



User Manual for
NeXGen PRIME
Forecourt Controllers

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1 General Information

NeXGen Prime (NXG-P) provides NeXGen (NXG) functionality using more powerful and modern hardware. The Compact Flash and SRAM have been replaced by an SSD (Solid State Drive). Operationally, NXG-P includes the ANDI forecourt controller functionality and is similar to Aegis, but without the presence of the Windows Embedded system.

Take note that the term ANDI refers to the Allied Network Dispenser Interface – which is the protocol on which the embedded forecourt controller application is based.

The firmware operates identically on NXG-P as it does on NXG and Aegis hardware, with the configuration and reset exceptions detailed in the Installation Manual.

NXG-P is a quad-core system running INtime, a real-time operating system (RTOS) that hosts the ANDI-based embedded forecourt control application.

1.1 Scope

NXG-P is, essentially, NXG firmware running on Aegis hardware, without the Windows component.

1.2 Warranty

The controller has a one-year parts warranty only, from date of installation, which can either be phoned in, submitted using the warranty registration card enclosed with every controller or completed on the Allied Electronics website.

[Allied Electronics: Register your product for warranty](#)

If the start-up information is not registered with our office within thirty (30) days of installation, warranty will begin from the date of shipment. Allied will warrant the controller against defects but not against physical damage or improper installation. All controllers being returned "under warranty" must be accompanied with an Allied RMA number.

When calling Allied for an RMA number, you will be asked for the controller serial number, located on the base unit, and a description of the problem. When requesting Allied for an RMA number, you will be asked for the controller serial number, located on the base unit, and a description of the problem. Send your request via e-mail to

Joe@alliedelectronics.com

1.3 FCC Warning

This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instruction manual, may cause interference to radio communications. It has been tested and found to comply with the limits for a Class "A" computing device pursuant to Subpart B of Part 15 of the FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference, in which case the user, at his own expense, will be required to take whatever measures may be required to correct the interference.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

1.4 PCI PA-DSS

The NXG-P forecourt controller executing the ANDI-based firmware is a PCI PA-DSS validated payment application. As such, it must be deployed in accordance with the PCI PA-DSS guidelines.

Allied Electronics provides an Implementation Guide to aid in this process. See PA-DSS considerations for Installation and Maintenance Personnel.PDF available from Allied Technical Support or through the Allied Sharefile site.

1.5 Installation Environment

1. The Allied Electronics NXG-P Controller operates on 115 VAC @60Hz, 36 Watts. The NXG-P controller is supplied with approximately 8 feet of 115 VAC power cord, and should be connected to an approved isolated ground receptacle on its own dedicated circuit. The controller must be installed in a temperature-controlled environment (between 32^o F and 100^o F).
2. The controller must be installed in accordance with the National Electrical Code (NFPA 70), the Automotive and Marine Service Station Code (NFPA 30A), and all state and local electrical codes.
3. The controller must be installed indoors, above the Class 1, Division 2 Hazardous location.
4. The controller is designed for use with peripheral devices that are UL Listed.

1.6 Power and Data line protection

Allied Electronics recommends that the controller be installed with the appropriate power and data line protection devices in order to protect against power surges, transients, low voltage (brown outs), and lightning.

Note: Due to the magnitude of power that is contained within a lightning strike, it is impossible to eliminate totally the possibility of damage, but we feel with the introduction of high-quality protection devices the incidence of failure can be greatly reduced.

1.7 Forecourt Peripherals Overview

The NXG-P controller interfaces to the following devices:

Dispensers

Gilbarco and Wayne dispensers via the 20/30/45 mA current loop & RS485 4-port board, which is connected to the manufacturer's Universal Distribution Box

Bennett and Gasboy dispensers through an RS-485 port

Tokheim dispensers through a dedicated 12v and RS-485 board

Payment Terminals:

Gilbarco Generic CRINDs Monochrome / Info-Screen Graphics displays and Cash acceptors via the 20/30/45 mA current loop & RS485 4-port board which is connected to the Universal Distribution box or through Ethernet

Bennett Verifone CAT via RS-485

Wayne CAT via RS-485 or Ethernet

Tokheim DPT via RS-485

EMV support for Gilbarco, Wayne, and Bennett. Contact Allied Technical Support for details.

