

# Satellite dishes with partnerships

Dishes, LNBs, Switches and a partner delivering the expected results to both end-users and distributors







## usiness results do not come out of the blue sky

Satellite dishes are not only mass volume products in their own right, but are also keys to a much broader market for TV entertainment, including network subscriptions and a wide range of systems and products giving the end-user maximum benefit.

Triax's range of dishes includes competitive and leading products for mainstream markets, and also includes products needed to serve and develop end-user segments with special and more sophisticated requirement.

Our contribution to market development is however much greater than superb products. By simplifying logistics we enable our partners to operate efficiently and profitable in their markets. And by offering more in terms of innovation and added-value products we make an effort in developing the business of our partners.

 DAP Fibre Glass Dishes with high durability even in coastal areas and mountain regions

- Triax Basic Dishes offering valuefor-money and probably the best dish you can offer as promotion
- LNBs and all other complementary items for direct-to-home or community network installations
- Accessories suchs as different types of LNB brackets, splitters, plugs and outlets

Apart from the dishes and accessories presented in this brochure, the Triax's product range covers all the systems and products needed in the distribution of TV-signals, including set-top boxes, aerials, systems for community networks, etc.

We can deliver satellite dishes as complete systems including set-top boxes and LNBs and in consumer packaging. And we can deliver dishes in bulk to your stock or packaging line, with brackets and other components packed in bulk or as individual sets.

Cooperation on efficient logistics can go far beyond packaging and delivery. Triax is well prepared for electronic handling of orders and for offering for example online support to your customers. A simple and less sophisticated example of cost saving logistics is the clear and detailed instructions enclosed with all our products, saving our distributors a lot of support time.

TRIAX

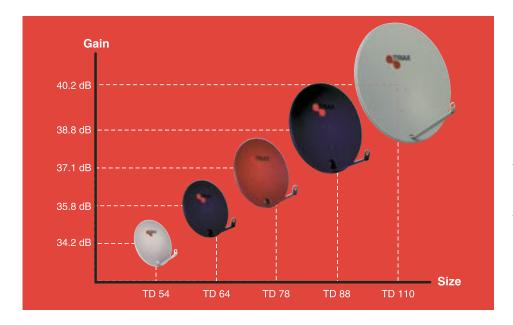
## Satisfying consumer demands

Triax's range of satellite dishes includes

- TD dishes for end-users demanding long lasting quality solutions and for installers who want to minimize the time spent on installations
- Unique Multi Reception Dishes covering up to 5 different satellites with one dish developed by comprehensive research

# Saving costs through efficient partnerships

All Triax products can be ordered, packed and delivered in different ways optimizing your handling and distribution. We can deliver in bulk and packed exactly in the way, that best enables you to save costs and achieve your desired results.



TRIAX offers a series of dishes with appropriate small gain intervals of approx. 1.5 dB between each variant from which the different dish sizes result.

## Sustaining your brand image

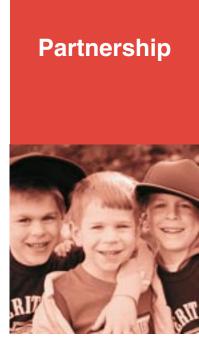
All our dishes can be delivered as own label products – in the colours and with the branding you desire, provided that ordering quantities are sufficient. Triax's efficient quality control guarantees a consumer experience reflecting positively on your brand.

## Quality in all processes is the basis

All Triax dishes are manufactured at our own production plants and with the use of robots and precision tools to achieve uniform, high quality. Triax is of course ISO 9001 certified and our quality management system encompasses all processes from the reception of coils and other raw materials to order handling.



Automation and robots ensure, that each and every dish has the optimum geometry developed by Triax







All Triax dishes are wind-tunnel tested according to ETSI standard ETS 300784. This requires the dish to be exposed to varying wind velocities of up to 42 m/s from all directions and elevations.



The anticorrosive coating process is fully automated and includes cleaning, phosphating and polyester powder coating. The efficiency of the process is tested in largescale salt mist chambers and in long-term tests at the North Sea.



Mechanical strength is tested by exposing the dish to 100.000 vibrations at resonance frequencies.



## lasting result mounted in two minutes

### **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.

### 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:

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

### A dish for any job

TD dishes are available in sizes, materials and colours for any job ranging from single to multiple use 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 anticorrosive 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

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 reception,



The coaxial cable is led through the feedarm to the back of the dish where an extra plastic lockin device ensures safe fixture of the feedarm.

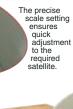


and with
mechanical
tests (100.000
vibrations) and wind
tunnel tests (ETS 300784)
ensuring consumers a solid and
lasting product.



The stable mast bracket with extra teeth prevents the dish from turning.

Depending on dish size 1, 2 or 3 U-brackets are used and easily fixed.





