



Beams, Rigs & More

Antenna & Ham Radio Catalog 2001



WiMo Antenna Ltd.

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...Time to talk about!

WiMo Antenna Ltd. provides all kinds of antennas and accessories (standard lines and custom design), RF connectors, radio transceivers and accessories like power supplies, morse keys, lowpass filters and so on. Our services are providing high quality products for numerous industries and interests such as the government, military, and the amateur radio hobby. Our company philosophy supports a high level of quality products and attractive pricing.

WiMo Today

In March of 2000 we overtook the antenna production of the world re-known company **ZX-Yagi / Netherlands**. **ZX-Yagi** produces high-performance short wave antennas at affordable prices.

WiMo is the **German exclusive distributor** of following companies:

- GAP Antenna Products, USA (short wave antennas)
- MOSLEY Electronics, USA (short wave beams)
- LYNICS International Corp, USA (lightning protection)
- HEIL Sound Ltd., USA (headsets, microphones)
- DIAMOND Antenna Co., Japan (antennas and accessories)
- OUTBACKER, Australia (short wave mobile antennas)
- RF Inquiry Inc., Japan (common mode filter against BCI and TVI)
- KENT Engineers, England (morse keys)
- Giovannini, Italy (monster rotators, short wave professional antennas)
- Llaves Telegraficas Artesanas , Spain (morse keys)

We are representing the following companies:

- YAESU, KENWOOD, ALINCO (radios and accessories)
- SGC Inc., USA (antenna tuners, HF transceivers)

The Roots....

WiMo has been founded in 1982, producing handheld antennas, an HF millivolt-meter developed and manufactured by WiMo as well as a graphical add-on card for the popular BASIC computer TRS-80.

Today we are one of the biggest German companies in the Amateur Radio business... specialized still in evaluation and production of all kinds of antennas.

We have 14 employees on a 10,000 sq.ft. floor space: production and show rooms, warehouse, offices..

Shipment to foreign customers

Prepayment is required for all export business. Prices are ex factory Herxheim, Germany, and are subject to change without notice. We remain the full owner of all delivered items until our invoices are fully settled. We accept payment by credit card or by bank transfer.

Bank Account: Postbank, Ludwigshafen, Germany, Bank No. 545 100 67, Account No. 20354.

Delivery and Payment Terms: the small print

Limited warranty

WiMo Antenna Ltd. warrants its products to be free of defects in materials or workmanship for a period of 90 days after date of purchase/shipment. This warranty applies to the original purchaser only. Purchaser should return defective goods freight prepaid. WiMo reserves the right to repair or replace a faulty product, at his discretion.

All products returned to WiMo for warranty work or service/repair must be accompanied with a return authorization number provided by WiMo, name, address, fax number or e-mail address of the customer and a brief description of service needed. If non-defective goods shall be returned, our agreement is required in advance.

The warranty is void if the product is subject to misuse, improper installation, accident, neglect, modification, repair or act of God.

WiMo Antenna Ltd., shall assume no liability for incidental or consequential damages resulting from the purchaser's ownership of its products.

Non-standard (custom-produced) items will not be taken back unless they are faulty.

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This catalogue shows just a small fraction of our program. Please see our web site **www.wimo.com** for more details and download our full catalogue there!





WiMo Yagis for 2m and 70cm

All our Yagi antennas are manufactured in our own premises - **"Made in Germany"**. This means for you:

- available ex stock
- English and German manuals
- no problems with spare parts
- support directly from the manufacturer
- custom design is possible



To increase overall gain antennas can be stacked using our power splitter; the cross yagis can be wired for circular polarization using our phasing harnesses. We offer switching boxes, phase lines and our remote-control switches.

WiMo-Yagis are outstanding!
Please compare yourself!

Dipoles



WiMo-Yagis provide N-connectors and the balun fully sealed in the connection box!



Other dipole

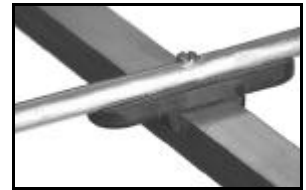
Diameter of Elements



WiMo-Yagis have an element diameter of 8mm (lower picture)!

We utilize elements with a diameter of 8mm. This results in an extended bandwidth but same gain compared to thinner elements! The windload increases just a little bit which plays absolutely no role when using today's modern antenna rotors. Material of the elements: A highly conductive aluminum alloy we use to minimize the skin effect; DK7ZB has calculated (based on technical material from KGSTI) that the losses due to the skin effect can add up to 0.8 dB for antenna elements made of stainless steel. Of course, the losses are even worse in the 70 cm band.

Mounting of Elements



WiMo-Yagis have screwed-in elements!!

Fixed is fixed - we are not in favor of clamp-on connectors. The WiMo-Yagis have elements which are fixed to the boom by means of stainless steel bolts and nuts. This guarantees low-resistance and un-hampered functionality for years to come. Each element is fixed to the boom by means of a 3 mm stainless steel bolt. Be assured we never "lost a boom" because of the small screw holes in the boom!



WiMo-Yagis have stainless steel nuts and bolts!



The mast clamp of our X-Yagis is good for diagonal or vertical/horizontal mounting of the antenna!



WiMo-Yagis allow balanced mounting of the antenna!



WiMo-Yagis have an excellent manual and description

All nuts, bolts and washers are made of stainless steel with the exception of the mast clamp itself. This guarantees a long antenna life time. The antenna element mounts are made of Polyamide material which is highly resistant to the destructive effects of ultra-violet light. In case of the cross yagis the elements are fixed to the circular boom with aluminum clamps.

The antenna boom of the cross yagis is made of circular aluminum tubes (only exception is the 2 m 4-element antenna). The well designed and exceptionally manufactured mast clamp allows mounting of the antennas as well in a horizontal/vertical ('+') as in a diagonal ('X') shape. Because of the circular boom our cross yagis do not require an additional support strut; consequently the already perfect antenna diagram cannot be affected by the support strut...

All long yagis with split boom have a separate boom-joint for installation; such the mast clamp may be mounted independent from the boom joint at the center of gravity.

The detailed both English and German manuals contain also tips and tricks for stacking, combining etc.





NEW! WiMo-Yagis acc. to DK7ZB: No-Compromise Electrical and Mechanical Technology.

Design Goals:

Maximum possible gain at high bandwidth and good side lobe attenuation as well as good f/b ratio. These antennas offer the ultimate performance for the serious V/UHF ham operator for DX and all transmission modes. The basis for the antennas has been designed with the xxNEC computer simulation programs and have been verified by many real-life trials + tests.

- Design optimized for current:

The inner electrical signature of the perfect yagi asks for homogenous current distribution from the active element to the tip of the antenna. Our yagis were optimized for an ideal current distribution profile. "Older" concepts display sudden current "jumps" between antenna elements which leads to reduced gain and bad side lobe attenuation and low f/b ratio.

- G/T optimized, see also G/T-tables from VE7BQH.

- Minimum number of elements:

their comparable types of yagis require 2-3 elements more and consequently introduce more losses. Keep in mind: Antenna gain mainly depends on the boom length of the antenna and not so much on the number of antenna elements!

- Broadbanded elements:

The elements used consist of high conductive aluminum material with a diameter of 8 mm. This represents the best compromise of minimizing losses on one hand and resulting wind loads on the other hand. When using thin antenna elements additional losses are being introduced as well as the significant effect of the skin effect in V/UHF frequency range. Yagi designs of such specifications fall short of 0.5 dB in gain mainly caused by bad conductivity!

- Well defined element mounting:

Our element mounting has long-term stability and durability by the use of ultraviolet-resistant Polyamid clamps. The electrical specifications do not change even after many years of use. Other designs have snap-on elements with a metallic clamp. With those designs it is very likely that corrosion between boom, element and clamp changes the effective element length and consequently leads to an unnoticeable and slow process of performance degradation over the time!



WY204 2m 4-Element
No.18100.04



WY207 2m 7-Element
No.18100.07



WY209 2m 9-Element
No.18100.09



WY2023 70cm 23-Element
No. 18206



WX208 2m Cross Yagi 2x4-
Element
No.18109



WX220 2m Cross Yagi 2x10-
Element
No.18111



WY1070 70cm 10-Element
No. 18204



WX7020 70cm Cross Yagi
2x10 Elements
No. 18207

Type	WY204	WY207	WY208	WY209	WY214	WX208	WX214	WX220	WX228
			2m Yagis			2m Crossed Yagis			
Elements	4	7	8	9	14	2x4	2x7	2x10	2x14
Gain over Dipole	7	10	11,4	12,4	15	7	10	12,3	15
Forward/Back Ratio	16	20	24	23	25	16	20	25	25
SWR in ham bands	<1,6	<1,6	<1,6	<1,6	<1,4	<1,6	<1,6	<1,6	<1,5
3-dB beamwidth vertical	67	53	40	36	26	67	53	38	26
3-dB beamwidth horizontal	61	43	36	34	25	61	43	35	25
power rating standard	200	200	200	200	200	200	200	200	200
power rating special version	1200	1200	1200	1200	1200	1200	1200	1200	1200
Stacking distance horiz.	1,7	2,8	3,0	3,2	5,0	1,7	2,3	3,3	5,0
Stacking distance vert.	1,8	3,0	3,2	3,4	5,0	1,7	2,3	3,3	5,0
Length	1,2	2,6	3,8	5,0	9,9	1,3	2,6	4,6	10
Width	1,05	1,05	1,05	1,05	1,05	1,05	1,05	1,05	1,05
Height	-	-	-	-	-	1,05	1,05	1,05	1,05
Max. mast diameter	65	65	65	65	65	65	65	65	65
Weight	1,2	2,4	3,0	3,5	7,5	1,7	3,1	4,2	8
Wind load @ 80 km/h	15	30	40	50	90	20	35	45	80
@ 160 km/h (100mph)	60	120	160	200	350	80	140	180	320
Phase lines für circular polarization						Order No. 18051			
Remark	Fore-mast	-	Support strut	Support strut	Support strut	Fore-mast	-	-	-
Order No.	18100.04	18100.07	18100.08	18100.09	18100.14	18109	18110	18111	18112





WiMo Yagis for 2m and 70cm

2m-Long Yagi with DK7ZB design



State-of-the art designed long yagi for DX, EME etc. Optimized for 144.3 MHz, Bandwidth approx. 600 KHz. Optimized current distribution, therefore minimized real losses in the active element, very low additional losses caused by the 8 mm aluminum antenna elements. A 2 x 2 stack results in a gain of 21 dBD!

