

ExtraNET CC



ExtraNET CC delivers seamless point to point data communications over a transparent network using satellite and / or a GSM/GPRS, EDGE, 1xRTT, or CDMA "cellular" modem. ExtraNET CC delivers reliable digital data virtually anywhere in the world using QUALCOMM's patented CDMA technology and the Globalstar constellation of Low-Earth-Orbit (LEO) satellites. Also supported is an optional GPS for position and velocity data.

ExtraNET CC takes care of the IP network requirements and provides a transparent RS232 or RS485 interface to your equipment. It works with almost any host that supports TCP or UDP over an IP network giving you the complete comfort of managing your own data.

ExtraNET CC Features:

- Approved NEMA 4X fiberglass enclosure provides weather protection in most environments.
- Optional Static IP
 1. Allows complete integrated connectivity via a private virtual network (VPN) direct from your host server to the Globalstar Network Operations Center (NOC). Simply send a TCP or UDP packet to a private IP and ExtraNET will establish the connection in approximately 6 seconds. Data can then be sent or received from the remote site with a throughput of approximately 9.6 kbps full duplex.
 2. Alternatively the remote device can initiate a connection with your host.
 3. Secure access via the Internet can be arranged through a public gateway where a VPN is not desirable or possible (roaming host)
- Default Dynamic IP allows the remote user to access the public internet for host-less applications.
- SMS messages can be sent to the ExtraNET CC to initiate remote action and or connections back from a Dynamic IP.
- Five user-configurable I/O points user configured for analog input (0 to 5 VDC) or digital output for remote monitoring and control in standalone applications.
- Optional cellular modems are available for most carriers.
- Optional GPS module supports NMEA 0183, TIAP, and TSIA protocols
- Local data storage up to 2 GB using removable SD memory
- Activity timers automatically disconnect on user configured "no activity" or "maximum connect time" parameters.
- Always On, always ready operation. Custom low power modes available on request.

Technical Specifications:

Satellite Network:

Integrated Globalstar 1620 digital modem.

Optional Cellular Network:

GSM / GPRS, Edge, 1X, or CDMA cellular service providers

Coverage Area:

Virtually anywhere in the world where a view of the sky is available

Power Requirements:

+5.6 V to +16 V
0.5 W typical
5.4 W Max Transmit

Dimensions:

6 in depth 9 in width 18 height, with vertical antenna included

Environmental Conditions:

Operating -30 to +60 C
Storage -40 to +85 C

User Interface:

RS232 or RS485 (user selectable) at 110, 300, 2400, 9600, 19200, 38400, 57600, or 115200 baud

5 I/O points with 10 bit A/D (0 to 5VDC) input or digital output (0 to 5VDC @ 20mA)

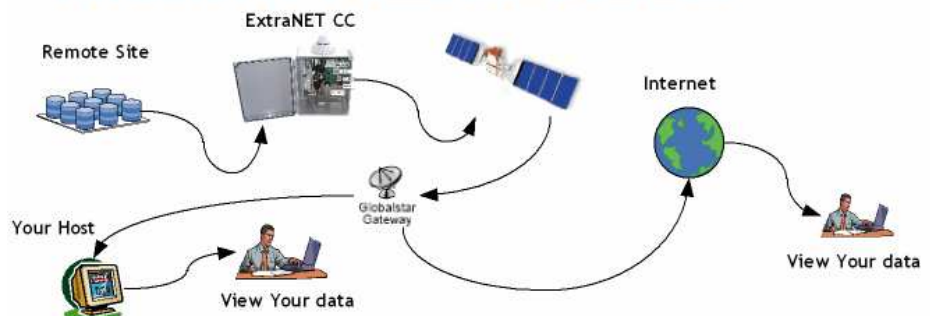
Host Protocols Supported:

TCP, UDP, SMTP, ICMP over IP

Network:

Via Static IP using VPN direct to Globalstar NOC or via our secure gateway available on the Internet

EXTRANET CC WORKFLOW DIAGRAM



Terminal Server

ExtraNET offers the ability to perform as a remote Terminal Server. Using either Globalstar's new Static IP service or with dynamic IP and SMS notification, ExtraNet CC will allow data to be sent between your host and the remote site using the TCP or UDP IP protocol. ExtraNet CC supports both RS232 and RS485 (4 wire full duplex) at all standard baud rates for the interface with the customer supplied RTU's and PLC's. Because the ExtraNET CC is not protocol or host specific, almost any 8 bit asynchronous protocol that can be transmitted over RS232 or RS485 via an IP connection will work. Applications can even notify your host of alarms in the field by way of an e-mail! Uses include Oil & Gas, Mining, Ranching, Farming and others.

Mobile Communications

Configured for mobile applications ExtraNET CC will automatically switch the communications between the Globalstar network and a wireless GSM/GPRS or CDMA networks based on economics and accessibility. Using the Remote IO interface, ExtraNET can perform alarming and notification by sending GPS coordinates to a host computer. With the inclusion of the optional GPS, ExtraNET can even report positional and velocity information.

Applications include Law Enforcement, trucking, delivery vehicles, and fleet management.

Cost Effective

ExtraNET CC brings you closer to your remote applications. Through integration with the high performance Globalstar network you avoid the traditional costs associated with bringing data in from those that are beyond economic access via terrestrial methods. ExtraNET CC also addresses those mobile and portable applications that are plagued with setup problems. Simply provide a view of the sky and you are ready to go.

Applications

The transparent serial interface allows you to work with a wide variety of equipment ranging from remote computers, to field automation equipment used in oil and gas applications, to specialized surveillance systems. Working with your integrator Crystalline Technology, Inc. will provide the technical support to assure that your project is a success. ExtraNET CC was developed out of a need to provide economical communications where none currently exists.

ExtraNET CC includes management functions to allow control of the maximum connect time and the maximum amount of no activity time. The Static IP allows you to establish communications over a VPN for privacy and security. Together these functions give you exclusive control over your communications and the air time costs incurred.

For host systems that do not have an IP or Terminal Server capabilities, Crystalline Technology, Inc. can provide solutions to take your RS232 / RS485 data and send it over the IP network to the ExtraNET CC remote.

Native MODBUS Support

ExtraNET CC has the ability to act as a MODBUS master and poll a slave PLC for data. Data can then be buffered and transmitted to the host using very efficient communications without suffering latency normally associated with satellite communications.

For further information:

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