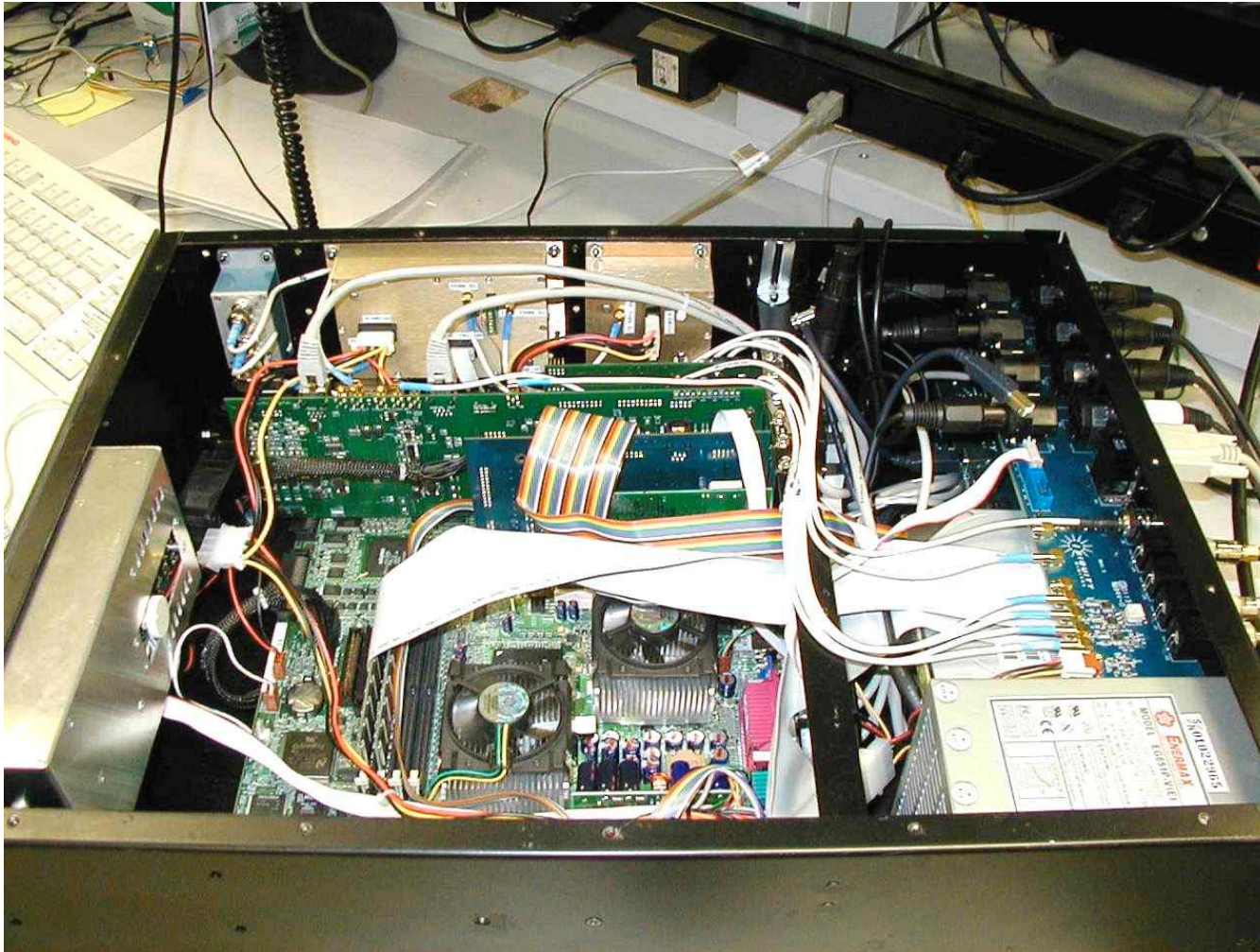


Rack-chassis Designed for “iBiquity Digital Corp.” by: Jerry B. Williams

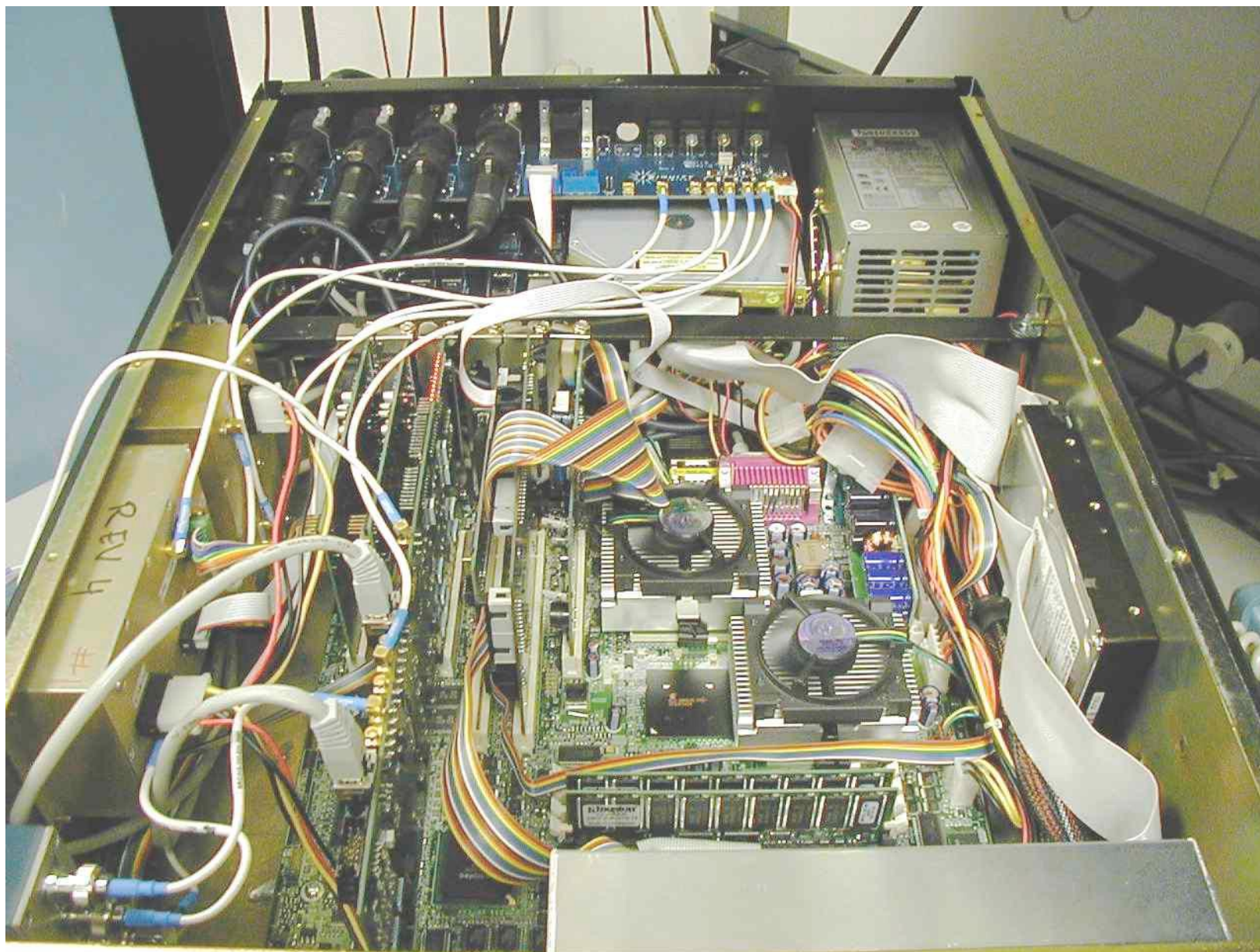




Early Developmental Prototype “4U Rack-Mount” Chassis (7”H x 17”W x 22”D) for “iBiquity Digital Corporation”

Combined Electronics Packaging / Mechanical & PCB Design Project by: Jerry B. Williams

- Performed all aspects of the mechanical design of the chassis, brackets, front & rear panels and cooling fan sub-assembly.
- Responsible for all Printed Circuit Board layouts of laboratory designed in-house circuitry. Also responsible for final reviewing of complex digital and RF multi-layer/surface mount PCB layouts designed by an outside engineering development company.
- Researched and sourced about 36 “impossible-to-find” electronic components. Sourced all mechanical fabrication and PCB vendors.
- Responsible for the Electronics Purchasing of many of the “impossible”, as well as a majority of the general electronics hardware (\$300K+).
- Performed all Engineering Liaison work between **iBiquity Digital Corporation** and all of the outside vendors to keep the project rolling.



