



E-Series Enclosures, Wall Mounts, Table Racks

INTRODUCTION

Optima EPS - An Elma Company

Optima EPS, an Elma company, is a designer and manufacturer of custom and standard electronic packaging solutions. The company provides everything from server racks, Mil-spec cabinets and security consoles, up to complete custom enclosure systems. The company offers a fast, flexible response to customer needs and extensive practical knowledge in tailoring solutions to specific applications.

Elma Electronic is a worldwide manufacturer and supplier of integrated electronic packaging systems. The company has been a worldwide supplier of dependable, high performance products for over 40 years. Elma operates four facilities in the continental United States plus has locations in Switzerland, Germany, France, the United Kingdom, China, Romania and Israel.

- **1962** - Formed from Scientific Atlanta
- **1966** - RA/RC range of vertical cabinets introduced
- **1973** - Instrumate range introduced
- **1987** - SA/SC range EMC cabinets introduced
- **1988** - Form 4 range introduced with UL & CSA approval
- **1994** - Gained ISO 9001 recognition
- **1995** - M1/M2 range of seismic cabinets introduced
- **2003** - Gained ISO -2000
- **2004** - Acquired by Elma-Synergy between Elma and Optima EPS
- **2006** - AT range of ATCA/Blade server cabinet introduced



Switzerland



Germany



France



United Kingdom



Romania



China



Israel



USA - California



USA - Atlanta, Georgia

WHY CHOOSE OPTIMA?

Flexibility | Optima tailors solutions to individual applications to ensure fast and cost-effective results.

Experience | Extensive practical experience in packaging electronic systems is used to minimise the time taken to develop new customised solutions without compromising system performance or reliability.

Compatibility | Because we design and manufacture everything in-house, Optima guarantees compatibility, consistency and reliability.

Global resources | With manufacturing in the USA and Europe customers benefit from local service backed by global resources.

EX • ER • ES SERIES

- SHIELDED OR UNSHIELDED
- RUGGED AND LIGHTWEIGHT
- STACKABLE STRUCTURE

ENCLOSURE INTRODUCTION

Optima EPS Enclosure products for Instrument Cases, Sub-racks, Table Top, and Wall Mount applications are part of a Unique packaging system designed to provide an integrated look to electronic packaging. Available individually or as a part of a complete system coordinated with Optima's Cabinet and Desk products the Enclosure line provides solutions for packing electronics in instrumentation, automation and office environments.

W SERIES

- WALL MOUNT APPLICATIONS
- CRITICAL SPACE REQUIREMENTS
- FULL ARRAY OF ACCESSORIES



T SERIES

- WELDED CONSTRUCTION
- DESKTOP / TABLE OR FLOOR
- SERVERS, NETWORKING, TESTING AND
- ANALYTICAL EQUIPMENT

E-SERIES (EX/ER/ES) INSTRUMENT CASES

OVERVIEW



Proven Optima E Cases are a clean, *functional, sturdy and lightweight*, design for housing EIA standard 19" rack-mount chassis and components. They are designed to provide solutions for a wide range of desktop, desk-side or portable applications. For 19" sub-rack mounting the user has the choice of either the EX Case for unshielded applications or the ER Case when EMC is a concern. If a small or portable case is needed the ES provides an ideal package for desired electronics. All are available in a wide range of sizes, panel and color options. As part of Optima's integrated packaging system the E Case is compatible with a modular, comprehensive offering of accessories.



Available in either EMI/RFI shielded (ER Case) or unshielded (EX Case) for 19" applications.



ES Cases are ideal for when an equipment enclosure plus portability is required.

ADVANTAGES:

- Elegant and functional designs.
- Compatible with EIA standard 19" rack-mount equipment (EX and ER).
- Rugged, lightweight, portable and stackable (400lbs).
- Modular design provides easy access to electronics via detachable top panel and doors.
- Selection of contemporary color choices. Custom color matching also available.
- Wide range of industry standard sizes and options.
- Proven paint adhesion provides durable aesthetics.
- Free assembly. Optima expertly, assembles your cabinet at no charge.



