SPEC SHEET

Universal Clock DXD-8

The **DXD-8 Universal Clock** is a precision multi-format reference generator with options for PTP and GPS. It generates 4 independent video syncs and audio clocks simultaneously. With PTP, it acts as a bridge between an IP infrastructure (AES67, ST2110, Dante, Ravenna…) and legacy A/V equipment.

It is capable of being a PTP Slave (follower) or a PTP Master (leader) locked to its internal crystal, GPS or a traditional AV reference. The outputs of the 4 reference generators are perfectly aligned per ST-2059 and AES67. Those include Word Clock, AES, SD Video Sync, HD Video Sync, 10 MHz and Time Code (LTC option).

FEATURES

- 4 separate reference generators with 8 user-assignable BNC outputs (WC, AES, SD Vid Sync, HD Video Sync, 10MHz, Time Code)
- 2 external reference inputs (BNC) with failover for redundancy and 75Ω termination switches
- TCXO internel oscillator (optional OCXO)
- Can synchronize to a PTP network and be a PTP slave
- Can be a PTP Grandmaster locked to internal crystal, GPS or any of the legacy sync signals.
- Can be an NTP Server distributing its system time to other devices or an NTP Client receiving time from an external NTP Server, to jam its internal system time.
- Remote control via web browser
- Dual DC power sources for redundancy

OPTIONS AVAILABLE

- **DXD/GPS**: Internal GPS/GNSS Receiver (hardware)
- **DXD/OCXO**: Oven Controlled Oscillator (hardware)
- **DXD8/PTP**: supports PTP v2 & PTP v1 (firmware)
- **DXD8/AVB**: supports AVB 2011 & 2020 (firmware)
- **DXD/LTC**: Dual Time Code Generator (firmware)

