ILLUMRA™
Self-Powered Wireless Controls

NEW PARTNERSHIP
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PRESIDENT'S MESSAGE
Empowering building operators

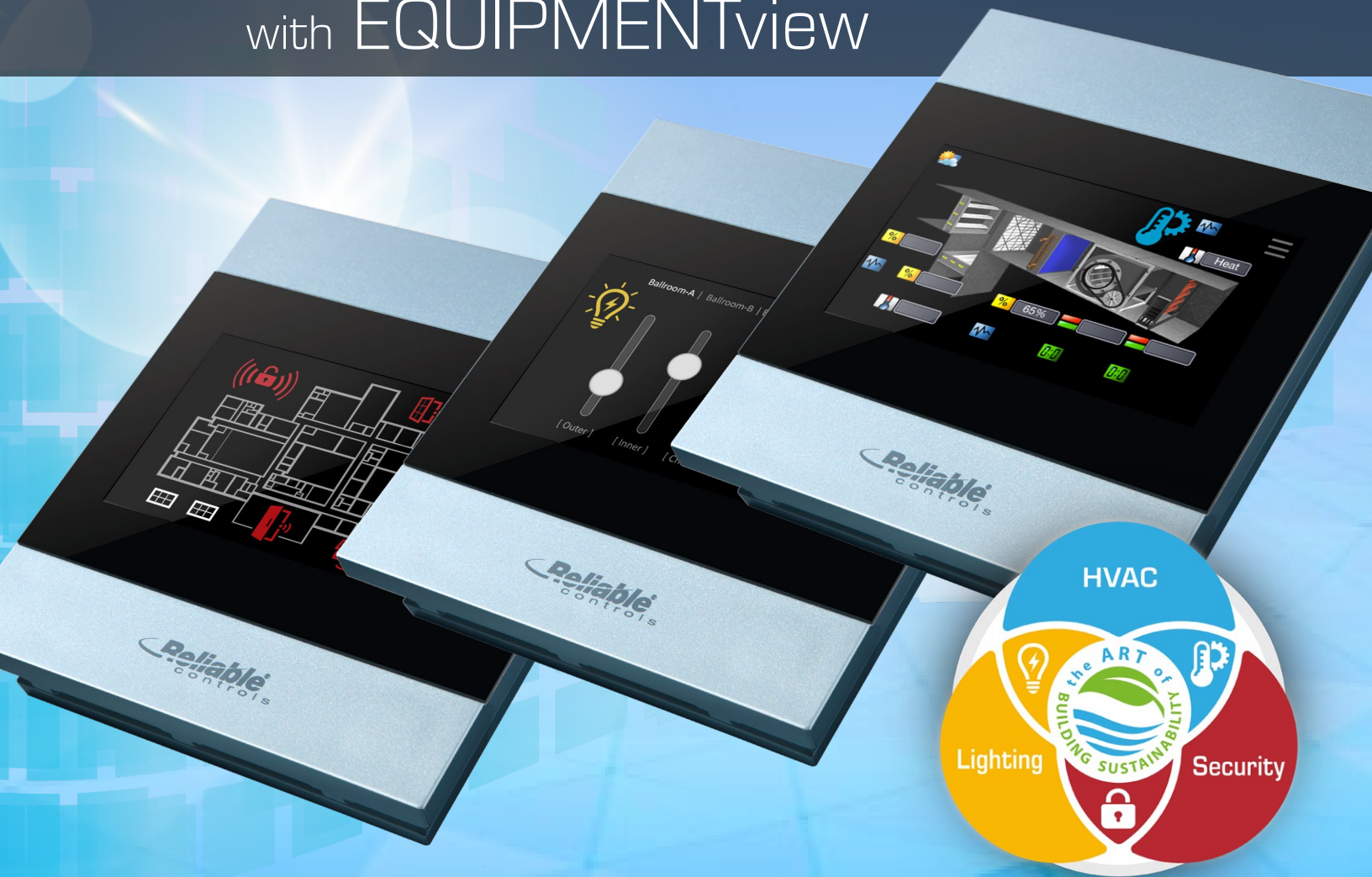
www.reliablecontrols.com

RUNtime

The official quarterly newsletter of Reliable Controls Corporation

Q1- 2020

Introducing MACH-ProView™ LCD with EQUIPMENTview



ISO 9001 14001 QUALITY ENVIRONMENTAL ASSURANCE
RoHS 2 COMPLIANT
Member of BACnet International