Rack Chassis & Rear Panel Designs by: Jerry B. Williams, Senior Designer



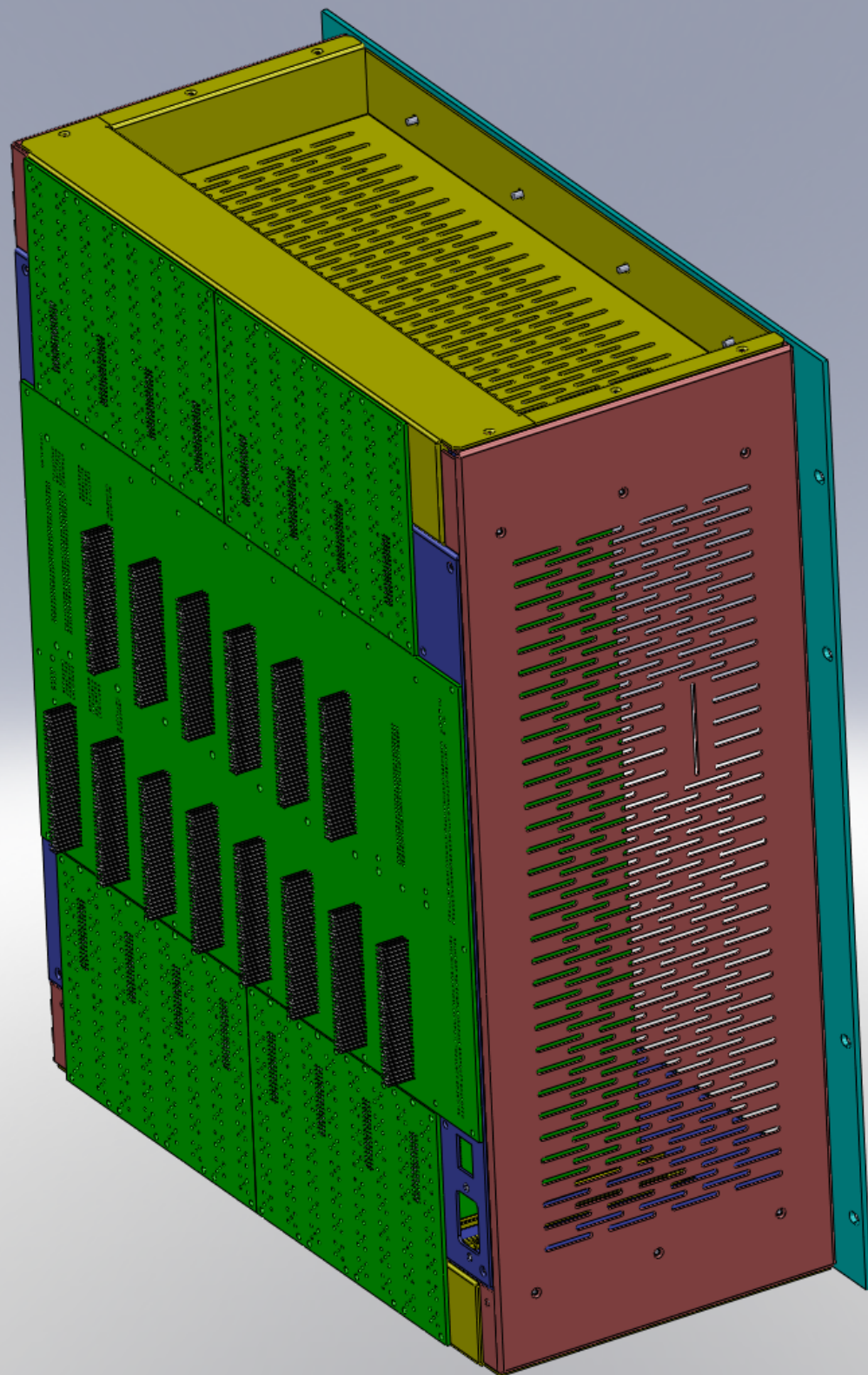
2U Rack Chassis Rear Panel Design of Broadcast Exciter Auxiliary Unit

(Serial No. 001 designates "First Article Build" of chassis from metalwork fabrication vendor)



4U Rack Chassis Rear Panel Design of Digital Radio Broadcast Exciter

(Serial No. 001 designates "First Article Build" of chassis from metalwork fabrication vendor)



– Rack-Mount Cooling Assemblies, Chassis & Panels – Designed By: Jerry B. Williams
(Designs performed using SolidWorks Premium)

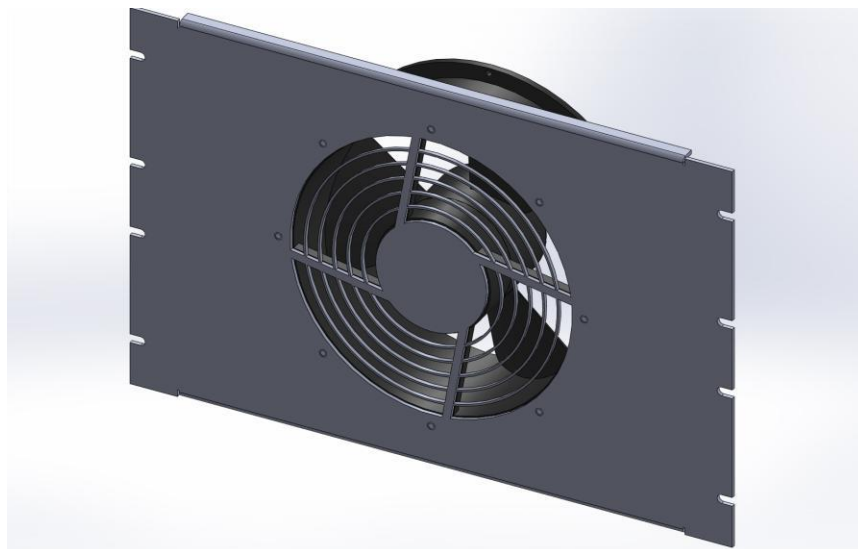
- 1U (1.75" High) Rack-Mount 9-Fan Cooling Chassis Assembly -



