 3	Band			BI+BIII	BI+FM	BI+FM
	Gain	dB		dB	dB	dB
				14-24	14-24	13-23
Noise figure	UHF	dB	dB	dB	dB	dB
	VHF	dB	dB	dB	dB	dB
		2.5	1.8	2.5	2.5	3.5
		2.5		2.5	2.5	3.5
Max. output voltage @ -60 dB IMA		dBμV	dBμV	dBμV	dBμV	dBμV
		105	105	105	105	105
Numbers of in-/output		2/1	2/1	3/1	3/1	3/1
Voltage	VDC	12-24	12-24	12-24	12-24	12-24
Power	mA	40	40	40	40	30
DC throughpower		No	Switchable	Switchable	Switchable	Switchable
Connector		S&C	S&C	S&C	S&C	S&C
Weight	kg	0.230	0.230	0.230	0.230	0.230
Dimensions	Height	mm	mm	mm	mm	mm
	Depth	mm	mm	mm	mm	mm
	Width	mm	mm	mm	mm	mm
		108	108	108	108	108
		50	50	50	50	50
		120	120	120	120	120
Remarks						

# Triax MFC multi band mast combiners

## MFC range of mast combiners with F-connector

MFC= **M**ast **F**-connector **C**ombiner

- Improved attractive housing
- Unique mounting system
- Mast or wall mounting
- F-connector
- Wide range with 2 or 3 inputs and 1 output
- Switchable DC-through power
- RF shielded



Waterproof housing



Easy installation of MFC combiner filter

## Technical data

Type		MFC 101	MFC 102	MFC 103	MFC 104	MFC 105	MFC 106
Art. No.		340101	340102	340103	340104	340105	340106
Input 1	Band	SAT	SAT	UHF	UHF	UHF+VHF	VHF/UHF
	Channel	IF	IF	IF	IF	2-69	2-69
	Through loss	3.0	3.0	2.0	2.0	4.0	1.0
Input 2	Band	VHF/UHF	UHF	VHF	BIII	UHF+VHF	FM
	Channel	2-12	21-69	2-12	5-12	2-69	
	Through loss	2.0	2.0	1.0	1.5	4.0	1.0
Input 3	Band		VHF		AM+BI+FM		
	Channel		2-12				
	Through loss		1.5		1.0		
Stop band attenuation	VHF/BI	dB	> 20	> 20	> 20	> 20	> 20
	FM	dB	> 20	> 20	> 20	> 20	> 20
	BIII	dB	> 20	> 20	> 20	> 20	> 20
	UHF	dB	> 20	> 20	> 20	> 20	> 20
	SAT	dB	> 50	> 50			
Numbers of in-/output		2/1	2/1	2/1	3/1	2/1	2/1
DC throughpower		SAT	SAT	Switchable both inputs	UHF	Both inputs	VHF/UHF
Connector		F-con	F-con	F-con	F-con	F-con	F-con
Weight	kg	0.175	0.175	0.175	0.175	0.175	0.175
Dimensions	Height	mm	117	117	117	117	117
	Depth	mm	50	50	50	50	50
	Width	mm	120	120	120	120	120
Remarks							

# Triax MFC multi band mast combiners

## MFC 151 features:

- Improved attractive housing
- F-connector
- Easy mounting on mast or wall
- Wide range with 2 or 3 inputs and 1 output
- Switchable DC-through power
- RF shielded
- 2 inputs: VHF/UHF and SAT
- 5 V power feed for active antenna or pre-amplifier
- DC power pass for LNB supply
- Fully shielded
- Waterproof housing



Waterproof housing



MFC combiner filter

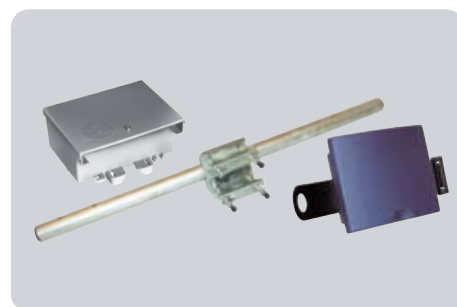
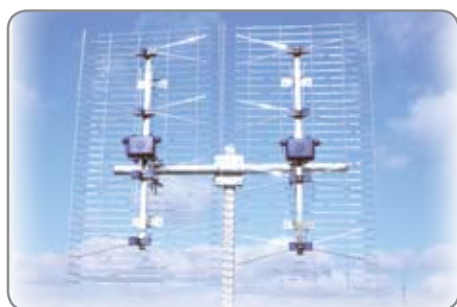
## Technical data

Type		MFC 130	MFC 140	MFC 150	MFC 151	TV/SAT Diecast 340110
Art. No.		340130	340140	340150	340151	340110
Input 1	Band	UHF	UHF	UHF	SAT	SAT
	Channel	21-69	21-69	21-69	IF	IF / 950-2400
	Through loss dB	1.0	1.0	4.5	2.0	2.0/3.0
Input 2	Band	VHF	BIII	UHF	VHF/UHF	VHF/UHF
	Channel	2-12	2-12	21-69	2-69	2-69
	Through loss dB	1.0	1.0	4.5	1.0	2.0
Input 3	Band		AM/BII			
	Channel		2.5-108 MHz			
	Through loss dB		3.5/1.0			
Stop band attenuation	VHF/BI	dB	> 16	> 20	> 20	> 20
	FM	dB		> 25	> 20	> 20
	BIII/DAB	dB			> 20	> 20
	UHF	dB	> 16	> 20	> 20/> 20	> 20
	SAT	dB			> 35	> 22/25
Numbers of in-/output		2/1	3/1	3/1	2/1	2/1
DC throughpower		5-24V (mechanical)	UHF 5-24V	UHF 5-24V	SAT and 5V Ter.	SAT
Connector		F-con	F-con	F-con	F-con	F-con
Weight	kg	0.205	0.265	0.265	0.200	
Dimensions	Height	mm	115	115	115	117
	Depth	mm	60	60	60	50
	Width	mm	117	117	117	120
Remarks		Throughpower both outputs			5 V-DC throughpower from sat receiver	Diecast housing

# Triax stacking combiners

## TRIAX Series 700 stacking combiners

TRIAX has also stacking filters in plastic box for combining 2 BIII aerials, 2 UHF or 4 UHF aerials (ch. 21-69).



Series 700 stacking combiner

## Technical data

Type			721/UHF	741/UHF
Art. No.			315114	315115
Input 1	Band		2 x UHF	4 x UHF
	Channel		21-69	21-69
	Through loss	dB	0.2	0.3
Attenuation			3.0	6.0
Stacking gain			2.8	5.7
Shielding factor			dB	
Numbers of in-/output			2/1	2/1
DC throughpower			Yes	Yes
Connector			S&C	S&C
Weight			kg	0.2
Dimensions	Height	mm	90	90
	Depth	mm	48	48
	Width	mm	115	115

# Mounting accessories

---

<b>Terrestrial reception &gt;&gt; Mechanical accessories</b>	
Masts	38-39
Window and wall brackets	40-42
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Wires and accessories	45
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# Mast for mounting on brackets, roof beams

## Triax range of masts and brackets for perfect installations.

Triax has a wide range of mounting brackets for aerials, all for your needs.

Please read the section with mast calculation in accordance with the EN 50083-1 norm with a restriction of 1650 Nm as maximum on a normal building.



38 mm hot galvanized masts



42 mm masts for composition



50 mm hot galvanized masts

## Technical data on hot galvanized 38 and 42 mm steel masts

Type		Mast 38 mm	Mast 38 mm	Mast 38 mm	Mast 38 mm	Mast 38 mm	Mast 38 mm	Mast 42 mm
Art. No.		140030	140113	140031	140112	140110	140111	140025
Diameter	mm	38	38	38	38	38	38	42
Length	m	1.5	3.0	3.0	4.0	6.0	2.0	2.0
Thickness	mm	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Max. bending moment	Nm	540	540	540	540	540	540	
Weight	kg							
Packing QTY	pcs.	10	1	10	1	1	10	1
Remarks						DIN 2394	DIN 2394	- for composition

## Technical data on hot galvanized 42 and 50 mm steel masts

Type		Mast 42 mm	Mast 42 mm	Mast 50 mm	Mast 50 mm	Mast 50 mm	Mast 50 mm	Mast 50 mm
Art. No.		140115	140114	140028	140029	140008	140120	140126
Diameter	mm	42	42	50	50	50	50	50
Length	m	3.0	6.0	2.0	3.0	4.0	6.0	3.0
Thickness	mm	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Max. bending moment	Nm	1250	1250		1540	1540	1540	1540
Weight	kg							
Packing QTY	pcs.	1	1	10	1	1	1	1
Remarks		DIN 2394	DIN 2394	- for composition	- for composition		DIN 2394	DIN 2394

# Mast for mounting on brackets, roof beams



50 mm masts for extension brackets



Pipe holders for bottom pipe



Camping mast for indoor roof mounting

## Technical data on 50 mm bottom steel masts and camping masts

Type		Mast 50 mm	Mast 50 mm	Pipe holders f. bottom pipe	Camping mast indoor
Art. No.		140121	140122	140128	140135
Diameter	mm	50	50	52	16/20
Length	m	3.0	6.0		1.6
Thickness	mm	2.0	2.0		0.5
Max. bending moment	Nm				
Weight	kg				0.8
Packing QTY	pcs.	1	1	2	1
Remarks		- with holes for extension brackets	- with holes for extension brackets	- for extension of bottom masts	- indoor mounting supplied with cable

## Technical data on mast tops

Type		Mast top 28 mm	Mast top 38 mm	Mast top 42 mm	Mast top 50 mm
Art. No.		140210	140213	140214	140215
Diameter	mm	28	38	42	50
Colour		Black	Grey	Grey	Grey
Weight	kg				
Packing QTY	pcs.	1	1	1	1
Remarks					



# Wall and window brackets

Triax's range of brackets for perfect installations.



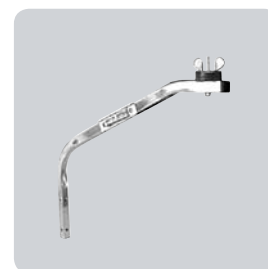
Wall bracket with extra leg



3 legs wall bracket



Window bracket MT



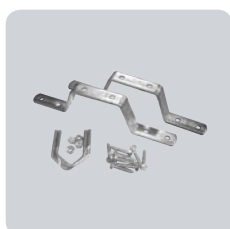
Window bracket MT short

## Technical data on wall and window brackets

Type		Wall bracket	Wall bracket	Window bracket Type MT	Window bracket Type MT short
Art. No.		140044	140045	Type MT 130009	Type MT short 130016
Diameter	mm	Ø15	Ø15	18 x 18	18 x 18
Clearance from wall	mm	600	350	600	190
Height	mm	150	200		
Weight	kg				
Packing QTY	pcs.	1	1	1	1
Remarks		- with extra leg	- 3 legs	- complete with screws	- complete with screws

## Technical data on complete sets of wall brackets

Type		Wall bracket 2 legs 7.5 cm	Wall bracket 2 legs 25-50 cm	Wall bracket 2+3 legs 25-50 cm	Wall bracket 2+3 legs 25-50 cm
Art. No.		140036	140037	140047	140048
Mast diameter	mm	30-50	max. Ø51	max. Ø51	max. Ø51
Clearance from wall	mm	75	250-500 adjustable	250-500 adjustable	500-750 adjustable
Material		Steel	5 x 35 steel	5 x 35 steel	5 x 35 steel
Surface treatment	mm	Galv.	Electrogalv.	Electrogalv.	Electrogalv.
Weight	kg				
Dimension box	mm		360 x 130 x 40	360 x 210 x 40	360 x 150 x 40
Packing QTY	pcs.	1	1	1	1





## Technical data on hot galvanized wall brackets - 2 legs

Type		Wall bracket 2 leg - 5 cm	Wall bracket 2 leg - 15 cm	Wall bracket 2 leg - 25 cm	Wall bracket 2 leg - 35 cm	Wall bracket 2 leg - 45 cm
Art. No.		131010	131020	131030	131040	131050
Mast diameter	mm	30-50	30-50	30-50	30-50	30-50
Clearance from wall	mm	50	150	250	350	450
Material		Galv. steel	Galv. steel	Galv. steel	Galv. steel	Galv. steel
Weight	kg					
Packing QTY	pcs.	1	1	1	1	1



## Technical data on hot galvanized wall brackets - 3 legs

Type		Wall bracket 3 leg - 15 cm	Wall bracket 3 leg - 25 cm	Wall bracket 3 leg - 35 cm	Wall bracket 3 leg - 45 cm	Wall bracket 3 leg - 55 cm
Art. No.		131021	131031	131041	131051	131061
Mast diameter	mm	30-50	30-50	30-50	30-50	30-50
Clearance from wall	mm	150	250	350	450	550
Material		Galv. steel	Galv. steel	Galv. steel	Galv. steel	Galv. steel
Weight	kg					
Packing QTY	pcs.	1	1	1	1	1



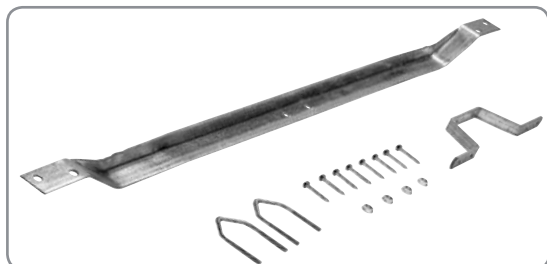
## Technical data on hot galvanized wall brackets - 3 legs

Type		Wall bracket 3 leg - 65 cm	Wall bracket 3 leg - 75 cm
Art. No.		131071	131081
Mast diameter	mm	30-50	30-50
Clearance from wall	mm	650	750
Material		Galv. steel	Galv. steel
Weight	kg		
Packing QTY	pcs.	1	1

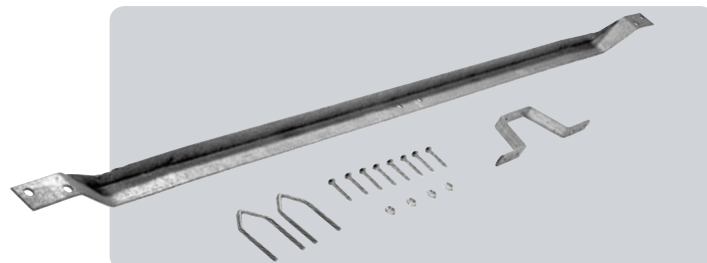


# Wall bracket set

Triax's range of brackets for perfect installations.



Complete GF - wall bracket set



Complete GF - wall bracket set

## Technical data on wall brackets

Type		GF 85 bracket set 140033	GF 110-170 bracket set 140040	GF 125 bracket set 140038	GF 175 bracket set 140039
Art. No.					
Diameter	mm	30-50	30-50	30-50	30-50
Clearance from wall	mm	75	75	75	75
Length	mm	850	1100-1750	1250	1750
Height	mm	Galv. steel	Galv. steel	Galv. steel	Galv. steel
Weight	kg				
Packing QTY	pcs.	1	1	1	1

## Technical data on mast brackets

Type		Mast brac. straight 132003	Mast brac. right 132004	Mast brac. left 132005	Mast brac. Universal 132102	Mast brac. straight 132006	Mast brac. right 132007	Mast brac. left 132008
Art. No.								
Diameter	mm	38	38	38	42	50	50	50
Material		Galv. steel	Galv. steel	Galv. steel	Galv. steel	Galv. steel	Galv. steel	Galv. steel
Weight	kg							
Packing QTY	pcs.	1	1	1	1	1	1	1



# Mounting pipes



Single straight pipe



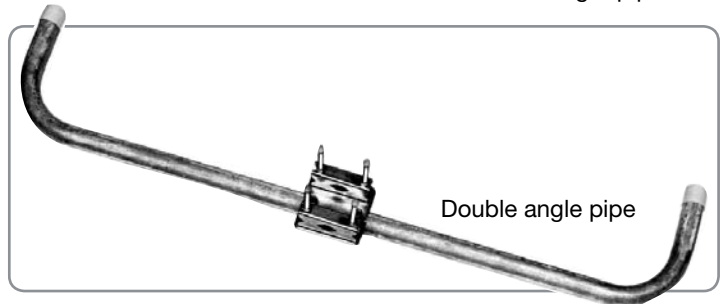
Single angle pipe - long



Double straight pipe



Single angle pipe - short



Double angle pipe

## Technical data on mounting pipes

Type		Single straight pipe	Single angle pipe - short	Single angle pipe - long	Double straight pipe	Double angle pipe
Art. No.		140005	140010	140011	140009	140012
Mast diameter	mm	30-50	30-50	30-50	30-50	30-50
Diameter on bracket	mm	32	32	32	32	32
Material		Galv. steel	Galv. steel	Galv. steel	Galv. steel	Galv. steel
Length	mm	500	500	900	700	1000
Height	mm	210	210	210	210	210
Weight	kg					
Packing QTY	pcs.	1	1	1	1	1
Remarks					- for 2 x BB-grid	

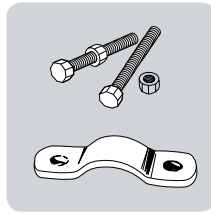
## Technical data on mounting pipes

Type		Pipe	Pipe MF 38	Pipe SR 2530-2B
Art. No.		140116	140117	140118
Mast diameter	mm	30-50	30-50	30-50
Diameter on bracket	mm			
Material		Galv. steel	Galv. steel	Galv. steel
Length	mm			
Height	mm			
Weight	kg			
Packing QTY	pcs.	1	1	1
Remarks		- for mounting aerials vertical		

# Mounting clamps

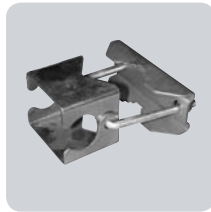
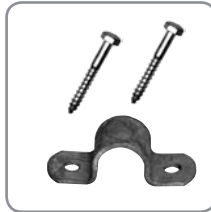
## Technical data on accessories

Type		Clamp	Clamp with bolts	U-clamp	Mast clamp	Double mast clamp
Art. No.		133107	133100	140035	133223	133245
Mast diameter	mm	30-50	30-50		38-60	30-50
Material		Steel	Steel		Steel	Steel
Surface treatment	mm	Galv.	Galv.	Electro galv.	Electro galv.	Galv.
Weight	kg					
Packing QTY	pcs.	1	1	2	1	1
Remarks		Fits all types		Galv. U-clamps		



## Technical data on accessories

Type		Mast brac. straight	Jaw bracket Universal	Kip bracket 34 cm	Phone mast bracket
Art. No.		140041	130010	132020	130020
Mast diameter	mm	38	30-50	30-50	38 - 50
Material		Galv. steel	Steel	Galv. steel	Galv. steel
Weight	kg				
Packing QTY	pcs.	1	1	1	1
Remarks		- with 2 screws	Tilt mast bracket aerials beam		



## Technical data on accessories

Type		G-bolt 1/2"	G-bolt 1/2"	G-bolt 1/2"	G-bolt 1/2"	1/2" Disc for G-bolt	1/2" Nuts for G-bolt
Art. No.		133090	133100	133101	133102	133086	850035
Diameter	mm	12	12	12	12		
Length	mm	120	200	300	400		
Material		Galv. steel	Galv. steel	Galv. steel	Galv. steel	Galv. steel	Galv. steel
Weight	kg						
Packing QTY	pcs.	1	1	1	1	1	1
Remarks		- incl. disc and nuts	- incl. disc and nuts	- incl. disc and nuts	- incl. disc and nuts	- extra disc	- extra 1/2" nuts



# Steel wire and accessories

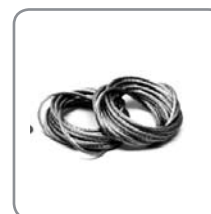
## Technical data on accessories

Type		Botton clamp 30-50 mm	Botton clamp 60 mm	Mast bracket 15x15 - Ø60	Mast bracket 18x18 - Ø60	Stay ring
Art. No.		132015	132018	133262	133252	133010
Mast diameter	mm	30-50	30-50	30-50	30-50	30-50
Material		Galv. steel	Galv. steel	Steel	Steel	Galv. steel
Weight	kg					
Packing QTY	pcs.	1	1	1	1	1
Remarks				Tilt mast bracket aerials beam	Tilt mast bracket aerials beam	3-point



## Technical data on galvanized steelwire

Type		Steel wire galvanized	Steel wire galvanized	Steel wire galvanized	Steel wire PVC-covered	Steel wire galvanized
Art. No.		133007	133105	133020	133005	133002
Diameter	mm	Ø 3	Ø 5	Ø 5	Ø 1.2-2.3	Ø 5
Material		Galv. steel	Galv. steel	Galv. steel	Galv. steel	Galv. steel
Weight	kg					
Packing QTY	pcs.	1	1	1	1	1
Remarks		Roll of 55 m or 220 m	Length of 3.6 m	Length as required	Roll of 100 m	- oilfree



## Technical data on steelwire accessories

Type		Rigging screw	Wirelock	Wirelock	Thimble	Thimble
Art. No.		133015	133025	133021	133009	133008
Diameter	mm	1/4"	3	5	3	5
Material		Galv. steel	Galv. steel	Galv. steel	Galv. steel	Galv. steel
Weight	kg					
Packing QTY	pcs.	1	1	1	1	1
Remarks			Fits 1/8" wire	Fits 3/16" wire	Fits 3 mm wire (1/8" wire)	Fits 5 mm wire (3/16" wire)

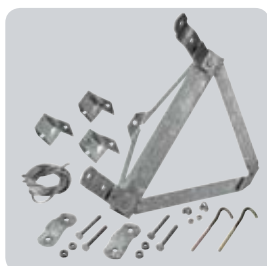


# Chimney bracket sets

## Technical data on accessories



Single wireset



Single chimney bracket set



Double chimney bracket set



2-parts chimney bracket set



Single chimney bracket set w. mast

## Technical data on accessories

Type	Single wireset - spare parts	Single chimney bracket set	Double chimney bracket set	2-parts chimney bracket set	2 m mast with chimney bracket
Art. No.	130001	130002	130004	130000	130006
Mast diameter	mm	38-50	38-50	38-50	38
Material	Galv. steel	Galv. steel	Galv. steel	Galv. steel	Galv. steel
Weight	kg				
Packing QTY	pcs.	1	1	1	1
Sets consist of	1 x Wire Ø5 mm - lenght. 3.6 m 4 x Corner brackets 2 x J-bolts 2 x Wirelock	1 Chimney bracket 1 x Wire Ø5 mm - lenght. 3.6 m 3 x Corner brackets 2 x J-bolts 2 x Wirelock 2 x Clamps with bolts	1 Chimney bracket 2 x Wire Ø5 mm - lenght. 3.6 m 6 x Corner brackets 4 x J-bolts 4 x Wirelock 2 x Clamps with bolts	2 Chimney bracket 2 x Wire Ø5 mm - lenght. 3.6 m 6 x Corner brackets 4 x J-bolts 4 x Wirelock 2 x Clamps with bolts	1 x 2 m mast with chimney bracket 1 x Wire Ø5 mm - lenght. 3.6 m 3 x Corner brackets 2 x J-bolts 2 x Wirelock

## Technical data on accessories

Type	Chimney bracket	Steel band
Art. No.	140032	140034
Mast diameter	mm	38 - 50
Material	Galv. steel	Galvanized
Weight	kg	
Packing QTY	pcs.	1
Remarks	Bracket with 2 x 5 m steel band	Roll with 10 m steel band

# Roof covers for pitched roof



Roof cover - red



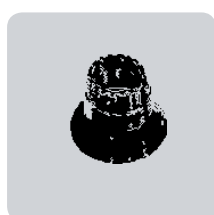
Roof cover - black

## Technical data on roof covers

Type		Roof cover Red - ral 8012	Roof cover Black
Art. No.		132202	132203
Size	mm	450 x 400	450 x 400
Mast diameter	mm	38-60	38-60
Material		Alu with polyester	Alu with polyester
Weight	kg		
Packing QTY	pcs.	1	1
Remarks		Weatherproof glue - leadfree roof cover	Weatherproof glue - leadfree roof cover

## Technical data on clips and index

Type		Clips large	Index R79 small	Index R76 big	Index red	Index black
Art. No.		133011	132211	132210	132212	132213
Diameter	mm	40 - 60	38 - 50	38 - 50	38 - 60	38 - 60
Material		Steel	Rubber	Rubber	Rubber	Rubber
Weight	kg					
Packing QTY	pcs.	1	1	1	1	1
Remarks			- delivered with clips	- delivered with clips	- delivered with clips	- delivered with clips



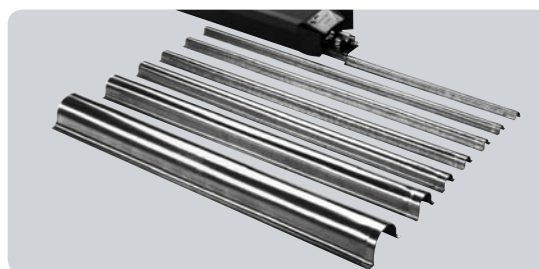
# Cable guards



Cable duct  
25 x 16 mm



Cable duct  
16 x 16 mm



Cable guards - galvanized



Cable guards  
- aluminium

## Technical data on cable guards

Type	Cable guards Galv. steel		Cable guards Galv. steel	Cable guards Galv. steel	Cable guards Alu	Cable guards Alu	
Art. No.	550000		550001	550002	133053	133054	
Size	Width	mm	16	19	23	Ø 10/Ø 12	Ø 10/Ø 12
	Lenght	mm	1000	1000	1000	2375	5500
Material	Galvanized steel		Galvanized steel	Galvanized steel	Aluminium	Aluminium	
Weight	kg						
Packing QTY per box	pcs.		25	25	25	5	5
Remarks					Cable guard for 7 mm cable	Cable guard for 7 mm cable	

## Technical data on cable duct

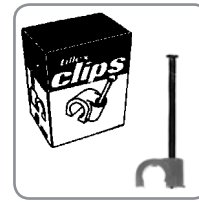
Type	Cable duct White plast		Cable duct White plast
Art. No.	153090		153092
Size	Width	mm	16
	Height	mm	16
Material	White plastic		White plastic
Weight	kg		
Packing QTY per box	m/roll		15
Remarks			



# Clips, screws and expansion bolts

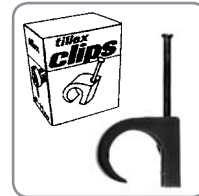
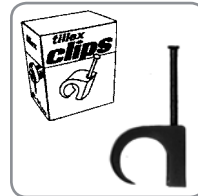
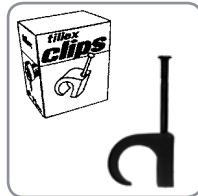
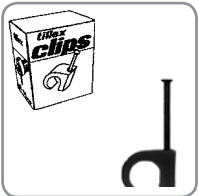
## Technical data on cable clips (natural)

Type			Cable clips	Cable clips	Cable clips	Cable clips	Cable clips	Cable clips
Art. No.			Natural	Natural	Natural	Natural	Natural	Natural
			153013	153001	153003	153004	153008	153010
Size	Diameter	mm	2 x 4	3 x 5	5/20	6/25	7/25	7/35
	Lenght	mm	20	20	20	25	25	35
Material			Plastic	Plastic	Plastic	Plastic	Plastic	Plastic
Weight			kg					
Packing QTY per box	pcs.		100	100	100	100	100	100
Remarks			Cartons of 10 boxes	Cartons of 10 boxes	Cartons of 10 boxes	Cartons of 10 boxes	Cartons of 10 boxes	Cartons of 10 boxes



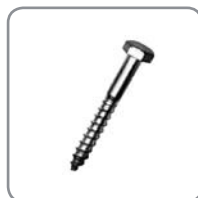
## Technical data on cable clips (black) and expansion bolts

Type			Cable clips	Cable clips	Cable clips	Cable clips	Cable clips	Expansion bolts	Expansion bolts
Art. No.			Black	Black	Black	Black	Black	bolts	bolts
			153080	153081	153082	153083	153084	140380	140370
Size	Diameter	mm	FC 7-9	FC 9-11	FC 11-13	FC 13-15	FC 15-17	10	8
	Lenght	mm	20	25	25	30	35	80	100
Material			Plastic	Plastic	Plastic	Plastic	Plastic	Electro galv.	Electro galv.
Weight			kg						
Packing QTY per box	pcs.		100	100	100	100	100	50	50
Remarks			Cartons of 10 boxes	Cartons of 10 boxes	Cartons of 10 boxes	Cartons of 10 boxes	Cartons of 10 boxes	-also available by the piece	-also available by the piece



## Technical data on screws

Type			Screw	Screw	Screw	Screw	Screw
Art. No.			140340	140350	140351	140360	140361
Size	Diameter	mm	Ø 6	Ø 8	Ø 8	Ø 10	Ø 10
	Lenght	mm	50	50	80	50	80
Material/Surface treatment			Electro galv.	Electro galv.	Electro galv.	Electro galv.	Electro galv.
Weight			kg				
Packing QTY per box	pcs.		200	200	200	100	50
Remarks			-also available by the piece	-also available by the piece	-also available by the piece	-also available by the piece	-also available by the piece



# Cable strips, tape, clips and stitcher

## Technical data on cable strips

Type	SST 21 Black	PLT 2S Black	PLT 2S Black	PLT 4S Black	PLT 3H Black	PLT 3H Black		
Art. No.	153065	712290	153067	153066	712296	153068		
Size	Diameter	mm	Ø 80	Ø 48	Ø 48	Ø 102	Ø 76	Ø 76
	Lenght	mm	290	188	188	368	290	290
	Height	mm	3.6	4.8	4.8	4.8	7.6	7.6
Material			SMO	SMO	SMO	SMO	SMO	SMO
Weight		kg						
Packing QTY per box	pcs.		100	1	100	100	1	100
Remarks								



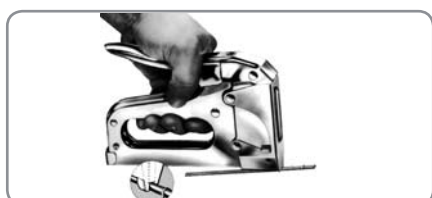
## Technical data on tape

Type	Tape Grey	Black self- vulcanized	Cable grom- met - Grey	Cable grom- met - Black
Art. No.	153060	153061	760056	153057
Size	Width	mm	10	18
	Lenght	mm		
Material		Plastic	Rubber	Rubber
Weight		kg		
Packing QTY per box	pcs.		1	1
Remarks		Cartons of 10 rolls	Single pack	- for ALPS LNB units
				Universal for F-con



## Technical data on stitcher and clips

Type	Arrow T25 Stitcher	Clips 9/16" Galv.	Clips 9/16" White
Art. No.	153070	153071	153069
Size	Width	mm	
	Lenght	mm	
Material		Steel	Steel
Weight		kg	
Packing QTY per box	pcs.		
		1	1000
Remarks		Single pack	Cartons of 10 boxes
			Cartons of 10 boxes



# Satellite reception

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<b>Satellite reception &gt;&gt; Dishes</b>	
- TD series	52-57
- Basic series	58
- DAP series	59
- Elliptical perforated	60
- Unique	61
LNB brackets and spare parts	62-63
<b>Satellite reception &gt;&gt; Universal LNB units</b>	
- Single, twin, quad, quattro	64-66
<b>DiSEqC switches</b>	67-68
<b>Rotors and LNB covers</b>	69
<b>Mounting accessories</b>	70

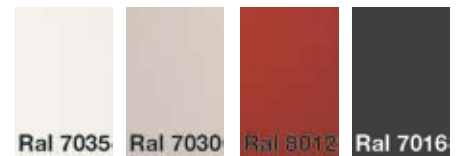


# Triax TDS series of standard steel dishes

## TD dishes

Almost any dish can provide the signals needed to get a clear TV-picture. But will consumer satisfaction last, if signals deteriorate due to corrosion of the reflector or if the dish is damaged by a storm?

