

IOTA-VTI Status Report

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Video Timers

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BACKGROUND

- ◆ IOTA owns the rights to IOTA-VTI
- ◆ Video Timers manufactures and distributes under an exclusive license from IOTA
- ◆ Video Timers pays IOTA a royalty for each unit sold

The Names

Oversight of IOTA's interests in IOTA-VTI is vested in a Steering Committee, consisting of:

Originators: Tony Barry and Dave Gault (Australia)
IOTA Officers: David Dunham and Chad Ellington
Appointed: Paul Maley

Video Timers is a sole proprietorship
Proprietor: Walter Morgan
Engineer: Sandy Bumgarner

ACTIVITY

Board version 1.1.9 - July 2011—January 2012

Board version 2.2 - since March 2012
(draws less power; includes a fuse)

Board version 2.5 - next scheduled production
(minor cosmetic changes; adds a spare fuse)

*There have been no significant changes
to software or circuit components
(other than the power supply)*

The 'International' in IOTA applies here:
Sales have been made to 14 countries (including U.S.)

Customer problems

No video pass-through (1)

Memory failures (3)

Unit unresponsive (1)

Failed crystal (1)

Blown IC (1)

Cause

Missed solder point (insufficient QA)

Rookie error (insufficient burn-in)

Customer error?

Component failure
(3 others were caught by QA)

Excessive voltage applied
(probable, not proven)

All problems above were resolved to the customers' satisfaction

Unresolved: one instance of excessive video noise.
Cause is believed to be customer's ancillary equipment.

Leap second addition June 30/July 1, 2012

- Transition was monitored with four systems
- No surprises

Consequence: The GPS in all IOTA-VTI with S/N 247 and lower now have out-dated firmware.

Video Timers can upgrade the GPS firmware

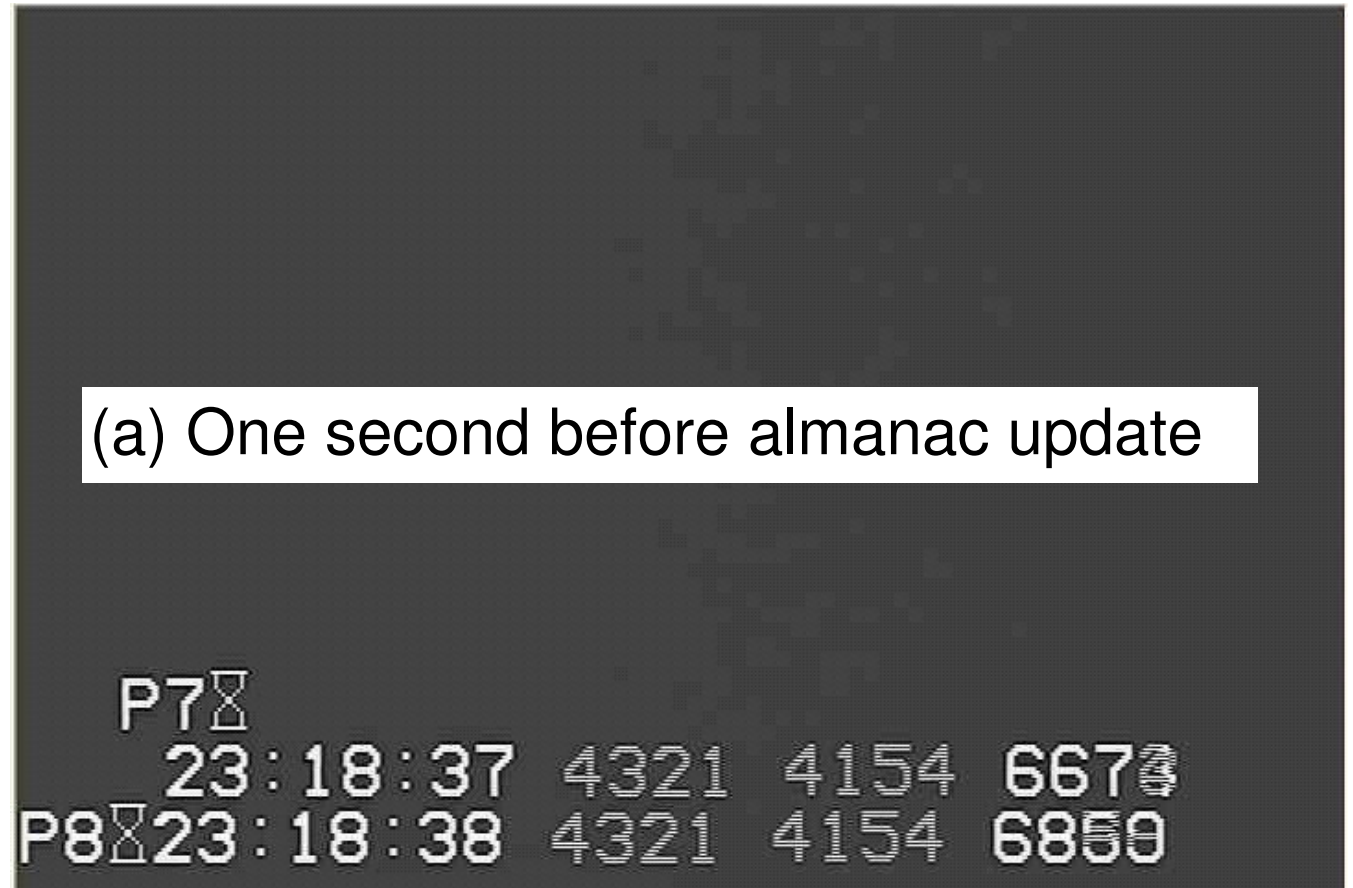
Mitigation: an error-checking feature automatically detects and corrects

