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Agilent Technologies
Innovating the HP Way

Serial Cell Generator and Analyzer System HP E4859A, HP E4853A, HP E4854A, HP E4872A

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Configuration Guide

How to Configure Your HP Serial Cell Generator and Analyzer System

This guide is designed to help you select the right configuration for the HP E4859A serial cell generator and analyzer system. It will take you through the basic product structure and explain the available configurations. In conjunction with this guide, you may also find it useful to refer to the technical specifications, p/n 5963-9924E, and the product overview, p/n 5963-9985E.

Configuring your system is a simple process, as you start with a pre-configured entry system. You should then decide what your additional needs are so that you gain the test capability you require. Secondly, you should choose the appropriate support options. If you are planning to upgrade an existing system, please refer to the module upgrade explanation on page 3.

HP E4859A Entry System Serial Cell Generator and Analyzer

The entry system base includes a 13-slot C-size VXI mainframe with a V743 embedded controller, embedded hard and floppy disk drives, documentation, licenses, the central clock module, an HP E4853A, as well as the HP E4872A user software and TDMA license.

Contents

- HP E4859A system.
- Product support.
- Upgrading an existing system.
- Local languages.
- Accessories.
- Ordering references.

This system allows nine additional modules to be added.

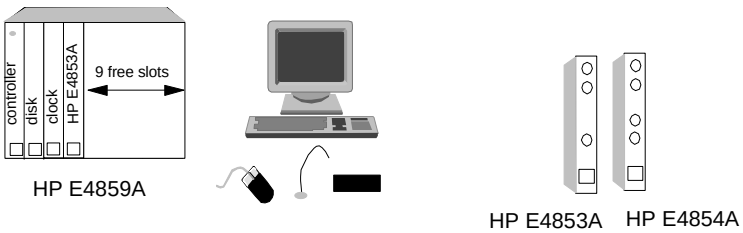
Peripherals for the 13-slot mainframe with embedded HP-UX workstation
The following peripherals make up the standard configuration and must be ordered separately:

- 17 inch multi sync color monitor A4330A.
- Keyboard, mouse and US localization; A4030B #ABA.

The controller is already preset for a US English keyboard and a 17 inch monitor.

Configuring the HP E4859A

Entry system + peripherals + modules (optional)



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Selecting Additional Modules

In order to configure the system, it is extremely important to first of all understand the network topology and where the measurements are performed. In addition, it is important to know what kind of control signals are needed for the TX and the RX, such as laser on/off.

Once again, you may find it useful to refer to the technical specifications and product overview.

Determining the number of generators
One serial cell generator consists of a MAIN output and an optional AUX output. This AUX output is always linked to its corresponding MAIN output. The table below shows which type of signals can be created with which type of generator output.

Signal characteristics	MAIN	AUX (optional)
Bursted cell	X	
Continuous clock	X	X
Bursted clock	X	X
Envelope pulse	X	X
Reset pulse	X	
Bit rate (Mbit/s) * with option 660	250* 660	250

Establishing the number and type of generators you require for your network

Step 1: MAIN channel
Determine how many transmitters (TX) are stimulated simultaneously.

Step 2: AUX control
How many control signals are necessary, and can they be generated by an AUX output (see table above)? If the control signals cannot be generated by an AUX output, go to step 3.

Step 3: MAIN control
Determine the number of MAIN outputs for control purpose.

In steps 1 and 3, you will have established the number of MAIN outputs, and from step 2, the number of AUX outputs. There is one MAIN output in each entry system. The HP E4854A dual serial cell generator module contains two MAIN outputs. AUX outputs (opt. 001) can be ordered for the entry system and the HP E4853A and HP E4854A modules.

Determine the number of analyzers
In order to determine the number of analyzers you require, you should consider the following:

1. How many receivers (RX) are tested simultaneously? If you only need one analyzer, just one HP E4853A serial cell generator and analyzer module is required, and this is part of the entry systems.

   There are four different synchronization modes:

   - system clock with constant cell transfer delay,
   - external analyzer clock with cell detect mode,
   - external analyzer clock with pure PRBS synchronization,
   - external analyzer clock bursted.

   Whenever you need to work with an external analyzer clock, you have to order opt. 002 for the HP E4859A or the HP E4853A.

2. If you require more than one analyzer, for example, because you need to analyze downstream cells simultaneously, then an additional HP E4853A serial cell generator and analyzer module will be required.

