

Installation Read Me File - ALS-1306 Control

ReadMe.docx 04-Feb-2022 11:46 AM

INTRODUCTION

These instructions are a quick guide to installing the ALS-1306 Remote Control Software and fabricating a control cable.

HARDWARE INTERFACE

Cabling Overview

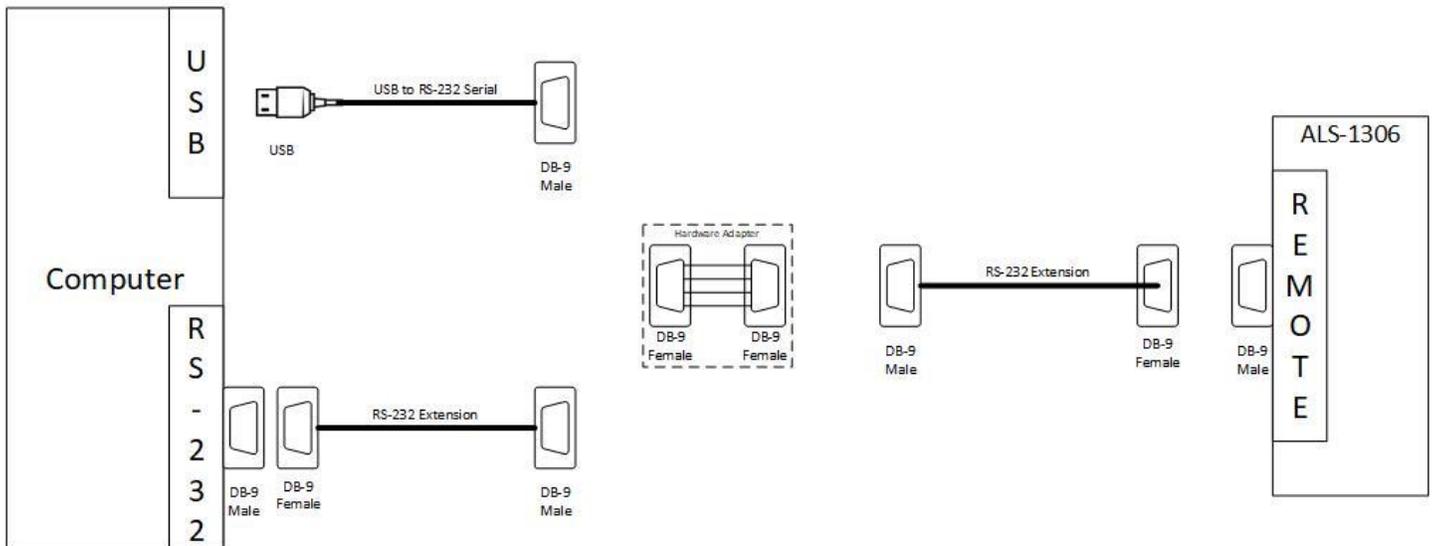
The cables connecting the computer to the ALS-1306 can be a standard RS-232 Extension Cable with Male/Female DB-9 connectors or a standard USB to RS-232 Serial Cable with a DB-9 Male connector. A custom adaptor made from two DB-9 female connectors and 4 connecting wires must then plug into the ALS-1306 because the interface is NOT standard RS232 DB-9. It may be helpful to have a second optional extension cable to mechanically better fit into the REMOTE DB-9 Male connector on the back of the ALS-1306.

The recommended USB to RS-232 Serial Cable is one available from PI Manufacturing, model [UN8BE](#). These are known to be genuine FTDI and work with Microsoft Win2K, WinXP, Win7, Win8, Win8.1, Win10.

ALS 1306 Control Cables

Ameritron ALS-1306 Control Cables.vsdX - 16-Dec-2019 18:24

Computer to ALS-1306 Interface



Adaptor Details – Version 1

This custom adaptor is made from two female DB-9 connectors placed back-to-back using 1 inch aluminum spacers and a pair of 1 ¼ inch 4-40 brass screws and nuts.

This enables the ALS-1306 Software to automatically control the frequency band of the ALS-1306 amplifier, but not the amplifier PTT.

Four wires connecting the RS-232 GND, TxD, RxD, RTS to the ALS-1306 GND, RRxD, RTxD, RK respectively must be installed.