Point Of Sale (POS)

Point-Of-Sale via Ethernet port or RS-232 port supporting the ANDI protocol interface

OPT/IPT

OPW OPT via an RS485 port. Software Version 18.01A, or newer, must be installed in the OPT.
Bennett Site Master via RS-485.
Gilbarco CRIND IPT via current loop.
Petrovend (OPT) via RS-485.
Petrovend (IPT) via RS-485.

Tank Gauge

Veeder-Root TLS 250, 350 & 350R or equivalent tank gauge system via an RS-232 port or the TLS 450 through Ethernet

Any Tank Gauge system that supports the Veeder Root protocol.

Car Wash

Ryko III, Ryko IV, Unitec POS 4000, Unitec/Enterlink, Unitec Portal Ti, Unitec Smart Terminal, PDQ, Kesseltronics and Exacta Car Wash controllers via a fully populated RS-232 board

Ryko protocol/compatible controllers

Fuel Price Sign

Daktronics, Future Media, Able, PWM, Skyline, Sunshine Price sign via a fully populated RS-232 board.

Legacy Devices

Contact Allied Technical Support for specific information on legacy device support.

2 Connections

2.1 Ethernet

While the NXG-P hardware has two Ethernet ports, at this time only one is used. Connect NXG-P to the store's network using the port labeled "NXG-1." The port labeled "NXG-2" is unused at this time.

2.1.1 *Setting an IP address*

NXG-P is shipped with a default IP address. Unless otherwise specified by the purchaser, the defaults are as follows:

IP Address= 10.0.0.100
Gateway IP Address= 10.0.0.1
Subnet Mask= 255.255.255.0.

The Allied Diagnostic Application Program (DGS) was developed as a means to communicate with Allied controllers. DGS provides a suite of services for field technicians and analysts. For example, DGS can function as a means to load firmware, download files, and/or specify configuration, to name a few.

Use DGS to set a different IP address based on site specifics.

2.1.2 *Peripheral Access*

Payment terminals and other forecourt peripherals employing Ethernet communications must be configured so that they are accessible to the controller. In accordance with PA-DSS, this network segment must be segregated from any public network segments.

2.2 *Default RS-232 Serial Port Assignments*

Default serial port assignments are the same as Aegis and NXG.

COM	Default Usage
1	POS
2	TLS
3	CRW
4	FPS

These serial ports can be defined via NEXGEN.INI, located in C:\. NXG-P controllers can be configured via the NEXGEN.INI and are read only at boot time. A warm-start or cold-start is required for them to take effect. Please contact Allied Support for more information on the NEXGEN.INI file.

3 *Startup*

After power is applied the INtime RTOS will start up and run the ANDI application.

3.1 *Audible feedback*

- a. BIOS boot: one or several short beeps, shortly after power is applied.
- b. ANDI application startup: two beeps
- c. ANDI has acquired an IP address: three beeps

3.2 *Shutdown*

The entire system may be safely shut down by pressing the power key.

If a shutdown is initiated, it is critical to wait for the shutdown to complete before removing the power cord. Shutdown is complete when the power and disk LEDs go out and the fan stops spinning.

4 Firmware Download

ANDI firmware downloads are completed via the Allied DGS utility.

4.1 Using DGS

Follow the normal Allied DGS procedures, exactly as you would with a NXG or Aegis controllers.

Sign on using Administrative credentials, navigate to the Utilities tab and click “Download,” then supply the location for the RTA file and the INI file.

5 Configuration XML Files

5.1 INI files

NexgenIni.xml has been deprecated. NEXGEN.INI is fully supported, so that NEXGEN.INI files may be used on the NXG, NXG-P, and Aegis platforms.

5.2 FpCfg.xml

Because NXG-P firmware supports any combination of manufacturers (Gilbarco, Wayne, Bennett, Verifone, et cetera) for dispenser or in-pump card reader, the FpCfg.xml file is used to specify information about each fueling point.

5.3 File download

Data files can be deployed to a NXG-P system via Allied DGS or some other utility using RFA. This method uses an internal notification mechanism to inform the firmware that new data files are available.

6 Installation & Programming

Please refer to the Installation Manual for all dispenser specific wiring, programming, and system related inquiries. All Allied Controller Installation Manuals can be found by visiting the following site: <https://www.alliedelectronics.com/installation-startup-guides.html>