TD dishes minimize problems of any kind. Long-term corrosion is prevented by an extremely thorough anti-corrosive process and polyester coating. A solid construction of all parts, including the non-slip mast brackets, ensures that the dish remains in its correct position, when other dishes are torn down or twisted by a heavy storm. TD dishes are of course manufactured according to Triax's quality standards - with precision tools and robots ensuring absolute uniform and optimum geometry for perfect signal reception.



## Technical data on TDS-steel dishes

Type		TDS 54	TDS 64	TDS 78	TDS 88	TDS 110	
<b>Size</b>		<b>50 x 56 cm</b>	<b>60 x 65 cm</b>	<b>70 x 78 cm</b>	<b>85 x 95 cm</b>	<b>100 x 105 cm</b>	
<b>Art. No.</b>	<b>Color</b>						
	(Light grey)	Ral 7035	122518	122618	123718	122818	122908
	(Grey)	Ral 7030	122510	122610	122710	122810	
	(Anthracite)	Ral 7016	122512	122612	123712	122812	122912
	(Red)	Ral 8012					122910
<b>Frequency range</b>	<b>GHz</b>	10.7 - 12.75	10.7 - 12.75	10.7 - 12.75	10.7 - 12.75	10.7 - 12.75	
<b>Gain @ 11.7 GHz</b>	<b>dBi</b>	34.2	35.8	37.1	38.8	40.2	
<b>G/T LNB 0.7 dB</b>	<b>dB/K</b>	14.2	16.0	17.3	19.2	20.6	
<b>X-polarisation</b>	<b>dB</b>	> 27	> 27	> 27	> 27	> 27	
<b>Offset angle</b>	<b>degrees</b>	26	26	26	26	26	
<b>Elevation range</b>	<b>degrees</b>	10 - 50 45 - 80	10 - 50 45 - 80	10 - 60	10 - 60	10 - 60	
<b>Reflector type</b>	<b>F/D 0.6</b>	Offset	Offset	Offset	Offset	Offset	
<b>Beam width</b>	<b>degrees</b>	3.7	3.1	2.6	2.0	1.8	
<b>Windload @ 42 m/s</b>	<b>N</b>	323	445	619	902	1222	
<b>Material</b>		Galv. steel	Galv. steel	Galv. steel	Galv. steel	Galv. steel	
<b>Finish</b>		Polyester powder coat	Polyester powder coat	Polyester powder coat	Polyester powder coat	Polyester powder coat	
<b>Plastic LNB holder</b>	<b>mm</b>	Ø40 + Ø25	Ø40 + Ø25	Ø40 + Ø25	Ø40 + Ø25	Ø40 + Ø25	
<b>Mast dimension</b>	<b>mm</b>	Ø32 - 60	Ø32 - 60	Ø40 - 95	Ø40 - 95	Ø40 - 95	
<b>Wall bracket</b>		- optional extra	- optional extra	- optional extra	- optional extra	- optional extra	
<b>Remarks</b>		- some types available without Triax logo, please contact our sales department					

We can supply a wide range of different LNB brackets for the TD-series dishes



Duo-block bracket



Flexi-block bracket



Multi-block bracket

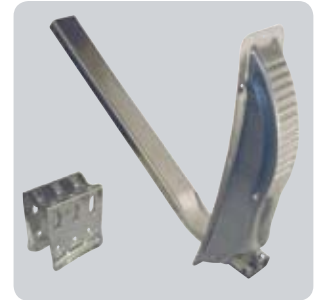
# Triax TDA series of standard aluminium dishes



## A dish for any job

TD dishes are available in sizes, materials and colours for any job ranging from single to multiple user applications and any type of environment:

- 5 sizes ranging from 50 x 55 cm (34.2 dBi gain) to 100 x 105 cm (40.2 dBi gain)
- Delivered in aluminium or galvanized steel
- Available in a number of standard colours and any other colour and own label branding can be supplied against a minimum quantity
- Available in deluxe version with anti-corrosive coating also on the feedarm and the elevation and mast bracket
- Delivered in individual packaging, but also available in bulk packs minimizing costs of transportation and handling



On TDS and TDA dishes the mast bracket and back structures are unpainted.

## Technical data on TDA-aluminium dishes

Type		TDA 54	TDA 64	TDA 78	TDA 88	TDA 110
<b>Size</b>		<b>50 x 56 cm</b>	<b>60 x 65 cm</b>	<b>70 x 78 cm</b>	<b>85 x 95 cm</b>	<b>100 x 105 cm</b>
Art. No. (Light grey)	Ral 7035		123618	123718	123818	123908
(Grey)	Ral 7030					
(Anthracite)	Ral 7016		123612	123712	123812	
(Red)	Ral 8012		123614	123714	123814	
Frequency range	GHz	10.7 - 12.75	10.7 - 12.75	10.7 - 12.75	10.7 - 12.75	10.7 - 12.75
Gain @ 11.7 GHz	dBi	34.2	35.8	37.1	38.8	40.2
G/T LNB 0.7 dB	dB/K	14.2	16.0	17.3	19.2	20.6
X-polarisation	dB	> 27	> 27	> 27	> 27	> 27
Offset angle	degrees	26	26	26	26	26
Elevation range	degrees	10 - 50 45 - 80	10 - 50 45 - 80	10 - 60	10 - 60	10 - 60
Reflector type	F/D 0.6	Offset	Offset	Offset	Offset	Offset
Beam width	degrees	3.7	3.1	2.6	2.0	1.8
Windload @ 42 m/s	N	323	445	619	902	1222
Material		Aluminium	Aluminium	Aluminium	Aluminium	Aluminium
Finish		Polyester powder coat	Polyester powder coat	Polyester powder coat	Polyester powder coat	Polyester powder coat
Plastic LNB holder	mm	Ø40 + Ø25	Ø40 + Ø25	Ø40 + Ø25	Ø40 + Ø25	Ø40 + Ø25
Mast dimension	mm	Ø32 - 60	Ø32 - 60	Ø40 - 60	Ø40 - 60	Ø40 - 60
Wall bracket		- optional extra	- optional extra	- optional extra	- optional extra	- optional extra
Remarks		- some types available without Triax logo, please contact our salesdepartment				

A wide range of different mounting brackets for the TD-series dishes is also available



J-bracket



S-bracket



Wall-bracket

# Triax TDS Euroline series steel dishes

## TDS and TDA Euroline dishes

All Euroline dishes will be delivered with painted mast bracket and back structure with pre-mounted feedarm. They also have a deluxe version of wingnuts

### Mounted and adjusted in two minutes

Saving trouble and money is not only a long-term consumer benefit. TD dishes allow a substantial reduction in time used for mounting and adjusting:

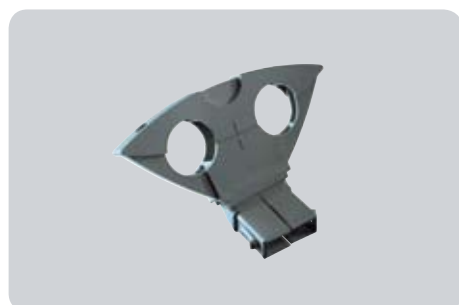
1. The elevation bracket is pre-mounted and is easily fixed to the mast with non-slip mast brackets
2. A setting scale on the elevation brackets facilitates precise adjustment to the required satellite
3. The pre-mounted feedarm just needs unfolding, and the LNB holder with the LNB is simply clicked on.



## Technical data on TDS Euroline steel dishes

Type		TDS 54	TDS 64	TDS 78	TDS 88	TDS 110
Size		50 x 56 cm	60 x 65 cm	70 x 78 cm	85 x 95 cm	100 x 105 cm
Art. No. (Light grey)	Ral 7035	121560	121660	121760	121860	121960
(Grey)	Ral 7030					
(Anthracite)	Ral 7016		121661	121761	121861	121961
(Red)	Ral 8012		121662	121762	121862	121962
Frequency range	GHz	10.7 - 12.75	10.7 - 12.75	10.7 - 12.75	10.7 - 12.75	10.7 - 12.75
Gain @ 11.7 GHz	dBi	34.2	35.8	37.1	38.8	40.2
G/T LNB 0.7 dB	dB/K	14.2	16.0	17.3	19.2	20.6
X-polarisation	dB	> 27	> 27	> 27	> 27	> 27
Offset angle	degrees	26	26	26	26	26
Elevation range	degrees	10 - 50 45 - 80	10 - 50 45 - 80	10 - 60	10 - 60	10 - 60
Reflector type	F/D 0.6	Offset	Offset	Offset	Offset	Offset
Beam width	degrees	3.7	3.1	2.6	2.0	1.8
Windload @ 42 m/s	N	323	445	619	902	1222
Material		Galv. steel	Galv. steel	Galv. steel	Galv. steel	Galv. steel
Finish		Polyester powder coat	Polyester powder coat	Polyester powder coat	Polyester powder coat	Polyester powder coat
Plastic LNB holder	mm	Ø40 + Ø25	Ø40 + Ø25	Ø40 + Ø25	Ø40 + Ø25	Ø40 + Ø25
Mast dimension	mm	Ø32 - 60	Ø32 - 60	Ø40 - 60	Ø40 - 60	Ø40 - 60
Wall bracket		- optional extra	- optional extra	- optional extra	- optional extra	- optional extra
Remarks		- some types available without Triax logo, please contact our sales department				

We can supply a wide range of different LNB brackets for the TD-series dishes



Duo-block bracket



Flexi-block bracket



Multi-block bracket

# Triax TDA Euroline series aluminium dishes



## TD dishes

Almost any dish can provide the signals needed to get a clear TV-picture. But will consumer satisfaction last, if signals deteriorate due to corrosion of the reflector or if the dish is damaged by a storm?

TD dishes minimize problems of any kind. Long-term corrosion is prevented by an extremely thorough anti-corrosive process and polyester coating.

A solid construction of all parts, including the non-slip mast brackets, ensures that the dish remains in its correct position, when other dishes are torn down or twisted by a heavy storm.

TD dishes are of course manufactured according to Triax's quality standards - with precision tools and robots ensuring absolute uniform and optimum geometry for perfect signal reception.



## Technical data on TDA Euroline aluminium dishes

Type		TDA 54	TDA 64	TDA 78	TDA 88	TDA 110
<b>Size</b>		<b>50 x 56 cm</b>	<b>60 x 65 cm</b>	<b>70 x 78 cm</b>	<b>85 x 95 cm</b>	<b>100 x 105 cm</b>
<b>Art. No.</b> (Light grey) (Grey) (Anthracite) (Red)	Ral 7035	123560	123660	123760	123860	123960
	Ral 7030		123661	123761	123861	123961
	Ral 7016		123662	123762	123862	123962
	Ral 8012					
<b>Frequency range</b>	<b>GHz</b>	10.7 - 12.75	10.7 - 12.75	10.7 - 12.75	10.7 - 12.75	10.7 - 12.75
<b>Gain @ 11.7 GHz</b>	<b>dBi</b>	34.2	35.8	37.1	38.8	40.2
<b>G/T LNB 0.7 dB</b>	<b>dB/K</b>	14.2	16.0	17.3	19.2	20.6
<b>X-polarisation</b>	<b>dB</b>	> 27	> 27	> 27	> 27	> 27
<b>Offset angle</b>	<b>degrees</b>	26	26	26	26	26
<b>Elevation range</b>	<b>degrees</b>	10 - 50 45 - 80	10 - 50 45 - 80	10 - 60	10 - 60	10 - 60
<b>Reflector type</b>	<b>F/D 0.6</b>	Offset	Offset	Offset	Offset	Offset
<b>Beam width</b>	<b>degrees</b>	3.7	3.1	2.6	2.0	1.8
<b>Windload @ 42 m/s</b>	<b>N</b>	323	445	619	902	1222
<b>Material</b>		Aluminium	Aluminium	Aluminium	Aluminium	Aluminium
<b>Finish</b>		Polyester powder coat	Polyester powder coat	Polyester powder coat	Polyester powder coat	Polyester powder coat
<b>Plastic LNB holder</b>	<b>mm</b>	Ø40 + Ø25	Ø40 + Ø25	Ø40 + Ø25	Ø40 + Ø25	Ø40 + Ø25
<b>Mast dimension</b>	<b>mm</b>	Ø32 - 60	Ø32 - 60	Ø40 - 60	Ø40 - 60	Ø40 - 60
<b>Wall bracket</b>		- optional extra	- optional extra	- optional extra	- optional extra	- optional extra
<b>Remarks</b>		- some types available without Triax logo, please contact our sales department				

A wide range of different mounting brackets for the TD-series dishes is also available



J-bracket



S-bracket



Wall-bracket

# Triax TDS series of dishes with wallbracket

## TDS dishes

### - mounted and adjusted in two minutes

Saving trouble and money is not only a long-term consumer benefit. TD dishes allow a substantial reduction in time used for mounting and adjusting:

1. The elevation bracket is pre-mounted and is easily fixed to the mast with non-slip mast brackets
2. A setting scale on the elevation brackets facilitates precise adjustment to the required satellite
3. The pre-mounted feedarm just needs unfolding, and the LNB holder with the LNB is simply clicked on.



Ral 7030

## Technical data on TDS-steel dishes

Type		TDS 54	TDS 64	TDS 78	TDS 88	TDS 110
Size		50 x 56 cm	60 x 65 cm	70 x 78 cm	85 x 95 cm	100 x 105 cm
Art. No. (Grey)	Ral 7030	122501	122601	122701	122801	122901
Frequency range	GHz	10.7 - 12.75	10.7 - 12.75	10.7 - 12.75	10.7 - 12.75	10.7 - 12.75
Gain @ 11.7 GHz	dBi	34.2	35.8	37.1	38.8	40.2
G/T LNB 0.7 dB	dB/K	14.2	16.0	17.3	19.2	20.6
X-polarisation	dB	> 27	> 27	> 27	> 27	> 27
Offset angle	degrees	26	26	26	26	26
Elevation range	degrees	10 - 50 45 - 80	10 - 50 45 - 80	10 - 60	10 - 60	10 - 60
Reflector type	F/D 0.6	Offset	Offset	Offset	Offset	Offset
Beam width	degrees	3.7	3.1	2.6	2.0	1.8
Windload @ 42 m/s	N	323	445	619	902	1222
Material		Galv. steel	Galv. steel	Galv. steel	Galv. steel	Galv. steel
Finish		Polyester powder coat	Polyester powder coat	Polyester powder coat	Polyester powder coat	Polyester powder coat
Plastic LNB holder	mm	Ø40 + Ø25	Ø40 + Ø25	Ø40 + Ø25	Ø40 + Ø25	Ø40 + Ø25
Mast dimension	mm	Ø32 - 60	Ø32 - 60	Ø40 - 60	Ø40 - 60	Ø40 - 60
Wall bracket		- included	- included	- included	- included	- optional extra

A wide range of different mounting brackets for the TD-series dishes is also available



J-bracket



S-bracket



# Triax TD bulk packed dishes



## Triax bulk solution

Bulk solutions reduce costs and contribute considerably to the protection of the environment due to the heavy reduction of packaging costs.

### Mini-bulk with 3-5 dishes

Three or five complete satellite dishes packed in one carton box.

### Bulk with 50, 100 or 200 dishes

Complete satellite dishes packed on a pallet with all the accessories packed in separate carton boxes or in scantainers with backbracket and arm, mastbrackets, LNB-brackets and screw-sets in small bags.



## TD bulk with single packed accessories

### TD dishes - incl. Triax logo

Art. No.	TDS steel dishes	
122567	TDS 54, Bulk w/single, Ral 7035	200 pcs/pll
122568	TDS 54, Bulk w/single, Ral 7016	200 pcs/pll
122569	TDS 54, Bulk w/single, Ral 8012	200 pcs/pll
122667	TDS 64, Bulk w/single, Ral 7035	100 pcs/pll
122668	TDS 64, Bulk w/single, Ral 7016	100 pcs/pll
122669	TDS 64, Bulk w/single, Ral 8012	100 pcs/pll
122672	TDS 64, Bulk w/single, Ral 7030	100 pcs/pll
122749	TDS 78, Bulk w/single, Ral 7035	100 pcs/pll
122754	TDS 78, Bulk w/single, Ral 7016	100 pcs/pll
122764	TDS 78, Bulk w/single, Ral 8012	100 pcs/pll
122737	TDS 78, Bulk w/single, Ral 7030	100 pcs/pll
122867	TDS 88, Bulk w/single, Ral 7035	100 pcs/pll
122868	TDS 88, Bulk w/single, Ral 7016	100 pcs/pll
122869	TDS 88, Bulk w/single, Ral 8012	100 pcs/pll
122823	TDS 88, Bulk w/single, Ral 7030	100 pcs/pll
122904	TDS 110, Bulk w/single, Ral 7035	50 pcs/pll
122924	TDS 110, Bulk w/single, Ral 7030	50 pcs/pll
122926	TDS 110, Bulk w/single, Ral 7016	50 pcs/pll
Art. No.	TDA aluminium dishes	
123666	TDA 64, Bulk w/single, Ral 7035	100 pcs/pll
123749	TDA 78, Bulk w/single, Ral 7035	100 pcs/pll
123754	TDA 78, Bulk w/single, Ral 7016	100 pcs/pll
123867	TDA 88, Bulk w/single, Ral 7035	100 pcs/pll
123868	TDA 88, Bulk w/single, Ral 7016	100 pcs/pll
123869	TDA 88, Bulk w/single, Ral 8012	100 pcs/pll

## TD bulk with single packed accessories

### TD dishes - incl. Triax logo

Art. No.	TDS steel dishes	
121695	TD 64 SP bulk, Ral 7035	25 pcs/pll
121795	TD 78 SP bulk, Ral 7035	25 pcs/pll
121696	TD 64 SP bulk, Ral 7016	25 pcs/pll
121796	TD 64 SP bulk, Ral 7016	25 pcs/pll

## TMB mini-bulk dishes (excl. logo)

### TMB dishes

Art. No.	TMB steel dishes	
122627	TMB 64, Ral 7035	5 pcs. Carton box
122674	TMB 64, Ral 7016	5 pcs. Carton box
122236	TMB 78, Ral 7016	5 pcs. Carton box
122733	TMB 78, Ral 7035	5 pcs. Carton box
122831	TMB 88, Ral 7035	3 pcs. Carton box
122832	TMB 88, Ral 7016	3 pcs. Carton box
Art. No.	TMB aluminium dishes	
123731	TMB 78, Ral 7035	5 pcs. Carton box
123732	TMB 78, Ral 7016	5 pcs. Carton box
123831	TMB 88, Ral 7035	3 pcs. Carton box
123832	TMB 88, Ral 7016	3 pcs. Carton box

## TD bulk dishes

### TD dishes - incl. Triax logo

Art. No.	TDS steel dishes	
122525	TDS 54 Bulk, Ral 7016	200 pcs/pll
122526	TDS 54 Bulk, Ral 7035	200 pcs/pll
122547	TDS 54 Bulk, Ral 8012	200 pcs/pll
122617	TDS 64 Bulk, Ral 7035	100 pcs/pll
122624	TDS 64 Bulk, Ral 7030	100 pcs/pll
122625	TDS 64 Bulk, Ral 7016	100 pcs/pll
122647	TDS 64 Bulk, Ral 8012	100 pcs/pll
122717	TDS 78 Bulk, Ral 7035	100 pcs/pll
122724	TDS 78 Bulk, Ral 7030	100 pcs/pll
122725	TDS 78 Bulk, Ral 7016	100 pcs/pll
122824	TDS 88 Bulk, Ral 7030	100 pcs/pll
122825	TDS 88 Bulk, Ral 7016	100 pcs/pll
122826	TDS 88 Bulk, Ral 7035	100 pcs/pll
122847	TDS 88 Bulk, Ral 8012	100 pcs/pll
Art. No.	TDA aluminium dishes	
123647	TDA 64 Bulk, Ral 8012	100 pcs/pll
123648	TDA 64 Bulk, Ral 7035	100 pcs/pll
123747	TDA 78 Bulk, Ral 8012	100 pcs/pll
123748	TDA 78 Bulk, Ral 7035	100 pcs/pll
123846	TDA 88 Bulk, Ral 7016	100 pcs/pll

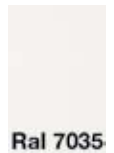
# TRIAX Basic dishes

## Complete range in Basic dishes

- carefully designed to give the best value in price and quality

The mechanical parts of the Basic dishes have been created with careful attention to detail and recommendations from installers. The dishes are manufactured using a fine anti-corrosive treatment

- Improved, maintenance-free reception
- Polyester powder-coated
- Computer aided design for high performance
- Easy to install
- 50 cm, 60 cm, 75 cm and 85 cm size options
- Pole mount
- Easy adjust elevation scale
- 100 pcs bulk pack



## Technical data on Basic dishes

Type		Basic 60	Basic 60 w. south bracket	Basic 75	Basic 85
Size		60 x 65 cm	60 x 65 cm	70 x 78 cm	85 x 95 cm
Art. No. (light grey)	Ral 7035	128601	128602	128701	128801
Frequency range	GHz	10.7 - 12.75	10.7 - 12.75	10.7 - 12.75	10.7 - 12.75
Gain @ 11.7 GHz	dBi	35.8	35.8	37.1	38.8
G/T LNB 0.7 dB	dB/K	16.0	16.0	17.3	19.2
X-polarisation	dB	> 27	> 27	> 27	> 27
Offset angle	degrees	26	26	26	26
Elevation range	degrees	10 - 50	45 - 80	10 - 60	10 - 60
Reflector type	F/D 0.6	Offset	Offset	Offset	Offset
Beam width	degrees	3.1	3.1	2.6	2.0
Windload @ 42 m/s	N	445	445	619	902
Material		Galv. steel	Galv. steel	Galv. steel	Galv. steel
Finish		Polyester powder coat	Polyester powder coat	Polyester powder coat	Polyester powder coat
Plastic LNB holder	mm	Ø40 + Ø25	Ø40 + Ø25	Ø40	Ø40
Mast dimension	mm	Ø28 - 60	Ø28 - 60	Ø32 - 60	Ø32 - 60
Wall bracket		- optional extra	- optional extra	- optional extra	- optional extra
Remarks					

We can supply a wide range of different LNB brackets for the Basic-series dishes



Basic duo-block



Basic flexi-block



Basic multi-block

# Triax DAP fibre glass dishes



## Fibre glass dishes are the preferred choice in some markets

The most durable long-term solutions in difficult environments, for example in coastal areas or mountain regions. Triax fulfils the demand with a series of dishes combining the resistance of glass fibre with the optimum geometry that characterises all Triax dishes whilst ensuring perfect reception quality.

- Available in 60, 70, 80 and 90 cm sizes with gains from 35.5 dB to 39.0 dB
- Light grey and anthracite colour

The mast bracket and the LNB holder are both easy to mount and absolutely stable with strength and stability tested in wind-tunnels and through mechanical tests.



## Technical data for DAP dishes

Type		DAP 610	DAP 710	DAP 910
Size		DAP 611	DAP 711	DAP 911
		56 x 61 cm	62.5 x 72 cm	86 x 94 cm
Art. No.	DAP X10 = Creme DAP X11 = Anthracite	Ral 1013 Ral 7016	362610 362611	362710 362711
Frequency range	GHz	10.7 - 12.75	10.7 - 12.75	10.7 - 12.75
Gain @ 12.625 GHz	dBi	36.0	37.5	39.7
Noise temperature	°K	< 35	< 35	< 35
Efficiency	%	70	70	70
X-polarisation	dB	> 27	> 27	> 27
Offset angle	degrees	26	26	26
Elevation range	degrees	10 - 55	10 - 55	10 - 55
Reflector type	F/D 0.6	Offset	Offset	Offset
Windload @ 42 m/s	N	378	600	846
Material		Fibre glass	Fibre glass	Fibre glass
Finish		Alu. arm	Alu. arm	Alu. arm
Plastic LNB holder	mm	Ø40	Ø40	Ø40
Mast dimension	mm	Ø40 - 60	Ø40 - 60	Ø40 - 60
Wall bracket		- optional extra	- optional extra	- optional extra
Inox U-bolt		1 U-Bolt	1 U-Bolt	2 U-Bolt



# TRIAX elliptical dishes

The Triax range of elliptical dishes has been designed specifically for reception of digital satellite signals.

The dishes are available in 2 sizes, 44 cm and 60 cm, and both have been approved by BSKYB, who is the world leader in digital platforms, and also used by NSAB on the Scandinavian market. The dishes can be used with “plug-in” optimised elliptical feed LNBS for maximum performance, or with standard universal LNBS using a 40 mm feed clamp.

Available in perforated or solid zinc coated steel, both dishes come with the following features:

- Tilt movement/skew adjustment
- Integrated spirit level on region 1 for correct alignment first time
- Polyester powder coated reflector and bracketry
- Pole or pole/wall mounting
- Packed in 1 pcs single pack



## Technical data on elliptical dishes

Type		Elliptical (reg. 1) <i>perforated</i> 52 x 42 cm	Elliptical (reg. 1) <i>solid</i> 52 x 42 cm	Elliptical (reg. 2) <i>perforated</i> 72 x 58 cm	Elliptical (reg. 2) <i>solid</i> 72 x 58 cm
Art. No. (Anthracite)	Ral 7016	124350	124351	124352	124353
Frequency range	GHz	10.7 - 12.75	10.7 - 12.75	10.7 - 12.75	10.7 - 12.75
Gain @ 10.70 GHz	dBi	32.3	32.3	35.2	35.2
Gain @ 12.75 GHz	dBi	33.7	33.7	36.7	36.7
G/T LNB 0.7 dB	dB/K				
X-polarisation	dB				
Offset angle	degrees	22.6	22.6	23.9	23.9
Elevation range	degrees	0 - 60	0 - 60	10 - 70	10 - 70
Reflector type	F/D 0.6	Offset	Offset	Offset	Offset
Beam width	degrees				
Windload @ 42 m/s	N				
Material		Steel	Steel	Steel	Steel
Finish		Polyester powder coat	Polyester powder coat	Polyester powder coat	Polyester powder coat
LNB holder (included)	mm	Ø40 or “Plug-in LNB”	Ø40 or “Plug-in LNB”	Ø40 or “Plug-in LNB”	Ø40 or “Plug-in LNB”
Mast dimension	mm	Ø30 - 50	Ø30 - 50	Ø30 - 40	Ø30 - 40
Wall bracket		- optional extra	- optional extra	- optional extra	- optional extra
Remarks		Single U-bracket	Single U-bracket	Double U-bracket	Double U-bracket

# Triax Unique multi reception dish



## Advantage of TRIAX Unique multi reception dish

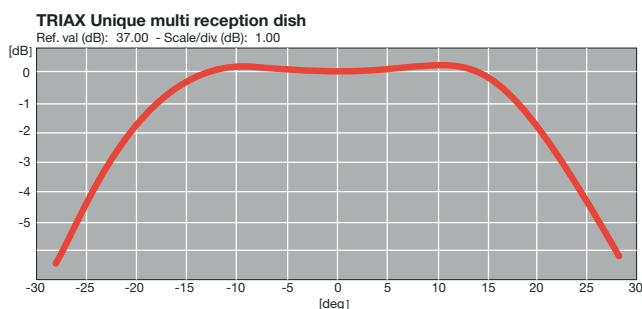
The Unique multi reception dish is the result of research into semi-parabolic shapes and the influence on available gain in both main and side directions. Through a special shaping we have stretched the focal point into a focal line and still letting each LNB utilize all of the dish's surface, thus successfully combining efficient area utilization of sidemounting with the broad and uniform azimuth beam coverage of the torus antenna.

- Uniquely shaped dish giving high and constant gain within a 30 deg. range.
- Only one dish for reception of 2 - 4 satellites
- Simple and fast installation - quick and easy to mount
- Simple and easy adjustment
- Individual setting of each LNB
- High mechanical strength and resistance to corrosion mechanical tests

Ral 7030

## Technical data for Unique multi reception dish

Type		TD Unique <i>single pack</i> 100 x 111 cm	TD Unique <i>100 pcs bulk</i> 100 x 111 cm
Art. No. (grey)	Ral 7030	126390	126391
Frequency range	GHz	10.7 - 12.75	10.7 - 12.75
Gain @ 10.70 GHz	dBi	37.1	37.1
G/T LNB 0.7 dB	dB/K		
X-polarisation	dB	> 20	> 20
Offset angle	degrees	26.0	26.0
Elevation range	degrees	5 - 50	5 - 50
Reflector type	F/D 0.6	Offset	Offset
Beam width	degrees	2.6	2.6
Windload @ 42 m/s	N	1230	1230
Material		Steel	Steel
Finish		Polyester powder coat	Polyester powder coat
LNB holder	mm	Ø40 + Ø25	Ø40 + Ø25
Mast dimension	mm	Ø32 - 60	Ø32 - 60
Wall bracket		- optional extra	- optional extra
Remarks		Double U-bracket	Double U-bracket



## TRIAX Unique multi reception dish gain

It is quite obvious, how the TRIAX Unique multi reception dish design retains gain even at large changes of azimuth beam angles - where it really matters for multi-satellite reception! All TRIAX dishes have been wind-tunnel tested according to ETSI standard ETS 300784, Satellite Earth Stations (TVRO).