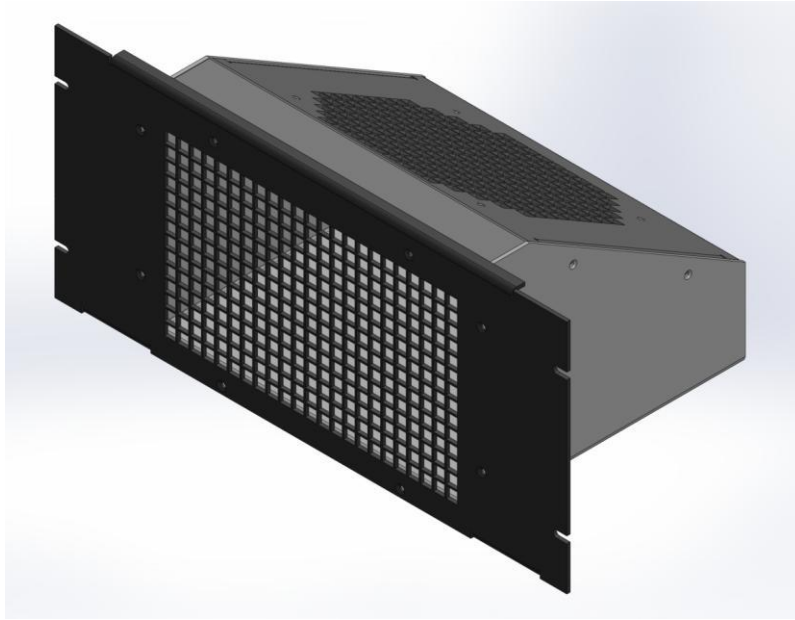
- 5U (8.75" High) Rack-Mount 2-Fan Rack-Panel Assembly -



- 7U (12.25" High) Rack-Mount Single High-Velocity Fan Rack-Panel Assembly -



- 5U (8.75" High) Rack-Mount Single-Fan Rack "Air-Intake" Chassis & Panel Assembly -

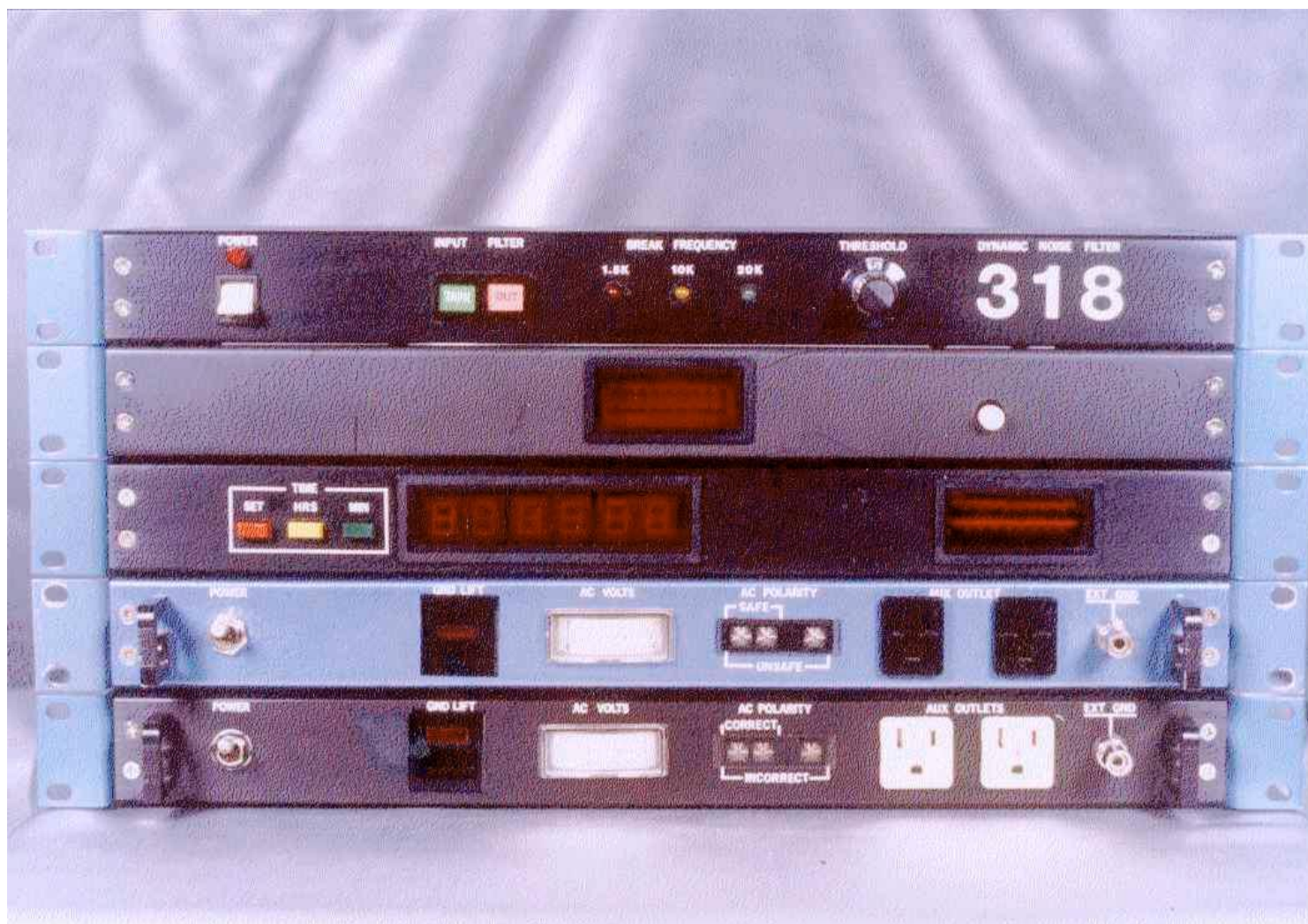


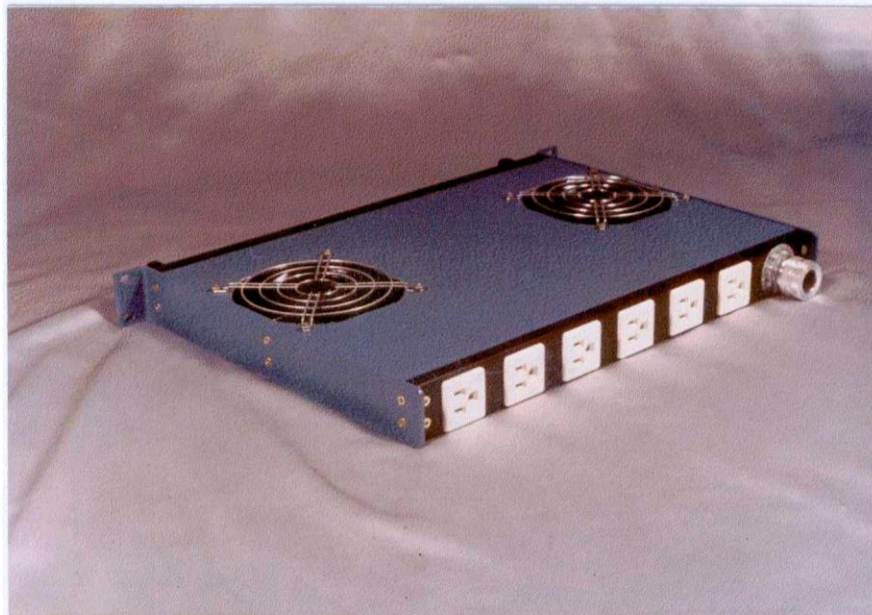
- 1U (1.75" High) Rack-Mount 4 - High-Velocity Fan Cooling Chassis Assembly –



- 1U (1.75" High) Rack-Mount 9-Fan Integrated Cooling Chassis Assembly –





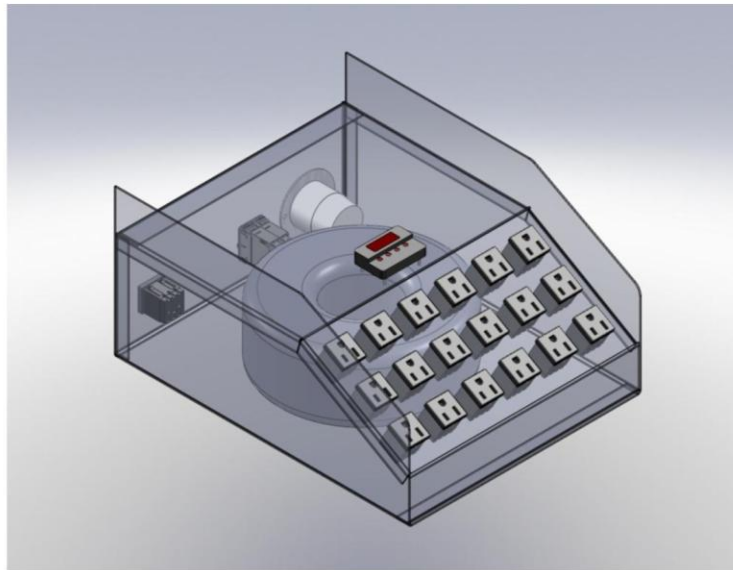


Rack-Mount Power Distribution Chassis w/GFI, Line-to-Line / Line-to-GND Filtering, Cooling Fans (for CROWN DC-300 Power Amps) and MOV protection.

