

AP4119 Rail Tag Programmer

Host Software User Guide

P/N 16-4119-003 Rev A 3/2023

This guide provides instructions for installing and running the TransCore AP4119 Rail Tag Programmer host software on a personal computer (PC), and coding and programming TransCore Super eGo® (SeGo) Protocol AT5118 Rail Tags, AT5133 High-Temperature Transportation Tags, AT5549 End-of-Train Tags, and other rail/fleet tags, using a TransCore AP4119 Rail Tag Programmer and a PC.



This information is intended for use by authorized TransCore dealers, installers, and service personnel.

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WARNING TO USERS IN THE UNITED STATES
FCC RADIO FREQUENCY INTERFERENCE STATEMENT
47 CFR §15.105(A)

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency (RF) energy and may cause harmful interference to radio communications if not installed and used in accordance with the instruction manual. Operating this equipment in a residential area is likely to cause harmful interference, in which case, depending on the regulations in effect, the users may be required to correct the interference at their own expense.

NO UNAUTHORIZED MODIFICATIONS 47
CFR §15.21



CAUTION: This equipment may not be modified, altered, or changed in any way without permission from TransCore, LP. Unauthorized modification may void the equipment authorization from the FCC and will void the TransCore warranty.

USE OF SHIELDED CABLES IS REQUIRED
47 CFR §15.27(A)

NOTE: Shielded cables must be used with this equipment to comply with FCC regulations.

TRANSCORE, LP
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Chapter 1 Before You Begin

The tag programmer host software operating on a PC supervises and controls the operation of the TransCore AP4119 Rail Tag Programmer. This software automates the repetitive tag programming function, greatly simplifying the effort necessary for proper encoding of the formats associated with radio frequency identification (RFID) and automatic equipment identification (AEI) standards.

The tag programmer firmware prevents certain security characters from being encoded into a tag unless the programmer has been set up for these security characters. Refer to the AP4119 Rail Tag Programmer User Guide for more information.

The tag programmer host provides a screen-oriented, user-friendly interface that uses simple commands and easy-to-understand prompts. Simple to install, the software operates on any PC using Windows 10 or newer.

Figure 1 shows the components of a typical tag programmer host system with electrostatic discharge (ESD) controls in place.



Caution

TransCore tags are sensitive to ESD, and precautions are necessary to ensure proper tag programming operation. Use the grounded ESD static-suppression wrist strap when using the programmer. Additional protection from ESD is recommended where practical. Refer to the AP4119 Rail Tag Programmer User Guide for recommended practices to protect the tags against ESD damage.

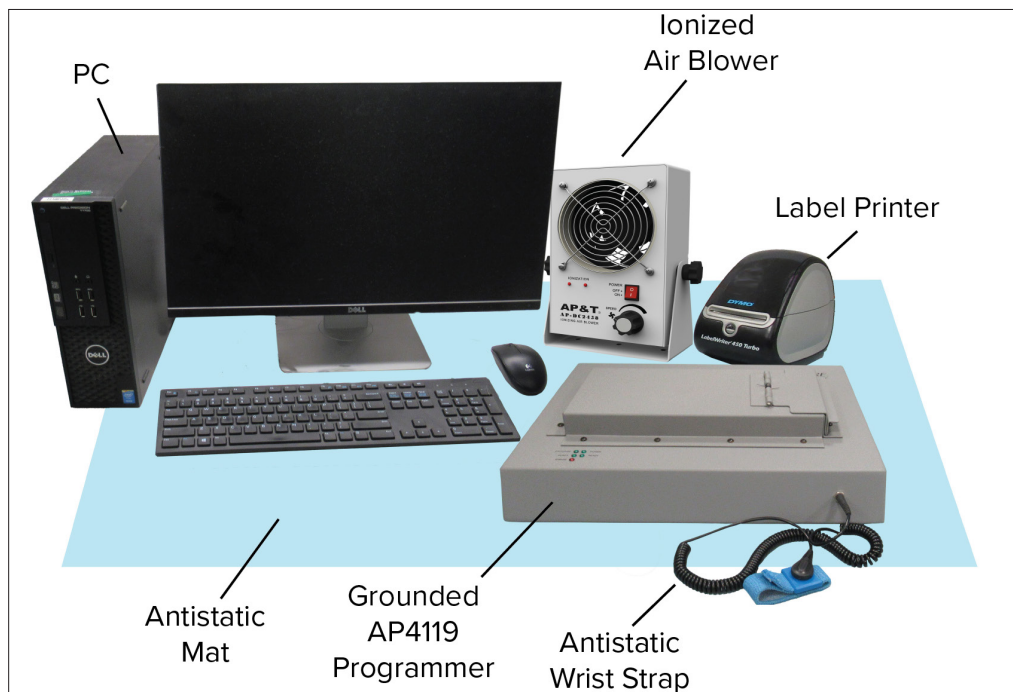


Figure 1 Programming Workstation with ESD Controls

TransCore's tag programmer host system capabilities include converting equipment identification parameters into required formats for the adopted RFID and AEI standards, including the following entities:

- Association of American Railroads (AAR) Standard for AEI
- International Standards Organization (ISO) for Freight Containers – Automatic Identification 10374.2
- American Trucking Associations (ATA) Standard for AEI
- American National Standards Institute (ANSI) Standard for Freight Containers – Automatic Identification (ANSI MH5.1.901990)
- International Air Transportation Association (IATA) Resolution 1640

Before Using This Guide

Before installing and using the tag programmer host software, be familiar with the following operations:

- Starting the PC
- Using Microsoft Windows
- Accessing the hard disk
- Using the USB port
- Copying files from USB flash drive

Software Requirements

The tag programmer host software requires that the PC be running Windows 10 or newer. The tag programmer must be equipped with firmware version 1.02 or higher for the tag programmer host software to function.

System Requirements

The tag programmer host software should operate on a PC that has the following hardware specifications:

- Windows 10 (64 bit) or later
- Memory: 20 MB
- Disk Space: 250 MB
- 2 USB Ports or 1 USB and 1 Serial Port
- Optional: Label Printer

Label Printer Requirements

- Label Printer: DYMO® LabelWriter® 450 Turbo
- Labels: DYMO® 1" x 2 1/8" Model 30336

Chapter 2 Setting Up the Programmer and Starting the Host Software

This chapter provides connectivity information for communicating with a personal computer (PC) and instructions for installing and starting the rail tag programmer host software.

Connecting AP4119 Rail Tag Programmer

The AP4119 Rail Tag Programmer (Figure 2) has an RS-232 serial interface requiring cable with a DB9 plug connector on both ends, and a USB interface requiring a USB cable with a Type A plug on both ends. Use either the RS-232 or the USB port to connect the rail tag programmer to the host PC.



Caution

TransCore tags are sensitive to ESD, and precautions are necessary to ensure proper tag programming operation. Follow instructions laid out in “Preventing Electrostatic Discharge Damage” section of the AP4119 Rail Tag Programmer User Guide.

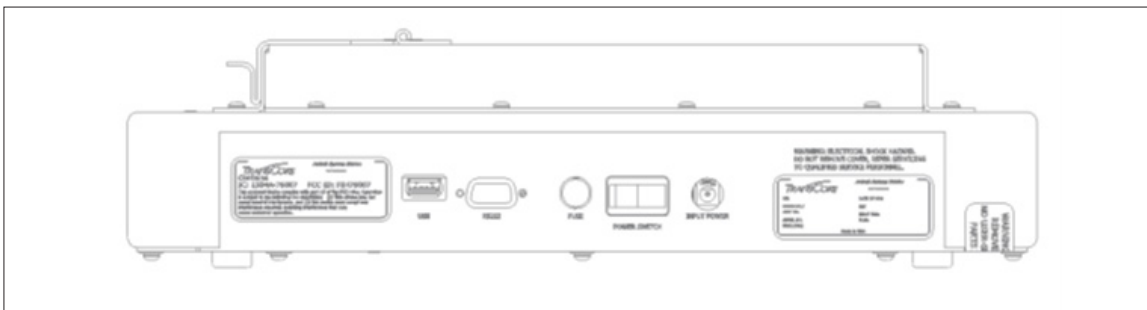


Figure 2 View of the AP4119 Rail Tag Programmer Back Panel

Installing Rail Tag Programmer Host Software

Rail Tag Programmer Host Software

Install the rail tag programmer host software on the PC after properly connecting the hardware. The PC must have both a hard disk and a USB port.

1. Make sure the PC is running.
2. Insert the provided USB Flash drive into an available USB port.
3. Open the AP4119 Host folder and click on the **Install** icon (Figure 3). Follow the instructions to create a folder on the PC hard drive.

The host software is installed on the PC in <C:\Program Files\Transcore\AP4119 Host> and an icon is added to the computer's desktop as well as adding a shortcut to the computer's Start Menu.

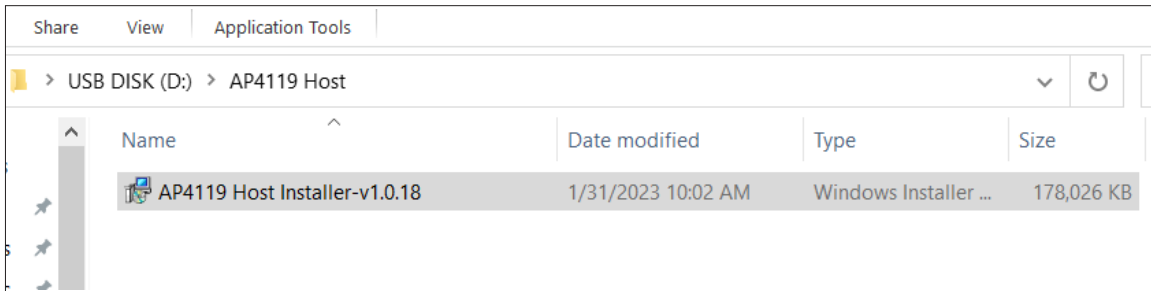


Figure 3 Host Software Installer

4. Install the USB and Label Printer Drivers (Figure 4).

Drivers are located on the PC in <C:\Program Files\Transcore\AP4119 Host\Drivers>.

The driver packages that need to be installed are:

- CDM212364_Setup.exe (The AP4119 USB Port Driver)
- DLS8Setup.8.7.2.exe (The DYMO® Label Printer Driver)

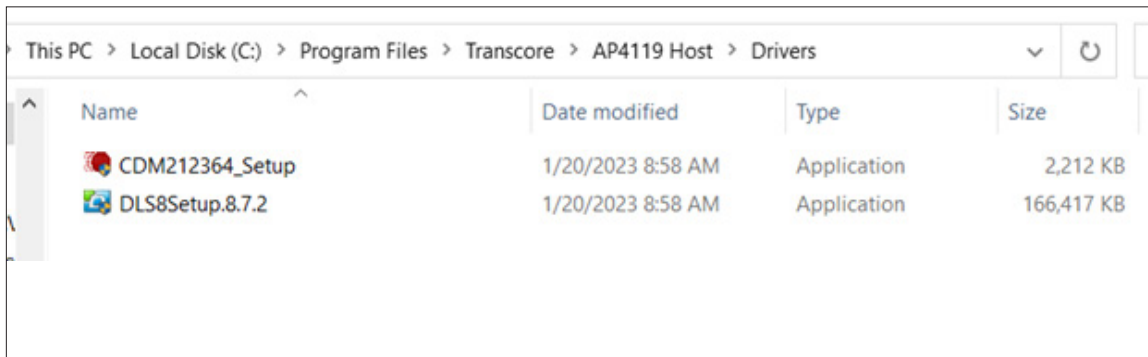


Figure 4 Label Printer and USB Drivers

5. Remove the USB flash drive from the computer USB port and reboot the PC.

Starting the Rail Tag Programmer Host Software

Once the rail tag programmer host software is installed on the PC, click on the AP4119 Host icon on the computer's desktop or select **Start > TransCore > AP4119 > AP4119 Host** to start the rail tag programmer host software and display the **AP4119 Rail Tag Programmer Host** screen (Figure 5).

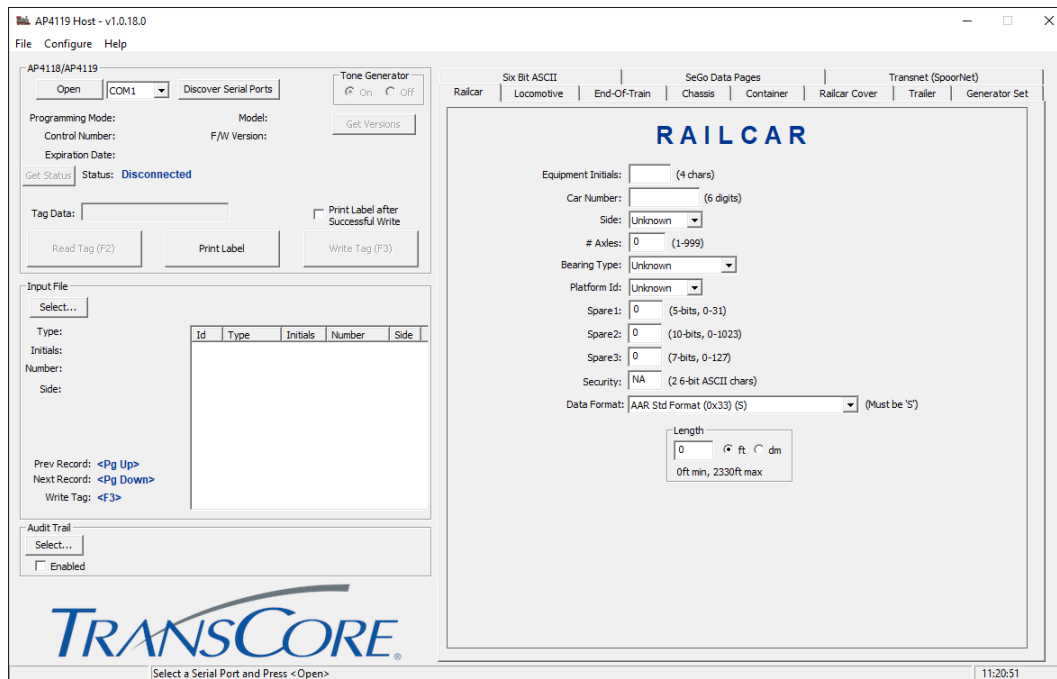


Figure 5 Rail Tag Programmer Host Software Screen

Connecting the AP4119 Programmer to the AP4119 Host

1. Connect the AP4119 Programmer to the PC using the RS-232 cable or the USB Type A cable.
2. Connect the AP4119 to a wall outlet and turn on the power switch.
3. Click the **Discover Serial Ports** button, select the Comm port from the drop-down menu, and click the **Open** button (Figure 6).

Note: If a serial cable is used to connect the AP4119 directly to the PC, Select COM1. If a USB to Serial converter or a Type-A USB cable is used, select the port assigned to the converter or USB device (it may be different from PC to PC).