Functional die cast zinc handles are optional and feature a spring-loaded return and horizontal stops.

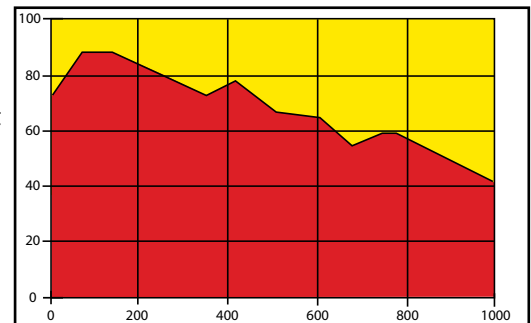
Note: Recommended maximum load is 150 lbs, with side handles. 200 lbs without side handles.

Steel chassis mounting brackets are included in front and rear. Panel mounting rails are an integral part of extruded aluminum bezels. Panel mount hardware is provided.



SUPERIOR SHIELDING EFFECTIVENESS

The numbers tell the story. When an FCC reconized independant lab tested Optima EPS 19" E Cases, the results ahowed a nominal 67.5dB shielding effectiveness throughout the 30 to 1,000 MHz. frequency range. At- tenuation values at varied frequencies ranged up to 90dB. This meets and exceeds the shielding standards set forth in FCC Docket #20780, Part 15, Subpart J.



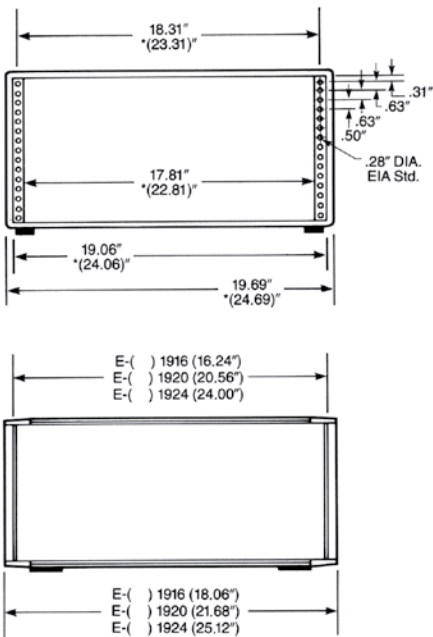


DESCRIPTION - EX/ER CASES

The Optima EX (unshielded) and ER (shielded) family of instrumentation cases are designed to house EIA standard 19" wide sub-racks and chassis. The rugged yet lightweight and stackable structural design is achieved with rigid front and rear aluminum bezels joined by rounded, extruded aluminum corner members. All panels - side, top and bottom are constructed of 18 ga. CRS. Select from a wide range of top, bottom and side panel options. Accessories for doors, shelves, power and cooling are available.

FEATURES

- EIA standard 19" rack-mount compatible.
- Modular aluminum bezels are joined by extruded aluminum corner members.
- Optional detachable top panel.
- Aluminum doors with latch system for tight, uniform fit provide easy access.
- Die cast zinc side handles.
- Non slip feet.
- Standard Sizes.
 - Widths: 19", 24"(optional)
 - Heights: 12U - 16U
 - Depths: 19.64", 20.56", 24"
- Paint adhesion and corrosion resistance via phosphate pre-treatment and durable acrylic coating.
- Compatible with Optima's Packaging System accessories. Wide range of standard body and trim color options.



SHIELDING FEATURES (ER ONLY)

- BeCu gasketing applied to all seams and joints to ensure continuous conductive path.
- Paint-free electrical contact areas.
- Optional clear chromate coating.

SCOPE OF SUPPLY

- 1 x Frame (front and rear bezels and corner members), 1 x mounting rails (pair, hardware include), 1 x side panel (pair), 1 x top panel, 1 x bottom panel, non-slip rubber feet (4), BeCu gasket kit (ES only), 2 x handles, assembled.