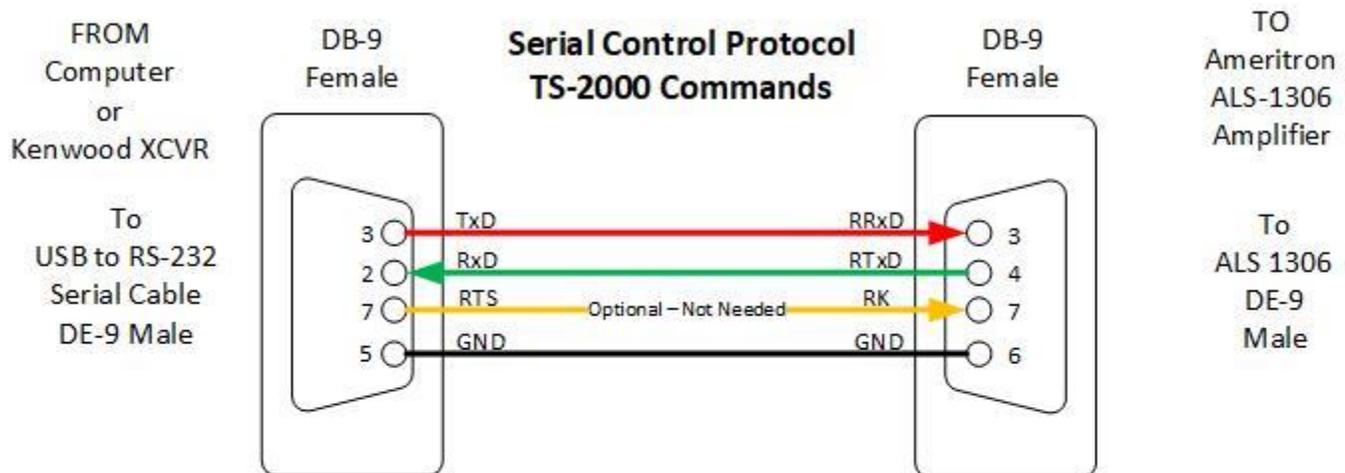
It is advised to wrap the wiring and connectors in electrical tape, or provide some other type of shield to protect the wiring.

Note: the RTS to RK line did not have the desired effect of inhibiting the ALS-1306 PTT, but instead activated it in spite of no PTT line assertion.

Therefore, it is recommended that the DSR to RK line *not* be implemented in the Version 1 Adaptor.

ALS 1306 Control Cables

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TS-2000 Query:

A11;A1;A12;A1; . . .

Something cause switch to

IF;IF; . . .

TS-2000 Command Response:

FAggmmkkkkhhh; Ghz, Mhz, Khz, Hz

1.5 – 2.5 = 160m

2.5 – 4.7 = 80m

4.7 – 7.5 = 40m

7.5 – 10.5 = 30m

10.5 – 14.5 = 20m

14.5 – 18.5 = 17m

18.5 – 21.5 = 15m

21.5 – 25.9 = 12m

25.9 – 28.0 = NONE

28.0 – 33.0 = 10m

33.0 – 56.0 = 6m

Adaptor Details – Version 2

The version 2 custom adaptor is also made from two female DB-9 connectors placed back-to-back, but they are held together by a pair of aluminum angle stock shown in the photographs below.

This enables the ALS-1306 software to automatically control the frequency band of the ALS-1306 amplifier **and also the PTT control line.**

When in OPERATE mode, the PTT of the transceiver controls the amplifier PTT, but in STANDBY mode, the amplifier PTT remains deactivated for ATU tuning, etc.

Three wires connecting the RS-232 GND, TxD, RxD to the ALS-1306 GND, RRxD, RTxD, respectively must be installed.

