

Long-Range Wireless Repeater

7653
7654

Vantage Pro2™ Accessories

AC and Solar Powered

Long-Range Wireless Repeaters work in much the same way as the Vantage Pro2 Wireless Repeaters (# 7626, 7627), but extend the range and reception between a transmitting station and a receiver by up to 10 times that of the standard wireless repeater.

The Long-Range Wireless Repeater (US Version only, see note below) works in conjunction with two external antennas (# 7656, 7660), one for receiving and one for transmitting, to retransmit data over greater distances than a wireless repeater with the standard dipole antenna. Transmission distances vary depending on the antennas selected and how they are used in a network. The Long-Range Wireless Repeater can listen for up to eight different transmitter signals and can pass those signals on to another repeater or to any number of receivers.

AC-powered long-range repeaters (# 7653) include an AC-power adapter and battery. Solar-powered repeaters (# 7654) include a solar power panel, regulator and battery. The external Omni-direction (# 7656) and Yagi (# 7660) antennas used in conjunction with the long-range repeater should be purchased separately.

Note: Davis Instruments sells FCC Type approved antennas in conjunction with the long-range repeater. These antennas are available for US customers only. US customers must use these antennas. Overseas customers are responsible for procuring their own long-range antennas for use with the Long-Range Wireless Repeater that comply with local regulations. These transmitting antennas have an 8 dBi gain limit (the receiving antennas have no gain limitations). There is a limit of no more than four transmitter IDs to comply with the EN 300 220 regulation for all overseas customers.

General

Operating Temperature	-40° to +150°F (-40° to +65°C)
Storage Temperature	-40° to +158°F (-45° to +70°C)
Current Draw	0.3 ma (with 1 ID)
AC-Power Adapter (# 7653 only)	5 vdc, 200 ma regulated
Primary Power Source (# 7654 only)	Solar Power
Secondary Power Source	Battery back-up
AC-Power Adapter (AC-powered only)	5 VDC
Batteries	CR 123A 3-volt lithium battery
Battery Life Estimates (with no solar or AC power input):	

# of IDs [†]	Estimated Life Expectancy (Months)
1	4
4	1.5
8	<1

[†]Both received directly by the repeater and those IDs repeated from the previous repeater in a chain.

Note: Battery life in excess of two years is expected with normal solar input.

Solar Panel	0.5 Watts
Antenna Connectors (US Versions only)	Reverse-polarity TNC female
Antenna Connectors (OV, EU, UK models)	TNC Female
Housing Material	UV-resistant PVC plastic
Dimensions (Listed by length x width x height)	
Wireless repeater only (Both Models)	6.3" x 2.3" x 7.9" (159 mm x 57 mm x 200 mm)
Weight	
Repeater (AC-powered)*	1.2 lbs. (.54 kg)
Repeater (Solar-powered)*	1.2 lbs. (.54 kg)

Transmit Interval

Repeater Transmit Interval 2.5625 - 3.0000 seconds per ID.

Wireless Communication (US models)

Transmit/Receive Frequency 902-928 MHz FHSS (Frequency Hopping Spread Spectrum)
ID Codes Available 8
Output Power 902-928 MHz FHSS: FCC-certified low power, less than 8 mW, no license required

Type	Gain
Omnidirectional Antenna (# 7655)	5 dBi
Yagi Antenna (# 7660)	11 dBi

Range:

Antenna Combination	Total Multiplier	Maximum Transmission Distance**
Dipole—Dipole	1	1000' (300 m)
Dipole—Omni	1.58	1580' (480 m)
Dipole—Yagi	3.16	3160' (960 m)
Omni—Omni	2.5	2500' (762 m)
Omni—Yagi	5	5000' (1542 m)
Yagi—Yagi	10	10000' (3048 m)

***Typical distance will be less. Outdoors, line of sight with minor obstructions or interference, typical distance is about 0.50 to 0.80 times the maximum. Through walls or in areas with high RF interference, typical distance may be as low as 0.20 to 0.40 times the maximum.*

Wireless Communication (OV, EU, UK models)

Transmit/Receive Frequency 868.0 - 868.6 MHz FHSS (Frequency Hopping Spread Spectrum)
ID Codes Available 8
Output Power 868.0 - 868.6 MHz FHSS. CE-certified, less than 8 mW, no license required. No more than four transmitter IDs to comply with the EN 300 220 regulation. There is an 8 dBi gain limit for the transmitting antenna.

Range
Line of Sight up to 1.5 km (5000')

Package Dimensions

Product #	Package Dimensions (Width x Height x Depth) Not Including Antennas	Package Weight	UPC Codes
7653	11.75" x 3.00" x 7.00" (299 mm x 178 mm x 76 mm)	1.8 lbs. (0.9 kg)	011698 00825 4
7653EU			011698 00826 1
7653UK			011698 00827 8
7654			011698 00828 5
7654OV			011698 00829 2