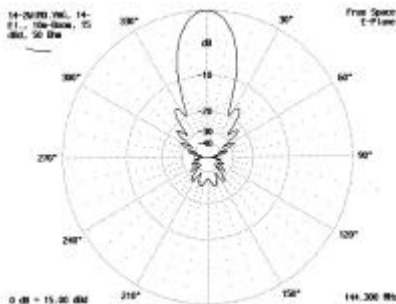
Order No. 18100.14

NEW! Crossed Yagis for EME

The permanent quest for the last 1/10th of a dB, however with linear polarization... cross yagis are BETTER! Design according to DK7ZB: optimized current distribution over the antenna system, consequently low real losses. Optimized design for 144.1 MHz, 2x14 elements, boom length 9.9 m, gain 15 dBD. The antenna has acircular boom without additional support strut, so there the pattern is not affected. The antenna has a 'guy tower' made out of rugged fibre glass tubes; the antenna is guyed both vertical and horizontal using UV-proof guy wires. High bandwidth is achieved using 'thick' elements with 8mm diameter. As all our WiMo Yagis this antenna is delivered with sealed folded dipoles with teflon balun and N-jack.



Order No. 18112



Antenna Diagram of a WY-214 Long Yagi



4 x each WY214, WY7023, SHF 2367 at DLØWIM



Array of 4 x WX228

Type	WY709	WY7014	WY7017	WY7024	WX7018	WX7034	WX7046	
	70cm Yagi				70cm Crossed Yagi			
Elements	9	14	17	24	2x9	2x17	2x23	
Gain over Dipole	12,0	14,6	15,5	17,0	14,6	15,5	17,0	dBD
Forward/Back Ratio	>15	>15	>15	>15	>15	>15	>15	dB
SWR in ham bands	<1,6	<1,6	<1,6	<1,6	<1,6	<1,6	<1,6	
3-dB beamwidth vertical	39	32	30	24	42	30	24	Degrees
3-dB beamwidth horizontal	36	30	28	23	40	26	24	Degrees
Max. Power standard	200	200	200	200	200	200	200	Watt FM
Max. Power special version	800	800	800	800	800	800	800	Watt PEP
Stack distance horiz.	1,0	1,57	1,64	1,85	1,0	1,7	1,85	m
Stack distance vert.	1,1	1,6	1,75	1,88	1,0	1,7	1,85	m
Length (m)	1.6	3.2	4.0	5,7	2,0	4,3	6.0	m
Length (ft.)	5.0	7	12	17	6	13	18	ft.
max. mast diameter	65	65	65	65	65	65	65	mm
Weight	1,0	2,4	3,0	4,0	2,2	3,9	5.8	Kg
Wind load @ 80 km/h	13	35	40	50	15	35	70	N
@ 160 km/h (100mph)	52	140	160	200	60	140	280	N
phase lines for RHCP:					Order No.18052			
Impedance	50	50	50	50	50	50		Ohm
Remark	Fore-mast	Support-strut	Support-strut	Support-strut	Fore-mast	-		
Order No.	18200.09	18200.14	18200.17	18200.24	18207.18	18207.34	18207.46	

Option: High-Power-Dipole with 1200 Watt PEP on 2m, 800 Watt PEP on 70cm. For each dipole one option is required, meaning two for a crossed yagi!

Order No. 18100 Option High-Power Dipole 2m
18200 Option High-Power Dipole 70cm

1' = 0.3m 1" = 2.54mm



CAD manufactured high performance antennas - Made in Germany

- multiple-optimized design according to DL6WU
- all holes of the boom drilled automatically by robot - extreme small tolerances
- Elements automatically cut, length tolerance less than max. 0.1 mm
- Elements are exactly centered and automatically mounted by robot
- Non-compromise dipole: N-connector, balun made of semi-rigid cable, all connectors sealed, connection box additionally filled.

The antennas have an enormous high f/b ratio because of the use of 8 reflectors. This is quite important for high-gain yagis: even the highest gain gets useless if unwanted signals or interferences are received from the rear side of the antenna. EME or SAT freaks enjoy our antennas due to the low backward noise scatter (from the surface of the earth).

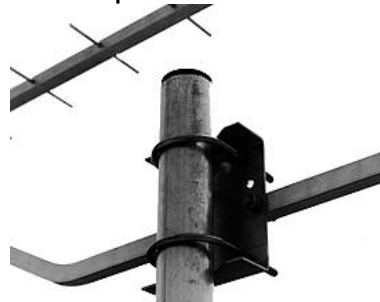
All nuts, bolts and washers are manufactured of stainless steel. For those antennas with support strut also the mast clamp itself is made of stainless steel. The antennas are delivered pre-mounted with all elements already in place. They can be assembled in about 10 minutes; you don't have to read the manual (which is provided of course...) and it does not take an engineering approach to install the antenna and get into the air...

SHF Design Dipole



Radiating elements from 1200MHz - 2400 MHz. Of course with Teflon N-connectors and a sealed balun transformer.

Mast clamp



Mast clamp of the SHF-Design long yagi

Reflector



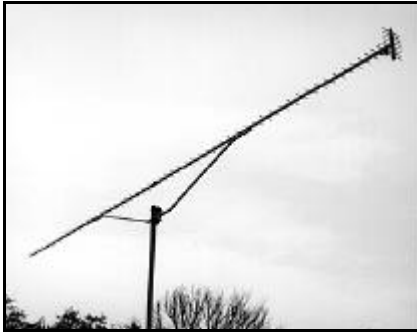
The multiple reflector guarantees highest f/b ratio

Technical Data	23cm			13cm		Metosat		
	2328	2344	2367	1340	1367	1633	1658	
Type SHF...	2328	2344	2367	1340	1367	1633	1658	
Frequency	1240-1300 MHz			2300-2450 MHz		1690-1700 MHz		
Number of Elements	28	44	67	40	67	33	58	
Gain ISO	17,5	20,2	22	18,7	22,1	18,4	20,8	dB
Gain dBD	15,4	18,1	19,9	16,6	20,0	16,3	18,7	dBD
Length (ft.)	5	9	15	5	9	5	9	Ft.
Length (m)	1,6	3,0	5,1	1,6	3,0	1,6	3,0	m
Electrical Length	6,5	13	22	9,3	22,7	8,5	18,7	λ
3-dB Beamwidth	21,8°	16,5°	13,7°	18,8°	13,2°	19,6°	14,9°	
Side Lobes	-17	-17	-17	-16	-16	-17	-17	dB
Front-to-Back-Ratio f/b	26	26	27	25	25	25	25	dB
Stacking distance	570	751	913	391	522	483	638	mm
SWR typ.	1,2	1,2	1,2	1,2	1,2	1,2	1,2	m
Wind load (120 km/h)	38	86	134	55	90	48	95	N
max. Mast- \varnothing	52	52	52	52	52	60	52	mm
Connector	N-Connector			N-Connector		N-Connector		
Shipping length	1,6	1,6	2,65	1,6	1,55	1,65	1,7	m
Fore-mast	X			X		X		
Support-Strut		X	X		X		X	
Order No.	18401	18403	18405	18410	18415	18420	18425	

1' = 0.3 m

1" = 25.4 mm

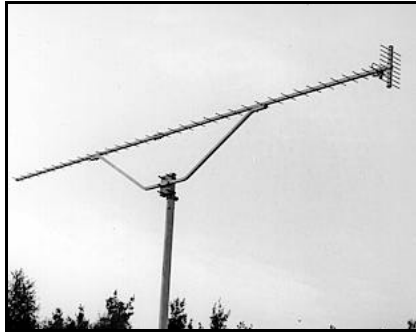
SHF 2367



As far as we know this is the longest 23 cm antenna manufactured in series production. The antenna length is 22 lambda and has almost 20 dBD gain! All mounting parts and nuts are made of stainless steel. Due to the 8x-reflector the antenna has a very high front to back ratio (f/b). The 3-dB beam-width in both E- and H-plane are practically equal and thus enable easy stacking to form a high gain antenna array. The antenna covers the entire 23 cm band.

Order no. 18405

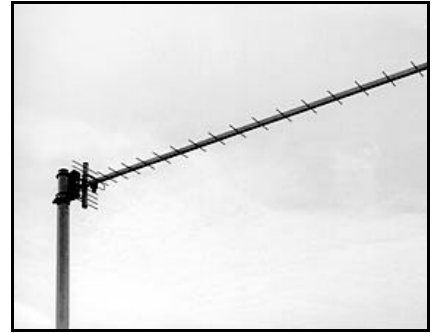
SHF 2344



The new design "SHF 2344" is the little brother' of the 5 m version and is quite a 'hummer' with its 3 m length. The antenna has a high bandwidth and may be used just as well for ATV operation. Of course, this antenna is supplied fully assembled; the awkward manual mounting process has been replaced by the assembly robots.