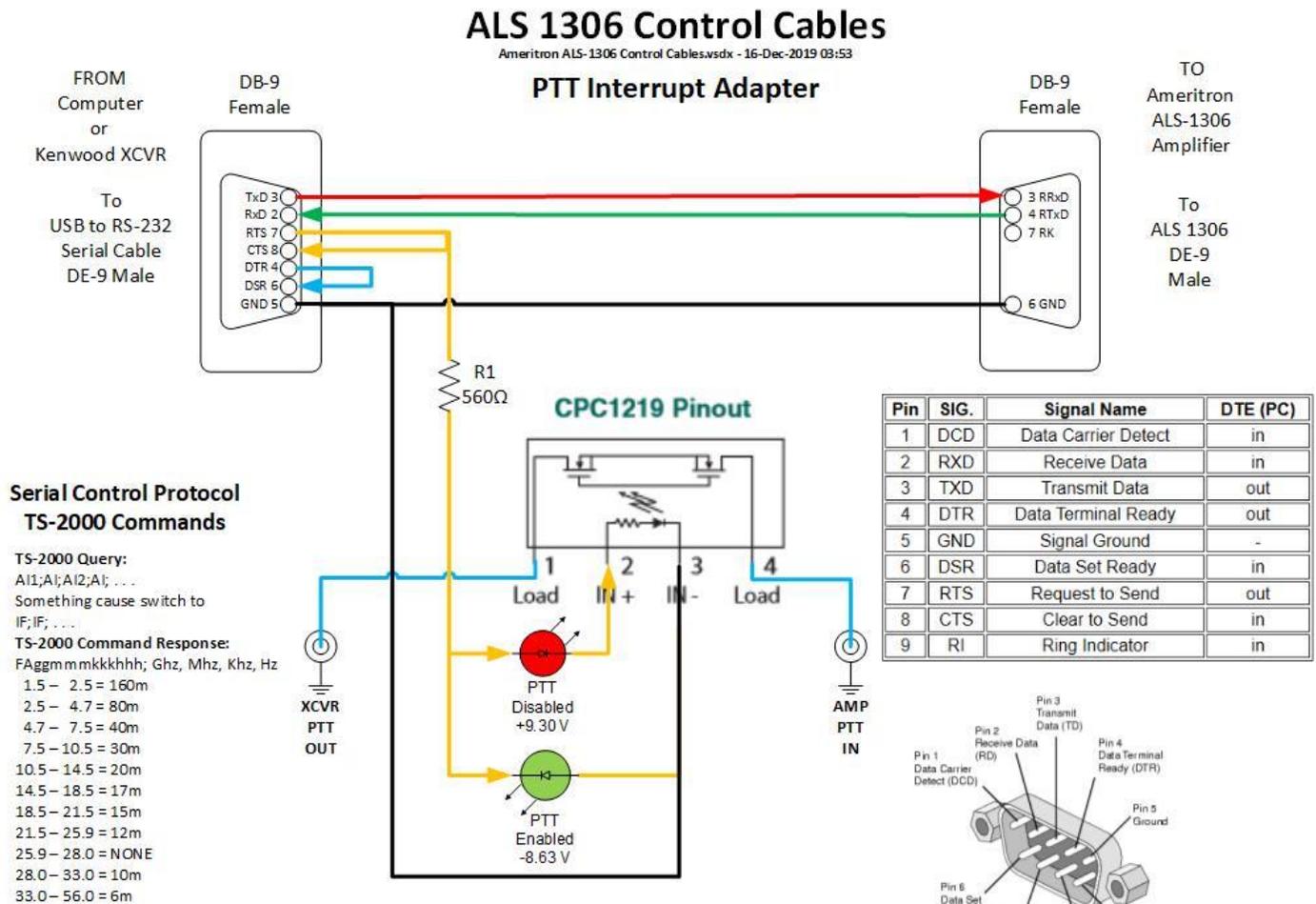
The computer RTS signal is looped back to the CTS signal, also the DTR signal is looped back to the DSR signal so that the software can detect the presence of the Version 2 adaptor versus the Version 1 adaptor.

The RTS signal is also routed via a 560 ohm resistor to the anode of a red LED, cathode to pin 2 of the CPC 1219Y OPTO isolated MOSFET relay (normally closed), which deactivates the PTT when the RTS is positive (asserted).

The RTS signal is also routed via a 560 ohm resistor to the cathode of a green LED, anode to ground, to indicate when the DSR signal is negative (unasserted) and does not deactivate the PTT.

Pins 1 and 4 of the CPC 1219Y connect the XCVR and AMP PTT lines.

