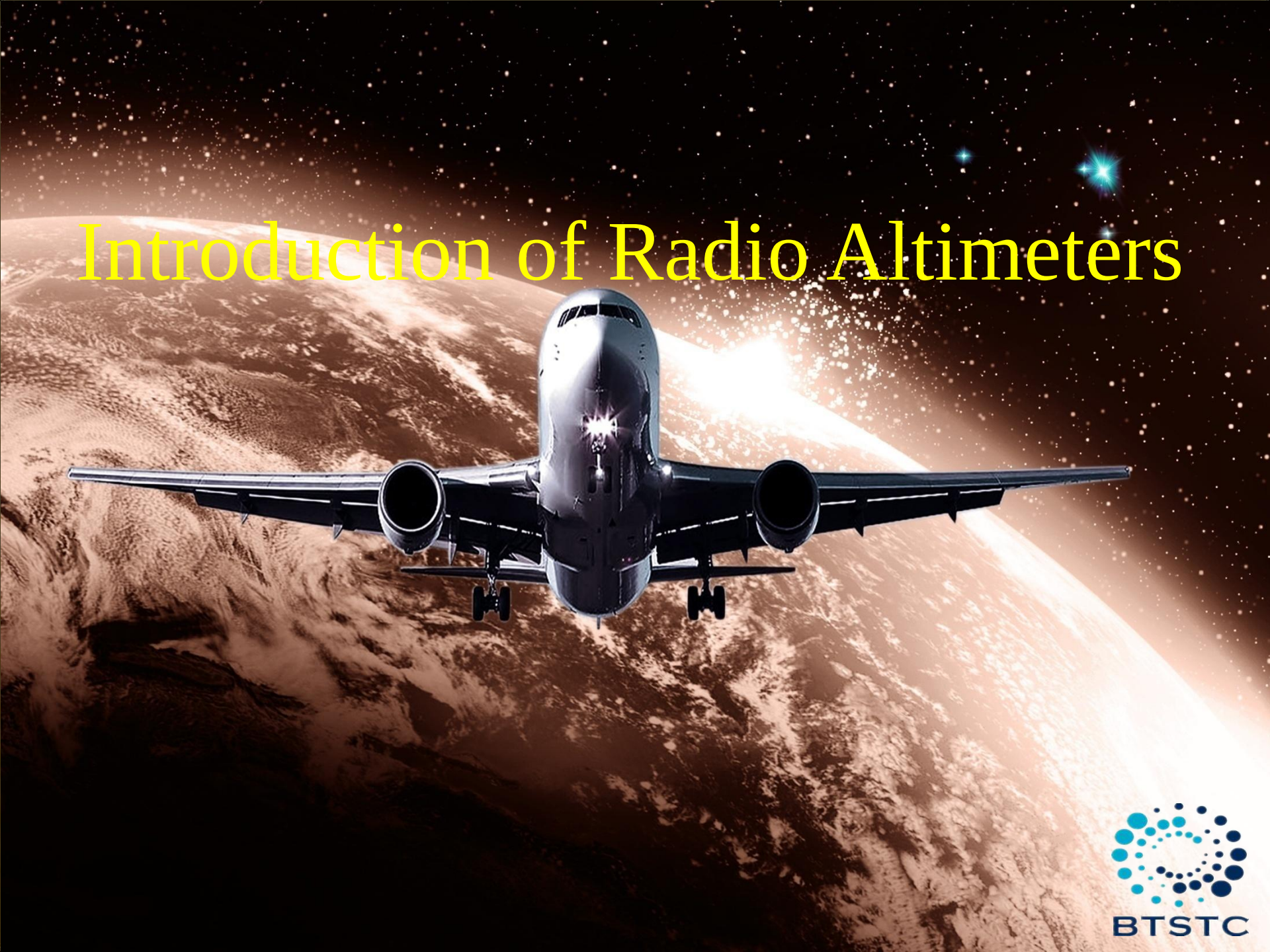
# Introduction of Radio Altimeters



BTSTC

# Profile

We always adhere to the concept of "aerospace technology, military quality", and the idea of "universalization, serialization and composition", steadily achieved miniaturization of products. Our current main products include:

- KYW-28A Radio Altimeter
- HY-1000 Small Radio Altimeter
- HY-3001A Ultra Miniature Radio Altimeter
- HY-919 6U Module Radio Altimeter

According to special needs of customers, We can customize products.

BTSTC

# KYW-28A Radio Altimeter

Adopting universal, serial and modular design, KYW-28A is designed for a drone target aircraft, which meets aerospace standards and has well anti-jamming performance and electromagnetic compatibility. Its series product have been successfully applied on several types of aircraft. At present, the number of radio altimeter assembly has exceeded 800 sets.