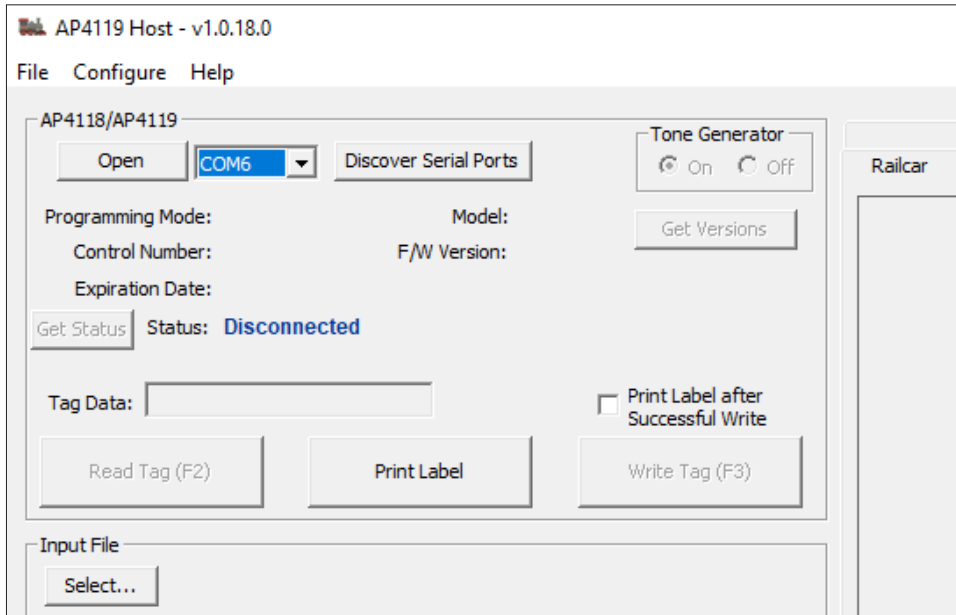


Figure 6 Com Port Selection Screen

A successful connection is indicated by a **Ready** message next to the **Status** field.

Click the **Get Versions** button to display the Permissions Programming Mode, the programmer Control Number, the Permissions Expiration Date, programmer Model, and the programmer firmware (F/W) version (Figure 7).

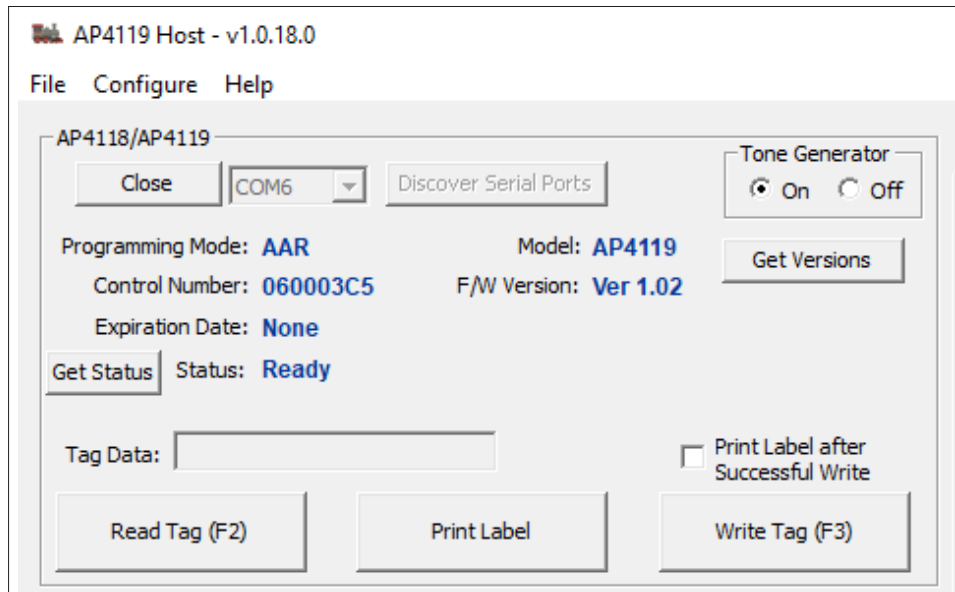


Figure 7 AP4119 Rail Tag Programmer Version Information Screen

Chapter 3 Navigating the Programmer Host Software Screen

This chapter explains the AP4119 Rail Tag Programmer Host Software screen functions and features.

Navigating the AP4119 Rail Tag Programmer Host Screen

Use the AP4119 Rail Tag Programmer Host Software screen to access drop-down menus or enter information about the vehicle or object being tagged. The AP4119 Rail Tag Programmer Host screen also displays tag data from input files or from previously programmed tags (Figure 8).

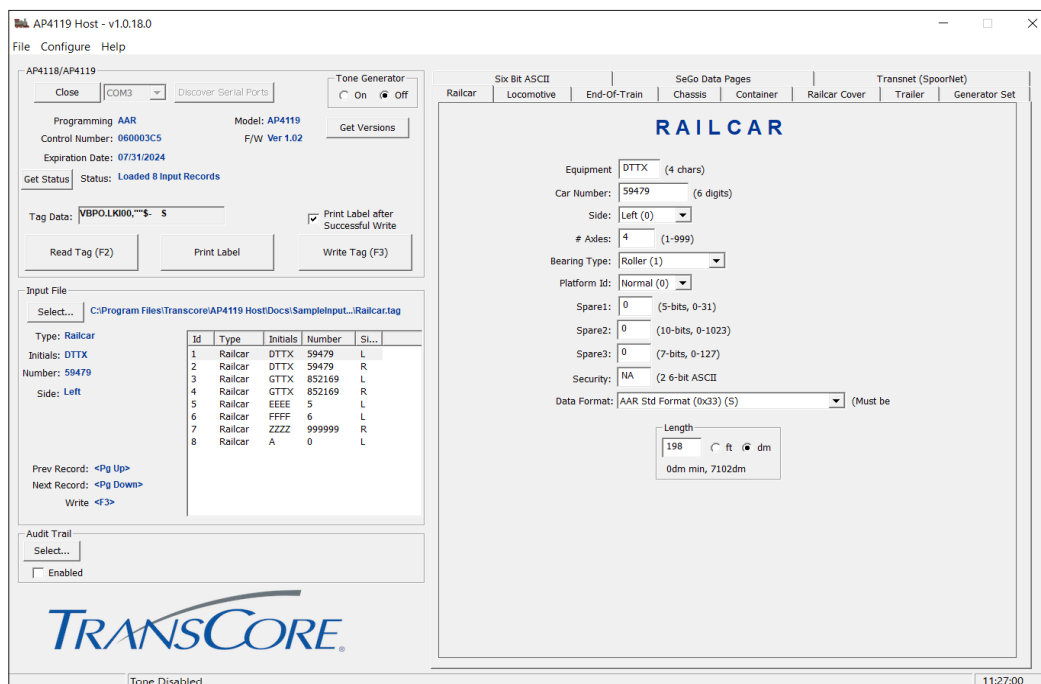


Figure 8 AP4119 Rail Tag Programmer Host Software Main Screen

The two ways to perform functions from the main screen are described in this section:

1. Select the desired function by entering the corresponding hot key (e.g., **F2**).
2. Select the desired function by clicking on the function button (e.g., **Write Tag**, (F3)).

The **AP4119 Rail Tag Programmer Host** screen has one primary menu bar (Figure 9).

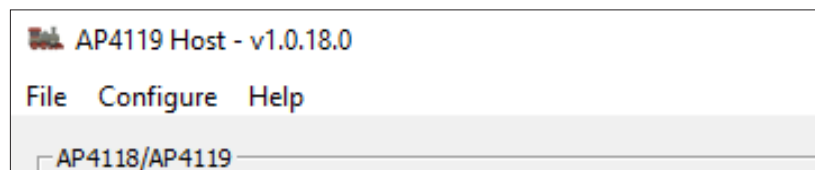


Figure 9 AP4119 Rail Tag Programmer Host Menu Bar

The menu bar provides access to the following drop-down menus:

- File
- Configure
- Help

Using the File Menu

The File menu provides access to the **Exit** option. The software can also be closed by clicking **X** on the upper right corner.

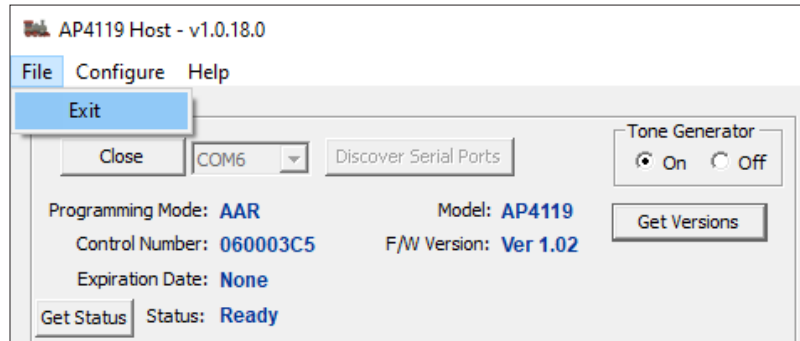


Figure 10 File Drop-down Menu

Using the Configure Menu

The Configure menu lists the **Load Permissions File**, **Download Firmware**, **Label Printer Configuration**, and **Measure System Units** items (Figure 11). Use the **Download Firmware** feature to download new versions of the AP4119 Rail Tag Programmer firmware. The **Download Firmware** feature copies a *.hex file into the AP4119 Rail Tag Programmer memory. Use the **Load Permissions** feature to use a *.Per Permissions file in place of a Permissions Tag.

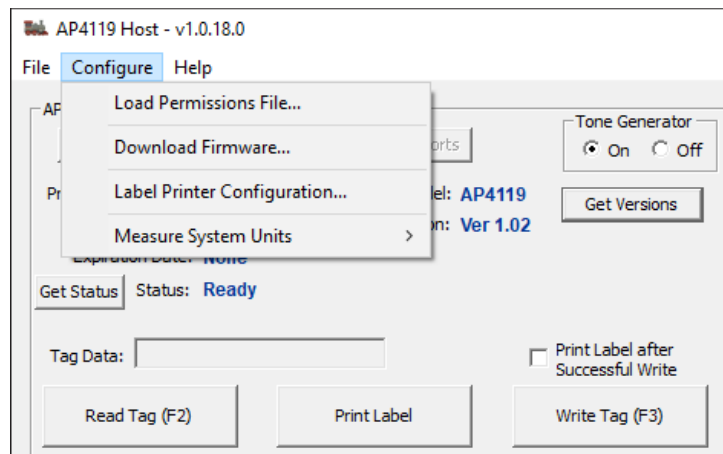


Figure 11 Configure Menu

Using Help

The **Help** menu provides **Debug Logging** options, a link to the TranCore website, and software version (About).

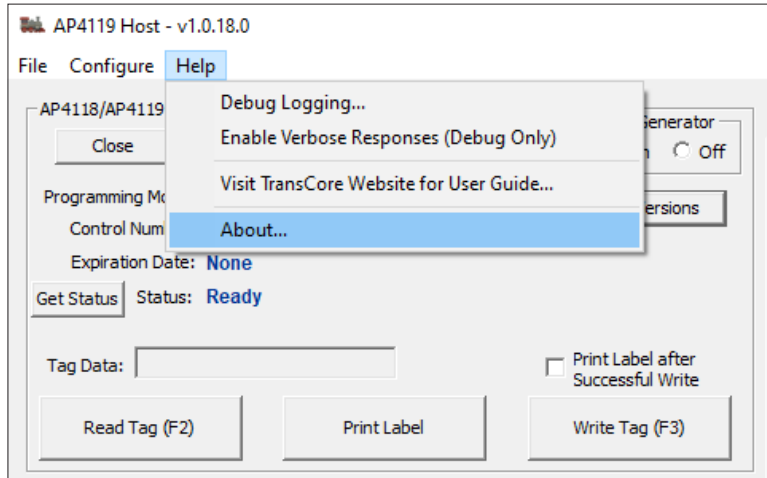


Figure 12 Help Menu

Using the Tag Format

The **Tag Format** section of the AP4119 Rail Tag Programmer Host screen, shown in [Figure 13](#), contains the data entry fields used to program tags, display data contained in input files, and display data contained in previously programmed tags.

The Tag Format section contains four main components:

- Selected tag format type
- Data format
- Data entry field description
- Data entry field

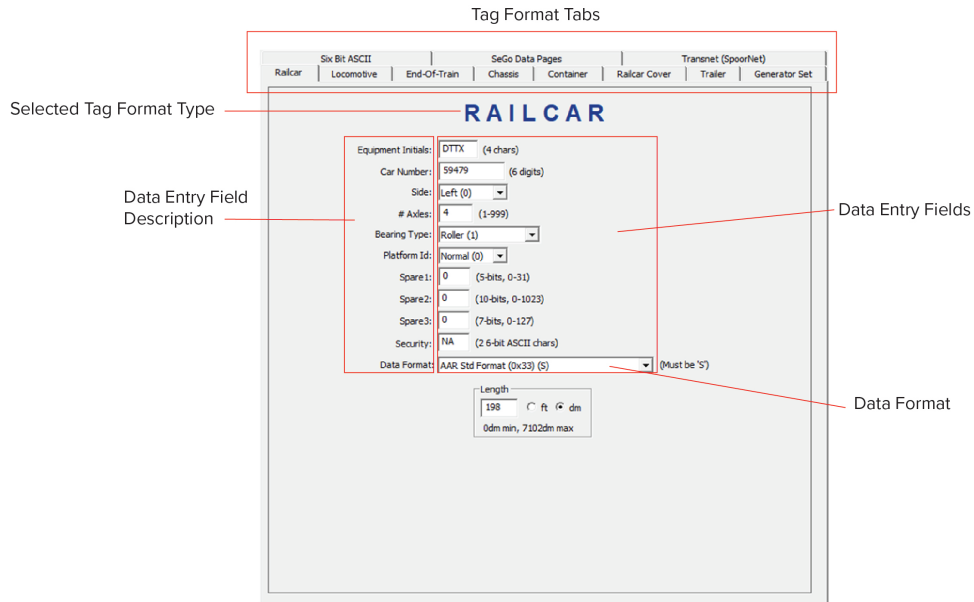


Figure 13 The Tag Format Section

Table 1 lists the tag format fields and their descriptions.

Table 1 Tag Format Fields

Tag Format Field	Description
Selected Tag Format Type	Presents the type of vehicle or object to be tagged. The data entry field descriptions change based on the format selected. To choose the desired tag format, click on the desired tag format tab.
Data Format	Indicates the status of the tag format as a standard or proposed standard recommended by U.S. or international standards committees. The committee name is given.
Data Entry Field Description	Describes the field for which values are to be entered. Data entry field descriptions vary based on the tag format chosen.
Data Entry Field	Shows the location where data is entered for each field item.

Status and Prompt Information

The Status and Prompt Information section (Figure 14) is located in the upper left corner of the AP4119 Rail Tag Programmer Host screen. Buttons to Read and Write tags, enable and disable audible tone, print labels, and get AP4119 Rail Tag Programmer version are also located on this section.