# LNB brackets - multi satellite reception

## Triax's range of LNB brackets and accessories for perfect installations.

Well-designed LNB bracket in UV-resistant plast and aluminium ensures stable and easy mounting, e.g.:

### TDE multi-blocks

2 different heavy-duty multifeed brackets for 2 up to 4 pcs of Ø40 mm LNBs are also available for the TDE series of dishes.

### Duo-blocks

3° and 6° duo-blocks for Ø40 mm LNBs are an elegant solution for reception from two satellite positions: e.g. Eutelsat (Hotbird) and ASTRA. Available in black and grey for the TDE, TD and Basic series.

### Flexi-blocks

A 3° to 10° Flexi-block for two Ø40 mm LNBs is also available for all 3 series.

### Multi-blocks

A 3° to 20° Multi-block for four Ø40 mm LNBs with min. 4° between the satellite positions is available for the TD- and Basic-series.



## Duo- and flexi-block brackets for the TD-series

Type		TD 3° Duo-block 300716	TD 6° Duo-block 300715	TD 6° Duo-block 300717	TD 3° - 10° Flexi-block 300719
Art. No.		300716	300715	300717	300719
Colour		Black	Black	Grey	Black
LNB angle	degrees	3	6	6	3 - 10
LNB size	mm	Ø40	Ø40	Ø40	Ø40
Packing	type				
Remarks		Ø25 adaptor - optional extra	Ø25 adaptor - optional extra	Ø25 adaptor - optional extra	Ø25 adaptor - optional extra

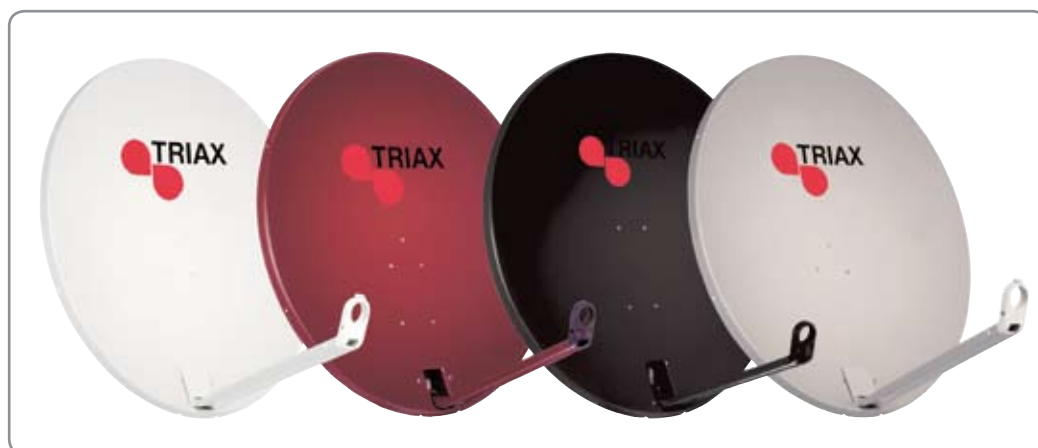


## Multi-block brackets for the TD-series

Type		TD - 3 LNB Multi-block 300728	TD - 4 LNB Multi-block 300727	TD - 2 LNB Multi-block set 300730	TD - 4 LNB Multi-block set 300725
Art. No.		300728	300727	300730	300725
Colour		Black/alu	Black/alu	Black/alu	Black/alu
LNB angle	degrees	3 - 20	3 - 20	3 - 20	3 - 20
LNB size	mm	Ø40	Ø40	Ø40	Ø40
Packing	type				
Remarks		Ø25 adaptor - optional extra	Ø25 adaptor - optional extra	- incl. 2 LNB and MFD 21 DiSEqC switch	- incl. 4 LNB and MFD 41 DiSEqC switch



# LNB brackets - multi satellite reception



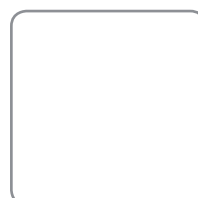
## Duo- and flexi-block brackets for the Basic-series

Type	Basic - 4 LNB Multi-block	Basic 3° Duo-block	Basic 6° Duo-block	Basic 3° - 10° Flexi-block
Art. No.	300729	300724	300722	300723
Colour	Grey	Black	Black	Black
LNB angle	degrees	3 - 20	3	6
LNB size	mm	Ø40	Ø40	Ø40
Packing	type			
Remarks	Ø25 adaptor - optional extra	Ø25 adaptor - optional extra	Ø25 adaptor - optional extra	Ø25 adaptor - optional extra



## Multi-block brackets for the DAP-series and spareparts for dishes

Type	MFD 850 DAP Flexi-block	TD plastic Spareparts	TD plastic Spareparts	TD plastic Spareparts
Art. No.	126309	129420	129421	129422
Colour	White/black	Plastic (Ral 7030)	Plastic (black)	Plastic (Ral 7035)
LNB angle	degrees	3 - 10		
LNB size	mm	Ø40		
Packing	type	Single pcs.	Single pcs.	Single pcs.
Remarks	Ø25 adaptor - optional extra	All plastic spare parts - fit TD 54, 64, 78 and 88 dish	All plastic spare parts - fit TD 54, 64, 78 and 88 dish	All plastic spare parts - fit TD 54, 64, 78 and 88 dish



# Triax LNB units - the best choice

## Complete range of LNB units, adopting the latest cutting-edge RF technology

- Full KU-band coverage for both analogue and digital reception
- Excellent noise figure and low phase noise
- High gain and excellent cross-pole isolation
- High output and low power consumption
- Qualified for harsh environments
- Waterproof
- Single packed in gift box



+ 5 dB gain

## Technical data

Type	TSI 003		TSI 004		TSI 005	
Art. No.	Single universal		Single universal		Single universal	
	<b>300430</b>		<b>300432</b>		<b>300429</b>	
Colour (light grey)	Ral 7035		Black		Ral 7035	
RF input						
Input frequency range	Low band	GHz	10.7 ~ 11.7	10.7 ~ 11.7	10.7 ~ 11.7	
	High band	GHz	11.7 ~ 12.75	11.7 ~ 12.75	11.7 ~ 12.75	
Feedhorn		GHz	F/D = 0.615 @ 11.7	F/D = 0.615 @ 11.7	F/D = 0.615 @ 11.7	
IF output						
Output frequency range	Low band	MHz	950 ~ 1950	950 ~ 1950	950 ~ 1950	
	High band	MHz	1100 ~ 2150	1100 ~ 2150	1100 ~ 2150	
Output connector type			75Ω female	75Ω female	75Ω female	
Output VSWR @ room temp.			2.5:1 (typ.)	2.5:1 (typ.)	2.5:1 (typ.)	
Local oscillator						
Frequency	Low band	GHz	9.75	9.75	9.75	
	High band	GHz	10.6	10.6	10.6	
Frequency stability (-40 ~ +60°C)		MHz	±2.5 :1	±2.5 :1	±2.5 :1	
Phase noise @ room temperature		DBc/Hz	-50 @ 1 kHz (max.)	-50 @ 1 kHz (max.)	-50 @ 1 kHz (max.)	
		DBc/Hz	-80 @ 10 kHz (max.)	-80 @ 10 kHz (max.)	-80 @ 10 kHz (max.)	
		DBc/Hz	-100 @ 100 kHz max.)	-100 @ 100 kHz max.)	-100 @ 100 kHz max.)	
Conversion gain	(typ.)	dB	56	56	60	
	(max.)	dB	62	62	<b>65</b>	
Gain variation (over operating band)		dB	5 p-p (typ.)	5 p-p (typ.)	5 p-p (typ.)	
Gain flatness (across 26 MHz segm)		dB	± 0.5 (typ.)	± 0.5 (typ.)	± 0.5 (typ.)	
Spurious level		dBm	- 65 (max.)	- 65 (max.)	- 65 (max.)	
Noise figure	(typ.)	dB	<b>0.3</b>	<b>0.3</b>	<b>0.3</b>	
	(max.)	dB	0.6	0.6	0.6	
Image rejection	(min.)	dB	45	45	45	
Cross polarization isolation		dB	25 Typ. (20 min.)	25 Typ. (20 min.)	25 Typ. (20 min.)	
DC current consumption (typ.)		mA	110	110	150	
Operating voltage	Vertical	VDC	10.5 ~ 14.5	10.5 ~ 14.5	10.5 ~ 14.5	
	Horizontal	VDC	15.5 ~ 21	15.5 ~ 21	15.5 ~ 21	
Switching	Low band	Hz	0	0	0	
	High band	KHz	22 ± 4	22 ± 4	22 ± 4	
Operating temperature		°C	-40 ~ +60	-40 ~ +60	-40 ~ +60	
Diameter		mm	40	40	40	
Width x Height x Depth		mm	59 x 59 x 112	59 x 59 x 112	59 x 59 x 112	
Max. depth incl. feedhorn		mm	112	112	112	
Weight		kg	0.130 ±0.025	0.130 ±0.025	0.130 ±0.025	
Packing size		pcs.	50	50	50	



# Triax LNB units - the best choice



## Technical data

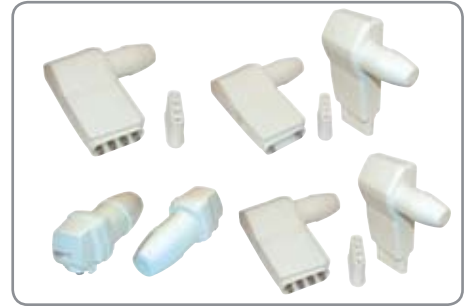
Type			<b>TTW 002</b>	<b>TQD 002</b>	<b>TQT 002</b>	<b>TMB 002</b>
Art. No.			Twin universal <b>300435</b>	Quad universal <b>300436</b>	Quattro universal <b>300438</b>	Mono-block <b>300439</b>
Colour (light grey)			Ral 7035	Ral 7035	Ral 7035	Ral 7035
RF input						
Input frequency range	Low band	GHz	10.7 ~ 11.7	10.7 ~ 11.7	10.7 ~ 11.7	10.7 ~ 11.7
	High band	GHz	11.7 ~ 12.75	11.7 ~ 12.75	11.7 ~ 12.75	11.7 ~ 12.75
Feedhorn		GHz	F/D = 0.615 @ 11.7	F/D = 0.615 @ 11.7	F/D = 0.615 @ 11.7	F/D = 0.615 @ 11.7
IF output						
Output frequency range	Low band	MHz	950 ~ 1950	950 ~ 1950	950 ~ 1950	950 ~ 1950
	High band	MHz	1100 ~ 2150	1100 ~ 2150	1100 ~ 2150	1100 ~ 2150
Output connector type			75Ω female	75Ω female	75Ω female	75Ω female
Output VSWR @ room temp.			2.0:1 (max.)	2.0:1 (max.)	2.1:1 (max.)	2.0:1 (max.)
Local oscillator						
Frequency	Low band	GHz	9.75	9.75	9.75	9.75
	High band	GHz	10.6	10.6	10.6	10.6
Frequency stability (-40 ~ +60°C)		MHz	±2.5 :1	±2.5 :1	±2.5 :1	±2.5 :1
Phase noise @ room temperature		DBc/Hz	-60 @ 1 kHz (max.)	-60 @ 1 kHz (max.)	-50 @ 1 kHz (max.)	-60 @ 1 kHz (max.)
		DBc/Hz	-80 @ 10 kHz (max.)	-80 @ 10 kHz (max.)	-75 @ 10 kHz (max.)	-80 @ 10 kHz (max.)
		DBc/Hz	-100 @ 100 kHz (max.)	-100 @ 100 kHz (max.)	-95 @ 100 kHz (max.)	-100 @ 100 kHz (max.)
Conversion gain	(typ.)	dB	50	50	50	50
	(max.)	dB	62	62	62	62
Gain variation (over operating band)		dB	5 p-p (typ.)	5 p-p (typ.)	5 p-p (typ.)	5 p-p (typ.)
Gain flatness (across 26 MHz segm)		dB	± 1.0 (typ.)	± 1.0 (typ.)	± 1.0 (typ.)	± 1.0 (typ.)
Spurious level		dBm	- 60 (max.)	- 60 (max.)	- 60 (max.)	- 60 (max.)
Noise figure	(typ.)	dB	<b>0.3</b>	<b>0.3</b>	<b>0.3</b>	<b>0.3</b>
	(max.)	dB	0.6	0.6	0.6	0.6
Image rejection	(min.)	dB	40	40	40	40
Cross polarization isolation		dB	25 typ. (20 min.)	25 typ. (20 min.)	25 typ. (20 min.)	25 typ. (20 min.)
DC current consumption (typ.)		mA	140	160	140	110
Operating voltage	Vertical	VDC	10.5 ~ 14.5	10.5 ~ 14.5	10.5 ~ 21	10.5 ~ 14.5
	Horizontal	VDC	15.5 ~ 21	15.5 ~ 21	10.5 ~ 21	15.5 ~ 21
Switching	Low band	Hz	0	0		0
	High band	KHz	22 ± 4	22 ± 4		22 ± 4
	Position		none	none	none	DiSEqC 2.0
Operating temperature		°C	-40 ~ +60	-40 ~ +60	-40 ~ +60	-40 ~ +60
Diameter		mm	40	40	40	40
Width x Height x Depth		mm	59 x 137 x 97	59 x 137 x 97	59 x 137 x 97	59 x 137 x 97
Max. depth incl. feedhorn		mm	145	145	135	145
Weight		kg	0.355	0.365	0.365	0.375
Packing size		pcs.	30	30	30	30

# Universal LNB units



## Alps supplies a full range of quality LNBs

- Available as single, dual and quad for 1, 2 or 4 set top boxes
- Also available in quattro version for community aerial systems
- Full Ku-band coverage for both analogue and digital reception
- Low noise figures (0.6 dB)
- High cross polar isolation (typically >25 dB)



## Technical data

Type			ALPS Single universal <b>300464</b>	ALPS Twin universal <b>300462</b>	ALPS Quad universal <b>300467</b>	ALPS Quattro universal <b>300468</b>
Art. No.			Ral 7035	Ral 7035	Ral 7035	Ral 7035
Colour (light grey)						
RF input						
Input frequency range	Low band	GHz	10.7 ~ 11.7	10.7 ~ 11.7	10.7 ~ 11.7	10.7 ~ 11.7
	High band	GHz	11.7 ~ 12.75	11.7 ~ 12.75	11.7 ~ 12.75	11.7 ~ 12.75
Feedhorn		GHz				
IF output						
Output frequency range	Low band	MHz	950 ~ 1950	950 ~ 1950	950 ~ 1950	950 ~ 1950
	High band	MHz	1100 ~ 2150	1100 ~ 2150	1100 ~ 2150	1100 ~ 2150
Output connector type			75Ω female	75Ω female	75Ω female	75Ω female
Output VSWR @ room temp.						
Local oscillator						
Frequency	Low band	GHz	9.75	9.75	9.75	9.75
	High band	GHz	10.6	10.6	10.6	10.6
Frequency stability (-40 ~ +60°C)		MHz	± 3 (max.)	± 3 (max.)	± 3 (max.)	± 3 (max.)
Phase noise @ room temperature		DBc/Hz	-55 @ 1 kHz (max.)	-55 @ 1 kHz (max.)	-55 @ 1 kHz (max.)	-55 @ 1 kHz (max.)
		DBc/Hz	-80 @ 10 kHz (max.)	-80 @ 10 kHz (max.)	-80 @ 10 kHz (max.)	-80 @ 10 kHz (max.)
		DBc/Hz	-100 @ 100 kHz (max.)	-100 @ 100 kHz (max.)	-100 @ 100 kHz (max.)	-100 @ 100 kHz (max.)
Conversion gain	(typ.)	dB	48	48	48	48
	(max.)	dB	60	60	60	60
Noise figure	Low	dB	<b>0.6</b>	<b>0.6</b>	<b>0.6</b>	<b>0.6</b>
	High	dB	<b>0.6</b>	<b>0.6</b>	<b>0.6</b>	<b>0.6</b>
Image rejection	min./max.	dB	40/80	40/80	40/80	40/80
Cross polarization isolation		dB	25 typ.	25 typ.	25 typ.	25 typ.
DC current consumption (typ.)		mA	115 (typ.)/160 max.	150 (typ.)/220 max.	180 (typ.)/220 max.	180 (typ.)/220 max.
Operating voltage	Vertical	VDC	11.5 ~ 14.0	11.5 ~ 14.0	11.5 ~ 14.0	11.5 ~ 19.0
	Horizontal	VDC	16.0 ~ 19.0	16.0 ~ 19.0	16.0 ~ 19.0	11.5 ~ 19.0
Band switching	Low band	Hz	0	0	0	
	High band	KHz	22	22	22	
Operating temperature range		°C	-40 ~ +60	-40 ~ +60	-40 ~ +60	-40 ~ +60
Diameter		mm	40	40	40	40
Width x Height x Depth		mm	-	56 x 159 x 76	56 x 159 x 76	56 x 159 x 76
Max. depth incl. feedhorn		mm	-	151	151	151
Weight		kg	-	0.35	0.35	0.35
Packing size		pcs.	1	1	1	1

# DiSEqC switches - multi satellite reception



MFD 21D switch

## MFD DiSEqC switches for switching between 2 or 4 LNBS

DiSEqC switches are used in multi satellite installations for switching between 2 or 4 LNBS each pointing at different satellites.

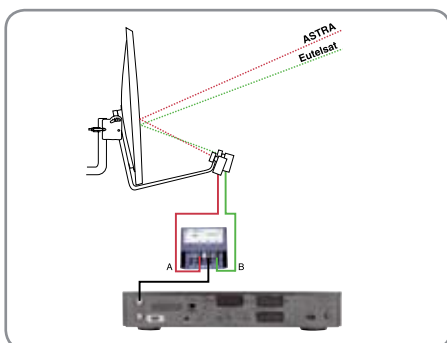
- Available with 2 or 4 inputs for switching between 2 or 4 satellite positions
- High isolation ensures problem-free operation in multi user installations
- Housed in fully shielded, waterproof mast box for outdoor installation. Housing is compact and has snap lock lid
- Easy installation using F-connectors for cable mounting and a releasable strap for mast mounting
- Instructions enclosed in the housing
- Can be used with single, dual and quad LNBS.



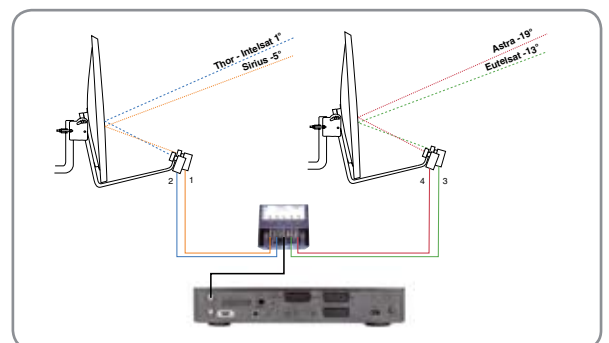
MFD 41D switch

## Technical data on MFD high-end DiSEqC switches

Type	MFD 21R DiSEqC 2x1 300508		MFD 21D DiSEqC 2x1 300510	MFD 41D DiSEqC 4x1 300509	MFD 21D + Ter DiSEqC 3x1 300511
Art. No.					
Number of inputs (No. of positions)	2		2	4	3
Frequency range	SAT Ter	MHz MHz	950 - 2200	950 - 2200	950 - 2200 47-862
Switch type	Relay		Diodes	Diodes	Diodes
DiSEqC control	DiSEqC 1.0 and tone burst		DiSEqC 1.0 and tone burst	DiSEqC 1.0	DiSEqC 1.0 and tone burst
Through loss		dB	1	1.5	2.5
Isolation input A-B		dB	> 25	> 40	> 30
Return loss		dB	> 10	> 10	> 8
Linearity		dB	± 1	± 1	± 1
Function(s)	Position/option/band		Position/option/band	Position/option	Position/option
Control LEDs		pcs	2	2	4
DC loop through		mA	500 max.	500 max.	500 max.
Current consumption		mA	< 30	< 30	< 30
Temperature range		°C	-30....+60	-30....+60	-30....+60
Dimensions (H x D x W)		mm	106 x 43 x 120	106 x 43 x 120	106 x 43 x 120
Weight		kg	0.220	0.220	0.220
Remarks	Hi-end DiSEqC switch		Hi-end DiSEqC switch	Hi-end DiSEqC switch	Hi-end DiSEqC switch



- LED-indicators for easy control of installation



# DiSEqC switches - multi satellite reception

## DiSEqC switch

A DiSEqC switch is applied when using 2-4 universal LNBs.

## Priority switch

This switch connects two satellite receivers with one or more LNBs. It may be a system with an analog and a digital receiver. The switch has two outputs, the A-output having priority. If the receiver connected to the output having priority is switched off, the other receiver will control the LNBs. Both receivers can use the same LNB at the same time provided that the channels transmit with the same polarisation and in the same band.

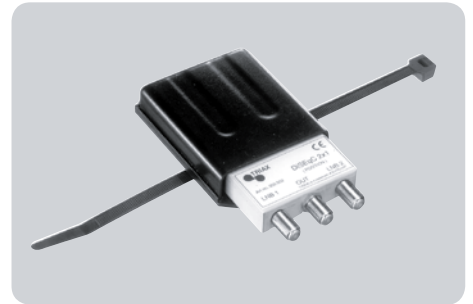
**NB!** The receiver having priority is in control.



DiSEqC 2x1 Pos - 300502



DiSEqC 4x1 Pos - 300504



DiSEqC 506 Hi-Iso - 300506

## Technical data on DiSEqC switches

Type	DiSEqC 502		Priority 503	DiSEqC 504	Priority 506 Hi-Iso
	2x1		1x2	4x1	2x1
Art. No.	300502		300503	300504	300506
Number of inputs	2		1	4	2
Number of outputs	1		2	1	1
Frequency range	Sat	MHz	900 - 2150	920 - 2150	900 - 2150
	Ter	MHz			920 - 2150
Switch type					
DiSEqC control					
Through loss	dB	typ. 1.5 (3.0)	4.0	typ. 1.5 (3.0)	typ. 1.5 (3.0)
Isolation input A/B	dB	> 10	> 20	> 10	> 40
Return loss	dB				
Linearity	dB				
Function(s)		position/tone burst (mini DiSEqC)	position	position/option	position/tone burst (mini DiSEqC)
DC loop through	mA				
Current consumption	mA	25	25	25	25
Temperature range	°C	-30....+60	-30....+60	-30....+60	-30....+60
Dimensions (H x D x W)	mm				
Weight	kg				
Remarks			DC-feedthrough 24V - 250 mA		Hi-Iso switch



Priority switch - 300503

# SatSelect and LNB covers



## SatSelect motor for TD dishes

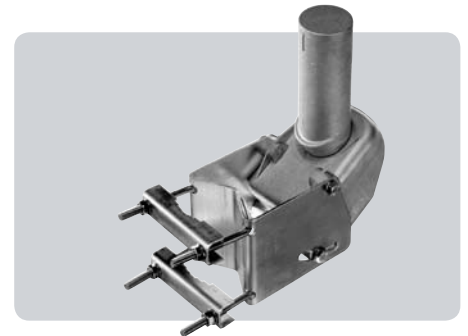
A motor for turning the TD dish on one axis and which gives you access to all geostationary satellites along this axis.

## Para Protection will cover your LNB units

Mist, rain, snow, hoarfrost, road dust and pollen that lays on the LNBs, can make a reduction in quality of the TV- pictures. A bowed perspexsheet, held to the LNB-arm, gives the LNBs very effective protection against bad weather and climate. The result: The picture quality becomes considerably increased.

## SatSelect motor for the TD-series

Type		Triax
Size		SatSelect 300053
DiSEqC level		1.2 (Supports USALS)
Rotation angle	degrees	± 60
Rotation speed	degrees	1 per sec.
Power	Stand by Operat. Peak	50 mA 200 mA 350 mA
Voltage	VDC	13-18
Mast dimension	mm	Ø32-50
Packing	type	Single pcs.
Remarks		F-con connection



## Para-Protection to cover LNB-units on dishes

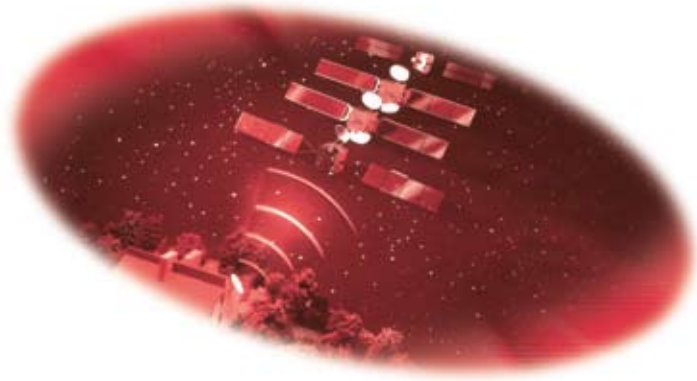
Type		Para Protection TD and Basic 300708	Para Protection Unique dish 300707
Size			
Material and finish		Perspex-sheet and painted metal holder	Perspex-sheet and painted metal holder
Arm dimension W x H max.	mm	76 x 45	
Packing	type	Single pcs.	Single pcs.
Remarks		Fits on all Triax TD and Basic dishes	Fits on all Triax Unique dishes



# Mounting accessories for dishes

## TRIAX's brackets for all your needs

TRIAX has all kind of mounting brackets for dishes.  
You will also find a complete range of different accessories  
- everything for making a perfect mounting.



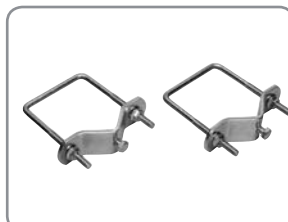
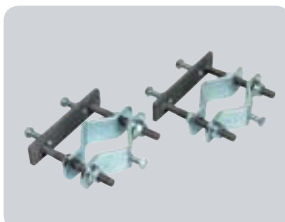
Triax 2561 stand

## Mounting accessories for dishes

Type		Triax 2561 Stand (Ø50)	Type "J"	Type "S"	Type "U"	Universal roof/wall bracket
Size		127100	128050	128070	128080	300709
Material		Galv. steel	Galv. steel	Galv. steel	Galv. steel	Galv. steel
Tube dimension	mm	Ø50	Ø25	Ø25	Ø25	Ø45
Weight	kg					
Packing QTY	type	1	1	1	1	1
Remarks		For mounting dish on earth	Incl. 2 plastic plugs	Incl. 2 plastic plugs		For mounting dish on roof/wall



Type		Bracket for Unique	Bracket for TD 110	EXA 192	EXA 194	Tube
Size		140050	140051	Alu. 131092	Alu. 131094	5 x 95 cm 140007
Material		Galv. steel	Galv. steel	Aluminium	Aluminium	Galv. steel
Tube dimension	mm	Ø60	Ø60	Ø 48	Ø 48	Ø50 x 950
Plate dimension	mm			155 x 155 x 3	155 x 155 x 3	
Clearance from wall	mm			250	450	
Packing QTY	pcs.	1	1	10	10	1
Remarks		For mounting Unique on mast	For mounting Unique on mast			For mounting in wall brackets



# Headends

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<b>Antenna systems &gt;&gt; Headends</b>	
- TDH 700	72-84
- CSE 3300	85-96
- CSE 2800	97-101
- CSE 6, 8, 12, 16 and 24	102-103
- TNH - FTA headend	104-109
- TCH 600	110-111
- TAS 6 single channel headend	112-113
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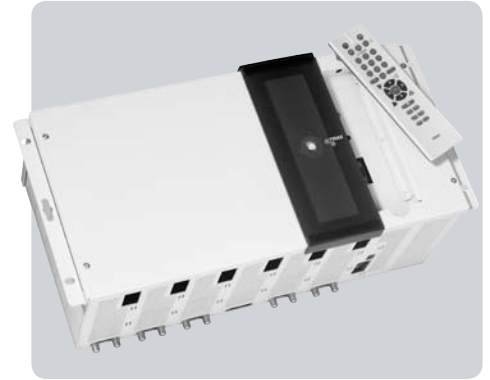
# TDH 700 main and sub unit - digital

## Triax digital headend - TDH 700

TDH 700 is a modern digital compact headend. Each basic unit holds up to six modules each carrying a satellite, cable, or TERrestrial channel. A complete system is simply built with the main/sub unit system where 1 basic unit and 4 sub units can be coupled in cascade and operate as one integrated headend with 30 channels.

All communication between modules and the basic units is done via a high speed data-bus, and by means of this modern communication structure, important features like operating the system, software updates, and remote access have become extremely simple.

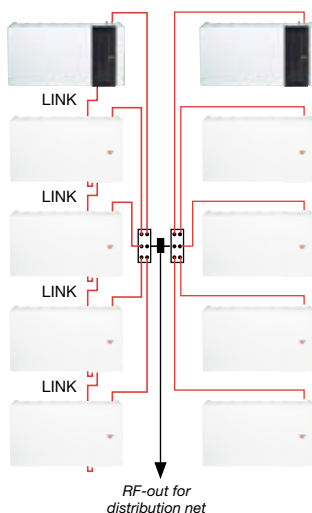
For maximum flexibility a one module basic TDH SA unit is also available.