### **Accessories for perfect installations**



The feedarm, pre-mounted on the reflector bracket, is simply unfolded and clicked in place.



6º Duo-Block

The 6º Duo-Block for Ø40 mm LNBs is an elegant solution for reception from two satellite positions: e.g. Eutelsat (Hotbird) and ASTRA.

Available in black and grey.



LNB weather protection cap

Complete cover for protecting the LNB for example in coastal areas. Fits all LNB types, angular as well as axial. Available in four colours





A cover can be added on to give the dish a perfect visual touch and to protect the feed-arm system.



3° to 10° Flexi-Block A Flexi-Block (3º to 10º) for two

Ø40 mm LNBs is also

available for the TD-series.



### Quality





#### Polarmount for TD dish

Used with a motor for adjusting the elevation of the TD dish on one axis and access to all geostationary satellites along this axis



#### Flexible solution

We can deliver satellite dishes as complete systems including set-top boxes and LNB's in consumer packaging.

We can also deliver dishes in bulk to your stock or packaging line, with brackets and other components packed in bulk or in individual sets.







### ne dish covering up to 4 different satellites Unique Multi Reception Dish

With the increasing number of satellites there follows a consumer wish to receive signals from different satellite positions. Furthermore access to extra satellites is an idea with promotional potential, as it gives consumers more freedom of choice, including lots of free, un-encoded entertainment.

Using one dish for each satellite is both expensive and impractical. It is also unnecessary, as Triax with the Unique Multi Reception Dish has developed the right alternative.

### A great idea and easy to execute

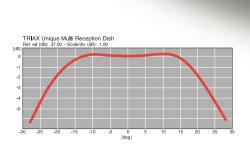
As the dish has no moveable parts it is as quick and easy to mount as a traditional dish. Each of the up to four LNB-holders can be adjusted separately.

Later, if and when a new satellite becomes relevant to the user, it is furthermore easier to adjust an LNBholder or mount an additional holder when compared to the time needed for mounting separate dishes.

## High gain in a 30° range

Triax Unique Multi Reception Dish is the result of our research into semiparabolic shapes and into the shapes' influence on available gain in both main and side directions.

Through a special shaping of the reflector, we have stretched the focal point into a focal line whilst still letting each LNB utilize the whole of the dish surface. Thus the Unique dish successfully combines efficient area utilization of side mounting with the broad and uniform azimuth beam coverage of the alternative, but less efficient torus antenna.



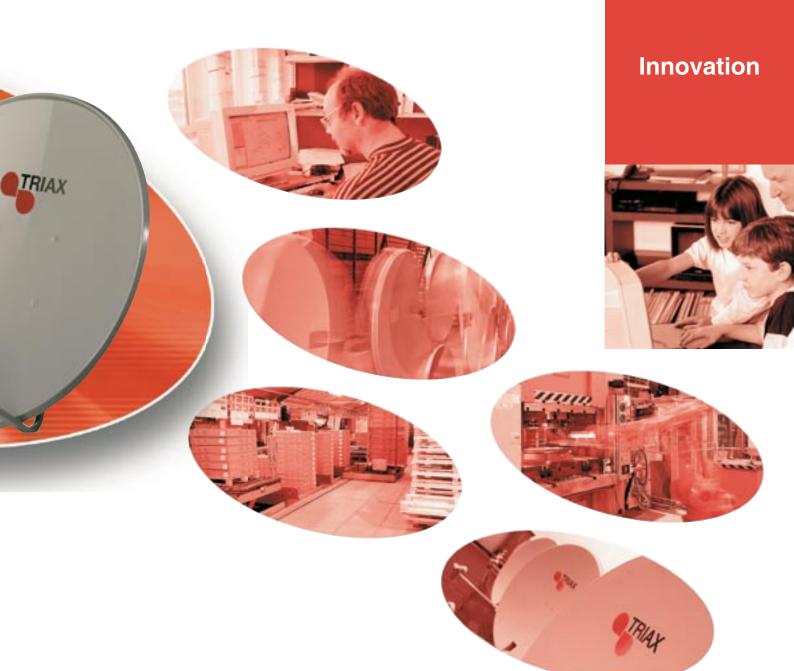
Gain distribution vs. azimuth beam angle using the Unique Multi Reception Dish compared with a high-quality 70x78 cm dish (TD 78). It is obvious, how the Multi Reception design retains gain even at large changes of azimuth beam angles.

### Lasting Triax quality

The now conventionally shaped Multi Reception Dish is as resistant to corrosion and mechanical strain as other Triax dishes.

It is manufactured of pre-galvanised steel and is finished with a strong polyester coating.