ORDERING INFORMATION



1,2 HEIGHT

- 03 > 2U (3.5")
- 05 > 3U (5.25")
- 07 > 4U (7.00")
- 08 > 5U (8.75")
- 10 > 6U (10.5")
- 12 > 7U (12.25")
- 14 > 8U (14.0")
- 15 > 9U (15.75")
- 17 > 10U (17.5")
- ZZ > Custom

3,4 DEPTH

- 16 > 16.94"
- 20 > 20.56"
- 24 > 24"
- ZZ > Custom

5,6 SIDE PANEL

- SP > Solid
- PX > Perforated w/ handle
- PS > Perforated w/o handle
- XX > No Side
- ZZ > Custom

7,8 TOP PANEL

- ST > Solid
- PT > Perforated
- DX > Detachable, solid
- DP > Detachable, perf.
- XX > No Top
- ZZ > Custom

9,10 BOTTOM PANEL

- SB > Solid
- PB > Perforated
- XX > No Bottom
- ZZ > Custom

11 HANDLE

- H > Handle
- X > No Handle
- Z > Custom

14,15 BODY/TRIM COLOR

- 1 > Black (207)
- 2 > Sky Blue (210)
- 3 > White (931)
- 4 > Deep Charcoal (209)
- 5 > Light Gray (201)
- 6 > Beige (205)
- Z > Custom

Items to be ordered separately: Bottom panel, Side panels, Doors, and Accessories (denote "installed" and location for free integration to cabinet assembly).



DESCRIPTION - ES CASES

Optima ES Cases are ideal for when the need is for an equipment case plus portability. These handsome, lightweight aluminum cases are available in 24 standard case sizes and a wide range of cover and trim colors. The front panel and chassis load from the front with hardware or from the rear without hardware. The ES Case can be 19" cabinet mounted with optional cabinet adapters (consult factory). Rear panels options include: solid, perforated or cable exit. Accessories for doors, shelves, power and cooling are available.

FEATURES

- Lightweight, rugged, portable.
- Self-Retracting flush handle (optional).
- Non-stain plastic feet.
- Tilt stand for raising front of case 1/2" (optional). 050" steel covers, .062" Al chassis, .125" front panels.
- Standard Sizes (Internal)
 - Widths: 5.00", 7.79" x 10.57"
 - Heights: 2.43", 4.18", 5.93", 7.68", 9.43"
 - Depths: 10" and 14"
- 19" sub-rack bracket (consult factory).

SCOPE OF SUPPLY

- 1 x cover, 1 x rear panel, 1 x bezel/bottom pan assembly, 1 x feet (set), assembled.

ORDERING INFORMATION

ES - [1] [2] [3] [4] [5] [6] [7] [8] [9] [10] [11] [12]

1,2 HEIGHT	3,4 WIDTH	5,6 DEPTH	7 HANDLE	8 FRONT PANEL MOUNT	9 REAR PANEL	10 TILT STAND	11,12 BODY / TRIM COLOR
03 > 2.43" 05 > 4.18" 06 > 5.93" 08 > 7.68" 10 > 9.43"	05 > 5.00" 08 > 7.79" 11 > 10.57"	10 > 5.00" 14 > 7.79" 11 > 10.57"	H > Handle X > No Handle	F > Hardware Mounted X > No Hardware	P > Perforated C > Cable Exit Z > Custom	T > Tilt Stand X > No Tilt Stand	1 > Black (207) 2 > Sky Blue (210) 3 > White (931) 4 > Deep Charcoal (209) 5 > Light Gray (201) 6 > Beige (205) Z > Custom

Options to be specified: Panel mount holes, handle, tilt-stand, cover color and bottom pan/bezel trim color.

Items Order Separately: Front Panel, mounting chassis, and hardware.