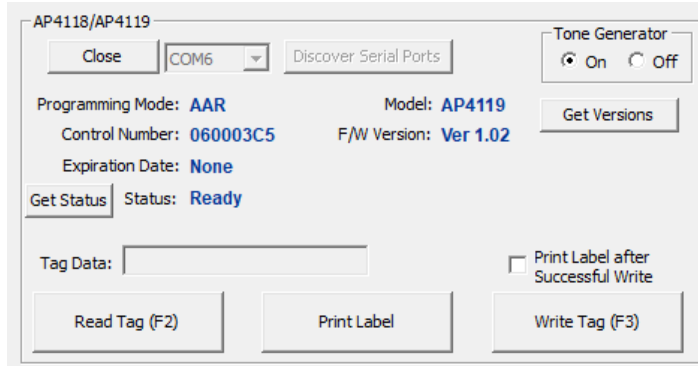


Figure 14 Status and Prompt Information Section

Data Entry Techniques

This section describes the conventions and methods when entering tag data.

Allowable Field Entries

The rail tag programmer host software contains numeric, alphabetic, alphanumeric, and table fields. If data is entered that is inconsistent with the field type or outside the range of allowable values for the field, an error tone signals. In addition, some keys on the keyboard (e.g., Page Up, Page Down) perform very specific functions, such as entering and deleting characters, moving the cursor between fields on the screen, and automatically scrolling field values up and down.

Typing Numbers

The rail tag programmer host software uses certain keys on the number keypad for cursor control purposes. On PC models without a 101-key extended keyboard, use the number keys at the top of the PC keyboard to enter numerical characters.

Chapter 4 Programming Tags and Reading Pre-Programmed Tags

This chapter details the steps involved in programming tags and reading pre-programmed tags.

Selecting a Tag Format

The first task in programming a tag is to select a tag format (Figure 15). The rail tag programmer host software contains multiple predefined tag formats for each category of vehicle or object to be tagged. Multiple format types may be programmed in the same session. Refer to “Using the Tag Format” on page 3–16.

To select the tag format

1. Click on the desired tag format tab (Figure 15).

Figure 15 Select Tag Format Feature

Entering Tag Data

Once a tag format is selected, enter information about the vehicle or object to be tagged. Selecting a tag format displays field names describing the information required for that format in the Tag Format section. Refer to “Navigating the AP4119 Rail Tag Programmer Host Screen” on page 3–14 for data entry techniques.

Programming SeGo Protocol Tags

The AP4119 Rail Tag Programmer can write to and read from TransCore SeGo protocol tags. This section explains how to use the SeGo commands to write and read a SeGo protocol tag. [Figure 16](#) shows the SeGo tag format extended data screen.

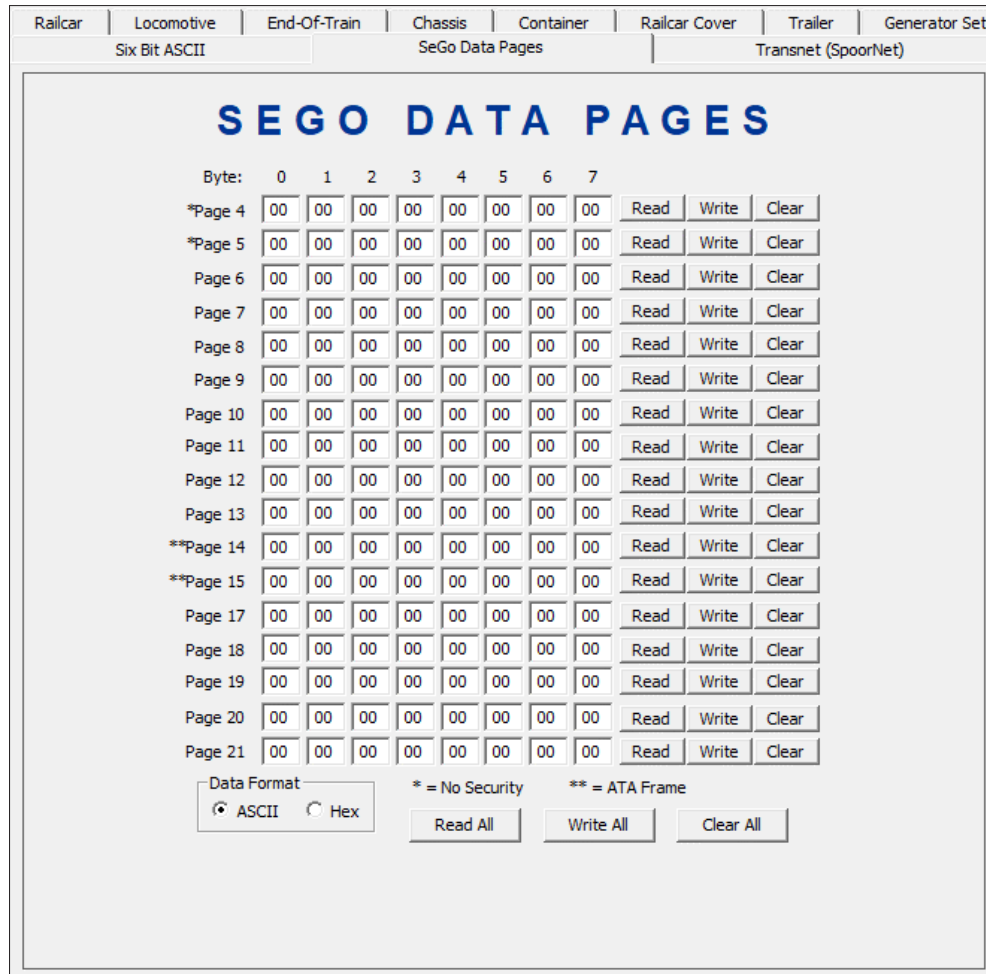


Figure 16 SeGo Tag Format Extended Data

SeGo Write Page

The AP4119 programs the user hex page data (xxxxxxxxxxxxxxxx), 16 hex characters, starting at hex address yy. The starting address (yy) must be on an eight-byte page boundary. For example, the starting address will be 00, 08, 10, 18, ...F8.

To write a SeGo tag page

Enter the tag programming data for each page using the **SeGo Extended Data Page** screen.

End-of-Train Device Format Entries

This section provides examples of the end-of-train (EOT) device entries. [Figure 17](#) shows the locomotive format **AP4119 Rail Tag Programmer Host** screen for entering EOT tag information.

The screenshot shows a software interface titled "END OF TRAIN" with several input fields and dropdown menus. At the top, there are tabs for "Six Bit ASCII", "SeGo Data Pages", and "Transnet (SpoorNet)". Below these are sub-tabs: "Railcar", "Locomotive", "End-Of-Train", "Chassis", "Container", "Railcar Cover", "Trailer", and "Generator Set". The main area contains the following fields:

- Equipment Initials: (4 chars)
- EOT Number: (6 digits)
- Side: (dropdown)
- Type: (dropdown)
- Security: (2 6-bit ASCII chars)
- Data Format: (dropdown) (Must be 'S')

Figure 17 Rail EOT Device Screen

The EOT device format field entries are described in [Table 2](#).

Table 2 EOT Device Format Field Entries

Field Entry	Description
Equipment Initials	Enter up to four alphanumeric characters from A to ZZZZ representing the car initials
EOT Number	Enter up to six numbers from 0 to 999999 representing the EOT device number.
Side	Enter a one-digit code indicating whether the tag is to be installed on the left or right side of the EOT device. The right or left side is in reference to a person standing to the rear of and facing an EOT device properly mounted. 0 Left side 1 Right side
Type	Enter one of the numbers listed below to provide a generic description of the EOT device: 0 EOT 1 EOT (alternate code use) 2 EOT (alternate code use) 3 Marker light (generally includes brake pressure gauge)—UMLER Code 95—NL/NLU
Security	If the programmer has security enabled, enter the two assigned security characters, otherwise leave as NA.
Data Format	Currently, the predefined tag formats only supports AAR Standard format. Leave this field as AAR Std Format (0x33) (S)

Locomotive Format Entries

This section provides examples of the locomotive format entries. [Figure 18](#) shows a sample Rail Locomotive Format screen for entering locomotive tag information.

Figure 18 Rail Locomotive Format Screen

[Table 3](#) describes the locomotive format field entries.

Table 3 Locomotive Format Field Entries

Field Entry	Description
Locomotive Initials	Enter up to four alphabetic characters from A to ZZZZ representing the locomotive initials.
Locomotive Number	Enter up to six numbers from 0 to 999999 representing the locomotive number.
Side	Enter a one-digit code indicating whether the tag is to be installed on the left or right side of the railcar. The right or left side is in reference to a person facing the locomotive from the front end of the locomotive. 0 Left side 1 Right side
# Axles	Enter a number from 1 to 32 indicating the number of axles on the locomotive.
Bearing Type	Select 1 for roller bearings, which will be correct for 99% of cases. Other possible entries include: 0 Plain bearings 2 Roller bearings, inboard 3 Roller bearings, 3-axle truck, 1-axle obstructed (Buckeye Design) 4 Roller bearings, plain bearing housing

Table 3 Locomotive Format Field Entries

Field Entry	Description
Spare	This field is available for any use by the owner. For example, it can be used to indicate the locomotive’s model number. Up to five characters may be entered in this field.
Length	Enter the length of the locomotive in feet or dm from coupler to coupler or as specified by the UMLER specification manual. Enter the Length in feet or in dm.
Security	If the programmer has security enabled, enter the two assigned security characters, otherwise leave as NA.
Data Format	Currently, the predefined tag formats only supports AAR Standard format. Leave this field as AAR Std Format (0x33) (S)

Railcar Format Entries

This section provides examples of the railcar tag. Figure 19 shows a sample Railcar Format screen for entering railcar tag information.

Note: This format can also be used for extended railcars with up to 999 axles.

The screenshot shows a software interface titled "RAILCAR" with a navigation bar at the top containing: Six Bit ASCII, SeGo Data Pages, Transnet (SpoorNet), Railcar, Locomotive, End-Of-Train, Chassis, Container, Railcar Cover, Trailer, and Generator Set. The main form includes the following fields:

- Equipment Initials: (4 chars)
- Car Number: (6 digits)
- Side: (dropdown)
- # Axles: (1-999)
- Bearing Type: (dropdown)
- Platform Id: (dropdown)
- Spare1: (5-bits, 0-31)
- Spare2: (10-bits, 0-1023)
- Spare3: (7-bits, 0-127)
- Security: (2 6-bit ASCII chars)
- Data Format: (Must be 'S')
- Length: ft dm (0ft min, 2330ft max)

Figure 19 Railcar Format Screen

Table 4 describes the railcar format fields.

Table 4 Railcar Format Fields

Field	Description
Equipment Initials	Enter up to four alphabetic characters from A to ZZZZ representing the car initials.
Car Number	Enter up to six numbers from 0 to 999999 representing the car number.
Side	Enter a one-digit code indicating whether the tag is to be installed on the left or right side of the railcar. The left or right side is in reference to a person facing the car from the hand brake end (B end) of the car. 0 Left side 1 Right side
# Axles	Enter a number from 1 to 999 indicating the number of axles on the car.
Bearing Type	Enter a 1 for roller bearings, which is correct for 99% of the cases. Other possibilities include: 0 Plain bearings 2 Roller bearings, inboard 3 Roller bearings, 3-axle truck, 1-axle obstructed (Buckeye Design) 4 Roller bearings, plain bearing housing
Platform ID	Enter a 0 for single platform (non-articulated) cars. Refer to the AAR Standard for AEI for articulated car entries.
Spare 1	This field is available for any use by the owner or may be used to specify the first digit of the AAR Car Type Code.
Spare 2	This field is available for any use by the owner or may be used to specify the last three digits of the AAR Car Type Code.
Spare 3	This field is available for any use by the owner.
Length	Enter the length of the car in feet or dm from coupler to coupler or as specified by the UMLER specification manual.
Security	If the programmer has security enabled, enter the two assigned security characters, otherwise leave as NA.
Data Format	Currently, the predefined tag formats only supports AAR Standard format. Leave this field as AAR Std Format (0x33) (S)

Transferring Data to Tags

Tags are programmed by transferring the tag data entered in the PC to the rail tag programmer.

Note: *The tag can be placed into the tag holder before issuing the command, or with the tag holder door open, enter the command and place the tag into the tag holder within 10 seconds. If the tag is not placed into the programmer and the door is not closed within 10 seconds, the programmer will abort the command. When programming an AT5549 End-of-Train Tag, first place the tag into a tag adapter with the tag's reflective side up before placing the tag into the tag holder.*

To transfer data to tags

1. Make sure the rail tag programmer is connected and active. The **Device Status** field in the Status and Prompt Information Section screen should be set to **Connected** or **Ready**.
2. Select the desired tag format from the available tag format tabs to transfer the tag data from the PC to the rail tag programmer. Enter the desired tag data and press **Write Tag** or **F3**. If a tag is not detected, the rail tag programmer emits an audible beep and the following message appears on the Status field, **Write Failed: No Frame Marker** (Figure 20).

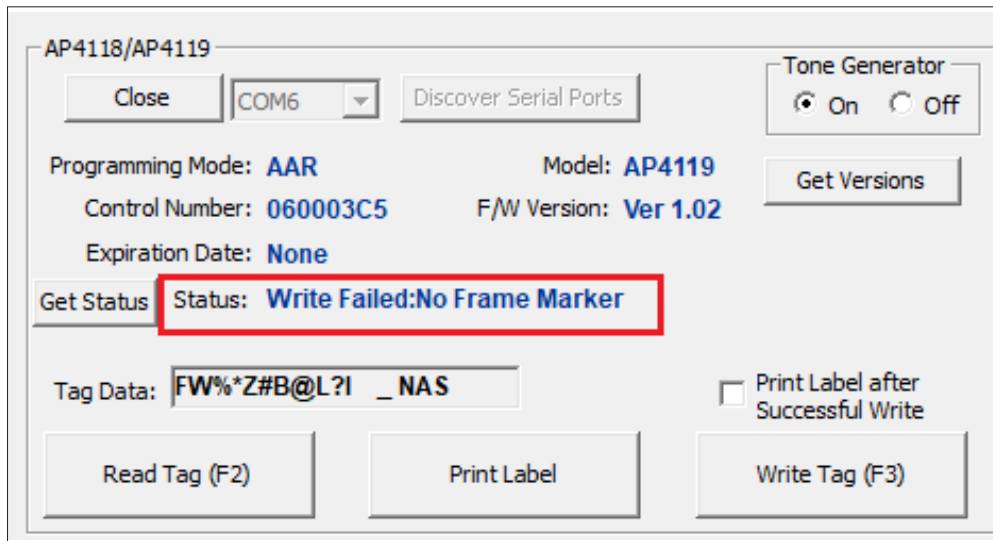


Figure 20 No Tag in Tag Holder Error Dialog Box

3. Open tag holder door and slide the tag into the tag holder (Figure 21).

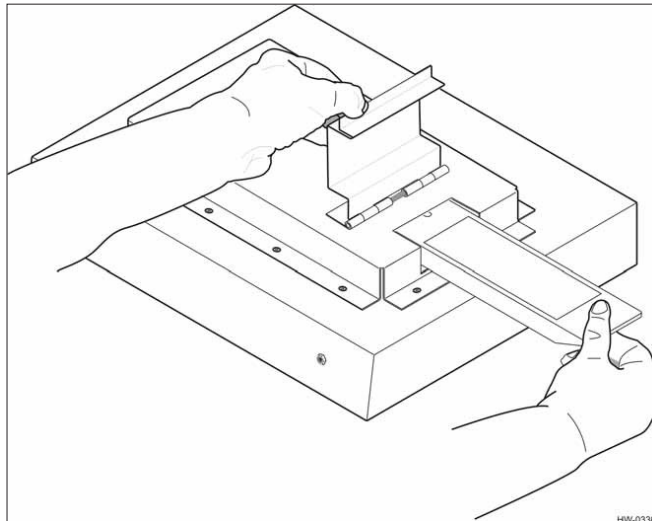


Figure 21 Tag Being Inserted for Programming

For the AT5549 End-of-Train tag, open the tag holder door and slide the adapter with tag into the tag holder (Figure 22).