Tests of mechanical strength include windtunnel testing according to ETSI standard, ETS 300784.





est buy for effective promotions TRIAX Basic Dishes

When you want to promote dishes and satellite-TV at bargain prices, Triax Basic Dish is probably the best buy you can offer to consumers.

Although a budget product, Triax Basic Dishes are computer designed like all our other dishes and manufactured with the same high precision as all our other Triax dishes. The finish is an effective anti-corrosive treatment and tests of mechanical strength include wind-tunnel testing according to ETSI standard, ETS 300784.

#### **Triax Basic Dishes are**

- Available in 60, 75 and 85 cm size with gains ranging from 35.8 dBi to 38.8 dBi
- Easy to mount with the solid mast bracket and an elevation scale for easy adjustment

 Available from stock in 100 pcs. bulk and packed to minimize costs of transportation Triax Basic series has enormous market penetration in most European countries, the Middle East and North Africa. It is the default dish choice of many leading retailers and satellite networks. The present products and the efficient order-handling logistics have thus been optimized for satisfying consumers and installers as well as distributors.









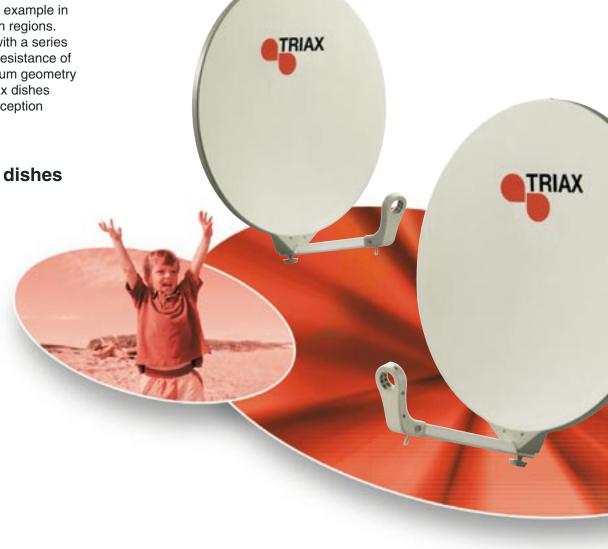
### urability and perfect reception DAP Fibre Glass Dishes

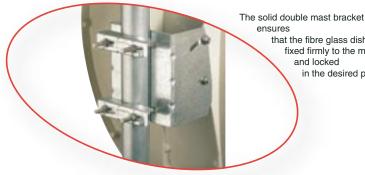
Fibre glass dishes are the preferred choice in some markets and are the most durable long-term solutions in difficult environments, for example in coastal areas or mountain regions. Triax fulfils the demand with a series of dishes combining the resistance of glass fibre with the optimum geometry that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

**DAP Fibre Glass dishes** are 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 with exposure to more than 100.000 vibrationsat resonance frequencies.





that the fibre glass dish is fixed firmly to the mast, and locked in the desired position

> Accessories to DAP Fibre Glass Dishes include a 3º-10º Flexi-Block

for reception of signals from two different satellites



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.

The elliptical shape is also beneficial for upgrade to multisat reception.

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

- Tilt movement/skew adjustment
- Integrated spirit level for correct alignment first time
- Upgradeable for multisat reception
- Polyester powder coated reflector and bracketry
- Pole or pole/wall mounting
- Packed in singles, 5-packs or bulk

### **Market focus**







dds quality at almost no extra cost Triax Universal LNBs

LNBs (Low Noise Block Converters) are the signal's "way in" to distribution systems, and accuracy in LNB conversion of high frequency satellite signals is critical to the end-result, the TV-pictures.

Triax supplies a full-range of quality LNBs, complementing our range of satellite dishes and available as individual items or in bulk and packed together with dishes, in the combinations and packaging form that optimizes your distribution.

### State-of-the-art in LNB units

Triax Universal LNBs meet all the most critical demands. With extremely low noise figures of 0.6 dB in both high and low band, and with excellent cross polar isolation.

To facilitate the work of the installer, all our LNBs have a positive gain slope, that compensates differences in high/low frequency cable attenuation and ensures approximately equal strength of high and low band signals.

### **Triax Universal** LNBs in brief

- · Available as single, dual and quad versions for connection to 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
- Excellent noise figures - 0.6 dB in both high and low band
- High cross polarization performance, minimum 20 dB and typically >25 dB

- Outstanding 1700 MHz in-band spurious level
- Positive gain slope to prevent high band intermodulation problems
- Low power consumption
- Waterproof and qualified for harsh environments

Switching between low band (10.7 GHz-11.7 GHz) and high band (11,7 GHz-12.75 GHz) is accomplished by a 22 kHz tone signal.



#### Triax Universal Single LNB

For the typical private home installation with 1 set-top box



#### Triax Universal Twin LNB

set-top boxes in individual homes or for example in semi-detached houses.



