



IDI UserGuide:  
Brady ATA Tag Assistant  
(Desktop Version)



Version 20.05.11  
ID INTEGRATION, Inc.

## TABLE OF CONTENTS

Overview.....	2
Installation of FTDI Drivers For TSL RFID Reader .....	2
Installation of ATA Tag Assistant Software .....	3
Installation of Brady Software License information .....	3
software connection with TSL 1128 RFID Reader .....	4
Using the ATA Tag Assistant Software .....	5
Perform Tag Inventory & EPC Memory Bank Evaluation .....	5
Perform User Bank test .....	5
Tag/Chip information .....	6
User Memory Bank Data Records.....	6
Saving & Logging the results .....	7
Perform Barcode Validation Test (Requires TSL 1128 w/scanner option) .....	7
Configuring the Program .....	8
General Settings .....	8
The Results Log File .....	9
Editing the Configuration File .....	9

## OVERVIEW

Brady ATA Tag Assistant is a Win10 Desktop software application that provides Quality Control Validation of RFID labels and tags which 'should' comply to the ATA Spec2000 Chapter 9 data standard. The program highlights include:

- Inventory capability identifies ATA tags in their human readable, EPC urn: data format
- Selection of a single tag from the inventory list allows the following items to be identified
  - Parsed EPC data elements (filter code, cage code, P/N, S/N)
  - Tag's Chip TID value, cross-referenced to chip manufacturer name, and chip model.
  - ATA tag security rules for Access and Kill passwords validated
  - ATA User bank data contents validated per ATA Spec2000 Chapter 9 data standard
  - Word-by-word User Bank locking validation (both archive and re-writable zones)
  - CRC value verification for each data record and overall tag.
  - Barcode scanned data values validated to match chip values
- All validation test results are appended to a single data results log file, upon the user's write report button request.
- Validation rules, and RFID chip options are defined within an editable XML rules file – allowing for the inclusion of any new chip types that might require ATA validation. All without the need for a formal revision to the installed software.

This document provides a brief summary of how to install and configure the software for use.

## INSTALLATION OF FTDI DRIVERS FOR TSL RFID READER

**BEFORE** installing Brady's ATA Tag Assistant software, the user should first install the Windows USB VCOM drivers for the TSL RFID Reader to be recognized by Win10 OS. TSL uses the generic VCOM drivers supplied by FTDI on their website. Refer to the TSL Driver Installation Manual for details. Or download the WinOS driver installation .exe from the link below:

[https://www.ftdichip.com/Drivers/CDM/CDM21228\\_Setup.zip](https://www.ftdichip.com/Drivers/CDM/CDM21228_Setup.zip)

When the driver is successfully installed, the TSL reader can be connect via Micro-USB cable to the PC's USB port. Win10 should recognize the hardware and provide the audible feedback for adding hardware device. But to be certain, the user should open the **Win10 Device Manager utility** and verify that there is now a Port assignment for the connected VCOM device.

