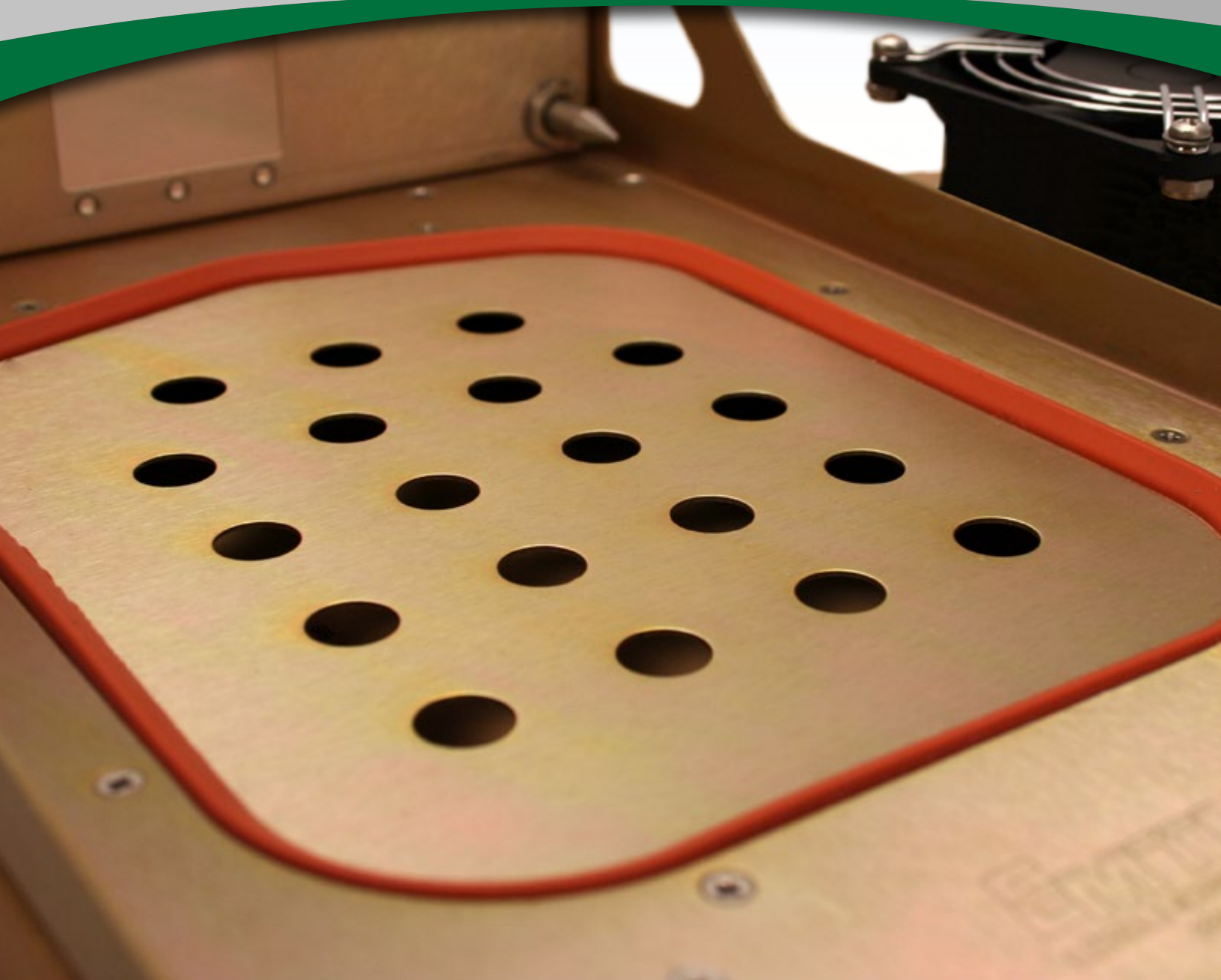




EQUIPMENT TRAY ASSEMBLIES

Technical Specifications & Reference Guide



ARINC 404 Assemblies

ARINC 600 Assemblies

Ruggedized Trays

