NetLinx Module Interface Specification

for

GUI Language Manager

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Revision History

Date	Version	Comments
17-08-20	1.0.0	Initial release

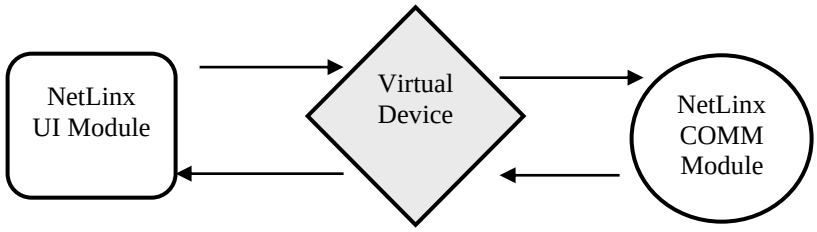
Introduction

This is a reference manual to describe the interface provided for the GUI Language Manager NetLinx module for the AMX NetLinx system**.**

Overview

The COMM module translates between the standard interface described below to manage and control/configure the GUI Language Manager module

The following diagram gives a graphical view of the interface between the interface code and the NetLinx Module.



Implementation

To interface to the AMX GUI Language Manager module, the programmer must perform the following steps:

1. Define the virtual device ID that the module will use to communicate with the main program and User Interface. NetLinx virtual devices start with device number 32768.
2. The NetLinx GUILanguageManager_V1_0_0.tko module must be included in the program with a DEFINE_MODULE command. This command starts execution of the module and passes in the following key information: the virtual device ID for communicating to the main program.

An example of how to do this is shown below.

```
DEFINE_DEVICE
dvTouchPanel              = 10001:1:0     // The touch panel used for output
vdvGUILanguageManager = 33001:1:0     // The virtual device use for communication between the
                                        // module interface and main program

DEFINE_MODULE 'GUILanguageManager_V1_0_0' Comm1(vdvGUILanguageManager)
```

Port Mapping

This module uses single virtual device to update touch panel GUI with desired language text.

Virtual Device	Channels	Levels	Control	Feedback
32768:1:0	All	None	All	All

Table 1 - Port Mapping

Channels

The UI module controls and gets feedback from the GUI Language Manager via channel events (NetLinx commands *pulse, on, and off*) sent to the module. The channels supported by the module are listed below. These channels are associated with the virtual device and are independent of the channels associated with the touch panel device.

Note: An '*' indicates an extension to the standard API.

Channel	Description
1*	PULSE: Select language 1 and load GUI text from associated file
2*	PULSE: Select language 2 and load GUI text from associated file
3*	PULSE: Select language 3 and load GUI text from associated file
4*	PULSE: Select language 4 and load GUI text from associated file
5*	PULSE: Select language 5 and load GUI text from associated file
101*	ON: Language 1 is selected – provides feedback only
102*	ON: Language 2 is selected – provides feedback only
103*	ON: Language 3 is selected – provides feedback only
104*	ON: Language 4 is selected – provides feedback only
105*	ON: Language 5 is selected – provides feedback only
201*	ON: Module is activated – provides feedback only OFF: Module is NOT activated

Table 2 – Virtual Device Channel Events

Command Control

The Interface code will manage/configure the GUI Language Manager module via command events (NetLinx command *send_command*) sent to the module. The commands supported by the module are listed below.

