



MicroCom-CM Communicator

MicroCom GUI 4.99C

User Manual



Revision 1.02

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MAIN SCREEN

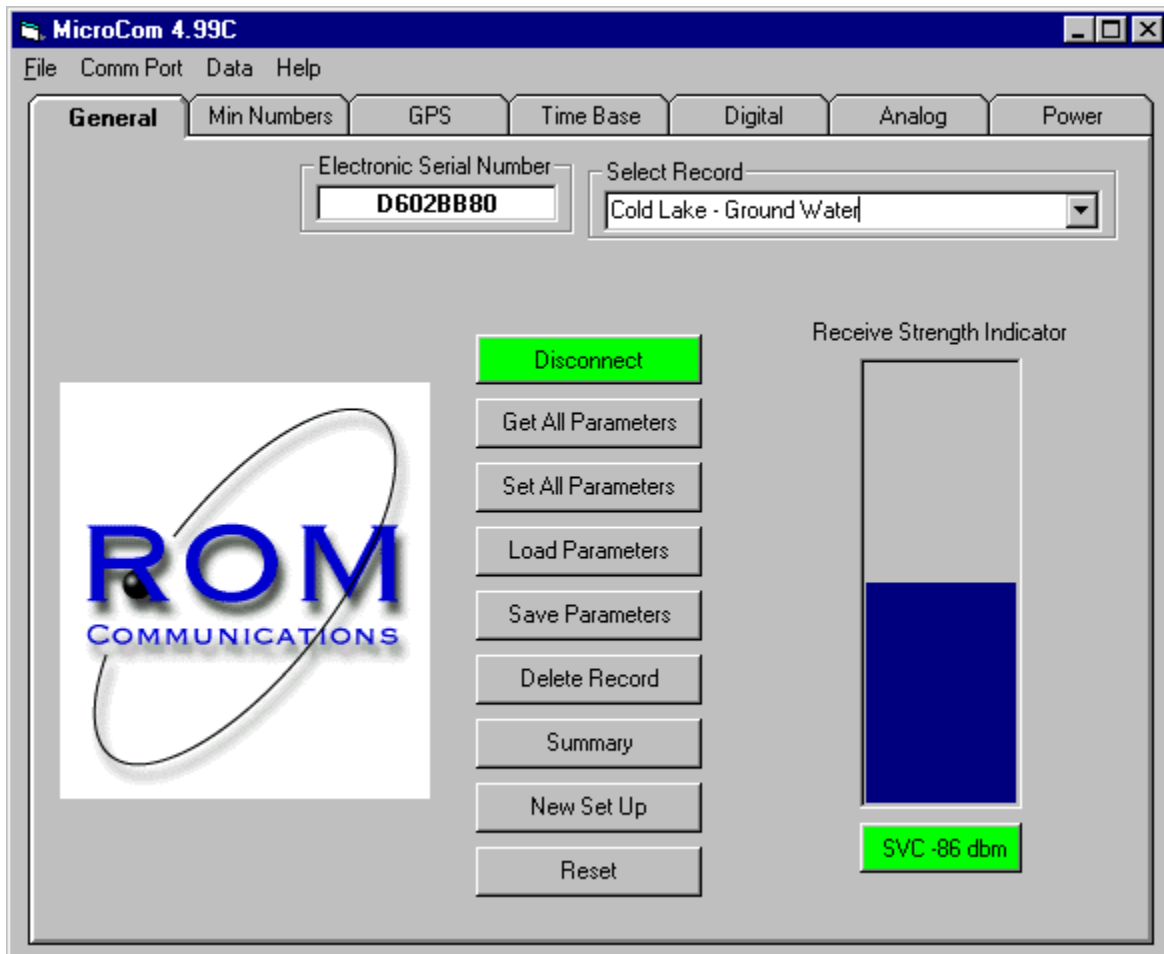


Figure 1 Main Screen (connected)

MENU BAR

APPLICATION

Open File – Opens a database file that contains profile records with previously saved setting.

New File – Create a new database file.

Update Palm File – Save current settings to a profile record that will update the Palm file with next hot sync.

Install Palm Support – Install Palm Pilot conduit for hot syncing

Uninstall Palm Support – Removes Palm Pilot conduit

Exit – Exits MicroCom GUI

COMM PORT

Connect - Connects MicroCom GUI to MicroCom Communicator.