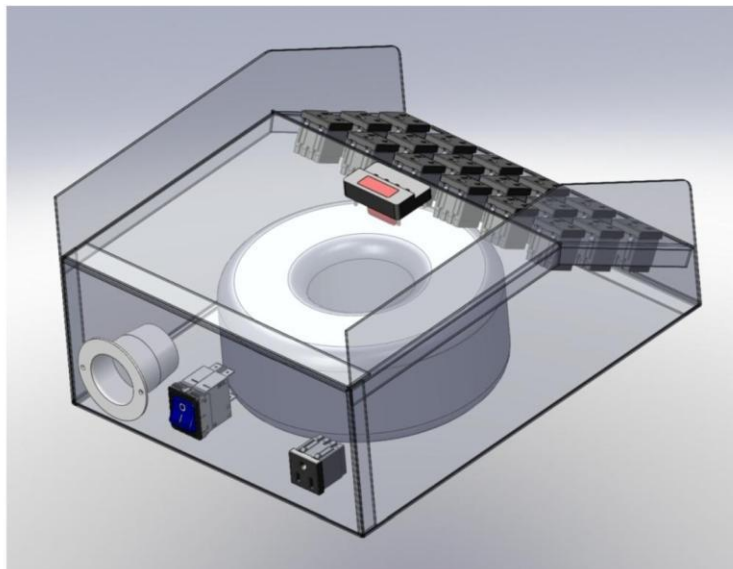
Originally Conceived, Designed and Built

entirely by: Jerry B. Williams

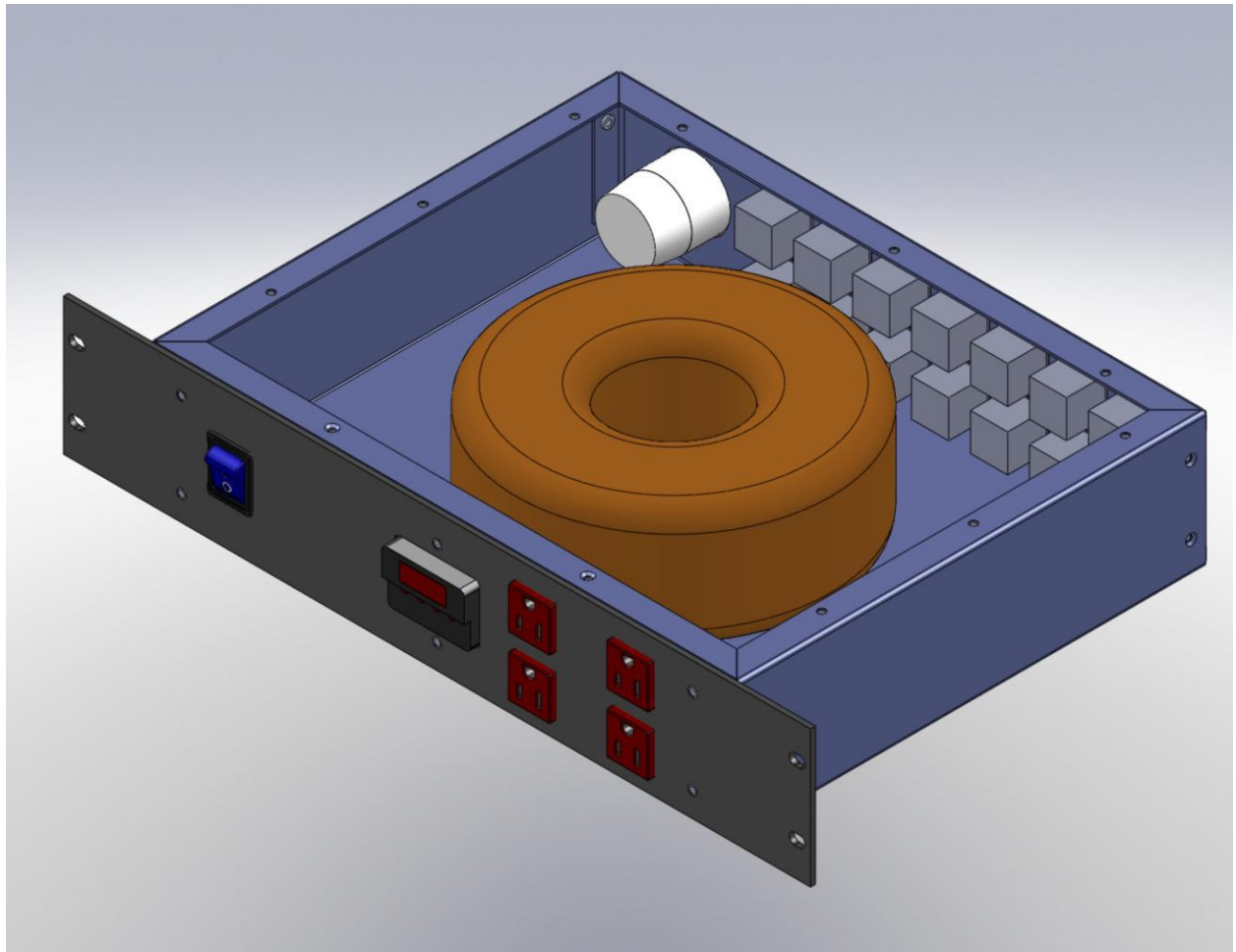
(Continued Down Below)



Portable "Balanced-Power" AC Distribution Floor Chassis Designed By: Jerry B. Williams



(Continued Down Below)



(Continued Down Below)

United States Patent [19]
Williams

[11] Patent Number: 4,478,464
[45]

[54] RACK-MOUNTABLE STORAGE
ENCLOSURE FOR DIFFERENTLY SIZED
MAGNETIC TAPE ENCLOSURES

[76] Inventor: Jerry B. Williams, 4900
Wetheredsville Rd., Baltimore, Md.
21207

[21] Appl. No.: 325,654

[22] Filed: Nov. 30, 1981

[51] Int. Cl.³ A47B 81/06

[52] U.S. Cl. 312/9; 312/12;
312/111; 312/242; 312/320; 206/387; 211/40

[58] Field of Search 312/8, 9, 10, 11, 12,
312/13, 111, 320, 244, 242; 206/387; 211/40, 41

