

TRISECTOR TRIBAND 1x 698-960 MHz, 2x 1710-2690 MHz

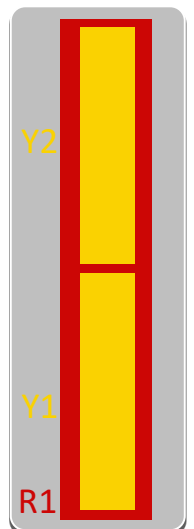
- Compact Antenna
- Diameter 450 mm
- Internal RET
- Azimuth per sector: $\pm 10^\circ$

RF Electrical specifications*

Frequency Range (MHz)		698-790	792-862	880-960	1710-1880			1920-2170		2500-2690	
Cluster Name		R1			Y1			Y2			
Gain (dBi)	Min Tilt	13,4	14,1	14,8	14,4	14,9	15,5	14,2	14,5	14,9	
	Mid Tilt	13,3	14,0	14,6	14,6	15,1	15,7	14,1	14,7	14,6	
	Max tilt	13,2	13,7	14,2	14,8	15,3	15,6	13,9	14,5	14,8	
	Over all Tilts: Average	13,3	14,0	14,5	14,7	15,1	15,6	14,1	14,6	14,8	
	Tolerance	0,4	0,3	0,4	0,5	0,5	0,5	0,5	0,5	0,5	
Azimuth Beamwidth (deg)	Average	69,0	67,0	66,0	65,6	63,6	58,6	65,6	63,6	58,6	
	Tolerance	4,0	4,0	2,0	4,0	6,0	7,0	4,0	6,0	7,0	
Elevation Beamwidth (deg)	Average	18,7	16,3	14,6	12,2	10,8	8,6	12,2	10,8	8,6	
	Tolerance	0,7	0,8	0,6	0,6	1,0	0,9	0,6	1,0	0,9	
Elevation Downtilt Deviation (deg)		<0,3	<0,3	<0,3	<0,5	<0,4	<0,5	<0,5	<0,4	<0,5	
First Upper Sidelobe level		>16	>14	>11	>14	>15	>13	>14	>15	>13	
Upper Sidelobe Level peak to 20° above (dB)		>21	>19	>15	>15	>16	>13	>15	>16	>13	
Cross Polar Discrimination at Boresight (dB)		>18	>18	>18	>17	>18	>18	>17	>18	>18	
Cross Polar Discrimination Over Sector (dB)		>8	>11	>9	>6	>13	>8	>6	>13	>8	
Front to Back Ratio total power $\pm 30^\circ$ (dB)		>25	>25	>25	>24	>25	>22	>24	>25	>22	
Cross Polar Isolation (dB)		>27	>27	>27	>27	>27	>27	>27	>27	>27	
Interband isolation (dB)		>27									
Polarization (deg)		± 45									
Electrical Downtilt (deg)		2–12									
Impedance (Ω)		50									
VSWR		< 1.5:1									
PIM, 2x43dBm (dBc)		< -153									
Max. Effective Power per Port (W)		300									

* All specifications are subject to change without notice. Refer to TELNET for the most current information.

* All specifications are based on NGMN recommendations on Base Station Antenna Standards (BASTA).



Mechanical specifications

Antenna Dimensions: Height/Diameter (mm)	1632 + 300 x 450
Packing Size: Height/Width/Depth (mm)	2051 x 566 x 572
Net Weight (kg)	77
Shipping Weight (kg)	86
Connector Quantity	18 (3x6)
Connector Type	7/16 or 4.3-10 female connectors
Connector Position	Bottom
Wind Load Frontal (N @ 150 KMH)	716
Wind Load Lateral (N @ 150 KMH)	716
Wind Load Rear (N @ 150 KMH)	716
Survival wind speed (km/h)	200
Azimuth (Full antenna / Per Sector)	$\pm 50^\circ / \pm 10^\circ$
Radome Material	Fiber glass + polyester
Radome Colour	RAL9018
Mechanical Distance between Mounting Points - Antenna	N/A
Mechanical Distance between Mounting Points - Pole	N/A
Lightning Protection	DC grounded

TELNET RET

RET Type	Internal
Actuator standalone size: Height / Width / Depth (mm)	Inside the antenna
Actuator installed size: Height / Width / Depth (mm)	Inside the antenna
Working temperature range (°C)	-33 – 70
Power consumption (W)	1 – 10
Loss of position on power failure	False
Compatible standards	3GPP/AISG 2.0
Configuration management	Integrated RET, pre-configured.
Antenna configuration file availability	True
Antenna configuration file upgradability	Yes, by base station and proprietary portable controller
Software upgradability	Yes, by portable controller only.
Replaceability in field	Yes, without removing antenna.
Visual indicator available on tilt change	True
Daisy chain available	True

TNA970A20Rx0y ordering codes:


Rx:	<ul style="list-style-type: none"> • RU: Antenna with INTERNAL RET in all bands + one AISG control interface • RI: Antenna with INTERNAL RET in all bands + two AISG control interfaces • RP: Antenna ready for INTERNAL RET installation in all bands and one ore two AISG control interfaces. Motors and electronics can be installed afterwards (without uninstalling antenna)
Oy:	<ul style="list-style-type: none"> • 00: Antenna with 7/16 connectors • 01: Antenna with 4.3-1 connectors

* By default, all antennas are supplied with trisector configuration and white colour (RAL9018). For different colours and sector configurations, contact TELNET Redes Inteligentes.




RET Cabling recommendations:

Cabling for daisy chain connexion between sectors

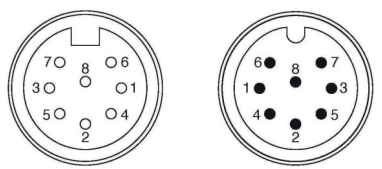
Telnet cable code	TNR215xxx (where xxx is the length of the cable)	
Connector 1	IEC 60130-9, female connector	
Connector 2	IEC 60130-9, male connector	
Length	500mm	

Cabling between RETs and BTS/RRU

Telnet cable code	TNR215xxx (where xxx is the length of the cable)	
Connector 1	IEC 60130-9, female connector	
Connector 2	IEC 60130-9, male connector	
Length	From 1m to 150m	

Pin assignment

1	Not connected
2	Not connected
3	RS485 B
4	Not connected
5	RS485 A
6	+10V - +30V DC
7	DC Return
8	Not connected



TELNET Redes Inteligentes Headquarters

Industrial Area Centrovía
18 Buenos Aires St.
50198 La Muela, Saragossa, Spain
Phone: (+34) 976 14 18 00
Fax: (+34) 976 14 18 10
telnet@telnet-ri.es

Commercial office in Madrid

85 Menéndez Pelayo Avenue, 1º A
28007 Madrid, Spain
Phone: (+34) 91 434 39 92
Fax: (+34) 91 434 40 84

Subsidiary in Portugal

NETIBERTEL
35 Fontes Pereira de Melo Avenue, 14ºD
1050 -118 Lisbon, Portugal
comercial.pt@telnet-ri.es

Subsidiary in Mexico

TELNET Azteca
Darwin 74, 3 floor, Col. Anzures
Del. Miguel Hidalgo C.P. 11590
Mexico
comercial.mexico@telnet-ri.es

www.telnet-ri.es