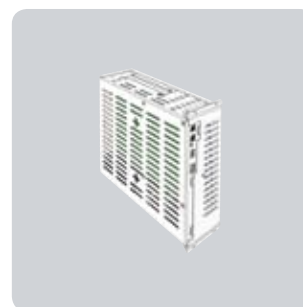
TDH 700 main unit

## Technical data

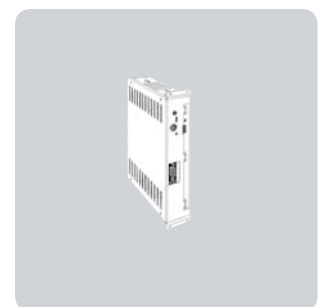
TYPE		TDH 700 Main unit 490790	TDH 701 Sub unit 490791	TDH 791 SA-cabinet 301791	TDH 700 SA-controller 301700
Art. No.					
Number of channels	Pcs	6	6	1	
Output frequency range	MHz	47 - 862	47 - 862	- depending on module	
Max. output level - 6 combined ch. max. @ 60 dB IMD	dBμV	105	105		
Output level stability	dB	< 1	< 1		
Adjustment	dB	10	10	- depending on module	
Test point	dB	- 30	- 30		
Return loss output Tv in - tv out - module RF in	dB	≥ 10	≥ 10	- depending on module	
Impedance	Ohm	75	75		
Remote control		Yes			
PC-interface functions		Yes		- via controller	
Software download	9 pin	RS 232 female		- via controller	RS 232 female
Modem connector	9 pin	RS 232 male		- via controller	RS 232 male
Main/sub unit connector		USB A/B cable	USB A/B cable	USB A/B cable	USB A/B cable
Wall/rack bracket		Yes	Yes	Yes	Yes
Operation voltage	V/AC	190 - 260	190 - 260	190 - 260	- from SA cabinet
Power consumption	W	120 max.	110 max.	25 max.	8
Connector in - out		F female	F female	F female	F female
Operation temperature range	°C	-10...+50	-10...+50	-10...+50	-10...+50
Weight	kg	5.8	5.8	1.8	2.2
Dimensions (H x D x W)	mm	223 x 160 x 440	223 x 160 x 440	198 x 220 x 76	198 x 141 x 44
Remarks					



TDH 701sub unit



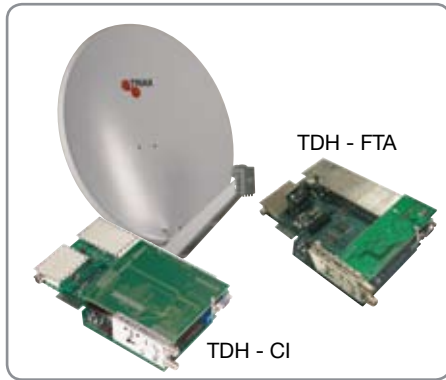
TDH 791  
SA-cabinet



TDH 700  
SA-controller



# TDH digital satellite modules QPSK-PAL



**TDH DVB-S** modules convert a coded or uncoded digital signal from a satellite to a modulated PAL/SECAM signal for distribution in a community cable system.

- Full-band high-quality modulator
- Conditional access via CI or Free To Air
- Advanced watchdog function
- Fully DVB S compatible
- Multi language menu
- MPEG transport stream available for slave modules
- Mono sound / A2 stereo / Nicam available

## Technical data TDH - DVB-S master modules (VSB) VHF/UHF

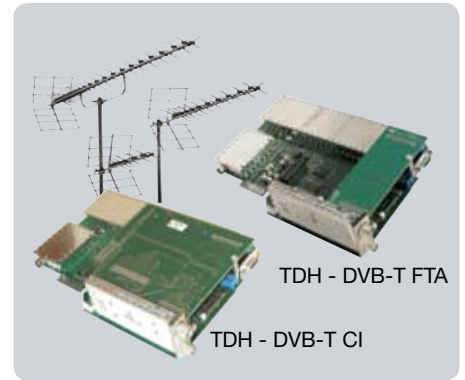
TYPE		DVB-S master with CI		DVB-S master Free to air		DVB-S master Free to air	
		Mono	A2 stereo	Nicam	Mono	A2 stereo	Nicam
Art. No.	Norm	490742	490743	590743	490746	490747	590747
	B/G	490702	490703		490722	490723	
	D/K	490702		590703	490722	490723	590723
	Norm L	490702			490722	490723	590723
	Pal I	490702			490722	490723	
Modulator type		VSB	VSB		VSB	VSB	
Input frequency range	MHz	920 - 2150	920 - 2150		920 - 2150	920 - 2150	
Input level *	dBμV	44...84	44...84		44...84	44...84	
IF bandwidth	MHz	36	36		36	36	
Output channel frequency range	MHz	2...69	2...69		2...69	2...69	
		47 - 862	47 - 862		47 - 862	47 - 862	
Output level SA modules **	dBμV	103	103		103	103	
Output level attenuator	dB	10	10		10	10	
Video S/N ratio	dB	> 54	> 54		> 54	> 54	
Differential phase	deg.	< 8	< 8		< 8	< 8	
Picture carrier stability	kHz	< +/- 70	< +/- 70		< +/- 70	< +/- 70	
Spurious signals ref pict. carrier C/N	dB	> - 60	> - 60		> - 60	> - 60	
Sound mode		Mono	A2 stereo	Nicam	Mono	A2 stereo	Nicam
Audio distortion @ 1 kHz	%	< 1	< 1		< 1	< 1	
Audio S/N ratio	dB	> 50	> 50		> 50	> 50	
Sound sub carrier stability	kHz	< +/- 5	< +/- 5		< +/- 5	< +/- 5	
LNB control 13/18 volt - 0/22 kHz	mA	200	200		200	200	
Conditional access	EN	50221	50221		FTA	FTA	
Teletext type		Reinserted in VBI	Reinserted in VBI		Reinserted in VBI	Reinserted in VBI	
Demultiplexer data rate	Mbps	< 65	< 65		< 65	< 65	
Video data rate	Mbps	< 15	< 15		< 15	< 15	
Viterbi rates	Mpps	1-30 (SCPC/MCPC)	1-30 (SCPC/MCPC)		1-30 (SCPC/MCPC)	1-30 (SCPC/MCPC)	
Impedance	Ohm	75	75		75	75	
Operation temperature range	°C	-10...+50	-10...+50		-10...+50	-10...+50	
Power supply - stand alone module	VAC	190 - 260	190 - 260		190 - 260	190 - 260	
Weight - standard module	kg	0.45	0.45		0.45	0.45	
Dimensions (H x D x W)	mm	150 x 230 x 50	150 x 230 x 50		150 x 230 x 50	150 x 230 x 50	
Remarks		* Digital measuring - DCP ** Mounted in stand-alone cabinet					

# TDH digital TERrestrial - COFDM to PAL

TDH DVB-T modules convert a digital TERrestrial coded or uncoded signal to

a modulated signal for distribution in a community cable system.

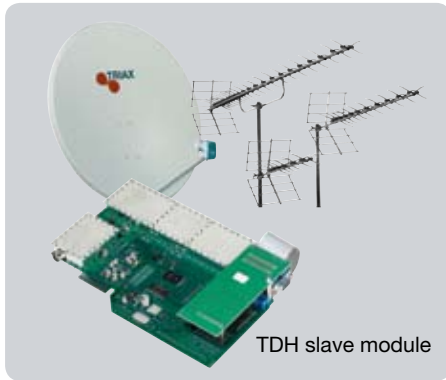
- Full-band high-quality modulator
- Conditional access via common interface (CI) or free to air (FTA)
- Advanced watchdog function
- Fully DVB T compatible
- Multi language menu
- MPEG transport stream available for slave modules
- Mono sound / A2 stereo / Nicam available



## Technical data TDH - DVB-T modules (VSB) VHF/UHF

TYPE		DVB-T master with CI			DVB-T master Free to air		
		Mono	A2 stereo	Nicam	Mono	A2 stereo	Nicam
Art. No.	Norm	490762	490763	590763	490764	490765	590765
	B/G	490712	490713		490714	490715	
	D/K	490712			490714		590715
	Norm L	490712			490714		
	Pal I	490712			490714		
Input frequency range	MHz	177.5 - 858.0	177.5 - 858.0		177.5 - 858.0	177.5 - 858.0	
Input level *	dBµV	44...84	44...84		44...84	44...84	
Output frequency range	Ch.	2...69	2...69		2...69	2...69	
	MHz	47 - 862	47 - 862		47 - 862	47 - 862	
Output level SA modules **	dBµV	103	103		103	103	
Output level attenuator	dB	10	10		10	10	
Video S/N ratio	dB	> 54	> 54		> 54	> 54	
Differential phase	deg.	< 8	< 8		< 8	< 8	
Picture carrier stability	kHz	< +/- 70	< +/- 70		< +/- 70	< +/- 70	
Spurious signals ref pict. carrier C/N	dB	> - 60	> - 60		> - 60	> - 60	
Sound mode		Mono	A2 stereo	Nicam	Mono	A2 stereo	Nicam
Audio distortion @ 1 kHz	%	< 1	< 1		< 1	< 1	
Audio S/N ratio	dB	> 50	> 50		> 50	> 50	
Sound sub carrier stability	kHz	< +/- 5	< +/- 5		< +/- 5	< +/- 5	
LNB control 13/18 volt - 0/22 kHz	mA	200	200		200	200	
Conditional access	EN	50221	50221		FTA	FTA	
Teletext type		Reinserted in VBI	Reinserted in VBI		Reinserted in VBI	Reinserted in VBI	
Demultiplexer data rate	Mbps	< 65	< 65		< 65	< 65	
Video data rate	Mbps	< 15	< 15		< 15	< 15	
Viterbi rates	Mpps	1-30 (SCPC/MCPC)	1-30 (SCPC/MCPC)		1-30 (SCPC/MCPC)	1-30 (SCPC/MCPC)	
FFT mode	Mpps	2K/8K	2K/8K		2K/8K	2K/8K	
Constellations		QPSK, 16QAM, 64QAM			QPSK, 16QAM, 64QAM		
Guard interval		1/4, 1/8, 1/16, 1/32			1/4, 1/8, 1/16, 1/32		
Viterbi decoder		1/2, 2/3, 3/4, 5/6, 7/8			1/2, 2/3, 3/4, 5/6, 7/8		
Reed Solomon decoder		204,188, t=8.			204,188, t=8.		
Impedance	Ohm	75	75		75	75	
Operation temperature range	°C	-10...+50	-10...+50		-10...+50	-10...+50	
Weight - standard module	kg	0.45	0.45		0.45	0.45	
Dimensions (H x D x W)	mm	150 x 230 x 50	150 x 230 x 50		150 x 230 x 50	150 x 230 x 50	
Remarks		* Digital measuring - DCP					
		** Mounted in stand-alone cabinet					

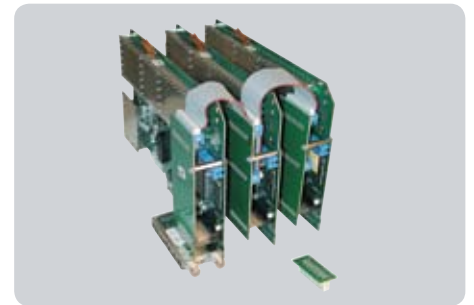
# TDH digital slave modules - Sat/Ter



TDH slave module

## Slave modules for DVB-S or DVB-T master modules

- Full-band high-quality modulator
- Mono sound / A2 stereo / Nicam available



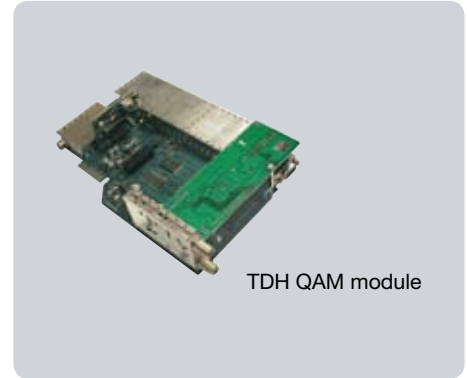
## Technical data TDH - Slave modules (VSB) VHF/UHF

TYPE		TDH slave	TDH slave	
		DVB-S/T	DVB-S/T	DVB-S/T
	Norm	<b>Mono</b>	<b>A2 stereo</b>	<b>Nicam</b>
Art. No.	B/G	490744	490745	590745
	D/K	490704	490705	
	Norm L	490704		
	Pal I	490704		
Modulator type		VSB	VSB	
Output frequency range	Ch.	2...69	2...69	
	MHz	47 - 862	47 - 862	
Output level attenuator	dB	10	10	
Video S/N ratio	dB	> 54	> 54	
Differential phase	deg.	< 8	< 8	
Picture carrier stability	kHz	< +/- 70	< +/- 70	
Spurious signals ref pict. carrier C/N	dB	> - 60	> - 60	
Sound mode		<b>Mono</b>	<b>A2 stereo</b>	<b>Nicam</b>
Audio distortion @ 1 kHz	%	< 1	< 1	
Audio S/N ratio	dB	> 50	> 50	
Sound sub carrier stability	kHz	< +/- 5	< +/- 5	
Teletext type		Reinserted in VBI	Reinserted in VBI	
Demultiplexer data rate	Mbps	< 65	< 65	
Video data rate	Mbps	< 15	< 15	
Viterbi rates	Mpps	1-30 (SCPC/MCPC)	1-30 (SCPC/MCPC)	
Impedance	Ohm	75	75	
Operation temperature range	°C	-10...+50	-10...+50	
Weight - standard module	kg	0.30	0.30	
Dimensions (H x D x W)	mm	150 x 230 x 50	150 x 230 x 50	
Remarks				

# TDH digital QAM - QPSK to QAM

**TDH QPSK to QAM** module receives a QPSK channel (TV-program package) located in the sat-IF band, and remodulates it in QAM format on a 5-9 MHz channel located within the RF frequency band.

- Output frequency ranges: 120-306 or 306-858 MHz
- Input frequency range: 950-2150 MHz
- Programmable LNB control on each module
- Modulation: 16, 32, 64, 128, 256 QAM
- Adjustable symbol rate (TDH 732 & TDH 733)
- Multi language menu



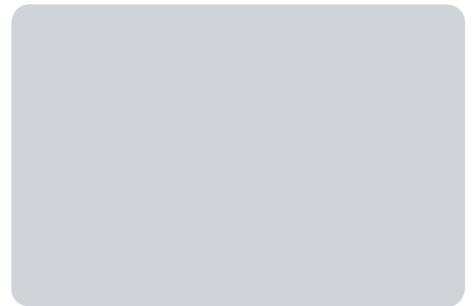
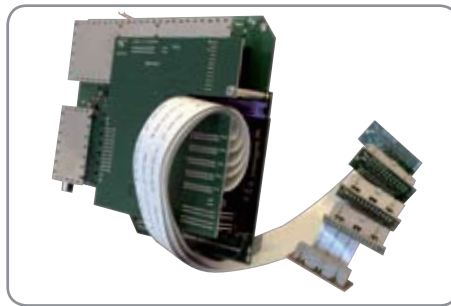
## Technical data TDH - QPSK/QAM modules

TYPE	Norm	DVB-C master TDH 730C	DVB-C master TDH 731C	DVB-C master TDH 732C	DVB-C master TDH 733C
		TDT	TDT	-adj. symbol rate	-adj. symbol rate
Art. No.		490730	490731	490732	490733
Modulator type		QAM	QAM	QAM	QAM
Input frequency range	MHz	920 - 2150	920 - 2150	920 - 2150	920 - 2150
Input level *	dBμV	45...84	45...84	45...84	45...84
Return loss	dB	>10	>10	>10	>10
Aerial input	SAT	F	F	F	F
Aerial loop-through	SAT	Yes/F	Yes/F	Yes/F	Yes/F
<b>Demolator</b>					
Type		QPSK	QPSK	QPSK	QPSK
Symbol rate	Mbps	2-40 (SCPC/MCPC)	2-40 (SCPC/MCPC)	<b>Adjustable</b>	<b>Adjustable</b>
Viterbi decoder		1/2, 2/3, 3/4, 5/6, 7/8	1/2, 2/3, 3/4, 5/6, 7/8	1/2, 2/3, 3/4, 5/6, 7/8	1/2, 2/3, 3/4, 5/6, 7/8
Reed Solomon decoder		204, 188, t=8	204, 188, t=8	204, 188, t=8	204, 188, t=8
<b>Modulator</b>					
Output mode		QAM 16, 32, 64, 128, 256	QAM 16, 32, 64, 128, 256	QAM 16, 32, 64, 128, 256	QAM 16, 32, 64, 128, 256
Output control		Normal, inverted, random	Normal, inverted, random	Normal, inverted, random	Normal, inverted, random
Output frequency range	MHz	<b>306 - 858</b>	<b>120 - 306</b>	<b>306 - 858</b>	<b>120 - 306</b>
Output level	dBμV	97	97	97	97
LNB control 13/18 volt - 0/22 kHz	mA	200	200	200	200
Symbol rate	Mbaud	< 7.0	< 7.0	< 7.0	< 7.0
Roll-off factor	%	15	15	15	15
FEC block code		RS (204, 188)	RS (204, 188)	RS (204, 188)	RS (204, 188)
Scrambling		DVB ETS 300429	DVB ETS 300429	DVB ETS 300429	DVB ETS 300429
Interleaving		DVB ETS 300429	DVB ETS 300429	DVB ETS 300429	DVB ETS 300429
Carrier suppression	dB	>40	>40	>40	>40
C/N	dB	>38	>38	>38	>38
MER	dB	>35	>35	>35	>35
IQ imbalance	Dgr	<1	<1	<1	<1
Output impedance	Ohm	75	75	75	75
Return loss (MOD OUT)	dB	>10	>10	>10	>10
Temperature, operation	°C	-10..+50	-10..+50	-10..+50	-10..+50
Weight - standard module	kg	0.45	0.45	0.45	0.45
Dimensions (H x D x W)	mm	150 x 230 x 50	150 x 230 x 50	150 x 230 x 50	150 x 230 x 50
Remarks		* Digital measuring - DCP		With stuffing	With stuffing

# TDH digital 5 Channel QAM MUX

The TDH 700 compact headend will now be upgraded with a new QAM muxing module. The QAM muxing module will enable the TDH 700 to send out up to 5 input channels in the QAM format along with the analogue (PAL) format simultaneously. The customer will then experience broadcasted TV in the original high digital quality on his flat screen.

- Add-in slave module to TDH 700 as the 6th module
- Replicate up to 5 channels in digital QAM format.
- Accepts input channels from the TDH 700 DVB-T and DVB-S modules.
- Accepts Free-to-Air or encrypted channels.
- Easy installation into existing or new headend.
- QAM output channel setup via the TDH manager PC utility.



## Technical data

Type	TDH 780 QAM MUX
Art. No.	490780
Number of transport streams (channel) inputs	5
TS input interface	Internally, Parallel LVDS signals
QAM output channels	1
QAM output symbol rate	3.125 to 7.2 MBaud (Max. 57.6 Mbit/s)
QAM modes	16, 32, 64, 128 and 256
Output channels (VHF module)	S1 – S20 107.5 – 296.5 MHz
Output channels (UHF module)	S21 – 69 306 – 858 MHz
Temperature range, operating	(-10) – 50 °C
Humidity, operating	20 – 80 % RH
Temperature range, storage	(-20) – 70 °C
Humidity, storage	10 – 90 % RH
Connector	<b>F-con</b>
Remarks	

# TDH digital QPSK - FM module



TDH FM module

**TDH QPSK-FM** module includes a receiver, demodulator, high quality FM stereo modulator, and the built-in amplifier secures the right level for directly supplying the SMATV network with high-quality FM programs.

- QPSK to FM stereo
- Available for FTA reception or with CI option
- Built-in LNB supply
- Master/slave system option for easy installation
- Parameter setting via TDH controller or remote
- High output level
- Can be mixed with other modules in the TDH range

## Technical data TDH - QPSK/FM module

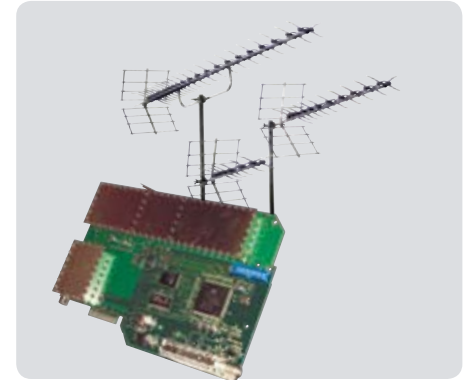
TYPE		DVB-S/FM master	DVB-S/FM master	FM modulator	DVB slave mod.
		TDH 737 FM	TDH 738 FM	TDH 736	TDH 739 FM
		Free to air	with CI		
Art. No.		490737	490738	490736	490739
Modulator type		QPSK - FM stereo	QPSK - FM stereo	FM stereo	FM stereo
Band		FM	FM	FM	FM
Input frequency range	kHz MHz	920 - 2150	920 - 2150	20 - 20.000	
Input level	dB $\mu$ V	45...84	45...84		-
Modulation		FM	FM		FM
Output level max	dB $\mu$ V	92	92	92	92
Output level attenuator	dB			10	
Input	Sat	F-female	F-female		
Loophrough	Sat	Yes/F-female	Yes/F-female		-
Output frequency range	MHz	87.5 - 108.0	87.5 - 108.0	87.5 - 108.0	87.5 - 108.0
Spurious signals ref pict. carrier C/N	dB	> -60	> -60		> -60
Audio S/N ratio	dB	60	60		60
Audio distortion, 1 kHz	%	<1	<1		<1
Audio input level	V/RMS			0.5 V/RMS	
Audio input/output				15 pol SUB-D	
Return loss (MOD OUT)	dB	>10	>10		>10
Output impedance	Ohm	75	75		75
Temperature, operation	°C	-10...+50	-10...+50	-10...+50	-10...+50
Weight - standard module	kg	0.45	0.45	0.45	0.45
Dimensions (H x D x W)	mm	150 x 230 x 50	150 x 230 x 50	150 x 230 x 50	150 x 230 x 50
Remarks					
Video/audio cable	15 cm	Art. No. 300748		Art. No. 300748	
[Phone - Sub-D]	150 cm	Art. No. 300745		Art. No. 300745	

# TDH digital/analogue TV converters

**TV channel converter modules** in the TDH range is converting any TV channel in the VHF and UHF band to another frequency.

For optimized function and performance in handling analogue or digital signals, two different versions are available.

- Wide-range automatic gain control (AGC) secures right level into the distribution net
- High modulation error rate (MER) valued by means of SAW filter technology, secures best possible signal quality
- Full-range conversion
- DC supply for preamplifier

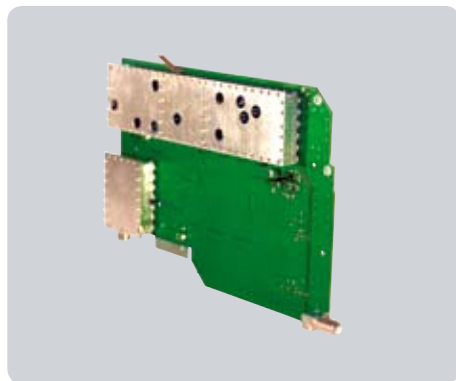


TDH 778 TV

## Technical data TDH - TV converter modules

TYPE		TV converter TDH 776	TV converter TDH 775	TV converter TDH 778
	Norm	<b>Analogue</b>	<b>Analogue</b>	<b>Digital</b>
Art. No.	B/G		490775	490778
	D/K	490776		490778
	Norm L	490776		490778
	Pal I	490776		490778
Modulator type		I, L, D/K	B/G	
Input frequency range	MHz	45 - 862	45 - 862	50.5- 858
Input level	dB $\mu$ V	60 - 90	60 - 90	45 - 90
Optimum input level	dB $\mu$ V	55 - 80	55 - 80	55 - 80
Output frequency range	MHz	K 2...69	K 2...69	K 2...69
Output level max	dB $\mu$ V	105	105	95
Output level attenuator	dB	0...10	0...10	0...10
Return loss (MOF in output)	dB	> 10	> 10	> 10
MER @ MER input signal > 36 dB	dB			> 30
TV carrier wave stability	kHz	< $\pm$ 25	< $\pm$ 25	< $\pm$ 25
Spurious signals ref pict. carrier C/N	dB	> -60	> -60	> -60
Antenna input		IEC female	IEC female	IEC female
Antenna output		IEC male	IEC male	IEC male
Temperature, operation	$^{\circ}$ C	-10...+50	-10...+50	-10...+50
Weight - standard module	kg	0.45	0.45	0.45
Dimensions (H x D x W)	mm	150 x 230 x 50	150 x 230 x 50	150 x 230 x 50
Remarks				

# TDH FM amplifier module



TDH 772 Amplifier

## Plug-in converter, modulator and amplifier module

The TDH 772 is e.g. a FM amplifier module for the TDH headend.

With this module it is possible to obtain the right professional insertion and amplification of the TERrestrial FM signal in the distribution network.

## Technical data TDH - FM amplifier module

TYPE	TDH 772 FM FM amplifier	
Art. No.	490772	
Modulator type	FM Stereo	
Input frequency range	MHz	87.5 - 108.0
Gain	dB	9...44
Attenuation switchable in section	dB	10
Attenuation adjustable	dB	10
Notches adjustable (X 6)	dB	- 10
Noise figur	dB	< 6
Linearity	dB	+/- 1
Output frequency range	MHz	87.5 - 108.0
Output level max	dB $\mu$ V	> 100
Return loss (MOF in output)	dB	> 10
Temperature, operation	°C	-10...+50
Weight - standard module	kg	0.45
Dimensions (H x D x W)	mm	150 x 230 x 50
Remarks	6 individual filters	



# TDH AV modules

**TDH modulator modules** convert an audio/video signal to a TV channel in the VHF/UHF band for distribution in a community cable system.

- Full-band high-quality modulator
- Adjacent channel operation
- Multi standard
- Mono sound / A2 stereo / Nicam available
- Multi language menu

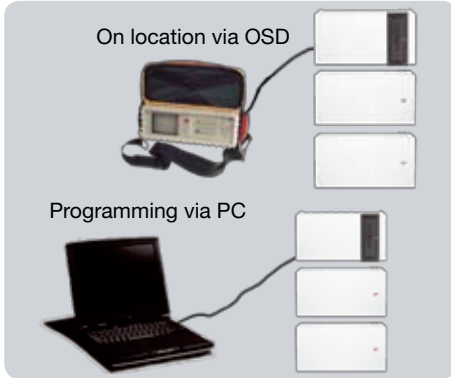


TDH 725

## Technical data TDH AV-modulator

TYPE		AV master VSB module	AV master VSB module
	Norm	<b>Mono</b>	<b>A2 stereo Nicam</b>
Art. No.	B/G	490766	490767 590767
	D/K	490725	490726
	Norm L	490725	590726
	Pal I	490725	
Modulator type		VSB	VSB
Input level	dB $\mu$ V	-15.....-25	-15.....-25
Audio mode		<b>Mono</b>	<b>A2 stereo Nicam</b>
Output channel frequency range	MHz	K 2....69 47-862	K 2....69 47-862
Output level max	dB $\mu$ V	105	105
Output level attenuator	dB	10	10
Spurious signals ref pict. carrier C/N	dB	> -60	> -60
Video input CVBS niveau	Vpp	0.7 - 1.3	0.7 - 1.3
Audio input level	V/RMS	0.5 V/RMS	0.5 V/RMS
Video S/N ratio	dB	> 54	> 54
Audio input/output		15 pol SUB-D	15 pol SUB-D
Temperature, operation	°C	-10...+50	-10...+50
Weight - standard module	kg	0.45	0.45
Dimensions (H x D x W)	mm	150 x 230 x 50	150 x 230 x 50
Remarks			
Video/audio cable	15 cm	Art. No. 300748	Art. No. 300748
[Phone - Sub-D]	150 cm	Art. No. 300745	Art. No. 300745

# Controlling Triax TDH 700 headend



## 5 ways to control your TDH 700 headend and free software for controlling available on [www.com.com](http://www.com.com)

- Unique, simple operation via On Screen Display [OSD]
  - Programming via PC
  - Control and install software via NBOX and TDH Manager [Internet]
  - Control and install software via GSM modem and TDH Manager
  - Control and install software via telephone modem and TDH Manager
- please see the user manual to make the correct connection of the units and you can also read more on our website about the different solutions

## Controlling accessories for TDH headend

Type	N-port - for Internet 300766	GSM modem - for mobile phone 300765	Telephone modem - for access 300764
<b>Art. No.</b>			
<b>Packing QTY</b>	<b>pcs.</b>	1	1
<b>What you can do</b>	<b>Get access via Internet</b> <ul style="list-style-type: none"> <li>• Install software for NBOX and TDH manager.</li> <li>• Type in the IP address</li> <li>• Select one of the virtual ports</li> <li>• Start controlling the TDH</li> </ul>	<b>Get access via GSM</b> <ul style="list-style-type: none"> <li>• Install software for TDH manager.</li> <li>• Dial up via built-in modem or external standard telephone modem</li> <li>• Insert SIM data card in the GSM modem</li> <li>• Connect the GSM modem to TDH 700 modem port</li> </ul>	<b>Get access via phone modem</b> <ul style="list-style-type: none"> <li>• Install software for TDH manager.</li> <li>• Type in the telephone number</li> <li>• Dial up via built-in modem or external standard telephone modem</li> <li>• Connect the standard telephone modem to TDH 700 modem port</li> </ul>
<b>Remarks</b>	Power supply included - see page 111 for connection cable	Power supply <b>not</b> included - see page 111 for connection cable	Power supply included - see page 111 for connection cable



N-port connection



GSM connection



Telephone modem



# Triax TDH channel filters

## Channel filter option.

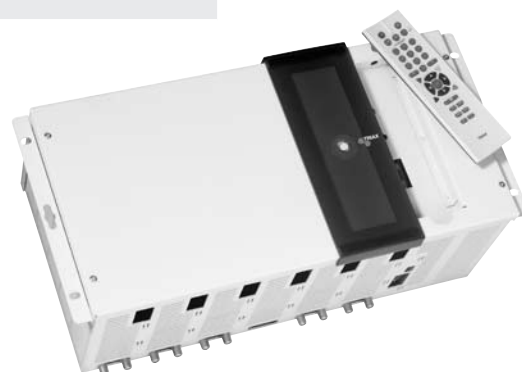
For all TDH modules with a modulator it is possible to improve the C/N in networks with high number of TV channels. This is done by means of adding a channel filter on each module.