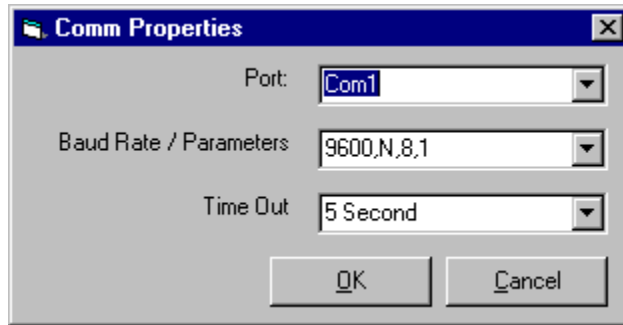


Figure 2 Communication Port Properties Screen

Properties – Configures individual port settings

Port: Selects communication port to be used.

Baud Rate/Parameters: Bits per second, Data bits, Parity, Stop bits

Timeout: Select timeout

DATA

Data retrieve – Selectively download the data from the MicroCom Communicator to a connected PC or handheld device.

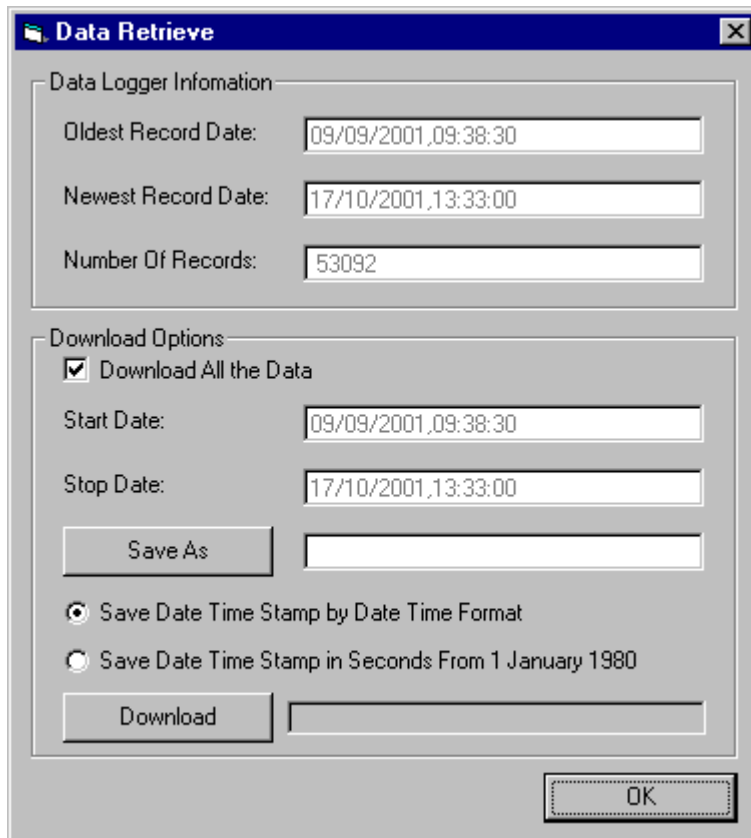


Figure 3 Data Retrieval Screen

Data Logger Information

MicroCom GUI 4.99C

www.romcomm.com

Oldest record date – Displays date/time stamp of the first record in the data logger

Newest record date - Displays date/time stamp of the latest record in the data logger

Number of records - Displays the number of records in the data logger

Download Options

Download all data - When checked, all data stored in data logger will be downloaded.

Start date – Specifies a specific start time period to download data from the data logger.

Stop Date* - Specifies a specific end time period to download data from the data logger.

Save as – Names the TXT file where the data will be stored.

Save Data Time Stamp by Date Time Format – Places date/time stamp in a Date Time Format before each record in data file.

Save Data Time Stamp by in seconds From 1 January 1980 - Places date/time stamp in a second's format from January 1, 1980 before each record in data file.

Download – Starts download

OK – Closes data logger window

*Stop time must be greater than start time

HELP

MicroCom Help – Not available

About – Provides information about the current version of the MicroCom GUI.