Circuit Diagram / Schematic



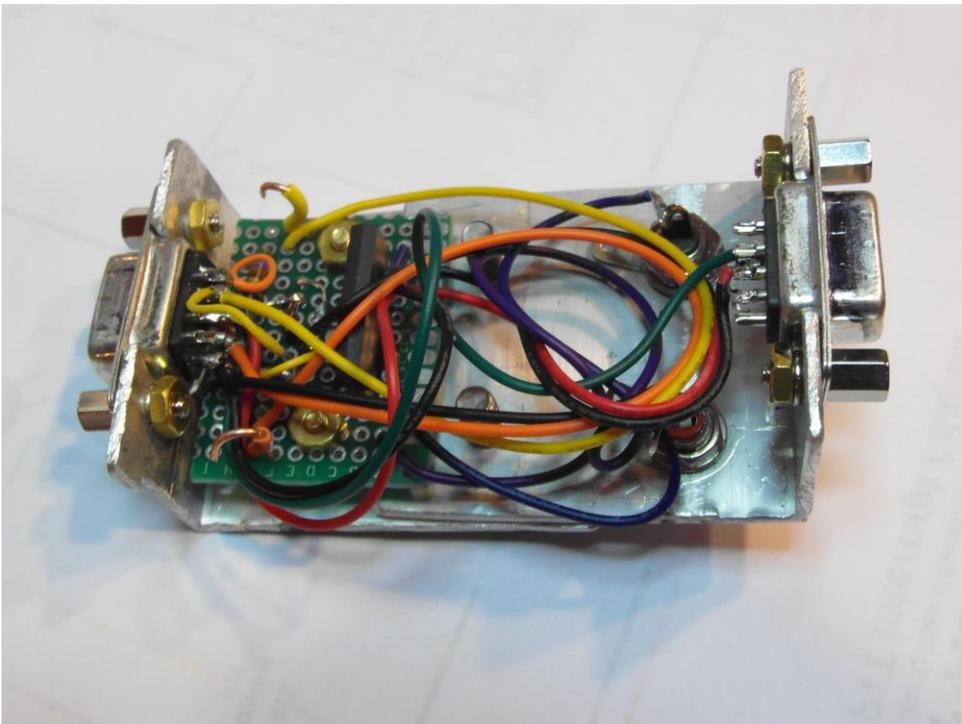
Mechanical Construction

I will probably use two additional angle stock pieces to create a lid for the bottom, one for each side, screwed to holes tapped in the top.