## Technical data on TDH channel filters

Channel filter - VHF/S-channels	
Art. No.	Type
301371	S 1 - 2 TDH channel filter
301372	S 2 - 3 TDH channel filter
301373	S 4 - 5 TDH channel filter
301374	S 6 - 7 TDH channel filter
301375	S 8 - 9 TDH channel filter
301376	S 10 - Ch. 5 TDH channel filter
301377	Ch. 6 - 7 TDH channel filter
301378	Ch. 8 - 9 TDH channel filter
301379	Ch. 10 - 11 TDH channel filter
301380	Ch. 12 - S 11 TDH channel filter
301381	S 12 - 13 TDH channel filter
301382	S 14 - 15 TDH channel filter
301383	S 16 - 17 TDH channel filter
301384	S 18 - 19 TDH channel filter
301385	S 20 - 21 TDH channel filter
301386	S 22 - 23 TDH channel filter
301387	S 24 - 25 TDH channel filter
301388	S 26 - 27 TDH channel filter
301389	S 28 - 29 TDH channel filter
301390	S 30 - 31 TDH channel filter
301391	S 32 - 33 TDH channel filter
301392	S 34 - 35 TDH channel filter
301393	S 36 - 37 TDH channel filter
301394	S 38 - 39 TDH channel filter
301395	S 40 - 41 TDH channel filter

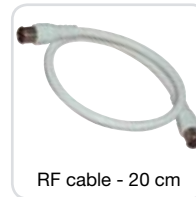
Channel filter - UHF-channels	
Art. No.	Type
301321	Ch. 21 - 22 TDH channel filter
301323	Ch. 23 - 24 TDH channel filter
301325	Ch. 25 - 26 TDH channel filter
301327	Ch. 27 - 28 TDH channel filter
301329	Ch. 29 - 30 TDH channel filter
301331	Ch. 31 - 32 TDH channel filter
301333	Ch. 33 - 34 TDH channel filter
301335	Ch. 35 - 36 TDH channel filter
301337	Ch. 37 - 38 TDH channel filter
301339	Ch. 39 - 40 TDH channel filter
301341	Ch. 41 - 42 TDH channel filter
301343	Ch. 43 - 44 TDH channel filter
301345	Ch. 45 - 46 TDH channel filter
301347	Ch. 47 - 48 TDH channel filter
301349	Ch. 49 - 50 TDH channel filter
301351	Ch. 51 - 52 TDH channel filter
301353	Ch. 53 - 54 TDH channel filter
301355	Ch. 55 - 56 TDH channel filter
301357	Ch. 57 - 58 TDH channel filter
301359	Ch. 59 - 60 TDH channel filter
301361	Ch. 61 - 62 TDH channel filter
301363	Ch. 63 - 64 TDH channel filter
301365	Ch. 65 - 66 TDH channel filter
301367	Ch. 67 - 68 TDH channel filter



# Triax connection cables

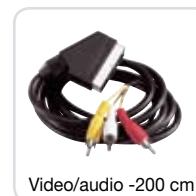
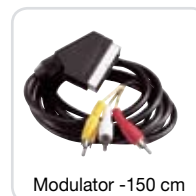
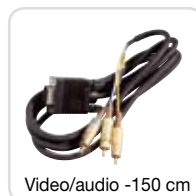
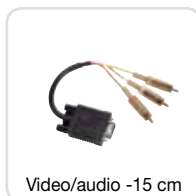
## Technical data on TDH connection cable

Type		USB cable A to B 453160	USB cable A to B 453161	RF cable 20 cm 452090	RF cable 35 cm 452091
Art. No.		453160	453161	452090	452091
Lenght	cm	50	100	20	35
Packing QTY	pcs.	1	1	1	1
Remarks		A to B connection for TDH 701 sub	A to B connection for TDH 701 sub	Connection from splitter/multi switch to TDH modules	Connection from splitter/multi switch to TDH modules



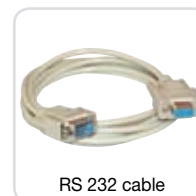
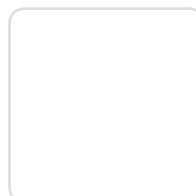
## Technical data on TDH connection cable

Type		Video/audio 15 cm 300748	Video/audio 150 cm 300745	Video/audio (in/out) 150 cm 300749	Video/audio 150 cm 300743	Video/audio 200 cm 300746
Art. No.		300748	300745	300749	300743	300746
Lenght	cm	15	150	150	150	200
Packing QTY	pcs.	1	1	1	1	1
Remarks		15 cm cable fitted with 15 pol D-sub and 3 x phone male connector	150 cm cable fitted with 15 pol D-sub and 3 x phone male connector	150 cm cable fitted with 15 pol D-sub and 3 x phone male/ 3 x phone female connector	150 cm cable fitted with 3 x phone male and Scart-connector	200 cm cable fitted with 3 x phone male and Scart-connector



## Technical data on TDH connection cable

Type		Decoder cable 150 cm 300742	Video/audio for Nicam 300738	USB/ RS 232 cable 300768	RS 232 cable 180 cm 300769
Art. No.		300742	300738	300768	300769
Lenght	cm	150	100	40	180
Packing QTY	pcs.	1	1	1	1
Remarks		150 cm cable fitted with 15 pol D-sub to Scart-connector	Modulator cable with scart and 3 phono connector for TCM08	40 cm cable between TDH/PC or TDH/N-port box	180 cm cable between TDH/PC or TDH/N-port box



# CSE 3300 digital main unit



CSE 3300 Base unit

## CSE 3300 Headend system

- Headend station suitable for adjacent channels for master antenna systems
- Slots for 8 or 12 cassettes (up to 16 or 24 channels)
- Suitable for all analogue, digital TV and radio cassettes
- Max. output level 106 dB $\mu$ V
- Simple software adaption for control unit (BE-REMOTE) possible via RS-232 socket
- Electronical software supported level adjustment via the control unit

## Technical data

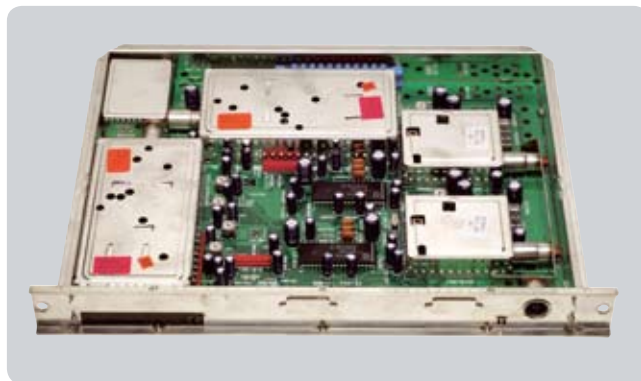
TYPE		CSE 3312	CSE 3308	CSE 3319
Art. No.		Main unit	Main unit	Main unit
		325100	325101	325102
No. of slots for cassettes 12	Pcs	12	8	8
Delivery status unloaded		Unloaded	Unloaded	Unloaded
Fit for adjacent channels		Yes	Yes	Yes
Input/output impedance/ Programming		Integrated Control Unit 75 $\Omega$ - BE-REMOTE	Integrated Control Unit 75 $\Omega$ - BE-REMOTE	Integrated Control Unit 75 $\Omega$ - BE-REMOTE
S/N weighted	dB	55	55	55
Input data				
Input frequency range	MHz	47 – 862, 950 – 2150	47 – 862, 950 – 2150	47 – 862, 950 – 2150
Input distributor		3 pieces each with 4 and 6 outputs	2 pieces with 9 outputs	2 pieces with 9 outputs
Power feed for LNB	V/mA	18 /1000	18 /1000	18 /1000
Output data				
HF output level/HF level adjusting	dB $\mu$ V	max. 106 / -31dB	max. 106 / -20dB	max. 106 / -20dB
Output frequency range - dependent upon cassettes	MHz	47 – 862	47 – 862	47 – 862
Power supply				
Mains voltage/Frequency	Hz/V	50-60 / 195 – 260	50-60 / 195 – 260	50-60 / 195 – 260
Power consumption (fully loaded)	W	max. 210	max. 150	max. 150
Weight (fully loaded) approx.	kg	30	21	20
Dimensions (H x D x W)	mm	700 x 383 x 315	535 x 350 x 310	482 x 350 x 254 (19" x 8 HU)
Remarks				



# CSE 3300 SAT & TER converter (Analogue)

## Stereo Satellite Double Reception Cassette in CCIR standard

Each double cassette converts two SAT IF signals in one polarization plane into two selectable channels in the VHF/UHF band. A descrambler retrofit kit DNS universal can be retrofitted for each output channel. Both output channels can be blanked (black picture – e.g. for hotel systems).



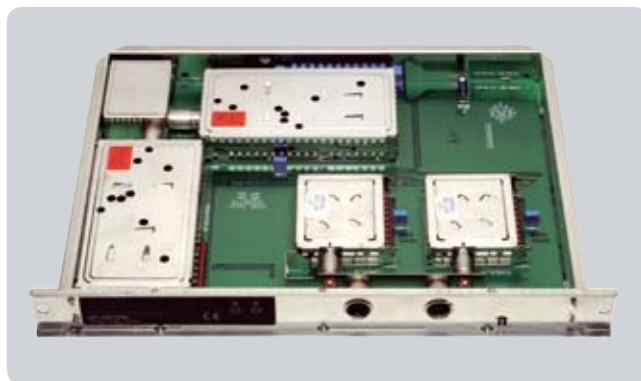
CSE 123x modules

## Technical data

TYPE		CCS 1231 Twin 325110	CCS 1233 Twin 325111	CCS 1234 Twin 325112	CCS 1235 Twin 325113
<b>Art. No.</b>					
No. of inputs	Pcs	1	1	1	1
No. of converted channels	Pcs	2	2	2	2
Input frequency range	MHz	950 - 2150	950 - 2150	950 - 2150	950 - 2150
Output channels		A: C 02 - C 04 B: S 03 - S 24 incl. C 05 - C 12	S 03 - S 24 incl. C 05 - C 12	S 21 - S 41	C 21 - C 69

## Stereo Terrestrial Double Reception Cassette in CCIR standard

Terrestrial cassettes for conversion of two analogue terrestrial signals into two selectable channels in the VHF/UHF band.



CSE 39x modules

## Technical data

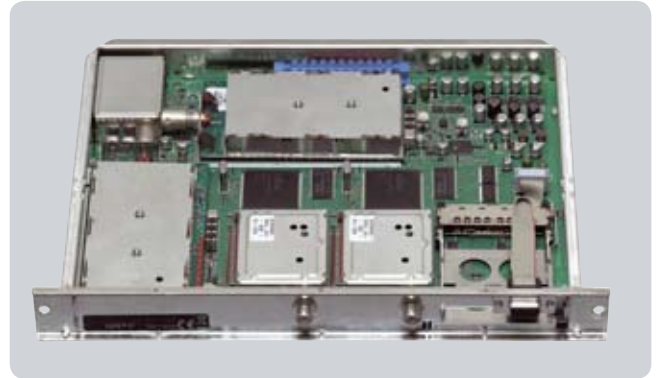
TYPE		CCT 391 Twin 325115	CCT 393 Twin 325116	CCT 394 Twin 325117	CCT 395 Twin 325118
<b>Art. No.</b>					
No. of inputs	Pcs	2	2	2	2
No. of converted channels	Pcs	2	2	2	2
Input frequency range	MHz	48.25 - 855.25	48.25 - 855.25	48.25 - 855.25	48.25 - 855.25
Output channels		A: C 02 - C 04 B: S 03 - S 24 incl. C 05 - C 12	S 03 - S 24 incl. C 05 - C 12	S 21 - S 41	C 21 - C 69

# CSE 3300 SAT transcoding & conversion

## Stereo Satellite Double Reception Cassette from Digital SAT to PAL in CCIR standard (QPSK – PAL)

This double cassette transcodes two QPSK signals (SCPC or MCPC) to two selectable PAL channels in the frequency range 45 – 862 MHz.

Up to two encrypted TV programs can also be converted with the appropriate CA module via the channel A common interface. The WSS setting allows 16:9 channels to be viewed with the correct picture format. VPS and PDC signals and teletext information are also converted. DVB and teletext subtitles can be displayed. When radio stations are converted, the name of the radio station as well as the now and next information are displayed on the screen.



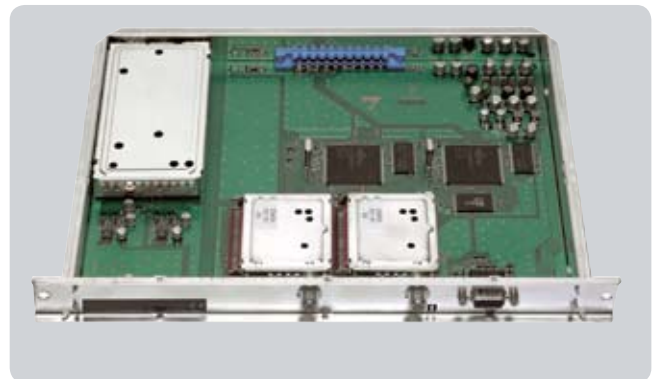
CCS 2370 modules

## Technical data

TYPE		CCS 2370 Twin QPSK to PAL 325130	CCS 2380 Twin QPSK to PAL 325131
Art. No.			
No. of inputs	Pcs	2	2
No. of converted channels	Pcs	2	2
Input frequency range	MHz	950 - 2150	950 - 2150
Input symbol rate	Msymb/s	1 - 45	1 - 45
Software download	via	RS 232	RS 232
Output channels		C 02 - C 04 C 05 - C 12 S 03 - S 41 C 21 - C 69	C 02 - C 69

## Stereo Satellite Double Reception Cassette from Digital SAT to FM (QPSK – FM)

This twin cassette converts two QPSK signals (SCPC or MCPC) into two selectable FM radio stations.



CSE 39x modules

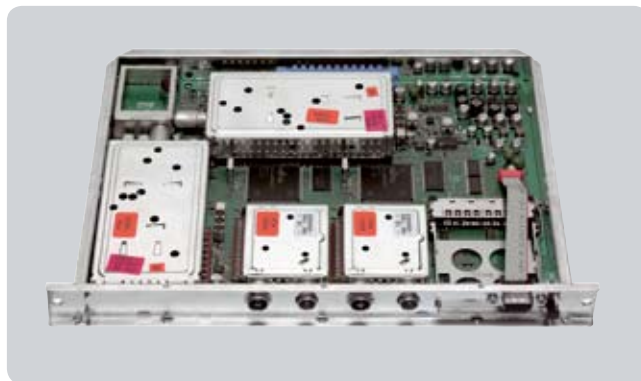
## Technical data

TYPE		CCSF 2360 QPSK to FM 325175
Art. No.		
No. of inputs	Pcs	2
No. of converted channels	Pcs	2
Input frequency range	MHz	950 - 2150
Input symbol rate	Msymb/s	1 - 45
Software download	via	RS 232
Output channels	MHz	87.5 - 107.9

# CSE 3300 Terrestrial transcoding (Digital)

## Stereo terrestrial double reception cassette from digital terrestrial to PAL in CCIR standard (COFDM - PAL)

These double cassettes transcode two COFDM signals into two selectable PAL channels in the VHF/UHF band. Encrypted TV channels can also be converted with the appropriate CA module via the common interface. The WSS setting allows 16:9 channels to be viewed with the correct picture format. VPS and PDC signals and teletext information are also converted. DVB and teletext subtitles can be displayed. When radio stations are converted, the name of the radio station as well as the now and next information are displayed on the screen.



CCDT 2161 modules

## Technical data

TYPE		CCDT 2161	CCDT 2163	CCDT 2164	CCDT 2165
		Twin COFDM-PAL	Twin COFDM-PAL	Twin COFDM-PAL	Twin COFDM-PAL
<b>Art. No.</b>		<b>325132</b>	<b>325133</b>	<b>325134</b>	<b>325135</b>
No. of inputs	Pcs	2	2	2	2
No. of loop-through outputs	Pcs	2	2	2	2
No. of converted channels	Pcs	2	2	2	2
Input frequency range (VHF)	MHz	177.5 - 226.5	177.5 - 226.5	177.5 - 226.5	177.5 - 226.5
	(UHF) MHz	474.0 - 858.0	474.0 - 858.0	474.0 - 858.0	474.0 - 858.0
No. of carriers		2 k and 8 k	2 k and 8 k	2 k and 8 k	2 k and 8 k
Input symbol rate	norm	EN 300 744	EN 300 744	EN 300 744	EN 300 744
Output channels		A: C 02 - C 04	S 03 - S 24	S 21 - S 41	C 21 - C 69
		B: S 03 - S 24 incl. C 05 - C 12	incl. C 05 - C 12		

## Conversion from Digital Terrestrial to Digital Terrestrial (COFDM - COFDM)

Terrestrial cassettes for conversion of two terrestrial digital signals into two freely selectable channels in the VHF/UHF band. Bandwidth 7/8 MHz switchable.



CCMT 1295 modules

## Technical data

TYPE		CCMT 1293	CCMT 1295
		Twin	Twin
<b>Art. No.</b>		<b>325136</b>	<b>325137</b>
No. of inputs	Pcs	2	2
No. of loop-through outputs	Pcs	2	2
No. of converted channels	Pcs	2	2
Input frequency range	MHz	146.0 - 862.0	146.0 - 862.0
Output channels		C 05 - C 12	C 21 - C 69
		S 09 - S 16	



# CSE 3300 Satellite transcoding (Digital)

## Transmodulation from Digital SAT to Digital Cable (QPSK – QAM)

These cassettes transmodulate two different QPSK- modulated data streams (SCPC or MCPC) to two QAM modulated data streams. The output level can be set with an analogue antenna measuring instrument. The integrated TPS module serves for data processing of the demodulated transport stream. This allows service information to be changed (NIT – Network Information Table), data rates increased (stuffing) and individual programs to be deleted from the transport stream, whereby the remaining channels can then be transmitted with bandwidth optimization. Moreover, the Operator ID can be set.



CCS 485 modules

## Technical data

TYPE		CCS 483 QPSK-QAM 325148	CCS 484 QPSK-QAM 325149	CCS 485 QPSK-QAM 325150	CCSM 500 QPSK-QAM 325140	CCS 510 CI QPSK-QAM 325151
Art. No.						
No. of inputs	Pcs	2	2	2	2	2
No. of converted channels	Pcs	2	2	2	2	2
Input frequency range	MHz	950 - 2150	950 - 2150	950 - 2150	950 - 2150	950 - 2150
Input symbol rate	Msymb/s	1 - 30	1 - 30	1 - 30	1 - 30	1 - 30
Output symbol rate	MBaud	1 - 7	1 - 7	1 - 7	1 - 7	1 - 7
Modulation schema		QAM 4, 16, 32, 64,128, 256			QAM 4, 16, 32, 64,128, 256	
Software download	via	RS 232	RS 232	RS 232	RS 232	RS 232
Output frequency range	MHz	112 - 306	303 - 466	474 - 858	42 - 860	42 - 860

## Multiplexing from Digital SAT to Digital Cable (QPSK – QAM)

Two QPSK modulated free to air satellite signals can be converted in parallel and a new individual QAM transport stream can be generated out of it with these multiplex cassettes.



CSE 39x modules

## Technical data

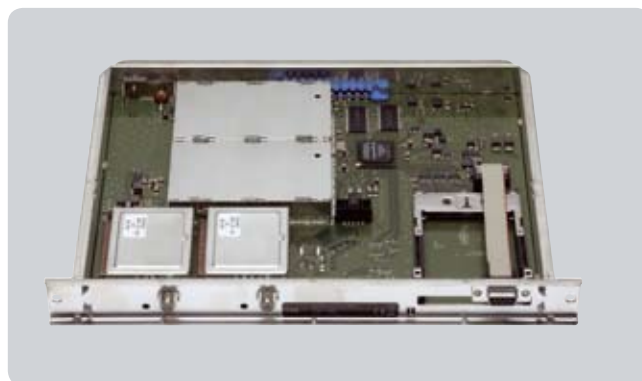
TYPE		CCS 473 MX QPSK-QAM 325145	CCS 474 MX QPSK-QAM 325146	CCS 475 MX QPSK-QAM 325147
Art. No.				
No. of inputs	Pcs	2	2	2
No. of converted transponders	Pcs	1	1	1
Input frequency range	MHz	950 - 2150	950 - 2150	950 - 2150
Input symbol rate	Msymb/s	1 - 30	1 - 30	1 - 30
Output symbol rate	MBaud	1 - 7	1 - 7	1 - 7
Modulation schema		QAM 4, 16, 32, 64,128, 256		
Software download	via	RS 232	RS 232	RS 232
Output channels	MHz	112 - 306	306 - 466	474 - 858

# CSE 3300 Satellite transcoding (HDTV)

## Conversion from HDTV Digital to HDTV Digital Cable (DVB-S2 – QAM & DVB-S2 - COFDM)

The cassette mainly converts two digital HDTV satellite signals (DVB-S2) to two digital HDTV cable signals (QAM/COFDM). Moreover these are the interfaces which make this new cassette multifunctional and universal in a complete digital cable network. It commands an ASI input and an ASI output (ASI = Asynchronous serial interface acc. EN 50083-9) as well as a 100 MBit LAN interface (Ethernet). Therewith data streams of the digital signals can be collected or can be fed from external sources for supplying of cable networks.

Additional there is a Common Interface (CI). With it encrypted signals (e.g. Pay TV) can be decoded. Up to 12 channels can be decoded with the smartcard of the provider depending on the Conditional Access Module (CAM). The integrated TPS module serves for data processing of the demodulated transport stream. This allows service information to be changed (NIT – Network



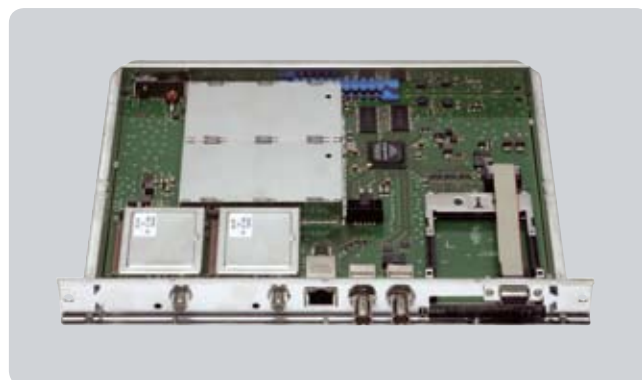
CCS-2 610 module

Information Table) data rates increased (stuffing) and individual programs to be deleted from the transport stream. Moreover, the Operator ID can be set.

## Technical data

TYPE		CCS-2 610 CI HDTV DVB-S2 - QAM 325152	CCS-2 1000 HDTV DVB-S2 - QAM 325153	CCS-2 1001 HDTV QPSK-COFDM 325154
Art. No.				
No. of inputs	Pcs	2	2	2
No. of converted transponders	Pcs	2	2	2
Input frequency range	MHz	950 - 2150	950 - 2150	950 - 2150
DVB-S modes	QPSK		1/2, 2/3, 3/4, 5/6, 7/8	
DVB-S2 modes	QPSK		1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10	
DVB-S2 modes	8PSK		3/5, 2/3, 3/4, 5/6, 8/9, 9/10	
Symbol rate DVB-S	QPSK	2 – 45	2 – 45	2 – 45
Symbol rate DVB-S2	QPSK	10 – 30	10 – 30	10 – 30
Symbol rate DVB-S2	8PSK	10 – 31	10 – 31	10 – 31
Output symbol rate	MBuad	1 – 7.5	1 – 7.5	1 – 7.5
Modulation scheme			QAM 4, 16, 32, 64, 128, 256	
ASI in/ASI out interface		•	•	•
Ethernet interface		•	•	•
Common Interface		•	•	•
TPS module		•	•	•
Software download	via	RS-232	RS-232	RS-232
Output frequency range/ Channel infrequency	MHz	45 - 862	45 - 862	45 - 862

**HDTV**



CCS-2 1000 module

# Terrestrial conversion (COFDM - QAM)

## Conversion from Digital Terrestrial to Digital Cable (COFDM – QAM)

These cassettes transmodulate two different COFDM modulated data streams into two QAM modulated data streams. The output level can be set with an analogue antenna measuring instrument.

The TP module serves for data processing of the demodulated transport stream. This allows service information to be changed (NIT – Network Information Table) data rates increased (Stuffing) and individual programs to be deleted from the transport stream, whereby the remaining channels can then be transmitted with bandwidth optimization. Moreover, the Operator ID (e.g. required for VisAvision) can be set.



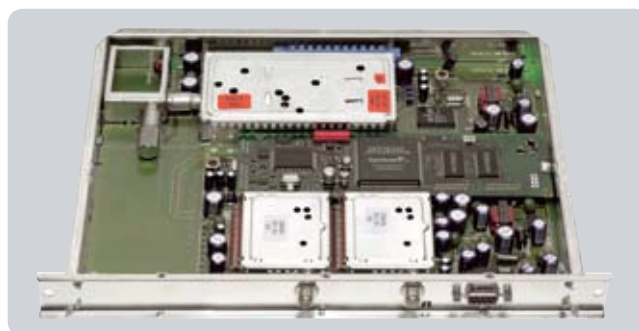
CCT 485 module

## Technical data

TYPE		CCT 485 COFDM-QAM	
Art. No.		325155	
No. of inputs	Pcs	2	
No. of converted channels	Pcs	2	
Input frequency range	VHF)	177.5 - 226.5	
	UHF)	474.0 - 858.0	
No. of carriers		2 k and 8 k	
Input symbol rate	Msymb/s	acc. to EN 300 744	
Output symbol rate	MBaud	1 - 7	
Modulation schema		QAM 4, 16, 32, 64,128, 256	
Software download	via	RS 232	
Output channels	MHz	S 21 - S 41	

## Multiplexing from Digital Terrestrial to Digital Cable (COFDM – QAM)

Two COFDM modulated free to air terrestrial signals can be converted in parallel and a new individual transport stream can be generated out of it with these multiplex cassettes.



CCT 47x modules

## Technical data

TYPE		CCT 473 COFDM-QAM		CCT 474 COFDM-QAM		CCT 475 COFDM-QAM	
Art. No.		325160		325161		325162	
No. of inputs	Pcs	2		2		2	
No. of converted channels	Pcs	2		2		2	
No. of multiplexes	Pcs	2		2		2	
Input frequency range	VHF)	177.5 - 226.5		177.5 - 226.5		177.5 - 226.5	
	UHF)	474.0 - 858.0		474.0 - 858.0		474.0 - 858.0	
No. of carriers		2 k and 8 k		2 k and 8 k		2 k and 8 k	
Input symbol rate	Msymb/s	acc. to EN 300 744		acc. to EN 300 744		acc. to EN 300 744	
Output symbol rate	MBaud	1 - 7		1 - 7		1 - 7	
Modulation schema		QAM 4, 16, 32, 64,128, 256		QAM 4, 16, 32, 64,128, 256		QAM 4, 16, 32, 64,128, 256	
Software download	via	RS 232		RS 232		RS 232	
Output channels	MHz	S 02 - S 21 incl. C 05 - C 12		S 21 - S 41		C 21 - C 69	

# CSE 3300 AV signal conversion

## AV Cassette

AV cassettes for input of AV signals via cinch sockets (e.g. video recorder, camera, DVD player). Up to three modulators can be installed.



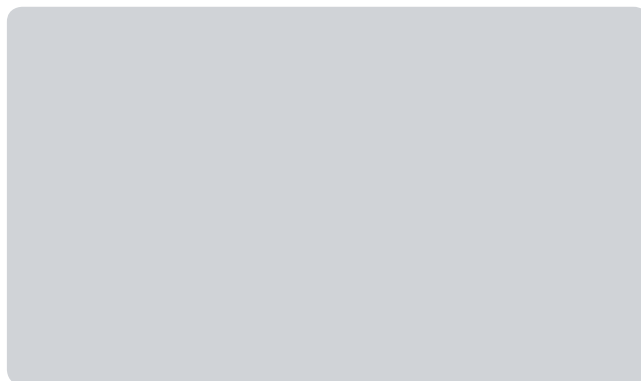
CCAV 30x module

## Technical data

TYPE		CCAV 310 AV	CCRM 312 AV	CCAV 300 AV
Art. No.		3 channel mono <b>325120</b>	3 channel mono <b>325125</b>	3 channel mono <b>325129</b>
No. of inputs	Pcs	3 (per input) 1 x video, 2 x audio	3 (per input) 1 x video, 2 x audio	3 (per input) 1 x video, 2 x audio
Sound output		mono	mono	mono
Input frequency range	Hz/MHz	20 - 5	20 - 5	20 - 5
Output channels		S 03 - S 24 incl. C 05 - C12 (with CCM 313 modulator) S 21 - S 24 (with CCM 314 modulator) C21 - C69 (with CCM 315 modulator)		
Delivery status		- without modulators		

**Modulator modules convert an audio/video signal to a TV channel in the VHF/UHF band for distribution in a community cable system.**

- Full-band high-quality modulator
- Adjacent channel operation
- Multi standard
- Mono sound / A2 stereo / Nicam available
- Multi language menu



CCM 31x and CCM 32x module

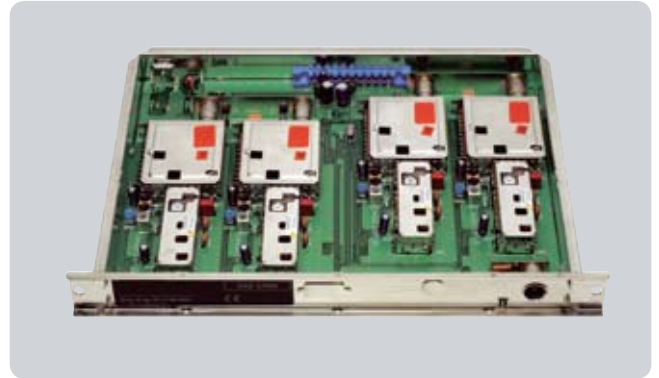
## Technical data

TYPE		CCM 313	CCM 314	CCM 315	CCM 323	CCM 324	CCM 325
Art. No.		mono <b>325121</b>	mono <b>325122</b>	mono <b>325123</b>	stereo <b>325126</b>	stereo <b>325127</b>	stereo <b>325128</b>
Modulator type							
No. of inputs	Pcs						
No. of converted channels	Pcs						
Output channels		S 03 - S 24 incl. C 05 - C 12	S 21 - S 41	C 21 - C 69	S 03 - S 24 incl. C 05 - C 12	S 21 - S 41	C 21 - C 69
Remarks		- for use together with CCAV 310 AV			- for use together with CCAV 312 AV		

# CSE 3300 AV signal conversion

## Terrestrial FM Cassette

Terrestrial FM cassette for conversion of four freely selectable FM stations to the 87.5 – 108 MHz frequency range.