TAB MENUS

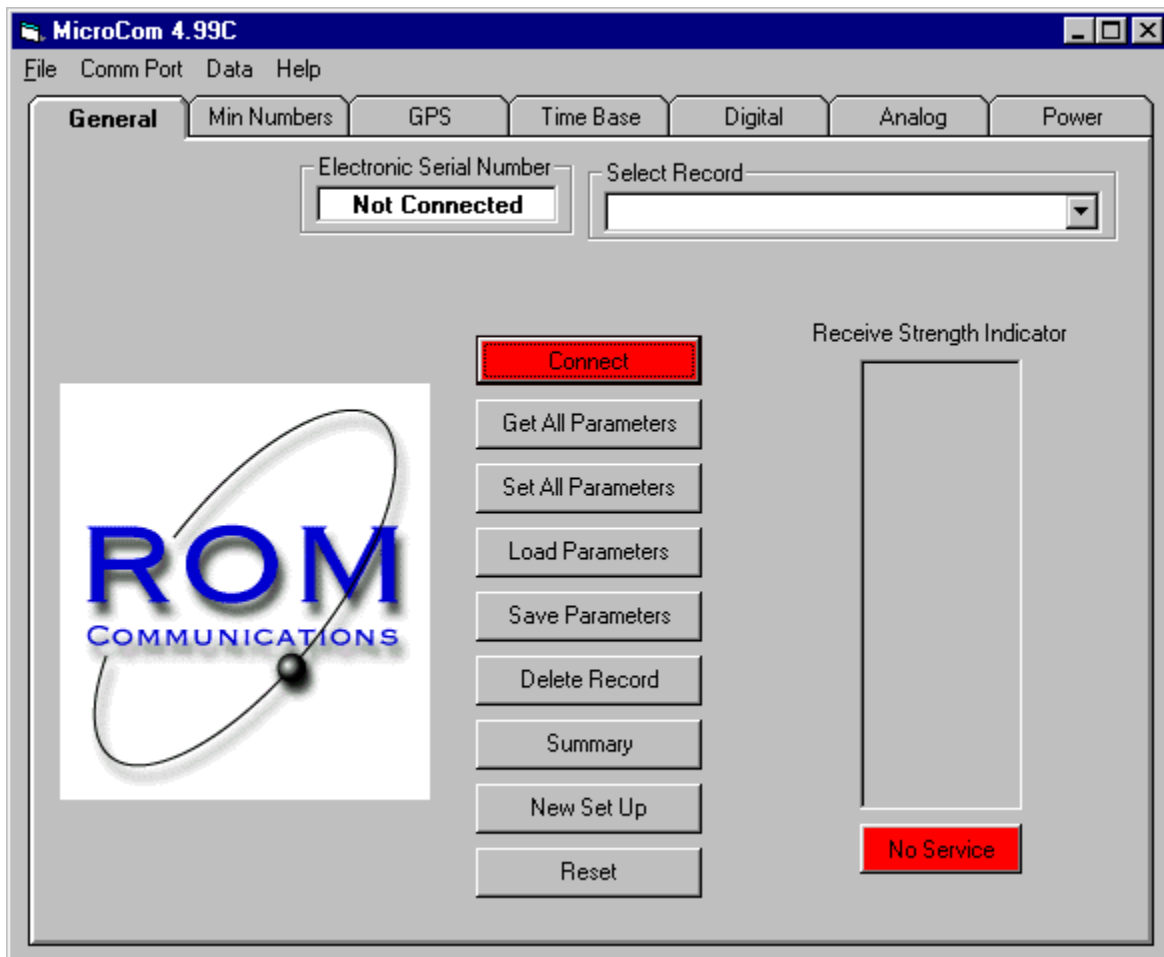


Figure 4 Main Screen (not connected)

GENERAL SCREEN – (Displays)

ESN (Electronic Serial Number) – Displays the connected MicroCom Communicators unique ESN (Electronic Serial Number)

Select Record – Displays current profile record being used to configure the MicroCom Communicator

Receive Strength Signal (Signal Strength Indicator) – Shows the strength of the signal currently being received by the MicroCom Communicator in the format of a bar graph and Decibels (The higher the bar the stronger the signal).

GENERAL SCREEN – (Buttons)

Connect/Disconnect – Connects and disconnects PC or handheld device to MicroCom Communicator.

Get all Parameters (Display settings) – Displays current setting from connected MicroCom Communicator.

Set all parameters – Updates the connected MicroCom Communicator with the changed settings.

Save parameters (Save profile file) - Saves current MicroCom settings to a file

Load parameters (Load a File) – Opens a dialogue box that allows you to load a saved MicroCom profile file to the connected MicroCom Communicator

Summary (Display Summary) – Displays current settings for a connected MicroCom Communicator in a separate window that can be viewed, printed or saved to a file.