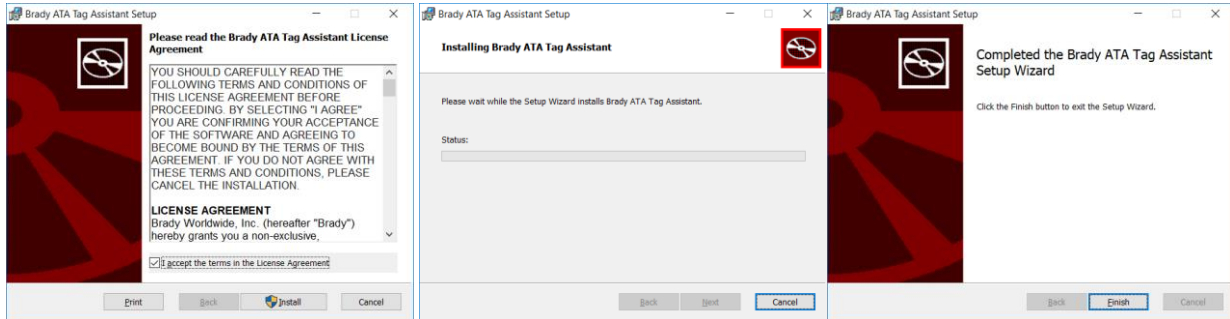


## INSTALLATION OF ATA TAG ASSISTANT SOFTWARE

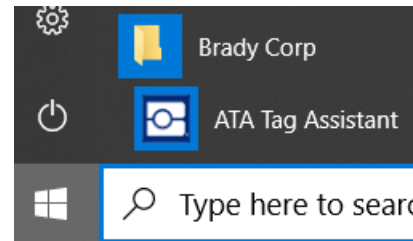
Delivery of the Brady ATA Tag Assistant software is normally done electronically, but disks can also be provided upon request.

Install the software onto a Win10 PC as follows:

1. Locate the downloaded "[AtaTagAssistant-1.0.13.msi](#)" file, and double-click the file to begin the installation. The installation process screens will resemble the following, except that during initial installation you will not see the 'Repair' or 'Remove' options.



2. At the end of the installation process, there should be a Brady folder with ATA Tag Assistant in the Windows Start Menu.

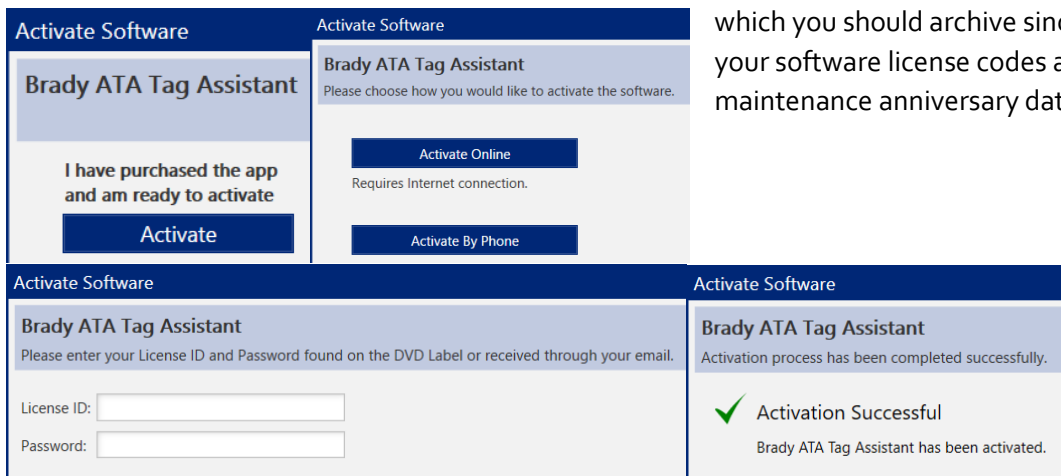


If you have validated that the VCOM drivers were successfully installed for the TSL 1128 reader, you may proceed with connecting the reader to the PC and opening the ATA Tag Assistant software application.

## INSTALLATION OF BRADY SOFTWARE LICENSE INFORMATION

As you open the ATA Tag Assistant software for the first time, you will be prompted for Brady Software License information. This information will be delivered electronically with your IDI invoice as a .pdf file

which you should archive since it contains your software license codes and software maintenance anniversary date.