#### **Triax Universal Quad LNB**

For connection to four separate set-top boxes for example in a multiapartment house.



### 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.

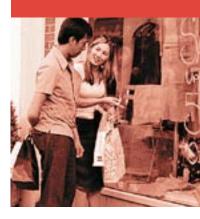
With the Triax MFD series you can offer both the installer and the consumer an extremely reliable and easy-to-install DiSEqC switch. Product features include:



- 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 Fconnectors for cable mounting and a releasable strap for mast mounting
- LED-indicators for easy control of installation
- · Instructions enclosed in the housing







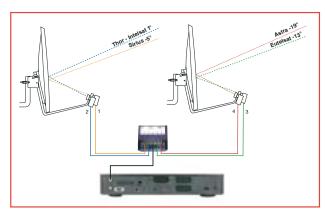
MFD DiSEqC switches can be used with single, dual and quad LNBs, i.e. with a DiSEqC switch connected to each of the set-top boxes having access to more than one satellite position.



#### Triax Universal Quattro LNB

For MATV/SMATV installations. This LNB is compatible with any kind of multi switch. Triax manufactures a range of different multi switch systems and all other units needed for complementing the installation.





## Facts about TD-galvanised steel dishes



### **Technical Data on TD-galvanised steel dishes**

TYPE		TD 54	TD 64	TD 78	TD 88	TD 110
Size		50 x 55 cm	60 x 65 cm	70 x 78 cm	85 x 95 cm	100 x 105 cm
Single carton boxes		Painted arm and brackets				
Part No. (Light grey) (Grey) (Anthrazit) (Brickred)	Ral 7035 Ral 7030 Ral 7016 Ral 8012	122528 122501 122502	122628 122601 122629 122630	122728 122701 122729 122730	122828 122801 122829 122830	122908 122901 122912 122910
Single carton boxes						
Part No. (Light grey) (Grey) (Anthrazit) (Brickred)	Ral 7035 Ral 7030 Ral 7016 Ral 8012	122518 122510 122512 122505	122618 122610 122612 122634	122718 122710 122712 122734	122818 122810 122812 122805	
50 pcs. TD bulk						
Part No. (Light grey) (Grey) (Anthrazit) (Brickred)	Ral 7035 Ral 7030 Ral 7016 Ral 8012					122904 122924 122926
100 pcs. TD bulk						
Part No. (Light grey) (Grey) (Anthrazit) (Brickred)	Ral 7035 Ral 7030 Ral 7016 Ral 8012		122667 122672 122668 122669	122749 122737 122754 122764	122867 122823 122868 122869	
200 pcs. TD bulk						
Part No. (Light grey) (Grey) (Anthrazit) (Brickred)	Ral 7035 Ral 7030 Ral 7016 Ral 8012	122567 122567 122569				
Frequency range	GHz	10.7 - 12.75	10.7 - 12.75	10.7 - 12.75	10.7 - 12.75	10.7 - 12.75
Gain @11.7GHz	dBi	34.2	35.8	37.1	38.8	40.2
G/T LNB 0.7dB	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				
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 @42m/s	N	323	445	619	902	1222
Material		Galv. steel				
Finish		Polyester powder coat				
Plastic LNB holder	mm	Ø40 + Ø25				
Mast dimension	mm	Ø32 - 60				
Wall bracket		- optional extra				









# Facts about TDA-aluminium dishes

### **Technical Data on TDA-aluminium dishes**

TYPE		TDA 54	TDA 64	TDA 78	TDA 88	TDA 110
Size		50 x 55 cm	60 x 65 cm	70 x 78 cm	85 x 95 cm	100 x 105 cm
Single carton boxes		Painted arm and brackets	Painted arm and brackets	Painted arm and brackets	Painted arm and brackets	Painted arm and brackets
Part No. (Light grey) (Grey) (Anthrazit)	Ral 7035 Ral 7030 Ral 7016	123560		123760 123761	123860 123861	123960 123961
(Brickred)	Ral 8012			123762	123802	123962
Single carton boxes						
Part No. (Light grey) (Grey) (Anthrazit) (Brickred)	Ral 7035 Ral 7030 Ral 7016 Ral 8012		123618 123612 123634	123718 123712	123818 123812 122805	
50 pcs. TD bulk						
Part No. (Light grey) (Grey) (Anthrazit) (Brickred)	Ral 7035 Ral 7030 Ral 7016 Ral 8012					123916
100 pcs. TD bulk						
Part No. (Light grey) (Grey) (Anthrazit) (Brickred)	Ral 7035 Ral 7030 Ral 7016 Ral 8012		123648 123616 123647	123748 123754 123747	123867 123846 123869	
200 pcs. TD bulk	nai 0012		123047	123747	123009	
Part No. (Light grey) (Grey) (Anthrazit) (Brickred)	Ral 7035 Ral 7030 Ral 7016 Ral 8012					
Frequency range	GHz	10.7 - 12.75	10.7 - 12.75	10.7 - 12.75	10.7 - 12.75	10.7 - 12.75
Gain @11.7GHz	dBi	34.2	35.8	37.1	38.8	40.2
G/T LNB 0.7dB	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 - 50 45 - 80	10 - 50 45 - 80	10 - 50 45 - 80
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 @42m/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	Ø32 - 60	Ø32 - 60	Ø32 - 60
Wall bracket		- optional extra	- optional extra	- optional extra	- optional extra	- optional extra