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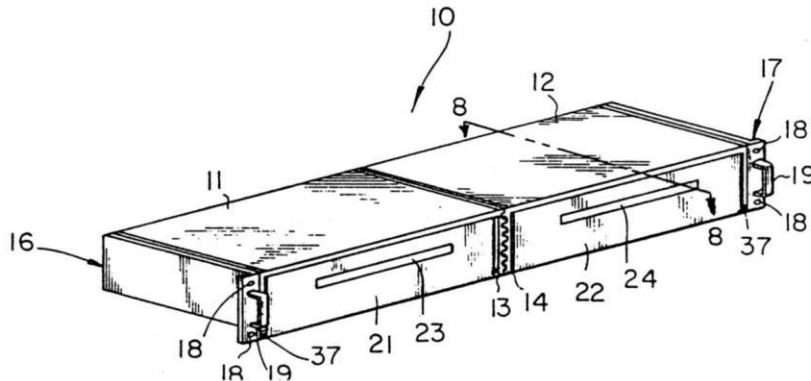
1503568 3/1978 United Kingdom 312/9

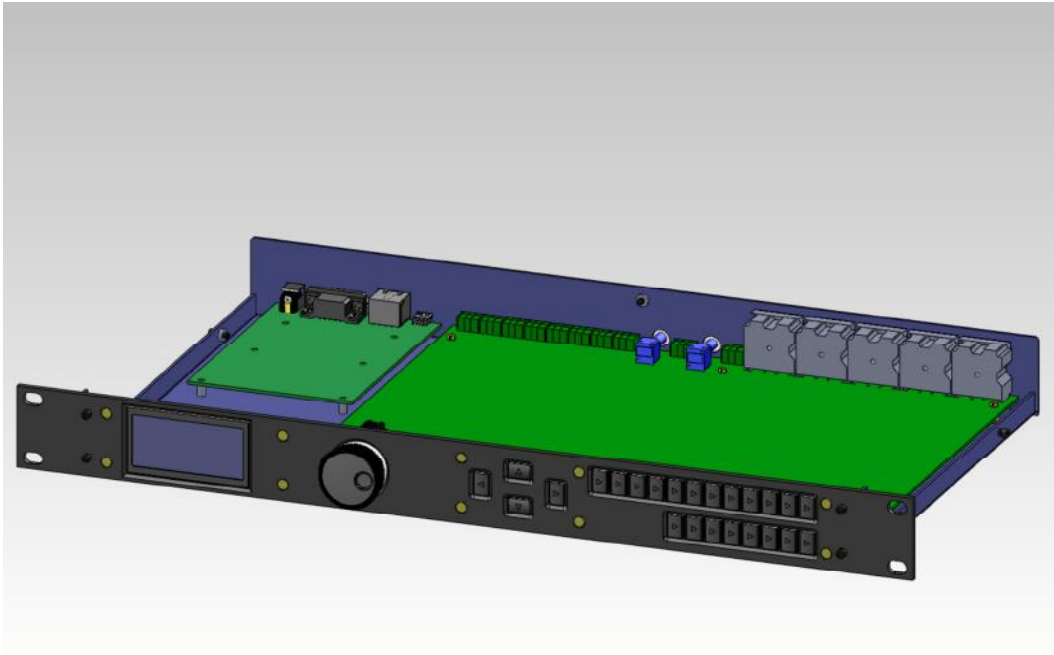
Primary Examiner—Victor N. Sakran
Attorney, Agent, or Firm—Woodard, Weikart, Emhardt
& Naughton

[57] ABSTRACT

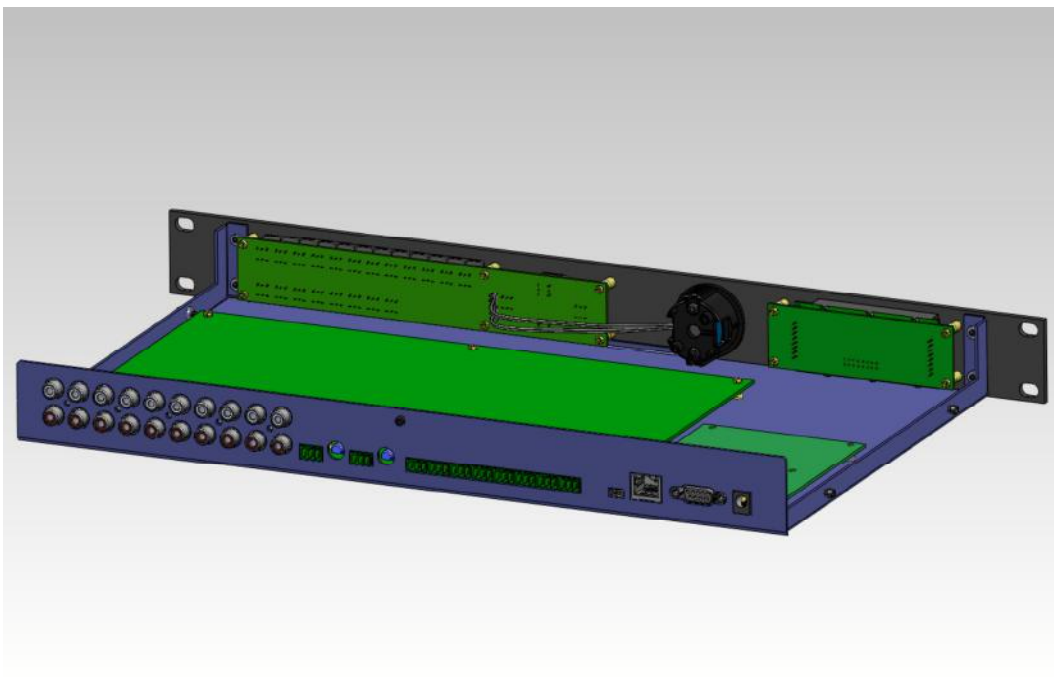
A rack-mountable tape cartridge enclosure device for storing multi-sized tape cartridges such as audio and video cassettes, computer, eight-track and other types of data storage cartridges. A generally box-like front loading enclosure containing a plurality of parallel vertical dividers to separate the cartridges. Each divider has at least two vertical portions, each portion being of greater width than those above. Interlocking corrugations on the sides of the enclosures provide for connecting two or more devices. Detachable mounting members not only include such corrugations for attachment to an enclosure, but also contain screw or bolt holes to mount the enclosure unit in a standard equipment rack.