FRONT PANELS

Front panels are .125" aluminum. Four mounting holes are specified by adding suffix "F" to the panel and to the small model number

ORDERING INFORMATION

P - [1] [2] [3] [4] [5]

1,2 HEIGHT	3,4 WIDTH	5 MOUNTING
03 > 2.43" 05 > 4.18" 06 > 5.93" 08 > 7.68" 10 > 9.43"	05 > 5.00" 08 > 7.79" 11 > 10.57"	F > With mtg. holes X > Without mtg. hole

CHASSIS

Chassis are constructed of .062" aluminum and are notched to clear the optional front panel mounting brackets. Hardware for attaching the chassis to the rear of the case are included.

ORDER#:	.75" (H) CHASSIS	1.5" (H) CHASSIS	2.25" (H) CHASSIS
	CH-00510	CH-10510	CH-20510
	CH-00810	CH-10810	CH-20810
	CH-01110	CH-11110	CH-21110
	CH-00514	CH-11114	CH-21114
	CH-00814		
	CH-01114		

SMALL CASE HARDWARE

HW-31	Front panel screws, Phillips-head 6-32 x 3/8, chrome-plated	100 each
HW-32	Front panel clip nuts	100 each
HW-33	Front panel mounting brackets	100 each
HW-34	Rear panel screws, Phillips-head 6-32 x 3/8, cad-plated	100 each
HW-35	Rear panel clip nuts	100 each
HW-36	Screws, Phillips-head 6-32 x 1/2, for attaching chassis to rear of case	100 each
HW-95	Cable wrap	1 Each



DESCRIPTION - WALL MOUNT ENCLOSURES

Optima's W Series of wall mount enclosures designed for applications where space is tight but storage needs are critical. W Series 19" rack mount cabinets handle your back room requirements and help you organize critical system and network components such as hubs, concentrators, routers, A/V and security equipment. Count on Optima to offer industry leading standards and full array of accessories for optimum efficiency.

FEATURES

- 3 Heights: 12U (23 1/8"), 20U (37 1/8"), 26U (48 1/8")
- 2 Depths: 14", 20"
- 14 gauge steel construction.
- 3" diameter cable access ports (top/bottom).
- Adjustable, 19" mounting rails, 2 x EIA-310 (10-32 std).
- Vented or solid sides.
- Universal hinging permits mounting for left or right opening.
- Plexiglas or solid doors with dual hinges for front & rear access.
- Key locks front & rear.

ORDERING INFORMATION



1,2 SIDE PANEL

WM > Solid
WV > Vented
ZZ > Custom

3,4 HEIGHT

21 > 12U (21.12" / 536mm)
35 > 20U (35.12" / 892mm)
45 > 26U
ZZ > Custom

5,6 WIDTH

19 > 19" (17.81" / 452.4mm)
ZZ > Custom

7,8 RAIL DEPTH

14 > 14" (355.6 mm)
20 > 20" (508 mm)
ZZ > Custom

9,10 DOOR

WD > Solid
WP > Plexiglass
ZZ > Custom

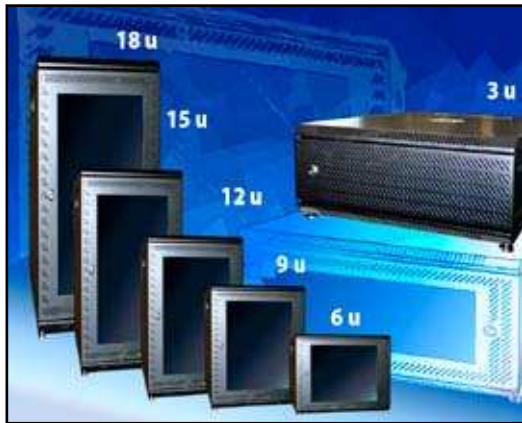
11 BODY COLOR

1 > Black (207)
2 > Sky Blue (210)
3 > White (931)
4 > Deep Charcoal (209)
5 > Light Gray (201)
6 > Beige (205)
Z > Custom

