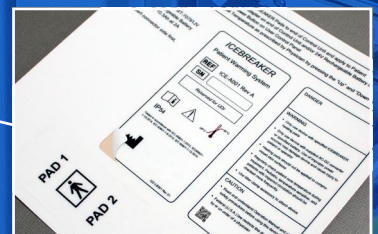


Pannam Knows Telecommunication Testing & Networking Equipment Controls and Identification

Pannam Imaging has the capability to offer customized solutions for every aspect of user interaction with your equipment, and the experience to help you select the best options for your application. Pannam Imaging offers products to satisfy all your equipment interface, identification, tracking and branding needs, including:

- ▶ **Membrane Switch Assemblies**
- ▶ **Rubber Keypad Assemblies**
- ▶ **L.G.F. (Light Guide Film) Technology**
- ▶ **Touchscreen Interface Assemblies**
- ▶ **Graphic Overlays and Control Panel-Fronts**
- ▶ **Q.R. & Bar Code Equipment Identification Labels**
- ▶ **Anti-Counterfeit & Security Labels**
- ▶ **Warning Label Kits**
- ▶ **Urethane Dome Labels**
- ▶ **Nameplates & Data Plates**

VER. 1.1.1





Membrane Switches

- ▶ Custom designed and constructed to meet your project specifications
- ▶ Sealed construction is resistant to moisture and contaminants and is easily cleaned
- ▶ Low cost, especially when compared to bulky, costly electromechanical switch assemblies

Circuit Materials	Silver flex, copper flex or PCB circuits
Tail Connector Options	Nicomatic CrimpFlex, Amphenol FCI Clincher, ZIF Contacts, solder tabs, and male or female connector pins available
Available Features	Graphic overlay, tactile and non-tactile buttons, elastomer keypads, button or overlay embossing, backlighting options including L.G.F., EL, fiber optic, embedded LEDs, rigid back panels, ESD/EMI/RFI shielding, IP65 rating
Overlay Color Options	Screen and digital printing for many color options*
Size Options	Almost any custom size available



Integrated Assemblies

- ▶ Custom designed and constructed to meet your project specifications
- ▶ Full featured, complete turn-key input device
- ▶ Plug-in user-interface saves time and reduces assembly costs

Tail Connector Options	Berg/FCI and CrimpFlex standard; Molex, Amp, ZIF, solder tabs, and male or female connector pins available
Available Features	Membrane switch keypads; silicone rubber keypads; printed circuit board controller electronics – rigid (PCB) and flexible (FPC); rigid support back panels (aluminum, stainless steel, acrylic, fr4, etc.) With PEM mounting hardware; bezels, enclosures & housings; backlighting options (EL, fiber optic and L.G.F.); integrated touchscreens
Color Options	Screen and digital printing for many color options*
Size Options	Almost any custom size available



Rubber Keypads

- ▶ Custom designed and constructed to meet your project specifications
- ▶ Many aesthetic and function options available
- ▶ Exceptional resistance to extreme temperatures and aging, also has excellent resistant to chemicals and moisture

Materials	Silicone rubber
Feedback Options	Various tactile actuation forces available
Fabrication	Epoxy and polyurethane (PU) coating, screen printing, and laser etching options available
Additional Options	Printed circuit board, bezel with or without additional graphics, backlighting components such as fiber optic lamp or LEDs, touch screen or LCD display, rigid support back panels (aluminum, stainless steel, acrylic, FR4, etc.) with PEM mounting hardware, enclosure or molded housing/case
Color Options	Many color options available

**Colors on some metal and plastic materials have limited UV resistance, and are not recommended for long-term outdoor use.*



Identification & Branding Labels

- ▶ A wide array of adhesives and mechanical attachment options available to ensure your labels stay attached for the life of your asset
- ▶ High resolution black and white or full color options
- ▶ Uniquely durable options for harsh and outdoor environments; expected exterior life of Metalphoto is 20+ years

Materials	Metalphoto®, anodized aluminum, aluminum, stainless steel, brass, polyester, polycarbonate, vinyl, domed urethane, flexible magnetic
Attachment Options	Permanent pressure-sensitive adhesive and/or holes for mechanical attachment
Graphics & Images	Many fonts and design elements available, including your company logo and item unique bar codes/QR codes
Color Options	Silver and black graphics; color options available, including full CMYK color*
Size Options	Almost any custom size available



Bar Code & QR Code Asset Tracking Labels

- ▶ Feature barcodes and QR codes for tracking and linking to information
- ▶ Uniquely durable options for harsh and outdoor environments; expected exterior life of Metalphoto is 20+ years
- ▶ Metal options with tamper evident, watermark and security print options, similar to those found in ID cards and currency