## SOFTWARE CONNECTION WITH TSL 1128 RFID READER

After successful installation of the software license, you will be ready to use your software. Currently, only the TSL model 1128 is qualified for usage with this desktop software. There are two (2) physical

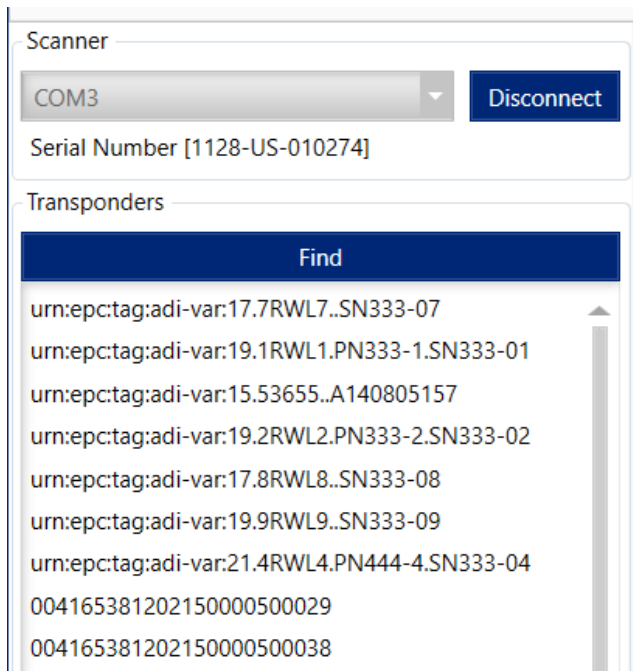
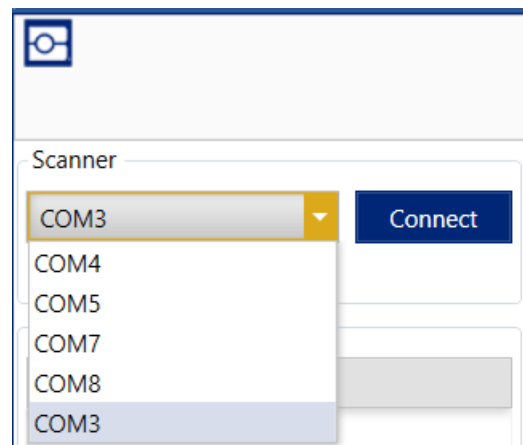


versions of the 1128 – one with RFID and integrated 2D barcode scanner, and the other with only RFID capabilities. Both versions connect with the same drivers and process steps.

Typically, one will use the provided USB cable between PC and reader. However, it is possible to use the cordless Bluetooth capabilities of the TSL 1128 with that of your PC (if available).

If you connected your TSL 1128 reader to the PC BEFORE opening ATA Tag Assistant, you should see at least one COM port option shown in the scanner pull down menu in the upper left-hand corner of the ATA Tag Assistant window. If you don't see your TSL's COM port, close the software application and reconnect the reader to the PC BEFORE opening the software program.

After you select your COM port, click the “**Connect**” button which should then indicate the serial number of your TSL reader (matching the label on the top of the reader).



## USING THE ATA TAG ASSISTANT SOFTWARE

### PERFORM TAG INVENTORY & EPC MEMORY BANK EVALUATION

At this point you can simply pull the reader trigger, or click the **Find** button to perform an EPC inventory of tags in your reader's range. ATA tags will be shown in their human readable urn: format, whereas non-ATA tags will be show with a standard hex syntax.

It is only possible to validate one tag at a time, so select one tag from the inventory list. This will create a full EPC structure report with parse data elements.

Brady ATA Tag Assistant

Scanner  
COM3 Disconnect  
Serial Number [1128-US-010274]

Transponders  
Find  
urn:epc:tag:adi-var:21.4RWL4.PN444-4.SN33:  
urn:epc:tag:adi-var:20.70210..123456-17  
004165381202150000500044

EPC  
3B520DF0CB1C00C72CF4D76B71DC0000  
Cage code: 70210  
Part number:  
Serial number: 123456-17  
Filter value: Other rotables

Validate  
Read & Validate  
Barcode Verification

Tag hasn't been read yet.

### PERFORM USER BANK TEST

Next, you will continue with the tag's User Memory Bank test. Place the reader antenna on top of the tag, and click on the **Read & Validate** button to start the full ATA data syntax and security check

EPC  
3B520DF0CB1C00C72CF4D76B71DC0000  
Cage code: 70210  
Part number:  
Serial number: 123456-17  
Filter value: Other rotables

Validate  
Read & Validate  
Barcode Verification  
Verify  
Reject  
User bank locking was not verified.