7 Claims, 9 Drawing Figures





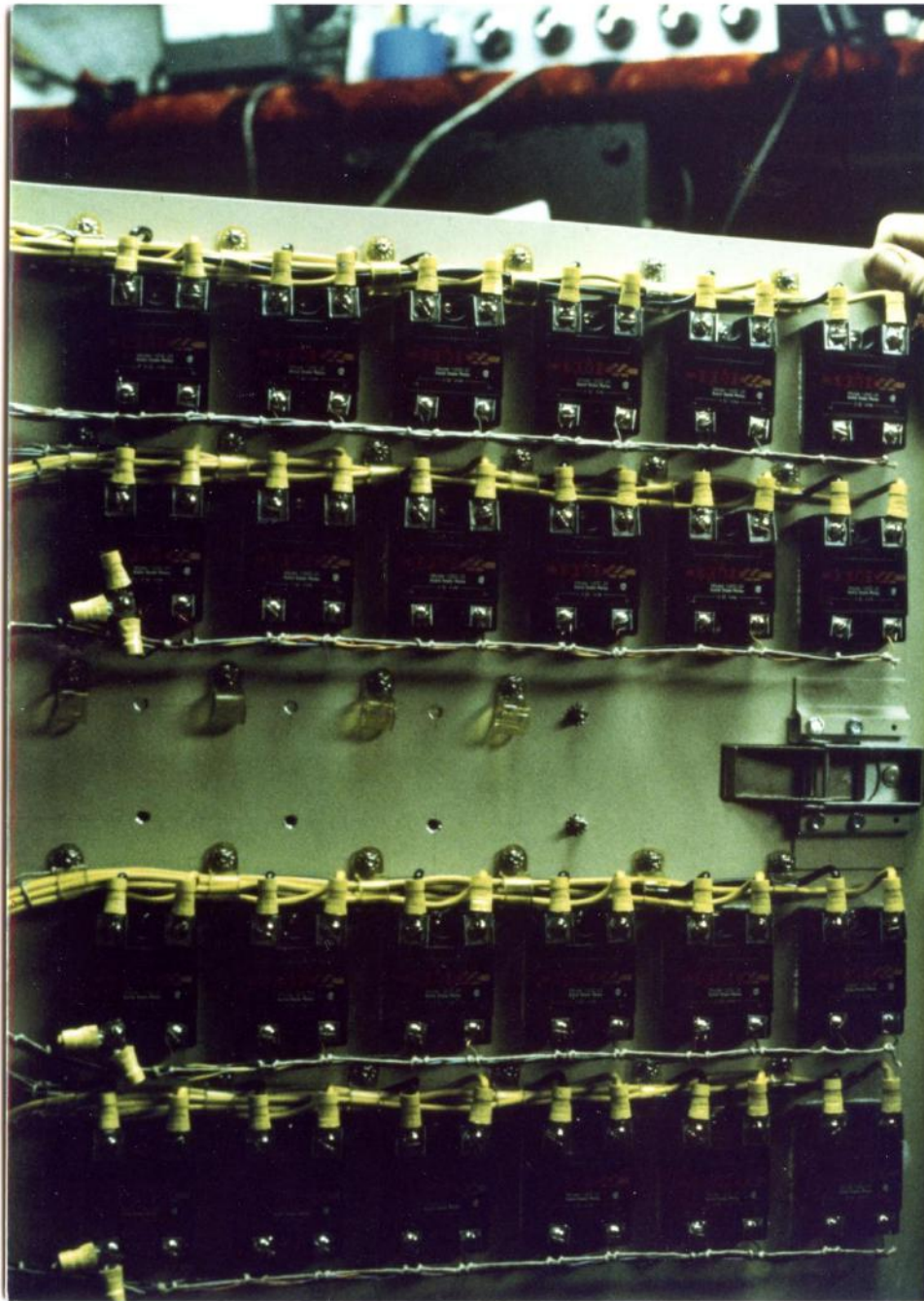
For this 1U (1.75" H) rack-mount chassis, I had performed the original design using SolidWorks Premium. In addition to performing the electronic mechanical design of the chassis, I had also selected several of the major electro-mechanical components (i.e. switches, connectors, pots and the rotary encoder), as well as designed the Printed Circuit Boards using ALTIUM software.





600-Ampere Solid-State Relay Control System Panel

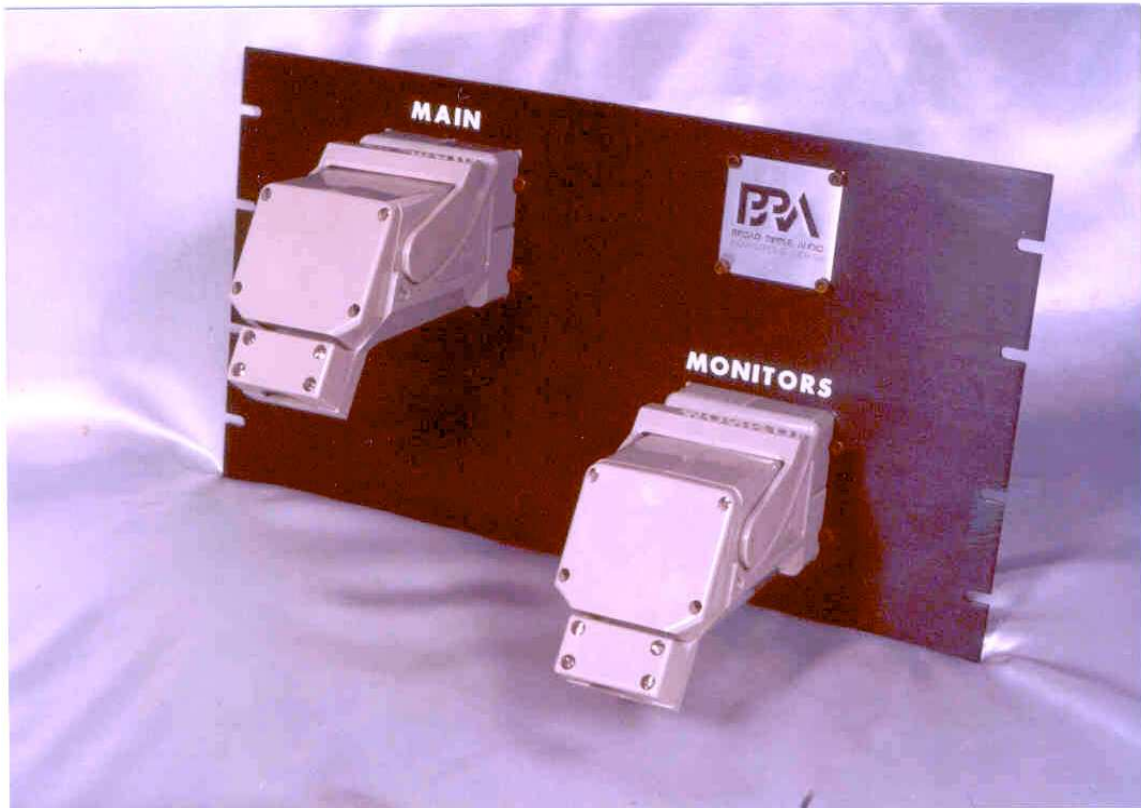
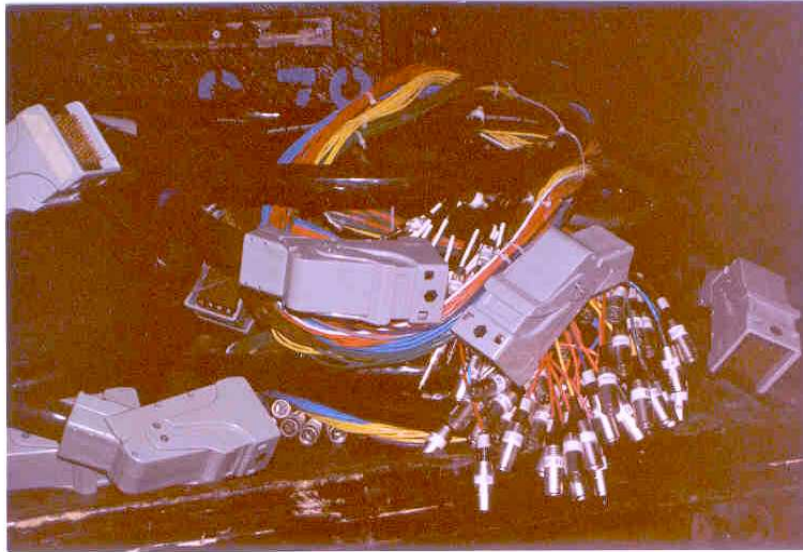
Designed & Built By: Jerry B. Williams



This photograph is showing 1 of 2 panels mounted onto a BUD, Inc. type "AGC" rack enclosure used for a high-current lighting system. This panel shows 24 25-Amp solid-state relays mounted onto it to control the On/Off function for a variety of high-current lighting loads. The other panel had a variety of HUBBELL "Twist-Loc" flange-mount AC-receptacles mounted onto it, which individual lighting devices and controllers were plugged into.