Reliable® controls

President's message

Empowering building operators

Tom Zaban, P.Eng, LEED Green Associate

With so much negative climate change events in the news these days, it's easy to feel disappointed in our impact on nature. Although there are many things we can do as individuals in how we conduct ourselves and the choices we make at home, it's good to know that Reliable Controls and the Reliable Controls Authorized Dealer network are hard at work every day to minimize waste and improve operational efficiency, security, and safety in our commercial built environment. Key to these objectives is helping building operators feel confident about taking control of their day-to-day activities and becoming more proactive in their work as opposed to fighting a constant stream of fires.

One of the ways Reliable Controls empowers building operators is through our Operator Certification Program and Advanced Building Operator curriculum. The Operator Certification Program is a series of online videos and classroom courses targeted at building operators who would like to learn more about their Reliable Controls installations. The Advanced Building Operator program is a 2-day, face-to-face classroom course ideal for managers and operators who wish to derive maximum benefit from their Reliable Controls installations. The course includes a collaborative exploration of how an advanced operator can use Reliable Controls to reduce energy, improve occupant comfort, and minimize maintenance expenditure.

Complementary to these courses are the newly implemented distance learning classes offered by Reliable Controls. Distance learning is available to any building operator who has credentials for the Reliable Controls Customer Support Center. The courses are taught online by Reliable Controls instructors in one or more 4-hour sessions. The number of sessions varies depending on the topic taught. Keeping the length of the sessions to just 4 hours makes it convenient for scheduling students who wish to attend from a wide range of time zones. Although the course is online, distance learning students receive logon credentials that allow them to access software and hardware hosted at Reliable Controls headquarters in Victoria, Canada. Distance learning is a great way to improve your knowledge and skill set while minimizing travel and transportation costs and reducing your carbon footprint.

Another feature that helps building operators optimize their facilities is the freely programmable controllers manufactured by Reliable Controls. Even though many control situations have Standard Applications with sample programs available for deployment, users can change every Reliable Controls product's sequence of operations through the easy-to-use, easy-to-learn Control-BASIC editor. Not only can the executed code be changed by building operators with appropriate access credentials, but code can also be easily copied and pasted from one device to another and stored in user-organized libraries to share with others.

Operator certification, distance learning, and freely programmable controllers are just three of the many ways Reliable Controls and Reliable Controls Authorized Dealers empower building operators to stand at the helm of sustainability.

people & technology
you can rely on™

MACH-ProView LCD with EQUIPMENTview

Graphical efficiency made easy

The MACH-ProView LCD is a powerful and elegant BACnet Building Controller (B-BC) and BACnet Operator Display (B-OD) that provides a plenitude of attractive, high-resolution graphical interfaces to access, control, and monitor the comfort and energy of any space. This freely programmable controller resides on Ethernet, Power over Ethernet, Wi-Fi, or EIA-485 networks.

With the MACH-ProView LCD, users can choose from a selection of configurable views to access, control, and monitor building energy, equipment, and security performance. The new EQUIPMENTview feature allows you to easily access and monitor operations using a customized graphical interface similar to a System Group in RC-Studio®.

Programmers can easily apply full-color animations and images from RC-GrafxSet® to create EQUIPMENTviews in RC-Studio for display on the large MACH-ProView LCD touchscreen.

EQUIPMENTview with custom HVAC interface.

EQUIPMENTview with custom lighting interface.

EQUIPMENTview features

Displays any .bmp, .jpg, or .png background image on the full-color, 480 x 272 pixel, wide-quarter VGA touchscreen.