SPECIFICATIONS

CABINET SIZE	PANEL HEIGHT	OVERALL DIMENSIONS			MAX. RAIL DEPTH	WEIGHT
		HEIGHT (IN.)	WIDTH (IN.)	DEPTH (IN.)		
xx-211914-xx	12U (21.0")	23 1/8	21 1/4	20 3/16	14"	75 lbs
xx-211920-xx	12U (21.0")	23 1/8	21 1/4	26 3/16	20"	90 lbs
xx-351914-xx	20U (35.0")	37 1/8	21 1/4	20 3/16	14"	95 lbs
xx-351920-xx	20U (35.0")	37 1/8	21 1/4	26 3/16	20"	110 lbs
xx-451914-xx	26U (45.5")	48 1/8	21 1/4	20 3/16	14"	110 lbs
xx-451920-xx	26U (45.5")	48 1/8	21 1/4	26 3/16	20"	130 lbs

ACCESSORIES	PART #	DESCRIPTION	PART #	DESCRIPTION	
CANTILEVERED SHELVES	CS-1912-S	Solid 12 1/2" Depth	WPO-0691RM	Rack Mount 125V 15A 6/Single Outlet Config.	
	CS-1912-V	Vented 12 1/2" Depth			
	CS-1914-S	Solid 14 1/2" Depth		WPO-1091RM	Rack Mount 125V 15A 10/Single Outlet Config.
	CS-1914-V	Vented 14 1/2" Depth			
CABLE MANAGEMENT RING PANELS	CMR-1901	1U (1.75")	WCF-250	250 CFM, 35 watt 115 VAC, 80" cord	
	CMR-1902	2U (3.50")			
MOUNTING RAIL SETS	WMR-21	12U Panel Height	WWBB-19	Copper 1/4"x19" long	
	WMR-35	20U Panel Height			
	WMR-45	26U Panel Height			
FILLER PANELS	WMP-0119	1U Panel Height			
	WMP-0319	2U Panel Height			
	WMP-0519	3U Panel Height			
		15-AMP POWER STRIP			
		EXHAUST FAN			
		BUS BAR			



DESCRIPTION - TABLE RACKS

The Table Rack range of Server racks and computer cabinets are designed to be used as either a bench/table top cabinet, or a floor-standing cabinet. Table Racks are designed for housing all EIA standard 19" rack-mounted equipment. Welded for strength and rigidity, equipment weighing as much as four hundred pounds can be mounted in the Table Rack. This range of cabinets are designed for the mounting of servers, networking equipment, analytical equipment and test/measurement equipment. The Table Rack cabinets are attractively styled and are supported by a full range of accessories.

FEATURES

- Table/Bench top or floor-standing
- Welded construction provides strength and rigidity
- Fully adjustable front and rear mounting rails
- Cable entry slots (with covers) provided at top and bottom
- Smoked, tempered glass and fully vented steel doors available
- Venting provided at both front and rear at top and bottom bevels, as well as at top and bottom of side panels. Vented top and bottom panel sections.
- Usable Height: 3U (5.25"), 6U (10.5"), 9U (15.75"), 12U (21") and 15U (26.25")
- Overall Height: 3U (7.25"), 6U (12.5"), 9U (17.75"), 12U (23") and 15U (28.25")
- Usable Width: Mounts all EIA and DIN standard 19" rack-mount equipment
- Overall Width: 23.60" / Usable Depth: 30" or 37" / Overall Depth: 32" or 39"



SCOPE OF SUPPLY

Welded cabinet includes two pair of fully adjustable mounting rails, cable entry cut-outs with covers in top and bottom panels. Available from stock in black textured finish.

OPTIONS

- Smoked, tempered glass front doors
- Fully vented steel doors
- Top panel fan
- Fixed, sliding and keyboard shelves
- Power strips
- Chassis supports
- Cable Management
- Cooling fans
- Casters

ORDERING INFORMATION

CONSULT FACTORY FOR SITES AND OPTIONS

VERTICAL CABINETS & ENCLOSURES



COMMAND CONSOLES & ELECTRONIC DESKS



Optima EPS
2166 Mountain Industrial Blvd.
Tucker, Georgia 30084
Sales: 770 496-4000 • Fax: 770 496-4041

Other Products Available

www.optimaeps.com • (770) 496-4000