### **Accessories for TRIAX TD-dishes**

### **Technical Data**

TYPE Part No.		TD 6º Duo Block 300715	TD 6º Duo Block 300717	TD Flexi Block 300719	TD - 3 LNB Multi Block 300728	TD - 4 LNB Multi Block 300727
Color		Black	Grey	Black	Black	Black
Angle	degrees	6	6	3 - 10	3 - 20	3 - 20
Plastic LNB holder	mm	Ø40	Ø40	Ø40	Ø40	Ø40
Remarks		Ø25 adaptor - optional extra	Ø25 adaptor - optional extra			









Duo Block

Duo Block Flexi Block

Multi Block

### **Technical Data**

TYPE Part No.	TD LNB cover Ral 7030 300771	TD LNB cover Ral 7035 300775	TD LNB cover Ral 7016 300776	TD LNB cover Ral 8012 300777
Color	Grey	Light grey	Anthracite	Brickred
Remarks	For angular as well as axial LNBs			









### **Technical Data**

TYPE		TD Plastic parts	Type "J"	Type "S"	Wall Bracket	TD Polarmount
Part No.		129420	128050	128070	300709	124078
Material		Plastic (Ral 7030)	Galv. steel	Galv. steel	Galv. steel	Steel
Tube dimension	mm		Ø25	Ø25	Ø45	Ø32 - 50
Packing size		Single pcs.	Single pcs.	Single pcs.	Single pcs.	Single pcs.
Angle	degrees					± 30
Remarks		All plastic spareparts for TD dish in a set	Incl. 2 plastic plugs	Incl. 2 plastic plugs		











## Facts about TRIAX Basic dishes and accessories

### **Technical Data on Basic dishes**

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TYPE		Basic 60	Basic 75	Basic 85
Size		60 x 65 cm	70 x 78 cm	85 x 95 cm
Single carton boxes				
Part No. (Light grey)	Ral 7035	128601	128701	128801
100 pcs. Basic bulk				
Part No. (Light grey)	Ral 7035	128612	128712	128812
Frequency range	GHz	10.7 - 12.75	10.7 - 12.75	10.7 - 12.75
Gain @11.7GHz	dBi	35.8	37.1	38.8
G/T LNB 0.7dB	dB/K	16.0	17.3	19.2
X-polarisation	dB	> 27	> 27	> 27
Offset angle	degrees	26	26	26
Elevation range	degrees	10 - 50	10 - 50	10 - 50
Reflector type	F/D 0.6	Offset	Offset	Offset
Beam width	degrees	3.1	2.6	2.0
Windload @42m/s	N	445	619	902
Material		Steel	Steel	Steel
Finish		Polyester powder coat	Polyester powder coat	Polyester powder coat
Plastic LNB holder	mm	Ø40	Ø40	Ø40
Mast dimension	mm	Ø28 - 60	Ø32 - 60	Ø32 - 60
Wall bracket		- optional extra	- optional extra	- optional extra







### **Technical Data**

TYPE Part No.		Basic DuoBlock 300715	Basic Flexi Block 300719	Basic - 4 LNB Multi Block 300729
Color		Black	Grey (Ral 7030)	Black
Angle	degrees	6	3 - 10	3 - 20
Plastic LNB holder	mm	Ø40	Ø40	Ø40
Remarks		Ø25 adaptor - optional extra	Ø25 adaptor - optional extra	Ø25 adaptor - optional extra