Note: The AT5549 End-of-Train Tag is programmed with its reflective surface up.

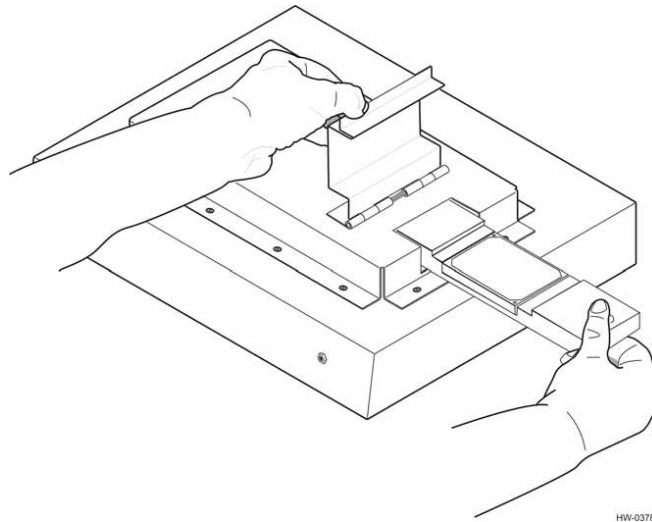


Figure 22 AT5549 Tag Inserted into Tag Holder for Programming

4. Select the desired tag format from the available tag format tabs to transfer the tag data from the PC to the rail tag programmer. Enter the desired tag data and press **Write Tag** or **F3**.
5. A series of three quick audible tones signaling successful data transfer to the tag accompanied by the Status message `Tag Written` indicate that the tag data displayed on the screen has been successfully programmed into the tag.
6. Remove the tag from the tag holder. If the Label printer has been configured, and the **Print Label** option has been checked (“[Appendix D Label Printer Configuration](#)” on page D-52) the tag data prints on the label. Attach the printed label to the tag.
7. Enter all required data for the next tag and repeat steps 3 through 6.
8. When all tags have been programmed, close the AP4119 Host by clicking the **X** on the upper right corner or select **Exit** from the File drop-down menu.

Tag Programming Errors

The rail tag programmer host software indicates tag programming errors by displaying a failure message in the status field and status bar (Figure 23). In addition, the rail tag programmer emits a series of tones. Also, the rail tag programmer `ERROR LED` illuminates red.



Figure 23 Tag Programming Failure Message

The following is a list of problems that can cause tag programming errors:

- Tag holder door is open
- Data entered is invalid
- Security characters were entered before security settings were enabled
- Programmer timed out before the tag was placed in the holder

Reading Pre-Programmed Tags

Read pre-programmed ATA and SeGo protocol tags (e.g., AT5118 and AT5549) using the pre-programmed tags feature.

To read a pre-programmed tag

1. With the programmer tag holder door open, press the **Read Tag** button or press **F2**. A series of tones indicate that the programmer is ready to transfer data from the tag.
2. Within 10 seconds of issuing the **Read** command, slide a tag into the tag holder and close the tag holder door.
3. The tag data contents are displayed on the AP4119 Rail Tag Programmer Host screen. When the tones and screen message indicate the tag read is complete, open the tag holder door and remove the tag from the programmer.

SeGo Read Page

The programmer reads hex data (xxxxxxxxxxxxxxxx), 16 hex characters, starting at hex address yy. The starting address (yy) must be on an eight-byte page boundary. For example, the starting address will be 00, 08, 10, 18, ...F8.

To read a SeGo tag page

1. Insert the tag to be read in the tag holder.
2. Select an individual page to read (Figure 24).

Byte:	0	1	2	3	4	5	6	7				
*Page 4	00	00	00	00	00	00	00	00	00	Read	Write	Clear
*Page 5	00	00	00	00	00	00	00	00	00	Read	Write	Clear

Figure 24 Page 4 Read Selected

3. Select **Read All** tag pages (Figure 25).

Data Format		* = No Security	** = ATA Frame
<input type="radio"/> ASCII	<input checked="" type="radio"/> Hex	Read All	Write All
		Clear All	

Figure 25 Read All Pages

To clear data from the tag pages, clear pages individually or click on **Clear All** to erase all tag data in the tag.

Tag Read Errors

The rail tag programmer host software indicates tag read errors by displaying a failure message in the status field (Figure 26). In addition, the rail tag programmer emits a series of tones. Also, the rail tag programmer ERROR LED illuminates red.



Figure 26 Tag Read Failure Message

The following is a list of problems that can cause tag read errors:

- The tag holder door is open.
- The programmer timed out before the tag was placed in the holder.

Selecting the Print Label Option

Note: The Label Printer must be configured before the Print Label function can be used. See “Appendix D Label Printer Configuration” on page D–52 for details.

To print a label for each tag, check the **Print Label after Successful Write** box on the AP4119 Rail Tag Programmer Host screen (Figure 27). Enabling the **Print Label** option prints the tag side, owner initials, and equipment number of the current programmed tag as well as the current date and time onto a label. The label prints after the tag is successfully programmed.

Alternatively, the **Print Label** button can be used to print a single label for the last programmed tag or for the last read tag.

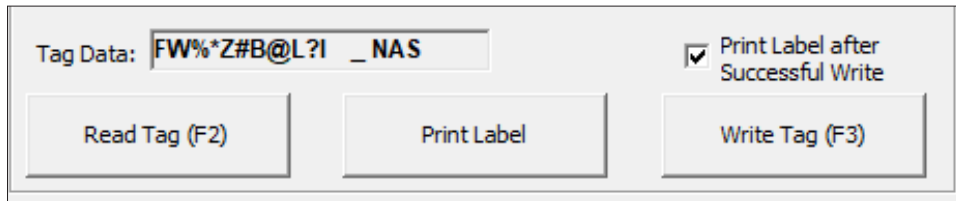


Figure 27 Labels On Menu Item

Attaching Tag Labels

If the **Print Label** option is checked, a label prints when the tag is programmed. Affix this label to the tag.

Chapter 5 Using Files

This chapter explains how to create the log and input files.

During tag programming, a record of each successfully programmed tag can be written to a log file. The date, format type, and all data field information for each tag is written into the log file.

Note: *Tag information can only be written to a log file during tag programming.*

Log files are saved as ASCII files with a `.log` file name extension.

To create a log file

1. Click on the **Select** button on the Audit Trail section to access an existing `.log` file or to create a new file (Figure 28).

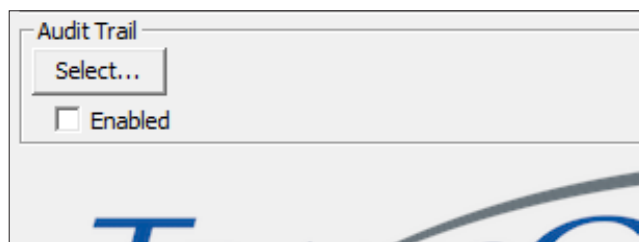


Figure 28 Select Log File Screen

2. Select an existing `*.log` file from a user defined file directory (the following directory can be used: <C:\Program Files\Transcore\AP4119 Host\Docs>), or create a new `.log` file by typing the desired file name in the **File name** field select **Open** (Figure 29).

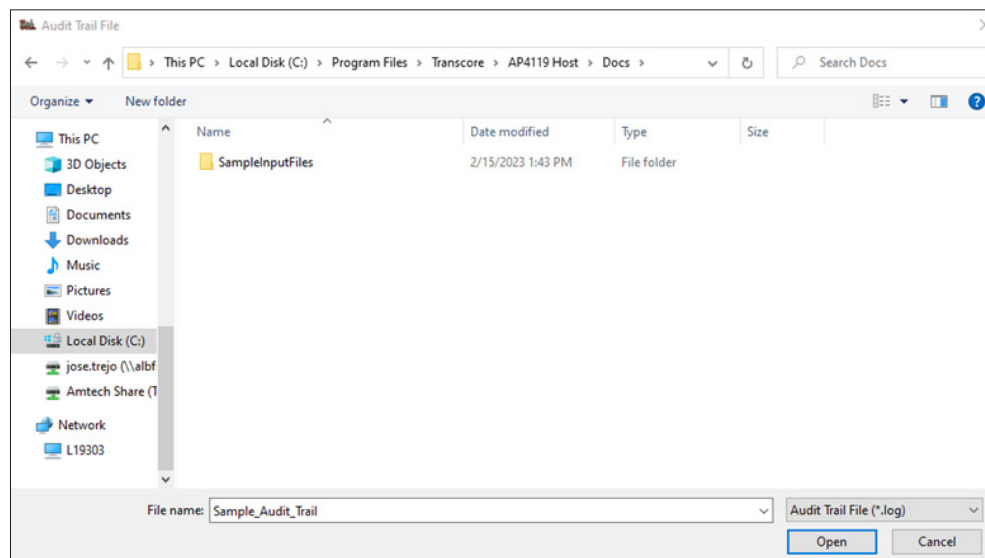


Figure 29 Audit Trail File Screen

- Click on the **Enabled** box and ensure the box is checked (Figure 30).



Figure 30 Enabling the Audit Trail Option

- Refer to “[Transferring Data to Tags](#)” on page 4–24 for complete tag programming instructions. Once a tag is successfully programmed, the log entry is automatically saved.
- When tag programming is complete, un-check the enabled box to stop the tag programming log.

Appending Log Files

New data can be added to the end of an existing log file. Individual log file records cannot be altered using the AP4119 Rail Tag Programmer host software; however, the file may be edited using standard DOS editing techniques for ASCII files on the personal computer (PC).

To append log files

- If a log file is already created, choose that file name and select **Open**, which displays the log file name in the Log File field in the screen.
- Click on the **Enabled** box and ensure the box is checked.
- Slide the tag into the tag holder (Figure 31) or place the end-of-train tag in the programmer adapter and slide the assembly into the tag holder (Figure 32) and close the door. Press the **Write Tag** button or press **F3** to program the tag.

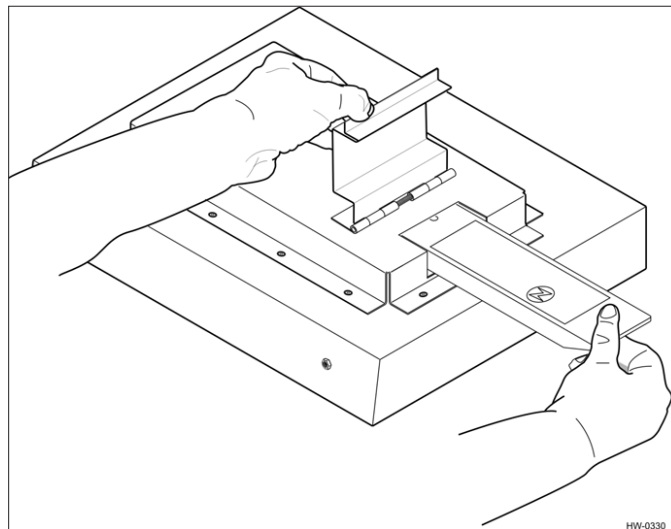


Figure 31 Tag in Proper Position

Note: The AT5549 End-of-Train Tag is programmed with its reflective surface up.

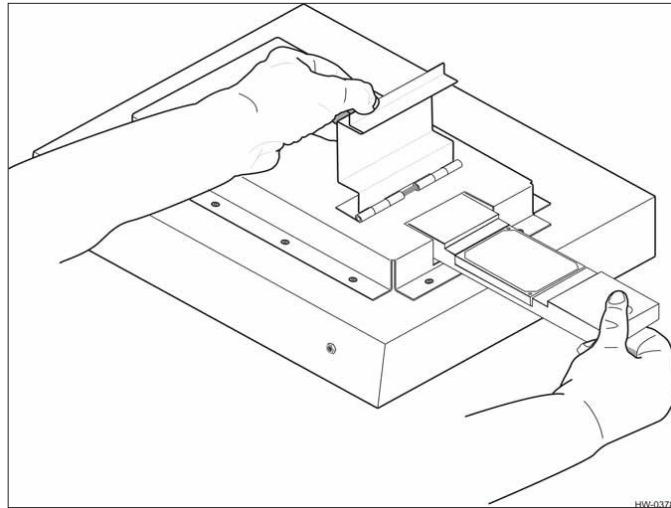


Figure 32 AT5549 End-of-Train Tag in Adapter Ready for Programming

4. A series of quick tones signaling successful data transfer to the tag accompanied by the message `Tag Written Successfully` indicate that the tag data displayed on the screen has been successfully programmed into the tag.
5. Remove the tag from the programming head. If the Label Printer has been configured the tag data prints on the label. Attach the label to the tag.
6. Enter all required data for the next tag and repeat steps 2 through 4.
7. When all tags have been programmed, un-check the enabled box to stop the tag programming log.

Using Input Files

Use input files to enter previously recorded tag data.

Programming Tags Using Input Files

Files created from other software sources are used as input files to input and transfer data to tags through the rail tag programmer. Refer to [Appendix A on page A-34](#).

To program tags using input files

1. Click the **Select** button on the Input File section to access a *.tag file.

Id	Type	Initials	Number

Figure 33 Input File Section

2. Select an existing .tag file from a user defined directory and press **Open** (Figure 34). Input file samples can be found in <C:\Program Files\Transcore\AP4119 Host\Docs\SampleInputFiles>.