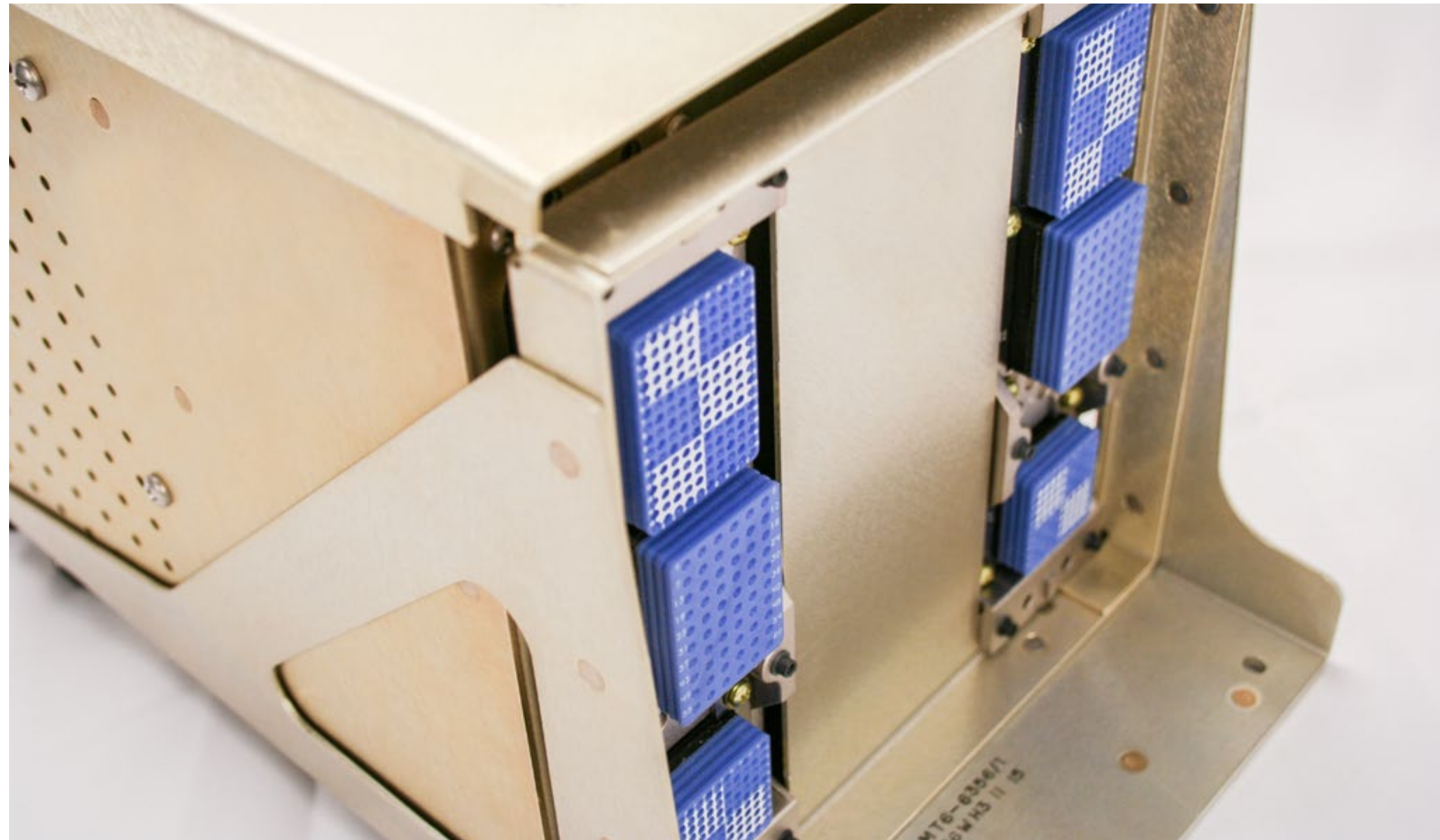
Mechanical Components

Accessories

Technical Specifications

LRU Cooling

Order Guide

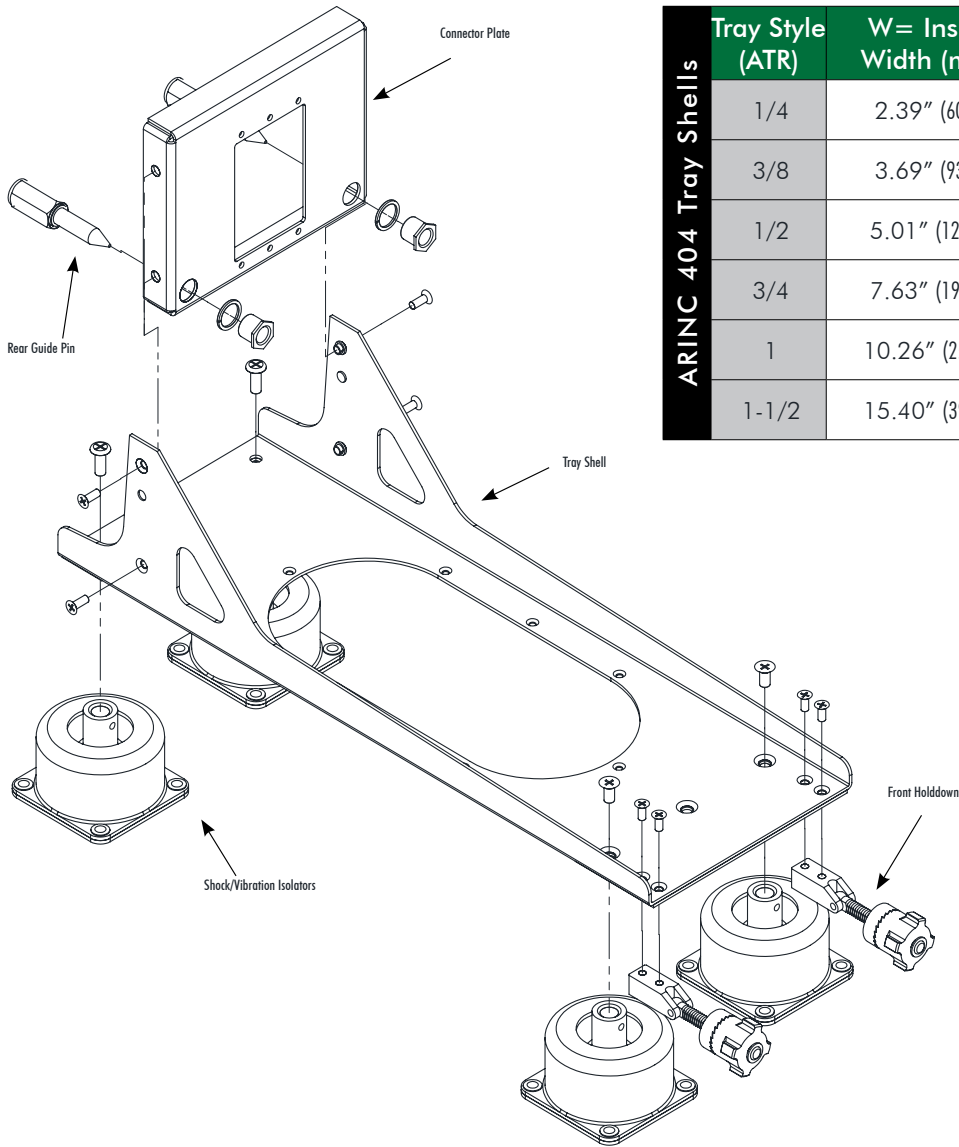


SYSTEM OVERVIEW

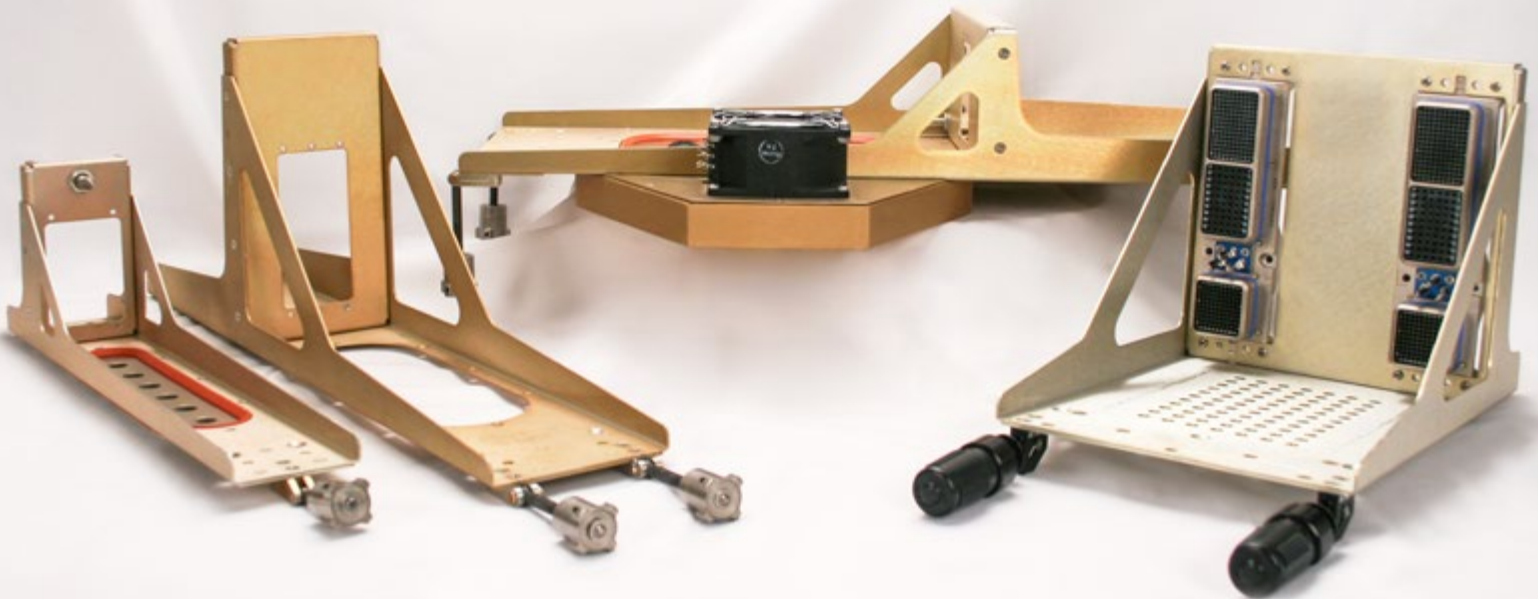
EMTEQ specializes in standard ARINC 404 & 600 mounting trays as well as custom tray designs providing the flexibility needed to accommodate your system requirements.

EMTEQ trays are available individually or as part of an Avionics Support Package (ASP) Kit with ARINC rack connector; Mil-Spec connectors, pin, sockets and backshells; tray mounting rails; and mounting hardware.

