

Application Note 2

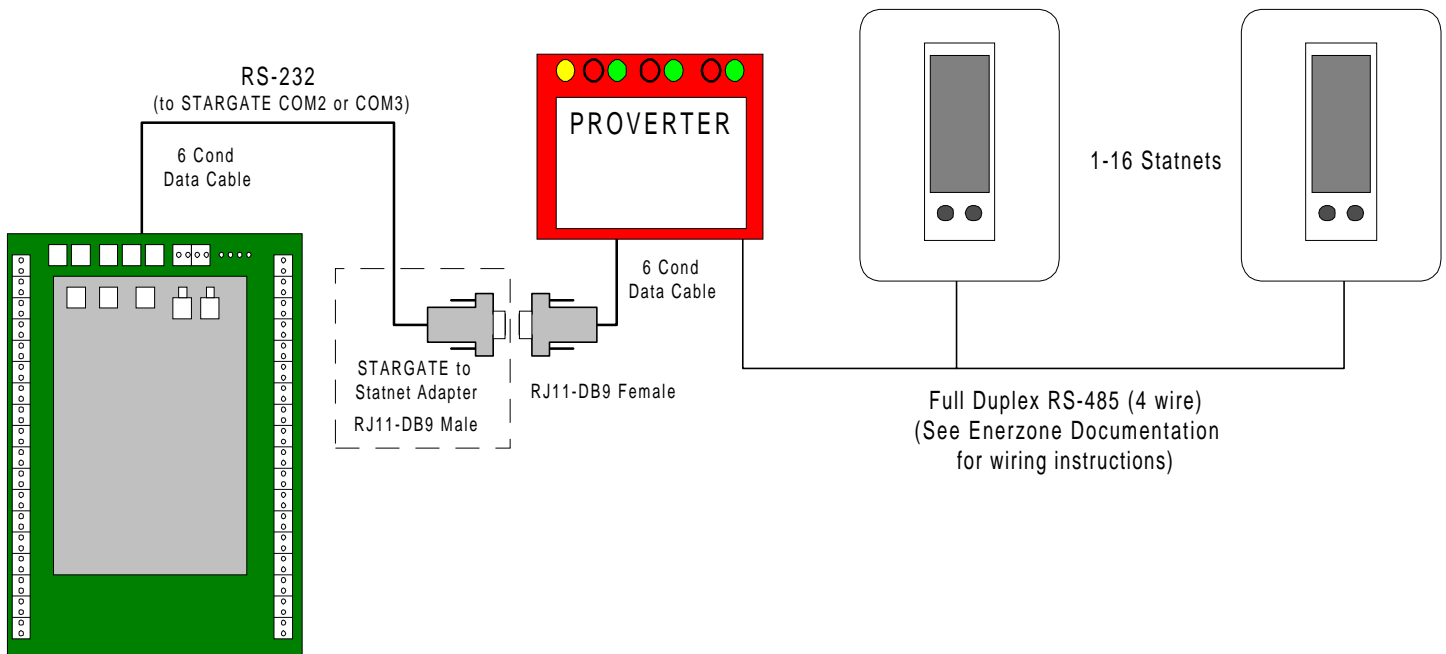
Interfacing STARGATE to Enerzone Statnet Communicating Thermostats

INTRODUCTION

This Application Note describes how to interface the Enerzone Statnet Communication Thermostats to the JDS STARGATE controller.

Support for Enerzone Statnet Communicating Thermostats require Version 2.42 (or above) Firmware/Software for the JDS STARGATE controller. Up to 16 individual Statnet zones are supported using the Enerzone Proverter RS-485 to RS-232 adapter. Enerzone Statnet support requires the use of COM2 or COM3 of STARGATE.

The typical Statnet configuration consists of 1 to 16 Statnet Communicating Thermostats, a Proverter adapter and a STARGATE to Statnet cable and adapter.