   Now you have established the number of additional HP E4853A and HP E4854A modules you require.

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Product Support Options

Hardware support
The following product support options are available for all hardware components:

- opt. UK6 commercial calibration,
- opt. W01 one year on-site warranty.

Software support for user software
A software update support is offered for the entry system. This covers the user software, but not the operating system.

- HP E4859A + UAH update support; one month on DDS cartridge,
- HP E4859A + UAF update support; one month on CD-ROM.

If the update support is not used, an upgrade to the latest revision can be made by ordering the following:

- HP E4872A, quantity 0,
- HP E4872A #011, quantity 1 on DDS cartridge, or
- HP E4872A #012, quantity 1 on CD-ROM.

Local Language Documentation

The following local language option is available for the entry systems:

- opt. ABJ Japanese, getting started guide.

Module Upgrade

Upgrading an existing system with additional modules is easy; simply order the appropriate amount. By adding opt. 010, you will also receive the module installation guide free.

Option Upgrade

If you need to upgrade (add) an AUX channel or upgrade to 660 Mbit/s, the following should be ordered:

- adding AUX outputs:
  HP E4853A, quantity 0,
  HP E4853A #001, quantity 1,
  or
  HP E4854A, quantity 0,
  HP E4854A #001, quantity 1.

  This upgrade must be performed in the factory.

- upgrade to 660 Mbit/s: again, this upgrade can only be performed in the factory.

Accessories

The following accessories are useful, but have to be ordered separately:

- 3* cable, coax (SMA), 8120-4948.
- APC-3.5 power splitter, 11667B.
- Adapter SMA to BNC, 1250-1200.

Other Recommended Test Equipment

- HP 83475B lightwave communications analyzer.
- HP 8156A optical attenuator with appropriate options.
- HP 8153A lightwave multimeter with appropriate modules and options.

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Ordering Reference HP E4859A

Item	Quantity	Description	Product Number
		Entry System Selection Including Peripherals	
0100	1	System reference number (Note: used for coordinated shipment).	E4800S
100	1	Entry system serial cell generator and analyzer.	E4859A
	0 or 1	AUX output.	Opt. 001
	0 or 1	Clock input for analyzer.	Opt. 002
	0 or 1	Bit rate 660 Mbit/s max.	Opt. 660
	0 or 1	Convert 3 year return to HP to 1 year on-site warranty.	Opt. W01
	0 or 1	Commercial calibration certificate with test data.	Opt. UK6
	0 or 1	Japan: Japanese localization.	Opt. ABJ
102	1	17 inch multi sync color monitor.	A4330A
	1	Localization option (Note: other localization options are allowed).	Opt. ABA
103	1	Keyboard, mouse, localization kit.	A4030B
	1	Localization option: (Note: other localization options are allowed, except Japanese/Asian).	Opt. ABA
	1	Delete manual set.	Opt. 0B0
	or		
	1	HP-UX revision 9.07.	Opt. APH
104	0 or 1	HP SureStore Tape 2000e 2 GB external DAT drive.	C1520G
	or		
	0 or 1	CD-ROM drive 4 speed.	C2944D
	0 or 1	SCSI terminator, HDTS50.	C2904A
	0 or 1	SCSI cable, 1 m, HDTS50, M/M.	C2908A
		Additional Modules (9 free slots)	
0105	0 or x	Dual serial cell generator module.	E4854A
	0 or x	AUX output.	Opt. 001
	0 or x	Bit rate 660 Mbit/s max.	Opt. 660
	0 or x	Convert 3 year return to HP to 1 year on-site warranty.	Opt. W01
	0 or x	Commercial calibration certificate with test data.	Opt. UK6
and/or			
0106	0 or y	Serial cell generator and analyzer module.	E4853A
	0 or y	AUX output.	Opt. 001
	0 or y	Clock input for analyzer.	Opt. 002
	0 or y	Bit rate 660 Mbit/s max.	Opt. 660
	0 or y	Convert 3 year return to HP to 1 year on-site warranty.	Opt. W01
	0 or y	Commercial calibration certificate with test data.	Opt. UK6
		Note: $x + y \leq 7$	

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HP Related Literature

- Serial cell generator and analyzer system HP E4859A, technical specifications, p/n 5963-9924E.
- Serial cell generator and analyzer system HP E4859A, product overview, p/n 5963-9985E.

For more information:
http://www-europe.hp.com/dvt

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