ARINC 404 ASSEMBLIES



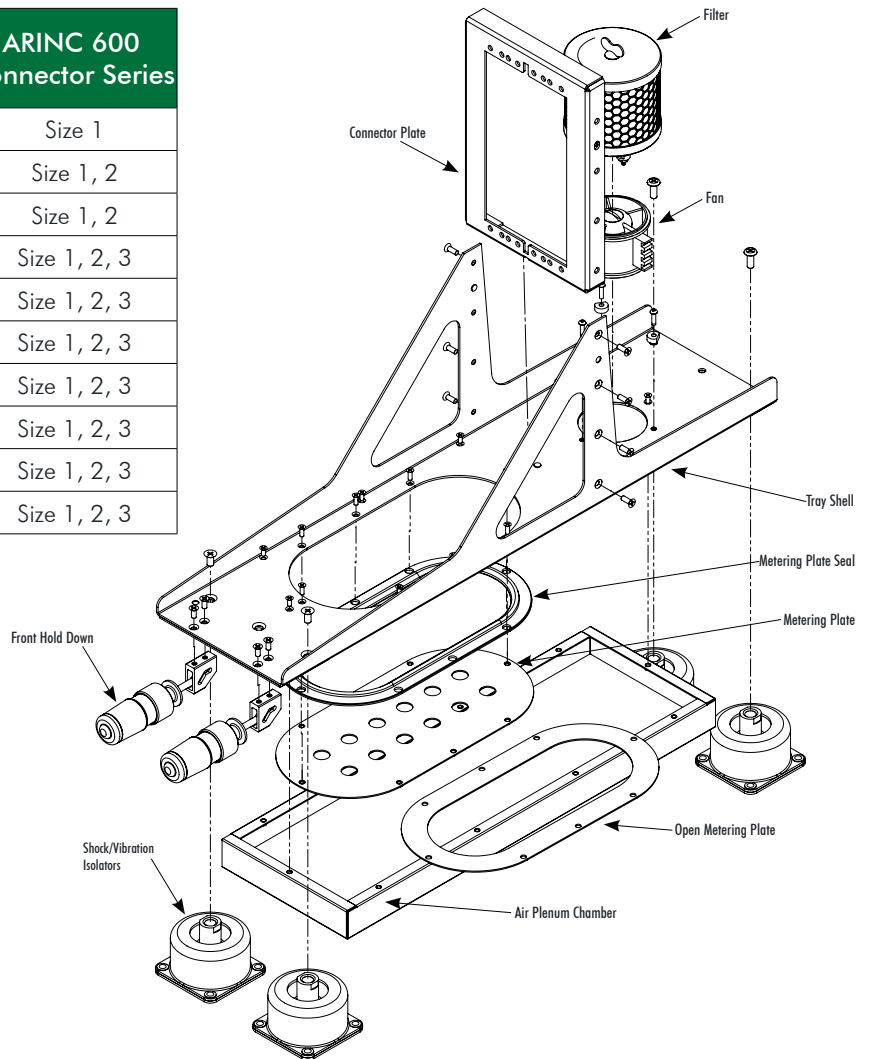
ARINC 404 Tray Shells	Tray Style (ATR)	W= Inside Width (mm)	H= Inside Height (mm)	ARINC 404 Connector Series
	1/4	2.39" (60.75)	4.36"/6.88" (110.75/174.75)	DPXA, DPXB, DPX2, DPX3
	3/8	3.69" (93.72)	4.36"/6.88" (110.75/174.75)	DPXA, DPXB, DPX2, DPX3
	1/2	5.01" (127.30)	4.36"/6.88" (110.75/174.75)	DPXA, DPXB, DPX2, DPX3, DPX4
	3/4	7.63" (193.29)	4.36"/6.94" (110.75/176.35)	DPXA, DPXB, DPX2, DPX3, DPX4
	1	10.26" (259.33)	4.36"/6.94" (110.75/176.35)	DPXA, DPXB, DPX2, DPX3, DPX4
	1-1/2	15.40" (391.28)	4.36"/6.94" (110.75/176.35)	DPXA, DPXB, DPX2, DPX3, DPX4