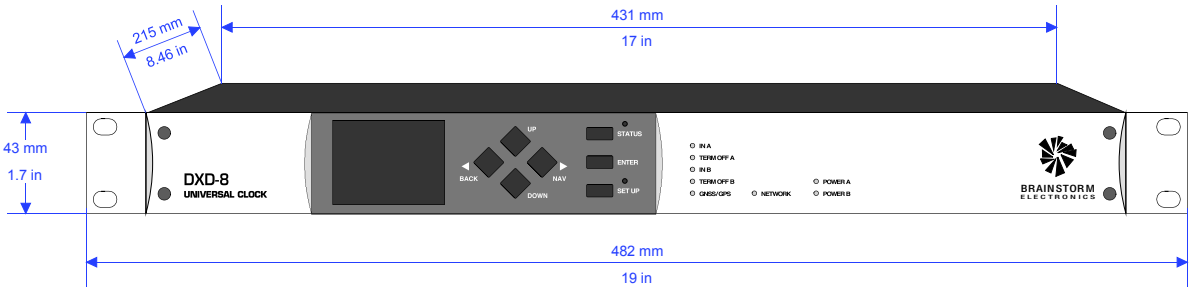
APPLICATIONS

- Post-Production
- House of Worship
- Broadcast
- OB truck

TECHNICAL SPECIFICATIONS

Reference Generator	Generates simultaneously 4 different rates in any of these formats:	
	• Word clock - rates from 32 to 384 KHz	
	• AES - rates from 32 to 96 KHz	
	• Video sync:	
	- NTSC/PAL black burst:	525/29.97/30i
		625/23.98/24/25i
	- HD tri-level sync:	720/23.98/24/25/29.97/30/50/59.94/60P
		1080/25/29.97/30i
		1080/23.98/24/25/29.97/30sF
		1080/23.98/24/25/29.97/30/50/59.94/60p
		1080/47.952/48/100/119.88/120p (non standard)
	• 10 MHz	
	• Time Code (option)	
PTP (option)	Gigabit Ethernet port (RJ-45 connector)	
	Configurable as a Grandmaster (leader) or a slave (follower)	
	Complies with IEEE-1588-2008 and IEEE-1588-2002	
	Supported PTP profiles: Standard PTP, AES67, SMPTE ST2059	
NTP	NTP Server distributes its internal System Time to other devices	
	Pseudo NTP Client receives time from an external NTP Server that can be used to jam the DXD System Time, or its internal Realtime Clock (RTC)	
Internal Crystal	TCXO: +/- 1 ppm	
	OCXO (option): +/- 10 ppb	
External Sync Sources	PTP (option)	
	GPS (option)	
	Word Clock	
	AES	
	SD Video Sync	
	HD Video Sync	
	10 MHz	
Reference Inputs	Connectors: 2 BNC w/ 75Ω termination switches	
	Signal type: Word Clock, AES, Video Sync, 10 MHz	
	Level: 0.5V~5.0V(p-p, 32kHz~13MHz), abs max 12V	
	Input impedance: 75 Ω, switched	
Reference Outputs	Connectors: 8 BNC (in 4 groups - output signals are user-assignable)	
	Signal types: Word Clock, AES, Video Sync, 10 MHz, Time Code	
	Level, into 75 Ω termination:	
	- Word Clock:	0~3.75VDC
	- AES:	+/- 0.5V
	- Video Sync:	+/- 0.3V
	- 10 MHz:	+/- 0.5V
	- Time Code:	+/- 1.0V
	Output Impedance: 75 Ω	
GNSS Receiver (option)	Connector: SMA Female	
	Satellites constellations: GPS, GLONASS, Galileo, QZSS, SBAS	
	Antenna impedance: 50Ω	
Display	2.4” TFT LCD – 240 x 320 resolutior	
Power	Dual, redundant: 12 VDC @ 5A (external power supply)	
	DC Connector: Circular 4-pin male GX12 (with thread for female socket)	
	Power Usage: Typ: 12.5 Watts / Abs. max: 44 Watts	

Dimensions (w x d x h)	19 x 8.46 x 1.70 in (482 x 215 x 431 mm)
Weight	3.31 lbs (1.50 kg)
Enclosure	Chassis: Metal, black finish
	Faceplate: Machined aluminum with black insert
	Mounting: 1 RU 19” rack-mountable



SPECIFICATIONS STATEMENT

The device shall be a master clock capable of generating sync signals required for traditional A/V equipment including Word Clock, AES, Video Sync (SD & HD) ,10 MHz and time code.

It shall be able to lock to an external reference including PTP, GNSS, video sync (SD & HD), word clock, AES or 10 MHz. When using video sync, word clock, AES or 10 MHz, another source shall provide Time-of-Day.

A GNSS receiver accepting GPS, Glonass and Gallileo shall be available to provide timing and Time-of-Day. An internal oven-controlled-oscillator (OCXO) shall also be available as reference.

The device shall include 8 user-assignable BNC outputs, 2 user-assignable BNC inputs with 75Ω termination switches and two separate sources of power for redundancy.

It shall be able to operate as an NTP Server, distributing its internal system time (Time-of-Day) to other devices and as an NTP Client, receiving time from an external NTP Server to jam its internal time.

It shall also be able to be a PTP Master (leader) or Slave (follower), according to the IEEE-1588 and IEEE 802.1AS standards and support the SMPTE ST2059 and the AES-67 PTP profiles.

The 2 BNC inputs shall accept Word Clock, AES, video sync (SD or HD) and 10MHz These inputs shall be configurable for redundancy.

The 8 BNC outputs shall be assignable by the user for all the different types and formats of references generated by the device, including Word Clock, AES, SD or HD video sync, 10 MHz and Time Code. All generated sync signals shall be anchored to the PTP epoch and perfectly aligned with the master reference. The unbalanced BNC outputs shall have an impedance of 75Ω.

Either of the two power sources shall be able to power the device and they shall each act as a redundant source in case of failure of the other.

Configuration and monitoring of the device’s parameters shall be accessible through a graphical user interface (GUI) viewed with a browser via embedded web pages.

The device shall be housed in a 1U 19” enclosure.