Provides RC-GrafxSet software support for compatible images and animations.

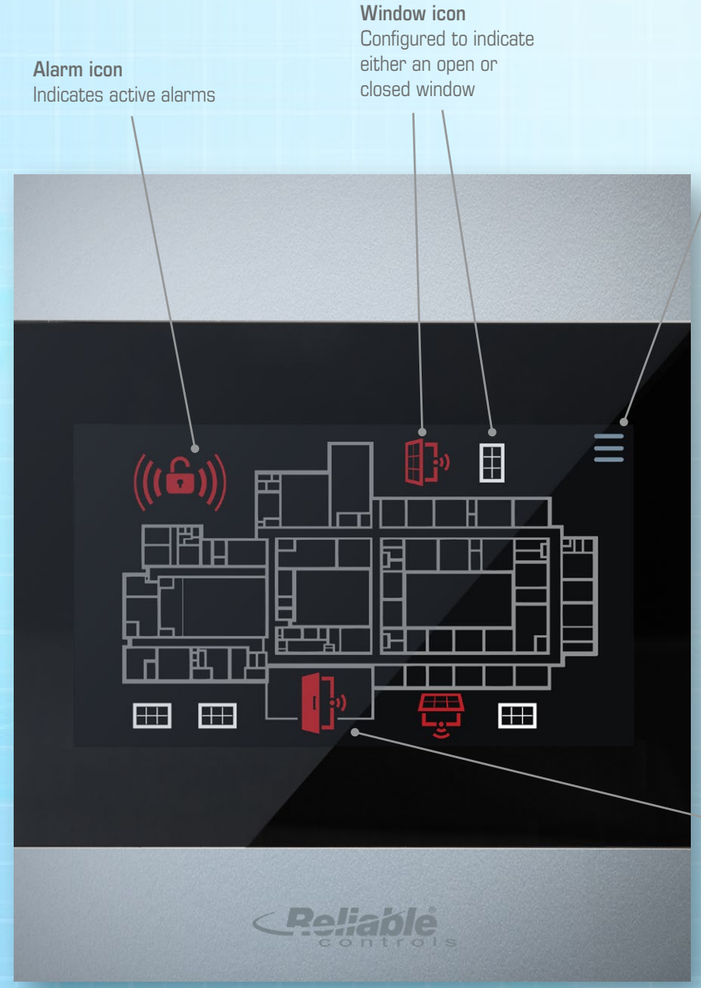
Displays real-time, present-value data on custom background images using text, graphics, or animations such as buttons and sliders.

Displays numerous properties and attributes of local and third-party BACnet objects.

Supports editing object values and setting priorities to auto, manual, and timed override.

Supports navigation links to local Views, schedules, trend logs, and runtime logs.

5 yr WARRANTY



EQUIPMENTview with custom security interface, showing window and door alarm status on a floorplan.

The MACH-ProView LCD with EQUIPMENTview is an engaging and easy-to-use touchscreen interface that empowers you to monitor and interact with HVAC equipment, lighting, security, manufacturing equipment, hospitality and safety services, energy use, comfort, occupancy status, weather conditions, floor plans, and more. Occupants can use dynamic sliders in an EQUIPMENTview to dim and adjust lighting in multiple rooms or create responsive lighting scenes. Use EQUIPMENTviews to monitor doors and windows or to override settings with the push of a button. With EQUIPMENTview you can integrate security feedback into an entire HVAC and lighting system.

Build your ideal interface with EQUIPMENTview on the MACH-ProView LCD.

TECHNOLOGY YOU CAN RELY ON

Infinite interfaces

EQUIPMENTview introduces a number of innovative features that are new to the Reliable Controls system. Operators can use EQUIPMENTviews to display and interact with object data, compatible animations, static images, and static text.