CCTF 326 module

## Technical data

TYPE	CCTF 326	
Art. No.	325176	
No. of inputs	Pcs	1
No. of FM converter	Pcs	4
Input level range	dB $\mu$ V	10 - 95
Input frequency range	MHz	87.5 - 108
Output frequency range	MHz	87.5 - 108
Min. channel grid between converted FM stations	kHz	300

## Terrestrial FM Amplifier

FM amplifier for wideband amplification of 87.5 – 108 MHz FM range. Six manually adjustable attenuator filters provide for attenuation of strong FM stations.



CSE 325 module

## Technical data

TYPE	CCA 325	
Art. No.	325177	
No. of inputs	Pcs	1
Frequency range	MHz	87.5 - 108
Gain	dB	43
Noise figure	dB	6 - 9
No. of adjustable filters	6	
FM transmitter reduction per filter	dB	14 - 17

# CSE 3300 AV conversion analogue to digital

## Conversion from AV analogue to an MPEG transport stream

The twin encoder cassette CCE 200 converts two analogue audio video signals into two elementary transport streams. The cassette supports the format D1 (720 x 576 pixels) with data rates of 1.5 Mbit/s to 6 Mbit/s. A 16-bit stereo sound channel is already included in this data rate. The audio encoder works with MPEG1 Layer II. The audio bit rates (256fs, 320fs and 384fs) and the AUDIO ES Modes Stereo, Joint Stereo Dual and Mono are adjustable. The audio input signal of the stereo A/D converter can be adapted to the particular situation with an adjustable amplifier. The audio sample rate (fs) is 48 kHz.

The transport stream according to ISO/IEC 13818 is at the output via SPI interface with an 8-bit TS interface with clock and frame-sync signal.

The HDE 200 cassette can be combined with the quadruple converters HDM 203/204/205 QMX.



CCE 200 module

## Technical data

<b>TYPE</b>	<b>CCE 200</b>
<b>Art. No.</b>	<b>325165</b>

## Quadruple conversion from an MPEG transport stream to Digital Cable (QAM)

The cassette merges four parallel elementary data streams to one elementary data stream and converts it to a QAM modulated carrier. In this connection it is about a static multiplexing of DVB data streams. Channels can be deleted from the data stream at data input A. Channels which are fed at the inputs B, C and D can be selected and added from the data streams. The available information in the data stream (e.g. time information TDT, event information EIT) are passed unmodified from input A to the output.



CCQM 20x modules

## Technical data

TYPE		<b>CCQM 203</b>	<b>CCQM 204</b>	<b>CCQM 205</b>	<b>CCSF 2360</b>
		Quad multiplex	Quad multiplex	Quad multiplex	QPSK to FM
<b>Art. No.</b>		<b>325170</b>	<b>325171</b>	<b>325172</b>	<b>325175</b>
<b>No. of transport stream inputs via SPI</b>	<b>Pcs</b>	4	4	4	
<b>Modulation scheme</b>		QAM 4, 16, 32, 64, 128, 256			
<b>Output symbol rate</b>	<b>Msymb/s</b>	1 - 7	1 - 7	1 - 7	
<b>Output channels</b>		S 02 - S 21 incl. C 05 - C 12	S 21 - S 41	C 21 - C 69	87.5 - 108

# CSE 3300 additional modules

## Monitoring Cassette CCMC 6000

The frequency range from 47 – 862 MHz can be monitored in the wideband system with the CCMC 6000 monitoring cassette. The following parameters are checked: Analogue TV video carrier (AM), analogue TV audio carrier (FM), analogue radio audio carrier (FM) as well as the digital QAM signal. The level as well as the synchronising pulse is evaluated for the analogue TV video carrier; the station idents. can be read out via the VPS signal. Stations without Idents. can be edited subsequently on a PC. This also applies for corresponding radio stations. The analogue TV video carrier is checked continuously by means of level evaluation. In the radio range, in addition to level monitoring, the station names can also be evaluated using the RDS Ident. Stations without RDS Ident. can also be edited subsequently. The level, as well the bit rate error, is measured for digital TV output signals in order to obtain error-free indication of a signal failure. All DC voltages from the power supply are also measured and evaluated. A search function also allows access to all station parameters for every TV viewer via an info channel. This can also be fed into the system over an integrated FM modulator.



CCMC 6000 module

The CCMC 6000 has the following interfaces: Signal input, measuring output for connection of a measuring instrument, emergency power supply input, RS-232 interface as well as one audio and video output.

## Technical data

<b>TYPE</b>	<b>CCMC 6000</b>
<b>Art. No.</b>	<b>325178</b>

## Management Unit CCRC 8 incl. PC Software PSW 1000

The CCRC 8 allows connection of 1 PC, 1 analogue or GSM modem as well as 8 head-end station systems or 7 headend station systems and 1 monitoring cassette CCMC 6000. The system allows remote configuration via the analogue or GSM modem. The service data reported in combination with the CCMC 6000 monitoring unit is provided automatically by the RCU 8 management unit as SMS or facsimile. The PSW 1000 software also supplied requires the following system conditions for the PC: 486, 5 MB capacity on hard disk, operating system Windows 95/98/ME/XP/2000. With this software, the headend station systems CSE 3312, CSE 3308 and CSE 3319 can be preprogrammed using the RS-232 interface contained in the control unit. This can also be accomplished from a remote location using an analogue or GSM modem. Moreover, errors reported by the CCMC 6000 monitoring cassette are displayed.



CCRC 8 module

## Technical data

<b>TYPE</b>	<b>CCRC 8</b>
<b>Art. No.</b>	<b>325179</b>

# CSE 3300 accessories

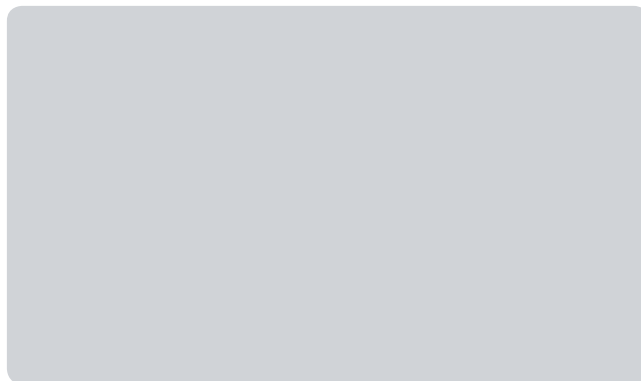
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## **CCRS 1000 Remote and control software**

**Art. No. 325182**

This software allows the head-end station systems STC 332, STC 316, STC 1200 and STR 19-8 to be pre-programmed via the RS-232 interface contained in the control stage. This can also be accomplished from another location with an analogue or GSM modem. The set also includes a special control unit required for operation of the software.

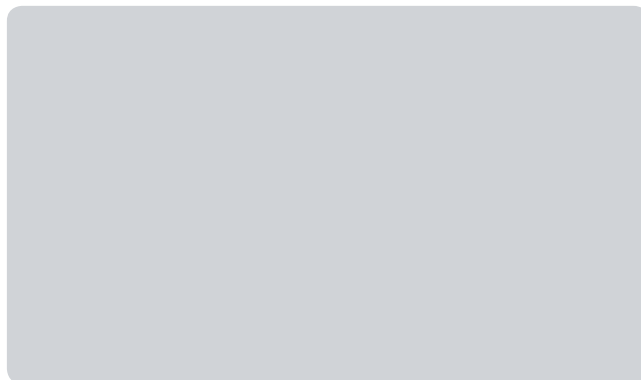
System conditions PC: 486, 5 MB space on hard disk, operating system Windows 95/98/ME/XP/2000.



Remote and control software

## **CCLA adaptor for CCRC 8 to LAN**

**Art. No. 325180**



CCLA adaptor unit

## **Backup System CCB 16/8**

**Art. No. 325181**

The backup system is suitable for control of backup cassettes, which can be switched on in the system. With the backup system, up to 16 different satellite levels can be switched on, on up to 8 different backup cassettes.

This is required when a cassette in use fails and requires temporary replacement by a backup cassette. With this system, only one backup cassette is required per type.

This system is controlled by the PRCU 8 remote control unit. The system includes one mounting bracket suitable for 19" rack as well as wall installation, one data cable for connection to the PRCU 8 and the backup system with 16 inputs with 16 loop outputs for transfer of the signals to the headend station systems and 8 switchable outputs to the backup cassettes. The CCB 16/8 is 4 HU high.



CCB 16/8 backup system



# CSE 2800 digital main unit



CSE 3300 Base unit

## CSE 2800 Headend system

The digital headend station system CSE 2800 provides reception and conversion of digital satellite TV channels and radio stations. It features a flexible module design. The CSE 2800 allows conversion of up to 16 TV channels because of the quad module design. The output modulators are suitable for adjacent channels but you are not forced to adjust adjacent channels. The output channel range covers the complete needed spectrum of channel 02 up to channel 69 including special channels S 03 up to S 20 and the hyperband range of channels S 21 up to S 41. Decoding of encrypted channels can be done via the Common Interface. The supplied fixing brackets are suitable either for wall mounting of the CSE 2800 or for fixing it in a 19" rack.

## Technical data

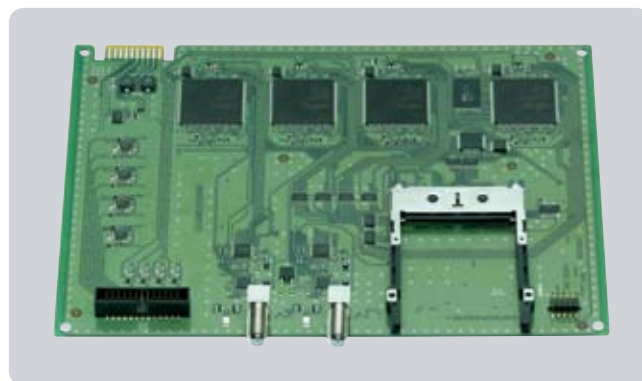
TYPE		CSE 2800
Art. No.		Main unit 325001
Conversion	Pcs	16 x digital SAT
Suitable for adjacent channels		Yes
Input/output impedance/ Programming		Integrated Control Unit 75Ω
Software update	via	RS-232 interface
External AV connection		4 x via every modulator module with CGV 160 AV
Input data		
Input frequency range	MHz	177.5 - 226.5
	MHz	474 - 858
	MHz	950 - 2150
Power feed for LNB (max.)	V/mA	12 /350
Output data		
HF output level/HF level adjusting	dBμV	max. 102
Output frequency range	MHz	47 - 862
Power supply		
Mains voltage/Frequency	Hz/V	50-60 / 180 - 265
Power consumption	W	210
Weight (fully loaded) approx.	kg	20
Dimensions (H x D x W)	mm	355 x 228 x 443 (8 HU - 19")



# CSE 2800 QPSK to AV / COFDM to AV

## Quad QPSK-AV-Transcoder

The Quad QPSK-AV-transcoder CGS 470 CI AV converts four TV channels out of two transponders. The number of converted TV channels via the corresponding tuner can be programmed via the integrated control unit. Either 3 TV channels of tuner 1 and 1 TV channel of tuner 2 or 2 TV channels of tuner 1 and 2 TV channels of tuner 2 can be converted. This ensures a maximum of flexibility. Decoding of up to 2 encrypted TV channels is possible via the Common Interface via tuner 1.



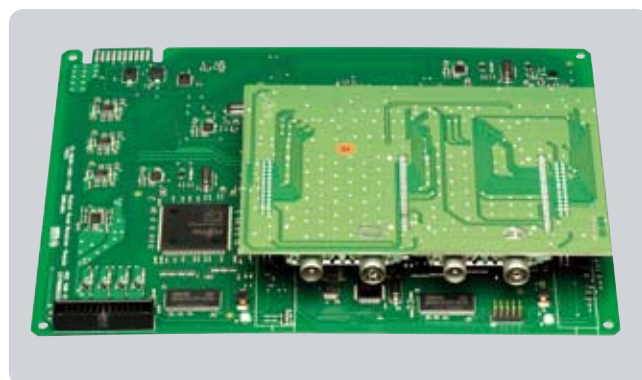
CGS 470 CI AV module

## Technical data

TYPE	CGS 470 CI AV	
Art. No.	Quad 325010	
No. of input tuners	Pcs	2
No. of AV outputs	Pcs	4
Input frequency range	MHz	950 - 2150
Symbol rate	Msymb/s	1 - 45
No. of converted TV channels	Pcs	4
Common interface	For up to 2 channels via tuner 1	
Power feed for LNB (max.)	V/mA	12 / 350

## Quad COFDM-AV-Transcoder

The Quad COFDM-AV-transcoder CGT 460 AV converts four TV channels out of two multiplexes. The number of converted TV channels via the corresponding tuner can be programmed via the integrated control unit. Either 3 TV channels of tuner 1 and 1 TV channel of tuner 2 or 2 TV channels of tuner 1 and 2 TV channels of tuner 2 can be converted. This ensures a maximum of flexibility. The Quad COFDM-AV-Transcoder CGT 461 AV converts four TV channels out of one multiplex.



CGT 46x AV Quad module

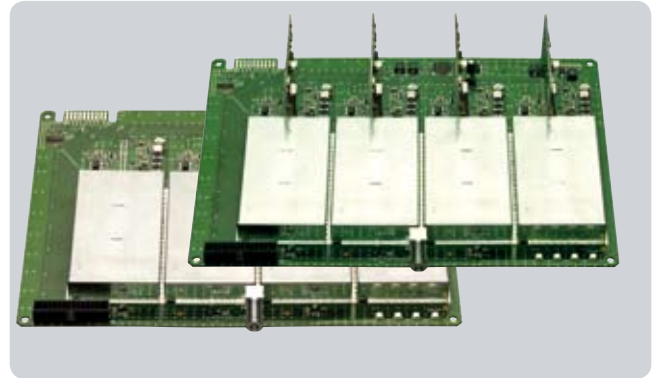
## Technical data

TYPE	CGT 460 AV		CGT 461 AV
Art. No.	Quad 325011		Quad 325012
No. of input tuners	Pcs	2	1
No. of AV outputs	Pcs	4	4
Input frequency range (VHF)	MHz	177.5 - 226.5	177.5 - 226.5
(UHF)	MHz	474.0 - 858.0	474.0 - 858.0
No. of carriers	2 k and 8 k		2 k and 8 k
Symbol rate	Msymb/s	acc. to EN 300 744	acc. to EN 300 744
No. of converted TV channels	Pcs	4	4

# CSE 2800 Quad AV modulators

## Quad AV modulator

The modulator modules of the CSE 2800 are designed in single-sideband technology. Therefore they are suitable for adjacent channels. Up to 4 AV signals can be fed in. Each module is equipped with four independent modulators which can be set freely. You are not forced to adjust adjacent channels. This means a maximum flexibility in projecting cable networks. The module CGFM converts the 4 AV signals into 4 free selectable FM frequencies.



CGMM 470 and CGMS 470 modules

## Technical data

TYPE		CGMM 470	CGMS 470	CGFM 470
Art. No.		Mono <b>325013</b>	Stereo <b>325014</b>	Stereo <b>325015</b>
Input signals	Pcs	4 x AV	4 x AV	4 x AV
Channel grid	kHz	Suitable for adjacent channels		300
Sound output		Mono	Stereo	Stereo
Standard		B/G, CCIR	B/G, CCIR	FM
Output channels	MHz	C 02 - C 69 incl. S 03 - S 14 S 16 - S 41	S 03 - S 14 S 16 - S 41	87.5 - 108

## Conversion from Digital Terrestrial to Digital Terrestrial (COFDM – COFDM)

Terrestrial modules for conversion of two terrestrial digital signals into two freely selectable channels in the VHF/UHF band. The carriers can be switched off separately. Bandwidth 7/8 MHz switchable.



CGT 26x module

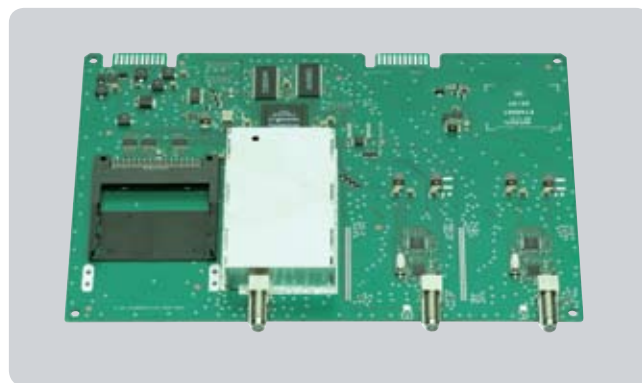
## Technical data

TYPE		CGT 263	CGT 265
Art. No.		<b>325020</b>	<b>325021</b>
No. of inputs	Pcs	2	2
No. of loop-through outputs	Pcs	2	2
No. of converted channels	Pcs	2	2
Input frequency range	MHz	146 - 862	146 - 862
Output channels	MHz	C 05 - C 12 S 09 - S 16	C 21 - C 69

# CSE 2800 digital SAT to digital cable (HDTV)

## Transmodulation from Digital SAT to Digital Cable (DVB-S – QAM and DVB-S2 – QAM)

These modules transmodulate two different DVB-S2 resp. DVB-S modulated data streams (SCPC or MCPC) to two QAM-modulated data streams. The integrated TPS module serves for data processing of the demodulated transport stream: This allows service information to be changed (NIT – Network Information Table), data rates increased (stuffing) and individual programs to be deleted from the transport stream, whereby the remaining channels can then be transmitted with bandwidth optimization. Moreover, the operator ID can be set. With the models, up to 12 channels can be decoded of the transport stream via the Common Interface which is fed in tuner A.

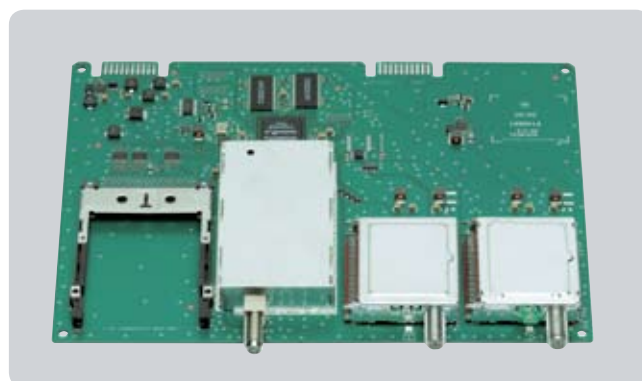


CGS 660 CI module

## Technical data

TYPE		CGT 660 CI COFDM - QAM 325022	CGS 660 CI QPSK - QAM 325025	CGS-2 660 DVB S2 - QAM 325026	CGS 660 Twin QPSK - COFDM 325027
<b>Art. No.</b>					
No. of inputs	Pcs	2	2	2	2
No. of converted transponders	Pcs	2	2	2	2
Input frequency range	MHz	950 - 2150	950 - 2150	950 - 2150	950 - 2150
DVB-S modes	QPSK				
DVB-S2 modes	QPSK				
DVB-S2 modes	8PSK				
Symbol rate DVB-S	QPSK	1 – 45	1 – 45	2 – 45	1 – 45
Symbol rate DVB-S2	QPSK			10 - 30	
Symbol rate DVB-S2	8PSK			10 - 31	
Output symbol rate	MBuad	1 – 7.5	1 – 7.5	1 – 7.5	
Modulation scheme			QAM 4, 16, 32, 64, 128, 256		QPSK 16 and 64 QAM
TPS module		•	•	•	•
Software download	via	RS-232	RS-232	RS-232	•
Output frequency range/ Channel infrequency	MHz	45 - 862	45 - 862	45 - 862	42 - 862

**HDTV**



CGS 2- 660 module

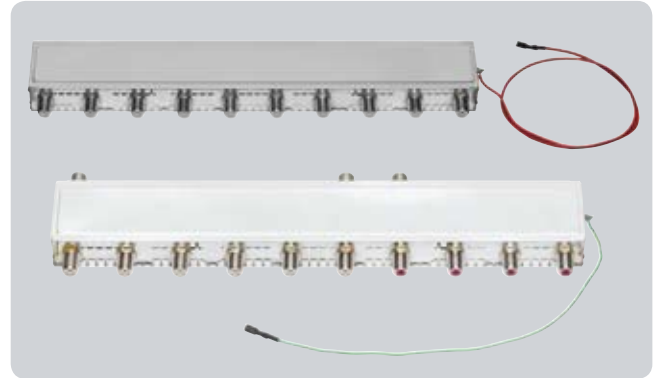
# CSE 2800 additional modules

## CGSI 160 - Input distributor with LNB supply

The SAT IF distributor has 1 SAT IF input with 9 outputs. The connected LNB can be supplied with 12 V and a maximum current of 800 mA. It is ideal suitable for the distribution of SAT IF signals because of its high isolation. There are included 8 HF cables in the delivery.

## CGSD 162 - Input distributor with LNB supply

The SAT IF distributor has 1 SAT IF input with 6 outputs and 1 SAT IF input with 4 outputs. These outputs are able to be cascaded for having 1 level with 10 outputs. The connected LNB can be supplied with 12 V and a maximum current of 800 mA. It is ideal suitable for the distribution of SAT IF signals because of its high isolation. There are included 8 HF cables in the delivery.



CGSI and CGSD input distributor modules

## Technical data

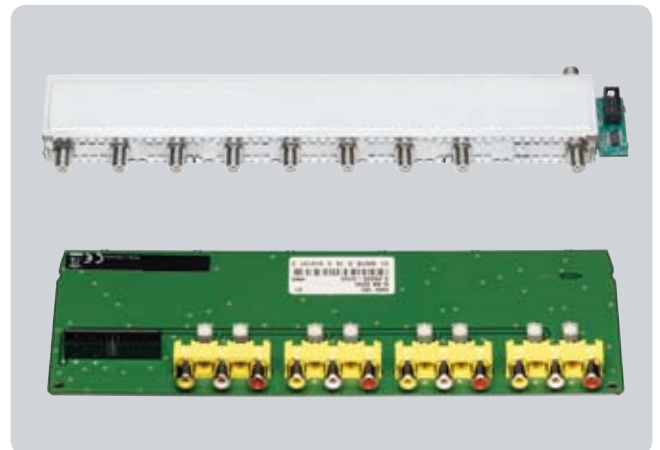
TYPE	CGSI 160	CGSD 162
Art. No.	325032	325033

## CGOC 168 - Output collector

The output collector CGOC 168 has 8 inputs, 1 output with max. 101 dB $\mu$ V and 1 measuring output which is attenuated by 20 dB.

## CGV 160 AV - Quad AV Adapter board

The quadruple AV adapter is necessary for feeding in of external AV signals via cinch connectors with the quadruple modulators CGMM 470 and CGMS 470.



CGSI and CGSD input distributor modules

## Technical data

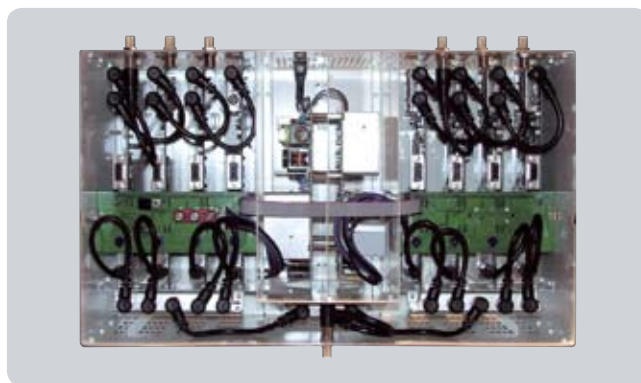
TYPE	CGOC 168	CGV 160 AV
Art. No.	325035	325031

# CSE 6, 8 & 12 - DVB-T Compact Headend

## CSE 6, 8 & 12 - DVB-T

With the pending ground-breaking digital switch over, lots of small to medium hotels and guest houses will see their analogue TV services switched off. Predominately it was common place to have single channel amplifiers or cluster equalisers feeding the launch amplifier to provide the standard analogue “Off Air” channels.

The CSE Compact Headend system has been designed to update and replace the existing filtering with a one box solution to convert digital signals to analogue channels which enables the hotel or guest house to use existing TV reception equipment.

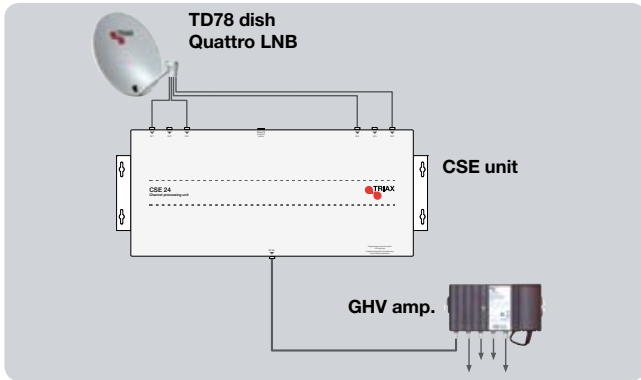


CSE headend - open

## Technical data

Type		CSE 0601	CSE 0801	CSE 1201
Art. No.		324949	324950	324951
Input		DVB-T PAL	DVB-T PAL	DVB-T PAL
Frequency	MHz	470-862	470-862	470-862
TV standard		PAL I, B/G, DK, Secam L		
Audio mode		Single Mono Modulator		
Channels (fully agile)		21-68	21-68	21-68
Modulator type		DSB	DSB	DSB
Output level	dB $\mu$ V	85	85	85
Level adjustment	dB	0-15	0-15	0-15
No. of channels	Pcs.	6	8	12
Loop through		No	No	No
Line power		12V DC	12VDC	12VDC
Connections		F-Type		
Input voltage	Hz/VAC	AC 90-264 / 50/60 Hz		
Dimensions	H mm	253	253	253
	W mm	300	428	567
	D mm	200	200	200
Weight	Kg	5.5	8.8	11.5

# CSE 6, 8, 12, 16 & 24 - DVB-S Headend



CSE headend example

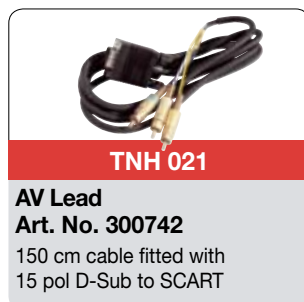
## CSE 6, 8, 12, 16 and 24 - DVB-S

The CSE Compact Headend system has been designed to update small to medium installations at an affordable cost without upgrading the whole system. It is available in 2 versions COFDM - PAL (DVB-T) or QPSK - PAL (DVB-S) which can produce either 6, 8 or 12 PAL output channels. The CSE Range has no loop through facility which ensures an excellent C/N and removes unwanted analogue and digital signals from the spectrum making channel planning easier. This new headend also offers the unique option of adding a video/audio source to a PAL output just by adding a RX and a 300745 A/V lead without the need for additional modules.

## Technical data

Type		CSE 0611	CSE 0811	CSE 1211	CSE 1601 Twin	CSE 2401 Twin
Art. No.		324952	324953	324954	324980	324981
Input		DVB-S PAL	DVB-S PAL	DVB-S PAL	DVB-S PAL	DVB-S PAL
Frequency	MHz	950-2150	950-2150	950-2150	950-2150	950-2150
TV standard		PAL I, B/G, DK, Secam L			PAL I, B/G, DK, Secam L	
Audio mode		Single Mono Modulator			Single Mono Modulator	
Channels (fully agile)		21-68	21-68	21-68	21-68	21-68
Modulator type		DSB	DSB	DSB	DSB	DSB
Output level	dBµV	85	85	85	85	85
Level adjustment	dB	0-15	0-15	0-15	0-15	0-15
No. of channels	Pcs.	6	8	12	6	6
Loop through		No	No	No	No	No
Line power		0/14V	0/14V	0/14V	0/14V	0/14V
		Quattro LNB Required			Quattro LNB Required	
Connections		F-Type			F-Type	
Input voltage	Hz/VAC	50/60 - 90-264			50/60 - 90-264	
Dimensions	H mm	253	253	253	253	253
	W mm	300	428	567	428	567
	D mm	200	200	200	200	200
Weight	Kg	5.5	8.8	11.5	8.8	11.5

## Accessories



# TNH - The digital processing unit

- processes and distributes FTA (Free To Air) programmes

The digital processing unit TNH processes and distributes FTA (Free-To-Air) digital programmes in the SMATV networks. The TNH station is fully compatible with DVB-S and DVB-T signals.

Depending on the model, the signal can be modulated in the network to standard B, G or L with audio processing in mono or Nicam stereo (digital sound).

The fully modular TNH station adapts to the number of programmes to be distributed by simply adding modules. A power supply supplies up to 6 processing modules.

- Modular system
- COFDM and QPSK single and twin modules
- VHF and UHF output modules
- DSB and VSB modulation
- Nicam digital sound modules
- Mono analogue sound modules
- Power supply capacity: 6 modules
- Easy on-rail and wall installation
- Programming by remote control
- Intuitive OSD in 6 languages (English, French, German, Danish, Swedish or Spanish)
- In/out connection leads provided
- Input loop-through



TNH headend

## Power supply units

This power supply enables 6 modules in the TNH range to be supplied with the voltages they require to operate correctly. It is installed on the 3 or 6 module frames or is mounted on a flat surface e.g. a wall.

The materials and components used enable optimum operation and excellent heat dissipation. Male/female Sub-D9 leads, delivered with the process modules, are used for the module connections.



## Technical data

TYPE		TNH 006	TNH 106
Art. No.		324900	324901
Power consumption	W	50	70
Input voltage	V <sub>AC</sub> /Hz	90 - 264 / 50 - 60	90 - 264 / 50 - 60
Output voltage	VDC/A	30 / 0.1	30 / 0.1
	VDC/A	15 / 1.0	15 / 1.0
	VDC/A	5.0 / 4.0	5.0 / 4.0
	VDC/A	3.3 / 4.0	3.3 / 4.0
Connectors		6 x female Sub-D9	6 x female Sub-D9



# DVB-S modules

SAT-QPSK

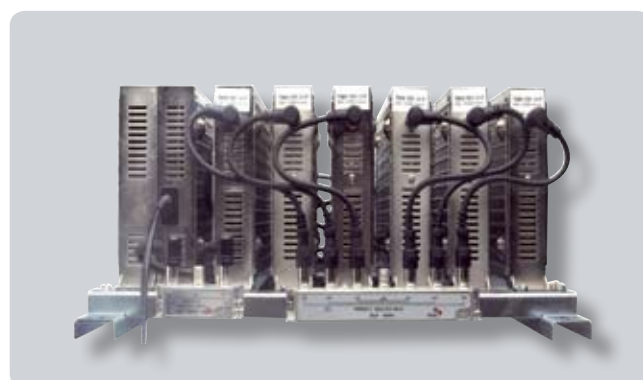
QPSK/RF cross-modulation lines transfer an FTA ("Free-To-Air") programme, resulting from a QPSK satellite transponder, into an RF analogue channel. Sound can be processed in mono or Nicam stereo digital mode. They allow FTA programmes to be broadcasted in a traditional cable television network.