BTSTC

# KYW-28A Radio Altimeter

## ★Main electrical properties

Working Frequency : 4300±100MHz;

Radiation Power : 20~24dBmW;

Receiver Sensitivity : better than -85dBmW;

Measuring ability : not less than 3000m;

High precision ：±0.6m 1m＜ H≤10m;

±(0.3+0.03×H)m 10m＜ H≤3000m;

Adapt to flight attitude: pitching 30 inches, rolling 45°;

Adapt to the carrier’s horizontal speed: 0 to 3 Mach;

Supply DC: DC18 ~ 36V, current consumption less than 0.8A;

Temperature: -40~+60℃;

BTSTC

# KYW-28A Radio Altimeter

## ★ Output Signal Form

1)Communication interface - RS422

Transmission format : 19200bps;

Transmission period : 1 frame/10ms.

2) 1)Communication interface - RS485

Transmission format : 9600bps;

Transmission period : 1 frame/30ms.

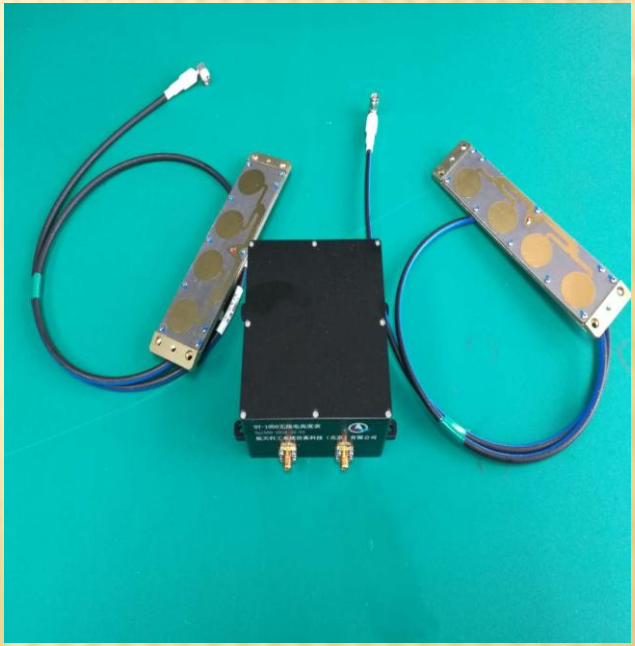
## ★ Mechanical Parameters

| No. | Name | Size（mm） | Weight（kg） |
|---|---|---|---|
| 1 | Measurement and control unit | Body size：130×86×56<br>Largest profile：152×86×56 | ≤1.5 |
| 2 | Antenna | 155×40×6(Without SMA connector) | ≤0.3×2 |
| 3 | Feeder | Launch feeder：2800<br>Receive feeder：2800 | ≤0.3 |

BTSTC

# HY-1000 Radio Altimeter

The HY-1000 is designed for a certain target missile and meets aerospace standards, which can be applied to aviation, missiles and drones. By adopting linear modulation factor adapting to height change technology and echo signal narrowband receiver technology, it can improve anti-active interference capability and anti-co-frequency asynchronous interference performance. The universal, serialized and modular design has a strong applicability to different platform. At present, the number of this series has approached 200 sets.



BTSTC

# HY-1000 Radio Altimeter

## ★ Main electrical properties

Working Frequency : 4300±100MHz;

Radiation Power : 20~24dBmW;

Receiver Sensitivity : better than -85dBmW;

Measuring ability : not less than 3000m;

High precision ： ±0.6m 0.5m＜ H≤10m;

±(0.3+0.03×H)m 10m＜ H≤3000m;

Adapt to flight attitude: pitching 30 inches, rolling 30°;

Adapt to the carrier's horizontal speed: 0 to 3 Mach;

Supply DC ：DC18～36V， current consumption less than 0.5A;

Working Temperature ：-40~+60℃;

BTSTC

# HY-1000 Small Radio Altimeter

## ★ Output Signal Form

The radio altimeter uses an analog voltage interface and a flight controller for high information transmission.

## ★ Mechanical Parameters

| No. | Name | Size（mm） | Weight（kg） |
|---|---|---|---|
| 1 | Measurement and control unit | Body size：103×97×55 | ≤0.75 |
| 2 | Antenna | 170×40×6(Without SMA connector) | ≤0.15×2 |
| 3 | Feeder | Launch feeder：2800 | ≤0.3 |
| | | Receive feeder：2800 | |

BTSTC

# HY-3001A Radio Altimeter

HY-3001A is designed for a light-weight missile and is the smallest, lightest, and aerospace standard full-function radio altimeter in China. It adopts technologies such as digital control, microwave integration and hybrid integration to maintain the closed-loop tracking system and achieve ultra-miniaturization of products, known  as the "high-speed railway ticket." At present, the assembly number of this series has approached 100 sets.