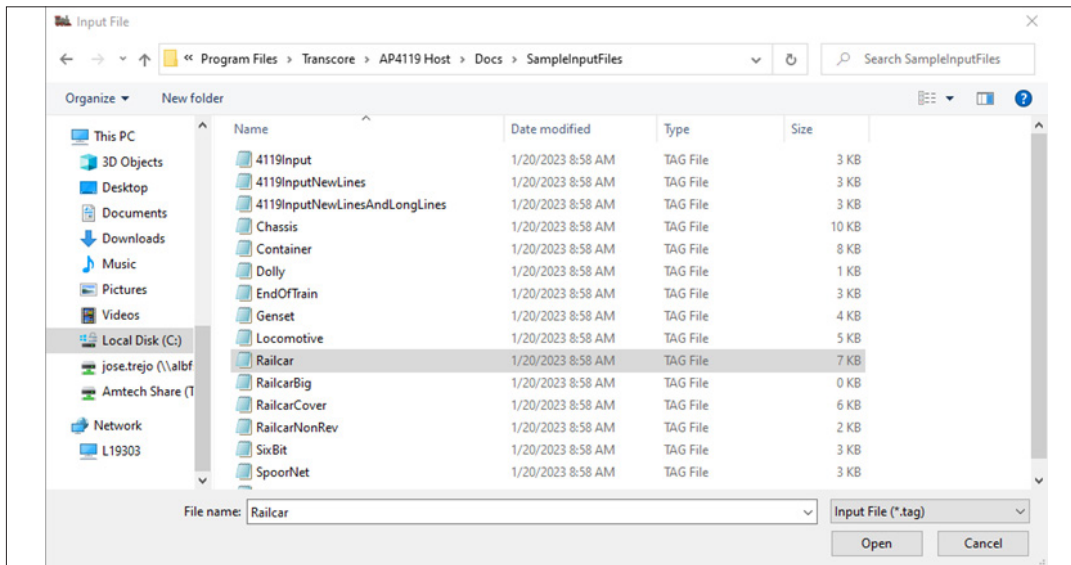


Figure 34 Input File Screen

3. The first record file is selected by default. If a previous tag programming session is being resumed, the navigation bar can be used to find the desired tag record (Figure 35).

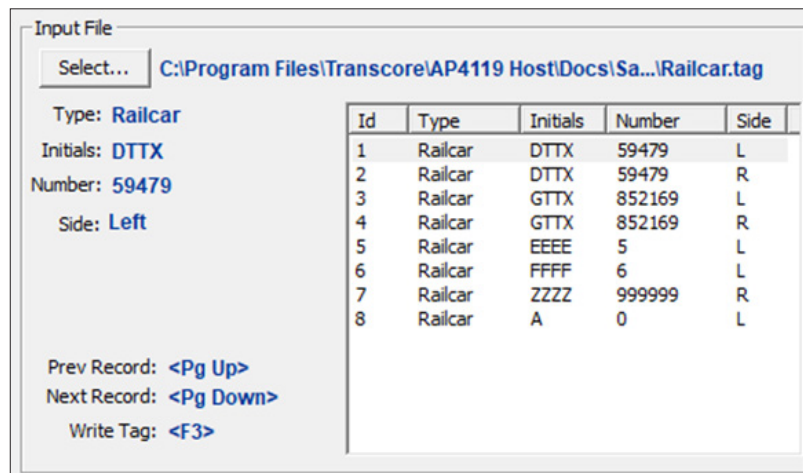


Figure 35 Selected Input File

4. Slide a tag into the tag holder (Figure 31 and Figure 32 on page 5–31).
5. Click on **Write Tag** or press **F3** to transfer the tag data to the rail tag programmer. A series of quick audible tones signal successful data transfer to the tag and displays the message **Tag Written**, which indicates that the tag data displayed on the screen has been programmed into the tag. Press **Pg Down** on the keyboard to select the next tag data record.
6. Remove the tag from the tag holder.
7. If labels are printed, attach the label to the tag.
8. Repeat steps 3 through 7 to program any remaining tags.

9. When tag programming is completed, close the AP4119 Rail Tag Programmer Host.

If an input file tag programming session is terminated before all tags have been programmed, write down the record number of the last tag programmed. Enter this record number plus 1 when resuming programming. For example, if the last record number programmed was 150, resume programming with record number 151.

**Caution**

Always observe the File Record field in the Status screen when editing or programming tags from an input file. This field displays the input file's record number for the tag code currently displayed on the screen.

Appendix A Record Formats Programmer Host Input Files

This appendix describes the rail tag programmer host input data record formats for each supported equipment type required by the American Association of Railroads (AAR), American Trucking Associations (ATA), International Organization for Standardization (ISO), American National Standards Institute (ANSI), and International Air Transport Association (IATA) standards.

Preparing Record Input Files

The rail tag programmer host software accepts data input from files as well as from keyboard entries. Using input data files can improve the tag programming procedure by reducing potential data entry errors.

The input files can be generated by a software program run independently of the rail tag programmer host. To create such an input file, the record format required by the rail tag programmer host must be followed precisely. Because the rail tag programmer host is used to program several standard tag formats, different record formats are required for different equipment types.

General Record Description

Each input record used by the rail tag programmer host consists of 316 bytes, which are divided into 32 fields as described in [Table 5](#).

Table 5 Record Input Field Descriptions

Bytes	Fields												
Bytes 1-6	Tag Model (e.g., AT5118)												
Bytes 7-16	Field format name. The field format name is the name of the file that the rail tag programmer host uses to initialize the remaining fields and is based upon equipment type. For AAR, ATA, ISO, ANSI, and IATA standard tags, the following field names are valid: <table data-bbox="454 1344 1023 1617" style="margin-left: 40px;"> <tr> <td>RAIL_CAR</td> <td>Railcar equipment</td> </tr> <tr> <td>CHASSIS</td> <td>Chassis</td> </tr> <tr> <td>LOCOMOTV</td> <td>Locomotive</td> </tr> <tr> <td>ICONTAIN</td> <td>Intermodal container</td> </tr> <tr> <td>TRAILER</td> <td>Trailer</td> </tr> <tr> <td>RAIL_EOT</td> <td>End-of-train device</td> </tr> </table>	RAIL_CAR	Railcar equipment	CHASSIS	Chassis	LOCOMOTV	Locomotive	ICONTAIN	Intermodal container	TRAILER	Trailer	RAIL_EOT	End-of-train device
RAIL_CAR	Railcar equipment												
CHASSIS	Chassis												
LOCOMOTV	Locomotive												
ICONTAIN	Intermodal container												
TRAILER	Trailer												
RAIL_EOT	End-of-train device												
Bytes 17-316	The remainder of the record is divided into 30 fields, consisting of 10 characters each. The arrangement of the fields is dependent upon the equipment type. As with the field format name, if a field does not use all 10 characters, it is padded with trailing ASCII space characters. If less than 30 fields are required for the equipment type, all unused fields are space filled.												

Railcar Record Layout

Table 6 lists the record definitions for railcar record layout.

Table 6 Railcar Record Layout

Field Name	Length	Minimum	Maximum	Position
Tag Model	6	6 spaces	AT9999	1-6
Field Format Name	8	RAIL_CAR	RAIL_CAR	7-14
Filler	2	Spaces	Spaces	15-16
Equipment Code	2	19	19	17-18
Filler	8	Spaces	Spaces	19-26
Tag Type	1	2	2	27
Filler	8	Spaces	Spaces	28-36
Owner Code	4	AAAA	ZZZZ	37-40
Filler	6	Spaces	Spaces	41-46
Car Number	6	000001	999999	47-52
Filler	4	Spaces	Spaces	53-56
Side Indicator	1	0 (left)	1 (right)	57
Filler	9	Spaces	Spaces	58-66
Car Length	4	0000	4095	67-70
Filler	6	Spaces	Spaces	71-76
Number of Axles	2	01	32	77-78
Filler	8	Spaces	Spaces	79-86
Bearing Type	1	0	7	87
Filler	9	Spaces	Spaces	88-96
Platform Indicator	2	00	15	97-98
Filler	8	Spaces	Spaces	99-106
Spare 1 or Car Type 1	1	Space	Z	107
Filler	9	Spaces	Spaces	108-116
Spare 2 or Car Type 2	3	Spaces	999	117-119
Filler	7	Spaces	Spaces	120-126
Spare 3	3	Spaces	127	127-129
Filler	7	Spaces	Spaces	130-136
Reserved	3	Spaces	511	137-139

Table 6 Railcar Record Layout

Field Name	Length	Minimum	Maximum	Position
Filler	7	Spaces	Spaces	140-146
Security	2	Spaces	ZZ	147-148
Filler	8	Spaces	Spaces	149-156
Industry Code	1	S	S	157
Filler	9	Spaces	Spaces	158-166
Filler	150	Spaces	Spaces	167-316

Chassis Record Layout

Table 7 lists the record definitions for chassis record layout.

Table 7 Chassis Record Layout

Field Name	Length	Minimum	Maximum	Position
Tag Model	6	6 spaces	AT9999	1-6
Format Name	7	CHASSIS	CHASSIS	7-13
Filler	3	Spaces	Spaces	14-16
Equipment Code	2	27	27	17-18
Filler	8	Spaces	Spaces	19-26
Tag Type	1	2	2	27
Filler	9	Spaces	Spaces	28-36
Chassis Mark	4	AAAA	ZZZZ	37-40
Filler	6	Spaces	Spaces	41-46
Chassis Number	6	000001	999999	47-52
Filler	4	Spaces	Spaces	53-56
Type Detail Code	2	00	15	57-58
Filler	8	Spaces	Spaces	59-66
Tare Weight (100 kg)	2	00 or 15	77	67-68
Filler	8	Spaces	Spaces	69-76
Height (cm)	3	000 or 040	166	77-79
Filler	7	Spaces	Spaces	80-86
Tandem Width Code	1	0	3	87
Filler	9	Spaces	Spaces	88-96

Table 7 Chassis Record Layout

Field Name	Length	Minimum	Maximum	Position
Forward Extension (cm)	3	000 or 030	154	97-99
Filler	7	Spaces	Spaces	100-106
Kingpin Setting (cm)	3	000 or 030	154	107-109
Filler	7	Spaces	Spaces	110-116
Axle Spacing (dm)	2	00 or 10	40	117-118
Filler	8	Spaces	Spaces	119-126
Running Gear Locat. (dm)	2	00 or 13	43	127-128
Filler	8	Spaces	Spaces	129-136
Number of lengths	1	0	7	137
Filler	9	Spaces	Spaces	138-146
Minimum Length (cm)	4	0000	2046	147-150
Filler	6	Spaces	Spaces	151-156
Spare	1	0	3	157
Filler	9	Spaces	Spaces	158-166
Maximum Length (cm)	4	0000	2046	167-170
Filler	6	Spaces	Spaces	171-176
Industry Code	1	S	S	177
Filler	9	Spaces	Spaces	178-186
Filler	130	Spaces	Spaces	187-316

Locomotive Record Layout

Table 8 lists the record definitions for locomotive record layout.

Table 8 Locomotive Record Layout

Field Name	Length	Minimum	Maximum	Position
Tag Model	6	6 spaces	AT9999	1-6
Field Format Name	8	LOCOMOTV	LOCOMOTV	7-14
Filler	2	Spaces	Spaces	15-16
Equipment Code	2	05	05	17-18
Filler	8	Spaces	Spaces	19-26
Tag Type	1	2	2	27

Table 8 Locomotive Record Layout

Field Name	Length	Minimum	Maximum	Position
Filler	9	Spaces	Spaces	28-36
Owner Code	4	AAAA	ZZZZ	37-40
Filler	6	Spaces	Spaces	41-46
Locomotive Number	6	000001	999999	47-52
Filler	4	Spaces	Spaces	53-56
Side Indicator	1	0 (left)	1 (right)	57
Filler	9	Spaces	Spaces	58-66
Length	3	000	510	67-69
Filler	7	Spaces	Spaces	70-76
Number of Axles	2	01	32	77-78
Filler	8	Spaces	Spaces	79-86
Bearing Type	1	0	7	87
Filler	9	Spaces	Spaces	88-96
Spare	5	Spaces	ZZZZZ	97-101
Filler	5	Spaces	Spaces	102-106
Reserved	3	Spaces	255	107-109
Filler	7	Spaces	Spaces	110-116
Security	2	Spaces	ZZ	117-118
Filler	8	Spaces	Spaces	119-126
Industry Code	1	S	S	127
Filler	9	Spaces	Spaces	128-136
Filler	180	Spaces	Spaces	137-316

Intermodal Container Record Layout

Table 9 lists the record definitions for intermodal container record layout.

Table 9 Intermodal Container Record Layout

Field Name	Length	Minimum	Maximum	Position
Tag Model	6	6 spaces	AT9999	1-6
Field Format Name	8	ICONTAIN	ICONTAIN	7-14
Filler	2	Spaces	Spaces	15-16

Table 9 Intermodal Container Record Layout

Field Name	Length	Minimum	Maximum	Position
Equipment Code	2	10	10	17-18
Filler	8	Spaces	Spaces	19-26
Tag Type	1	2	2	27
Filler	9	Spaces	Spaces	28-36
Owner Code	4	AAAA	ZZZZ	37-40
Filler	6	Spaces	Spaces	41-46
Identification Number	6	000001	999999	47-52
Filler	4	Spaces	Spaces	53-56
Check Digit	1	0	9	57
Filler	9	Spaces	Spaces	58-66
Length (cm)	4	0000	2000	67-70
Filler	6	Spaces	Spaces	71-76
Height (cm)	3	000	500	77-79
Filler	7	Spaces	Spaces	80-86
Width (cm)	3	200	300	87-89
Filler	7	Spaces	Spaces	90-96
Container Type	3	000	127	97-99
Filler	7	Spaces	Spaces	100-106
Max. Weight (100kg)	3	045	455	107-109
Filler	7	Spaces	Spaces	110-116
Tare Weight (100 kg)	2	00	91	117-118
Filler	8	Spaces	Spaces	119-126
Spare	1	SPACE	3	127
Filler	9	Spaces	Spaces	128-136
Security	2	Spaces	ZZ	137-138
Filler	8	Spaces	Spaces	139-146
Industry Code	1	S	S	147
Filler	9	Spaces	Spaces	148-156
Filler	160	Spaces	Spaces	157-316

Trailer Record Layout

Table 10 lists the record definitions for trailer record layout.

Table 10 Trailer Record Layout

Field Name	Length	Minimum	Maximum	Position
Tag Model	6	6 spaces	AT9999	1-6
Field Format Name	7	TRAILER	TRAILER	7-13
Filler	3	Spaces	Spaces	14-16
Equipment Code	2	21	21	17-18
Filler	8	Spaces	Spaces	19-26
Tag Type	1	2	2	27
Filler	9	Spaces	Spaces	28-36
Owner (SCAC) Code	4	AAAA	ZZZZ	37-40
Filler	6	Spaces	Spaces	41-46
Identification Number	8	00000001	ZZZZZZZZ	47-54
Filler	2	Spaces	Spaces	55-56
Length (cm)	4	0000	2047	57-60
Filler	6	Spaces	Spaces	61-66
Width Code	1	0	3	67
Filler	9	Spaces	Spaces	68-76
Tandem Width Code	1	0	3	77
Filler	9	Spaces	Spaces	78-86
Type Detail Code	2	00	15	87-88
Filler	8	Spaces	Spaces	89-96
Forward Extension (cm)	3	000 or 030	284	97-99
Filler	7	Spaces	Spaces	100-106
Tare Weight (100 kg)	3	000 or 015	141	107-109
Filler	7	Spaces	Spaces	110-116
Height (cm)	3	000	511	117-119
Filler	7	Spaces	Spaces	120-126
Industry Code	1	S	S	127
Filler	9	Spaces	Spaces	128-136
Filler	180	Spaces	Spaces	137-316

Rail End-of-Train Record Layout

Table 11 lists the record definitions for rail end-of-train (EOT) record layout.

