



## 1.0 INTRODUCTION

The MDS Element Manager is designed to be a standalone tool compatible with Microsoft Windows OS and supports individual GE MDS radios connected through a choice of interfaces – serial, DLINK, SSH, HTML, etc., dependent on the capabilities of the attached device. This is a replacement for a collection of unsupported engineering tools that have become obsolete over time.

The Element Manager is a purpose -built tool designed as a single application to support legacy MDS radios with a modern user interface. Built on a modern platform, this is a Rich Internet Application with the GE MDS user interface look-and-feel that is built on a common framework for long term supportability.

### Supported Devices

The MDS Element Manager currently supports the following MDS devices:

Serial Radio	IP Radio	SCADA Devices
x710 A/C/E/D/M	SDx	WiYZR-C Remote
x790 A/C/E/S	EntraNET AP	WiYZ Remote
x810	iNET	WiYZ Gateway
TransNET	iNET II	
<i>x710 B – Upgrade to A Only</i>		

#### Note:

Devices with built-in IP/Web based user interfaces are supported primarily via that interface.

### Utilities

- Offline Command Line (non-menu/VT100 mode)
- Ping Console
- TFTP Server
- Poller Responder
- Configuration file Save/Load/Compare
- Authorization Key
- Device Reprogramming
- RTU Simulator

## 2.0 INSTALLATION

The MDS Element Manager is supplied as a zip file. Unzip the file and run the GE\_MDS\_Element\_Manager\_x.x.x.exe. An “Application Install” window will open and guide you through the required installation steps. If an older version is found it can be replaced.

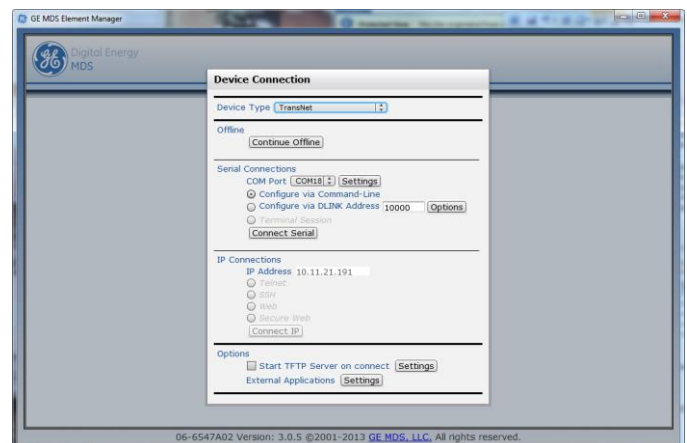


#### Note:

During installation, as needed, the additional elements of Putty and AdobeAir will automatically be installed. They are utilized by the Element Manager.

## 3.0 STARTUP

Upon launching the Element Manager the Device Connection screen is displayed. Select the Device type and serial interface to use.



#### Note:

If a serial port is not found only “Offline Mode” and or “IP Connection” may be available depending on the device type selected.

The following summary screen is an example of when successful connection is made to a TransNET radio.



- **Logout** – terminates device or offline session
- **Help** – provide information regarding the displayed screen parameters
- **Guide** – Opens the PDF guide for the device – (x710, x810, x790, TransNET, SDx)

## Offline Device Configuration Support

Offline configuration is supported for x710 A/C/E/D/M, x790 A/C/E/S, x810, TransNET and SDx.

### Configuration Files

Save Configuration Load Configuration Compare Configuration Apply All

- **Save Configuration** – create a local file containing the current device settings.
- **Load Configuration** – read a local file containing the current device settings.
- **Compare Configuration** – compare devices settings to a local file that was saved. An example of this screen is shown in the following graphic:

### Configuration Files

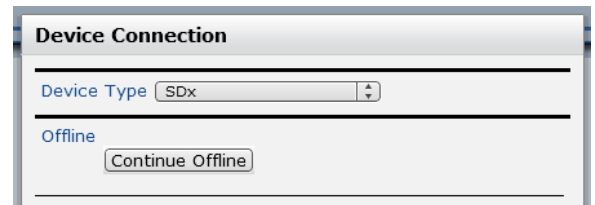
Save Configuration Load Configuration Compare Configuration Apply All

The following differences were identified:

Element	Local value	File value
Diagnostic Link	57600 (ON)	19200 (ON)
TX RF Power Output Setting	21	20
RTU Simulator	5 ON	0 OFF
Loss of RX Data Alarm Time	60	NONE
Synchronization Qualifier List	0000 0000	00000000

Select **Apply All** to commit changes of the compared file to the device.

- **Offline Configuration** - Some devices (TransNET, x710, x790, x810) support the capability create and modify configurations without being directly connected with an actual device.