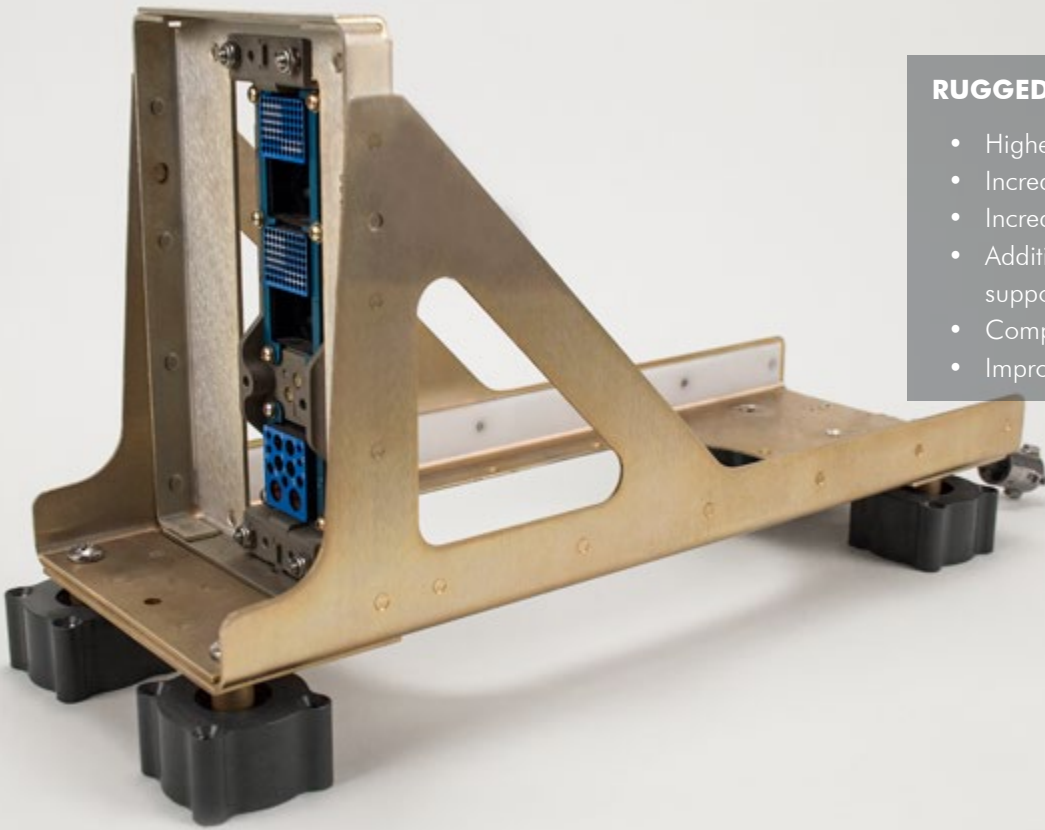




ARINC 600 ASSEMBLIES

ARINC 600 Tray Shells	Tray Style (MCU)	W= Inside Width (mm)	H= Inside Height (mm)	ARINC 600 Connector Series
	1	1.10" (27.94)	7.30" (185.42)	Size 1
	2	2.39" (60.75)	7.30" (185.42)	Size 1, 2
	3	3.69" (93.72)	7.30" (185.42)	Size 1, 2
	4	5.01" (127.30)	7.30" (185.42)	Size 1, 2, 3
	5	6.31" (160.27)	7.30" (185.42)	Size 1, 2, 3
	6	7.61" (193.29)	7.36" (186.9)	Size 1, 2, 3
	7	8.91" (226.31)	7.36" (186.9)	Size 1, 2, 3
	8	10.21" (259.33)	7.36" (186.9)	Size 1, 2, 3
	10	12.81" (325.37)	7.36" (186.9)	Size 1, 2, 3
	12	15.41" (391.41)	7.36" (186.9)	Size 1, 2, 3





RUGGEDIZED TRAYS

- Higher yield strength materials
- Increased bend radii throughout
- Increased doubler plate thickness
- Additional rear doubler with improved support features
- Complete riveted construction
- Improved connector plate features

RUGGEDIZED TRAYS

EMTEQ designs ruggedized trays to meet higher Environmental Testing Conditions. Built with enhanced durability, these trays are ideal for environments with higher vibration and meet increased crash safety.

MECHANICAL COMPONENTS



SHOCK/VIBRATION ISOLATORS

EMTEQ offers a line of general purpose shock & vibration isolators for land, sea, & air applications. With many styles in stock, we can cross-reference part numbers to ensure prompt delivery. Features include:

- Effective vibration isolation in all axes
- Compact design
- Standardized sizes & products for most applications
- Customization to meet specific requirements
- Supports static loads from 1 to 80lbs
- Engineering support beginning with selection analysis





GUIDE PINS

Guide Pins are an alignment mechanism used to direct and secure an LRU in place on a tray assembly.

GUIDE BLOCK (MT1-6002)

- Heavy duty block design
- Spring loaded guide feature

GUIDE BLOCK (MT1-6062)

- Heavy duty block design
- Optional stainless steel material
- Solid pin design

PANEL MOUNTED (MT1-5003)

- Rear panel required
- Spring loaded guide feature



HOLDDOWNS

EMTEQ holddowns securely hold and lock an LRU into position in the tray assembly.

TORQUE LIMITING HOLDDOWN (MT1-5005)

- Designed to ARINC 600 specifications to prevent over-torquing
- Insertion & extraction features
- Flame retardant plastic

SELF-LOCKING HOLDDOWN (MT1-5001)

- Adjustable torque
- Standard M85731 body
- Riveted construction

THUMB-SCREW HOLDDOWN (MT1-5028)

- Smaller profile
- Non-ratcheting wave spring locking mechanism
- Riveted construction



ACCESSORIES

EMTEQ's expanded product line includes hooks and handles; rack connectors are sold outright or as part of EMTEQ's Avionics Support Package (ASP) Kits.