Reset (Update MicroCom) – Updates the connected MicroCom Communicator with the changed settings

MIN NUMBERS SCREEN – (Displays)

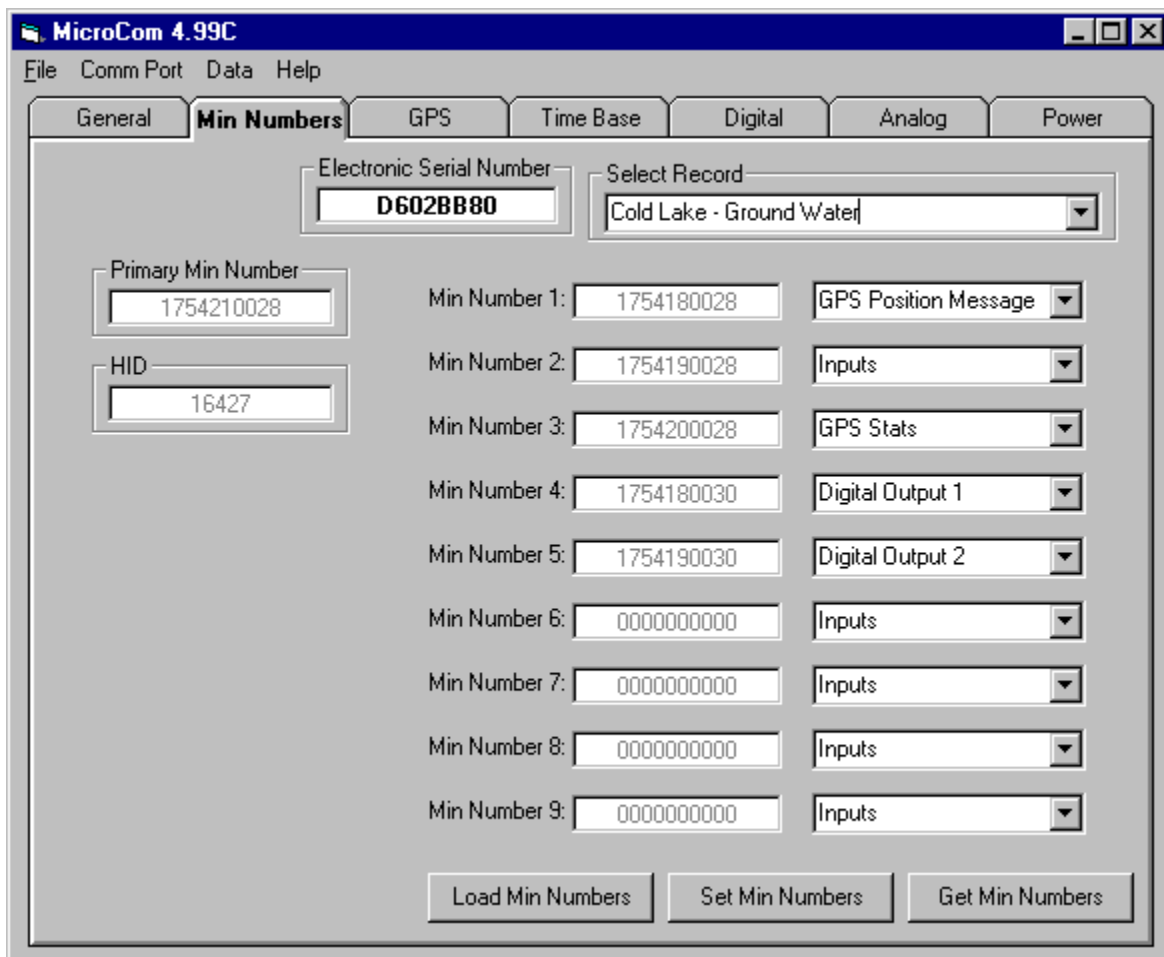


Figure 5 Min Numbers Screen

ESN (Electronic Serial Number) – Displays the connected MicroCom Communicators unique ESN (Electronic Serial Number)

Select Record – Displays current configuration record being used to configure the MicroCom Communicator

Primary MIN Number – Display the connected MicroCom Communicators unique Primary MIN (Mobile Identification Number).

HID – Displays the connected MicroCom Communicators HID (Home Identification Number)

GPS SCREEN (Displays)