Table 11 Rail End-of-Train Record Layout

Field Name	Length	Minimum	Maximum	Position
Tag Model	6	6 spaces	AT9999	1-6
Field Format Name	8	RAIL_EOT	RAIL_EOT	7-14
Filler	2	Spaces	Spaces	15-16
Equipment Code	2	06	06	17-18
Filler	8	Spaces	Spaces	19-26
Tag Type	1	2	2	27
Filler	9	Spaces	Spaces	28-36
Owner Code	4	AAAA	ZZZZ	37-40
Filler	6	Spaces	Spaces	41-46
EOT Number	6	000001	999999	47-52
Filler	4	Spaces	Spaces	53-56
EOT Type Code	1	0	3	57
Filler	9	Spaces	Spaces	58-66
Side Indicator	1	0 (left)	1 (right)	67
Filler	9	Spaces	Spaces	68-76
Spare Field	7	Spaces	Spaces	77-83
Filler	3	Spaces	Spaces	84-86
Reserved	2	Spaces	ZZ	87-88
Filler	8	Spaces	Spaces	89-96
Security	2	Spaces	ZZ	97-98
Filler	8	Spaces	Spaces	99-106
Industry Code	1	S	S	107
Filler	9	Spaces	Spaces	108-116
Filler	200	Spaces	Spaces	117-316

Appendix B Downloading Firmware

This chapter describes how to install updated firmware to the AP4119 Rail Tag Programmer.

Downloading Firmware

The AP4119 Rail Tag Programmer host software downloads updated AP4119 Rail Tag Programmer firmware (*.hexfile) into the programmer's memory.

The rail tag programmer host software can download firmware into the rail tag programmer even if there is no tag in the tag holder.

If the download firmware operation **must** be canceled, switch off the rail tag programmer's power switch located on the rear panel of the programmer. This stops the download process and exits the **AP4119 Rail Tag Programmer** program.



***Caution**

Shutting off the power may damage or corrupt the current rail tag programmer firmware. If the download firmware process is interrupted, restart and complete the download firmware process before using the AP4119 programmer. TransCore recommends completing the download process once it has started.

To download updated programmer firmware

1. Select **Download Firmware** from the **Configure** menu of the AP4119 Rail Tag Programmer Host screen (Figure 36).

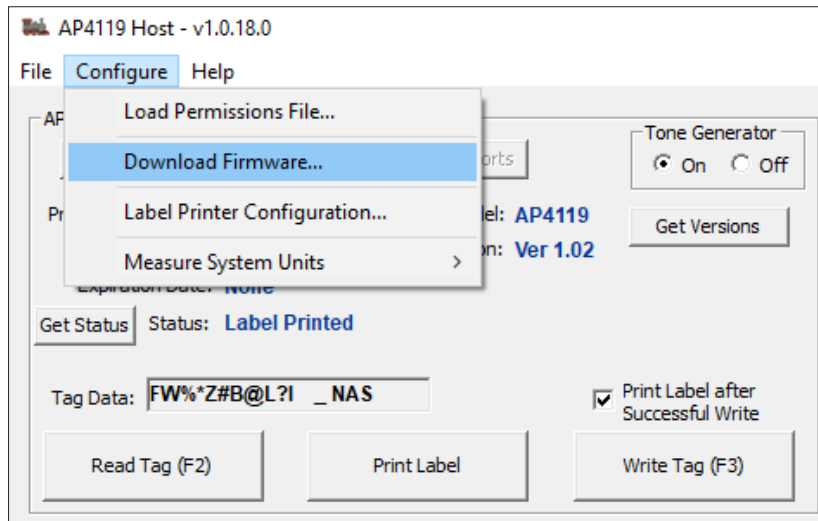


Figure 36 Download Firmware Button

After **Download Firmware** is selected, the rail tag programmer host software displays a dialog box to select a *.hex file to be downloaded into the programmer (Figure 37).

Note: If the AP4119 programmer is connected to the host, a pop up will prompt the user to disconnect from the AP4119 and try again.

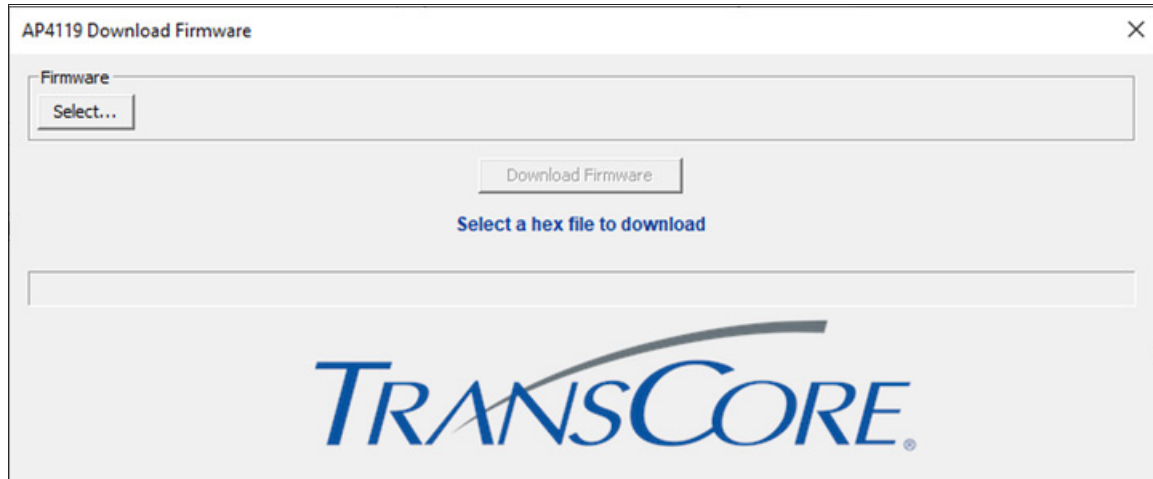


Figure 37 AP4119 Download Firmware Dialog Box

2. Select a *.hex file from the file directory or enter a valid *.hex file name and click the **Open** button of the dialog box. If a valid file is selected and opened, or a valid file name is entered, the **Download Firmware** button becomes available. (Figure 38).

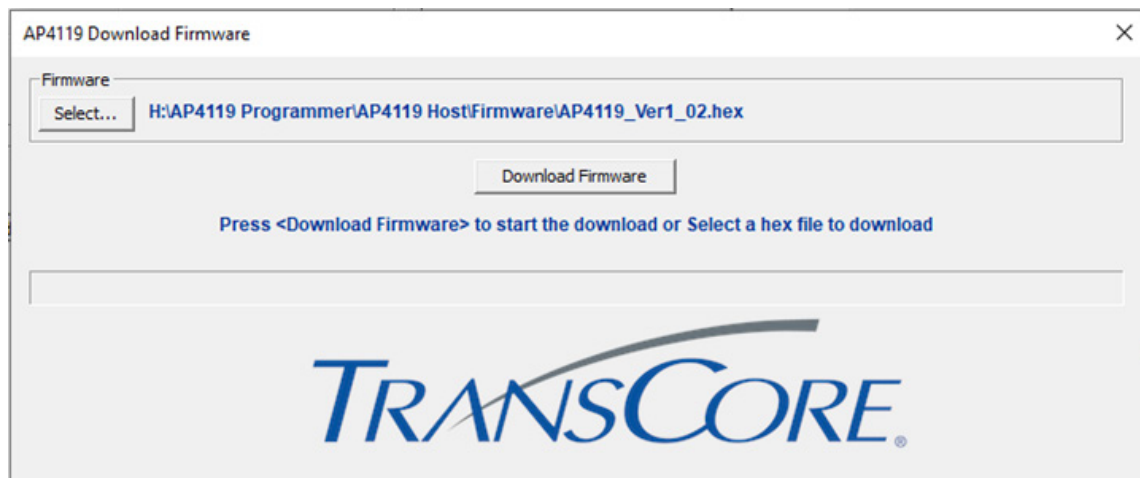


Figure 38 Start New Download firmware Screen

Note: If the **Download Firmware** button has not been selected, exit this screen by clicking on the **Close** button

3. To continue with the download, click on the **Download Firmware** button.

- The AP4119 programmer must be off before the download start process can begin. Once the AP4119 programmer has been turned off, click the **Yes** button to continue the download (Figure 39).

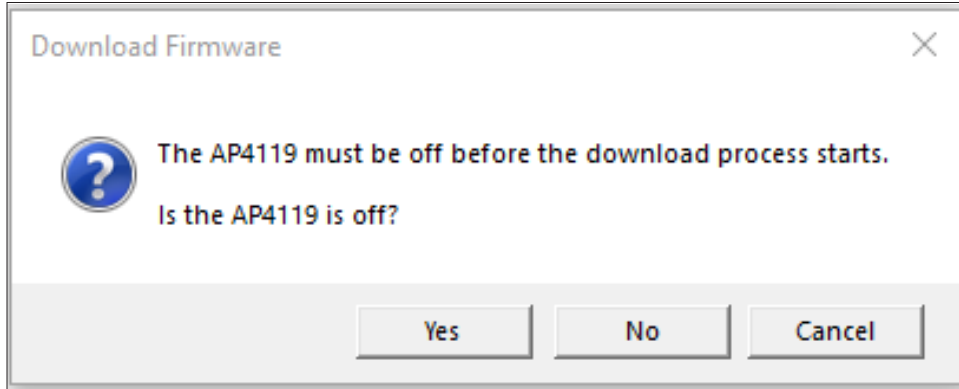


Figure 39 Is the AP4119 Programmer Off Screen

- Ensure the correct Comm port is selected in the main dialog box and click **Yes** to continue the download (Figure 40).

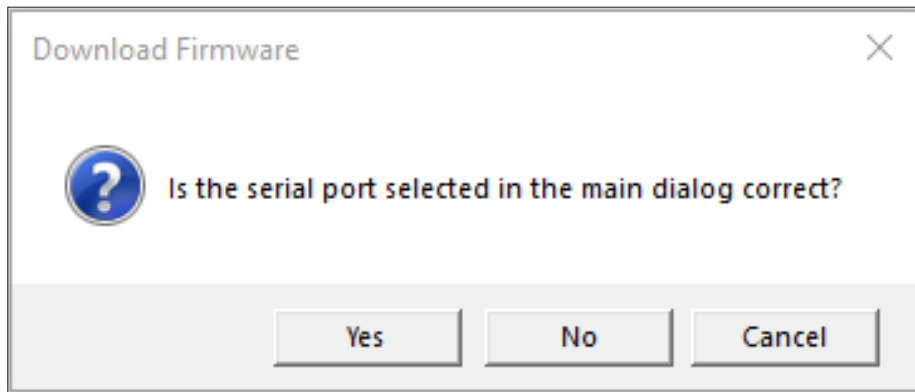


Figure 40 Is the Correct Port Selected Screen

- Click the **OK** button on the pop-up screen and power on the AP4119 Programmer (Figure 41).

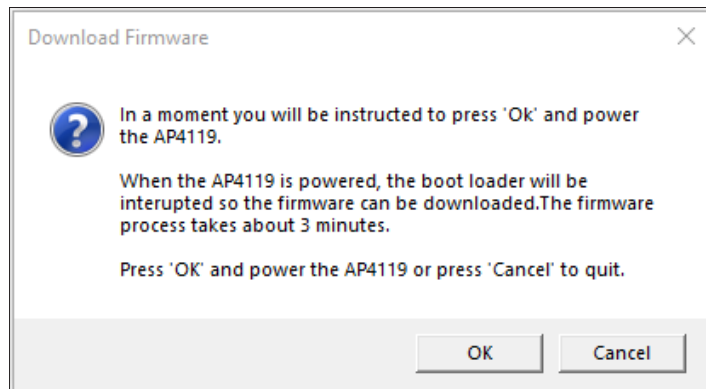


Figure 41 Start Download and Power the AP4119 Programmer Screen

The download firmware progress screen displays a progress status bar (Figure 42).

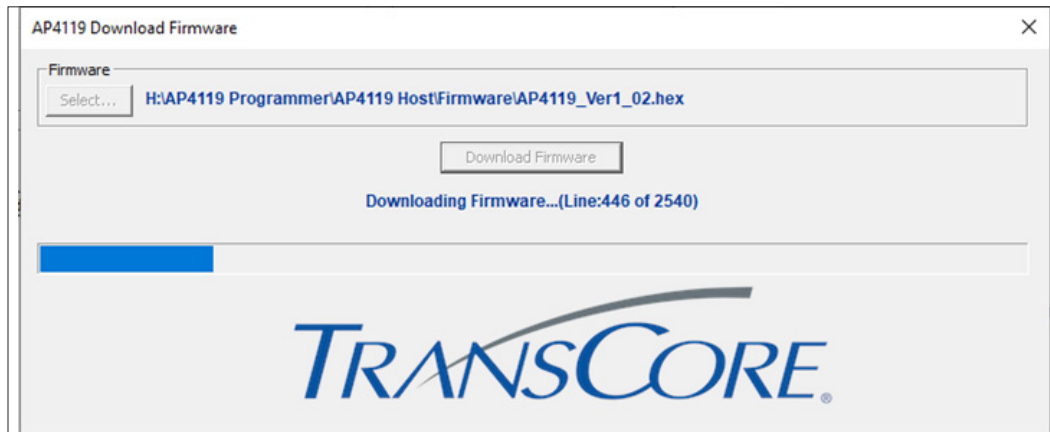


Figure 42 Download Firmware Progress Screen

A successful download displays the screen shown in Figure 43.

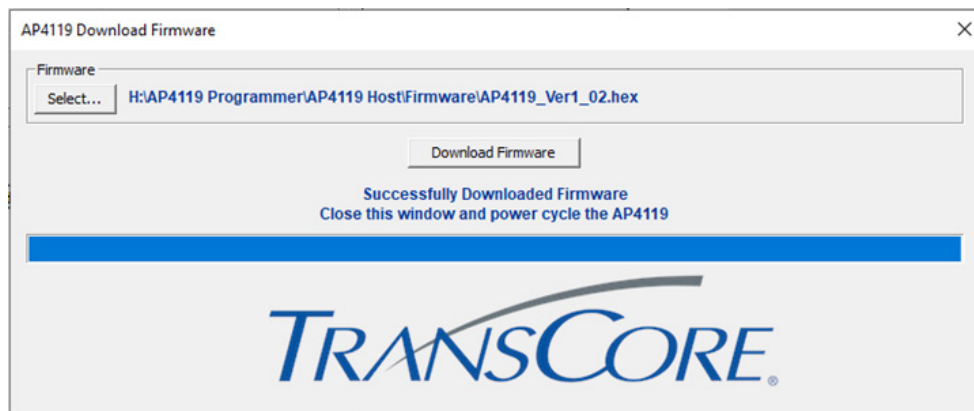


Figure 43 Successfully Downloaded Firmware Screen

7. Close the **Successfully Downloaded Firmware** Screen and power cycle the AP4119 Programmer.

Error Messages During Download Firmware

This section describes error dialog boxes that display if the correct *.hex type file is not selected, or if the AP4119 Programmer is turned off during the download firmware process.