HANDLES

- Used to install or remove LRU from tray
- Installed onto front plate of enclosure

HANDLES	P/N	A	B	C	D	Thread
	MT1-HDL-4	1 1/2	1 1/8	1/4	1 3/4	6-32 X 3/8
	MT1-HDL-4A	2 13/16	1 1/2	5/16	3 1/8	6-32 X 9/16
	MT1-HDL-5	3	1 1/2	5/16	3 5/16	8-32 X 9/16
	MT1-HDL-6	4 1/2	1 1/2	5/16	4 13/16	8-32 X 9/16
	MT1-HDL-7	6 1/2	1 3/4	5/16	6 13/16	10-32 X 9/16
	MT1-HDL-8	9 1/4	2 1/4	5/16	9 9/16	10-32 X 9/16

	P/N	A	B	C	D	E
	MT1-HDL-2*	4 1/2	1 19/32	1/4	4 1/16	4 7/8

Material: Brass, 410 Series; Finish: Nickel Plated
 *Material: Alum, 110 Series; Finish: Gold Chem Film



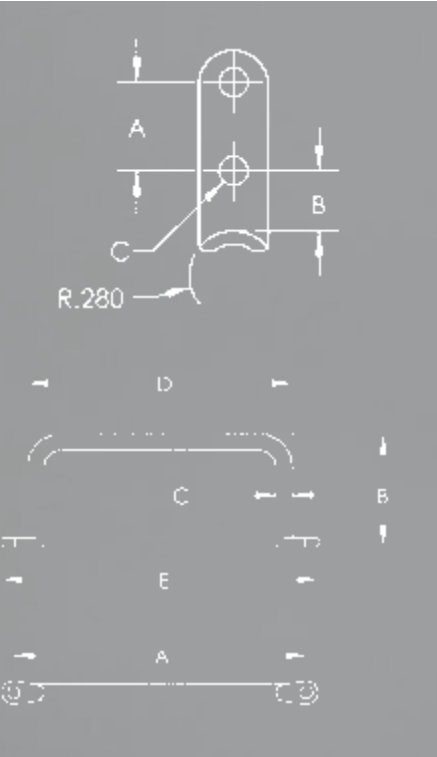
HOOKS

- Secures Line Replaceable Unit (LRU) to mounting tray
- Mounts onto front plate of LRU enclosure
- Holddown latches onto j-hook

HOOKS	P/N	A	B	C	Max Loading /hook (lbs)
	MT1-HDH-1*	.562	-	.182	20 & Below
	MT1-HDH-2*	.562	-	.182	Above 20
	MT1-HDH-3	.562	.375	.182	20 & Below
	MT1-HDH-3EP	.562	.500	.182	20 & Below
	MT1-HDH-3SP	.687	.265	.156	20 & Below
	MT1-HDH-3-228	1.50	.335	.156	20 & Below
	MT1-HDH-4	.562	.375	.182	Above 20
	MT1-HDH-4EP	.562	.437	.182	Above 20
	MT1-HDH-4SP	.687	.265	.182	Above 20

Rated to 125000 PSI, Passivate, MIL-C-172B & ARINC 404/600
 Material: SS 410 *Material: SS304

Measurements provided in inches.





MATERIAL SPECIFICATIONS

- Aluminum alloy: 5052, 6061, or 2024
- Stainless steel, 300 Series, 17-4 PH standard
- Silicone, SC-1021V Red 56 durometer

FINISH

- Gold chem-film per MIL-DTL-5541, Type 1A, Class 3
- Other finishes available by request

PART MARKING

- Per MIL-STD-130

TECHNICAL SPECIFICATIONS

EMTEQ’s ARINC 404 and 600 equipment trays are designed to accommodate standard mounting hole shelf locations per ARINC or OEM specifications. Front holddown locations and other dimensions are also per ARINC specifications.

TRAY WIDTH	MCU	2	3	4	5	6	7	8	10	12
	ATR	1/4	3/8	1/2	–	3/4	–	1	–	1-1/2
	# Mounting Holes	2	3	3	3	3	4	5	5	7
	Distance Between Mounting Holes	1.312"	1.312"	1.968"	2.624"	3.280"	2.624"	Inner: 2.624" Outer: 1.968"	Inner: 3.280" Outer: 2.624"	Inner: 2.624" Outer: 1.968"

TRAY LENGTH		Overall Length	Mounting Hole Spacing
	Long Tray Shell	20.08" (510.03mm)	18.01" (457.45mm)
Short Tray Shell	14.95" (379.73mm)	12.875" (327.03mm)	

MECHANICAL ENGINEERING

EMTEQ’s custom designed mechanical trays are engineered according to specific applications per OEM installation manuals or other guidelines. Designs can be tested, qualified, and FAA certified as required.