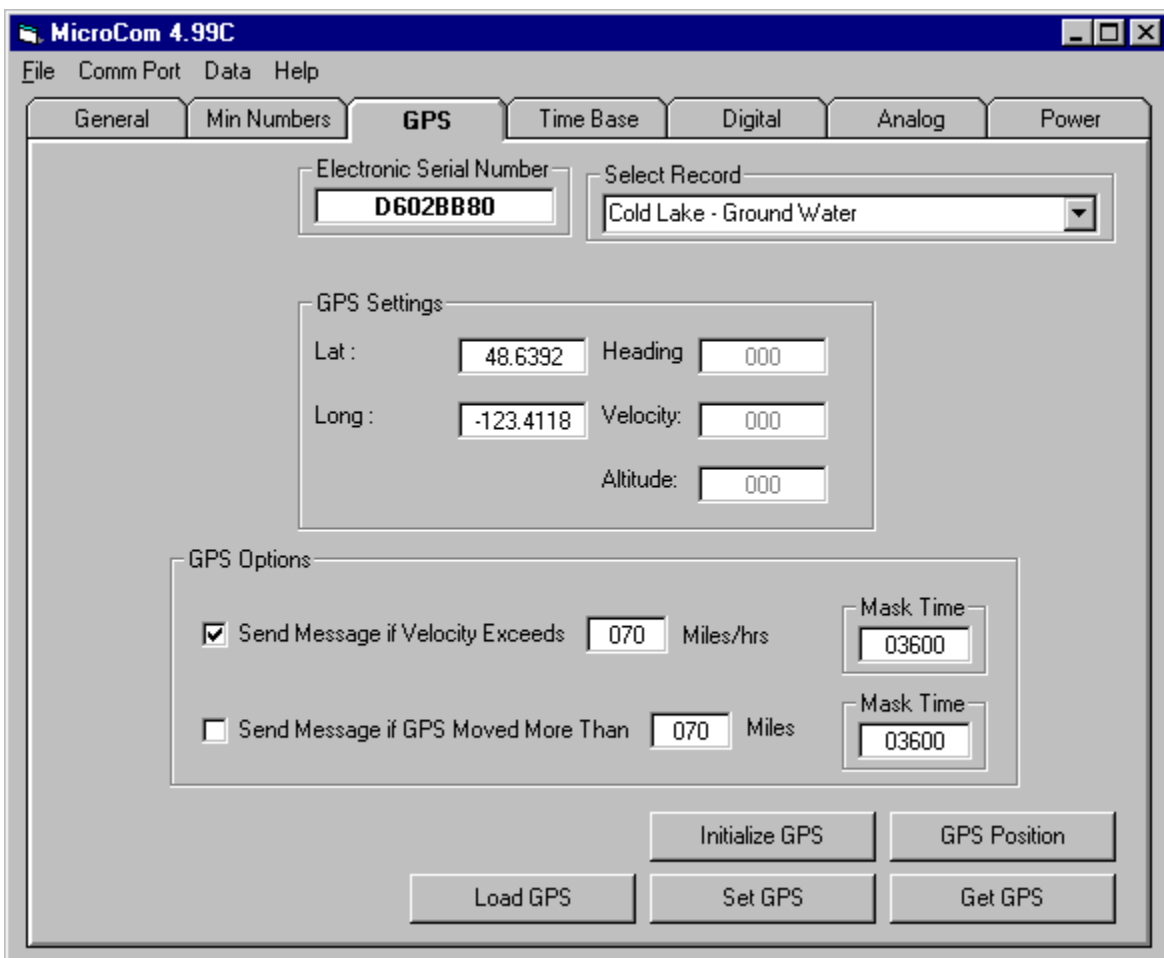


Figure 6 GPS Configuration Screen

ESN (Electronic Serial Number) – Displays the connected MicroCom Communicators unique ESN (Electronic Serial Number)

Select Record – Displays current profile record being used to configure the MicroCom Communicator

GPS Settings

Lat – Displays the connected MicroCom Communicators Latitude

Long – Displays the connected MicroCom Communicators Longitude

Heading – Displays the connected MicroCom Communicators Heading

Velocity – Displays the connected MicroCom Communicators Velocity

Altitude – Displays the connected MicroCom Communicators Altitude

GPS Options

Send message if velocity exceeds – When this option is selected (checked) the MicroCom Communicator will send an event notification based on the speed threshold set (miles/hour).

Send message if GPS is moved more than * - When this option is selected (checked) the MicroCom Communicator will send an event notification when the Communicator is moved outside of a predefined radius (in miles).

* This is used for geo-fencing. Geo-fencing allows you to place a virtual fence (radius) around an object based on a geographically fixed point (latitude & longitude). When the monitored object is moved outside of this virtual fence (radius) the MicroCom Communicator will send an event notification.

Mask Time – The time set to prevent repeat messaging from an unchanged event measured in seconds.

E.g. a security door is breached and the MicroCom Communicator sends an event notification. However, the door remains open therefore the MicroCom Communicators keeps sending the same event notification. The mask time prevents this repeat messaging for a predefined time (mask time).