An almanac update sequence

Two IOTA-VTI were connected in series.

- Time display on upper line has an outdated almanac.
- Time display on lower line has a current almanac.

Screen capture on this page is the first of three captures at one second intervals



An almanac update sequence (concluded)

```
Almanac updated 23:18:38 add  
1 sec to Previous times
```

(b) Correction message appears

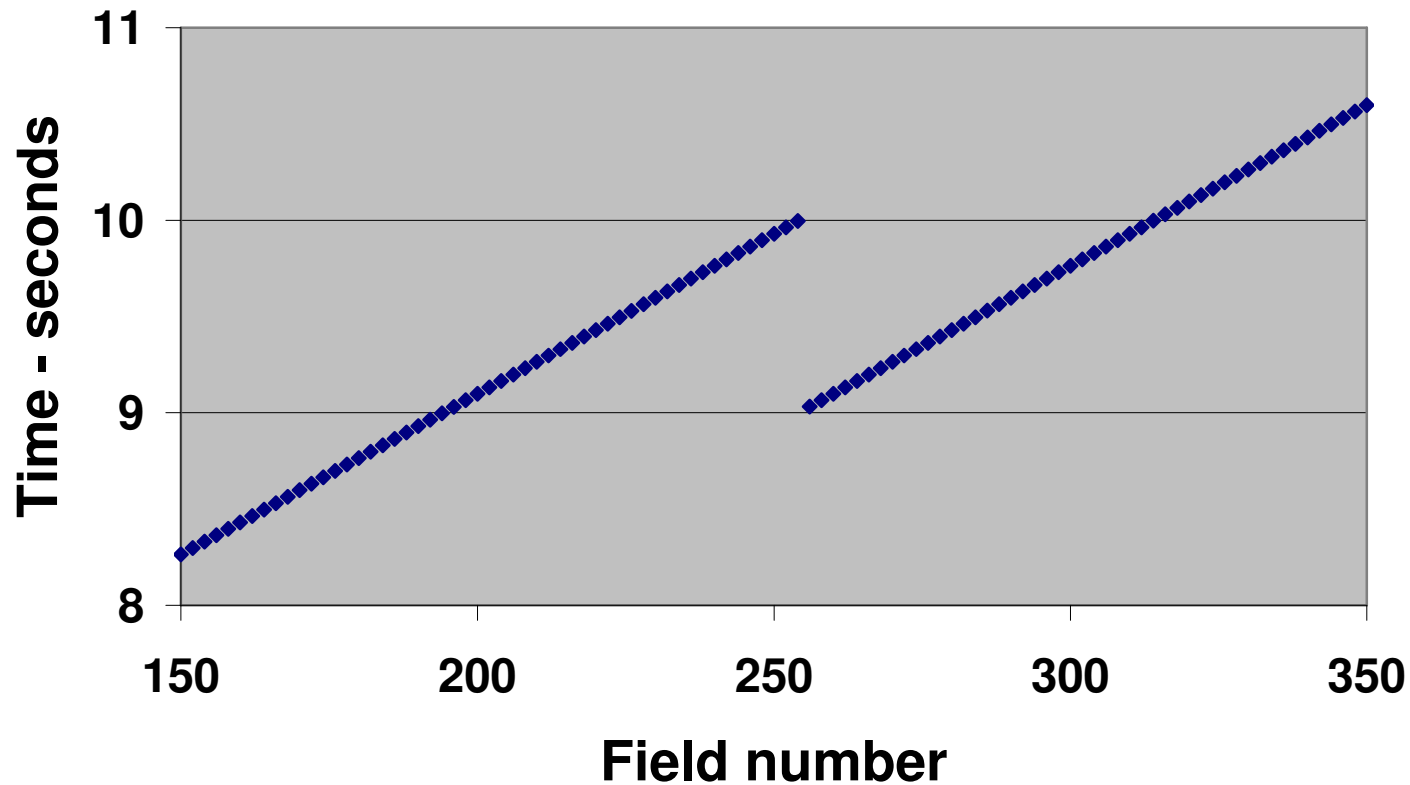
```
P7⌘  
23:18:38 4322 4155 6734  
P8⌘23:18:39 4322 4155 6920
```

```
Almanac updated 23:18:38 add  
1 sec to previous times
```

(c) Time is displayed correctly

```
P7  
23:18:40 4322 4156 6794  
P8⌘23:18:40 4322 4156 6970
```

Displayed time vs. field count



Limovie processing makes possible graphic displays of time versus field count, such as this instance of an almanac update.

Recent development: External GPS feature is now available

*Details are on the Video Timers website
www.videotimers.com*

| <u>Model name</u> | <u>Price</u> | <u>Features</u> |
|-------------------|--------------|-----------------|
| IOTA-VTI Basic | \$249 | Internal GPS |
| IOTA-VTI EX | \$300 | External GPS |
| IOTA-VTI Dual | \$350 | Both GPS |

IOTA-VTI with external GPS



To avoid the exorbitant cost of a custom panel for this low-volume model, a hole is cut in the standard panel. Labels suffer.



Additional cost considerations for overseas

Shipping

| | | | |
|------------|----------------|------|------------------------------|
| Within US: | Priority Mail, | \$12 | 2-3 day delivery |
| Overseas: | Priority Mail | \$18 | 1 to 4 <u>weeks</u> delivery |
| Overseas: | Express Mail | \$41 | 3-5 day delivery |

Overseas shipping originally used Priority Mail, but only Express Mail is used now.

Import duty

Variable: 0% in many countries, to 33% in some

| <u>A total cost comparison</u> | <u>U.S.</u> | | <u>Overseas</u> |
|--------------------------------|--------------|-------------------|-----------------|
| IOTA-VTI Basic | \$249 | | \$249 |
| Shipping | <u>12</u> | | <u>41</u> |
| TOTALS | \$261 | | \$290 |
| Sales Tax (California only) | <u>\$ 23</u> | Duty (worst case) | <u>\$ 96</u> |
| TOTALS (California) | \$284 | (Overseas) | \$386 |