Order no. 18403

SHF 2328



The "SHF 2328" model is the ideal start-up model for 1.3 GHz; the antenna is a mere 1.5 m long and has 16 dBD gain. The mechanical data is almost identical to the other SHF-antennas. The electrical characteristics are absolutely identical with the SHF long yagis except for the 3-dB beam-width and the gain.

Order no. 18401

SHF 1367



This is the super yagi for the 13cm-band. At such high frequencies the antenna design turns out to be quite complicated. All tolerances must be observed closely. The elements lengths differ just some 1/10th of a mm! It takes many calculations and approximations to optimize the design of the boom and the elements which are thick compared to the wave length. Because the antennas are supplied with all elements mounted by robot, all tolerances can be kept as low as required.

Order no. 18415

SHF 1340



The super yagi for the 13 cm-band with fore-mast mounting. Thus, mounting anywhere on a mast (and not necessarily on top of the mast) is possible. The mechanical set-up becomes quite simple. By utilizing high quality/low loss coaxial cable and the shortest possible feedline the lower gain of the 13cm-super yagi can be compensated in many cases. All 13cm yagis have 6 reflectors

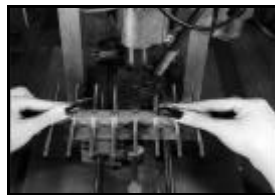
Order no. 18410

CNC drilling robot



All holes in the boom are drilled by a computer-aided robot; Every boom has the highest precision possible.

Assembly robot



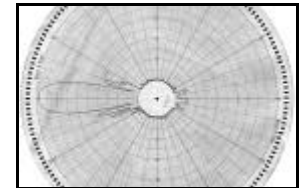
The pre-manufactured elements are exactly centered and automatically fixed to the boom.

CNC cutting robot



Each element is cut down to a precision of 1/10th of a mm.

Pattern..



Radiation Pattern of a SHF 1367. Side lobes at -15,8 dB. Front to back ratio approx. 29 dB



HB9CV ARDF Antennas, X-Quad VHF/UHF Antennas

HB9CV ARDF portable Antennas

HB9CV antennas are used for direction finding applications or as compact portable antennas. The HB9CV antennas consist of a two-element horizontal phased array with both elements fed; thus quite a significant gain around 5.5 dB can be achieved. The antennas are chrome or nickel plated. There is a 2m special version which is detachable into 5 pieces and fits in every briefcase (see right).

Technical Data	2 m	70 cm	23 cm	
Frequency	144-148	430-460	1200-1300	MHz
Gain	5	5	5	dBD
SWR	1.5	1.5	1.5	
Power rating	500	500	100	Watt
Connector	UHF jack	BNC jack	BNC plug	
dimensions	3' x 10"	1'x4"	5"x1 1/2"	mm
weight	0.5	0.2	0.1	Kg

Standard models for 2m, 70cm and 23cm



2m HB9CV no. 18000.02



23cm HB9CV no. 18000.23

Available for 2m, 70cm or 23cm. The 2m model has detachable end tips: collapsed dimension 1'2"x 7"x1" only.

Fully collapsable 2m ,hiking kit'



Kit contains:

- a **FULL collapsable 2m HB9CV** antenna which has the H-shaped center section detachable as well and thus can be folded together to an extreme small package.
- a small **sectional mast** consisting of 5 sections made of nickel plated brass tubing, extended overall length 6 ft. with an UHF connector mounted at the top for quick installation of the 2m-HB9CV and with a pointed tip at the base allowing to push the mast into the ground. RG58 coax can be connected to the top plug with any required length.
- a **transport bag** made of strong plastic material for both antenna and mast, dimensions 1' 6" x 4", fully washable.

Order no.

18000.02	2m HB9CV (standard model)
18000.70	70cm HB9CV
18000.23	23cm HB9CV
18015	2m hiking kit with fully detachable HB9CV

X-Quad Antennas for 2m and 70cm

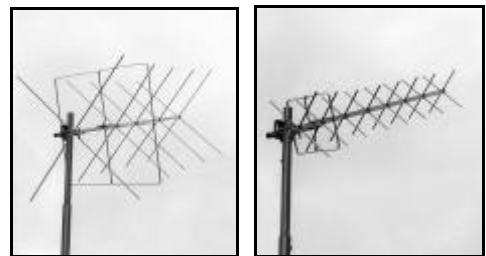
An improved development of the well-known multi-element quad with special features:

- polarisation switchable (horizontal/vertical, circular right/circular left, diagonal)
- High gain compared to other antenna designs due to stacking effect

The antenna has two feedpoints for both horizontal and vertical plane. Compared to cross yagis all secondary elements of a X-quad (e.g. directors, reflectors) are active elements which leads to high gain at compact size. As with the cross yagis the polarisation switching is done with a coaxial relays or one of our remote-control polarization switches mounted near the antenna feed point, requiring a single feedline only. The antenna can be configured for fixed circular polarization by means of a phasing harness (see table). All elements are electrically connected to the boom and the shield of the coax cable, avoiding static discharge. Both feed lines are connected through N-type connectors and the connection box is water-sealed. Boom and elements are made of aluminium, all hardware is stainless steel. The antenna design and make is protected under German patent law. The antennas are designed for fore-mast installation but the mast clamp can be mounted in the middle of the boom as well. In this case, a supporting mast made of fiberglass is required however.

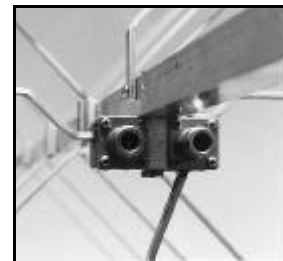
	2m X-Quad	70cm X-Quad	
No. of elements per polarization plane	12	18	
Gain	10,5	12,8	dBD
3-dB beamwidth horizontal	47	36	degrees
vertical	46	36	
front to back ratio (f/b)	19	21	dB
Power rating	1500	1000	Watt
Phase line for circular polarization, order no.	18047	18049	
Stacking distance	2,8	1,1	m
Length (ft.)	4.3	3.8	ft.
Length (mm)	1460	1270	mm
Height	730	220	mm
Weight	2,3	1,6	Kg
Connector	N-jack	N-jack	
Wind Load @ 160km/h (100mph)	74	48	N
Order no.	18010	18011	

- short boom length and compact profile
- Fore-mast or center mounting



2m X-Quad

70cm X-Quad

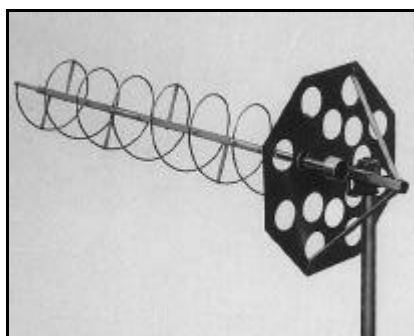


The antennas have two separate feedpoints for both horizontal and vertical polarisation via two N connectors.

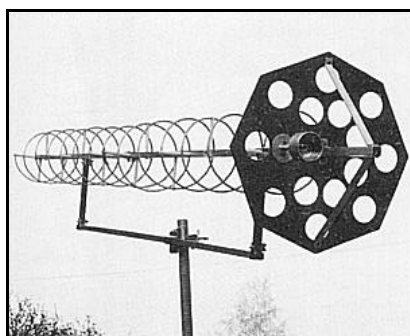
1' = 0.3m 1" = 2.54mm



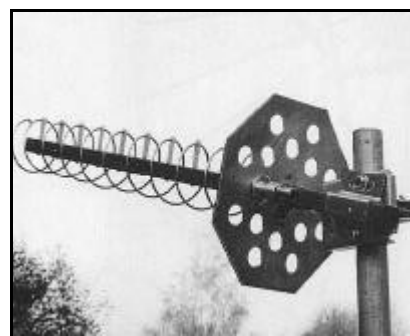
Helix antennas are directional antennas for circular polarization mainly developed for satellite communications but just as well usable for terrestrial operations. Due to physics based reasons the circular polarization shows significant advantages when the received signal may consist of a mix of all kinds of polarizations due to heavy reflections. As an example: If the phase of a received signal is perpendicular to the antenna plane the resulting signal level can be up to 18 dB (3 S-levels) down compared to a normal yagi! The right-hand circular polarization originates from a helix - the antenna radiates into the direction of the helix. The reflector directs the electromagnetic energy forward; to decrease the antenna's wind load the reflector is perforated (many small holes). All antennas except the type Helix 70-2 are designed for fore-mast installation. By means of power splitters the helix antennas can be combined to form antenna groups of 2 or 4. The antennas have a standard N-connector and are made of non-corrosive aluminum material with all nuts and bolts made of stainless steel.



