

# DP3100

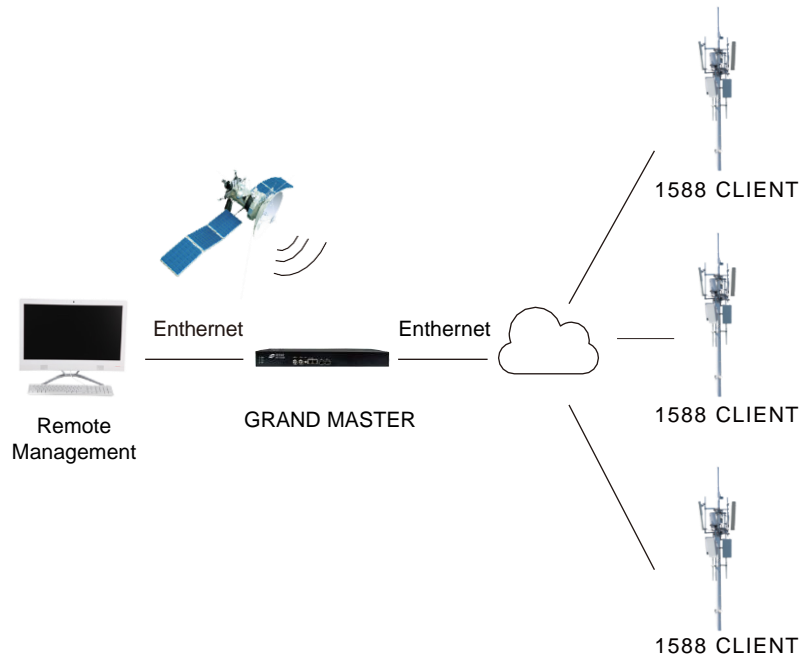
## SYNCHRONIZATION OVER PACKET NETWORK



### Features

- Redundant hardware : inputs /outputs clock and power
- Hardware-based packet processing
- Configurable PTP profiles with IPV4 and IPV6 support
- Support ITU PTP profiles (G.8265.1,G.8275.1,and G.8275.2)
- Support Synchronous Ethernet (G.8262)
- Concurrent reception of GPS / QZSS / GLONASS / Galileo/Beidou
- Management through CLI and DPsync

### 4/5G-Ready Extra High-Precision PTP Grand Master



### Description

DP3100 is a high- performance Grand Master device designed to provide precise frequency , phase and time-of-day synchronization information for LTE/LTE-A networks and other applications. The device is IEEE 1588-2008(1588V2) standard compliant and uses GNSS timing satellite signal as a primary time reference. The GNSS system supports GPS, Galileo, GIONASS, BeiDou and QZSS .DP3100 is equipped with a high quality internal oscillator (OCXO) developed by DAPU, that supports the clock equipment unit to provide excellent performance of frequency and time outputs, including 1PPS,10MHz,PTP,NTP and other frequency, meeting PRC/PRTC.

DP3100 uses an advanced PTP chip developed by DAPU, which supports adaptive timing algorithm. The equipment deploys a centralized Grand Master to provide highly precision synchronization information. It is highly field-scalable to 128 PTP slaves in unicast mode at 16 packets per second.

DP3100 is a 1U high chassis that admits simple installation in standard 19" racks. DP3100 units are prepared for operation in a wide range of environmental conditions. Specifically, they have a temperature operation range between -20°C and +65°C.

See more carrier-class solutions online at [www.dptel.com](http://www.dptel.com)

# DP3100

## SYNCHRONIZATION OVER PACKET NETWORK



### Product Details

#### HW SPECIFICATION

Type	Indoor
Dimensions	432 x 146 x 44mm
Operation temperature	-20°C to 65°C
Storage temperature	-20°C to 85°C
Operation humidity	30% to 80%
Storage humidity	30% to 80%

#### POWER

AC power supply	96V-265VAC or -48VDC(optional)
Power consumption	9W (typical)

### Technical Specifications

#### INTERFACES

- 1 x GNSS (SMA)
- 2 x IEEE 1588v2 100 Base-TX & 1000 Base-T with SyncE (RJ45)
- 2 x IEEE 1588v2 1000 Base-X with SyncE (SFP)
- 1 x PPS out (BNC)
- 1 x 10MHz out (BNC)
- 1 x PPS&TOD out (RJ45, CMCC)
- 1 x COM port for management (DB9)
- 1 x VGA port for TOD, 10M, 1PPS and other frequency inputs/outputs, support extensions
- 1 x Power Input

#### GNSS RECEIVER

Multi-system: up to 4 GNSS systems concurrently, GPS, Galileo, GLONASS and BeiDou.  
Receiver type support: GPS L1C/A, GLONASS L1OF, BeiDou B1, Galileo E1B/C, QZSS L1 C/A, SBAS L1C/A, up to 72 channels.  
Antenna supervisor: check the antenna for open and short circuits and to shut off the antenna supply if a short circuit is detected.  
Operation with as few as a single satellite signal is supported and can maintain a reliable timing with limited sky view  
Anti-interference design to maintain stable and reliable operation in complex electromagnetic environment

#### GNSS ANTENNA

Frequency: 1559-1610.5MHz  
High GNSS signal gain: up to  $38 \pm 2$  dB  
Excellent out-of-band suppress: (fL-70)MHz > 70dB, (fH+70)MHz > 55dB  
Output impedance: 50Ohm  
Connector: SMA type jack (Female)  
Configurable antenna cable delay compensation

#### Frequency Accuracy

Tracking to GNSS: PRS/PRC quality  
Holdover( $\pm 5^\circ\text{C}$ ): OCXO < 2x10<sup>-10</sup>/day

#### Time Accuracy

Tracking to GNSS:  $\pm 30$ ns when locked to GNSS, PRTC-compliant  
Holdover( $\pm 5^\circ\text{C}$ ): OCXO: 1.5 $\mu$ sec over 1 day

#### IEEE1588V2/PTP

IEEE1588-2008(PTP) Grandmaster  
Built-in clocks holdover algorithm, meet the requirements of the wireless system  
Maximum slaves: 128, 16pkt/s  
G.8261, G.8265.1/2, G.8275.1 compliant  
PTP: L2/L3 unicast or multicast PTP

#### SYNCHRONOUS ETHERNET (SYNCE)

Conforms to relevant sections of ITU-TG.8262

#### MANAGEMENT

System monitor  
CLI command (show running configuration)  
Syslog  
PTP performance monitoring  
Remote software upgrade and rollback

#### LEDS STATUS INDICATORS

RUN – System status  
GNSS – GNSS antenna status  
PTP – PTP status  
ALM – System alarm status

#### BENEFITS

Low cost of ownership  
Highly scalable PTP grandmaster supports 128 PTP clients  
Support PTP elements in the network  
Simple, easy manageability  
Gateway clock

#### APPLICATIONS

Wireless Ethernet backhaul  
3G, 4G/LTE, and 5G  
CES  
PON  
Femto cells and small cells  
Gateway clock for industrial IoT application  
Power Grid

\* Denotes features available in a future release.

Please note the information contained here in is for informational purposes only. Technical claims listed depend on a series of technical assumptions. Your experience with these products may differ if you operate the products in an environment, which is different from the technical assumptions. DAPU Telecom reserves the right to modify these specifications without prior notice. DAPU Telecom makes no warranties, express or implied, on the information contained in this document.