Selecting Incorrect File Type

The rail tag programmer host software displays an **Error** dialog box if a file other than a *.hex file is selected (Figure 44).

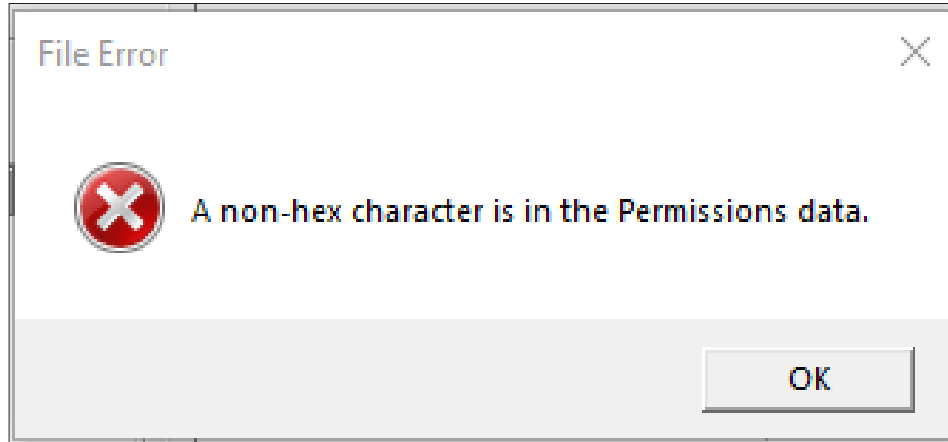


Figure 44 Incorrect File Type Error Dialog Box

If this error dialog box appears, click **OK** and select the correct .hex file.

Interrupting the Download Firmware Process

Note: If the download firmware operation **must* be canceled, switch off the rail tag programmer’s power switch located on the rear panel of the programmer. This stops the download process.



***Caution**

Shutting off the power may damage or corrupt the current rail tag programmer firmware. If the download firmware process is interrupted, restart and complete the download firmware process before using the AP4119 programmer. TransCore recommends completing the download process once it has started.

If the **Close** button of the AP4119 Download Firmware screen is selected during the firmware download, the rail tag programmer host software will close. The programmer must be restarted and the firmware download process completed before the AP4119 programmer can be used.

If the AP4119 power is interrupted or switched off, an error message (Figure 45) is displayed.

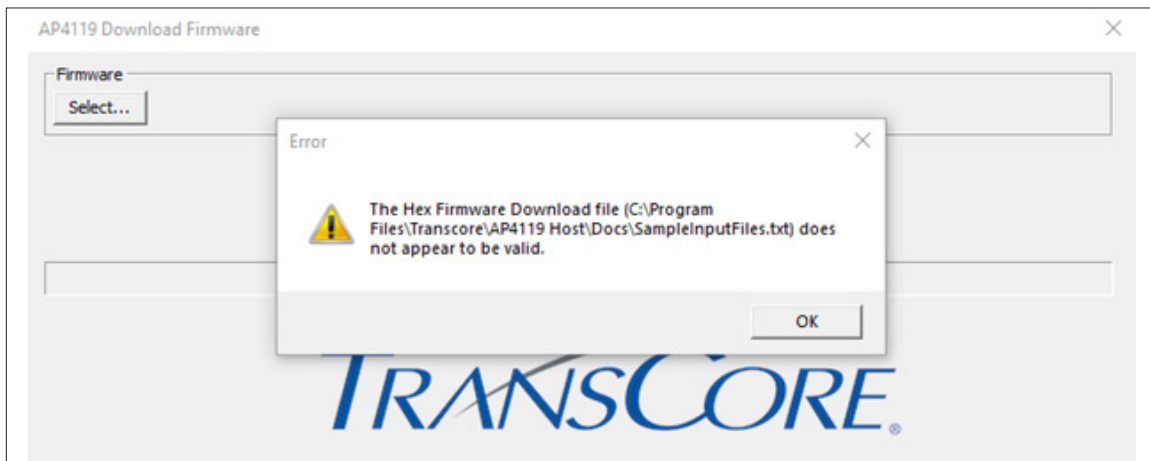


Figure 45 Power Interrupted During Firmware Download Error Dialog Box

Appendix C Loading a License Certificate

This chapter explains how to download a License Certificate to the AP4119 Programmer.

The AP4119 Rail Tag Programmer requires specific setup data before it can be used to program tags. Configuration of the programmer is done using a permissions tag or a License Certificate.

Downloading License Certificate

The AP4119 Rail Tag Programmer Host software is used to download a License Certificate into the Programmer's nonvolatile memory.

The License Certificate transfers parameters, such as permissions expiration date and application tag permissions (read/write/authentication access rights and ownership matching) to the rail tag programmer.

A License Certificate can be used once during a programmer's expected life cycle, or may be required on an ongoing basis during programmer use. Also, a different License Certificate can be used at any time in the programmer's lifetime to update or reconfigure the programmer. In some cases, multiple License Certificates for a single programmer may be required at a given site to enable tag programming by multiple owners, or to selectively enable or disable various programmer features.

Note: *The AP4119 tag programmer checks the License's Certificate Control Number against its own Control Number prior to implementing the permissions settings. If the License Certificate Control Number value does not match or is invalid, then the License Certificate settings are discarded. If the License Certificate Control Number value matches, the AP4119 tag programmer downloads the License Certificate settings into nonvolatile memory.*

To Download a License Certificate

1. Ensure the Host software is connected to the programmer and select **Load Permissions File** from the Configure menu of the AP4119 Rail Tag Programmer Host screen (Figure 46).

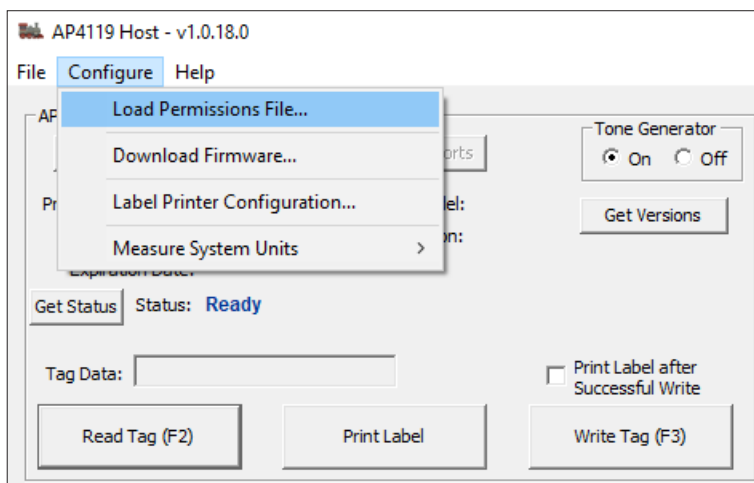


Figure 46 Load Permissions File Button

2. Select the *.Per file obtained from TransCore from the file directory or enter a valid file name and click the **Open** button of the dialog box. A successful License Certificate download is indicated by the screen as shown in [Figure 47](#).

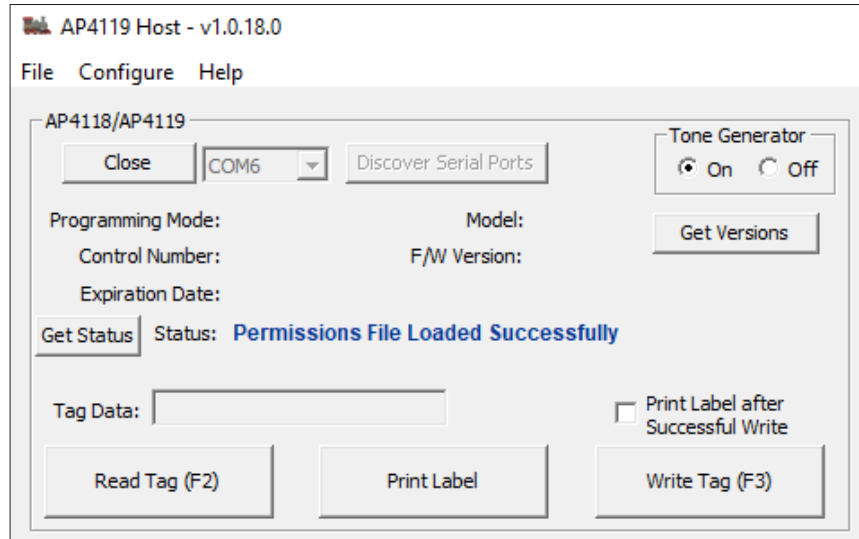


Figure 47 License Certificate Loaded Successfully Screen

3. Click the **Get Versions** button to check the License Certificate Expiration date ([Figure 48](#)). The expiration date will be displayed as MM/DD/YYYY or None ([Figure 49](#)).

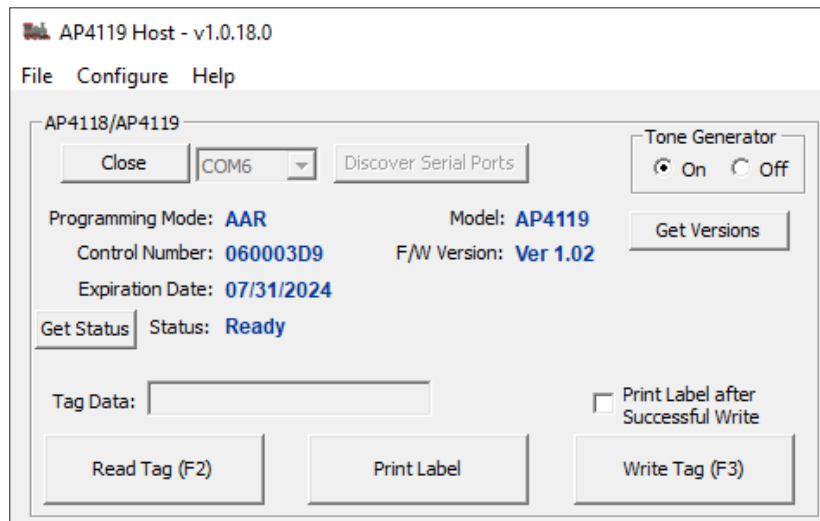


Figure 48 License Certificate with Limited Expiration Date Screen

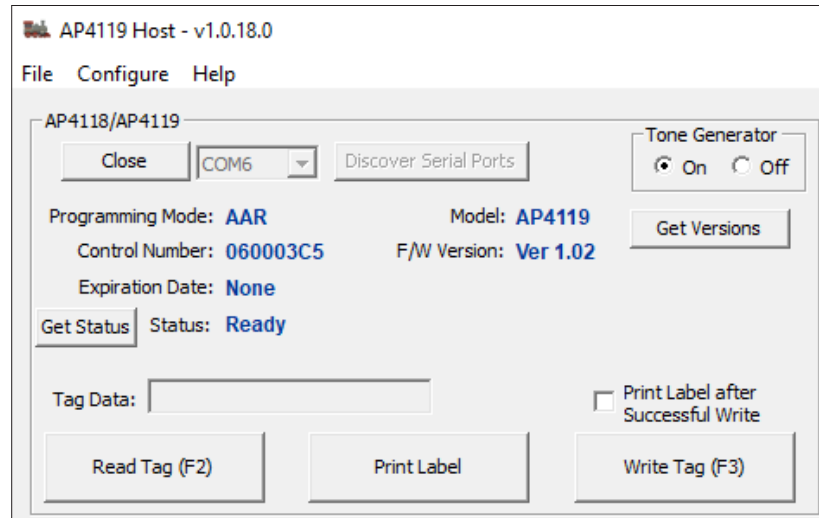


Figure 49 License Certificate without Expiration Date Screen

Error Messages During License Certificate Download

This section describes several errors that display if an invalid License Certificate format or expired License Certificate is selected, or if the Control Numbers do not match.

In addition to the error message, the rail tag programmer indicates License Certificate download errors by sounding a long continuous tone and the ERROR LED illuminates red.

Trying to Download a File While Being Disconnected from the Programmer

The AP4119 Rail Tag Programmer must be connected to the host PC before the license certificate can be downloaded. If the programmer is not connected, an error message will appear (Figure 50).

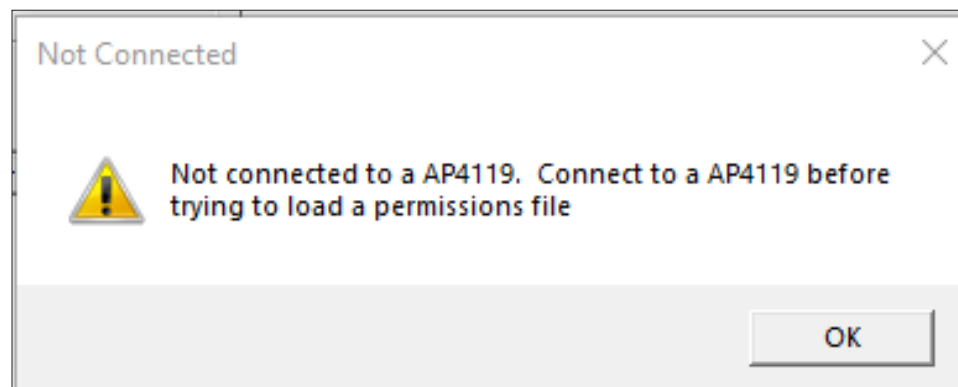


Figure 50 Connect to AP4119 Programmer Message

Selecting Invalid File Format

If a file format other than a *.Per file is selected, the rail tag programmer host software displays an error message (Figure 51).

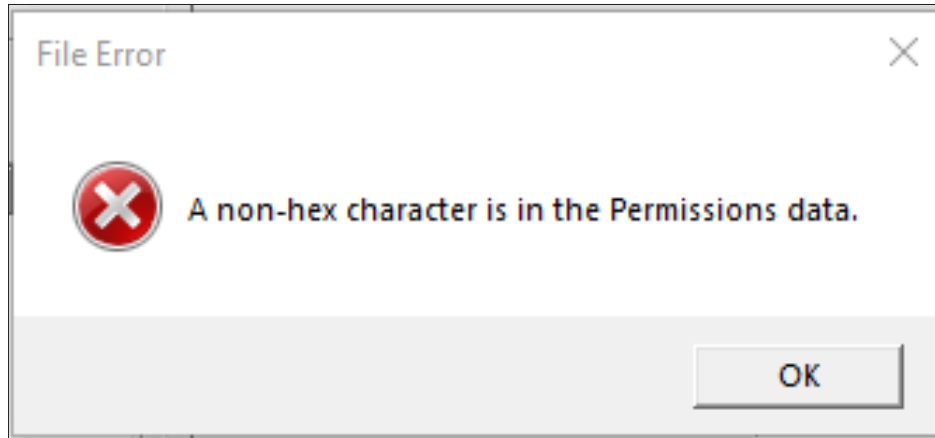


Figure 51 Incorrect File Type Error Message

Expired License Certificate

If an expired License Certificate is selected, the rail tag programmer host software displays a Permissions Time Expired message (Figure 52).

