



# StarClock 5800

Remote/Edge GPS Stratum 1 BITS Clock  
20 Port DS1/CC Clock Distributor

## Highlights

- Economical and Compact
- Global Positioning System (GPS) Stratum 1 Clock Provides accurate synthesized T1 and CC timing references for use by SONET Network Elements (NEs), intelligent multiplexers, Personal Communications Service (PCS) Networks, and other systems requiring synchronization
- Stratum 3E ovenized quartz oscillator or Stratum 2 rubidium oscillator for holdover, Selective Availability (S/A), and jitter removal
- Two DS1 inputs for tracking when GPS is unavailable
- Two DS1 inputs for performance monitoring
- Ten DS1 outputs, Extended SuperFrame (ESF) or SuperFrame (SF) Framing
- Ten 64/8 Composite Clock outputs
- Fully connectorized
- 19-inch or 23-inch NEBS compatible rack mount
- Active antenna, up to 1500 feet of RG-58 coaxial cable to receiver with optional DUC Antenna
- Bellcore GR-2830 compliant
- Local and remote RS232D Information Management Ports
- Log contains up to one week of alarm data
- Local indicators and pushbuttons for operational verification
- Extended temperature operation (-4° to 149° F) [-20° to +65°C]
- -48 Vdc A & B power inputs
- Less than 30 watts power dissipation



*"The StarClock 5800 represents the optimum in low-cost local synchronization for the new distributed network"*

The CXRLarus StarClock 5800™ provides a GPS Stratum 1 Building Integrated Timing System (BITS) clock and/or network tracking with Stratum 2 or 3E holdover performance. The StarClock 5800 represents the optimum in low-cost local synchronization for the new distributed network. The StarClock 5800 is an economical extended temperature timing system that is designed for small installations and remote sites requiring timing (cell sites, PCS Networks, customer premises, and so forth). The output MTIE of the StarClock 5800 meets the mask performance specified by GR-2380 for Stratum 1 clocks, resulting in an improvement of ten to twenty times that of typical GPS solutions.

The superior performance of the StarClock 5800 is achieved by utilizing GPS UTC information to discipline an ultra stable ovenized reference oscillator, using Kalman filtering and patented digital frequency synthesis technology.

The StarClock 5800 provides four DS1 input ports (DS1 Input A, DS1 Input B, and two external input ports for performance monitor functions). The StarClock 5800 provides ten DS1 outputs, ten CC outputs, four RS422 outputs and an office alarm interface.

Options allow the StarClock 5800 to be configured for GPS Stratum 1 Track with either Stratum 2 or 3E Hold. Information management and performance monitoring functions may be added, optionally. The 5800 List 0 operates as a low cost clock distributor, and contains no holdover or performance functionality

Local and remote interfaces allow for network management, as well as for local troubleshooting and performance report gathering. The StarClock 5800 is fully connectorized, requiring less than ten minutes to install.



# CXR Larus StarClock 5800

## Specifications

### PHYSICAL:

Dimensions (W x D x H): 17-in (43.2cm) x 10-in (25.4cm) x 3.5-in (8.9cm)

System Supply Voltage: -48 Vdc, nominal (-42Vdc to -57Vdc Max)

Weight: 10 lbs (4.54kg)

### OPERATING TEMPERATURE:

-4° to 149°F (0° to 65°C)  
Slew rate not to exceed 8°C per hour

### STORAGE TEMPERATURE:

-40 to 167°F (-40 to 75°C)

### RELATIVE HUMIDITY:

Humidity: 0-95%, non-condensing

### INPUTS:

(4) DS1, (2) Input and (2) Performance Monitoring

ESF or SF framing, AMI or B8ZS line code, terminate, bridging or monitor conditions

### OUTPUTS:

(10) DS1  
(10) Composite Clock, 64kHz/8kHz  
(4) 1.544 kHz EIA RS-422  
Fuse Alarm to -48V

### GPS TRACK ACCURACY:

$< 1 \times 10^{-11}$  for observation period greater than 72 days

### PULL-IN RANGE:

1.544MHz  $\pm 7.1$ Hz (Lists 1 to 5)  
1.544MHz  $\pm 0.0327$ Hz (List 8)

### HOLDOVER DRIFT:

$< 5 \times 10^{-9}$  per day over any  $\pm 10^\circ\text{C}$  temperature range (List 1-5)

$< 1 \times 10^{-10}$  per day over any  $\pm 10^\circ\text{C}$  temperature range (List 8)

### INPUT/ OUTPUT SIGNAL CONNECTOR:

25 pair telco style connector (female)

### MANAGEMENT CONNECTORS:

25 pin subminiature D type, RS-232D

### ALARM RELAY CONTACT RATINGS

Switching power, 30W maximum  
Switching voltage, 220 Vac or 220 Vdc  
Switching current, 1A maximum

### GPS ANTENNA:

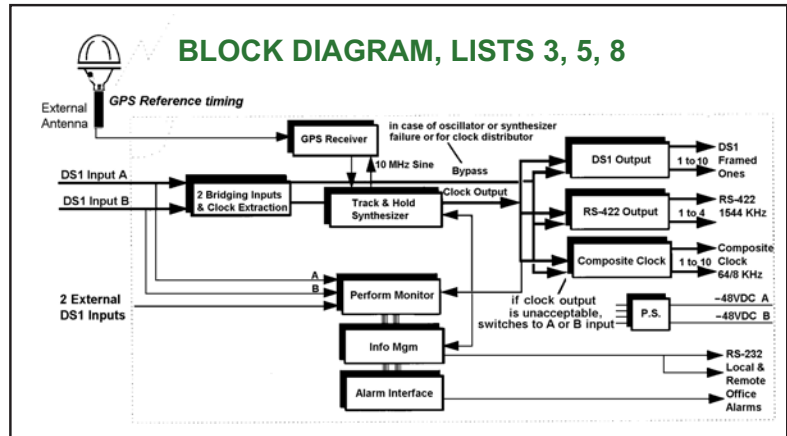
Active, Gain 28 dB

Standard on Lists 3, 5 and 8, with 50 feet of RG-58 coax

**Optional-** DUC Antenna for up to 1500 feet of RG-58 coax  
(Contact factory)

### STANDARDS

Meets Bellcore NEBS GR-63, GR1089, TA-TSY-00378, TA-NPL-00436, GR-1244, TR-NWT-000499, GR-2830, AT&T PUB 60110, ANSI T1.101-1994



## Ordering Configurations:

### 5800- (List Number)

#### All models accept:

- (2) DS1 Ref. inputs
- (2) DS1 Perf. Mon. inputs

#### All models provide:

- (10) DS1
- (10) CC
- (4) 1.544 MHz RS-422

#### All models provide Visual and Remote alarms

GPS Stratum 1 Operation	Holdover Stratum Level	Information Management	Performance Monitoring	Model Number
No	N/A	N/A	N/A	5800 List 0
No	3E	N/A	N/A	5800 List 1
No	3E	TL1	TL1	5800 List 2
Yes	3E	TL1	TL1	5800 List 3
No	3E	MENU	MENU	5800 List 4
Yes	3E	MENU	MENU	5800 List 5
Yes	2	MENU	MENU	5800 List 8

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