Mounted internally onto one of the cabinets' side-walls were 3-large multi-position terminal blocks which provided the main "Power Distribution" point for this system. Wires from the buildings' circuit-breaker box, the output feeds going to the 2-stories of this building and all of these relays were all connected together via the terminal blocks. I had designed and built this entire system with - NO - drawings or schematics. It was all done in my head!!! And.....this system had also passed all of the necessary "State Fire Marshall" electrical safety and wiring codes and regulations with "flying colors"!!!

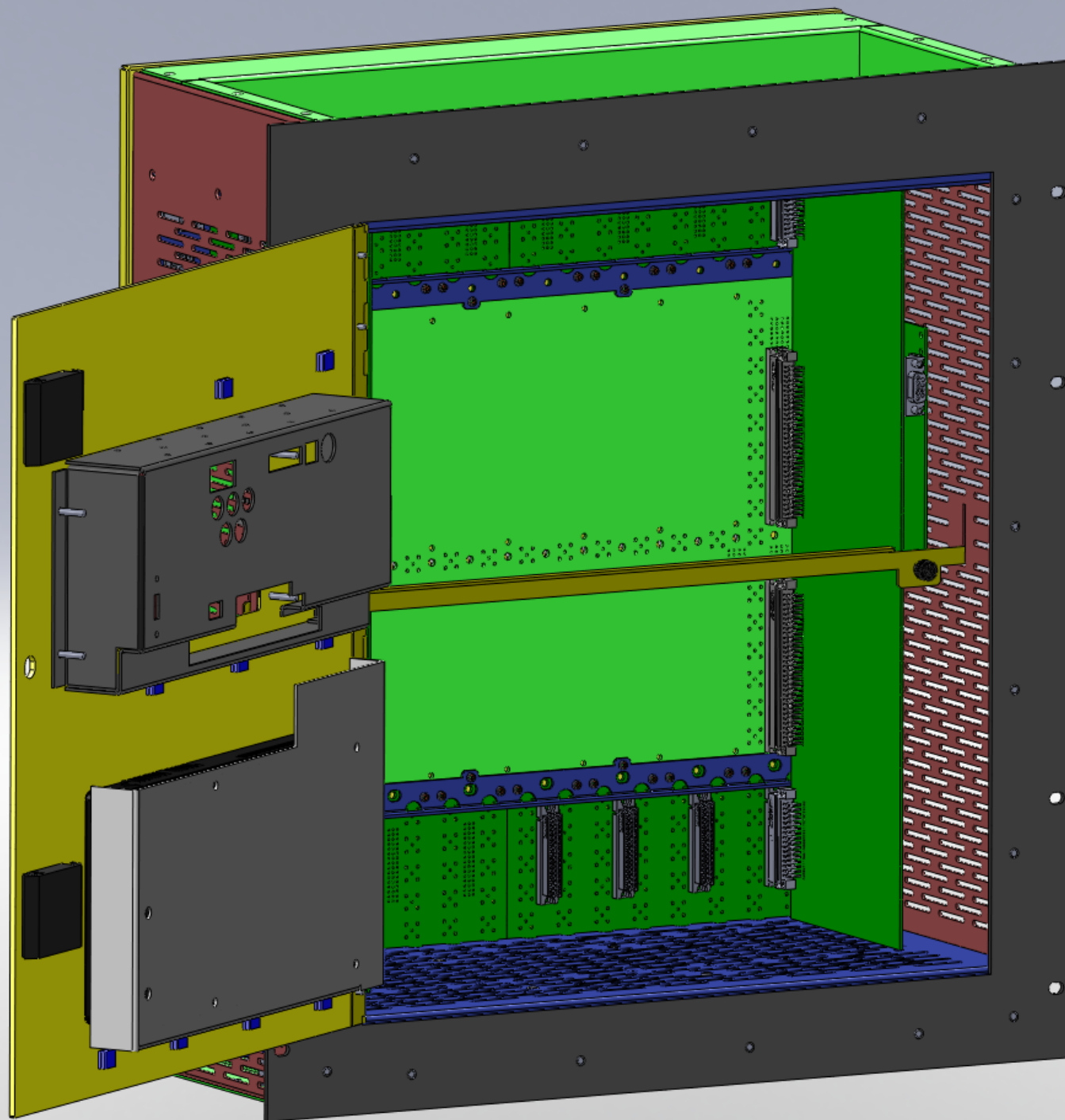


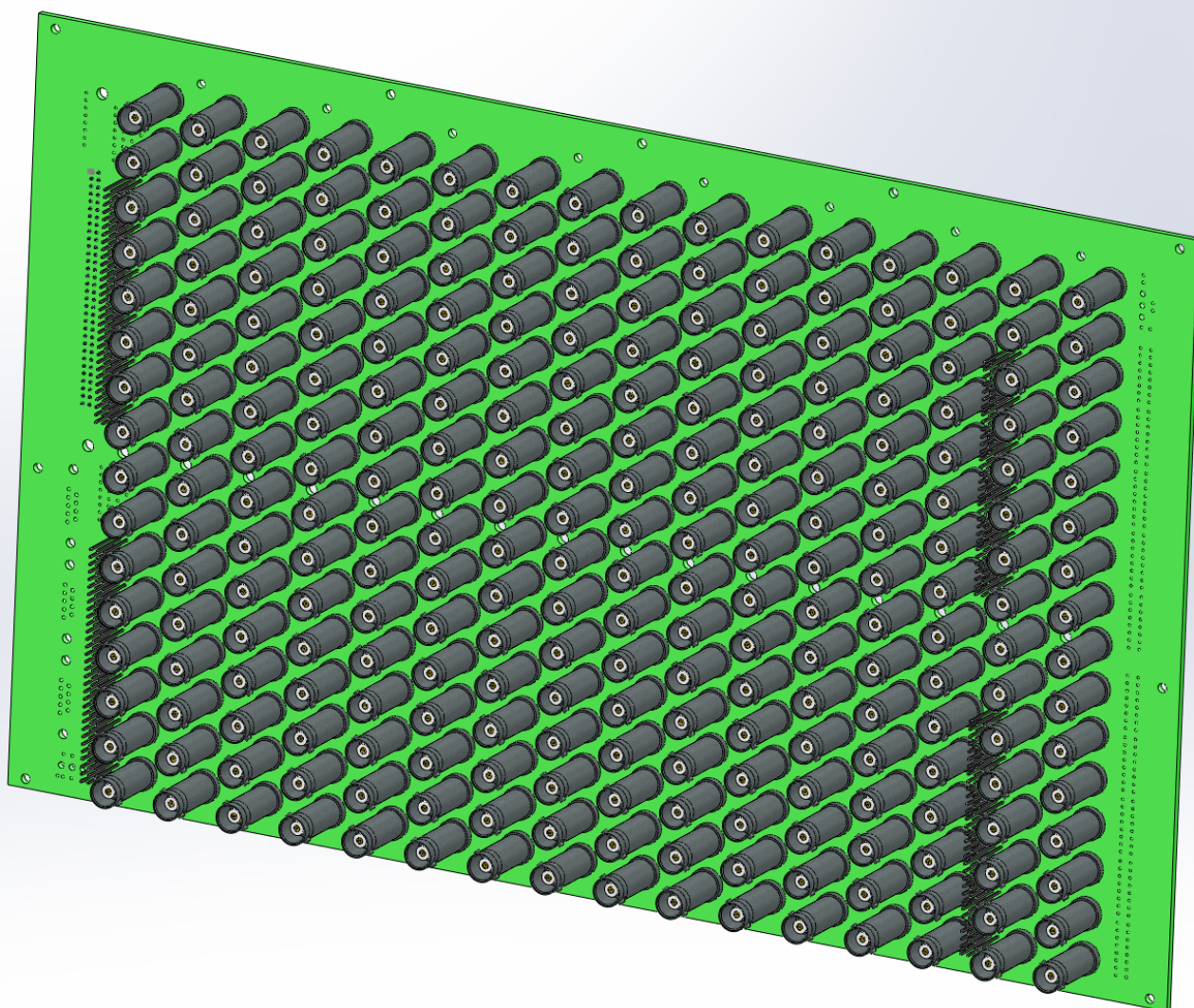


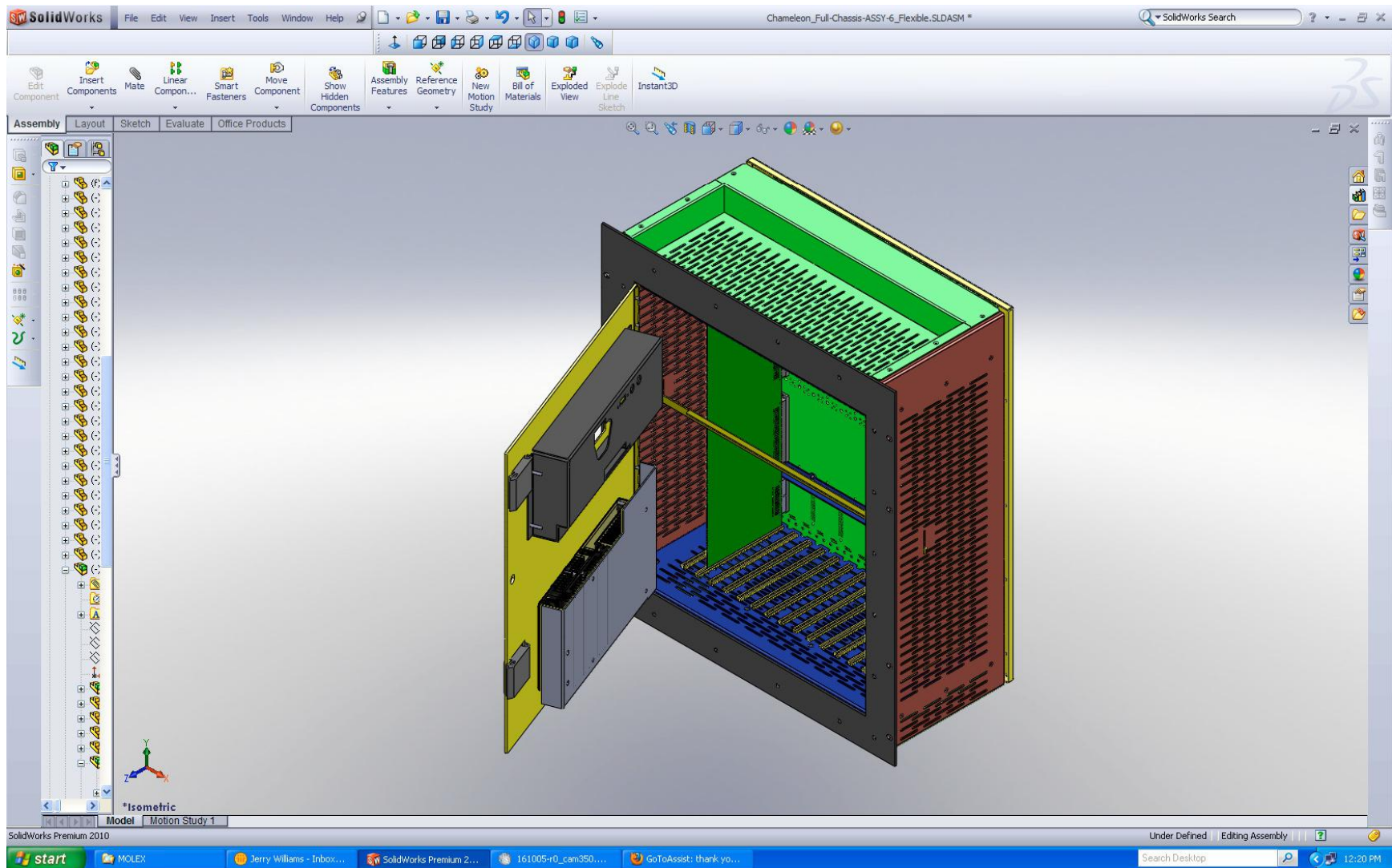
Jerry B. Williams, Senior Designer / Cable & Wiring Harness Design

- Designed a variety of complex audio-signal cable assemblies for (then) world's largest concert sound reinforcement company. Most connectors were of military-style types.
- Directed 20 lab technicians in the fabrication and installation of all cable assemblies.
