

## **0.75m Ka band cable-drive driveaway antenna**

A750DA-KA driveaway antenna system is a 0.75m vehicle mounted antenna system designed by BCS. The antenna system can be applied for Ku and Ka band and it has excellent electrical properties, high driving precision, and high adaptability. Different types of BUC and antenna controller can be equipped according to customers' requirement.

### **Major features:**

- Applied for Ku and Ka band satellite communication;
- 70% of the structure is made of carbon fiber material, with light weight and high strength;
- Steel wire rope driver, with high driving precision;
- High reliability, over 730h operation test without malfunction.
- Easy assembly and disassembly, low requirement for vehicle modification.
- Compatible with Ku and Ka band satellite communication.
- Easy operation, with one button satellite acquisition and satellite stowing.
- BUC 1:1 backup installation can be realized.
- High adaptability, shroud can be equipped according to customers' requirement.
- C301DA and C302DA antenna controller can be used.
- Has passed China Satellite Network Accessing Test.

A750DA-KA satellite communication system meets GJB367A-2001 military communication equipment standard and has passed A, B, C, D four strict units of military test. It can be widely used in national security, emergency communication, telecommunication, news and broadcasting, petroleum and petrochemical, scientific exploration etc.

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## Specifications

Electrical properties for Ku band			
Working frequency	Transmit	14.0—14.5GHz	
	Receive	12.25—12.75GHz	
Gain	Transmit	39.3dBi+20Log ( f/14.25 )	
	Receive	38.3dBi+20Log ( f/12.5 )	
Cross isolation	Axis direction	$\geq 35\text{dB}$	
	1dB point	$\geq 30\text{dB}$	
Tx-Rx isolation	$\geq 85\text{dB}$ (including Tx-blocking wave filter)		
VSWR	$\leq 1.3: 1$		
The first side-lobe level	$< -14\text{dB}$		
Side-lobe properties	29-25lg $\Phi$ dBi	$\alpha \leq \Phi \leq 7^\circ$	
	8dBi	$7^\circ < \Phi \leq 9.2^\circ$	
	32-25 lg $\Phi$ dBi	$26.3^\circ < \Phi \leq 48^\circ$	
	-10 dBi	$48^\circ < \Phi$	
Electrical properties for Ka band			
Working frequency	Transmit	17.7—20.2GHz	
	Receive	27.5—30.0GHz	
Gain	Transmit	45.5dBi	
	Receive	41.9dBi	
VSWR	$\leq 1.3:1$		
The first side-lobe level	$< -14\text{dB}$		
Side-lobe properties	29-25 lg $\Phi$ dBi	$\alpha \leq \Phi \leq 20^\circ$	
	$\Phi$ is the angle between deviation direction and wave beam axis direction	-3.5 dBi	$20^\circ < \Phi \leq 26.3^\circ$
		32-25 lg $\Phi$ dBi	$26.3^\circ < \Phi \leq 48^\circ$
		-10 dBi	$48^\circ < \Phi$
Structural parameters			

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Antenna stowed size	1400mm×760mm×280mm
Weight	≤ 50kg (without BUC)
Driving range	Azimuth ± 270°
	Elevation 0°—90°
	Polarization ± 95°
Driving speed	Azimuth 0. 1—3° /s (adjustable)
	Elevation 0. 1—3° /s (adjustable)
	Polarization 1-4°/s (adjustable)
<b>Control parameters</b>	
Configuration	Select C301DA or C302DA antenna controller
Power supply	AC220V(± 10%), 50Hz
Cable	Four cables (including BUC and LNB power supply and RF)
<b>Environmental adaptability</b>	
Working temperature	-40—60℃ (antenna)
	-10—55℃ (antenna controller)
Storage temperature	-55—70℃
Humidity	95% ( 30℃ )
Height	≤ 5000m
In the rain	6mm/min
Salt fog	Meet military standard of GJB367A-2001
Vibration	Meet military standard of GJB367A-2001
Sand storm	Meet military standard of GJB367A-2001
Wind speed	20m/s stable wind working status
	30m/s gust wind working status
	60m/s vehicle moving status
Reliability	≥ 2000h