- Infrared receiver integrated
- Power from TSH power supply unit
- Active loop-through (input signal)

## Technical data

Type		TNH 150 SAT-QPSK VHF module	TNH 151 SAT-QPSK UHF module	TNH 154 SAT-QPSK VHF module	TNH 155 SAT-QPSK UHF module	TNH 170 SAT-QPSK VHF/UHF	TNH 172 SAT-QPSK UHF module
Art. No.		324910	324911	324914	324915	324916	324918
Input frequencies	MHz	950 -2150	950 -2150	950 -2150	950 -2150	950 -2150	950 -2150
Output frequencies	MHz	175-300	470-862	175-300	470-862	47 - 862	47 - 862
Output channel		E5-E12 S11-S20	CH 21-CH 69	E5-E12 S11-S20	CH 21-CH 69	E2- CH 69	E2- CH 69
Output level	dB $\mu$ V	93	93	93	93	93	93
Level adjustment	dB	15	15	15	15	15	15
Modulator type		MA / DSB	MA / DSB	MA / DSB	MA / DSB	VSB	VSB
TV standard		B/G, L	B/G, L, I	B/G, L	B/G, L, I	B/G, L, I	B/G, L, I
Audio mode		Mono	Mono	Stereo	Stereo	Mono	Stereo
Input connectors		F-female	F-female	F-female	F-female	F-female	F-female
Loop-through connectors		F-female	F-female	F-female	F-female	F-female	F-female
Output connectors		F-female	F-female	F-female	F-female	F-female	F-female
LNB voltage	V/DC	14	14	14	14	14	14
Power supply		from PSU	from PSU	from PSU	from PSU	from PSU	from PSU
Infrared remote eye		Built-in	Built-in	Built-in	Built-in	Built-in	Built-in
Dimension (HxDxW)	mm	231 x 148 x 35	231 x 148 x 35	231 x 148 x 35	231 x 148 x 35	231 x 148 x 35	231 x 148 x 35
Weight	kg	1.5	1.5	1.5	1.5	1.5	1.5



Output multiplexer

# DVB-S - Twin modules

## SAT-QPSK

QPSK/RF cross-modulation lines transfer an FTA ("Free-To-Air") programme, resulting from a QPSK satellite transponder, into an RF analogue channel. Sound can be processed in mono or Nicam stereo digital mode.

- Master-slave system
- Transform 2 channels from one transponder
- Level separately adjustable
- Slave also as AV-module useable



## Technical data

Type		TNH 250 QPSK twin VHF module	TNH 251 QPSK twin UHF module	TNH 254 QPSK twin VHF module	TNH 255 QPSK twin UHF module
Art. No.		324920	324921	324924	324925
Input frequencies	MHz	950 -2150	950 -2150	950 -2150	950 -2150
Output frequencies	MHz	174-300	470-862	174-300	470-862
Output channel		E5-E12 S11-S20	CH 21-CH 69	E5-E12 S11-S20	CH 21-CH 69
Output level	dB $\mu$ V	95	95	95	95
Level adjustment	dB	15	15	15	15
Modulator type		MA / DSB	MA / DSB	MA / DSB	MA / DSB
TV standard		B/G, L	B/G, L, I	B/G, L	B/G, L, I
Audio mode		Mono	Mono	Stereo	Stereo
Input connectors		F-female	F-female	F-female	F-female
Loop-through connectors		F-female	F-female	F-female	F-female
Output connectors		F-female	F-female	F-female	F-female
LNB voltage	V/DC	14	14	14	14
Power supply		from PSU	from PSU	from PSU	from PSU
Infrared remote eye		Built-in	Built-in	Built-in	Built-in
Dimension (HxDxW)	mm	231 x 148 x 35	231 x 148 x 35	231 x 148 x 35	231 x 148 x 35
Weight	kg	1.5	1.5	1.5	1.5



# DVB-T modules

TER - COFDM

COFDM/RF cross-modulation lines transfer an FTA ("Free-To-Air") programme resulting from a COFDM land multiplex into an HF analogue channel. Sound can be processed in mono or Nicam stereo digital mode. They allow FTA programmes to be broadcasted in a traditional cable television network.

- Infrared receiver integrated
- Power from TSH power supply unit
- Active loop-through (input signal)



## Technical data

Type		TNH 100 COFDM-PAL VHF module	TNH 101 COFDM-PAL UHF module	TNH 104 COFDM-PAL VHF module	TNH 105 COFDM-PAL UHF module	TNH 121 COFDM-PAL VHF / UHF	TNH 122 COFDM-PAL VHF / UHF
<b>Art. No.</b>		<b>324930</b>	<b>324931</b>	<b>324934</b>	<b>324935</b>	<b>324937</b>	<b>324938</b>
Input frequencies	MHz	50.5-858	50.5-858	50.5-858	50.5-858	50.5-858	50.5-858
Output frequencies	MHz	174-300	470-862	174-300	470-862	47-862	47-862
Output channel		E5-E12 S11-S20	CH 21-CH 69	E5-E12 S11-S20	CH 21-CH 69	E2- CH 69	E2- CH 69
Output level	dBμV	93	93	93	93	93	93
Level adjustment	dB	15	15	15	15	15	15
Modulator type		MA / DSB	MA / DSB	MA / DSB	MA / DSB	VSB	VSB
TV standard		B/G, L	B/G, L, I	B/G, L	B/G, L, I	B/G, L, I	B/G, L, I
Audio mode		Mono	Mono	Stereo	Stereo	Mono	Stereo
Input connectors		IEC-female	IEC-female	IEC-female	IEC-female	IEC-female	IEC-female
Loop-through connectors		IEC-female	IEC-female	IEC-female	IEC-female	IEC-female	IEC-female
Output connectors		F-female	F-female	F-female	F-female	F-female	F-female
LNB voltage	V/DC	14	14	14	14	14	14
Power supply		from PSU	from PSU	from PSU	from PSU	from PSU	from PSU
Infrared remote eye		Built-in	Built-in	Built-in	Built-in	Built-in	Built-in
Dimension (HxDxW)	mm	231 x 148 x 35	231 x 148 x 35	231 x 148 x 35	231 x 148 x 35	231 x 148 x 35	231 x 148 x 35
Weight	kg	1.5	1.5	1.5	1.5	1.5	1.5



# DVB-T TWIN modules

## TER-COFDM

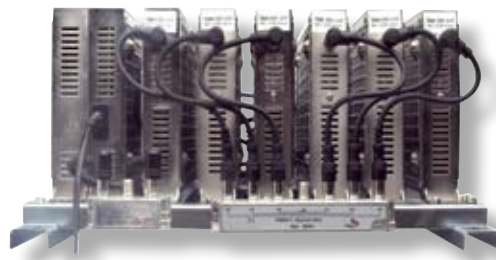
COFDM/RF cross-modulation lines transfer an FTA ("Free-To-Air") programme resulting from a COFDM land multiplex into an HF analogue channel. Sound can be processed in mono or Nicam stereo digital mode.

- Master-slave system
- Transform 2 channels from one transponder
- Level separately adjustable
- Slave also as AV-module useable



## Technical data

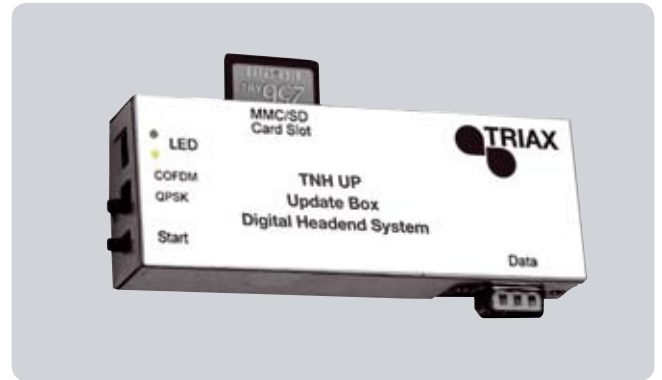
Type		TNH 200 COFDM-PAL VHF module	TNH 201 COFDM-PAL UHF module	TNH 204 COFDM-PAL VHF module	TNH 205 COFDM-PAL UHF module	TNH 221 COFDM-PAL VHF / UHF	TNH 222 COFDM-PAL VHF / UHF
Art. No.		324940	324941	324944	324945	324947	324948
Input frequencies	MHz	50.5-858	50.5-858	50.5-858	50.5-858	50.5-858	50.5-858
Output frequencies	MHz	174-300	470-862	174-300	470-862	47-862	47-862
Output channel		E5-E12 S11-S20	CH 21-CH 69	E5-E12 S11-S20	CH 21-CH 69	E2-E12 S11-S20 CH 21-CH 69	E2-E12 S11-S20 CH 21-CH 69
Output level	dB $\mu$ V	95	95	95	95	95	95
Level adjustment	dB	15	15	15	15	15	15
Modulator type		MA / DSB	MA / DSB	MA / DSB	MA / DSB	VSB	VSB
TV standard		B/G, L	B/G, L, I	B/G, L	B/G, L, I	B/G, L, I	B/G, L, I
Audio mode		Mono	Mono	Stereo	Stereo	Mono	Stereo
Input connectors		IEC-female	IEC-female	IEC-female	IEC-female	IEC-female	IEC-female
Loop-through connectors		IEC-female	IEC-female	IEC-female	IEC-female	IEC-female	IEC-female
Output connectors		F-female	F-female	F-female	F-female	F-female	F-female
LNB voltage	V/DC	14	14	14	14	14	14
Power supply		from PSU	from PSU	from PSU	from PSU	from PSU	from PSU
Infrared remote eye		Built-in	Built-in	Built-in	Built-in	Built-in	Built-in
Dimension (HxDxW)	mm	231 x 148 x 35	231 x 148 x 35	231 x 148 x 35	231 x 148 x 35	231 x 148 x 35	231 x 148 x 35
Weight	kg	1.5	1.5	1.5	1.5	1.5	1.5



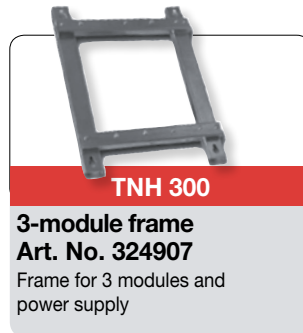
## TNH 011 software update box

- Sub-D data connector
- MMC/SD card slot
- COFDM/QPSK switch
- Software download from internet

**Art. No. 324903**



## TNH accessories



# TCH 600 headend for analogue TV-FM

## Triax TCH 600 compact headend

TCH 600 is an analogue, compact headend with a high level of flexibility. The basic unit holds up to 8 analogue modulators each carrying one VHF, UHF or FM channel. Several basic units can be cascaded in order to reach the number of channels required.

- Flexible - configuration can be changed according to changing needs
- Quick and easy programming
- Analogue satellite modules available in DSB
- Modulator modules available in DSB and VSB
- Individual adjustment of output levels.

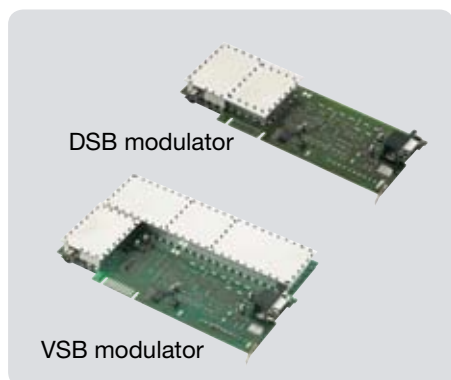


## Technical data TCH 600 basic unit

TYPE	TCH 600 basic unit	
Art. No.	490600	
Number of inputs		1
Number of combined outputs		1
Number of module space		8 analogue
Frequency range		
TV in - TV out - module RF in	MHz	47 - 862
Output level - 8 combined channels		
max. @ 54 dB IMD	dB $\mu$ V	100
max. @ 60 dB IMD	dB $\mu$ V	90
Return loss		
TV in - TV out - module RF in	dB	> 10
Through loss - TV in - TV out	dB	4
Impedance	Ohm	75
Operation voltage	V/AC	190 - 260
Power consumption	W	65 max.
Connector in - out		F female
Operation temperature range	°C	0...+50
Weight	kg	4.1
Dimensions (H x D x W)	mm	200 x 130 x 440



# TCH modulator and converter modules



Plug-in modulator modules for TCH 600 headend



## Technical data TCMA-modulator modules (VSB) VHF/UHF

TYPE		TCMA 673 modulator 490673	TCMA 674 modulator 490674
Art. No.			
Modulator type		VSB	VSB
Band		VHF/UHF	VHF/UHF
TV standard system		B/G, I, L, D/K	B/G, I, L, D/K
Output channel		2...69	2...69
Output level	dB $\mu$ V	90 - 100	90 - 100
Output level attenuator	dB	0 - 10	0 - 10
Video S/N ratio	dB	> 54	> 54
Sound mode		<b>Mono</b>	<b>A2 stereo</b>
Video input CVBS-level	V <sub>pp</sub>	0.7 - 1.3	0.7 - 1.3
Audio input level	V <sub>RMS</sub>	0.5	0.5
Input connector		15 pol SUB-D	15 pol SUB-D
Impedance	Ohm	75	75
Operation temperature range	°C	0...+50	0...+50
Weight	kg	0.350	0.350
Dimensions (H x D x W)	mm	120 x 190 x 45	120 x 190 x 45

## Technical data TCCC and TCFC converters

TYPE		TCCC 677 TV converter 490677	TCCC 678 TV converter 490678
Art. No.			
TV standard system		I, L, D/K	B/G
Input frequency range	MHz	47 - 862	47 - 862
Input level	dB $\mu$ V	65 - 90	65 - 90
Output frequency range	MHz	47 - 862	47 - 862
Output channel bandwidth	MHz	8	7
Output level	dB $\mu$ V	90 - 100	90 - 100
Output level attenuator	dB	0 - 10	0 - 10
Impedance	Ohm	75	75
Temperature range	°C	0...+50	0...+50
Weight	kg	0.377	0.377
Dimensions (H x D x W)	mm	120 x 190 x 45	120 x 190 x 45

# TAS 6 - high selectivity mono-channel filter unit

Adjacent channel-compatible

TRIAx's TAS selective filter unit is the perfect hardware for sizable community networks.

Six-cell filters, which ensure high selectivity and switchable gain from UHF modules, enable the product to adapt to reception sites with a reduced number of references.

These modules operate using a 12 to 24 V<sub>DC</sub> voltage which means TAS products can be used as an extension to existing units.

A cutting feed supplies up to 20 TAS modules.



TAS headend

## Technical data

TYPE	TAS 001	
Art. No.	324801	
Input voltage	VAC/Hz	90 - 264 / 50 - 60
Output voltage	VDC/A	12 / 4,0
Power supply capacity	up to 20 modules	
Dimensions (HxWxL) mm	225 x 58 x 57	
Weight (g)	840	



TAS 001 Power supply module

## TAS accessories

**TAS 009**  
**Mounting frame**  
**Art. No. 324809**  
 For 6 modules + power supply or 8 modules

**TAS 008**  
**DC power supply cable**  
**Art. No. 324808**  
 Lead required to supply a second frame - Length : 50 cm

**TAS 007**  
**Power inserter**  
**Art. No. 324807**  
 24 VDC - 150 mA max.  
 Plug/socket F connections

**RT 75 F**  
**75 Ohm terminator**  
**Art. No. 153054**  
 75 Ohms  
 F-male terminator

**RF cable 15**  
**RF cable w. connectors**  
**Art. No. 153405**  
 RF cable fitted with F-angle quick connector. Length: 15 cm

**RF cable 35**  
**RF cable w. connectors**  
**Art. No. 153406**  
 RF cable fitted with F-angle quick connector. Length: 35 cm

The HF leads are not supplied with the modules.



# TAS 6 - high selectivity mono-channel filter unit

Adjacent channel-compatible

- Modular system
- VHF, UHF and SAT modules
- Switchable UHF gain
- High output level 126 dB $\mu$ V
- 6-cell UHF filters
- Power supply voltage from 12 to 24 VDC
- Power supply 12 VDC/4 A
- Easy rail or wall mounting
- Input and output loop-through flow



TNH headend

## Technical data

Type	TAS 220	TAS 230	TAS 340	TAS 050	TAS 2400
Art. No.	324844	324847	324849	324850	324845
Function	Module FM	Module FM/BIII	Filtre VHF	Filtre UHF	IF/IF amplifier
Frequency range (MHz)	FM 88-108	FM - BIII 88-108 and 174-230	VHF Ch. L5-L10 and Ch. E5-E12 The channel is to be stipulated upon placing your order.	UHF Ch. 21-69 The channel is to be stipulated upon placing your order.	SAT 950-2400
Loop through	No	No	Yes	Yes	No
TV coupling input	dB	-	-	-	- 2
Gain (dB)	40	40	40	Switchable 40 or 50	40
Output level (dB $\mu$ V)	110	110	126	126	120
Standard	DIN 45004B	DIN 45004B	DIN 45004K	DIN 45004K	DIN 45004B -35 dBc
Noise figure	dB	6	6	-	6
Attenuation	0 à 20	FM : 0-20 BIII : 0-20	0-20	0-20	0-20
Equalisation	-	-	-	-	0-10
Number of units	-	-	4	6	-
Selectivity	MHz @ 81 $\geq$ 18 dB MHz @ 115 $\geq$ 18 dB	@ 470 $\geq$ 50 dB	$P_{\text{audio}}(n-1) \geq 14$ dB $P_{\text{vidéo}}(n+1) \geq 14$ dB	$P_{\text{audio}}(n-1) \geq 20$ dB $P_{\text{vidéo}}(n+1) \geq 15$ dB	@ 862 $\geq$ 35 dB
Connection	F- socket bases				
<b>Power supply</b>					
Consumption	(VDC) (mA)	12-24 150			
<b>Mechanics</b>					
Dimensions (WxHxL)	mm	225 x 65 x 30 mm			
Weight	Kg	460			

## 5 to 1000MHz Multiplexers/Terminal blocks for cobining modules

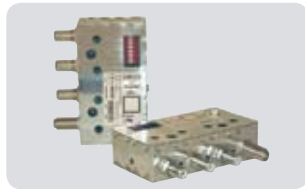
- please look on the relevant pages later in the catalogue



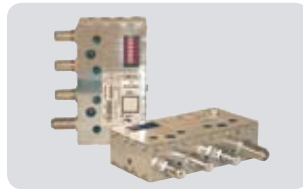
# Triax TCM 08 - modulator headend

## TCM-08 8 modulator unit

The modular design makes it easy to adapt the system to the required number of programmes.



VHF modules for TCM 08



UHF modules for TCM 08



TCM 08

## Technical data - TCM 08 modulator cabinets and CM 02 modulator modules

TYPE		TCM-08 basic unit 300110	TCM-08A basic unit 300111	CM 02V VHF mod. 490898	CM 02U UHF mod. 490899	Nicam encoder 490884
Art. No.						
TV system				(B-D-I-L)+(AU/NZ) (G-K-I-L)+(AU/NZ)		BG
Output frequency range	MHz	47 - 862	47 - 862	<b>175-342</b>	<b>470 - 862</b>	
Picture carrier stability	kHz			< +/-70	< +/-70	
Spurious ref. picture carrier	dB			> - 60	> - 60	
Output level max (IMD @ 60 dB)	dBµV	<b>80 (8 ch.)</b>	<b>105 (8 ch.)</b>	95 +/- 2,5	95 +/- 2.5	
Return loss	dB	>14 @ 47 MHz - min. 10	>14 @ 47 MHz - min. 10	> 10	> 10	
Differentiel gain	%			< 8	< 8	
Differentiel phase	Deg.			< 8	< 8	
Crominance/luminance delay	nS			< 80	< 80	
Luminance non-linearity	%			< 8	< 8	
Video S/N ratio	dB			> 55	> 52	
Sound sub carrier	MHz			5.5 / 6.0 / 6.5	5.5 / 6.0 / 6.5	
Sound sub carrier stability	kHz			< +/-5	< +/-5	
Audio distortion, 1 KHz	%			< 1	< 1	
Audio S/N ratio	dB			> 55	> 55	
Video: - Input level	Vpp			0.8-1.3	0.8-1.3	
- Input impedance	Ohm			75	75	
Audio: - Input level	Vrms			0.5-1.0	0.5-1.0	0.2
- Input impedance	kOhm			10	10	> 10
Power supply - Voltage	DC - mA			12/117	12/110	12/135
Power consumption	W			1.4	1.5	
Connectors - RF output, OUT				1 x F	1 x F	
- Audio/Video input				3 x RCA	3 x RCA	4 x RCA
- Power supply				-via RF output	-via RF output	1 x F
Input voltage	V-ac	190 - 260	190 - 260			
Power consumption (8 moduls)	W	17	20			
Temperature, operation	°C	0..+50	0..+50	0..+50	0..+50	0..+50
Weight	kg	4.4	4.6	0.1	0.1	0.1
Dimensions L x B x H	mm	180 x 440 x 130	180 x 440 x 130	96 x 25 x 67	96 x 25 x 67	96 x 25 x 67



**Video/audio cable for Nicam**  
Modulator cable with scart and 3 phono connector - 100 cm  
Art. No. 300738

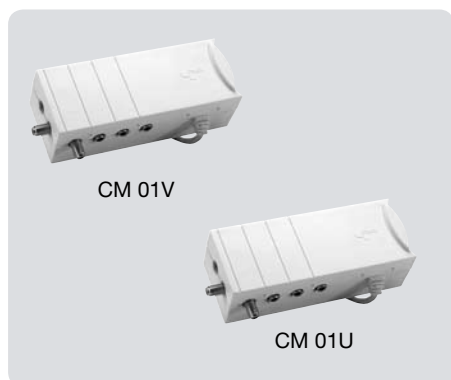


**Video/audio cable**  
Modulator cable with scart and 3 phono connectors - 150 cm  
Art. No. 300743

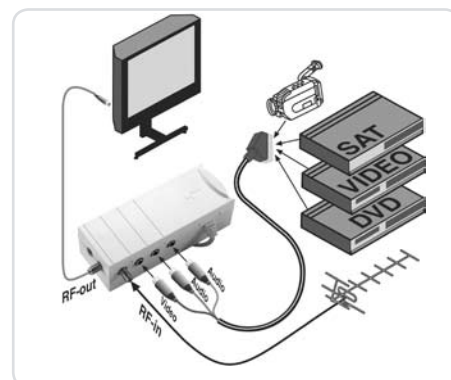
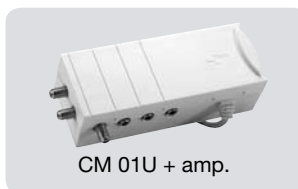


**Spare RF connection cable**  
Length 20 cm Art. No. 452090  
Length 35 cm Art. No. 452091

# Triax stand-alone modulator



**CM 01 single channel stand-alone modulator units**



## Technical data - 1 channel modulator

TYPE		CM 01V type VHF	CM 01U type UHF	CM 01U + amp.
Art. No.	Pal	300101	300102	300116
Number of inputs	Pcs.	1	1	1
Number of outputs	Pcs.	1	1	2
Number of channels	Pcs.	1	1	1
Modulator	Type	DSB Double side band	DSB Double side band	DSB Double side band
Frequency range TV FM	MHz MHz	175 - 335	470 - 860	470 - 860
TV standard		Pal-B	Pal-G	Pal-G
Input level	dB $\mu$ V			max. 70
Gain from RF in to RF out 1 to RF out 2	dB dB			2 10
Output level out 1 out 2	dB $\mu$ V dB $\mu$ V	Max. 80	Max. 80	72 82
Output attenuation	dB	0...10	0...10	0...10
Through loss	MHz	4.0	4.0	
Video Input CVBS-level	Vpp	1	1	0.8...1.0
Audio input level	V RMS	0.5	0.5	0.5...1.0
Power consumption	W	3	3	
Connectors		F-female	F-female	F-female
Impedance	Ohm	75	75	75
Operation voltage	V/AC	230	230	230
Operation temperature range	°C	0 to +50	0 to +50	0 to +50
Dimensions (h x d x w)	mm	75 x 54 x 174	75 x 54 x 174	75 x 54 x 174
Remarks		Use scart cable 300743	Use scart cable 300743	Use scart cable 300743

### CM 01 cable

Art. No. 300743

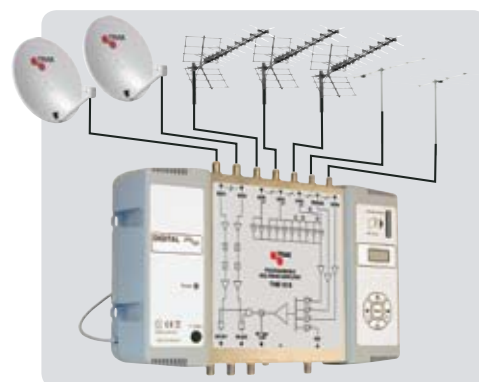
Modulator cable with scart (1.5 m) connector and 3 phone connectors (1 video/2 audio)



# TMB multiband amplifiers

**Triax TMB programmable multi band amplifier** has all the features needed for amplifying and distributing a high number of signals into a network.

- High flexibility
- 10 highly selective and adjustable filters in the UHF frequency range secure high flexibility. Each of these clusters can have 1-7 channels (48 MHz) bandwidth.
- 6 inputs: FM/DAB/VHF/UHF and 3 UHF inputs split over 10 UHF programmable clusters
- Automatic or manual levelling of the signal
- Easy programming - Designed for both digital and analogue operation



TMB 10

## Technical data - TMB multiband amplifiers with adjustable filters

TYPE Art. No.		TMB 6 324571	TMB 10A 324575	TMB 10B 324576	TMB 10C 324578	TMB 10S 324577
Numbers of inputs	pcs	5	5	6	6	8
Numbers of outputs	pcs	1	1	1	1	2
Numbers of channel filters		6	6	10	10	10
Test point		no	Yes (- 20 dB)	Yes (- 20 dB)	Yes (- 20 dB)	Yes (- 20 dB)
<b>Gain</b>						
Input BI/FM	dB	24	48	48	48	43
Input BIII/DAB	dB	35	48	48	48	43
Input VHF and UHF (aux)	dB		39	39	39	33
Input UHF 1	dB	48	55	55	45	48
Input UHF 2	dB	42	55	55	45	48
Input UHF 3	dB	30		55	45	48
Input satellite 1	dB					40 sloped
Input satellite 2	dB					40 sloped
Attenuation	dB	0-20	0-20	0-20	0-20	0-20
Selectivity	dB/MHz		16 / 16	16 / 16	16 / 16	16 /16, 40@862
<b>Noise figure</b>						
BI/FM	dB	9.0/3.0	5.0	5.0	5.0	5.0
BIII/DAB	dB		5.0	5.0	5.0	5.0
VHF and UHF (aux)	dB		10.0	10.0	10.0	10.0
UHF	dB	3.0/5.0/5.0	9.0	9.0	9.0	9.0
Satellite	dB					6.0
<b>Output level (IMD3 /-60 dB/3rd order)</b>						
BI	dB $\mu$ V	103	122	122	122	116
BIII	dB $\mu$ V	108	122	122	122	116
VHF/UHF (aux)	dB $\mu$ V		124	124	124	120
UHF	dB $\mu$ V	112/115/112	124	124	124	120
SAT (-35 dB)	dB $\mu$ V					120
DC power for preamplifier	V/mA	12/50	12 or 24/55	12 or 24/55	12 or 24/55	12 or 24/55
LNB supply	V/mA				0, 13, 17/300	0, 13, 17/300
	kHz				0-22	0-22
Power supply	VAC/Hz	230/50 Hz	230/50 Hz	230/50 Hz	230/50 Hz	230/50 Hz
Connectors		F-female	F-female	F-female	F-female	F-female
Impedance	Ohm	75	75	75	75	75
Temperature, operation	°C	- 10 to + 50	- 5...+ 50	- 5...+ 50	- 5...+ 50	- 5...+ 50
Dimensions (L x H x D)	mm	230 x 130 x 50	360 x 225 x 50	360 x 225 x 50	360 x 225 x 50	360 x 225 x 50

# ARM multiband amplifiers

## ARM multiband amplifiers

ARM are a series of multiband amplifiers with up to 5 separate adjustable inputs, one for each band.