- Company had both AMP and MOLEX pin-crimping machines and industrial solder-pots for fabricating complex "balanced" audio-signal multi-conductor cables.
- Created "harnessing-boards" for cable assemblies going into 19" equipment racks and speaker enclosures. Other specialized cable assemblies were made for very high-current 3-phase AC power distribution boxes. Quality and reliability were of the utmost importance.





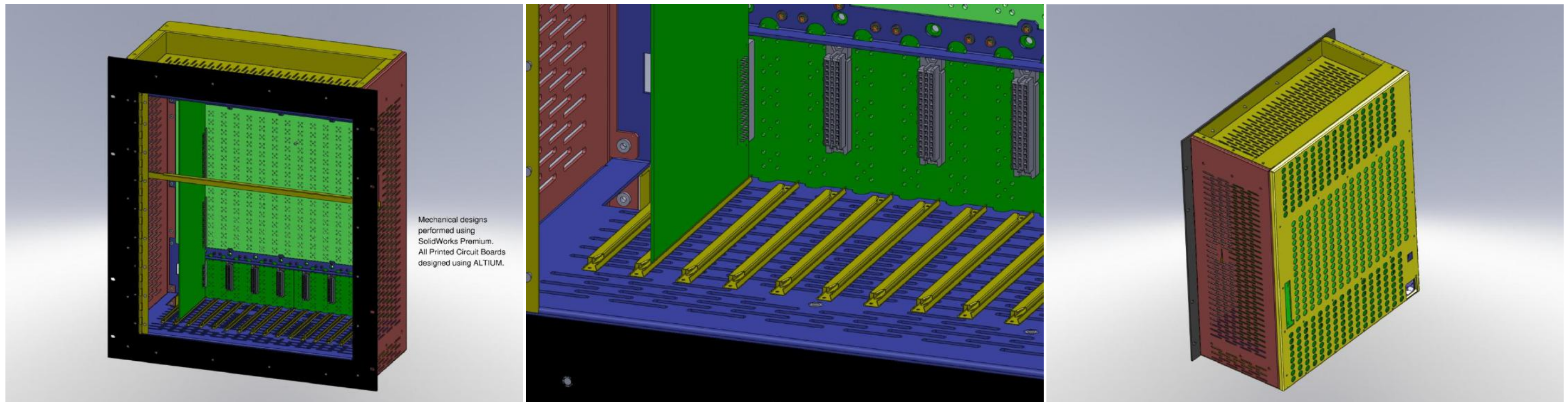




Designed not only all of the sheet-metal work for the chassis, doors, panels and covers, but also ALL of the required PCB's.

All mechanical designs were accomplished using **SolidWorks Premium** and all PCB designs were laid-out using **ALTium**
by: **Jerry B. Williams / Senior Electronics Mechanical Packaging & PCB Designer**

12U (21" High) 19" Rack-Chassis Card-Cage Designed Using Both **SolidWorks Premium & **ALTIUM** PCB By: Jerry B. Williams**



This chassis shown is a “256-Input X 256-Output” Video “Router/Switcher”

“Ruggedized” Computer Chassis
(to be machined out of a solid block of aluminum)
Designed By: Jerry B. Williams