Records Tag

Current Data	Birth
4/22/2020	4/22/2020 3:25 PM
User Scratchpad	MFR 70210
4/22/2020	SER 123456-17
Birth	PNO 67000172-1
4/22/2020	UIC 1
	PDT MODULE_ASSEMBLY_AIR_SEPARATION
	DMF 20200422
	ESD 1
	CNT US
	SWI 1
	ICC 123456

process. This can take anywhere from a few seconds to perhaps between 1-2 minutes depending on the tag memory size and content. Do not move the reader away from the target tag during this process. **NOTE:** you do not need to pull and hold the reader's trigger button during this read time – simply press the button in the **Read & Validate** software screen.

When finished, the User Memory test results will be presented in a tabbed form (see below). Green colored 'check' icons on the tabs will indicate a PASS grade, whereas red 'X' icons will indicate a FAIL or UNKNOWN condition which will also generate a short message related to this issue. If you want these results to be appended to the log file (AtaLogFile.csv), click on the **Verify** button in the upper right corner of the ATA Tag Assistant window.

## Tag/Chip information

The screenshot shows the ATA Tag Assistant interface with two tabs: 'Records' and 'Tag'. Both tabs have a green checkmark icon. The 'Tag' tab is active and displays two main sections:

Transponder ID		ATA Table of Contents	
Class ID	E2	Version	4.1
Mask Designer ID	00F	ISO/EPC Industry Identifier	0x1E00
Model Number	3A5	Tag Format	Multi Record
Chip Manufacturer	Quanray Electronics	Size of Record Descriptors	2
Chip Type	Qstar-5A/AE	Size of ATA User Memory	3072
TID Header	4450	Size of ToC Header	4
<b>Reserve Bank</b>		ATA Classification	1
Kill and Access password checks passed validation.		# of data records	3
		Is Corrected Tag	False
		Is Replacement Tag	False
		CRC	0x4E42

This tab shows the chip's **TID** memory bank information, with the chip manufacturer and model. Also shown is the data size and structure used within the **USER** memory bank. Lastly, the **RESERVE** memory bank indicates whether the proper password values and locking states have been implemented. If the ATA structure and Reserve Bank passwords are correctly programmed, a green icon is shown on the **Tag** tab.

## User Memory Bank Data Records

Within an ATA tag's USER memory bank, the data can be structured in more than one 'record'. Each record's data contents are shown in a separate sub-tab.

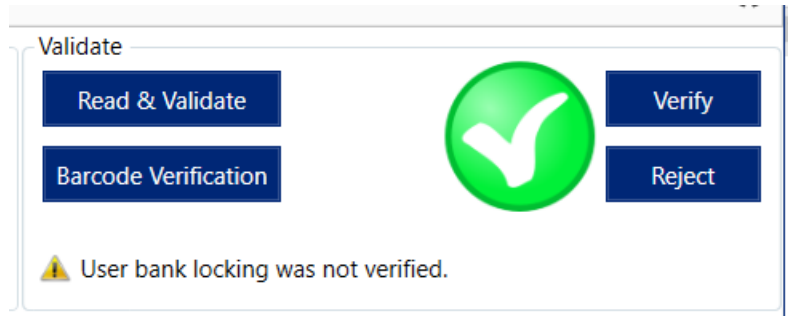
A green check icon is shown on the **Records** tab if there are no errors in any of the individual record tabs. A red icon indicates a syntax error, or missing information on at least one record. The offending data record and field will also contain a similar red icon along with a short description of the error.