STARGATE configures the Statnets with the following parameters (consult Statnet manual for descriptions):

```
COMMAND RESPONSE CONTROL = NORMAL
CHANGE OF STATE
C2=ON
C3=ON
C5=ON
C6=ON
C7=ON
C8=ON
```

The Statnets communicate over a full-duplex RS-485 bus that is not compatible with the STARGATE's half-duplex RS-485 bus. Due to this constraint, the Enerzone Proverter is required to convert the full-duplex RS-

485 bus into RS-232 that connects to either COM2 or COM3 of the STARGATE. A STARGATE-Statnet cable and converter is required to interface to the Proverter.

Material Needed

Statnet Communicating Thermostats (1 – 16)
Enerzone Proverter (Enerzone Part number SN232)
STARGATE to Statnet Adapter & Cable
STARGATE Version 2.42 Firmware and WinEVM software

IMPLEMENTATION

Hardware

- 1) Install and test the Enerzone Statnet and Proverter. Follow the installation instructions included in the Enerzone Statnet and Proverter documentation. If you are unsure of the installation procedures or have questions, Enerzone provides consultation services to ensure a successful installation.
- 2) Verify proper serial communication with the Statnets/Proverter using the instructions included in the Enerzone Statnet Installation Guide & Users Manual.
- 3) Connect the STARGATE-Statnet RJ11 to DB9M adapter to the adapter supplied with the Proverter (RJ11 to DB9F).
- 4) Connect one end of the 6-conductor data cable into the STARGATE-Statnet adapter.
- 5) Connect the other end of the 6-conductor data cable into COM2 or COM3 of STARGATE.

SOFTWARE

- 1) Update your STARGATE with version 2.42 Firmware and WinEVM Software. This update is available on the JDS web site: www.jdstechologies.com . Follow the instructions in the readme.txt file if you are not familiar with the update procedure.
- 2) Configure the STARGATE COM port being used to communicate to the Statnets: Select Define – COM Ports – COM2 (or COM3).

Set the following Serial Port parameters:

Mode: Enerzone

Baud Rate: 9600

Comm Parameters: N81

- 3) Define each Statnet being used: Select Define – HVAC

- 4) Select the following parameters:

Zone Name: any name (e.g.: Upstairs, Downstairs, etc).

Thermostat Type: Enerzone Statnet w/Proverter

RS-485 Address: Statnet Address- these are the jumper settings used for each Statnet Thermostat.

- 5) Press the OK button (downloads all HVAC parameters into the STARGATE).

TESTING

- 1) Open the MegaController.
- 2) Click the "Logging Messages" checkbox (directly above the activity log). Make sure the HVAC checkbox is selected. If not, the HVAC screens will not update with current temperature, setpoint, mode or fan status.
- 3) Click on the HVAC button. A window will appear with the temperature & setpoint for each defined zone shown.

To manually adjust a zone, click on the 'More...' button for the zone to be adjusted.

Adjust Setpoint, Fan or Mode settings.

Settings changed at the Statnet(Setpoint/Mode/Fan) will be shown in the MegaController