GPS SCREEN (Buttons)

Initialize GPS – Programs GPS engine (first time use only).

GPS Position – Retrieves current GPS Position from GPS module (latitude and longitude).

Load GPS - Opens a dialogue box that allows you to load a saved MicroCom GPS profile file to the connected MicroCom Communicator

Set GPS - Updates the connected MicroCom Communicator with the changed GPS settings.

Get GPS – Displays current GPS settings from connected MicroCom Communicator.

TIME BASE SCREEN (Display)

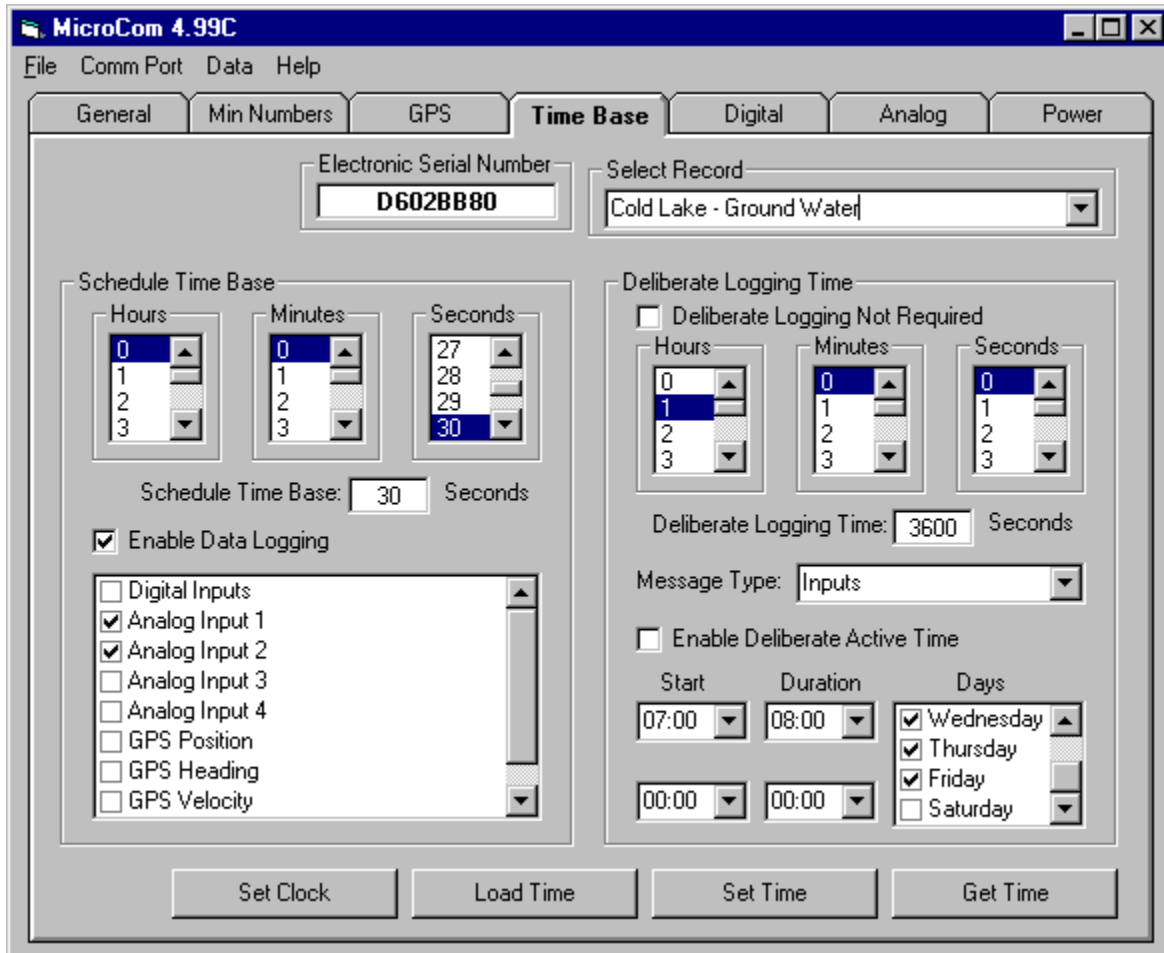


Figure 7 Time Base Configuration Screen

ESN (Electronic Serial Number) – Displays the connected MicroCom Communicators unique ESN (Electronic Serial Number)

Select Record – Displays current configuration record being used to configure the MicroCom Communicator

SCHEDULE TIME BASE

This section is used to configure the frequency that the MicroCom’s data logger will log readings from the connected instrument(s).