- 3D solid modeling using SolidWorks, CADKey, AutoCAD, CATIA
- Structural analysis
- Environmental qualification testing
- Custom designs: low profile, military, specialty, ruggedized, racking units for ARINC 404/600, RTCA-DO160, MIL-STD-810, Boeing, Airbus standards.

LRU COOLING REQUIREMENTS

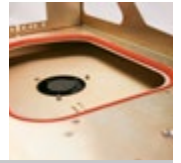
For LRUs with cooling requirements, EMTEQ tray assemblies can support convection air flow, aircraft forced air cooling, and forced air cooling requiring a fan.

CONVECTION AIR FLOW



An LRU without external forced air cooling may require a tray shell with an oval cutout to optimize air flow to cool the LRU through normal convection.

FORCED AIR COOLING



EMTEQ trays are designed to accommodate forced air cooling from the aircraft or a tray mounted fan.

Metering Plates & Seals—Air inlet holes in the metering plate allow for air flow regulation. Metering plate seals and baffle plugs (plug bumpers) are supplied with each tray assembly for insertion by the customer to direct air flow as required. For assemblies requiring a fan, we also provide an open metering plate or seal retainer for maximum air flow.

Fan Assemblies & Filters—EMTEQ equipment trays are designed with options for rear, side or bottom mounted fans and meet ARINC 600 Level (1) or Level (2) cooling requirements. The EMTEQ fan filter provides high efficiency and low resistance without reducing fan velocity or airflow. The assembly is flame retardant per 8110-3 FAR 25.853 Appendix “F” Part 1(a)(v) and meets ARINC 600-12 ITM 3.5.4.4 Coolant Air Quality requirements. Filter elements are replaceable.

Air Plenum Chambers—Trays requiring a fan also require a plenum. Plenum chambers are fastened to the tray shell base with corrosion-resistant locking clinch nuts and screws. MIL-A-46146 RTV adhesive/sealant is applied to form an airtight seal.

**Contact us for specific fan performance curves, specifications, part numbers, drawings or custom cooling analysis.*



ORDER GUIDE

ARINC 404 CONFIGURATION GUIDE (ATR)

Tray Style

02 = 1/4
03 = 3/8
04 = 1/2
06 = 3/4
08 = 1
12 = 1-1/2

Equipment Length

S = Short
L = Long

Tray Length

S = Short
L = Long

Connector Plate Height

S = Short
T = Tall

Front Holddown

TL = Torque Limiting
SL = Self Locking
WO = Without
TS = Thumb Screw

Rear Guide Pin

GP = Guide Pin
WO = Without

MT4 - **XX** **X** **X** **X** - **X** **X** **X** **X** - **XX** - **XX**

Connector Configuration

A = Single, Centered
B = Dual, Side by Side
C = Dual, Over/Under
D = Triple, Triangle

Connector Type

A = DPXA
B = DPXB
2 = DPX2
3 = DPX3
4 = DPX4
5 = DPX2-33

2nd Connector Type

A = DPXA
B = DPXB
2 = DPX2
3 = DPX3
4 = DPX4
5 = DPX2-33

3rd Connector Type

A = DPXA
B = DPXB
2 = DPX2
3 = DPX3
4 = DPX4
5 = DPX2-33

Contact EMTEQ if fan or shock vibration isolators are required. EMTEQ part number will be generated based on configuration selected.

ARINC 600 CONFIGURATION GUIDE (MCU)

Tray Style

01 = 1 06 = 6
02 = 2 07 = 7
03 = 3 08 = 8
04 = 4 10 = 10
05 = 5 12 = 12

Equipment Length

SS = Short (14.95" overall)
SL = Long (20.08" overall)

Front Holddown

SL = Self Locking
TL = Torque Limiting
WO = Without

MT6 - **XX** **XX** - **X** **X** **X** - **XX**

Fan Configuration

0 = No fan
1 = 115VAC, 400Hz
2 = 28VDC
3 = 115VAC, 60Hz

Tray Shell Configuration

D = Metering plate and seal
F = Flat bottom with oval cutout

Air Plenum Configuration

A = No plenum
B = Rear Mounted (long tray)
C = Right side (short tray)
D = Left side (short tray)
E = Bottom (short tray)

Contact EMTEQ if fan or shock vibration isolators are required. EMTEQ part number will be generated based on configuration selected.