The screenshot shows the ATA Tag Assistant interface with two tabs: 'Records' and 'Tag'. Both tabs have a green checkmark icon. The 'Records' tab is active and displays three sub-tabs for data records:

Record Name	Record Date	Field	Value
Current Data	4/22/2020	Birth	4/22/2020 3:25 PM
		User Scratchpad	
Birth	4/22/2020	MFR	70210
		SER	123456-17
		PNO	67000172-1
		UIC	1
		PDT	MODULE_ASSEMBLY_AIR_SEPARATION
		DMF	20200422
		ESD	1
		CNT	US
		SWI	1
		ICC	123456

## Saving & Logging the results

The last step in the tag validation process is to save the results to an archived log file. This is quickly accomplished by clicking the **Verify** button. Clicking the **Reject** button will still create a saved record – but will define the tag as having NOT met the ATA Spec2000 Standard.



## PERFORM BARCODE VALIDATION TEST (Requires TSL 1128 w/scanner option)

ATA Tag Assistant also can “Validate” that a printed 2D datamatrix code matches the encoded chip values, and meets the general data syntax rules of the ATA Spec2000 standard. The program inaccurately indicates that it performs a “Verification” – but this is a misuse of the word since barcode verification involves special lighting and decode algorithms from laboratory QC camera systems. Still, this is a useful feature worth exploring if you have a TSL 1128 with integrated barcode scanner.

Clicking the **Barcode Verification** button will launch the form to the right, from which you will choose either the original ATA data syntax or the Mil-Std-130 DoD syntax rules. Thereafter, place the mouse cursor in the **Scanned Data** field and perform a trigger ‘Click-Release-Click-Hold’ on the TSL reader. A barcode laser target will help you locate the tag’s barcode, upon which it will decode and enter the results into the data field.

Click the **Parse** button to generate the parsed table results, and finish by clicking the **Verify** button which will show a green result icon if the data matches the chip data record. The results are logged to a separate results file (BarcodeLog.csv) as a new appended record.

### Barcode Verification

**Tag**

urn:epc:tag:adi-var:20.70210..123456-17  
 Cage code: 70210  
 Part number:  
 Serial number: 123456-17

**Input**

Barcode Scheme  
 ATA  
 ATA  
 DOD

**Parse**

### Barcode Verification

**Tag**

urn:epc:tag:adi-var:20.70210..123456-17  
 Cage code: 70210  
 Part number:  
 Serial number: 123456-17

**Input**

Barcode Scheme  
 DOD

Scanned Data  
 [D]>12MFR 70210SER 123456-17PNR 67000

**Parse**

TEI	Barcode Data	Record Data	Found In Record
MFR	70210	70210	Birth
SER	123456-17	123456-17	Birth
PNR	67000172-1	67000172-1	Current Data

✔ Barcode verified. The data has been logged.