Hours, Minutes, Seconds – Select the frequency that you would like to log and store the data from a particular input(s)

Schedule Time Base Seconds – Displays the hours, minutes, and seconds selected (totalled in seconds) in the above section.

Enable Data Logging – Selecting this check box will enable data logging for the selected inputs to be logged.

Inputs List Box – Selecting the check box next to an input will flag that particular input data to be logged.

DELIBERATE LOGGING TIME

This section selects the frequency that the MicroCom unit will transmit readings to the website,

Deliberate Logging Not Required – Selecting this check box to disable deliberate logging.
Note: The MicroCom Communicator will still send messages by exception and manual updates.

Hours, Minutes, Seconds - Select the frequency that you would like the MicroCom Communicator to send messages (updates) to your website.

Deliberate Logging Time - Displays the hours, minutes, and seconds selected (totalled in seconds) in the above section.

Message Type* – Selects the type of message (data) that you would like the MicroCom Communicator to send.

Inputs – Sends data from the analog inputs

GPS Position – Sends latitude and longitude data from GPS module

GPS Stats – Sends heading, velocity and altitude data from GPS module

Log 4 Analog* – Sends four readings from analog 1 in one message

*Log 4 Analog - if deliberate logging is set for one hour, the MicroCom Communicator will take a reading every 15 minutes. After the fourth reading the MicroCom Communicator will send a message (update) that contains the four 15 minute readings from analog 1.

* All messages always include all digitals and date/time stamp data.

Enable Deliberate Active Time – Checking this box enables scheduled delivery of messages (updates) based on day of the week, start time and duration. Two schedules can be set per MicroCom Communicator.

Start – Select the time of day to start scheduled messaging (updates) based on a 24-hour clock.

Duration – Select the duration of the schedule in hours (see example below)

Days – Select the days that you would like to receive messages (updates).

I.e. Selecting **Start**= 07:00 **Duration**= 08:00 **Days**= Monday, Tuesday, Wednesday, Thursday, Friday will provide you with messaging from your MicroCom Communicator Monday to Friday only starting at 07:00AM to 03:00PM (an 8 hour duration).

TIME BASE SCREEN (Buttons)

Set Clock – Synchronizes the MicroCom Communicators real-time clock with the connected PC or hand held device.

Load Time - Opens a dialogue box that allows you to load a saved MicroCom Time profile file to the connected MicroCom Communicator.

Set Time - Updates the connected MicroCom Communicator with the changed time settings.

Get Time - Displays the current time setting from connected MicroCom Communicator.

DIGITAL SCREEN (Display)