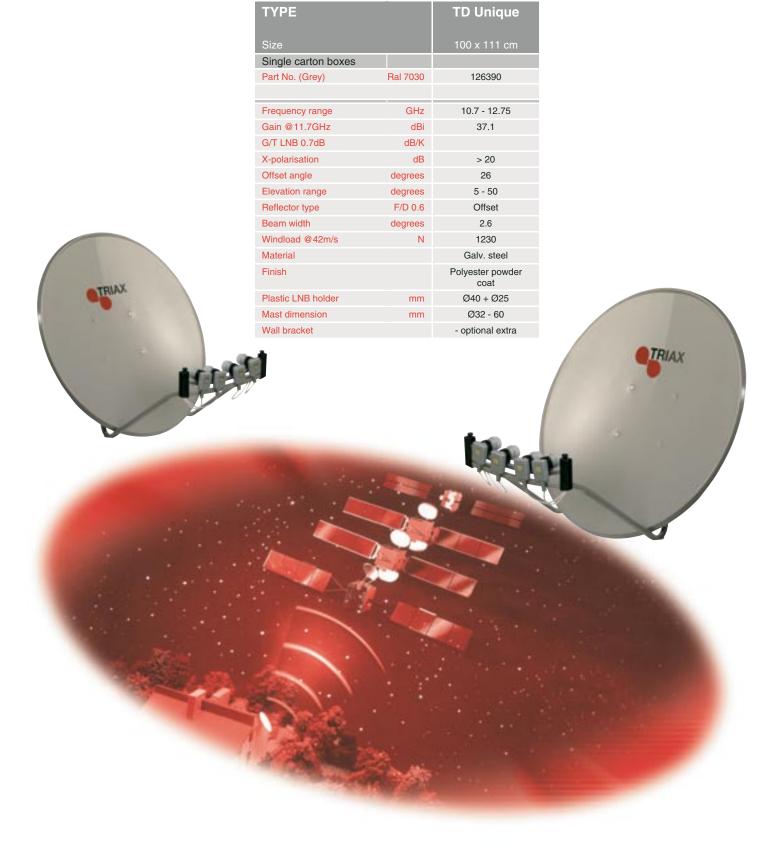
DuoBlock

FlexiBlock

Multi Block

## Facts about TRIAX Unique dish

### **Technical Data on Unique dish**



### **Technical Data for DAP dishes**

TYPE		DAP 600/601	DAP 700/701	DAP 800	DAP 900/901
Size		58 x 61 cm	65 x 72 cm	80 x 90 cm	87 x 100 cm
Single carton boxes					
	PX00 Ral 7035 PX01 Ral 7016	126310 126311	126313 126314	126318 -	126316 126317
Frequency range	GHz	10.7 - 12.75	10.7 - 12.75	10.7 - 12.75	10.7 - 12.75
Gain @11.7GHz	dBi	35.5	36.5	37.9	39.0
G/T LNB 0.7dB	dB/K	13.6	14.7	15.8	16.9
X-polarisation	dB	> 27	> 27	> 27	> 27
Offset angle	degrees	26	26	26	26
Elevation range	degrees	10 - 50	10 - 50	10 - 50	10 - 50
Reflector type	F/D 0.6	Offset	Offset	Offset	Offset
Beam width	degrees				
Windload @42m/s	N	378	600	735	846
Material		Fibre glass	Fibre glass	Fibre glass	Fibre glass
Finish					
Plastic LNB holder	mm	Ø40	Ø40	Ø40	Ø40
Mast dimension	mm	Ø32 - 60	Ø32 - 60	Ø32 - 60	Ø32 - 60
Wall bracket		- optional extra	- optional extra	- optional extra	- optional extra
Remarks		Double U-bracket	Double U-bracket	Double U-bracket	Double U-bracket



### **Accessorie for DAP dishes**

ТҮРЕ		MFD850 DAP FlexiBlock
Part No.		126309
Color		White/Black
Angle	degrees	3 - 10
Plastic LNB holder	mm	Ø40





### **Technical Data for Region 1 & Region 2 dishes**

TYPE		Region 1 perf.	Region 1 solid	Region 2 perf.	Region 2 solid
Size *)		52 x 42 cm	52 x 42 cm	72 x 58 cm	72 x 58 cm
Single carton boxes					
Part No. (Anthrazit)	Ral 7016				
Frequency range	GHz	10.7 - 12.75	10.7 - 12.75	10.7 - 12.75	10.7 - 12.75
Gain @10.70GHz @12.75GHz	dBi dBi	32.3 33.7	32.3 33.7	35.2 36.7	35.2 36.7
G/T LNB 0.7dB	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 @42m/s	N				
Material		Steel	Steel	Steel	Steel
Finish		Polyester powder coat	Polyester powder coat	Polyester powder coat	Polyester powder coat
Plastic LNB holder	mm	Ø40 or "Plug-in LNB"			
Mast dimension	mm	Ø30 - 50	Ø30 - 50	Ø30 - 50	Ø30 - 50
Wall bracket		- optional extra	- optional extra	- optional extra	- optional extra
Remarks		Double U-bracket	Double U-bracket	Double U-bracket	Double U-bracket





