

## ALPHA TTC **Test** VME Registers

**These registers are for testing purposes some will change in the released code.**

### A32 –Address Space

**XX000000:** Run Mode register – 8 bits (Reset 0x00) (Read/Write)

- Bit 7: VA1TA Control Register Load
- Bit 6: VA1TA Control Register Read
- Bit 5: ADC Readout Step Mode = 1, ADC Readout Full Cycle 0
- Bit 4: VA1TA Reset Line Polarity
- Bit 3: VA1TA Reset Enable
- Bit 2: VA1TA Holdb Polarity
- Bit 1: VA1TA HoldB Enable
- Bit 0: Internal Calibration Pulse 1, External Calibration Pulse 0

**XX000001:** TTC Status Register – 8 bits (Read Only)

- Bit 0: VA1 Control Shiftout BusyN
- Bit 1: FEC Readout BusyN

**XX000002:** FEC Address Register – 6 bits (Reset 0x00) (Read/Write)

**XX000003:** Command Register – 8 bits (Write Only)

#### Command:

- 0x09 – Step ADC Readout Clock
- 0x08 – Reset VA1TA Readout
- 0x07 – Read VA1TA Control Register
- 0x06 - Write VA1TA Control Register
- 0x05 – VA1 Readout Start

**XX000004:** ADC Trigger Delay – 8bits (Reset 0x00) (Read/Write)

- 50ns steps
- 0x01 : 95ns
- 0x02 : 145ns
- .
- 0xFF : 12795ns
- 0x00 : 12845ns

**XX000005:** VETO Delay (VA1 Readout Delay) – 8bits (Reset 0x00) (Read/Write)

- 200ns steps
- 0x01 : 850ns
- 0x02 : 1050ns
- .
- 0xFF : 51650ns
- 0x00 : 51850ns

**XX000006:** DAC B Data – 8bits (Reset 0x00) (Read/Write)

0x00 : 2.7mV  
0x10 : 22.66mV  
0x20 : 47.5mV  
0x40 : 97.5mV  
0x60 : 148.5mV  
0x80 : 198.5mV

**XX000007:** DAC A Data – 8bits (Reset 0x00) (Read/Write)

0x00 : 2.7mV  
0x10 : 22.66mV  
0x20 : 47.5mV  
0x40 : 97.5mV  
0x60 : 148.5mV  
0x80 : 198.5mV

**XX000100 – XX000154:** VA1TA Chip0 Control Register Bits (D32) (Read/Write)

LSB                      MSB

XX000100 ... 32bits  
XX000104 ... 32bits  
.  
.  
.  
XX00014C ... 32bits  
XX000150 ... 32bits

XX000154 ... 8bits (Still written D32 cycle)

**XX000180 – XX0001D4:** VA1TA Chip1 Control Register Bits (D32) (Read/Write)

**XX000200 – XX000254:** VA1TA Chip2 Control Register Bits (D32) (Read/Write)

**XX000280 – XX0002D4:** VA1TA Chip3 Control Register Bits (D32) (Read/Write)

**XX000300 – XX000354:** VA1TA Chip0 Control Register Bits (D32) (Read/Write)

**XX000380 – XX0003D4:** VA1TA Chip1 Control Register Bits (D32) (Read/Write)

**XX000400 – XX000454:** VA1TA Chip2 Control Register Bits (D32) (Read/Write)

**XX000480 – XX0004D4:** VA1TA Chip3 Control Register Bits (D32) (Read/Write)

## **Instructions For Modes of Operations (Testing Modes)**

**For ADC clock stepping and Auto Generated Calibration pulse write:**

- 0x21 to Run Mode register (XX000000)

Calibration Pulse 1kHz/10us wide. (set calibration amplitude values in DACa (XX000007) or DACb (XX000006) Data Registers)

For the Command Register:

- Write 0x05 to start the ADC Readout (XX000003)
- Write 0x09 to step the ADC clock (one at a time 128 clocks + ½ clock at the end) (XX000003)