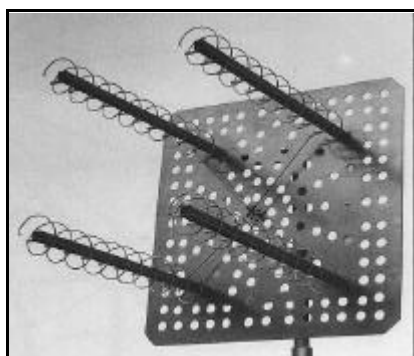
Helix 70 No. 18020



Helix 70-2 No. 18021



Helix 23 No. 18025



Helix 23-4 No. 18027



Helix 13 No. 18028



Helix 13-40 No. 18029

	Helix 70	Helix 70-2	Helix 23	Helix 23-2	Helix 23-4	Helix 13	Helix 13-40	
Frequency Range	430-440	430-440	1250-1300	1250-1300	1250-1300	2300-2500	2300-2500	MHz
Gain (circular right hand)	9,5	12,5	11	13	16	14	16	dBc
Turns	7	14	10	20	40	21	40	
SWR	1,5	1,5	1,5	1,5	1,5	1,5	1,5	
Power Rating	1000	1000	500	500	1000	500	500	Watt
Connector	N-Conn.	N-Conn.	N-Conn.	N-Conn.	N-Conn.	N-Conn.	N-Conn.	
Mast Diameter max..	60	60	50	50	50	55	55	mm
Length (ft.)	3	9	2	4.5	1.8	2.5	3.5	ft.
Length (m)	1,5	2,9	0,6	1,4	0,6	0,8	1,25	m
Metal Reflector Diameter	45	45	22	22	60x60	10	10	cm
Weight	2,5	4,5	1	1,4	2,2	0,7	1,1	Kg
Wind Load	125	225	120	200	350	70	110	N
Material				AlMgSi 0,5	Bolts V2A			
Order No.	18020	18021	18025	18026	18027	18028	18029	
Gain over crossed dipole (dBc)								

1' = 0.3m 1" = 2.54mm



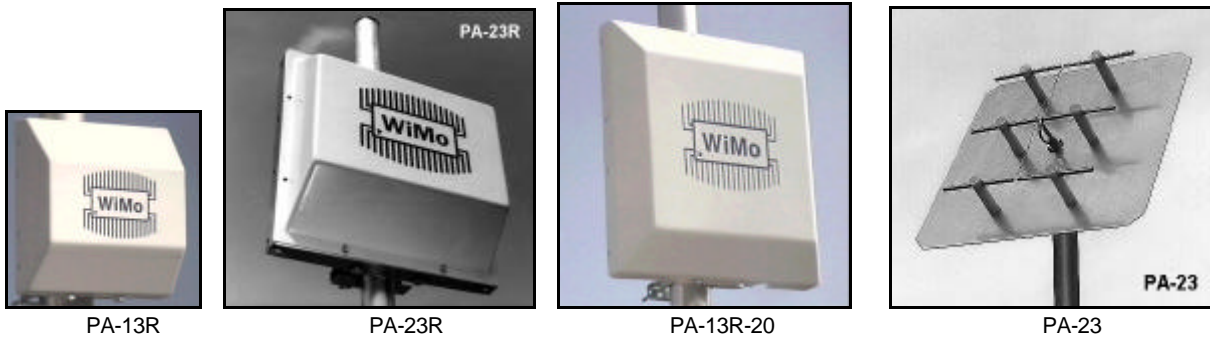
Planar Antennas, 900 MHz-Antennas

Planar Antennas

Planar (flat) antennas consist of one or several radiating elements placed in front of a metallic reflector. Thus small and mechanically robust stealth antennas with high gain as well as wide bandwidth characteristics can be designed. They are well suited WaveLAN and Bluetooth applications as well as for Ham Radio for Packet radio or for operation into the local ATV repeater.

Our planar antennas are made of weather proof aluminum, all nuts and bolts are stainless steel. The antennas may be installed for vertical or horizontal polarization and come fully assembled with a mast clamp.

For use under exceptional environmental conditions most of the antennas are delivered with a protective cover; this is an ideal solution for Repeaters located at exposed locations. Also available for 900 MHz, see below.



Model	PA-23	PA-23R	PA-13R	PA-13R-20	PA-900	PA-1800R	PA-1800R-15	
Frequency	1230-1300	1230-1300	2300-2500	2300-2500	890-960	1800	1800	MHz
			WaveLAN	WaveLAN	GSM	DECT	DECT	
Gain	11	9	9	18	9	9	15	dBD
Beam width Vertical	33	54	54	15	54	55	27	Degrees
Horizontal	36	67	67	13	67	65	32	
F/B ratio	>25	>20	>20	>15	>20	>20	>20	dB
SWR	<1,5	<1,4	<1,5	<1,5	<1,5	<1,5	<1,5	
Radiator	Dipole array	Hybrid Quad	Hybrid Quad	Quad Array	Hybrid Quad	Hybrid Quad	Hybrid Quad	
Max. Power	500	100	100	50	100	100	100	Watt
Weight approx.	1	1,3	1,3	1,6	1,3	0,7	1,8	Kgs
Dimensions	1 ft. x 1 ft. 330x330	8" x 8" 220x220	5" x 5" 130x130	1 ft. x 1 ft. 330x330	9" x 9" 220x220	8" x 8" 210x210	1' 2" x 1' 2" 350x350	mm
Wind load 100mph	180	130	130	160	130	80	200	N
Connector	N	N	N	N	N	FME	pigtail	
Radom (cover)	no	yes	yes	yes	yes	yes	yes	
Order no.	18035	18032	18033	18033.20	18034	18036	18036.01	

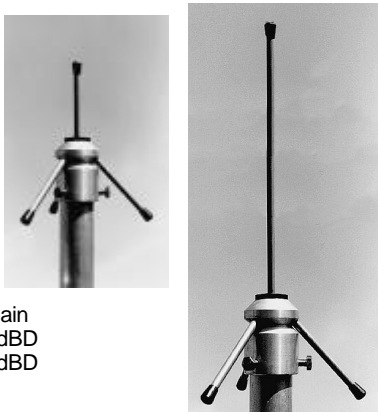
900 MHz Antennas

Omnidirectional Groundplane Antennas

All antennas are made for pole tip mounting; the N-jack is well protected within the base.

Frequency range:
890-960 MHz

Order No.	Height	Gain
18006.02	17 cm	0 dBD
18006.03	40 cm	6 dBD



900 MHz Yagi antennas

Fore-mast mounted for vertical or horizontal polarization, sealed connection box with N female connector.

Frequency range:
890-960 MHz

The antennas come fully assembled with mast clamp.

Order No.	Length	Gain
18250	1 ft. (0.3 m)	7 dBD
18251	3 ft. (1.0 m)	12 dBD





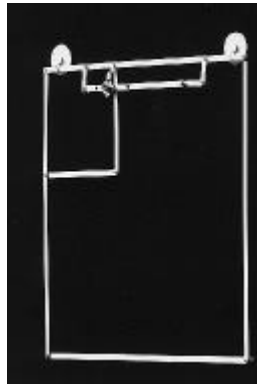
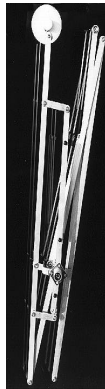
Indoor Antennas, Portable Antennas, Big Wheel, Turnstile



Dual band 2m/70cm Telescopic antenna with table stand

Dual band detachable telescopic antenna for 2m and 70cm, includes a table stand and BNC connector. Due to symmetrical design no radials required and operation w/o any degradation possible. Based on a 2m on an endfed halfwave dipole, on 70cm on two stacked 5/8-elements with sealed phase inversion coil; factory tuned. Just extend the telescope and start operating.

Order no. 14300



2m/ 70cm Window Quad

Quad loop designed as a monoband antenna for 2m or 70cm, or alternatively as dual band antenna for both bands. Full wave loop, gain approx. 1 dBD, with BNC connector. Mechanical fixation of the parts by means of special joints. One of the joints is designed as a metal snap-on button and enables folding the antenna into a very small package. The SWR adjustment can be done quite easily with a plastic screw. Two outsized suction cups affix the antenna onto the window; depending on the orientation on the glass vertical or horizontal polarization is achieved.

Order no. 14303 Dual band 2m/70cm
Order no. 14301 2m
Order no. 14302 70cm

Big Wheel

The "big wheel" is a **horizontally polarized omnidirectional antenna**. Normally, high gain directional antennas are to be used for VHF or UHF communication, in order to multiply the radiated energy into the desired direction or get rid of interferences from other than the desired direction. However, these characteristics of beam antennas is not always of advantage and wanted. VHF/UHF activities are very popular during the evening hours except during weekends and contest events. During such a short time span it is generally speaking almost impossible to scan all directions for signals of interest. Normally the beam stays directed into the general direction of the most radio activities and some other possible contacts may not be heard. That's when the Big Wheel comes to play: It's an ideal antenna to be used on top of the high gain yagi. The antenna is made of anti-corrosion aluminum material and all nuts and bolts are made of stainless steel. The gain is approx. 3dBd and the antennas utilize an N-connector. It's possible to stack two Big Wheels horizontally and thus increase the gain to approx. 5 dBd omnidirectionally! For correct coupling and tuning of both antennas we recommend to use our phasing lines #18046 and #18048.



2m Big Wheel No. 18007



70cm Big Wheel No. 18008

2m/70cm Dual band Dipole for portable use

Break-down dipole for 2m and 70cm, excellent for the balcony or portable use, vacation etc. Fits in any briefcase! Gain at least 5dB over rubber duck! The dipole is made of stainless steel and can be taken apart. The middle section is sealed watertight and contains the UHF connector and mounting section.

