

# Alta Data Technologies

## ENET Wireshark ADCP/APMP Dissectors

Dissector Revisions: apmp1553-120104, adcp-120104 (or higher)

### Introduction

Alta has provided two Wireshark dissectors to aide in the viewing of ENET ADCP and APMP UDP packets. This discussion will review the Wireshark setup and APMP packet displays. This review assumes the user is familiar with basic Wireshark operations.

**Please see the AltaAPI manual discussion of ENET ADCP and APMP packet structure as this will provide the foundation of what the dissectors display. Please also review the AltaCore-1553 manual, Common Data Packet (CDP) section. The APMP dissector essentially displays CDP data and CDPs are the fundamental 1553 data buffer structure used with ENET.**

Both dissectors (**altaADCP.lua** and **alta1553apmp.lua**) are written in the Lua script language. Lua is an embedded scripting language within Wireshark and makes for easy writing of Ethernet packet dissectors. The source code is provided and the user can modify as desired, but these dissectors are provided for reference only.

ADCP packets are simple memory read and write requests to the ENET device. There is a simple header and raw data and these packets do not need any further discussion. The AltaAPI manual details the ADCP packet and the **altaADCP.lua** dissector simply follows this header structure.

These dissectors have been tested on Win 7 64-bit and Win XP 32-bit. They should work on any 32/64 bit Windows platform. These were tested using Wireshark version 1.6.4.

### Installation

Follow these steps to install the Alta Lua dissectors and a modified Lua init file.

1. Install the latest version of Wireshark Application
  - a. Can be found at: <http://www.wireshark.org>
2. In the main Wireshark folder (usually found at C:\Program Files\Wireshark) **create a folder called altaDissectors.**
  - a. Editing the Wireshark folder may require administration or full access privileges.
3. In the main Wireshark folder, backup the **init.lua** file. Maybe rename to **init.lua.original**.
  - a. NOTE: Wireshark reads this file at startup for setup and to load Lua dissectors. The Alta init.lua file only added two lines to the end of the original file to add the Alta dissectors.
4. Unzip the Alta Wireshark Dissectors.zip file to any local folder.
  - a. Copy the **init.lua** file to the main Wireshark folder
  - b. Copy the **altaADCP.lua** and **alta1553apmp.lua** files to the **Wireshark\altaDissectors** folder created in step 2.

That's it. The next time you startup Wireshark, you should now be able to monitor ENET ADCP or APMP packets and expand their dissector tree levels.

## APMP Packet Dissection Display

The following diagram provides an example Wireshark 1553 ENET APMP packet dissector display.

The screenshot shows the Wireshark interface with the following details:

- Packet List:**

No.	Time	Source	Destination	Protocol	Length	Info
10829	155.803589	192.168.1.138	1.1.1.1	Alta 1553 APMP	270	Source port: 58795 Destination port: 56513
10830	155.893586	192.168.1.138	1.1.1.1	Alta 1553 APMP	270	Source port: 58795 Destination port: 56513
10831	155.903588	192.168.1.138	1.1.1.1	Alta 1553 APMP	270	Source port: 58795 Destination port: 56513
10832	155.913630	192.168.1.138	1.1.1.1	Alta 1553 APMP	270	Source port: 58795 Destination port: 56513
- Packet Details (Frame 5745):**
  - Ethernet II, Src: IntelCor\_39:6c:30 (08:11:96:39:6c:30), Dst: Cisco-Li\_52:23:d9 (68:7f:74:52:23:d9)
  - Internet Protocol Version 4, Src: 192.168.1.138 (192.168.1.138), Dst: 1.1.1.1 (1.1.1.1)
  - User Datagram Protocol, Src Port: 58795 (58795), Dst Port: 56513 (56513)
  - MIL-STD-1553 APMP Header Seq Num: 6546
    - Dissector Rev: apmp1553-120104
    - APMP Mode word: 0x00000001
    - APMP 'ALTA': ALTA
    - APMP Len=196: 196
  - 1553 CDP Header 6546
    - CDP Status wrd: 0x4004060
    - Mesg Type: Spurious
    - Mesg Status: Sync
    - Bus Detect: A
    - CDP TimeHigh: 357739
    - CDP TimeLow: 1920826943
    - IMG (usec): 9.6
  - 1553 Payload
    - CMD1: 0xFFFF
    - Data words (hex) - Real Data word Count >> 32 <<

1->8:	9->16:	17->24:	25->32:
!CAFE 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0
    - DW ERR(s): [1]: sync

**Annotations:**

- Expand Each of the APMP, 1553 CDP and 1553 Payload "+" Tree Sections:** Indicated by a purple box and arrow pointing to the expanded tree sections.
- APMP Header Information. See AltaAPI Manual For Details:** Indicated by a red box and arrow pointing to the APMP header details.
- CDP Header Information. CDP Status Word, Message Type (including Mode Code type), Message Level Errors, Bus A/B, Raw 64-bit 20 nSec CDP Time and 1553 Intermessage Gap Time (IMG). CDP Sequence Number (6546 in this example ) Shown in Tree Title Bar:** Indicated by a green box and arrow pointing to the CDP header details.
- 1553 Payload/Message Section of CDP. This will show Command, Status and Data Words and Any Word Level Errors. "!" Will Be in Front of Data Word with Error and the Data Word Error String [data word number] Will Be Shown Below.** Indicated by a blue box and arrow pointing to the payload data words table.