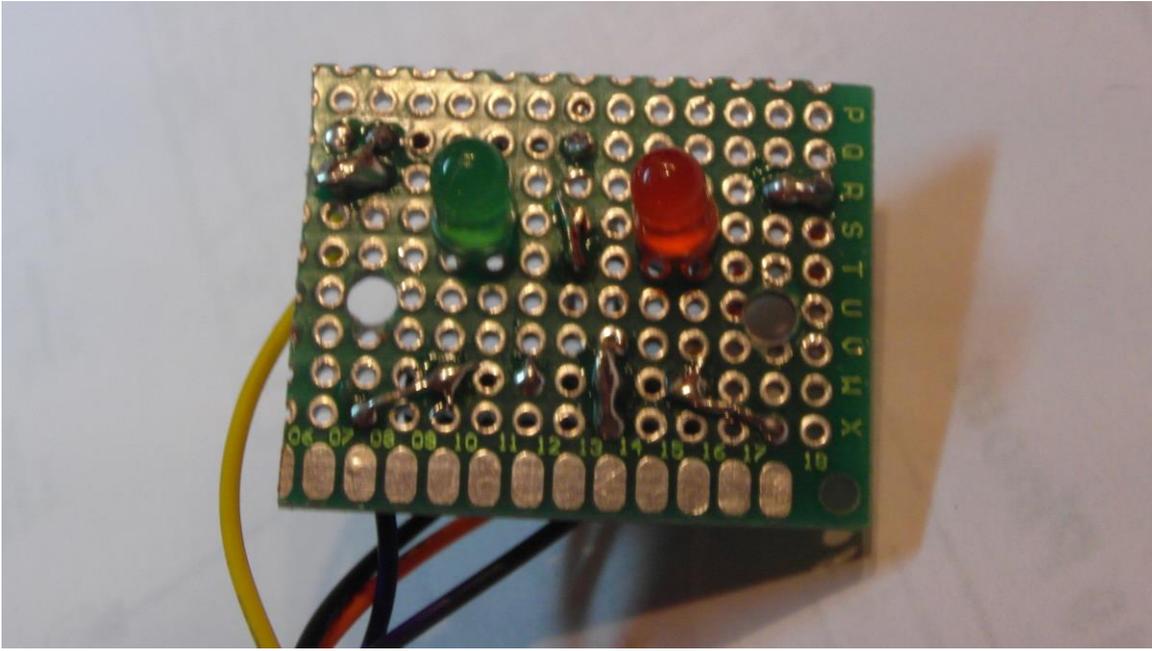
Top



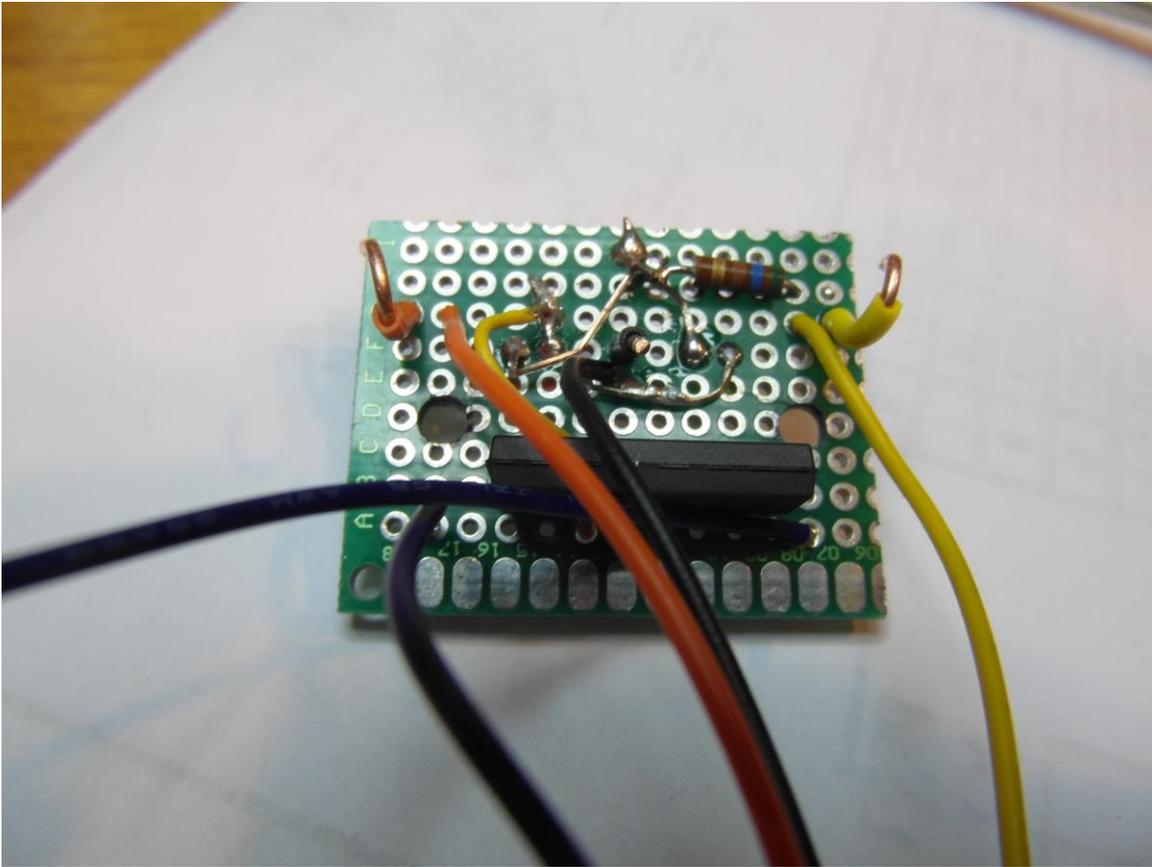
Bottom



Circuit Board Top



Circuit Board Bottom



SYSTEM INSTALLATION PACKAGE

The installation package is a ZIP file that contains the software installation package.

