



# CT-DZ600A *Satellite Synchronous Clock*

*GPS/BDS-Synchronized, Modular Network Time Server*

**DATASHEET**

## Functions

- Stratum 1 operation via GPS or BD satellite
- Internal precision time-keeping via OCXO
- 3 optional module slots allow multi-format outputs (NTP/SNTP, IRIG-B, Pulse, Serial)
- Time delay compensation mechanism, compensation range: 20ns~500ms
- 1x 10/100M Ethernet interface for management
- Secure web-based management
- SNMP simple network management supported



The CT-DZ600A Satellite Synchronous Clock (which is also a Network Time Server) is developed with modular hardware design in a 1U chassis. It receives GPS or BD satellite time source, supports multi-format outputs (NTP/SNTP, IRIG-B, Pulse, Serial), brings you a highly accurate, powerful and scalable time synchronization server widely used in telecom networks, communications, railway systems as well as power industry etc.

## Features

- Flexible modular design, easy for outputs configuration
- Nanosecond time accuracy to UTC
- Excellent internal holdover performance when loss of time source
- High-precision time synchronization satisfies enterprise class users
- 3 years limited warranty
- Certified CE, RoHS

## **Time Reference**

GPS L1  
BDS B1  
GPS & BDS  
GLONASS (optional)  
GALILIEO (optional)

## **Support output**

NTP/SNTP  
IRIG-B (DC / AM)  
IPPS/1PPM/1PPH  
Serial Strings (TOD)  
10MHz (customizable)  
DCF77 (customizable)





### GPS RECEIVER:

Frequency: 1575.42 MHz (L1 Band)  
 Sensitivity: Acquisition <-160dBW  
 Tracking <-163dBW  
 Acquisition: Hot Start < 2min  
 Cold Start < 20min  
 Tracking: Hot Start ≥ 1 Satellite  
 Cold Start ≥4 Satellite  
 Time Accuracy: ≤±200ns (RMS to UTC)

### BDS RECEIVER:

Frequency: 1561.098 MHz ±2.046MHz  
 Sensitivity: -157.6dBW  
 Time Accuracy: ≤±100ns (RMS to UTC)

### ANTENNA:

Frequency: 1575.42MHz  
 Bandwidth: min. 20MHz  
 Impedance: 50 ohm  
 Gain: 30dB±2dB  
 5 +/- 0.5V (25mA max)  
 Operation Temp. : - 40°C ~ +85°C  
 Antenna Cable: 30m low-loss cable by default

### TIME PERFORMANCE:

Time Accuracy: ≤100 ns (RMS to UTC)  
 Holdover Accuracy:  
 ≤40μs (After 1 hr) (Lose of GPS after 30mins locked.)  
 ≤90μs (After 2 hrs) (Lose of GPS after 30mins locked.)

### FRONT PANEL:

LED indicators (Status):  
 Power, Working, GPS ,Tracking, Sync Keypad:  
 Enter, ESC, Right, Left, Up, Down Display: LCD  
 Screen

### OUTPUTS:

#### NTP/SNTP

Network Protocols:  
 RFC-1059(NTP v1), RFC-1119(NTP v2),  
 RFC-1305(NTP v3), RFC- 5905(NTP v4),  
 RFC- 2030(SNTP), HTTP(Web Interface)  
 Network interface: 10/100M Ethernet port, RJ45  
 Time accuracy: 1ms~100ms  
 (Rely on the network environment)  
 NTP access ability: 1000 requests per second

#### 1PPS/1PPM/1PPH

TTL,RS422/RS485,RS232,idle contact, Fiber  
 Pulse width: 10ms ~ 200ms

#### IRIG-B (DC)

TTL,RS422/RS485,RS232,idle contact, Fiber  
 Format: IRIG-B000  
 Element accuracy: ≤ ±200ns  
 Information content: time zone information,  
 time, quality, the leap second information, SBS

### SERIAL STRINGS

Baud Rate: 1200,2400,4800,9600,19200b/s  
 optional, default value 9600 b/s  
 Data bits: 8 Start bits: 1  
 Serial port time message format : customizable

### REAR PANEL:

1 x Antenna connector, 1x RS232 port  
 1 x Ethernet port for network management 1 x  
 Power switch & jack  
 6 x Output slots

**POWER:**

110V~240 VAC, 47/63Hz, 110V~240 VDC

Power Draw: ≤15W

Operation Temperature: -10°C ~ +50°C

Storage Temperature: -40°C ~ +85°C

Humidity: &lt; 95%non-condensing

**Electricity preheating time: 7 minutes****DEVICE RELIABILITY:**

MTBF: ≥45000h

Lift Time: about 25 years

**PACKING INFO.:**

Installation: 11.81"×16.93"×1.75", 19"/1U Rack

Packing Size: 565×540×210(mm)

Packing Weight: ≤7KGS(with 30m ant. cable)

**ORDERING INFO.:****Base Unit 1** : include 1x RS232 port, 1 x RJ45 network management port, 1x power supply, GPS/BDS reference and internal OCXO, antenna with 30m cable.**Base Unit 2** : include 4 x fiber outputs( IRIG-B / Pulse) , 8 x RS422/RS485 outputs( IRIG-B / Pulse / Serial ) ,1x RS232 port, 1 x RJ45 network management port, 1x power supply, GPS/BDS reference and internal OCXO, antenna with 30m cable.**OPTIONAL MODULE CARDS:**

Rear panel top 3 slots can configure Max. 3 optional modules as follows:

RS422/485	4 outputs/card	IRIG-B, Pulse, TOD
TTL	4 outputs/card	IRIG-B, Pulse, TOD
NTP	2 outputs/card	NTP/SNTP
RS232	4 outputs/card	IRIG-B, Pulse, TOD
Optical Fiber	4 outputs/card	IRIG-B, Pulse, TOD

**APPLICATION:**