Command	Description
?TPDev	Request the current touch panel device and system numbers set in the module. ?TPDEV
TPDev-<TPDeviceNumber>, <TPSystemNumber>	Set the touch panel device and system numbers to be used by the module, the module updates the GUI of the touch panel with the passed device and system numbers <TPDeviceNumber> : Touch panel device number <TPSystemNumber> : Touch panel system number TPDev-10001,0
?LangFilePath-<LangIndex>	Request the GUI text file path set in the module for the passed language index. <LangIndex> : 1..5 = Language Index ?LangFilePath-1
LangFilePath- <LangIndex>,<FilePath>	Set the GUI text file path and associate it to the passed language index, to read from the file when language selection channels are activated. **Note:** See Programming Notes section. <LangIndex> : 1..5 = Language Index <FilePath> : Path of the GUI text file LangFilePath-1,data/gui/gui_en.txt
?TPEnc	Request the touch panel encoding set in the module. ?TPEnc
TPEnc-<TPEncoding>	Set the touch panel encoding to be used in the module. **Note:** See Programming Notes section. <TPEncoding> : UNI = Unicode encoding, for G4 and G5 touch panels UTF = UTF encoding, for G5 touch panels only TPEnc-UNI
?DEBUG	Request the state of the debug feature. ?DEBUG

DEBUG-<value>	Set the state of debugging messages in the UI module and the Comm. module. <value> : 1 = set only error messages on 2 = set error and warning messages on 3 = set error, warning & info messages on 4 = set all messages on DEBUG-1
REINIT	Re-initializes the module to use the new settings. REINIT
?VERSION	Query for the current version number of the module. ?VERSION
ACTIVATE-<LicenseKey>,<ActivationKey>	Set activation key for the module to activate the module to work with the intended master. **Note:** See Programming Notes section. **Note:** Please visit http://ultcontrol.com/modules/gui-language-manager/ to get your license and activation keys <LicenseKey> : License key string <ActivationKey> : Activation key string ACTIVATE-THELICENSEKEY,THEACIVATIONKEY

Table 3 – Send Command Definitions

String Feedback

The NetLinx module provides feedback to the Interface code for GUI Language Manager via string events. The strings supported are listed below.

Command	Description
TPDev-<TPDeviceNumber>, <TPSystemNumber>	Return the touch panel device and system numbers to be used by the module, the module updates the GUI of the touch panel with the passed device and system numbers <TPDeviceNumber> : Touch panel device number <TPSystemNumber> : Touch panel system number TPDev-10001,0
LangFilePath- <LangIndex>,<FilePath>	Return the GUI text file path and associate it to the passed language index, to read from the file when language selection channels are activated. <LangIndex> : 1..5 = Language Index <FilePath> : Path of the GUI text file LangFilePath-1,data/gui/gui_en.txt
TPEnc-<TPEncoding>	Return the touch panel encoding to be used in the module. **Note:** See Programming Notes section. <TPEncoding> : UNI = Unicode encoding, for G4 and G5 touch panels UTF = UTF encoding, for G5 touch panels only TPEnc-UNI
DEBUG-<value>	Return the state of debugging messages in the UI module and the Comm. module. <value> : 1 = set only error messages on 2 = set error and warning messages on 3 = set error, warning, & info messages on 4 = set all messages on DEBUG-1
VERSION-<version>	Return the version number of the module. <version> : xx.yy.zz = module version number VERSION-1.0.0

Table 4 – String Feedback Definitions

Programming Notes

- The module reads GUI text from file loaded to the processor; these files should be to be saved as UFT8 encoded text files, the module use this encoding to load the GUI text properly to the touch panel, specially Unicode text like Arabic, using a different encoding might cause text not to be shown properly on the touch panel, specially Unicode text like Arabic
- Touch Panel Encoding, due to the different command set used by touch panel families, the module use the TPEnc command to know which encoding to use to update the touch panel, G4 and G5 touch panels both supports Unicode encoding, while the UTF encoding is only supported by G5 touch panel, so if the module is used to update the GUI of a G4 touch panel the UNI encoding should be set in the module otherwise use UTF encoding in the module.
- License and Activation keys are required to unlock the module and use it with full functionality, if module activated with a valid license and activation keys, the module will be able to read all text entries for all languages and update the touch panel accordingly, otherwise the module will read all GUI text entries for the first language and only the first 15 entries for all other languages and update the touch panel accordingly. Please visit http://ultcontrol.com/modules/gui-language-manager/ to get your license and activation keys