## Facts about TRIAX LNB units

### **Technical Data**

TYPE			<b>TSI 40U1</b> Single Universal	<b>TTW 40U1</b> Universal Twin	TQD 40U1 Universal Quad	TQT 40U1 Universal Quattro
Part No.			300431	300433	300441	300437
Color (light grey)			Ral 7035	Ral 7035	Ral 7035	Ral 7035
RF Input						
	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
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	<b>3</b>		75 female	75 female	75 female	75 female
Output VSWR @ room te	emperature		2.0:1 (Typ.)	2.5:1 (Max.)	2.5:1 (Max.)	2.5:1 (Max.)
Local oscillator	porataro		2.011 (1.76.)	2.011 (1114211)	2.0 ()	zioii (maxi)
	Low band	GHz	9.75	9.75	9.75	9.75
' '	High band	GHz	10.6	10.6	10.6	10.6
Frequency stability	gri baria	MHz	±1 (Max)	±1 (Max)	±1 (Max)	±1 (Max)
. requeries stability		MHz	±3 (-40 ~+60°C)	±3 (-40 ~+60°C)	±3 (-40 ~+60°C)	±3 (-40 ~+60°C)
Phase noise @ room tem	nerature	DBc/Hz	-50 @ 1kHz (Max)	-50 @ 1kHz (Max)	-50 @ 1kHz (Max)	-50 @ 1kHz (Max)
Thase holse & room ten	iporaturo	DBc/Hz	-75 @ 10kHz (Max)	-75 @ 10kHz (Max)	-75 @ 10kHz (Max)	-75 @ 10kHz (Max)
		DBc/Hz	-95 @ 100kHz (Max)	-95 @ 100kHz (Max)	-95 @ 100kHz (Max)	-95 @ 100kHz (Max)
		DBc/Hz	-95 @ TOOKHZ (Max)	-105 @ 1MHz (Max)	, ,	-95 @ 100kHz (Max)
		DBc/Hz		-105 @ 1MHz (Max)	-105 @ 1MHz (Max) -115 @ 10MHz (Max)	-105 @ 1MHz (Max)
Canvaraion narfarmana	@ room tom			-115 @ TOIVIEZ (IVIAX)	-115 @ TOWITZ (Wax)	-115 @ TOWINZ (Wax)
Conversion performance	@ room tem		EE (Tun )	FF (Tym)	EE /Turn	EE (Turn )
Conversion gain		dB	55 (Typ.)	55 (Typ.)	55 (Typ.)	55 (Typ.)
0-1		dB	60 (Max.)	60 (Max.)	60 (Max.)	60 (Max.)
Gain variation (over operating band)		dB	5 p-p (Typ.)	8 p-p (Typ.)	8 p-p (Typ.)	8 p-p (Typ.)
Gain flatness			O P P (1.)P.)	0 p p ()p./	o p p ()p./	opp ()p./
(Across any 26 MHz segr	ment)	dB	±0.5 (Typ.)	±0.5 (Typ.)	±0.5 (Typ.)	±0.5 (Typ.)
Output power @ 1dB gair	n	dBm				
compression			5 (Typ.)	0 (Typ.)	0 (Typ.)	0 (Typ.)
Spurious level		dBm	-65 (Max.)	-60 (Max.)	-60 (Max.)	-60 (Max.)
Noise figure	Low band	dB	0.6 (Typ.)	0.6 (Typ.)	0.6 (Typ.)	0.6 (Typ.)
	High band	dB	0.6 (Typ.)	0.6 (Typ.)	0.6 (Typ.)	0.6 (Typ.)
Image rejection		dB	45 (Min.)	45 (Min.)	45 (Min.)	45 (Min.)
Cross polarization isolation	on	dB	25 Typ. (20 Min.)	25 Typ. (20 Min.)	25 Typ. (20 Min.)	25 Typ. (20 Min.)
Power requirements						
DC current consumption		mA	110 Typ. (150 Max.)	170 Typ. (250 Max.)	270 Typ. (300 Max.)	240 Typ. (300 Max.)
Operating voltage	Vertical	VDC	11.5 ~ 14	11.5 ~ 14	11.5 ~ 14	11.5 ~ 14
	Horizontal	VDC	16 ~ 19	16 ~ 19	16 ~ 19	16 ~ 19
	Low band	Hz	0	0	0	
Band switching	High band	KHz	22 ± 4	22 ± 4	22 ± 4	
· · · · · · · · · · · · · · · · · · ·	-					
,		Operating temperature range °C			40 00	40
Environmental	inge	°C	-40 ~ +60	-40 ~ +60	-40 ~ +60	-40 ~ +60
Environmental Operating temperature ra	ange	°C	-40 ~ +60	-40 ~ +60	-40 ~ +60	-40 ~ +60
Environmental Operating temperature ra Dimensions	inge					
Environmental	ange	°C mm mm	-40 ~ +60 40 67 x 103 x 34	-40 ~ +60 40 59 x 132 x 76	-40 ~ +60 40 59 x 132 x 76	40 59 x 132 x 76