ARM 404



ARM 455



ARM 486

## Technical data - ARM multiband amplifiers

TYPE		ARM 404	ARM 455	ARM 486
Art. No.		324121	324122	324123
Number of inputs		4	5	6
Input 1 - Frequency range	MHz	47 - 68 + 87.5 - 108	47 - 68 + 87.5 - 108	87.5 - 108
Input 1 - Gain	dB	17-32	14-34	16-36
Input 1 - Noise figure	dB	5.0	5.0	8.0
Input 2 - Frequency range	MHz	174 - 230	174 - 230	47 - 68 + 470 - 862
Input 2 - Gain	dB	17-32	14-34	16-36
Input 2 - Noise figure	dB	5.0	5.0	8.0
Input 3 - Frequency range	MHz	470 - 862	470 - 862	174 - 230
Input 3 - Gain	dB	25-40	27-47	16-36
Input 3 - Noise figure	dB	8.0	5.0	7.0
Input 4 - Frequency range	MHz	470 - 862	470 - 862	470 - 862
Input 4 - Gain	dB	25-40	20-40	24-44
Input 4 - Noise figure	dB	8.0	9.0	5.0
Input 5 - Frequency range	MHz		470 - 862	470 - 862
Input 5 - Gain	dB		20-40	24-44
Input 5 - Noise figure	dB		9.0	9.0
Input 6 - Frequency range	MHz			470 - 862
Input 6 - Gain	dB			27-47
Input 6 - Noise figure	dB			9.0
Output level 3.order - VHF	dB $\mu$ V	117.0	117.0	121.0
@ 60 dB IMD - UHF	dB $\mu$ V	117.0	117.0	121.0
Connectors		F	F	F
Impedance	Ohm	75	75	75
Power consumption	W	7	7.5	11.3
Remote supply	V/mA	12/100	12/100	12/60
Operation voltage	V/AC	185 - 265	185 - 265	185 - 265
Operation temperature range	$^{\circ}$ C	0...+50	0...+50	0...+50
Weight	kg	1.250	1.250	1.250
Dimensions (H x D x W)	mm	122 x 70 x 210	122 x 70 x 210	122 x 70 x 210

# Triax IFM indoor multiband amplifiers

## Low noise multi-range amplifiers with digital capability

- 4 highly selective range inputs and one output
- You can select operation range by use of integrated jumper
- Level controller 0...-20 dB at each input
- Low power consumption
- Low-noise inputs for DVB-T
- Die-cast housing with cooling fins for reducing temperature
- F-connectors



IFM amplifier housing

## Technical data on IFM series

Type		IFM 120	IFM 130	IFM 135
Art. No.		339120	339130	339135
Frequency range				
Input 1 - UHF (1)	MHz	470-862	470-862	470-862
Input 2 - VHF III	MHz	174-230	174-230	174-230
Input 3 - VHF I	MHz	-	47-68	-
- UHF (2)	MHz	-	-	470-862
Input 4 - FM	MHz	87.5-108 and	87.5-108	87.5-108 and
- VHF I	MHz	47-68	-	47-68
Input 1 + 2				
Combined with jumpers	MHz	470-862 and	470-862 and	470-862 and
	MHz	174-230	174-230	174-230
Gain (w. level controller 0 dB)				
Input 1 - UHF (1)	dB	22	31	35
Input 2 - VHF III	dB	20	30	34
Input 3 - VHF I	dB	-	30	-
- UHF (2)	dB	-	-	35
Input 4 - FM - VHF I	dB	20	30	34
Level controller at all inputs	dB	0...-20	0...-20	0...-20
Noise figure (w. level controller 0 dB)				
Input 1 - UHF (1)	dB	4	4	7
Input 2 - VHF III	dB	4	4	5
Input 3 - VHF I	dB	-	-	-
- UHF (2)	dB	-	-	7
Input 4 - FM - VHF I	dB	4	4	5
Output level				
IMA3 ≥ 60 dB acc. EN 500873-5	dBμV	113	115	121
IMA2 ≥ 60 dB acc. EN 500873-3	dBμV	102	105	110
RF connectors (75 Ohm)				
Input / Output		F-female	F-female	F-female
Operating conditions acc. EN 60065				
Supply voltage	V	230 / ±10%	230 / ±10%	230 / ±10%
Power consumption	W	3.5	6	7.5
Operating temperature	°C	-25...+55	-25...+55	-25...+55
Protection class		II	II	II
Degree of protection	IP	20	20	20
Screening acc. EN 50083-2		class A	class A	class A
Dimensions W x H x D	mm	150 x 80 x 50	150 x 80 x 50	150 x 80 x 50
Weight	kg	0.68	0.68	0.68
Packing unit		1 pcs. carton box	1 pcs. carton box	1 pcs. carton box
Reference standards				
Product standards/safety/EMC		EN 50083-3 - Class 2 / EN 50083-1; EN 60065 / EN 50083-2		
RoHS 2002/95/EG compliant		Yes		

# Triax multiband amplifiers

## IFM indoor multiband amplifier with F-connectors

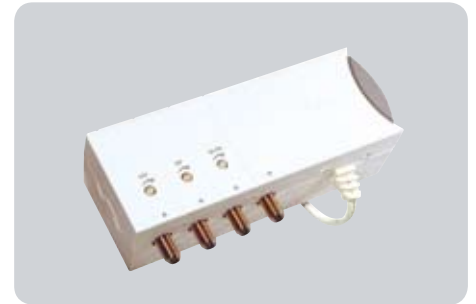
- Attractive housing design
- F-connectors
- Separate adjustable gain on VHF and UHF
- Built-in power supply
- New click-on wall mounting



IFM 102



IFM 103



IFM 104

## Technical data on IFM multiband amplifiers

Type		IFM 102	IFM 103	IFM 104
Art. No.		339102	339103	339104
Input 1	Band	UHF	UHF	UHF
	Channel	21-69	21-69	21-69
	Gain dB	20-30	12-22	25-35
Input 2	Band	VHF	BIII	BIII
	Channel	2-12	5-12	5-12
	Gain dB	12-22	12-22	15-25
Input 3	Band		BI + FM	BI + FM
	Channel			
Noise figure	Gain dB		2-12	15-25
	UHF dB	5.0	4.0	4.5
	VHF dB	3.0	4.0	4.0
Max. output voltage @ -60 dB IMA3	dB $\mu$ V	103	105	103
Number of in-/output		2/1	3/1	3/1
Operation voltage	V/AC	230	230	230
Power consumption	W	2	3	3
Connector	type	F	F	F
Impedance	Ohm	75	75	75
Operation temperature range	$^{\circ}$ C	0...+50	0...+50	0...+50
Weight	kg	0.400	0.400	0.400
Dimensions (h x d x w)	mm	61 x 44 x 118	61 x 44 x 118	65 x 50 x 173
Remarks			Automatic DC-pass to UHF input	

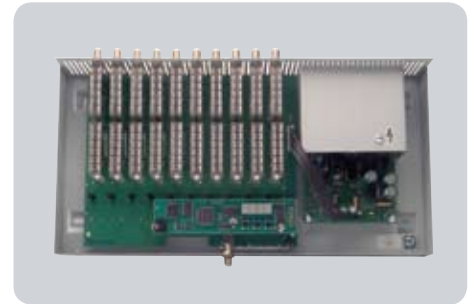
# Triax SCT 100 - IF/IF converter

SCT 100 is a compact SAT-IF-channel converter for 10 channels, which makes it practicable to convert analogue and digital transponders from different satellites. SCT 100 converts any required SAT-IF transponders from its origin position into a free chosen frequency, in the SAT-IF range. The SCT 10 SAT-IF unit can be inserted into existing tree-distribution networks (if the existing cable is suitable for up to 2150 MHz). The splitters, taps and outlets of the distribution system must support the SAT-IF range.

- Programmable SAT-IF transponders processing system for 10 digital and analogue transponders
- AGC operation
- LNB remote feed voltage on each input
- Integrated power supply and programming unit
- Output level separately adjustable for each channel



SCT 100 IF/IF converter



SCT 100 IF/IF converter

## Technical data - SCT 100 - IF/IF converter

<b>TYPE</b>	<b>SCT 100</b>	
<b>Art. No.</b>	<b>364100</b>	
Numbers of inputs		10
Input frequency range	MHz	950 - 2150
Input level	dB $\mu$ V	52 - 75
Frequency steps	MHz	1
LNB feeding voltage	V/mA	12 / 250 per input (max. 500 mA total)
Spurious emission	dBm	- 63
Intermediate frequency	MHz	480
Line output	MHz	950 - 2150
Line output attenuation	dB	max. - 3.0
Connections		F-con
Impedance	Ohm	75
<b>Output basic unit</b>		
Output frequency range	MHz	1000 - 2150
Frequency steps	MHz	1 MHz
Oscillator suppression	dB	> 20
Spurious emission	dB	$\pm$ 26
Variable attenuator	dB	- 20
Output level - typ.	dB $\mu$ V	85
<b>General data</b>		
Power consumption	W	max. 40
Operation voltage	V/AC	190 - 260
Operation temperature range	$^{\circ}$ C	0 to +50
Weight	kg	3.0
Dimensions (H x D x W)	mm	195 x 80 x 280



# Triax TCC 19" compact cabinet

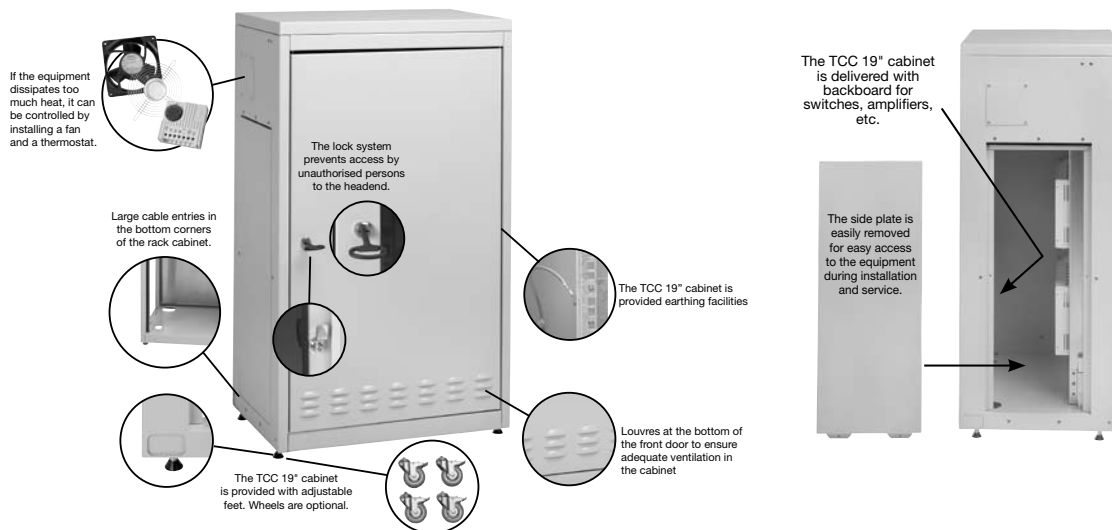
## 19" swing rack cabinet providing easy access and excellent overview

If more basic units are built together, they can conveniently be inserted in Triax's 19" swing rack providing an excellent overview and easy access to all connections and programming units.



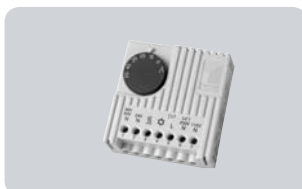
## Technical data - TCC 19" compact cabinet

TYPE		TCC 19" cabinet with glass door 251493	TCC 19" cabinet with steel door 251494
Art. No.			
Colour		Grey (Ral 7030)	Grey (Ral 7030)
Height (outer)	mm	1100	1100
Width (outer)	mm	650	650
Depth (outer)	mm	450	450
Backboard dimension (H x W x D)	mm	940 x 550 x 16	940 x 550 x 16
Units in mountring frame	pcs.	21	21
Remarks		Backboard included	Backboard included

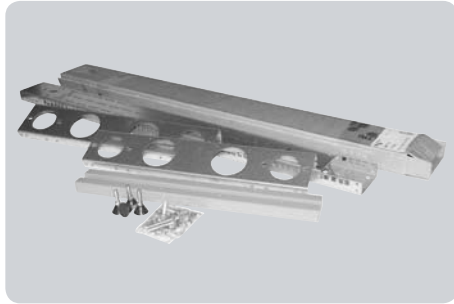


## Accessories

TYPE		Fan 230V	Protection grid	Thermostat	4 Wheels with lock	Key for EMKA lock
Art. No.		708020	708017	708028	737030	848616
Dimension (H x W x D)	mm	120 x 120 x 38	Ø 115	70 x 70 x30	Ø 74 on wheels	
Outer pack	pcs.	1	1	1	1	1
Remarks					4 in a set	Security lock



# Triax mounting frame TMF 512



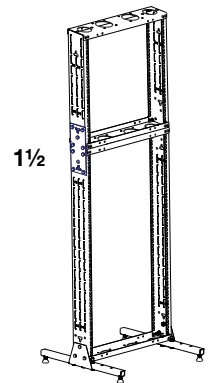
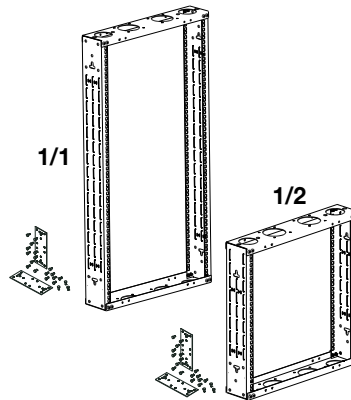
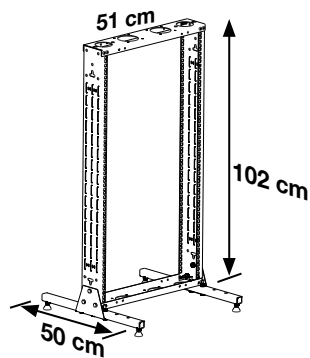
Complete TMF 512 pack

**Use the possibilities of an open 19" mounting frame providing easy access and excellent overview**

With the open 19" mounting frame Triax offers you a quite new and functional mounting solution for your headend if more units are built together.

## Technical data - TMF 512 mounting frame

TYPE		TMF 512 19" basic frame 251512	1/1 - 19" frame with fittings 251513	1/2 - 19" frame with fittings 251514
Art. No.				
Colour		Galv. steel	Galv. steel	Galv. steel
Height (outer)	mm	1020	1020	510
Width (outer)	mm	510	510	510
Depth (outer)	mm	500	500	500
Units in mountring frame	pcs.	21	21	10
Remarks		Wheels as option	Fittings included	Fittings included



## Accessories

TYPE		Set of screws 737040	Brackets for CM 04 unit 737029	4 Wheels with lock 737030	19" Shelf 251496
Art. No.					
Dimension (H x W x D)	mm		75 x 42 x 24	Ø 74 on wheels	81 x 44.45 x 270
Outer pack	pcs.	1	1	1	1
Remarks		10 nut bushings 10 M6x8 screws 10 plastic washers		4 in a set	19" shelf for satellite receiver for use together with e.g. the TCM 08 or TCH modulator modules



# Triax indoor multi distribution cabinets

## Indoor wall cabinets with steel backboard

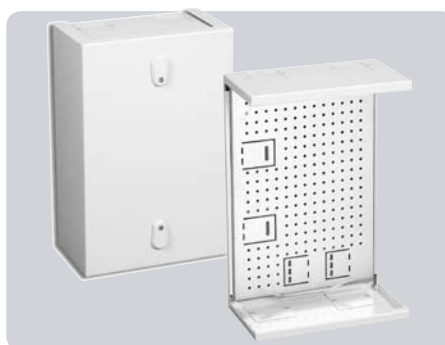
- Cable entries in top and bottom
- 2 EMKA locks
- Steel mounting backboard with pop-up brackets for taps, splitters and pouyet connectors
- Wooden backboard also available



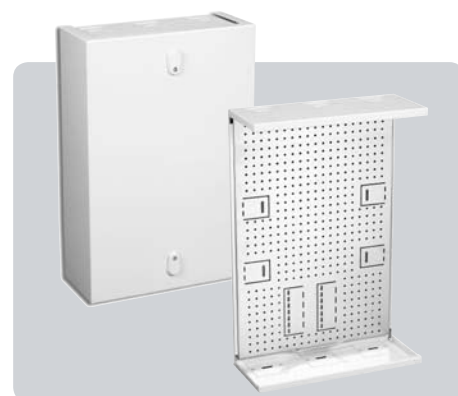
MDU 8 - lock box

## Technical data - MDU lock box

TYPE		MDU 8 lock box 251000	MDU 16 lock box 251005	MDU 32 lock box 251010
Art. No.				
Colour		Grey (Ral 7035)	Grey (Ral 7035)	Grey (Ral 7035)
Height (outer)	mm	370	490	660
Width (outer)	mm	270	320	440
Depth (outer)	mm	180	180	180
Mounting volume				
- height	mm	325	445	615
- width	mm	250	300	420
- depth	mm	160	160	160
Locking system				
- lock type		2 x EMKA 1000	2 x EMKA 1000	2 x EMKA 1000
- locking system		2 x single cam	2 x single cam	2 x single cam
- lock protection		2 x teardrop	2 x teardrop	2 x teardrop
Door type		Cabinet cover	Cabinet cover	Cabinet cover
Cable entries	pcs.	2 top/2 bottom	2 top/2 bottom	3 top/3 bottom
Packaging		Carton box	Carton box	Carton box
Weight	kg	7.2	10.0	15.6
Remarks		Backboard included	Backboard included	Backboard included



MDU 16 - lock box



MDU 32 - lock box

# Triax outdoor wall cabinets



11S cabinet - open

## 11S series of outdoor wall cabinets with 3-point security locking system and backboard.

- Keyhole slot in each corner for easy wall mounting
- 3-point security locking system
- Safety lock protected by teardrop
- Stay-hook on door
- Cable entries at the base with cover plates

## Technical data - 11S outdoor wall cabinets

TYPE		11S 6	11S 8	11S 10
Art. No.		160622	160822	160922
Colour		Grey (Ral 7030)	Grey (Ral 7030)	Grey (Ral 7030)
Height (outer)	mm	600	800	940
Width (outer)	mm	396	516	790
Depth (outer)	mm	240	240	325
Mounting volume				
- height	mm	447	660	800
- width	mm	330	450	700
- depth	mm	220	220	305
Locking system				
- lock type		1 x EMKA 1000	1 x EMKA 1000	1 x EMKA 1000
- locking system		3 point security	3 point security	3 point security
- lock protection		Teardrop	Teardrop	Teardrop
Door type		Hinged	Hinged	Hinged
Cable entries	pcs.	3 in bottom	3 in bottom	3 in bottom
Packaging		Carton box	Carton box	Carton box
Weight	kg	14.4	14.4	14.4
Remarks		EMKA lock included	EMKA lock included	EMKA lock included



11S 8 cabinet

## Fibre optic systems

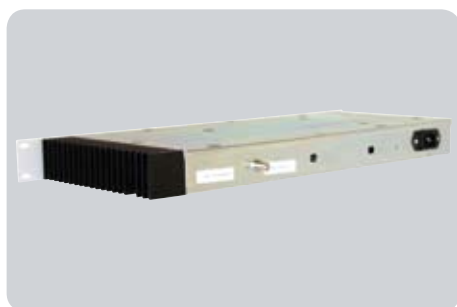
- Hybrid Fibre Coax optical transmitter (HFC)	126
- Hybrid Fibre Coax receiver node (HFC)	127
- Passive optical splitters	128
- Virtual optical converters	129
- Optical accessories	130
- Optical LNB	131



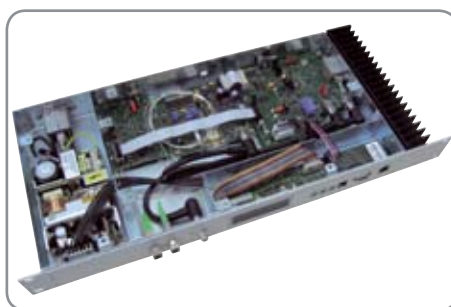
# Triax hybrid coax optical transmitter

The Triax OTXS-xx optical transmitter converts electrical CATV signals into intensity modulated optical signals for transmission via optical fibre cables. The transmitter is built into a 19"/1 HU cabinet. Optical output, RF test point, interfaces for RS232 and Ethernet are located on the front panel in addition to a display and 3 buttons for handling. The RF input and the input for main power supply are situated on the rear panel.

The transmitter has the ability to be remote controlled via Ethernet using i.e. Internet Explorer or Firefox. SNMP monitoring read only is implemented. The modulation of the laser diode is gain controlled depending on the number of channels, so the optimum modulation index is always ensured. Additionally the transmitter owns the facility to adapt the modulation manually or via remote control.



OTXS - back



OTXS 0X



OTXS - front

## Technical data

Type		OTXS 06	OTXS 08	OTXS 10	OTXS 12	OTXS 16	OTXS 20
Art. No.		307506	307508	307510	307512	307516	307520
Number of transmitters		1	1	1	1	1	1
Input connectors (for RF)		F-connector					
Output connectors (for fibre optic cable)		SC/APC					
RF input							
Frequency range	MHz	47 - 862	47 - 862	47 - 862	47 - 862	47 - 862	47 - 862
Level (OMI = 5% @ 42 ch. CENELEC)	dB $\mu$ V	85 $\pm$ 3	85 $\pm$ 3	85 $\pm$ 3	85 $\pm$ 3	85 $\pm$ 3	85 $\pm$ 3
Adjustable offset	dB	$\pm$ 3	$\pm$ 3	$\pm$ 3	$\pm$ 3	$\pm$ 3	$\pm$ 3
Linearity	dB	$\pm$ 1.5	$\pm$ 1.5	$\pm$ 1.5	$\pm$ 1.5	$\pm$ 1.5	$\pm$ 1.5
Return loss	dB	>18	>18	>18	>18	>18	>18
CTB (Non linear distortion) (Popt in=4dBm, OMI=4%)	dB	>65	>65	>65	>65	>65	>65
CSO --	dB	>60	>60	>60	>60	>60	>60
Relative intensity noise	dB/Hz	<-155	<-155	<-155	<-155	<-155	<-155
Carrier to noise (Popt in=4dBm, OMI=4%, B=5MHz)	dB	>50	>50	>50	>50	>50	>50
Test point (F-connector, front)	dB	-20	-20	-20	-20	-20	-20
Optical System							
Laser type		DBF, cooled					
Optical output power	mW	6.0	8.0	10.0	12.0	16.0	20.0
Optical output power	dBm	8.0	9.0	10.0	11.0	12.0	13.0
Additional							
Control unit		3 buttons, LCD 2-lines/16 char.					
Remote control		RJ45, TCP/IP, SNMP r/o					
Cascade (for extra upstream receivers (ORxR))		Via RJ11					
Software update		RS232, 9-pin					
Housing		19", 1 HU					
Power supply	VAC	180 - 253					
Dimensions (w x h x d)	mm	480 x 43 x 205					

OTXSxxR, Return Channel Receiver fitted (more info upon request)

# Triax Fibre optic receiver node

The Triax ORB 901 is a compact fibre optic receiver node product designed to work in tandem with the OTXS-xx fibre optic transmitter product. The Triax ORB 901 converts the fibre optic transmission signal back to a traditional coax based RF signal. An optional return channel board is available for a later upgrade, or at delivery under the type ORB 911.

The relatively wide sensitivity range of the unit means that it can be placed in many different places as 'islands' of CATV installations without too much focus on distance from the fibre optic transmitter. The ALC ensures a uniform output level independent upon input signal.



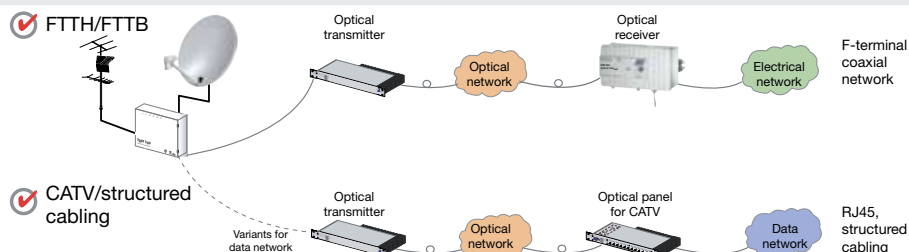
ORB 901 receiver node



ORB 901 receiver node

## Technical data

Type		ORB 901	ORB 911
Art. No.		307570	307572
Input parameters			
Number of receivers		1	1
Input connectors (from transmitter)	GHz	SC/APC	SC/APC
Output connectors (for RF)	db	F-female	F-female
Optical input power	dBm	-8 - +3	-8 - +3
Reception wavelength	nm	1290 - 1600	1290 - 1600
Frequency range	MHz	47 - 862	86 - 862
RF-output level (OMI= 5%@42 ch. CENELEC)	dBμV	104	104
Frequency response	dB	± 1	± 1
Return loss	dBm	>18	>18
Carrier to noise (Popt, in = - 2 dBm)	dB	52	52
Carrier to noise (Popt, in = - 8 dBm)	dB	45	45
Return Channel			
Frequency range	MHz		5 - 65
Frequency response	dB		± 2
Optical output power	dBm		0
Output connector (for fibre optic cable)	MHz		SC/APC
Wavelength	nm		1310
RF input	dBμV		85
Intermodulation (2nd and 3rd order, 2ch, OMI=5%)	dB		35
Reception wavelength	nm		1200 - 1600
Additional			
Power supply	VAC	180 - 253	180 - 253



# Triax passive optical splitter

- for building passive optical networks

The Triax fibre optical TOS passive splitter/coupler units let you build passive optical networks (PON) in virtually any size and split ratio.

Using any combination of the 2, 4 and 8-way optical splitters, passive optical networks can be realized that satisfy almost any requirement for network coverage. Using the TOS splitters in tandem with the optical LNB products the link budget allows splitting into 32 ways.

- ✓ For singlemode systems
- ✓ Dual window use (1310nm/1550nm)
- ✓ Uniform splitting ratio (1x2: 50/50%)
- ✓ Excellent environmental & mechanical stability
- ✓ Low insertion loss
- ✓ With 1 meter cables, FC/PC pre-connected



TOS 02 optical splitter



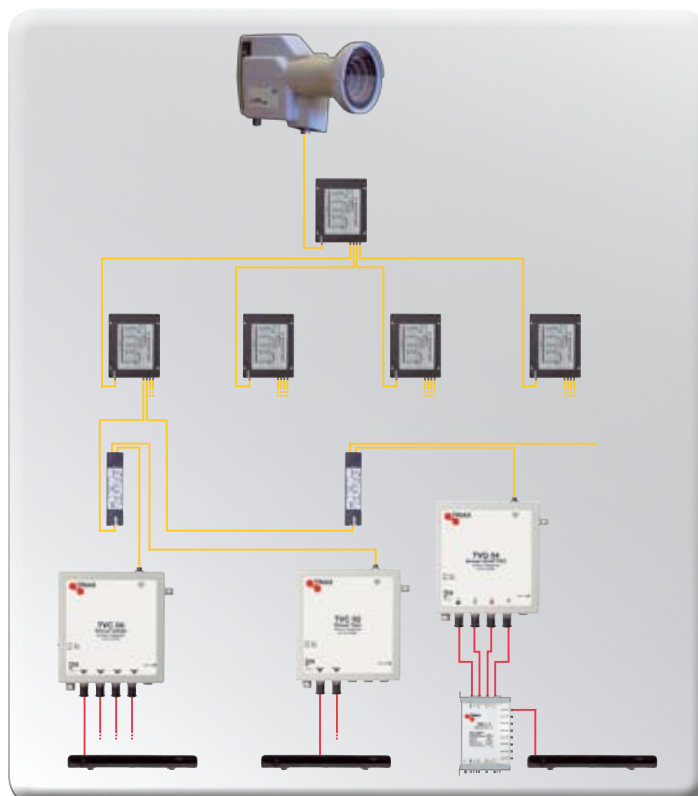
TOS 04 optical splitter



TOS 08 optical splitter

## Technical data

Type		TOS 02	TOS 04	TOS 08
Art. No.		307632	307634	307638
Number of inputs		1	1	1
Number of output		2	4	8
Pre-connected with (in and out)		FC/PC	FC/PC	FC/PC
Cable length	m	1	1	1
Coupling ratio	%	50/50	25/25/25/25	8x12,5
Insertion loss (typ.)	dBm	3,8	6,8	10,6
Wavelength	nm	1310/1550	1310/1550	1310/1550
Wavelength bandwidth	nm	± 40	± 40	± 40





# Triax virtual optical converter

- IF Receiver Nodes for TWIN, QUAD and QUATTRO use signal

The virtual converter receives an optical signal via a passive optical network (PON) from the optical LNB. It then performs a de-stacking frequency conversion, and outputs two or four universal lines for driving two or four individual set top boxes. A QUATTRO version presents the four individual polarities on separate coax outputs and is suited to drive a normal multi switch system. This effectively eliminates the limitations on cable lengths and number of users everyone has had to live with from the birth of satellite reception.

- ✓ Converts optical SAT-IF signals into IF
- ✓ Solutions for both direct STB connection and multi switch use.
- ✓ Supports from single direct connection and up to a 32 way passive optical network
- ✓ Requires an optical LNB (TOL32) front-end
- ✓ 4 polarities in one single fibre optical cable.



TVC 02 virtual optical converter



TVC 04 virtual optical converter



TVQ 04 virtual optical converter

## Technical data

Type		TVC 02	TVC 04	TVQ 04
Art. No.		307620	307622	307624
Input parameters				
RF frequency range, vertical polarities	GHz	0.95 – 3.0	0.95 – 3.0	0.95 – 3.0
RF frequency range, horizontal polarities	GHz	3.4 – 5.45	3.4 – 5.45	3.4 – 5.45
Optical				
Optical RLR (min.)	db	20	20	20
Optical power, small PON setting (min.)/(max.)	dBm	-13/0	-13/0	-13/0
Optical power, large PON setting (min.)/(max.)	dBm	-18/-14	-18/-14	-18/-14
Aggregate equivalent RF power (min.)/(max.)	dBm	-60/-20	-60/-20	-60/-20
Nominal satellite transponder levels (min.)/(max.)	dBm	-80/-40	-80/-40	-80/-40
Satellite transponders		120	120	120
Input connector		FC/PC	FC/PC	FC/PC
RF Frequency Range (Output Parameters)				
Horizontal high band (converted from 4.4 to 5.45 GHz)	MHz	1100-2150	1100-2150	1100-2150
Vertical high band (converted from 1.95 to 3.0 GHz)	MHz	1100-2150	1100-2150	1100-2150
Horizontal low band (converted from 3.4 to 4.4 GHz)	MHz	950-1950	950-1950	950-1950
Vertical high band (converted from 0.95 to 1.95 GHz)	MHz	950-1950	950-1950	950-1950
Return loss (min.)	dB	10	10	10
Gain ripple across band (max.)	dB	4	4	4
Gain ripple across 30MHz (max.)	dB	1	1	1
Nominal output level (per. transponder)	dBm	-65 (min.), -25 (max.)		
OIP3 (min.)	dBm	+10	+10	+10
Isolation (unwanted path to selected path)	dB	30	30	30
In band spurious power (min.)	dBc	-25	-25	-25
Out of band spurious power (max.)	dBm	-60	-60	-60
LO power (max.)	dBm	-60	-60	-60
Integrated phase noise (integrated from 1kHz to 13MHz)	°RMS	4	4	4
Output frequency stability/accuracy (max.)	kHz	320	320	320
Output connectors		2x and 4 x F-female		
Others				
Power consumption (at 12 VDC)	mA	<300	<300	<300
Power supply (QUAD and TWIN versions)		From STB	From STB	From STB
Power supply (QUATTRO versions)		External PSU	External PSU	External PSU
Power input (plug to optionally supply converter externally)	VDC	+20	+20	+20
Level switch				
Passive optic network size switch (levels of splitting)		STD / SML	STD / SML	STD / SML