Materials	Metalphoto®, anodized aluminum, aluminum, stainless steel, brass, polyester, polycarbonate, vinyl, domed urethane, flexible magnetic
Attachment Options	Permanent pressure-sensitive adhesive and/or holes for mechanical attachment
Graphics & Images	Many information types and design elements available, including your company logo, serialized ID numbers and item unique bar codes/QR codes
Color Options	Black graphics on silver background or silver graphics on black background; color options available, including full color*
Size Options	Almost any custom size available



Graphic Overlays

- ▶ Custom fabricated to your specifications
- ▶ Full color options and special printing effects available on both metal and plastic
- ▶ Uniquely durable options for harsh and outdoor environments; expected exterior life of Metalphoto is 20+ years

Materials	Metalphoto®, anodized aluminum, polyester, polycarbonate, vinyl
Fabrication	Advanced tooling for precision fabrication capabilities, as well as advanced digital die-cutting that avoids costly tooling charges.
Graphics & Images	Many fonts and design elements available, including your company logo and item unique bar codes/QR codes
Display Options	Screen and digital printing for many color options, including full color*, LCD/LED display windows, button or overlay embossing
Finishes	Gloss, satin, velvet, matte

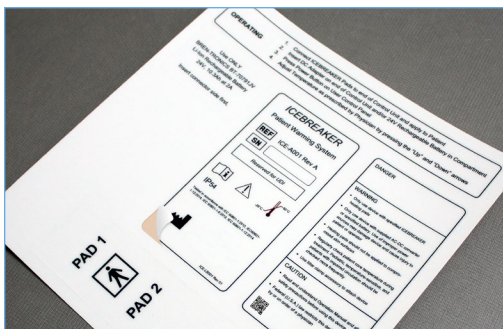
*Colors on some metal and plastic materials have limited UV resistance, and are not recommended for long-term outdoor use.



Warning & Instruction Labels

- ▶ Customizable size, shape, thickness and information
- ▶ A wide array of adhesives and mechanical attachment options available to ensure your labels stay attached for the life of your asset
- ▶ Uniquely durable options for harsh and outdoor environments; expected exterior life of Metalphoto is 20+ years

Materials	Metalphoto®, anodized aluminum, aluminum, stainless steel, brass, polyester, polycarbonate, vinyl, domed urethane, flexible magnetic
Attachment Options	Permanent pressure-sensitive adhesive and/or holes for mechanical attachment
Graphics & Images	Many fonts and design elements available, including your company logo and item unique bar codes/QR codes
Color Options	Black graphics on silver background or silver graphics on black background; color options available, including full color*
Size Options	Almost any custom size available



Label Kits

- ▶ Customizable size, shape, material, thickness and information
- ▶ Label sheets that include complete label sets for each equipment piece
- ▶ Saves time and reduces labeling costs

Materials	Metalphoto® foil, anodized aluminum, aluminum, stainless steel, brass, polyester, polycarbonate, vinyl, domed urethane, flexible magnetic
Attachment Options	Permanent pressure-sensitive adhesive and/or holes for mechanical attachment
Graphics & Images	Many fonts and design elements available, including your company logo and item unique bar codes/QR codes
Color Options	Black graphics on silver background or silver graphics on black background; color options available, including full color
Size Options	Almost any custom size available



Label Blanks

- ▶ Blank labels for on-site marking via laser, engraving or stamping
- ▶ Customizable size, shape, material and thickness
- ▶ Uniquely durable options for harsh and outdoor environments

Materials	AlumaMark BlackPLUS®, DuraBlack®, anodized aluminum, AlumaMark®
Attachment Options	Permanent pressure-sensitive adhesive and/or holes for mechanical attachment
Graphics & Images	None, labels are blank for on-site marking
Color Options	Silver or black; color options available*
Size Options	Almost any custom size available

*Colors on some metal and plastic materials have limited UV resistance, and are not recommended for long-term outdoor use.



Nameplates & Data Plates

- ▶ Uniquely durable options for harsh and outdoor environments; expected exterior life of Metalphoto is 20+ years
- ▶ Custom fabricated to your specifications
- ▶ Available with bar codes, QR codes, watermarks, or other security and anti-counterfeit graphic elements

Materials	Metalphoto®, UltraColor™, anodized aluminum, aluminum, stainless steel, brass, polyester, polycarbonate
Attachment Options	Permanent pressure-sensitive adhesive and/or holes for mechanical attachment
Graphics & Images	Many fonts and design elements available, including your company logo and item unique bar codes/QR codes
Color Options	Black graphics on silver background or silver graphics on black background; color options available*
Size Options	Standard and custom sizes available up to 24" x 48"