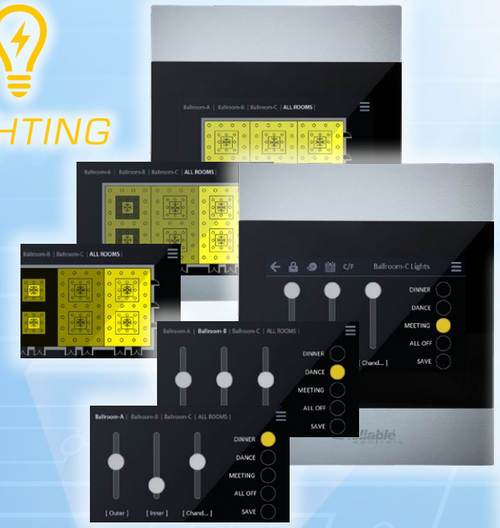
An EQUIPMENTview is ideal for the comfort control of an office, hotel room, or residence; an entire floor; or even a whole building. Occupants can monitor HVAC, lighting, and security equipment with attractive, fully customizable graphics from RC-GrafxSet. EQUIPMENTviews can also display automated processes for agriculture, laboratories, and more, in addition to monitoring all equipment notifications.

EQUIPMENTview allows programmers to set custom display attributes such as object names, units, status flags, text size and color, and high and low limits. You can choose to show two decimal places or to set minimum, maximum, and increment limits for control values. With an EQUIPMENTview, you can set values to automatic, manual, and timed override modes or create links to local Views, schedules, trend logs, and runtime logs. EQUIPMENTviews are able to incorporate image functions such as icons and Landing Pads.

These are just a few of the capabilities available with EQUIPMENTview. The possibilities for customization are endless. If you can imagine an ideal graphical interface, you can build it in an EQUIPMENTview!

HVAC

LIGHTING



SECURITY

Creating EQUIPMENTviews in RC-Studio

RC-Studio is a BTL-listed and certified Advanced Workstation (B-AWS) that provides the ultimate all-in-one engineering tool for multivendor, multiprotocol integration. Users can perform database, alarming, scheduling, trending, and sequence of operation programming. RC-Studio is easy to use and provides a complete, customized graphical user interface for monitoring and controlling any application at any scale.

One of the many object types supported in RC-Studio are "View" objects. Within the Views worksheet in RC-Studio, programmers can configure the MACH-ProView LCD to show EQUIPMENTviews, SPACEviews, LISTviews, or STATviews.

Designed for flexibility, EQUIPMENTviews allow you to create graphical interfaces similar in construction and function to System Groups. The ability to drag objects from other worksheets or insert annotations such as animations, static images, or static text makes creating customized touchscreen user interfaces on the MACH-ProView LCD very easy and fun to do.

Animation, static image, and static text annotations, as well as input, output, and value objects, can all be configured to link to other Views, schedules, calendars, Multipoint Trend Logs, Single-point Trend Logs, and runtime reports. In addition to directly inserting or dragging all of the aforementioned objects, you can annotate loop objects onto EQUIPMENTviews.

Landing Pad and background options similar to those found in RC-Studio System Groups are supported in EQUIPMENTviews, allowing you to quickly and conveniently add icons and dynamic coloring to objects and import any type of background image, be it a solid background color, a drawing, or a photo.

All the background images, icons, animations, and other graphical assets you use to create your EQUIPMENTviews are conveniently stored in the MACH-ProView LCD Panel File. Using the new MACH-ProView Tools Resource Manager in RC-Studio, you can view the used and free space of the controller's memory and delete any redundant or unused graphical resources.

We know you will find EQUIPMENTviews to be an easy-to-use and empowering feature that will improve occupant engagement and operational efficiency for years to come. Please contact your local Reliable Controls Authorized Dealer today to learn how you can implement amazing EQUIPMENTviews in your facility.

Regular enhancements and improvements to RC-Studio provide Reliable Controls Authorized Dealers with the ability to accomplish more on the MACH-ProView LCD. EQUIPMENTview users can optimize their facility regardless of industry, whether agricultural, government, hospitality, health care, manufacturing, education, or otherwise. With EQUIPMENTview, building operators will find great value in the ability to easily create custom touchscreen user interfaces that will significantly improve occupant engagement and provide new insights into occupant satisfaction.