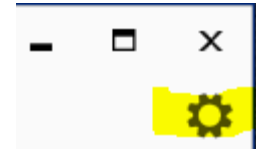
Verify    Reject

**Close**

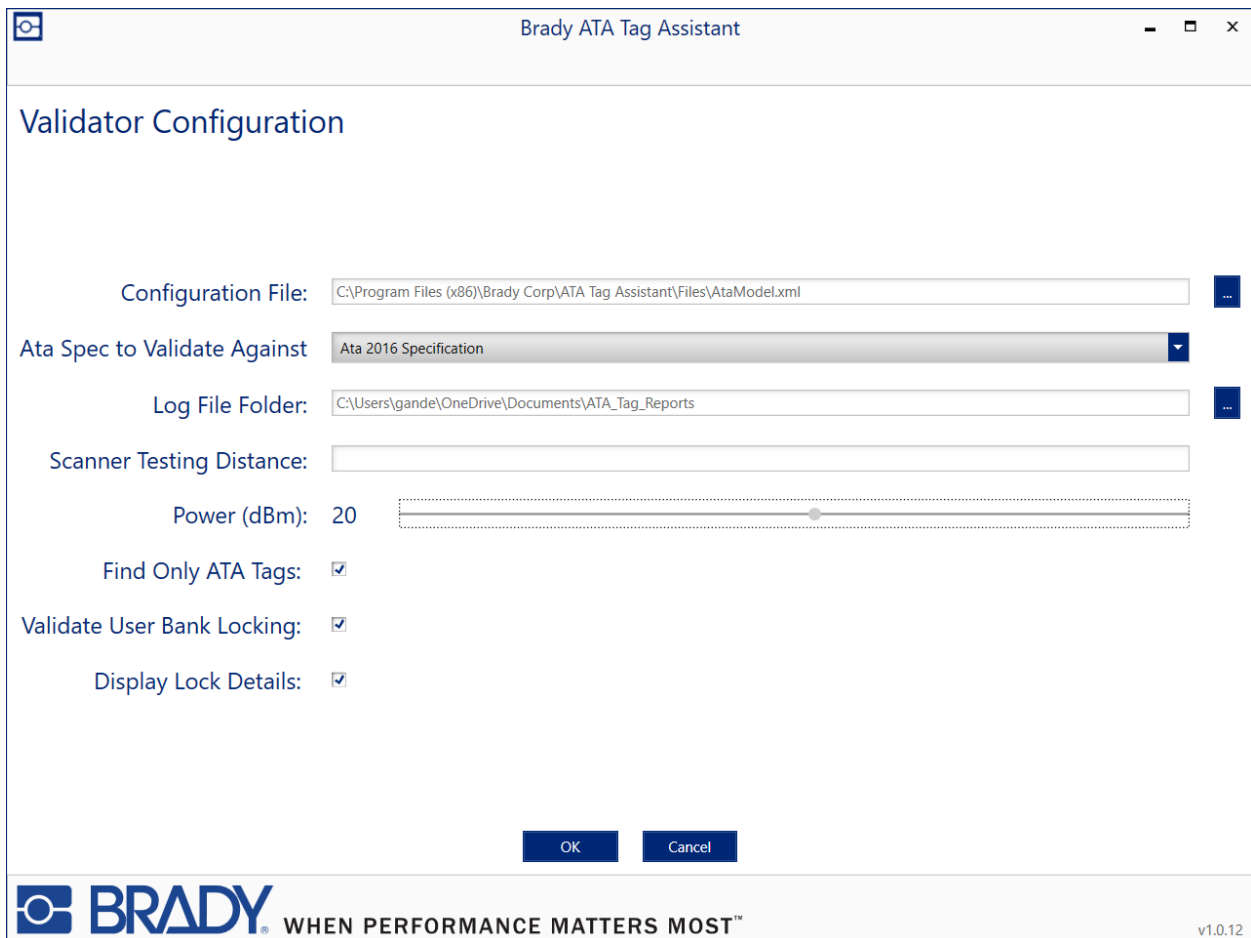
## CONFIGURING THE PROGRAM

### GENERAL SETTINGS

You might have noticed the warning in the above image that “User bank locking was not verified”. This is one of several user-defined options that can be changed. Begin by clicking on the Setup ‘Cog’ icon in the upper RH corner of the window.



The resulting form appears as shown below, showing locations for the program configuration and results log files, a pull-down form to allow testing to either the older ATA 2013 standard or the current 2016 standard, and a simple slider tool to adjust reader power.



The screenshot shows the 'Validator Configuration' dialog box for the Brady ATA Tag Assistant. The window title is 'Brady ATA Tag Assistant'. The configuration fields are as follows:

- Configuration File: C:\Program Files (x86)\Brady Corp\ATA Tag Assistant\Files\AtaModel.xml
- Ata Spec to Validate Against: Ata 2016 Specification
- Log File Folder: C:\Users\gande\OneDrive\Documents\ATA\_Tag\_Reports
- Scanner Testing Distance: (empty field)
- Power (dBm): 20 (with a slider control)
- Find Only ATA Tags:
- Validate User Bank Locking:
- Display Lock Details:

Buttons: OK, Cancel

BRADY WHEN PERFORMANCE MATTERS MOST™ v1.0.12

The checkbox elements at the bottom of the form have 2 purposes. The “Find Only ATA Tags” option will filter the read tags to include only ATA type RFID tags in the list below the **FIND** button. Since this program can’t evaluate non-ATA tags, this checkbox setting is recommended for standard use.