ZIP File Contents

The following is the contents of the ZIP file:

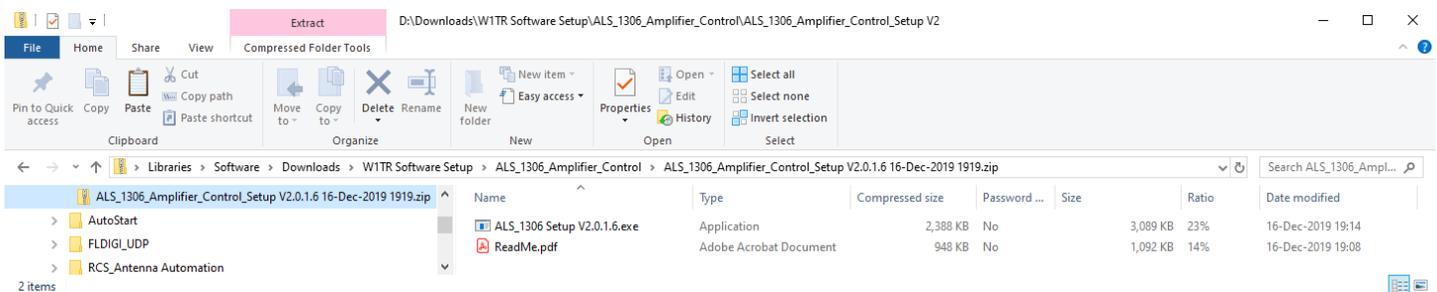
ALS_1306_Amplifier_Control_Setup V2.0.1.5 16-Dec-2019 0436.zip

Inside is 1 file:

- 1) **ReadMe.pdf** – contains instructions on how to install the software. **READ THIS FIRST.**

Inside is 1 directory:

- 1) **ALS_1306 Setup Vx.x.x.x.exe** – contains the ALS-1306 Remote Control application setup package.



ALS-1306 Remote Control Application – Software Installation Package

Double click on **ALS_1306 Setup Vx.x.x.x.exe** to start the installation process.

MULTIPLE CONFIG FILES AND SIMULTANEOUS ALS-1306 INSTANCES

Starting with ALS-1306 V2.0.2.3, multiple INI Configuration files are supported using a command line argument, e.g:

ALS_1306_Amplifier_Control.exe ini=xxx.ini

This allows multiple configuration files to exist within the same installation folder with the command line selecting which one to use.

The default INI file: **ALS_1306_Amplifier_Control.ini** is used by default if this is omitted.

Multiple instances of the ALS-1306 APP can be running simultaneously with different configuration files selected.

The **[Serial_IO]** sections must use a different COM port, and the **[Network]** sections must use different UDP broadcast and receive ports.

SOFTWARE INSTALLATION PROCESS

The software installation process leads you through a number of pages, some of which allow selection of options.

Double Click on the **Setup.exe** or ***.msi** to start installation.

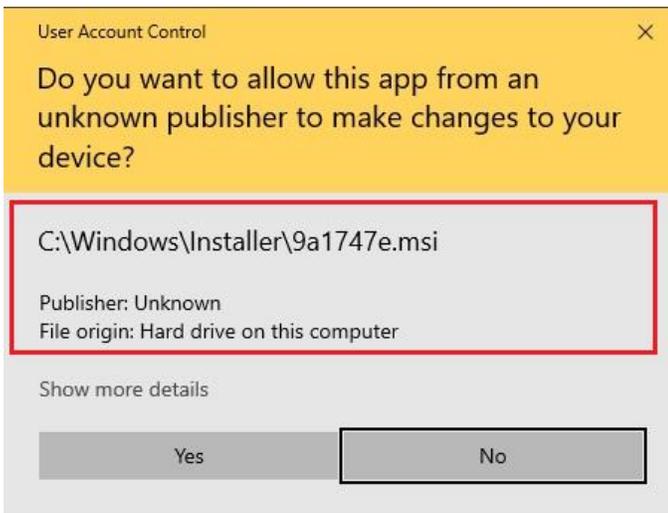
User Account Control Page

The User Account Page will request your permission to initiate the installation process.