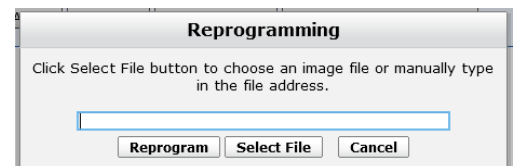
## Firmware Utilities

### Firmware Utilities

Authorization Key:   
 Software/Firmware Revision Level: 06-4040A01 4.0.3 11Jun2012  
 Hardware Revision:

Apply Program Reboot Device Initialize NVMEM Defaults

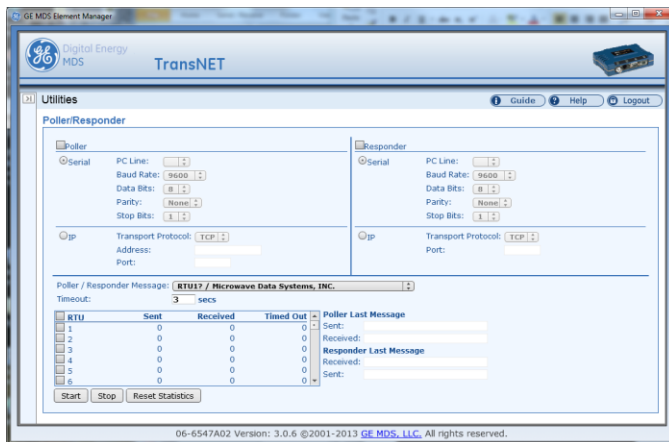
- **Authorization Key** – enter new Authorization Code supplied by GE MDS and press **Apply**.
- **Program** – Updates software in the device. Supply file by typing it in or browsing using **Select File**



- **Reboot** – Performs a soft reboot of the device without cycling power.

## 4.0 UTILITIES

### Poller/Responder



Used with two RF connected devices, the Poller and Responder capability is used to test data transfers via **Serial** or **IP** connection, depending on devices.

- **Poller** – Used alone with an MDS radios containing and enabled built-in RTU simulator. Connect to data port of single device.
- **Responder** – Used with the devices without built-in RTU simulation or with it disabled. Connect to Poller to data port of one device and Responder to data port of second device.

General use: Connect to data port, select feature(s), configure settings, then **Start**. Can be used in online mode or in offline mode if the devices are pre-configured.

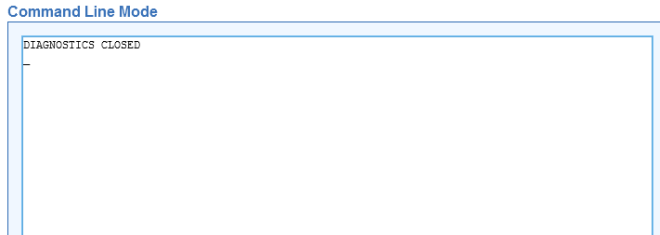
While running the statistics are updated and can be reset at anytime.

- **Initialize NVMEM Defaults** – Restores device to factory default configuration.

**Note:**

Initializing the NVMEM to defaults will erase all user configured information and return the device to factory configuration settings.

## Command Line Mode



A simple serial terminal interface similar to the old HyperTerm application is included in the Element Manager. This is a pass-through interface that allows direct access to the complete command set of the device.

**Notes:**

- If a device is in DLINK mode the Element Manager escapes to command line mode automatically.
- This mode does NOT support VT100 emulation that is used for some devices by default – such as SDx radios.
- When SDx is selected as the device type the software automatically escapes from “Menu” mode to “Command Line mode”.

## IP Connections

Element manager can be used to communicate directly to IP radios via Telnet, SSH, HTTP, or SHTTP.



## TFTP Server Support

Some devices require a TFTP server to supply reprogramming support.



## x710 B Limited Support

Select x710 A/C/E/D/M. Upgrading from “B” mode to “A” mode is the only x710 B support provided (outside of using the command line.) Status screens containing data items read from the x710B device will show incorrect values.

# 5.0 SPECIAL TOPICS

## DLINK Device Configuration

Configuration of a non-local device via the DLINK protocol is possible by selecting the **Configure via DLINK Address** and filling in the proper DLINK address value.



**Note:**

Enter DLINK address in decimal or use 65279 (hex is 0xFEFF) for device local response.

# 6.0 TROUBLESHOOTING / ERRATA

- The application may lose connection after x710 reprogramming and reboot process. User may navigate back to the Device Connection menu and reconnect.
- x710, x810, x790 Alarm Sense is reversed according to radio hardware, compared to description in manuals.
- x710 DLINK Receive Audio Output Level register level value from -1 to -20 dBm will report error due to unresolved x710 radio firmware issue.
- x790 Receiver Muting Level value comparing between saved configuration from Serial and DLINK will report difference. Serial has value and DLINK does not.
- x710 radio device clears RX Buffer Delay value when RTU command is executed. Executing any RTU command related page will trigger this unresolved x710 radio firmware issue.
- Some register values reported from Serial connection vs. DLINK connection may be different – (Ex: Tx RF Power Output Status <0 dBm from serial , but reports 0 dBm in DLINK.)
- In rare cases the software service may not properly close and will require using Windows taskmgr to kill the server associated javaw.exe process.

## Technical Assistance

Factory technical assistance is available by contacting GE MDS during business hours (8:30 AM to 6:00 PM Eastern Time). Please use one of the following means to contact the factory:

Telephone: (585) 241-5510

E-mail: [gemds.techsupport@ge.com](mailto:gemds.techsupport@ge.com)

Web: [www.gedigitalenergy.com/Communications/](http://www.gedigitalenergy.com/Communications/)