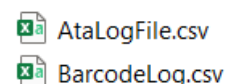
The two checkboxes related to User Bank Locking checks are also recommended since they provide a full QC reporting of the User Bank Locking requirements. This process will increase the total

test time per tag and could last as long as 2 minutes for high memory tags. But the test confirms both regions that should be locked, and regions that should NOT be locked.

Lastly, the "Scanner Testing Distance" field is simply an optional notation to be added to the results log should one wish to document read range at the power level defined by the power slider tool. In general, we don't recommend specifying this unless the tag has been mounted onto its final intended part.

## THE RESULTS LOG FILE

The user can browse to any network or local location to store the results log file(s). Separate files exist for the chip data and barcode data checks. But each file is appended with newly added results upon clicking the **Verify** or **Barcode Verification/Verify** buttons.



### Data fields captured for Chip Validation:

Date Time; Computer Name; Scanner Read Power (dBm); Scanner Testing Distance; User Verification; Valid; Errors; EPC; EPC Hex; Mask Designer ID; Model Number; Action; Birth Record; Lifecycle Record; Current Data Record; Part History Record; User Scratchpad Record

### Data fields captured for Barcode Validation:

Timestamp; Computer Name; User Verification; EPC; BarcodeScheme; Barcode Data; Has Missing TEI (T/F); Has data mismatch (T/F)

## EDITING THE CONFIGURATION FILE

ATA Tag Assistant operates based on a collection of ATA data rules that are defined in an XML file stored at the location shown in the configuration form. Users (requires PC admin credentials) can open and edit this form, or locate the file on a centralized network location for access by multiple PCs running separate ATA Tag Assistant licenses.

It is generally NOT RECOMMENDED to edit this xml rules file, since doing so may result in a violation of the ATA standard's data rules. However, some companies may have internal data constraints that are more restrictive than the ATA standard. ATA Tag Assistant offers those customers this option to tailor the programs acceptance levels to their more stringent internal standard.

The XML file is structured with sections for the ATA2013 and ATA2016 rule sets. If you do edit this file, make sure that it is for the ATA version that you plan to use.

### **\*\*NOTE\*\***

ID Integration has identified one issue with the standard ATA Tag Assistant XML file that we believe requires revision before use. An ATA tag's **PDT** description field will commonly be supplied as a multi-word text string with spaces between words. It may also include parentheses, hyphens, and other special characters. Space characters **MUST** be substituted with some other character (typically underscore) so as NOT to be confused at part of TEI elements. Unfortunately, the default mode of ATA Tag Assistant is currently to disallow anything other than UPPERCASE Alphanumeric characters.

The ATA CSDD (Data Dictionary) indicates that PDT is a "string" variable which should broaden its allowed character base beyond simple alphanumeric values. IDI recommends defining a broader "special character" regular expression in the <Validation Rules> section of the ATAModel.xml file.

```
<RegexRule Id="uppercase_alphanumeric_special" Description="Allows uppercase alphanumeric: A-Z, 0-9, - and _" Pattern="^[A-Z0-9$%;:.,_-]*$" />
```

Edit the reference in the ATA2016 section for PDT to use this new rule, which will allow one to include a more reasonable array of characters in the description field, including a proper substitute for any inter-word space characters.

```
<Tei Key="PDT" Name="Part Description">  
<Description>PDT, the Part Description Text data field, is mandatory and must have non-blank and non-null characters in the value field. The Part Description (PDT) field is constrained from the CSDD definition to no more than 32 alphanumeric characters.</Description>  
<ValidationRules><LengthRule Min="1" Max="32" /><TeiRule Ref="uppercase_alphanumeric_special" />  
</ValidationRules>  
</Tei>
```