Click on **Yes** to continue.

Click on **No** to stop installation.

Note: the text within the grey part of the dialog may differ from what is shown here.



Splash Page

The **Splash Page** will display the **product and vendor information** until dismissed by the Next or Cancel button.

Click on **Next** to continue.

Click on **Cancel** to discontinue the installation process.



Welcome Page

The **Welcome Page** welcomes you to the installation process and warns you of **copyright issues**.

Click on **Back** to view the previous page.

Click on **Next** to continue.

Click on **Cancel** to discontinue the installation process.



License Agreement Page

The **License Agreement Page** displays the license agreement. Use the **scroll bar** to the **right** to view the entire document.

Click on **Back** to view the previous page.

Click on **Next** to continue.

Click on **Cancel** to discontinue the installation process.

You must check the **I Agree** radio button before the **Next** button is enabled.



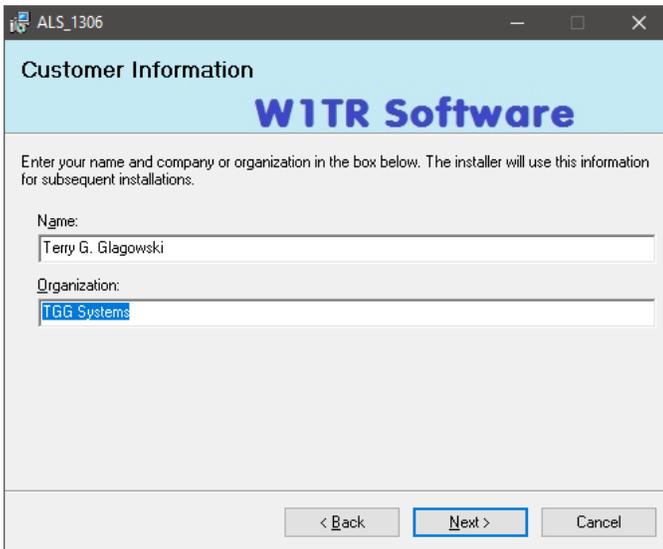
Customer Information Page

The **Customer Information Page** collects your **name** and **organization** to be stored in the list of **installed applications**. This information will be shown in the **Apps & Features / Programs and Features** Windows Settings. **Additional columns** may need to be selected in the **Programs and Features** table to view this information.

Click on **Back** to view the previous page.

Click on **Next** to continue.

Click on **Cancel** to discontinue the installation process.



Customer Information

W1TR Software

Enter your name and company or organization in the box below. The installer will use this information for subsequent installations.

Name:
Terry G. Glogowski

Organization:
TGG Systems

< Back Next > Cancel

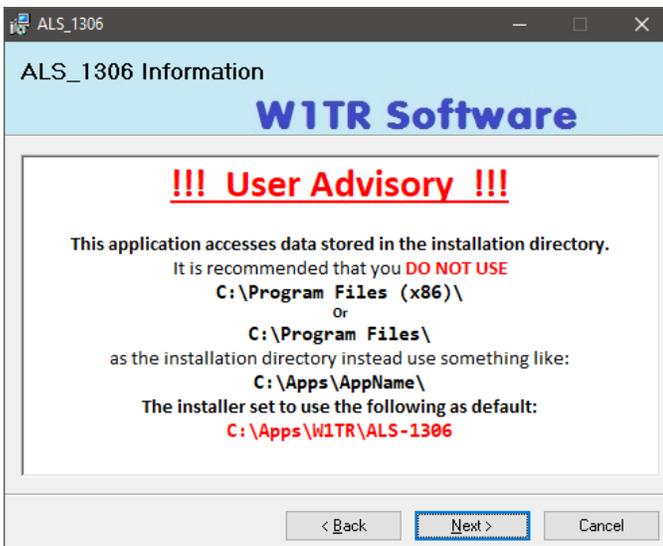
User Advisory Page

The **User Advisory Page** notifies you of the **default installation directory choice** and some **possible alternatives**. It is **NOT a good idea** to use the **Program Files (x86)** or the **Program Files** directory because the program **reads and writes data** from those directories. They **may be protected** unless user account has **administrator privileges**.