Order no. 14310



SAT-Kreuzdipol Turnstile



This is a crossed dipole for 137 ... 152 MHz, developed for receiving orbiting satellites. Gain at high elevation angles 0 dBc, at lower elevation 4 dBc; due to higher gain at lower elevation angles the larger distance (= more attenuation) to the satellite is compensated. 50 Ohm system, SWR < 2:1 from 137...152 MHz, N-type connector. Total height 1300mm, diameter 1065 mm, weight 2 Kg. Commercial version delivered with mast clamp. Download the manual from our web site!
Order no. 18350

	Big Wheel 2m	Big Wheel 70cm	
Frequency	144-146	430-440	MHz
Gain	ca. 3		dBD
SWR	1,2 ... 1,5		
Max. Power	500	500	Watt
Impedance	50		Ohm
Wheel dia. (ft.)	3.7	1	ft.
Wheel dia. (m)	ca. 1,2	ca. 0,34	m
Max. Mast.	65	50	mm
Weight	0.7	0.3	kg
Stacking distance	1300	430	mm
Used Phasing line for stacking	18046	18048	
Connector	N jack		
Material	Aluminium, screws stainless		
Order no.	18007	18008	





ZX-YAGI HF Monoband Beams

Short Wave Monoband Beams for the serious Ham. Excellent but affordable quality. Many DXpeditions world wide use ZX Yagis! Effective 01-March-2000 we have taken over the antenna production of the world-known ZX-antennas. ZX was founded in 1980 by Ron Ebersson. In the beginning seen as a hobby, the company has significantly expanded during the recent years. ZX Yagi manufactures high quality short wave antennas at affordable prices. Traditionally Ron Ebersson supported many DXpeditions in the past like VP6BR, FT5ZH, as well as CB activities which turned into ham radio licenses eventually...

DA0HQ is one of these contest stations using ZX on the 20 m band (2nd place in 1999).

Many well known DX stations use ZX yagis like 9K2ZZ, 9K2RA, F2YT, PI4COM (40 m beam).

In 1984 a Dutch ham magazine tested a ZX 3-element beam and concluded that this antennas showed the best performance of any tested yagi antenna within the last 17 years! The entire production was moved to Germany already mid of March 2000. The new manufacturing facility at WIMO/Herxheim was up and running after only 2 weeks without any delay in deliveries. More good news: Caused by the move the shipping costs were significantly cut. We ascertain the well-known quality of the products since we are using the original tools/software for the production in Germany. German and English manuals as well as fast availability of all products (incl. spare parts) is guaranteed.



Gamma-Match incl. SO-239 connector and strong support



Mast clamp: U-bolts, nut and bolts, made in stainless steel!

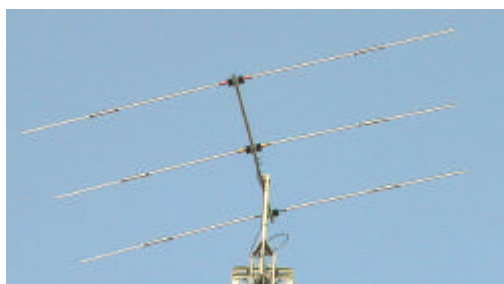
Properties of ZX-YAGI Monoband beams:

- Manufactured using high quality aluminum, all nuts and bolts, U-bolts are made of stainless steel. The diameter of the antenna elements is 60mm at 7 MHz, 30mm at 14 MHz and 25mm at 21 MHz.
- The antennas can be installed for either horizontal or vertical polarization.
- Power rating 3000 Watt
- UHF connector (optional N connector); the SO-239 connector is fully sealed from the backside to prevent water or humidity entering the coax.
- All nuts and bolts as well as the many heavy U-bolts are manufactured from stainless steel each antenna comes with both design data and radiation patterns

ZX-YAGI Mini Beams

MINI-2000 Mini-Beam

Compact built and light-weight 3-band antenna for 10, 15 and 20m. About 3 dB less gain compared to a 'grown up' 3-element beam - that's half an S-level... Fits on any town house without penetrating the air space of your 'dearest' neighbour..



Mini-2000 Mini-Beam

G4MH Mini-Beam

Somewhat smaller in size compared to the MINI-2000 for really limited space, available with 2 or 3 elements. Less gain and bandwidth, requires some tuning upon installation. The spokes at the element ends function like the capacity hat of a Groundplane antenna and make the design very compact. Installation material like with all ZX-Yagis made of stainless steel.



G4MH Mini-Beam

Technical Data of Mini Beams:	MINI-2000	G4MH 2Ele	G4MH 3Ele	
Gain 10m:	6,1 dBD	4,5 dBi	5,5 dBi	
15m:	4,2 dBD	4,0 dBi	5,0 dBi	
20m:	3,5 dBD	3,5 dBi	4,5 dBi	
Front-to-back ratio	8	12	16..18	dB
Boom length	2 (6')	1.5 (4.5')	3 (6')	m
Element length:	5 (15')	3.4 (10')	3.4 (10')	m
Turning radius	2,6	2.0	2.5	m
Weight:	8	6.4	8.3	Kg
Mast diameter max.	50	50	50	mm
Wind load(144km/h)	255	150	200	N
Power Rating	1000	1000	1000	Watt
Order No.	11695	11690	11691	

1' = 0.3m 1" = 2.54mm



ZX-Yagi HF Monoband Beams



Technical Data

Type	Number of Elements	Turning radius	Boom length	Gain	Front-to-back ratio f/b	Weight (Kgs)	Wind load (N)	Order No.
6m-Band								
ZX6-2	2	1.6 m	0.85 m	6.2 dB	-18 dB	2.2	80	11602
ZX6-3	3	1.8 m	1.85 m	9.1 dB	-25 dB	3.0	150	11603
ZX6-4	4	2.1 m	2.75 m	11.4 dB	-28 dB	4.3	200	11604
ZX6-5	5	2.7 m	4.10 m	12.1 dB	-28 dB	6.5	270	11605
ZX6-6	6	3.6 m	6.30 m	12.5 dB	-35 dB	7.7	340	11606
10m-Band								
ZX10-2	2	2.7 m	1.15 m	6.3 dB	-18 dB	3.9	140	11622
ZX10-3cl	3	3.0 m	2.75 m	9.1 dB	-25 dB	6.0	260	11623
ZX10-3DX	3	3.2 m	3.60 m	10.3 dB	-20 dB	6.5	310	11623.01
ZX10-4cl	4	3.6 m	4.85 m	11.4 dB	-28 dB	10.2	350	11624
ZX10-4DX	4	3.9 m	5.60 m	12.0 dB	-26 dB	10.8	390	11624.01
ZX10-5ITB	5	3.8 m	5.40 m	11.7 dB	-29 dB	12.0	430	11625.02
ZX10-5DX	5	4.8 m	7.65 m	12.7 dB	-35 dB	13.4	480	11625.01
ZX10-6cl	6	6.3 m	11.00 m	12.5 dB	-35 dB	16.3	610	11626
ZX10-7	7	7.5 m	14.00 m	14.1 dB	-42 dB	18.0	730	11627
11m-Band (CB)								
ZX11-2	2	2.7 m	0.90 m	6.3 dB	-18 dB	3.9	140	11612
ZX11-3cl	3	3.0 m	2.85 m	9.1 dB	-25 dB	10.2	260	11613
ZX11-4cl	4	3.6 m	5.00 m	11.4 dB	-28 dB	11.5	350	11614
ZX11-4DX	4	4.0 m	5.8 m	12.0 dB	-26 dB	13.2	390	11614.01
ZX11-5DX	5	5.6 m	7.92 m	12.7 dB	-35 dB	14.0	490	11615.01
ZX11-5ITB	5	3.9 m	5.61 m	11.7 dB	-29 dB	16.3	420	11615.02
ZX11-6DX	6	6.8 m	13.40 m	13.5 dB	-32 dB	18.0	650	11616.01
ZX11-7cl	7	7.5 m	14.45 m	14.1 dB	-42 dB	22.0	730	11617
ZX11-9cl	9	8 m	14.8 m	15.8 dB	-46 dB	43.0	940	11619
12m-Band								
ZX12-2	2	2.9 m	1.10m	6.3 dB	-18 dB	4.2	160	11632
ZX12-3	3	3.3 m	3.10 m	9.1 dB	-25 dB	6.9	280	11633
ZX12-4	4	4.0 m	5.50 m	11.4 dB	-28 dB	11.6	370	11634
ZX12-5	5	5.2 m	8.75 m	12.1 dB	-28 dB	14.8	510	11635
ZX12-6	6	7.8 m	12.60 m	12.7 dB	-35 dB	19.5	660	11636
15m-Band								
ZX15-2	2	3.4 m	1.85 m	6.3 dB	-18 dB	6.6	200	11642
ZX15-3	3	4.0 m	4.20 m	9.1 dB	-25 dB	10.9	350	11643
ZX15-4	4	4.7 m	6.42 m	11.4 dB	-28 dB	15.4	470	11644
ZX15-5	5	6.2 m	9.50 m	12.1 dB	-28 dB	20.2	630	11645
ZX15-6	6	8.1 m	14.75 m	12.7dB	-35 dB	23.0	810	11646
17m-Band								
ZX17-2	2	4.3 m	2.15 m	6.3 dB	-18 dB	6.8	260	11652
ZX17-3	3	4.9 m	4.30 m	9.1 dB	-25 dB	11.6	390	11653
ZX17-4	4	5.7 m	7.50 m	11.4 dB	-28 dB	16.8	530	11654
ZX17-5	5	7.1 m	8.45 m	12.1 dB	-28 dB	22.3	700	11655
ZX17-6	6	9.6 m	17.40 m	12.7 dB	-35 dB	25.6	920	11656
20m-Band								
ZX20-2	2	4.6 m	2.70 m	6.3 dB	-18 dB	10.0	380	11662
ZX20-3	3	5.6 m	6.20 m	9.1 dB	-25 dB	13.5	550	11663
ZX20-4	4	6.6 m	9.50 m	11.4 dB	-28 dB	21.0	720	11664
ZX20-5	5	8.6 m	14.10 m	12.1 dB	-28 dB	25.9	950	11665
ZX20-6	6	9.6 m	14.60 m	12.7 dB	-35 dB	38.6	1240	11666
30m-Band								
ZX30-2	2	7.0 m	2.35 m	6.3 dB	-18 dB	15.6	590	11672
ZX30-3	3	8.1 m	8.55 m	9.1 dB	-25 dB	27.5	810	11673
40m-Band								
ZX40-2	2	21 m	5,2 m	6.3 dB	-18 dB	25.0	1200	11682
ZX40-3	3	22 m	10,8 m	9.3 dB	-18 dB	80.0	1800	11683



20m 4-Element ZX-YAGI



20m 3-Element + 10m 6-Element ZX-YAGIs

**We are building custom-design HF beams,
any size / any frequency you need!**

The different designs

Classic

Standard design featuring high bandwidth and medium Q; good allround antennas.

