

## REMOTE IMAGE CAPTURE / REMOTE VIDEO CAPTURE



### APPLICATION BACKGROUND

Unidata has received many requests for enhanced remote monitoring with images for remote measurement sites.

These requests are driven by the need to see what is happening on the sites in order to confirm measurement instrument readings. The need for images will only increase as health and safety regulations are now mandating many operational requirements for visits to

remote sites. These new requirements are making it harder and more costly to send maintenance teams into the field to check remote equipment.

Effective high resolution images and some video reduces the need to visit remote sites. Reduced site visits represents significant cost savings.

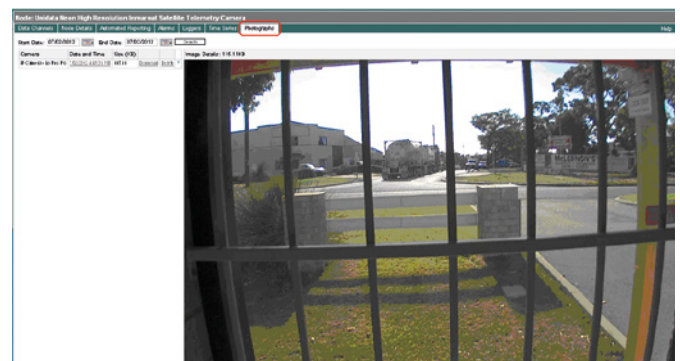
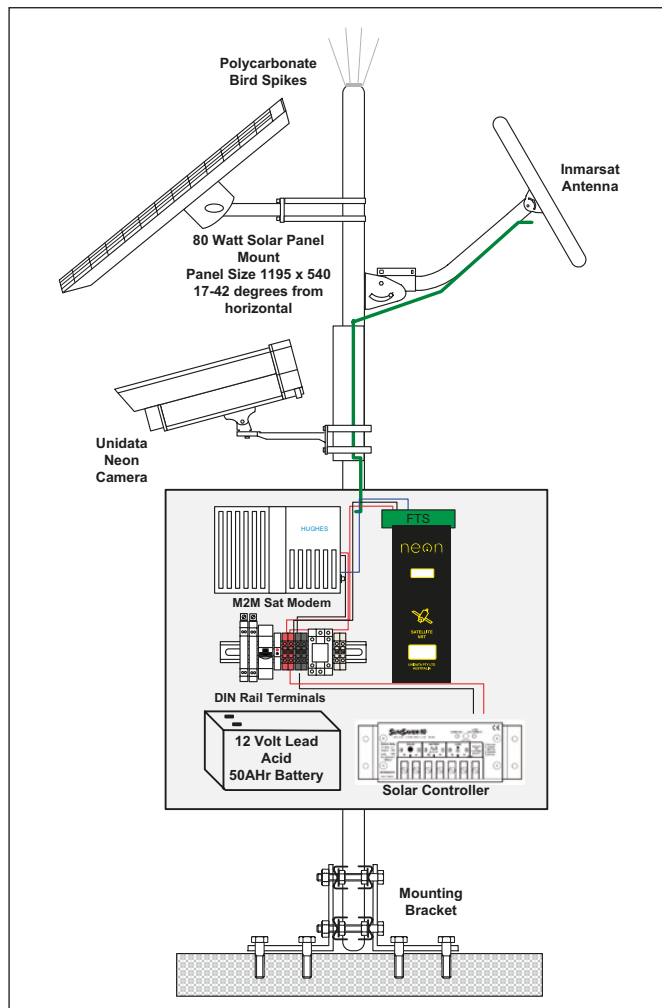
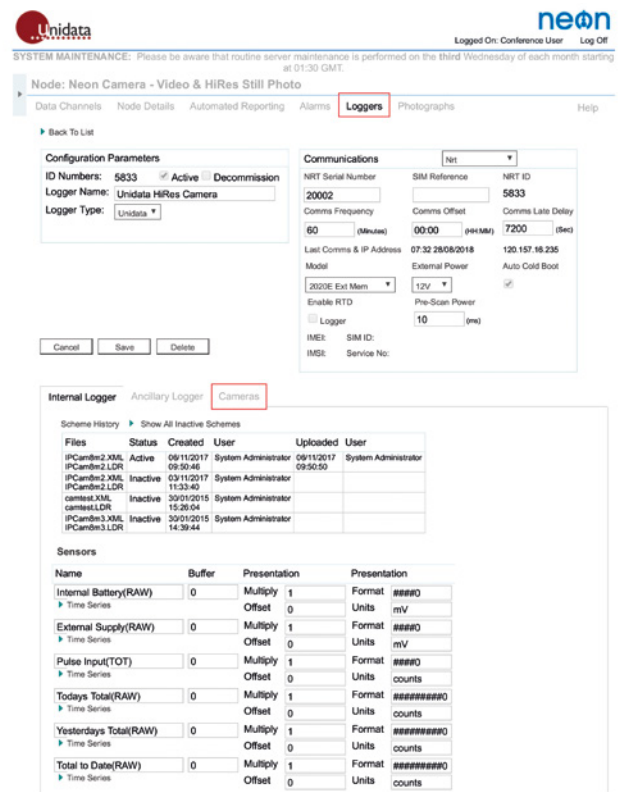
## APPLICATION DETAIL