Click on **Back** to view the previous page.

Click on **Next** to continue.

Click on **Cancel** to discontinue the installation process.



ALS_1306 Information

W1TR Software

!!! User Advisory !!!

This application accesses data stored in the installation directory.
It is recommended that you **DO NOT USE**
C:\Program Files (x86)
Or
C:\Program Files
as the installation directory instead use something like:
C:\Apps\AppName
The installer set to use the following as default:
C:\Apps\W1TR\ALS-1306

< Back Next > Cancel

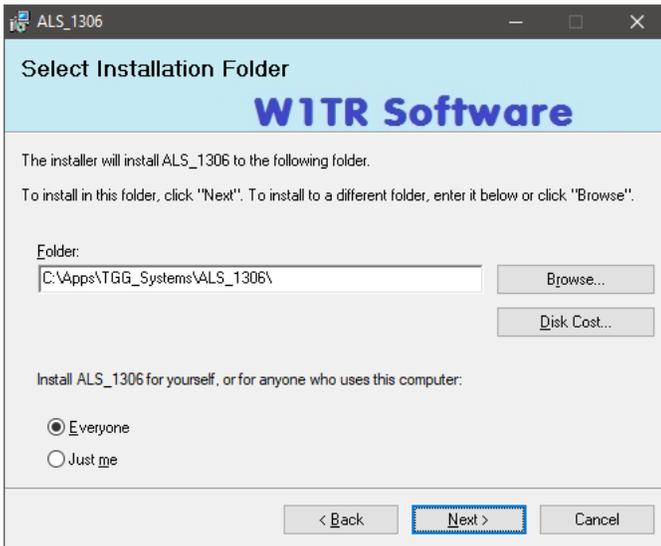
Installation Folder Selection Page

The **Installation Selection Page** allows you to select the **installation folder** if you don't want to use the default. You can also choose to install the software for **everyone**, or just **your account**.

Click on **Back** to view the previous page.

Click on **Next** to continue.

Click on **Cancel** to discontinue the installation process.



Confirm Installation Page

The **Confirm Installation Page** is the **last stop** before installation proceeds.

Click on **Back** to view the previous page.

Click on **Next** to continue.

Click on **Cancel** to discontinue the installation process.



User Account Control Page

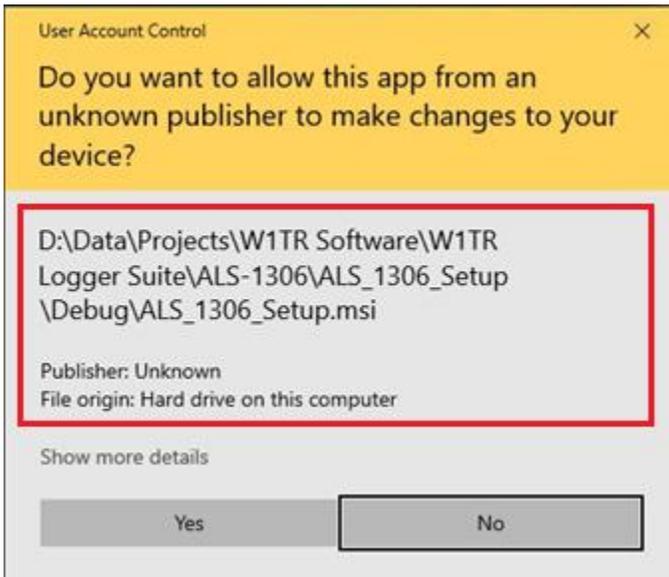
A few **Installation Progress Pages** will be quickly shown and automatically dismissed.

Then the **User Account Control Page** will appear requesting permission to proceed.

Note: the information in the grey portion of the dialog below may differ from what is shown.

Click on **Yes** to continue.

Click on **No** to discontinue the installation process.



Installation Complete Page

The **Installation Complete Page** notifies you that the **installation is complete**.

The **only** choice is to click on **Close** to finish the installation.



SUMMARY

This document describes the installation package and software installation procedure for the ALS-1306 Control Application provided by W1TR Software / TGG Systems, Terry G. Glagowski / W1TR.

I hope this software will add value to your use of the Ameritron ALS-1306 Amplifier.