DX

Gain optimized design with longer boom and up to 1 dB more gain. Mediocre to medium Q and consequently high resulting bandwidth and rather insensitive for influence caused by the antenna environment.

ITB

Short boom antennas for limited installation space with somewhat lower antenna gain; high f/b-ratio.



HF portable multiband antennas, MTFT magnetic balun

HF portable antennas with BNC for FT-817, SG-2020 and similar QRP radios

ATX-1080 Walkabout Portable 80-6m HF Antenna BNC

This antenna covers all bands (including WARC bands) from 80-6m, 5W guaranteed, 25W max. When fully telescoped it is 5' 5" (1.65m) long approx. and is fitted with a BNC connector. This makes it ideal for the new FT-817 or any other portable HF radio. Band changing is achieved by plugging in the "wander lead" into the appropriate socket on the base coil, and fine tuning adjustments are made using the telescopic whip. The whip unscrews from the base matching coil so that packed down, the antenna only measures 1 ft. (32cm).



Order no. 11195

AT-10

Single Band Portable HF Antenna with BNC plug.

Those many amateurs who are waiting for the FT-817 will no doubt be delighted to know that we now have a range of antennas suitable for the FT-817. These are single band, base loaded telescopic whips fitted with BNC connector. The new range initially covers the bands from 6m to 80m and each whip telescopes from around 1 ft. (26cm) to approx. 5 ft. (1.4m). The short length when collapsed makes them highly portable. Each model has been purpose designed for the FT-817 but can be used on other makes of transceiver.



band	order no.	band	order no.
10m	11190.10	15m	11190.15
20m	11190.20	40m	11190.40
80m	11190.80		

MTFT Magnetic Balun

QRP with just a few meters of antenna wire from 0.1 to 30 MHz! Can be used up to 150 MHz with reduced effectiveness.

The common built-in antenna tuners or external coaxial antenna tuner have a limited impedance range only. Tuning of a "short" wire (compared to the operational wave length) is not always possible due to the high resulting impedance. The antenna wire is usually somewhere outside whilst the tuner is located near the rig, and it is not possible to feed a high-impedance wire antenna with a coax... Solution: An automatic antenna tuner connected to the antenna base. Nice, but a steep price... But, there is another more economical alternative.



The MTFT is a resistance transformer which reduces the extreme high SWR of the wire down to values within the tuning ranges of simple antenna tuners. The balun should be attached direct to the antenna feed point without any coax between MTFT and antenna. A coax cable is then connecting the rig. Due to low VSWR the losses are now minimized.

The wire length should be at least 20 ft. (6 m). Random wire radials or grounding is advisable if just a wire is to be used, can be omitted however if the MTFT is put in the center of a symmetrical dipole.

F6JSZ has installed a windom antenna with 60 ft. wire; instead of the standard feed as usually done he selected a feedpoint at approx. 1/3 from one end via a MTFT (tension relief required!). The transceiver is connected with 60ft. coax. In an article published in the French "CQ" he reports a SWR on all ham bands better than 1.5:1 and does not require an antenna tuner at all! The MTFT balun is ideal for tuning "a wire in the palm tree".

but also works fine for tuning CB antennas for ham band use (remove matching networks or traps). Almost arbitrary metal pieces may be used like: rain collectors on a roof, lamp supports (disconnect from mains!), or a vehicle's chassis (works OK on 40m)... You will enjoy with a sense for conducting experiments. Of course the balun can be used for transmission as well and is rated at 100 W PEP.

Even short wave listeners need this balun as an ideal accessory: A simple wire connected to the short wave receiver would represent a sharp mismatch resulting in poor receiving quality. The MTFT balun dramatically increase the antenna match and the remaining SWR can be disregarded in receive condition. There is absolutely no need for an additional antenna tuner any more! The balun no. 11370 is not water proof, we recommend use of an upside down bucket or equivalent to protect from water!



Order No.:

11370: Standard version

11370.01: Installed in a water tight box (like mast pre-amp)!

NEW! Long wire antenna with MTFT

Wire antenna for SWLs or for radio-amateurs, consisting of PVC-insulated stranded antenna wire, all required mounting insulators and clamps and an MTFT magnetic Balun in a waterproof box for outdoor use. By means of the Balun the hi-impedance wire antenna can be fed with a 50 ohm coax cable. In contrast to a single-wire feed, coupling man-made noise into the feedline is thus avoided.



The antenna is good for transmit as well between 1.8 and 30 MHz, max. power rating is 150 watt

order no.

11372.20 with 20m (60ft.) antenna wire

11372.40 with 40m (120ft.) antenna wire



Power Splitter, Antenna Remote / Polarization Switches

How to combine identical antennas, circular polarized cross-yagis or X-Quad-Antennas?

Combine two or four antennas by coaxial power splitters. The power splitter serves as an almost loss-less transformer to adapt the 12.5 respect. 25 Ohm base impedance of the parallel antennas to the required 50 Ohm. A phase harness is required to obtain circular polarization out of a crossed yagi or an X-Quad antenna. The phase harness is located directly at the antenna and consists of various coaxial lengths with varying impedances; thus the harness is responsible for the correct phase difference of the polarization planes and matches the system to meet the 50 Ohm impedance of the feed line (remark: just one feed line is required).

A disadvantage of this economic solution is the fact that the polarisation of the antenna is fixed to right-hand circular (RHCP) and cannot be changed any more. In order to change the plane of the polarization one can use a polarization switchbox or our new remote controlled polarization switch. When using the polarization switchbox two cables must be fed from the antenna to the radio shack. A short cable connects the box and the radio; the rotation knob allows changing of the polarization manually. The new remote controlled polarization switch is mounted directly at the antenna feedpoint or close to it under the roof. The remote box is connected to the radio by a coax cable and needs an additional 4-wire DC cable to control the remote box. This setup allows to operate crossed yagis and X-quads in circular as well as horizontal/vertical polarization modes. Feeding up to four independent antennas through just one coax cable is possible with our remote antenna control switches.

Coaxial Power Splitter

For combination respectively stacking of two, four or eight identical antennas. The pots are made of brass and copper in order to avoid any corrosion and the nuts and screws are also made of brass to avoid corrosion effects because of differential voltage effects. Color black.

New: long version for use with H-shaped stacked antennas to avoid cable chaos. The power splitter is mounted horizontally in the center of the "H"; the feed lines for the antennas are symmetrically connected at the ends.

All power splitters come with N connectors.

order no.	band	antennas	order no.	band	antennas
18040	2m	2	18090	2m long	4
18041	2m	4	18091	2m long	8
18042	70cm	2	18092	70cm long	4
18043	70cm	4	18093	70cm long	8
18044	23cm	2	Power rating 2000 Watt PEP attenuation less than 0.5 dB		
18045	23cm	4			
18096	13cm	2			
18097	13cm	4			

Remote Controlled Polarization Switch

Remotely change polarization plane on X-quad antennas and crossed yagis. The weather proof relais box equipped with N-connectors is provided for mast mount. Two inputs are available for the antennas and one coax output to the transceiver. Remote operations require and additional 4-wire DC control cable

The following polarization planes can be selected: horizontal, vertical, circular right, circular left handed.

For each band there are two models available, differing by the maximum output power.

The remote control switch can be used for our antennas as well as for any third-party products. Supplied with plug required for the control cable and mast clamp.

The required switchbox located at the shack is not part of the delivery (you may use just a soap-box and a 4-position rotary switch!) plus an external 12 V / 100mA DC power supply to feed the relais.

This remote control switch has been developed for WiMo in the RF lab of SSB-Elektronik, Iserlohn and is exclusively available only from us.

Order no.	Frequency	Max. power (PEP)	Attenuation max.
18080	2m	300 W	0,8 dB
18081	2m	800 W	0,6 dB
18082	70cm	200 W	1,1 dB
18083	70cm	600 W	0,9 dB

Remote Antenna Switches

Low-loss mast-mounted antenna switch for switching 2 or 4 antennas to **one** feedline, or for changing the polarization (horizontal/vertical) of X-quad antennas and crossed yagis. Low in-line attenuation, see table. 12 V DC operation (100mA max.). For 2x switches one control wire is sufficient (use maybe an unused wire of the rotor control cable?) but the DC minus pole must be connected to the coax cable shield. Impedance 50 Ohm, N connectors (female), supplied complete with mast clamp up to 54mm mast diameter.



Typ	AS-2	AS-2S	AS-4	AS-3000
No. Antennas	2	2	4	2
Frequency range	0-500	0-1300	0-600	0-3000
	MHz			
attenuation HF	0,05	0,1	0,05	0,05
	dB			
430 MHz	0,1	0,1	0,15	0,02
	dB			
3000 MHz	-	-	-	0,1
	dB			
max. power (PEP)				
HF	750	1500	1500	>1000
	Watt			
2m	300	750	1000	1000
	Watt			
70cm	150	400	600	800
	Watt			
23cm	-	100	-	500
	Watt			
13cm	-	-	-	250
	Watt			
Order no.	18075	18076	18077	18079

Remote Antenna Switch with Remote Control Unit

The 4-x select antenna switch type ACS-204 is a fabulous antenna switch with remote control; the control voltage is routed directly through the coaxial cable, so no additional ctrl cable is required. Simple installation within minutes; mechanical design as described for type AS-4 (see above). The control box locates at your operating position and switches the relais required for the antenna selection. Comes with external plug-in power supply.

