

# APP949 – Upgrading from the PP610, PP612 to RT260

## Application Note

It is recommended that all customers use the RT260 for new designs, instead of the PP610 and PP612. The RT260 has many improvements over the PP610. The PP610 and PP612 will be available for many years for legacy designs.

To help customers change their designs, following are the main differences between the RT260 lighting controller and the older PP610/PP612 controllers.

Feature	RT260	PP610, PP612
Output Modes	Continuous, pulse and switch mode with 5us delay. Selected mode has 2 intensities with 5ms delay.	Continuous, pulse, selected 2 or 4 intensities. Switch mode can be achieved but with about 500us delay
Brightness Setting	Current rating or voltage rating is set for each light, then a percentage brightness is set	Output current is set directly as a current
Power Control	Constant current output with SafeSense™ and SafePower™	Constant current output
Output current continuous	Up to 4A	Up to 4A, but see application note APP909
Output Current pulsed	Up to 20A in 5mA steps	Up to 10A in 0.25mA/2.5mA steps
Pulse Timing Repeatability	Approx 0us up to 5ms pulse width, otherwise 5us. No variation with output current	Approx 3us. Below 1A the timing can vary as the current changes
Delay Timing Repeatability	Approx 1us up to 5ms delay, otherwise 100us.	Approx 5us up to 5ms. Below 1A the delay gets longer
Pulse Timing	20us to 1 second	20us to 1.3 seconds
Pulse Shape	0.2us rise time for some lights	1us to 2us rise time
Fast Pulsing	Optional	Optional
Internal Trigger	Available. Also TR command can be used to trigger once via RS232	Not available
Configuration Interface	RS232 only	Front panel and RS232
Front Panel	No display or buttons	4 digit display and 4 buttons
RS232 Commands	Commands and command format is different from PP610, the new command set is common across all RT controllers	
Port Settings	115200 baud, 8, N, 1, no handshaking	9600 baud, 8, N, 1, no handshaking
Fault Detection	Measurement of output voltage and current and fault detection	No measurement or fault detection
Lighting Protection	SafeSense™ allows safe overdriving. Retrigger delay can be set	Average current limiting feature
Connections	Pluggable screw terminals	Screw terminals

Power Supply Voltage	24V to 48V. SafePower™ gives flexibility in PSU selection. The supply current is likely to be lower than for the PP610.	12V to 48V
Reverse PSU polarity protection	Protected	No protection
Trigger Inputs	3V to 24V at 3mA. Trigger can be rising or falling edge	5V at 3mA to 24V at 20mA. Rising edge only
CCS-type Connectors	Not available. An adapter cable is available for 12V, 24V and HLV lights.	Fitted to PP612
Lighting Wiring	Lighting cannot be commoned at all.	Lighting is “common positive.” So an RGB light can have a common positive connection
Long lighting cables	Greater stability of the lighting output. Twisted pair cable recommended	Long cables can cause some oscillation of the output. Twisted pair cable recommended
Camera Power Output	12V at 1.4A	Not available
Power Dissipation	Typically 2W per channel. No heatsinking required.	Linear output which can give high heat dissipation requiring heat sinking of the controller. See application note APP909
Firmware Upgrade	Can be upgraded on site using Gardasoft Maintenance program using RS232	Requires a new chip to be supplied
Mounting	Panel mount using captive M3 nuts. PP704 DIN rail kit available	DIN rail or M4 tapped holes. PP701 DIN rail kit available
Dimensions	112mm long by 97mm wide by 62mm high	118mm long by 76mm wide by 27mm high

### Disclaimer

No warranty is given as to the accuracy of this application note. Gardasoft Vision Ltd and Gardasoft Products Ltd will not accept any liability for consequential loss of any kind.

Local Distributor:

**GARDASOFT VISION**  
 Castle Acres, Elsworth  
 Cambridge, CB23 4JQ, UK  
 Tel: +44 1954 200343  
 Fax: +44 1954 204343  
 Web: [www.gardasoft.com](http://www.gardasoft.com)  
 © 2010 Gardasoft Products Ltd  
 All trademarks acknowledged