**NOTE:** simultaneous communication between VBAI and Studio 5000 to camera causes VBAI to shut down -- no current solution, just reopen window

**VBAI -- Ethernet/IP Adapter Function**

**Mapping VBAI members to PLC members**

*SENDING FROM PLC TO VBAI*

-Studio 5000 tag: NI\_1752:O.Data[X]

-VBAI tag: corresponds to Read Output Assembly (PLC Output) tab in Ethernet/IP Adapter

* **BOOL (1-bit integers, binary), 32 total BOOLs**
  + all BOOLs stored in member: NI\_1752:O.Data[0]
    - *Form:* 2#0000\_0000\_0000\_0000\_0000\_0000\_0000\_0000
    - *Placement:* 2#(31)(30)(29)(28)\_(27)(26)(25)(24)\_….\_(3)(2)(1)(0)
* **SINT (8-bit integers, hex), 12 total SINTs**
  + 4 SINTs stored in one member: NI\_1752:O.Data[1]-[3]
  + NI\_1752:O.Data[1] -- Sint (0-3)
    - *Form:* 16#0000\_0000
    - *Placement:* 16#(-3)(-2)\_(-1)(-0)
  + NI\_1752:O.Data[2] -- Sint (4-7)
    - *Placement:* 16#(-7)(-6)\_(-5)(-4)
  + NI\_1752:O.Data[3] -- Sint (8-11)
    - *Placement:* 16#(-11)(-10)\_(-9)(-8)
* **INT (16-bit integers, hex) 12 total INTs**
  + 2 INTs stored in one member: NI\_1752:O.Data[4]-NI\_1752:O.Data[9]
  + NI\_1752:O.Data[4] -- Int (0-1)
    - *Form:* 16#0000\_0000
    - *Placement:* 16#(---1)\_(---0)
  + ...
  + NI\_1752:O.Data[9] -- Int (10-11)
    - *Placement* 16#(---11)\_(---10)
* **DINT (32-bit integer, decimal) 12 total DINTs**
  + 1 DINT stored in one member: NI\_1752:O.Data[10]-NI\_1752:O.Data[21]
  + NI\_1752:O.Data[10]
    - *Form:* 0
    - *Placement:* 0
  + NI\_1752:O.Data[11]
    - *Placement:* 1
  + NI\_1752:O.Data[12]
    - *Placement:* 2
  + …
  + NI\_1752:O.Data[21]
    - *Placement:* 11
* **REAL (TBD)**

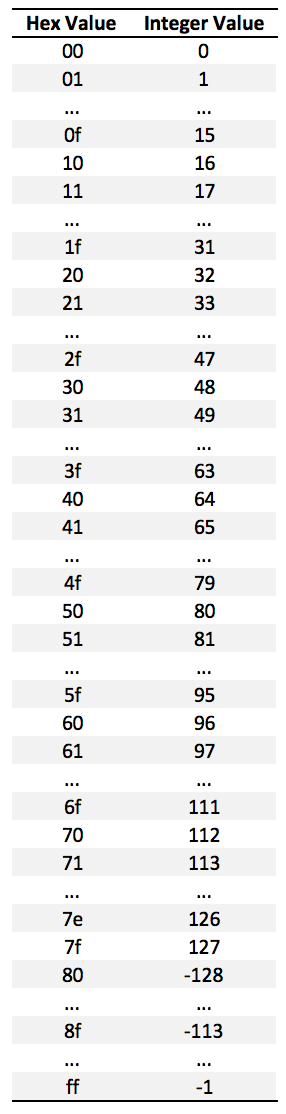
*SENDING FROM VBAI TO PLC*

-Studio 5000 tag: NI\_1752:I.Data[X]

-VBAI tag: corresponds to Write Input Assembly (PLC Input) tab in Ethernet/IP Adapter

* **BOOL (1-bit integers, binary), 32 total BOOLs**
  + all BOOLs stored in member: NI\_1752:I.Data[0]
    - *Form:* 2#0000\_0000\_0000\_0000\_0000\_0000\_0000\_0000
    - *Placement:* 2#(31)(30)(29)(28)\_(27)(26)(25)(24)\_….\_(3)(2)(1)(0)
  + the first 7 booleans reserved in VBAI
  + the eighth maybe for filling a full byte
* **SINT (8-bit integers, hex), 12 total SINTs**
  + - 4 SINTs stored in one member: NI\_1752:I.Data[1]-[3]
    - NI\_1752:I.Data[1] -- Sint (0-3)
  + *Form:* 16#0000\_0000
  + *Placement:* 16#(-3)(-2)\_(-1)(-0)
* NI\_1752:I.Data[2] -- Sint (4-7)
  + *Placement:* 16#(-7)(-6)\_(-5)(-4)
* NI\_1752:I.Data[3]
  + *Placement:* 16#(-11)(-10)\_(-9)(-8)
* **INT (16-bit integers, hex) 12 total INTs**
* 2 INTs stored in one member: NI\_1752:I.Data[4]-NI\_1752:I.Data[9]
* NI\_1752:I.Data[4]
  + *Form:* 16#0000\_0000
  + *Placement:* 16#(---1)\_(---0)
* ...
* NI\_1752:I.Data[9]
  + *Placement* 16#(---11)\_(---10)
* **DINT (32-bit integer, decimal) 12 total DINTs**
* 1 DINT stored in one member: NI\_1752:I.Data[10]-NI\_1752:I.Data[21]
* NI\_1752:I.Data[10]
  + *Form:* 0
  + *Placement:* 0
* NI\_1752:I.Data[11]
  + *Placement:* 1
* NI\_1752:I.Data[12]
  + *Placement:* 2
* …
* NI\_1752:I.Data[21]
  + *Placement:* 11
* **REAL (32-bit integer, dint) 12 total REALs -- ENTERS STUDIO 500 AS DINT, COPY INTO REAL TAG**

**HEX Table:**

****

**RFID INFO:**

**2 RFID tags for one member:**

**RFID\_N054:I.Channel[0] - RFID 1**

**RFID\_N054:I.Channel[1] - RFID 2**

**-RFID\_N054:I.Channel[1].TagPresent**

**Command = 14, write**

**Command = 4, read**

**Command = 0, before action is called, reset?**

**RFID tag size: 112 bytes**