Unidata has both low resolution and high resolution Neon Camera systems. Low resolution camera systems provide cost effective low resolution images of monitored sites with a very small image resolution and a very small bandwidth load on the transmission system.

With the availability of the higher capacity communication networks, higher resolution, on demand service is now practical and reasonably priced. The Neon Applications Software includes support for different camera types. The low resolution camera is very cost effective, and the high resolution camera can be configured with different resolutions as required.

For remote image / remote video capture, a higher bandwidth telemetry system is needed. This is more likely to be a satellite telemetry system as cellular coverage is limited in remote areas. Also, as the bandwidth demands are high, and requiring an always on service, a low earth orbit satellite system or an older 2G cell phone system would not be adequate.

The Neon camera telemetry system also supports video. It has the ability to capture an immediate or scheduled high resolution image or an immediate video capture. The System allows for the length of the video capture to be specified in advance, for example 1 to 5 minutes. Suitable frame rate and resolution are configurable as well.





**Unidata** neon  
 SYSTEM MAINTENANCE: Please be aware that routine server maintenance is performed on the third Wednesday of each month starting at 01:30 GMT.  
 Logged On: Conference User Log Off

Node: Neon Camera - Video & HiRes Still Photo

Data Channels Node Details Automated Reporting Alarms **Loggers** Photographs Help

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**Configuration Parameters**  
 ID Numbers: 5833 ☒ Active ☐ Decommission  
 Logger Name: Unidata HiRes Camera  
 Logger Type: Unidata

**Communications**  
 Net:   
 NRT Serial Number: 20002 SIM Reference: 5833 NRT ID:   
 Comms Frequency: 60 (MHz) Comms Offset: 00:00 (HH:MM) Comms Late Delay: 7200 (Sec)  
 Last Comms & IP Address: 07:32 28/06/2015 126.157.16.235  
 Model: 2000E Ext Mem: 12V External Power: ☒ Auto Cold Boot: ☒  
 Enable RTD: ☐ Pre-Scan Power: 10 (mA)  
 IMEI: SIM ID:   
 IMSI: Service No:

Cancel Save Delete

Internal Logger Ancillary Logger **Cameras**

Add Camera

Camera	Description	Camera Type	Camera Settings	Edit
Capture 1	Picture 1280x800	IP JPEG	Resolution: 1280x800 PTZ: PTZ Delay: 5 (Sec) Capture Schedule: Not Specified Hour Minute 08 00 12 00 16 00 21 00	Edit
Capture 0	Picture 640x480	IP JPEG	Resolution: 1920x1080 PTZ: PTZ Delay: 5 (Sec) Capture Schedule: Not Specified	Edit
Capture 0	Video 320x240	IP H264	Resolution: 320x240 PTZ: PTZ Delay: 5 (Sec) Frames per Second: 3 Video Duration: (Seconds) 30 Capture Schedule: Not Specified	Edit
Capture 0	WARNING	IP JPEG	Resolution: 1920x1080 PTZ: WARNING PTZ Delay: 5 (Sec) Capture Schedule: Not Specified	Edit
Capture 0	SAMSUNG	IP JPEG	Resolution: 640x480 PTZ: SAMSUNG PTZ Delay: 5 (Sec) Capture Schedule: Not Specified	Edit
Capture 0	BIRD	IP JPEG	Resolution: 1024x768 PTZ: BIRD PTZ Delay: 5 (Sec) Capture Schedule: Not Specified	Edit
Capture 0	HDTV	IP JPEG	Resolution: 1920x1080 PTZ: PTZ Delay: 5 (Sec) Capture Schedule: Not Specified	Edit
Capture 0	Worker Sitting Area	IP JPEG	Resolution: 1024x768 PTZ: CHAIR PTZ Delay: 5 (Sec) Capture Schedule: Not Specified	Edit

For most applications a slower frame rate of 5 frames per second, similar to security camera frame rates will provide a reasonable video performance reducing the bandwidth requirements.

