

Basic GPS Antenna

Shown at right is the basic antenna and coaxial cable supplied with the GPS-referenced Masterclock equipment packages. The GPS-based product include the antenna with a built in magnetic mount, 16'5m coaxial cable with a SMA connector installed and any necessary adapters.



This antenna can be mounted either in or outdoor where it is exposed to the sky. If indoor it must be mounted in or at the edge of a window. The optional antenna mounting bracket below can be used as a base for locating the antenna on or near a window glass or frame. If a longer coaxial cable is required see optional Standard Antenna Kit below.

Basic Antenna Specifications

Antenna dimensions: 50.5 mm L x 42 mm W x 13.9 mm H (1.99" x 1.65" x 0.55")
 Weight: 110 g / 4 oz (with cable)
 Power consumption: 5 VDC - 30 mA (max)
 Gain 26 db
 Environment -40° to +85° C with high humidity

Standard Antenna Kit

Shown below is the standard antenna, coaxial cable and antenna mounting bracket supplied with the GPS-referenced Masterclock equipment packages. The GPS-based product include the antenna, coaxial cable with connectors and any necessary adapters. This antenna can be mounted either in or outdoor where it is exposed to the sky. If indoor it must be mounted in or at the edge of a window.



Standard Antenna Kit Specifications

Antenna	Coaxial Cable	Mounting Bracket
Preamplified, gain – 26db	Cable type: Belden 8219 or equivalent	Metal: steel, non rusting
Voltage: 5 VDC - 35 mA (max)	Cable diameter: .2" / 5 mm	Finish: powder coat, beige color
Connector: TNC	Connectors: TNC to TNC or SMA	
Dimensions: 63 mm dia x 40.5 mm H (2.5" x 1.6")	Length: 50' / 15 m	Dimensions: L shaped 2 x 2.25 " / 5 x 5.6 cm with 3/4" / 19 mm hole for antenna and 4 ea - .25" / 6mm holes
Weight: 180 g (6.4 oz)	Weight: 1.25 lbs / .6 kg	
Environment: -40° to +85° C with high humidity	Note that cable is very low loss and that regular RG58 cable will not work	1" / 2.5 cm square, double sided adhesive pad for smooth surface mounting included
Mounting: M18x1 threaded will mount in 3/4" / 19mm hole		2 ea nylon cable ties are included

ADDITIONAL COAXIAL CABLE - for use with optional antenna

PKG1	Additional 50'/15m, .25"/1.3 cm diameter coax - total of 100'/30m
PKG2	150'/45m - ½"/ 1.3 cm diameter low loss coax cable, (Belden 9913F7) with 2 each TNC connectors, see note 2 below for possible need for "pigtail" (Substitute for 50'15m coax)
PKG3	200'/60m - ½"/ 1.3 cm diameter low loss coax cable, (Belden 9913F7) with 2 each TNC connectors, see note 2 below for possible need for "pigtail" (Substitute for 50'15m coax)
PKG4	250'/75m - ½"/ 1.3 cm diameter low loss coax cable, (Belden 9913F7) with 2 each TNC connectors, see note 2 below for possible need for "pigtail" (Substitute for 50'15m coax)
Per foot	250'/75m to 500'/150m, ½"/ 1.3 cm diameter coaxial cable - available on a per ft./M basis. Check with factory for details and pricing.
Antenna Pigtail Note 2	18" long - .25"/1.3 cm diameter coaxial cable with TNC to SMA or TNC to TNC connectors installed.

IN-LINE SURGE ARRESTORS are available on special order - check with factory for details and pricing.

IN-LINE AMPLIFIERS AND SPLITTERS are available on special order - check with factory for details and pricing.

Note 1 – Antenna bracket is supplied with a dual sided adhesive pad for mounting on inside surfaces – including glass. Bracket has holes for mounting the antenna and attaching to a wall or surface with screws (not included). Hole spacing allows bracket to be fastened to a flat surface or clamped to a pipe using two nylon cable ties.

Note 2 – All Masterclock GPS receiving devices use either a TNC or SMA connector (jack) for connecting to an external antenna. When ½" cable is used and is routed to the receiving device, because of the weight and size of the cable, there could be undesirable mechanical tension or force applied to the receiver connector. This would be particularly true in restricted areas where an adequate bending radius is not possible for the cable. In such cases it is recommended that a "Pigtail" section of coaxial cable be used to connect from the larger cable to the receiving connector. These Pigtail sections are fabricated using Beldin 8219 cable and are shipped with either TNC to TNC or TNC to SMA connectors installed.

See table below for combinations of antennas, cables, adapters and pigtails available.

	Basic Antenna	Outside Antenna - 1/4" cable	Outside Antenna - 1/2" cable
GPS200 - antenna connector is TNC jack			
Antenna Cable	SMA p installed	TNC p - TNC p - installed	TNC p - TNC p installed
Adapter Supplied	SMA j - TNC p*	None	None
Pigtail if used	Not required	Not required	TNC j - TNC p
NTP100 - input connector is SMA jack			
Antenna Cable	SMA p installed	TNC p - SMA p - installed	TNC p - TNC p installed
Adapter Supplied	None	None	TNC j - SMA p*
Pigtail if used	Not required	Not required	TNC j - SMA p
GPSPC - input connector is SMA jack			
Antenna Cable	SMA p installed	TNC p - SMA p - installed	TNC p - TNC p installed
Adapter Supplied	None	None	TNC j - SMA p*
Pigtail if used	Not required	Not required	TNC j - SMA p

*SMA jack (j) /TNC plug (p) = part # - ADP242105 - TNC jack - SMA plug = part # ADP24124

See our web site - <http://www.masterclock.com/antenna-accessories.shtml> "Antenna Installation" for suggestions, recommendations and comments regarding installation of GPS antennas.