EQUIPMENTview with custom agricultural interface.

RC-GrafxSet and EQUIPMENTview

Compatible graphics and animations for better buildings

RCGrafxSet®

Users of the MACH-ProView LCD with EQUIPMENTview are able to benefit from over 700 2D and 3D animations in the ever-expanding libraries of RC-GrafxSet.

EQUIPMENTview assets are added to the RC-GrafxSet graphical images and services software on a weekly basis to help you accelerate your creative vision and save many hours of development time. If you have not already purchased a subscription for RC-Grafxset, please contact your local Reliable Controls Authorized Dealer to learn how to start downloading high-quality EQUIPMENTview images and animations today.

EQUIPMENTview users can access over 700 2D and 3D animations from the RC-GrafxSet graphics libraries, including assets that communicate the status and performance of the following:

- HVAC equipment
- Lighting equipment
- Security equipment
- Manufacturing processes
- Appliances
- Hospitality services
- Safety services
- Energy efficiency
- Comfort
- Occupancy
- Weather conditions
- Floor plans

And more!

The MACH-ProView LCD provides several other configurable views and multiple color themes to fit any space.

SPACEview: A simple, intuitive interface for occupants to view and adjust environmental conditions in their space.

LISTview: A flexible, customizable list of up to 32 system objects that an occupant or operator can quickly view and adjust.

STATview: A familiar, programmable thermostat interface that allows users to monitor and control the operation of unitary HVAC equipment.

TRENDview: Allows users easy access to their trended system data, either Single-point or Multipoint Trend Logs, without the need for a PC or any other external device.

RUNTIMEview: An interface to view runtime logs or, if security permissions allow, any runtime log objects.

SCHEDULEview: Provides an interface to view and modify local schedules with four or fewer transitions.

ALARMview: An interface to view and manage alarms and alarm notifications. View alarm type, state, priority, source, time, and status.

NAVIGATIONview: Allows for selection and display of available customized views as determined by security settings and user permissions.

CONFIGURATIONview: An interface to view and modify the MACH-ProView LCD user interface settings, Wi-Fi settings, and advanced connection settings. Adjust default display options such as language and LCD brightness.

Backed by an industry-recognized 5-year hardware warranty and a worldwide network of factory-certified Authorized Dealers, the Reliable Controls MACH-ProView LCD with EQUIPMENTview provides yet another way to empower you to easily and effectively optimize the energy, comfort, and safety of your built environment.

Learn more about MACH-ProView LCD:
www.reliablecontrols.com/products/controllers/MPV-L

AD HOC ELECTRONICS

ILLUMRA™
SELF-POWERED WIRELESS CONTROLS

Reliable Controls is pleased to announce a distribution partnership with Ad Hoc Electronics, manufacturer of Illumra controls. Ad Hoc Electronics is an innovative wireless control solutions provider with products that are very complementary to HVAC and lighting applications.

Based on EnOcean technology, Illumra wireless control peripherals include light switches, relays, 0–10 V dimming drivers, occupancy sensors, and light sensors powered by solar or mechanical energy sources. These battery-free transmitters communicate with room and building controllers to conserve energy through occupancy sensing, daylight harvesting, and personal workspace control.

Reliable Controls
LEED Platinum—certified
Building Performance Review

Demonstrating continuous reductions in energy consumption

Last year was the seventh full year of operation for the south annex building at Reliable Controls, and the company set another record low for resource consumption.

We **optimized facility heating and cooling loads.** Our natural gas consumption increased slightly, but our lower use of electricity more than made up the difference.

The south annex performs better in summer than in winter, but it uses hardly any energy when the outdoor air temperature is between 13°C—22°C. **Our Reliable Controls system calculates a daily energy target** based on 50 percent of the ASHRAE 90.1 standard that was in effect when the building was built. The mild temperatures in Victoria in 2019 drove down our target, but we still managed to consistently beat our goals.