The Neon Applications Software maintains the high resolution images and video files in the SQL database and these can be viewed on the web interface and / or reported out of the neon system in the same way data logging files are reported out. For example by ftp, email or by direct SQL database access.

The screen shots (pictured) show how the Unidata Neon High Resolution Satellite Telemetry Cameras are added to Neon via the Cameras tab on the Loggers tab, and how the resolution, frame rate and encoding can be selected via the web interface at a central location, while the equipment is located at the very remote location.

Multiple camera buttons may be added so that different resolution images and videos may be captured from the same camera without the need to reconfigure the camera. Simply press the appropriate capture button to take a photograph or video at the required resolution or frame rate.

Photographs and captured videos may be viewed on the photographs tab. An historical list of photographs is presented. Photographs and videos may be previewed on screen or downloaded for viewing at full resolution.



## TYPICAL CONFIGURATION

### APPLICATION SPECIFIC INSTRUMENTS / INPUTS

Options	Unidata Part Number	Description
RS232 Camera with 3G / 4G NRT	2502E-3E-L	Neon Camera System with 3G / 4G NRT
Ethernet Camera	2502B / C / F	Various IP Cameras

### NEON TELEMETRY - NRL / RTU / FIELD UNITS

Options	Unidata Part Number	Description
Ethernet	3016A-000 / 3008A-000	Neon Remote Logger-16 or 8 Analog Ch / Touch Screen Display
Ethernet & 3G / 4G	3016A-C00 / 3008A-C00	Neon Remote Logger-16 or 8 Analog Ch / Touch Screen Display
Ethernet & 3G / 4G and LoRa	3016A-CL0 / 3008A-CL0	Neon Remote Logger-16 or 8 Analog Ch / Touch Screen Display
Equatorial Orbit Satellite - Inmarsat	3016A-00I / 3008A-00I	Neon Remote Logger-16 or 8 Analog Ch / Touch Screen Display
Equatorial Orbit Satellite - Inmarsat & 3G / 4G	3016A-C0I / 3008A-C0I	Neon Remote Logger-16 or 8 Analog Ch / Touch Screen Display
Low Earth Orbit Satellite - Globalstar	3016A-00G / 3008A-00G	Neon Remote Logger-16 or 8 Analog Ch / Touch Screen Display
Satellite - Iridium Short Burst Data	3016A-00R / 3008A-00R	Neon Remote Logger-16 or 8 Analog Ch / Touch Screen Display
Standalone RTU / NRL - Industrial	3004A-00 / 3004A-0L	Neon Remote Logger-4 Analog Ch with or without Touch Screen Display
Cellular RTU / NRL 3G / 4G - Industrial	3004AC0 / 3004A-CL	Neon Remote Logger-4 Analog Ch with or without Touch Screen Display
M – Series Standalone RTU / NRL	3004B-M000 / 3004B-M0B0	Neon Remote Logger-4 Analog Ch with or without Li Battery
M – Series Cellular RTU / NRL 3G / 4G	3004B-MC00 / 3004B-MCB0	Neon Remote Logger-4 Analog Ch with or without Li Battery
M – Series LoRa RTU / NRL	3004B-ML00 / 3004B-MLB0	Neon Remote Logger-4 Analog Ch with or without Li Battery
M – Series Ethernet RTU / NRL	3004B-MEBL	Neon Remote Logger-4 Analog Ch, Li Battery & LCD are optional
M – Series Microsatellite RTU / NRL	3004B-MHBL	Neon Remote Logger-4 Analog Ch, Li Battery & LCD are optional
M – Series Iridium Short Burst Data RTU / NRL	3004B-MIBL	Neon Remote Logger-4 Analog Ch, Li Battery & LCD are optional

### NEON APPLICATION SOFTWARE - CUSTOMER SERVER

Options	Unidata Part Number	Description
Neon Applications Software	2302A	Neon Server Software Licence Incl 5 NAL
Neon Applications Software	2302A-10	Additional 10 NRT Access Licence
Neon Applications Software	2302A-20	Additional 20 NRT Access Licence
Neon Applications Software	2302A-50	Additional 50 NRT Access Licence

### NEON HOSTING SERVICE - UNIDATA SERVER

Options	Unidata Part Number	Description
Neon Hosting Service	2301A	Neon Data Initial Subscription Setup Fee
Neon Hosting Service	2301A-01	Neon Data Service Fee for 1-50 NRT
Neon Hosting Service	2301A-02	Neon Data Service Fee for 51-100 NRT
Neon Hosting Service	2301A-10	Neon Data Service Fee Metering

### DATALOGGER MANAGEMENT SOFTWARE

Options	Unidata Part Number	Description
Starlog V4 Management Software	6308A-AUE	STARLOG V4 Full Licence Key