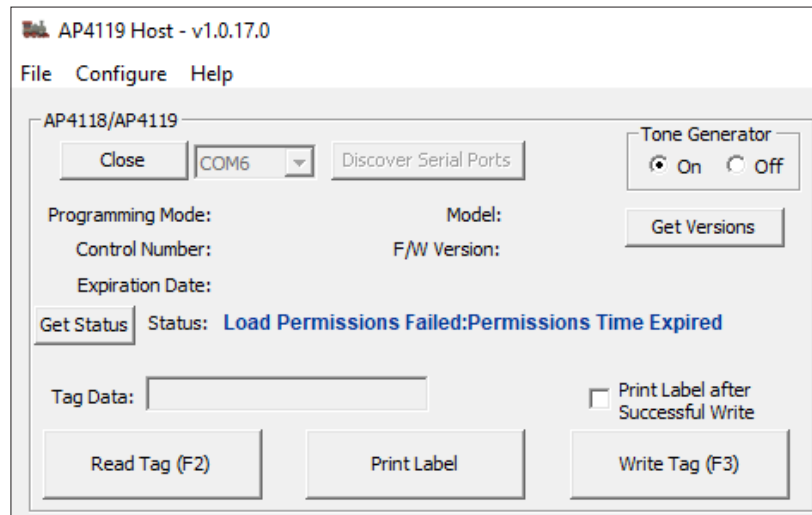


Figure 52 Expired License Certificate Error Message

Control Number Mismatch

If the License Certificate's Control Number does not match the AP4119 rail tag programmer's Control Number, the host software displays a Control Number Mismatch message (Figure 53).

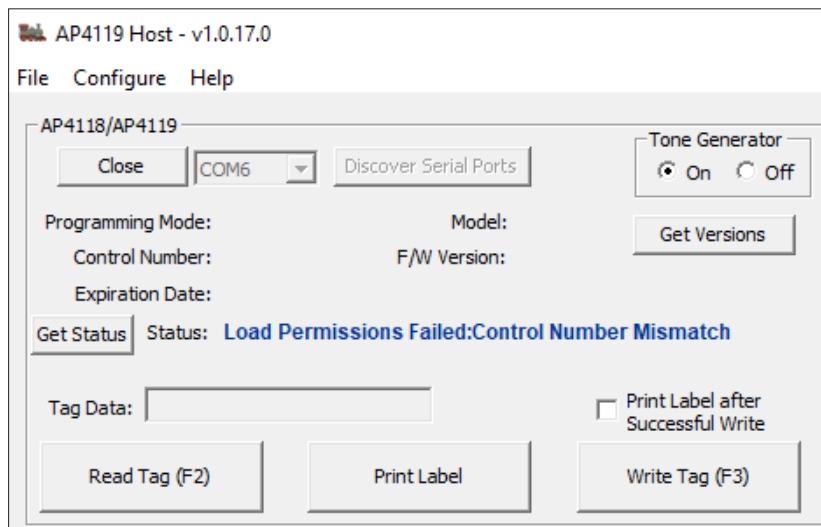


Figure 53 Control Number Mismatch Error Message

Appendix D Label Printer Configuration

Note: The DYMO® LabelWriter® 450 Turbo and the DYMO® 30336 labels must be purchased separately from the AP4119 Programmer. The label printer and the labels are readily available from several retailers. TransCore does not sell or have any affiliation with any DYMO® products.

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Label Printer Configuration

To print a label for each programmed tag, the AP4119 Host is compatible with the DYMO® LabelWriter® 450 Turbo label printer.

1. Open the AP4119 Host.
2. Load the DYMO® LabelWriter® 450 Turbo label printer with the DYMO® 30336 labels. Power On the label printer and connect it to the host PC.
3. Click on the **Label Printer Configuration** option under the **Configure** menu (Figure 54).

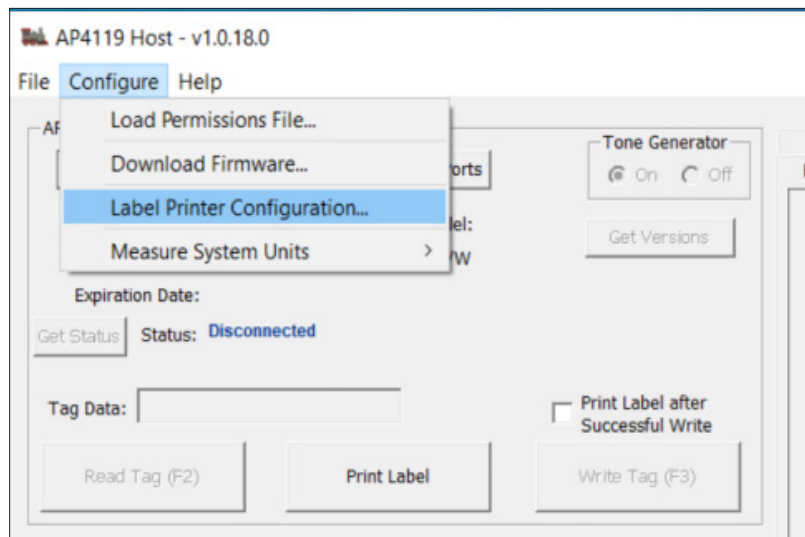


Figure 54 Label Printer Configuration Menu Item

4. The DYMO® LabelWriter® 450 Turbo label printer should be automatically detected by the PC. If the printer is not detected, click on the **Discover** button and select the label printer from the dropdown menu (Figure 55).

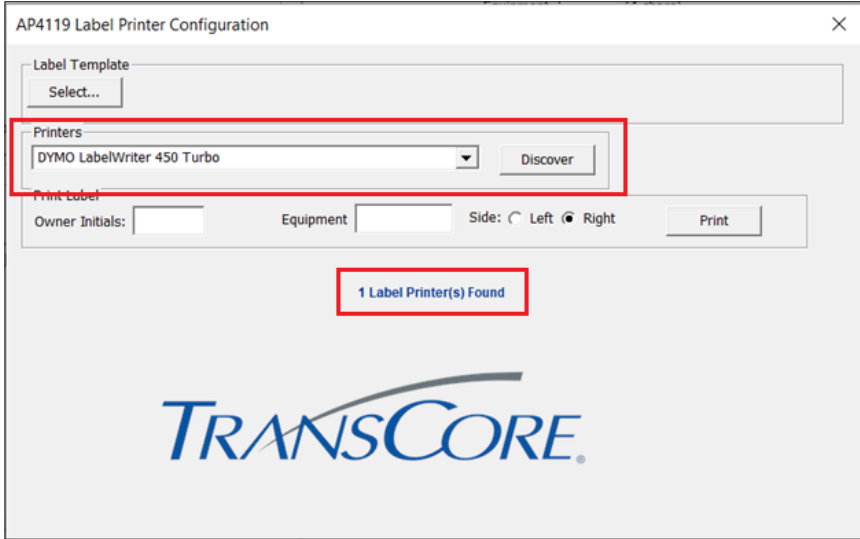


Figure 55 AP4119 Label Printer Configuration Window

- 5. Click on the **Select** button under the Label Template field. Select the TransCore label template located in the directory <C:\Program Files\Transcore\AP4119 Host\Docs\TranscoreTemplate.label> and click **open** (Figure 56).

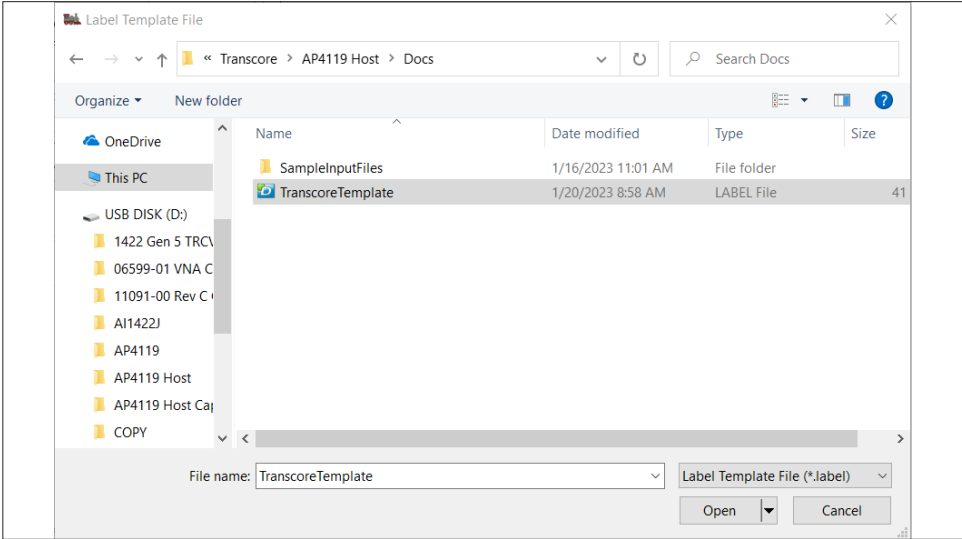


Figure 56 Select TransCore Template Window

6. Ensure the desired label template has been selected (Figure 57).

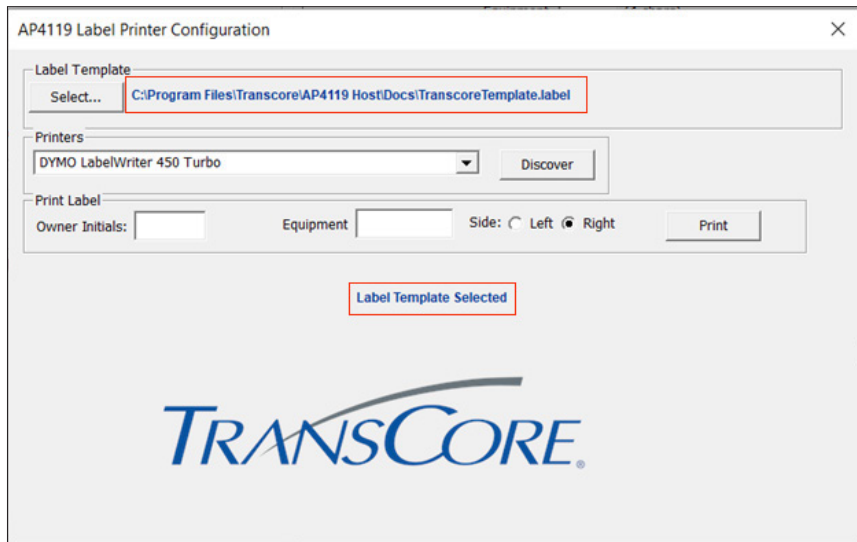


Figure 57 Label Template Successfully Selected Window

7. Manually enter the Owner initials and equipment number, then select the right or left side (Figure 58). Click the **PRINT** button to print a sample label..

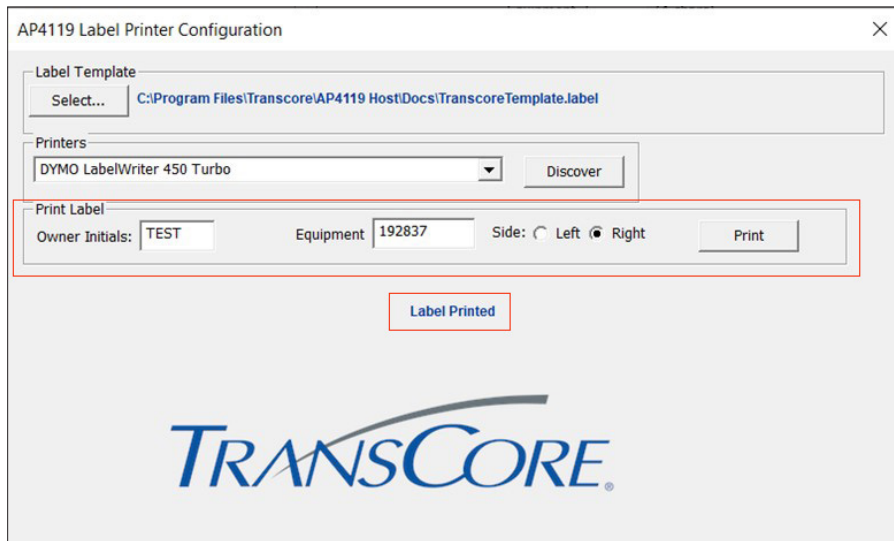


Figure 58 Printing a Label Sample Window

8. The entered information is printed along with the date and time (Figure 59).

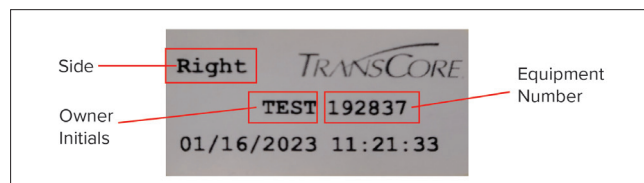


Figure 59 Printed Label Sample

- 9. The label printer has been successfully configured. Close the AP4119 Label Printer Configuration window (Figure 60).

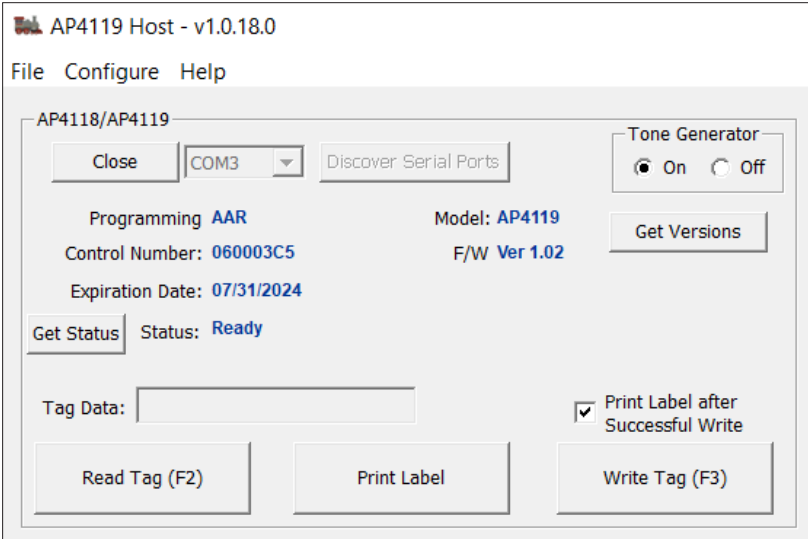


Figure 60 Print Label after Successful Write Option

- 10. Check the **Print Label after Successful Write** box to automatically print a label after a tag is successfully programmed.
- 11. Alternatively, the **Print Label** button can be used to manually print tag data

Note: Labels for previously programmed tags can also be printed. Just read the tag and then click on the **Print Label** button.



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