Control Panels

- ▶ Custom fabricated to your specifications
- ▶ Back panels available to provide rigidity to electronic switches and controls
- ▶ Uniquely durable options for harsh and outdoor environments; expected exterior life of Metalphoto is 20+ years

Materials	Metalphoto®, UltraColor™, anodized aluminum, aluminum, stainless steel, brass, polyester, polycarbonate
Fabrication	Advanced tooling for precision fabrication capabilities including milling, countersink and counterbore holes, bending/forming, stud insertion, stand-offs, permanent pressure-sensitive adhesives, and more
Graphics & Images	Many fonts and design elements available, including your company logo and item unique bar codes/QR codes
Color Options	Black graphics on silver background or silver graphics on black background; color options available*
Size Options	Standard and custom sizes available up to 24" x 40"

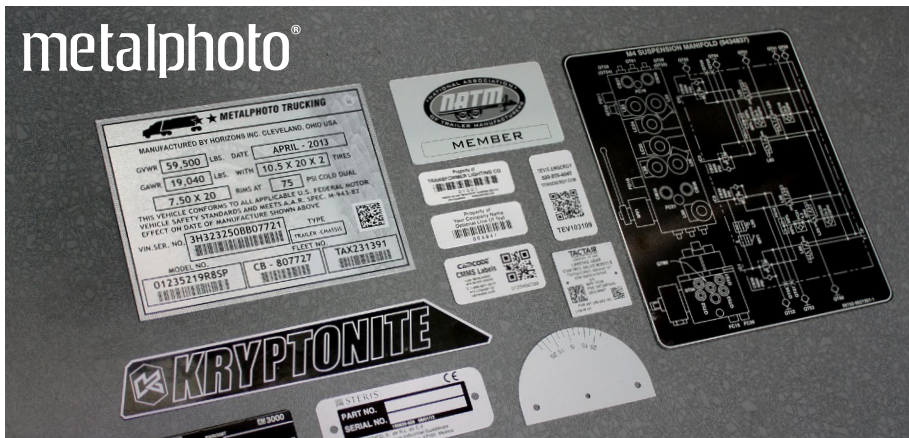


Signs

- ▶ Custom designed and constructed to meet your project specifications
- ▶ Many aesthetic and function options available
- ▶ Metalphoto offers exceptional resistance to extreme temperatures and aging, also has excellent resistant to chemicals and moisture

Materials	Metalphoto®, UltraColor™, anodized aluminum, aluminum, stainless steel, brass, polycarbonate, vinyl, flexible magnetic
Attachment	Permanent pressure-sensitive adhesive and/or holes for mechanical attachment; also stakes, extensions, screws and ties for outdoor signage systems
Graphics & Images	Many fonts and design elements available, including your company logo and item unique bar codes/QR codes
Color Options	Black graphics on silver background or silver graphics on black background; color options available*
Size Options	Standard and custom sizes available up to 24" x 40"

*Colors on some metal and plastic materials have limited UV resistance, and are not recommended for long-term outdoor use.



Horizons Incorporated

About Metalphoto®

Our identification products feature durability superior to other options because they are created using our proprietary Metalphoto substrate. Metalphoto is photosensitive anodized aluminum which is a photographic image that is embedded within the sapphire-hard anodic layer of the aluminum. This combination gives a Metalphoto part an outdoor life of over 20 years and makes it resistant to damage or degradation from the harsh conditions and environmental factors transportation equipment encounters. The National Association of Graphic and Product Identification Manufacturers (GPI) Industry Standards and Practices Manual identifies Metalphoto photosensitive anodized aluminum as the most durable printed aluminum substrate available, and it has been trusted by industry, government, and military organizations for over 50 years. To learn more about Metalphoto, visit metalphoto.com.

Pannam Imaging: A Division of Horizons Incorporated

Pannam Imaging can offer a full array of solutions for every aspect of user interaction with your equipment from control interfaces to labels for identification, tracking, warning and instruction. With over 50 years of experience, we have the expertise and competencies to create a customized interface or identification solution for any application.

We utilize extensive application engineering experience to produce tight-tolerance, feature-rich user-interface assemblies that will operate in the most challenging environments. Pannam Imaging is ISO 9001 certified, and that certification applies to the covers design, manufacturing and, most importantly, customer focus.

Horizons Incorporated is a global technology company comprised of five commercially independent divisions. Our business divisions help organizations identify and track their assets or products in all types of environments using a variety of marking methods, services, and software applications. We specialize in marking critical assets in demanding environments such as defense, aerospace, transportation, energy, and healthcare.

Contact us to learn more, or visit any of business division websites to see all our offerings and capabilities.

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Horizons Incorporated does not warrant performance of its materials in any environment. Materials must be tested in specific anticipated operating environment.