BTSTC

# HY-3001A Radio Altimeter

## ★ Main electrical properties

Working Frequency : 4300±100MHz;

Radiation Power : 20~24dBmW;

Receiver Sensitivity : better than -85dBmW;

Measuring ability : not less than 1500m;

High precision ： ±0.4m 0.5m＜ H≤10m;

±(0.2+0.02×H)m 10m＜ H≤1500m;

Adapt to flight attitude: pitching 30 inches, rolling 30°;

Adapt to the carrier's horizontal speed: 0 to 3 Mach;

Supply DC ：DC18～36V， current consumption less than 0.5A;

Working Temperature ：-40~+60℃;

BTSTC

# HY-3001A Radio Altimeter

## ★ Output Signal Form

Send data to the controller through RS422;

Transmission format : 460800bps;

Simplex transmission, controller transceiver isolation;

Transmission period : 1 frame/10ms.

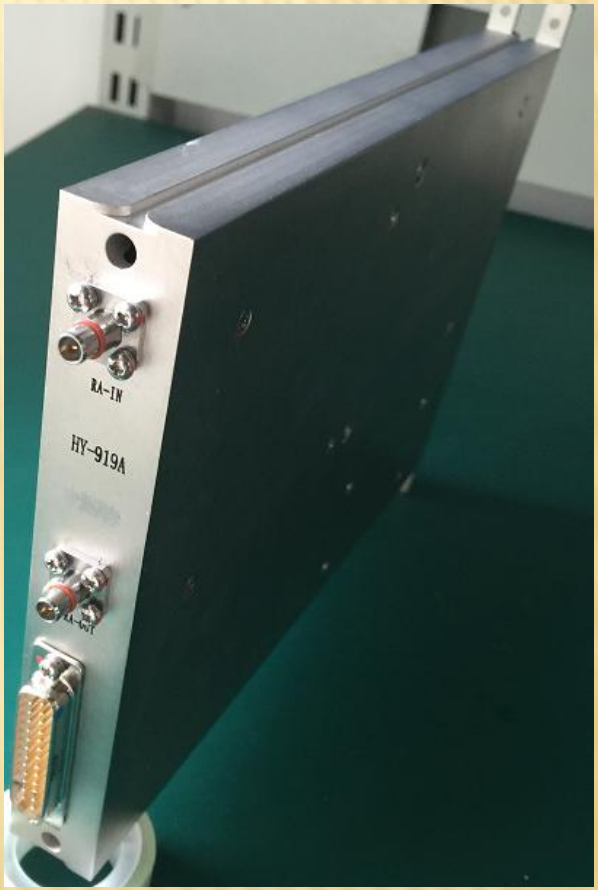
## ★ Mechanical Parameters

| No. | Name | Size（mm） | Weight（kg） |
|---|---|---|---|
| 1 | Measurement and control unit | Largest profile：86×52×41.5 | 0.23±0.02 |
| 2 | Transmitting Antenna | 110×64×6(Without SMA connector) | 0.10±0.01 |
| 3 | Receive antenna | 110×64×6(Without SMA connector) | 0.10±0.01 |
| 4 | Feeder | Launch feeder：1000 | ≤0.10 |
| | | Receive feeder：1000 | |

BTSTC

# HY-919 6U Module Radio Altimeter

HY-919 is designed for an aircraft and meets avionics standards. It can be applied to large aircrafts and drones. HY-919 is a frequency-modulated continuous-wave closed-loop tracking servo control measurement system. Adopting the reference and mixing receiver, the anti-co-frequency and asynchronous interference performance is superior. With the use of digital frequency domain processing, microwave integration, hybrid integration and other technologies, it is characterized by small size, high quality and well electromagnetic compatibility.




BTSTC

# HY-919 6U Module Radio Altimeter

## ★ Main electrical properties

Working Frequency : 4300±100MHz;

Radiation Power : 20~24dBmW;

Receiver Sensitivity : better than -85dBmW;

Measuring ability : not less than 3000m;

High precision ： ±0.6m 0.5m＜ H≤10m;

±(0.3+0.03×H)m 10m＜ H≤3000m;

Adapt to flight attitude: pitching 30 inches, rolling 35°;

Adapt to the carrier's horizontal speed: 0 to 3 Mach;

Supply DC ：DC18～36V， current consumption less than 0.8A;

Working Temperature ：-55~+60℃.

BTSTC

# HY-919 6U Module Radio Altimeter

## ★ Electrical Interface

RF Connector Form : BMA, meets IEC61169-33;

Data Connector Form : DB9;

Output Signal Form : meets VITA's 6U dual high module standard;

Communication interface via CAN, 429, 422, 485.

Baud rate 19200bps, data update time 10ms , transmission period : 1 frame/10ms.

## ★ Mechanical Parameters

| No. | Name | Size（mm） | Weight（kg） |
|---|---|---|---|
| 1 | Measurement and control unit | Largest profile：233×160×24 | ≤1.5 |
| 2 | Antenna | 120×100×6(Without SMA connector) | ≤0.15×2 |
| 3 | Feeder | Launch feeder：1000 | ≤0.15 |
| | | Receive feeder：1000 | |

BTSTC

# Thank you!

**Add：** 2603,2 Building No.1 Yard Jinfang Road,

Chaoyang Dist, Beijing, China

**Tel：** +86-18612496575

**E-Mail:** cyj@btstc.com

**Web：** www.btstc.com

BTSTC