TROUBLESHOOTING

TIMEOUTS

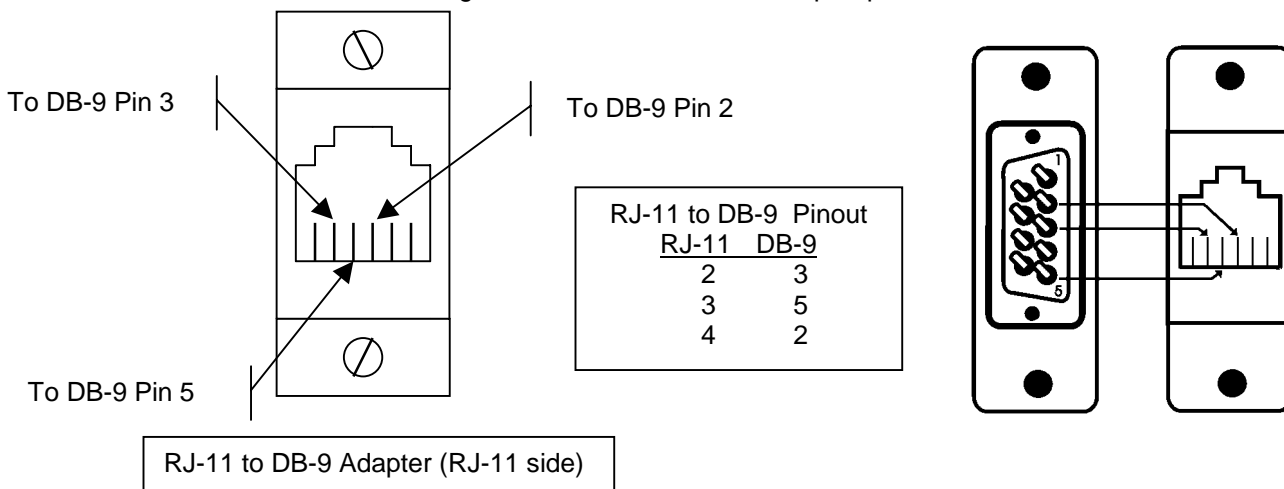
If a Statnet does not respond to commands sent by STARGATE, the MegaController will display the following message in the activity log: "HVAC: zonename TIMEOUT". The STARGATE waits approximately 5 seconds for a lack of response before a timeout is logged.

Verify the following:

- Serial Port configuration is valid for Enerzone Statnet support (9600: N81)
- All Cables/Connections are still intact
- Proverter LED's are illuminated and flash in accordance with Proverter documentation.
- Verify proper Statnet/Proverter operation by connecting directly to a PC using an ASCII terminal program as documented in the Statnet documentation.
- Run STARGATE's Self-Test to test COM2/COM3 functionality. After the Self-Test you will need to re-download with HVAC parameters selected.

STARGATE to STATNET ADAPTER

The STARGATE to Statnet Adapter consists of a 6 Conductor RJ11 to DB-9 Male adapter, and a 6 Conductor Data Cable. The diagram below illustrates the Adapter pinout.



ADVANCED STATNET PROGRAMMING

STARGATE monitors and controls the basic thermostat functions of the Statnet. There are many advance features available and can be implemented using the ASCII In/Out functions. Refer to the Statnet Programming Manual for a list of these features and command syntax.

Example: A Remote Temperature sensor is attached to the Statnet. An X-10 A-1 ON command will send the Remote Temperature Request command to the Statnet. The Statnet responds with "SN1 R=63". The second event will parse the response, place the temperature value into the user_VAR, and then place it into the Variable "Outside Temp".

```
EVENT: Send Command to request temp
If
  XSEQ: (A-1 A-ON) Received within 3 seconds
Then
  ASCII-Out:'SN1 R?' [COM2]
End
```

```
EVENT: Record the Remote Temperature
If
  ASCII-In: Match 'SN1 R=' starting at character number 1 [COM2]
Then
  Put value of received char # 7-8 into user_VAR [COM2]
  (V: Outside Temp) load with user_VAR
End
```

Controlling more than 16 Statnets

Although STARGATE provides direct support for 16 Statnets, an additional 16 (32 total) Statnets can be supported using the STARGATE scheduling features to send commands to the additional Statnets. The ASCII-Out function is used to send the serial command to the additional Stats.

Example: Set Statnets 19 & 20 to Heat Mode at 6:30 AM weekdays.

```
EVENT: Set Statnets 19 & 20 to Auto Mode
If
  Time is 6:30 AM .MTWTF.
Then
  ASCII-Out: 'SN19 MODE=HEAT' [COM2]
  ASCII-Out: 'SN20 MODE=HEAT' [COM2]
End
```

REFERENCES

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