

TimeExpander

T1 Network Timing Expander



System Highlights

- Synchronization system for co-location cages
- Low cost solution for network edge offices
- Compact size for space constrained applications
- Ensures high quality of service for DSL, ATM, and SONET Nodes
- NEBS Certified

TimeExpander™ is an economical distributor of network timing signals—DS1 or composite clock—for applications such as digital subscriber line access multiplexers (“DSLAM”), ATM Access Nodes, SONET Nodes, and virtually anywhere a mini building integrated timing supply (“BITS”) is required.

TimeExpander meets industry standard NEBS requirements for co-location of competitive local exchange carrier (“CLEC”) equipment in incumbent local exchange carrier (“ILEC”) facilities.

TimeExpander has redundant power and clock inputs. Timing output redundancy to network equipment is accomplished via separate output cards. TimeExpander is small, 3.5 inches in height, making it ideal for space constrained applications such as co-location cages.

System timing outputs are protected with the addition of a Stratum 3E (ST3E) holdover clock. Timing inputs into the TimeExpander are typically leased sync ports from the ILEC BITS clock, or through a co-located primary reference source such as the TimeSource® 3000 (GPS roof antenna), TimeSource 3500 (GPS window antenna), or TimeSource 2700 (CDMA in-building antenna). Complete PRS and timing distribution systems are deployed economically via TimeSource and TimeExpander.

System Description

The TimeExpander shelf mounts in either a 19" or 23" standard telecommunications rack to provide up to 20 timing outputs with or without holdover clock. The ST3E Holdover clock meets TR-1244 specifications. System outputs meet the requirements of ANSI T1.101. The system is comprised of plug-in cards (DS1 output, composite clock output, clock input, ST3E clock and fuse & alarm) that may be ordered individually for spares.

TimeExpander Product Offerings

Four configurations of TimeExpander systems are available. All configurations come with shelf, fuse & alarm, two clock input units and 10 DS1 timing outputs. The configurations change by the addition of a ST3E holdover clock and a DS1 or composite clock output card. The following TimeExpander systems are currently available:

- 990-45200-03 - 20 DS1 outputs with no holdover clock
- 990-45200-04 - 10 DS1 and 10 composite clock outputs with no holdover clock

- 990-45200-05 - 20 DS1 outputs with ST3E holdover clock
- 990-45200-06 - 10 DS1 and 10 composite clock outputs with ST3E holdover clock

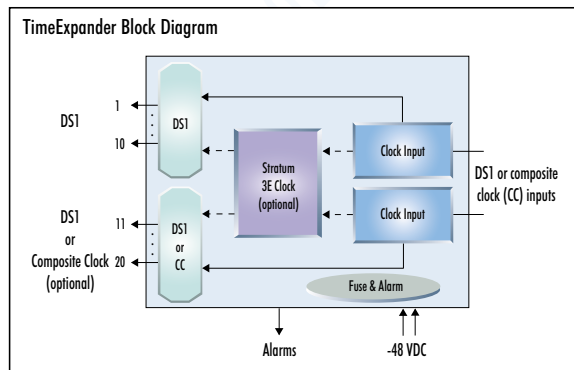
All units come with front panel LED's indicating system & port operation as well as major & minor alarm relay outputs. Standard power is redundant -48 volts DC.

TimeExpander Specifications

GENERAL	Mechanical	3.5" high × 19/23" wide × 12" deep	
	Power	-48 VDC	
	Voltage	-42 to -56 VDC	
	Shelf Current	400 Ma - fully loaded shelf configuration (part number 990-45200-05)	
	Shelf Fusing	2A, recommend 3-5A fuses	
	Operating Temperature	0 to 50° C	
	Operating Humidity	0-95%, non-condensing	
REFERENCE INPUTS		DSI	COMPOSITE CLOCK
	Signal Type	T1.101 & T1.102	Bipolar RTZ
	Rate	1.544 Mb/s	64 Kb/s, BPVS at 8 Kb/s rate
	Impedance	100 Ω	135 Ω
TIMING OUTPUTS		DSI	COMPOSITE CLOCK
	Signal Type	T1.101 & T1.102	Bipolar RTZ
	Frequency/Rate	1.544 Mb/s	64 Kb/s, BPVS at 8 Kb/s rate
	Ports per Card	10	10
	OUTPUT PORTS PER SYSTEM		
	990-45200-03	20	-0-
	990-45200-04	10	10
	990-45200-05	20	-0-
	990-45200-06	10	10
	HOLDOVER CLOCK - ST3E	Clock Type	Ovenized quartz (OCXO) oscillator
Holdover (24° C) 0-24 hours		3 × 10 ⁻¹⁰	
Pull-in Range		± 5.0 x 10 ⁻⁶ or 2.0 x 10 ⁻⁶ switch selectable	
ALARM INTERFACE	Major and minor relay outputs via wire wrap		



Symmetricom
2300 Orchard Parkway
San Jose, CA 95131, USA
tel: 408-433-0910
fax: 408-428-7897
e-mail: info@symmetricom.com
<http://www.symmetricom.com>



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All specifications subject to change without notice.
DS/T1TXPNDR/D/0301/5M