Model	ACS-204N	
No. Antennas	4	
Frequency range	0-500	MHz
Attenuation (500 MHz)	0,25	dB
max. power (PEP) HF	1500	Watt
	2m	800
	70cm	600
	Watt	
Order no.	18078	



Phasing Harness

Required for the combination of crossed yagis or X-quad antennas for circular polarization (RHCP). The following versions are available: 1) for our X-quad antennas or cross yagis only, complete kit incl. 2xN connectors (female) and 1xN connector male. 2) for any other (3rd party) crossed yagis: with two cables and 1xN connector (male) for the feed line. The two cables can be custom-configured with connectors; the length of the cables is subject to cut in accordance with the plane offset of the specific antenna used.

Order no.	band	
18047	2m	for our X-Quad 2m
18051	2m	for our 2m X-Yagis
18049	70cm	for our X-Quad 70cm
18052	70cm	for our 70cm-X-Yagis
18046	2m	for any X-Yagis
18048	70cm	for any X-Yagis

Rotor- and Soundcard Interfaces, Ezitune

DIGI-1 soundcard interface



Universal sound card interface for digital modes (PSK-31, RTTY, FAX, SSTV etc.) and for Voice Keyer. The interface is the link between the PC (sound card) and the transceiver. Internal jumpers enable universal configuration; all required cables are part of the kit so there is no need for soldering adaptor cables etc. The interface has separate adjustments for the RX and TX audio level; hums are avoided by the use of a galvanic transformer on the trx side. The interface does not require a power supply. The opto-coupled PTT control is either realized via the VOX or by using the COM port. There is an additional opto-coupled CW interface integrated which allows running programs like CT, SD etc. for computer-aided CW transmission. The enclosed microphone cable fits all short wave transceivers with 8-pin microphone jacks as well as 8-pin Western plugs (like used for IC-706). All other cables are also supplied, as there are: 3x audio for sound card, sub-D for COM port as well a demo program on diskette.



Order no. DIGI-1

Ezitune

This is an innovative and unique concept for antenna tuning; it simplifies the tuning process for the operator and avoids unwanted QRM for fellow-hams! AVOIDS sudden cut-off of the solid state PA and EXTENDS the PA's life time. NO more annoying carriers during tuning. More ACCURATE as an SWR meter. Tune while receive: insert Ezitune into the antenna feed line; switch on and you'll hear an S9 noise. Adjust the antenna tuner for minimum noise watching the S-meter - that's it! Now your antenna is tuned and ready for transmit. If you should forget to switch the EZITUNE off, no problem: a built-in VOX protects the unit against any damage while transmitting. If a PA is to be used the Ezitune is to be inserted between TX and PA. Additional data: max. power 200 watts, dimensions 13x17x4 cm, power supply 12V/30mA. Terminals: 2xUHF (female).

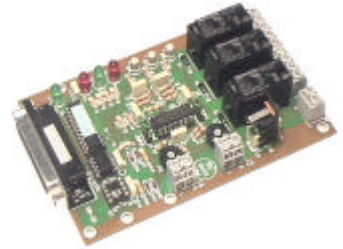


Order no. 26020

ARS universal rotator interface

suited for almost all types of rotators! Universal rotator interface for almost all AZ or AZ/EL models, compatible to TRXmanager, Cluster-Master, WinOrbit, Swisslog etc. Comes with control software for WIN and DOS. Comprises country listing, calculation of longpath/shortpath and distance and so on. Available in two versions:

- for horizontal rotators
- for horizontal and vertical rotators

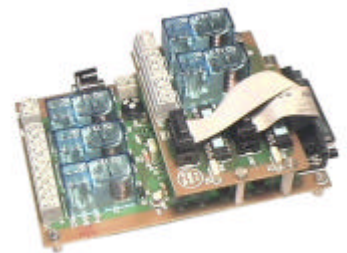


ARS is a small PC board 5"x3" (12,5cm x 8cm) with connectors for control unit, rotator and your PC's LPT port. It contains 3 relays for left / right / brake, 2x 8-bit or 10-bit A/D convertor and the PC-Interface with 25-pole sub-D connector for LPT port. There is an optional add-on board with two additional relays for control of the 2nd rotator which clips on to the main board.

ARS is compatible to all rotators using an analog potentiometer for position interfacing. Amongst others this applies for the following rotators:

- YAESU: G-400, G-500/550 (elevation), G-450/650XL, G-800/1000-S, -SDX, -DXC, -DXA, G-2000, G-2700/2800SDX, G-5400/5500/5600
- TELEX/HY-GAIN: HAM-IV, HAM-M, T2X, HDR-300
- KENPRO: KR-400, KR-600RC,... (see YAESU)
- DAIWA: DR-7500 series R and X, DR-7600 series R and X, ORION: 2300, ...
- CREATE: RC5x-3P, Pro.Sis.Tel: all models

ARS comes with a CD containing software for both Windows ® and DOS (source code is provided). The extensive manuals describing how to connect the various rotators are to be found on CD as well.



Software for Windows

- Compatible to TRX-Manager, ClusterMaster (v 4.40), SwissLog for Windows, WinOrbit, WISP32, NOVA and more
- Simple user interface (C++ language and VisualBasic)
- Very powerful configuration capabilities
- Prefix- and country data bank with distance/beam direction (long/short path), local time and CQ/ITU zone.
- Locator Utility: Calculate distance and beam direction between two locators, convert locator to longitude/latitude
- DDE support enabling simultaneous access of different programs
- Supplied with a demo program (written in VB) to demonstrate and facilitate adaptation of own software.

The DOS software enables use of any DOS software (e.g. SWISSLOG or Packet radio programs) to direct and control the antenna. For SAT applications it is possible to run ARS from inside of all application that support KCT, for example INSTANT TRACK.

Order No.

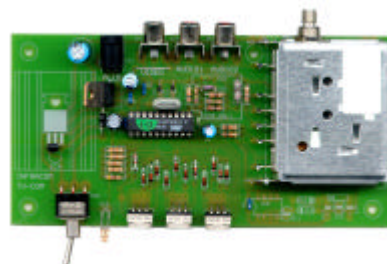
- ARS ARS for horizontal rotators, 8 bit
- ARS-10 ARS for horizontal rotators, 10 bit
- ARS-EL ARS for horizontal AND vertical rotators, 8 bit
- ARS-EL-10 ARS for horizontal AND vertical rotators, 10 bit

TVCOM: ATV TX modules up to 200 mW with free frequency selection

Plug and play Transmitter modules for 13cm or 23cm with 20mW or 200mW (!) output. The frequency is to be selected in 1 MHz-steps through three rotary switches. Supplied as kit with PCB, all required parts and assembly manual.

Order no.

TVCOM13-20 TV TX module 13cm (2200-2699 MHz), 20mW, kit
 TVCOM13-200 TV TX module 13cm (2200-2699 MHz), 200mW, kit
 TVCOM23 TV TX module 23cm (900-1800 MHz), kit



ATV TX / RX modules for 13 and 23 cm

Commercially made, ready-to use modules in high quality and attractive pricing.

The frequency generation is done by a PIC-controlled synthesizer resulting in excellent frequency stability. Full duplex QSOs are no problem by simply using several channels simultaneously. The use of the modules for remote control application like RC cars with CCD camera is quite easy due to the small size. Connectors: SMA for

HF, Video IN, stereo audio IN: RCA jack, 13.8V DC: DC plug

Frequencies

13cm	2329,000	2343,00	2380,500	2438,0	MHz
ISM	2413,000	2483,00	2458,000	2475,0	MHz
23cm	1251,625	1280,00	1278,250	1276,5	MHz
	1275,000	1281,25	1247,000	1285,0	MHz

Transmitter



RF output: 20mW (13cm) resp. 50mW (23cm), adjustable video level. DIP switch for frequency selection. Stereo audio subcarriers adjustable between 5.5 and 7 MHz (default: 6.0 / 6.5 MHz). For homebrew projects the RF module can be installed vertically which reduces the PCB length from 125mm to 75mm.

Audio subcarriers: 5.5 MHz bis 7.0 MHz
 Input: Audio + Video 1V
 DC power: 13.8V DC, 200mA
 Dimensions: 60*125mm

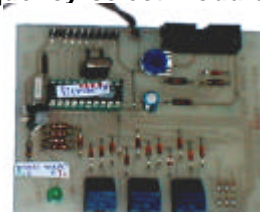
Receiver



By means of a potentiometer the video output level is adjustable; 4 LED's are used for channel display. Pushbutton frequency switches for freq selection and scan functions, audio subcarriers of 6.0 and 6.5 MHz (easy modification for 5.5 MHz). The inverted video signal is also accessible on the PC board.

Channel display: 4 LEDs
 Output: Audio + Video 1V
 DC power: 13.8V DC, 500mA
 Dimensions: 60*150mm,

Frequency select module



Frequency select module works with all ATV modules. Connects via flat cable without need for additional power supply. Replaces the original PIC-module and enables freely selectable frequencies by means of three rotary knobs between 900-1800 MHz / 2000-2799 MHz in 1-MHz steps; in addition the module offers S-meter and spectrum analyzer output.
 Frequency range 13cm:
 Frequency range 23cm:
 Kit comes complete with PC board, all-parts required and assembly manual.