Our domestic hot water use reached an all-time low in 2019, meeting the design intent of the building for the first time. Incremental improvements to the rainwater storage system and irrigation procedures over the years resulted in very little wasted rainwater or domestic water. The result was we consumed about half the amount of domestic water in 2019 that we used in the first year of occupation.

In 2019 the Reliable Controls south annex achieved an average **energy use intensity of 50.2 kWh/m²** —well below the design goal of 58.8 kWh/m².

In 2020 we plan to upgrade our lighting systems from fluorescent fixtures with T5 tubes to LED tubes. Additionally, we will be replacing all of the EnOcean 315MHz wireless controls with new 902 MHz models, including daylight harvesting and occupancy sensors.

Better by design™

Welcome to our new
Reliable Controls Authorized Dealers

VVG Qatar
Doha, Qatar
www.vvgqatar.com

SS International Engineering
Doha, Qatar
www.ssi.com.qa

Gupton Services
Henderson, NC, United States
www.guptonservices.com

Stratus Designs
Galiano Island, BC, Canada
www.stratusdesigns.ca

L & H Airco
Fresno, CA, United States
www.lhairco.com

AC Applied Technologies
Juan Cabal, Montevideo, Uruguay
www.acta.com.uy

Thermal Mechanical Systems
Thunder Bay, ON, Canada

Reliable Controls sales, installation, service, and support are performed by a growing network of independent factory-trained Authorized Dealers. Each dealer is committed to the green building controls industry and to providing total customer satisfaction.

UNIVERSIDAD CENTROAMERICANA JOSÉ SIMEÓN CAÑAS

SAN SALVADOR, EL SALVADOR

EDUCATION

OVERVIEW

A team of engineers and architects, with input from students, designed a net-zero energy building at the Universidad Centroamericana José Simeón Cañas in San Salvador. Researchers there gather climate-related data and perform environmental experiments to investigate appropriate sustainable building technologies for the region.

Energy use, weather conditions, surface air temperature, and air velocity in the building are monitored to determine how energy consumption and thermal behavior are affected by its operation. The 1,076 square-foot structure, a living laboratory with classrooms, study areas, and offices, is the first of its kind in El Salvador.

PROJECT DETAILS

Reliable Controls Authorized Dealer MP Service successfully implemented a Reliable Controls system during construction of the new net-zero energy building at the Universidad Centroamericana José Simeón Cañas.

To integrate the building's automation systems, MP Service installed a MACH-ProWebCom controller that uses BACnet/IP to communicate over the LAN. Three MACH-ProPoint expansion modules with 24 inputs each collect signals from more than 70 sensors distributed throughout the facility. Two MACH-ProZone controllers connected to the MACH-ProWebCom by a local BACnet MS/TP network operate the HVAC system and monitor temperature, relative humidity, and CO_2 levels in each zone. RC-Reporter and RC-Archive software provides teachers, students, and researchers with a simple way to collect data under varying conditions.

Reliable Controls and MP Service were pleased to implement a Reliable Controls system in the first net-zero energy building in Central America.

To learn more about projects using Reliable Controls, visit
www.reliablecontrols.com/projects/overview

PROJECT TYPE
New construction

INSTALLATION TYPE
CO_2 monitoring, fan coil unit, HVAC, laboratory, lighting, power, water monitoring

TOTAL AREA
100 m² (1,076 ft²)

NETWORK
EIA-485, Ethernet

PROTOCOL
BACnet

BACNET
Loytec L-DALI lighting control system, DENT power scout, LG variant refrigerant flow system

TOTAL SYSTEM POINTS
80 hard points, 200 soft points

EQUIPMENT INSTALLED
1 MACH-ProWebCom™ controller
3 MACH-ProPoint™ Input expansion modules
2 MACH-ProZone™ 88 controllers
3 SPACE-Sensor™ Temperature devices
RC-Archive® software
RC-Reporter® software
RC-Studio® software

RELIABLE CONTROLS AUTHORIZED DEALER
MP Service

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