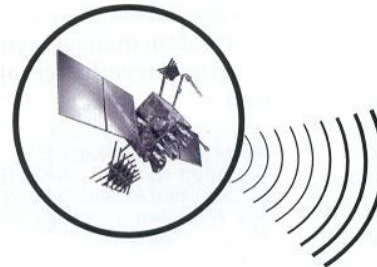


WG4 GPS

GPS Time Reference



DESCRIPTION

Wapiti introduces GPS Time Reference WG4 with LCD Menu-Driven for use with traffic signal controllers or some time sensitivity equipments. The WG4 will seek the signal from at least 3 of 24 global GPS satellites and provide exact time.

The unit comes in a small compact housing with LCD Screen and LEDs that come on to let you know that you have power, GPS Status, Time Sync and data transmitting.

The WG4 Supports multi-protocols such as GPS UTC, GPS Local Time, WWV, Wapiti W4/7/9 and Wapiti T2. **For Wapiti Users, just plug-and-play without any settings.**

FEATURES

- 12-channel GPS receiver tracks and uses up to 12 satellites for fast, accurate time acquiring and lower power consumption.
- Serial Interface — Time and Date information includes: Year, Month, Day, Hour, Minute, and Second. Multi-Protocols: GPS UTC(GPRMC), GPS Local (GPZDA), WWV, Wapiti W4/W7/W9 and Wapiti T2 with the accuracy of one tenth second.
- Sync Pulse Interface— Programmable Time Sync Pulse for NEMA and 170/2070
- Accuracy on UTC/GMT: Sync Pulse — 30 μ s (micro-second), 1 μ s with 1PPS
- LED Indicators— Power/GPS Status, Message Transmit
- LCD Display and Menu-Driven: easily adjust the parameters for operations
- Small compact housing measures approximately: 3" x 4" x 1.5"
- Built in battery backup to maintain real time clock for 21 days.
- Flash based program and non-volatile memory.
- All Wapiti products support WG4
- Wide Range Power Supply: 5-24 Volts DC, < 100mA with Back Light
- Operating Temperature: -20°C ~ +70°C

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INSTALLATION AND PROGRAMMING GUIDE**PART 1 : INSTALLATION**

WG4 should be pre-tested at the controller cabinet location, prior to installation, to verify adequate signal strength is available from the satellites.

1. Drill a hole through the top of the controller cabinet large enough to accommodate the screw bar on the antenna assembly. The hole must be smooth with no sharp edges to provide a watertight seal. **NOTE:** Precautions should be taken to prevent metal debris from drilling and filing from falling into the control equipment.
2. Insert the GPS antenna through the hole and secure tightly with the lock nut. Screw the SMA Antenna Plug in to the SMA RF Connector on the WG3 Unit. If using the **Sync Pulse Interface**, go to **Step 3**. If using the **Serial Interface**, go to **Step 4**.
3. **Sync Pulse Interface** (For NEMA/170/ 2070/ATC Contact Closure Compatible Devices). Connect the Sync pair wires to your controller sync input following the instructions of the controller manufacturer. (Pin 8, Sync + and Pin 7, Sync -) Power can be supplied by any cabinet (5V - 24V) DC power source. (Pin 9 DC+ and Pin 5, DC Ground)
4. **Serial Interface** (Direct Connection for Wapiti Devices) - Connect the DB9-C20 interface cable to the WG3 and 170/2070 controller using C20S for Local, C30S for W7OSM with 6800, or C40S with HC11. (See Wapiti Application Notes). Power is supplied from the 170 controller using this interface method.

Check the LEDs on the WG4. The power LED should be either on or flashing . When on solid , the GPS is acquiring. When slowly flashing, the GPS is ready. Fast flashing indicates a Low DC volt condition. DATA indicates data activity. Flash Time Display means still acquiring the GPS satellites.

PART 2: PROGRAMMING (Menu-Drive Display in the order of Appearance)

Mode Button: Select Display Modes (11) SELECT BUTTON: Change the Settings

hh:mm:ss MM/DD/YY	Sync HR -00:00am -00:30am *04:00am -23:00PM (30 min)	Sync TYP -No pulse -PW=1S UP -PW=2S UP -PW=3S UP . -PW=9S UP -No pulse -PW=1S DW -PW=2S DW *PW=3S DW . -PW=9S UP	Comm TYP -GPS UTC -Local TM -WVV Time *WMS W4/7 -WMS T2. -WMS W9FT	SPR DST -Mar 1SUN *Mar 2SUN -Mar 3SUN -Mar 4SUN -Mar 5SUN -Apr 1SUN -Apr 2SUN -Apr 3SUN -Apr 4SUN -Apr 5SUN -NO DST	WIN DST -OCT 1SUN -OCT 2SUN -OCT 3SUN -OCT 4SUN -OCT 5SUN *NOV 1SUN -NOV 2SUN -NOV 3SUN -NOV 4SUN -NOV 5SUN -NO DST
T. Zone *EST -CST -MST -PST	Sync Tst -Not Sync - Sync-ed - Syncing		BaudRate -1200bps -2400bps *4800bps -9600bps		
DST STA -NO DST -DST ON -DST OFF					

*: default value. Mode without * is Display or Test Only (Note: data changes automatically saved)

PART 3 : TROUBLE SHOOTING

Blank Display and Power LED Off: Unplug DB9, and check connect from any power supply (5-24V)

Incorrect Time Displayed: Check the settings—Time Zone, DST Settings (SPR DST and WIN DST).

Flashing Time Display: allow few minutes after power up for acquiring the GPS signal.

Malfunction: when display locked, Menu frozen, or Extraneous Chars displayed, do power recycle