1W RF Amplifier 2400 MHz



Suitable for our 13cm ATV modules. RF output 1 Watt, SMA connectors, in a milled aluminium box with Video monitor output.

- Frequency range: 2,3-2.5GHz
- Power requirement: 12V /200mA
- Dimensions 80x60x22mm

Suitable handheld antennas

For 13 cm, with SMA plug:

- 17010.10 straight
- 17010.11 knuckled 90°
- 17010.12 Dipole antenna with pigtail 30cm, fixes everywhere with self-adhesive tape



order no.

ATV-TX13 TX module 13cm
 ATV-TX23 TX module 23cm
 ATV-RX13 RX module 13cm
 ATV-RX23 RX module 23cm
 ATV-CTRL Frequency select module

ATV-PA13 1 Watt 13cm PA



SCS PTC-II PRO, PTC-2e PACTOR controller

Multimode controllers for all digimodes like PACTOR-II, PACTOR-I, AMTOR, NAVTEX, RTTY, PSK31 etcetc,
The original from the inventor of PACTOR.

SCS PTC-II PRO

Multimode-Multiport-Controller



Multimode-Multiport-Controller for PACTOR-II, PACTOR-I, AMTOR, RTTY, CW, FAX, SSTV, PSK-31, Packet Radio 1K2/9K6 Bd, Audio DSP,

ONE for ALL, PACTOR on short wave, Packet on V/UHF,...

HF <-> VHF/UHF gateway and crossband digipeating: connect your rig at home from your holiday QTH on HF and link into the Packet net at home...or right into the internet... Integrated PACTOR mailbox.

24bit DSP with 100 MIPS throughput.

CAT interface for ICOM, KENWOOD and YAESU transceiver control. EMC countermeasures: consequent blocking and filtering of all INputs and OUTputs. Multilayer PCBoard with integrated DC+ and DC- ground layer, compact SMD design.

Simultaneous stand-by in PACTOR-II, PACTOR-I, AMTOR and on both Packet radio ports. Mark and Space tones freely programmable in 1Hz steps. Firmware stored in flash memory, easy updates via COM port. Updates are free of charge and available from many Packet-Radio mailboxes and from the web.

Comes complete with manual, software for SSTV and FAX, terminal program and all required cables and connectors.

Order no: PTC-2 PRO

Option PTC-DSP:
Packet radio DSP module
For 1200 and 9600 Bd

PTC-2e



The latest member of the PTC family. Economy priced 'lite version' of the PTC-II: Identical functionalities and user interfaces comprising the following limitations:

Just one communications port for PACKET or PACTOR, Gateway mode not possible.

Similar to PTC2-PRO with following restrictions:

- No transceiver control
- Without alpha-numerical display (but with LED bar graph).

However, a Packet modem for 300, 1200 and 9600 Bd is included.

Packet cable



Data cable for all TNC's with 5-pin DIN-plug on one side and a 6-pin plug on the other side. Mini DIN plugs fit into the data terminal of all modern radios (e.g. FT-8100/847, TM-V7, etc).

Order no. 40102

SYMEK Packet Radio TNCs

High-reliable multispeed Packet Radio TNCs without compromise.

TNC-3S



High-speed dual modem packet-radio-controller

Two modems simultaneous operation, 16 bit CPU, up to 2MB RAM, Flash-EPROM

The high performance model featuring slots for two modems for simultaneous operation. Any modem combination is possible; normally one will chose one each 1200 Baud and 9600 Baud modem (standard configuration for our TNC3S). 16/32-bit Motorola processor MC68000 family with 16-bit data bus featuring enormous data throughput and virtually no memory limitations as the case with some of the older 8-bit systems. Additional RISC co-processor, terminal baud rate up to 115200 Bd adjustable, real-time clock. Comprehensive software: Turbo firmware, DAMA- mode, operation is possible as Three-Net-Node digipeater, DCD coupling for bi-mode digipeater software controlled, built-in mail box system, cross-band digipeater mode possible,...

TNC31S



High speed TNC with one modem: Low cost version of the TNC-3S featuring only one available modem slot.

Supply options: Either with 1200 or 9600 Baud modem, optional 128 or 512K memory (RAM and flash EPROM). 512k version have a real-time clock with battery backup.

16-bit RISC communications processor for modems up to 1 Mbit/s, software identical to TNC3S. Updates can be loaded into the flash EPROM without need to exchange the EPROM. RS-232 interface (up to 115 kBaud). Connecting cable included, detailed manual for TNC, software and diskette. Power supply 10 to 30 volts DC.

TNC-31S-9600
9600 Bd, memory 128K

TNC-31SX-9600
9600 Bd, memory 512K,
Real time clock

TNC-31S-1200
1200 Bd, memory 128K

TNC-31SX-1200
1200 Bd, memory 512K
Real time clock

Packet-Controller Übersicht:	TNC3S	TNC31S(X)
Radio ports max.	10 (up to 200)	10 (up to 50)
Modems	2 simultaneously	1
1200 Baud AFSK	yes	yes
2400 Baud AFSK	yes	usually
4800 Baud G3RUH	yes	yes
9600 Baud G3RUH	yes	yes
19200 Bd G3RUH	yes	yes
More than 19200 Baud	Up to 1 MBaud	Up to 1 MBaud
EPROM-Softwares	Turbofirmw., TheNet, TNC3Box, Three-Net.	Turbofirmware, TNC3-Mailbox, X-Net .
System memory	256k EPROM, CMOS-RAM, Flash-EEPROM	128 k FLASH (512 k FLASH)
RAM	64k-2 Mbyte	128 k (512k) Byte
Real time clock	yes	No/Yes
Terminal-Baudrate	1200-115200	75-115200
Gehäuse BxHxT mm	175x42x125	105x42x125
Current consumption mA	80-350 (7-15V)	abt. 200 (9-25V)





A brand new hand-made series of morse keys. All parts (except the anti-skid rubber feet) are made without the use of any plastic parts. Adjustable tension and contact spacing; the bearings are also adjustable. The lacquered base plate is made of polished mahogany and the bottom side of the base is covered by cork. The buttons are made of teak wood and all metal parts consist of brushed brass. Alternatively most models are also available gold plated and all polished metals



LMC

Low-cost general purpose key, height of key is 38 mm, dimensions 8x12 cm, weight 220 grams.

Order No.
26400 Brushed Brass



GMC

Deluxe key for comfortable use during longer qso's. The contacts are located upwards on the back side and enables fast keying. Height of key 42 mm, dimensions 8x14 cm, weight 320 grams.

Order No.
26410 Brushed Brass
26410.01 gold plated and polished



CRI

Squeeze paddle; dimensions 8x15 cm, paddles made of olive wood, weight 400 grams.

Order No.
26430 Brushed brass
26430.01 gold plated and polished



GMM30

Low-cost paddle, replica of the (1920?) "Bodoplex" keyer. Suitable for high speed. Paddle made of olive wood. Dimensions 8x18 cm, 400 gram.

Order No. 26420:
gold plated and polished



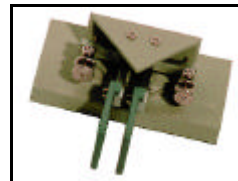
CRDO

A combination of squeeze paddle and key, for instance to transmit REALLY SLOW in the middle of the 160 m QRN... Dimensions 5x11 cm, 525 gram.

Order No. 26440.01:
gold plated and polished



This English company manufactures precision morse keys. The keys are very well built at a reasonable price. We are their General Representation in Germany!





KT1

Professional keyer made of brass and very heavy steel base plate, with ball bearings and silver plated contacts, black.

Order No.
26215

Hand Key

The low-profile KENT morse keyer is made of massive brass following strict design criteria. The sealed bearings and silver contacts guarantee many years of problem-free use. Locking screws allow individual adjustment for arm height, tension and contact spacing. The machine-made base plate has anti-skid feet.

Supply alternatively fully assembled or as kit (assembly time approx. 1 hour).

Order No.
26210:
fully assembled

26210.01:
assembly kit

Paddle

Precision milled paddle for squeeze key made of brass with a base plate made of black steel. Sealed bearings and silver contacts together with locking screws and acute thread guarantee many years of trouble-free operation. The paddle is fully assembled or as kit.

Order No.
26200:
fully assembled

26200.01:
assembly kit

Single Paddle

Similar to our twin paddle but without the 'squeeze'-keying...

Order No.
26205:
fully assembled

26205.01:
assembly kit

ETM

Squeeze Paddle

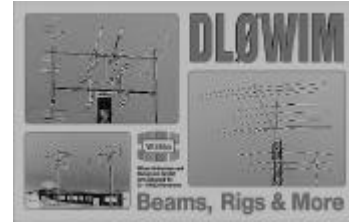
With adjustable tension and contact spacing, contacts made of silver steel.

Dimensions: 110x60x12 mm

Weight: approx. 700 grams

Order No.
ETM-SQ





**Anyone can be an order taker...
WiMo is a full service company!**

During my various DX-peditions I am using material supplied from WiMo. Of course the club station of our Company DLØWIM is equipped with WiMo antennas and equipment as well. Thus we have the chance to locate and fix any weak points of our products at a very early stage, and ensure competent advice for our customers which is to be expected from a specialist store.

We know what we are talking about!!

Volkmar 'Fred' Junge, DF2SS
Managing Director WiMo GmbH

Need a special antenna?

We are developing and producing **ALL** kinds of antennas for commercial use.

Your kind inquiries are highly appreciated!

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