# Facts about TRIAX DiSEqC Switches

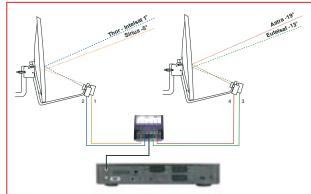
### **Technical Data**

TYPE		MFD 21R DiSEqC 2x1	MFD 21D DiSEqC 2x1	MFD 41D DiSEqC 4x1
Part No.		300508	300510	300509
Number of inputs (No. of positions)		2	2	4
Frequency range SAT	MHz	950 - 2200	950 - 2200	950 - 2200
Switch type		Relay	Diodes	Diodes
DiSEqC Control		DiSEqC 1.0 and ToneBurst	DiSEqC 1.0 and ToneBurst	DiSEqC 1.0
Through loss	dB	1	1.5	2.5
Isolation	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
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





MFD DiSEqC switches can be used with single, dual and quad LNBs, i.e. with a DiSEqC switch connected to each of the set-top boxes having access to more than one satellite position.







# rotect your LNBs - mount a Para Protection System on your dish

## Para Protection System

Mist, rain, snow, hoarfrost, road dust and pollen that lays on the LNBs, can make a reduction in quality of the TVpictures. The most exposed systems are the digital ones, because the problems may cause the TV- pictures to totally disappear.

Lots of users have also experienced that water and moisture penetrate the LNBs and result in considerable damages. The result is that the LNBs must be changed.

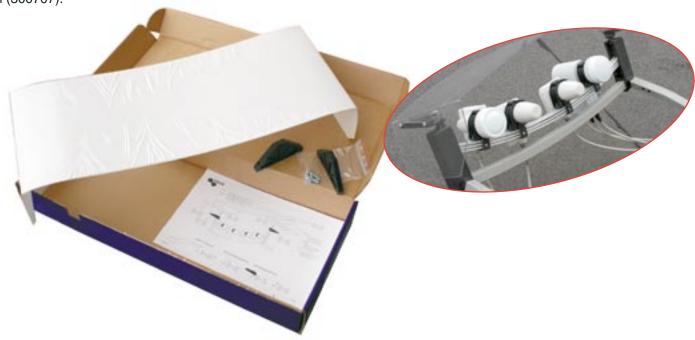
The product is simple. A bowed perspex-sheet, held to the LNB- arm, gives the LNBs very effective protection against bad weather and climate. The results: The picture quality becomes considerably increased. The Para Protection System is simply mounted by few screws in a couple of minutes. And it needs neither maintenance or service.

The para protection system is found in two variants: one for the TD satellite dish (300708) and one for the Unique Dish (300707).



### **Para Protection System**

ТҮРЕ		TD Standard	TD Unique
Part No.		300708	300707
Material and finish		perspex-sheet and painted metal holder	perspex-sheet and painted metal holder
Arm dimension max.	mm	xx - yy	
Remarks		Fits on all Triax TD and Basic dishes	Fits on Triax Unique dish



### Reliability from rooftop to outlet

Triax supplies everything you need for installation of TV systems in single homes and multi dwelling networks, including

- Terrestrial aerials with BI, BII (DAB), BIII, Unix, Yagi, Logperiodic, BB Grid, Combi and a compact UFO aerial
- Mast electronics including a wide range of easy-to-mount amplifiers, combiners and filters
- Everything needed in the distribution system, including indoor amplifiers, splitters and taps, power supplies, outlets, connectors, tools, etc.

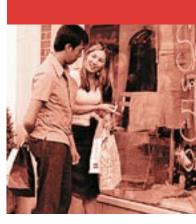
We of course also supply LNBs and a wide range of accessories for TV-systems, including head-end systems, distribution amplifiers, etc. for community networks.

Please contact Triax for separate brochures on the type of solutions you want information on or find out more on

www.triax.com



### One-stopshopping





## Simply more - more simply

Offering more quality, more products and more documentation is some of the ways in which Triax facilitates the professional life of our customers - installers and network operators. More in technical terms is however not equal to more complexity. On the contrary, all our products are designed as simply as possible based on many years of close cooperation with professionals focusing on the total costs of installation and operation.

## Thinking one step ahead...

Triax philosophy is customerorientation: In both our markets, TV-systems and enclosures, our objective is to save time and trouble for the installers, operators and distributors building their business on our products.

Simplicity and support are key words, expressed both in products and in service.

Our products offer more in performance and simplifying logic, and in our support customers have easy access to understandable, useful and competent answers.

Innovative thinking, serviceoriented people and advanced technology has made Triax one of the leading European suppliers of both TV-systems and enclosures.

We offer everything that can be expected from a professional supplier within these fields.

Triax is of course ISO 9001 certified and delivers products according to all acknowledged local and international quality standards.

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