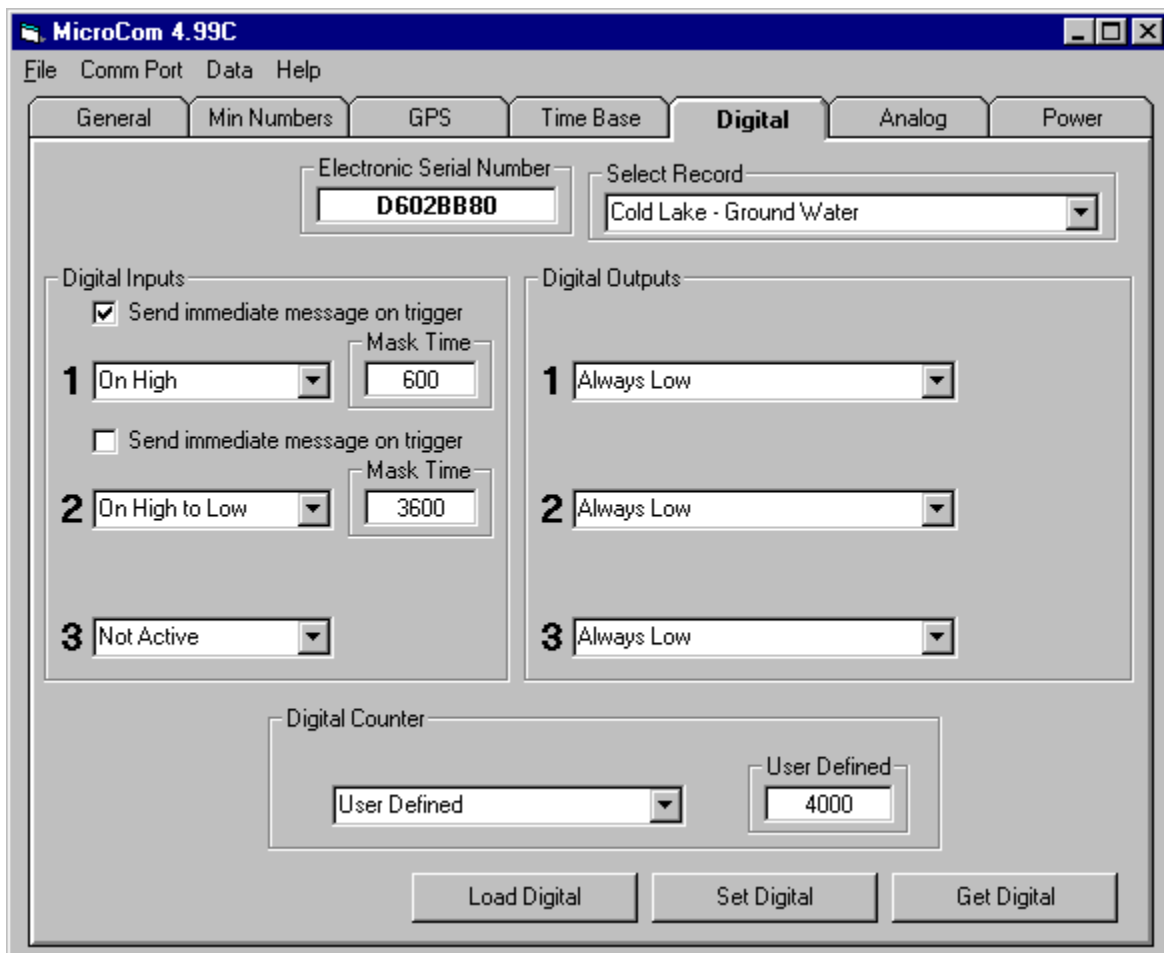


Figure 8 Digital I/O Configuration Screen

ESN (Electronic Serial Number) – Displays the connected MicroCom Communicators unique ESN (Electronic Serial Number)

Select Record – Displays current configuration record being used to configure the MicroCom Communicator

Digital Inputs 1 to 3 – Sets the state of the digital input.

Set immediate message on trigger – When selected, a message (event notification) will be sent immediately.

Not Active – Digital input not active

Log Always - Activates digital inputs

On high – If the port is in a high state and *Send immediate message on trigger* is checked, the MicroCom Communicator will send an immediate Event notification message.

On low - If the port is in a low state and *Send immediate message on trigger* is checked, the MicroCom Communicator will send an immediate Event notification message.

On high to low - If the port changes from a high state to a low state and *Send immediate message on trigger* is checked, the MicroCom Communicator will send an immediate Event notification message.

On low to high - If the port changes from a low state to a high state and *Send immediate message on trigger* is checked, the MicroCom Communicator will send an immediate Event notification message

On any change - If the port changes from any state and *Send immediate message on trigger* is checked, the MicroCom Communicator will send an immediate Event notification message

Mask Time – The time set to prevent repeat messaging (event notification) from any unchanged events measured in seconds.

Digital Counter

Not active – Digital counter not active

Event Counter/STB – Counts pulses from digital input 3 (counter reset based on schedule time base)

Event counter/DLT – Counts Pulses from digital 3 (counter reset based on Deliberate Logging Time)

Event Counter/Hour – Counts Pulses from digital 3 (counter reset hourly)

Event Counter/Day Hour – Counts Pulses from digital 3 (counter reset daily)

User Defined – Counts pulses from digital 3 (counter reset on user defined count value)

Digital Outputs 1 to 3 – Sets the state for the digital output

Always low – Sets the initial state to low output

Always High – Sets the initial state to high output

Low before scheduled time base – Sets the output to a low state before a schedule time base (reading to be placed in the data logger.)

High before scheduled time base – Sets the output to a high state before a schedule time base (reading to be placed in the data logger.)

Low before deliberate log time – Sets the output to a low state before a deliberate log time event (scheduled message or update)

High before deliberate log time - Sets the output to a high state before a deliberate log time event (scheduled message or update)

Offset time (for time based only) – Sets the amount of time (in seconds) prior to the schedule time base or deliberate log time that the output will change its state.

DIGITAL SCREEN (Buttons)

Load digital - Opens a dialogue box that allows you to load a saved MicroCom Digital profile file to the connected MicroCom Communicator.

Set Digital - Updates the connected MicroCom Communicator with the changed Digital settings

Get digital - Displays the current Digital setting from the connected MicroCom Communicator.

ANALOG SCREEN (Display)

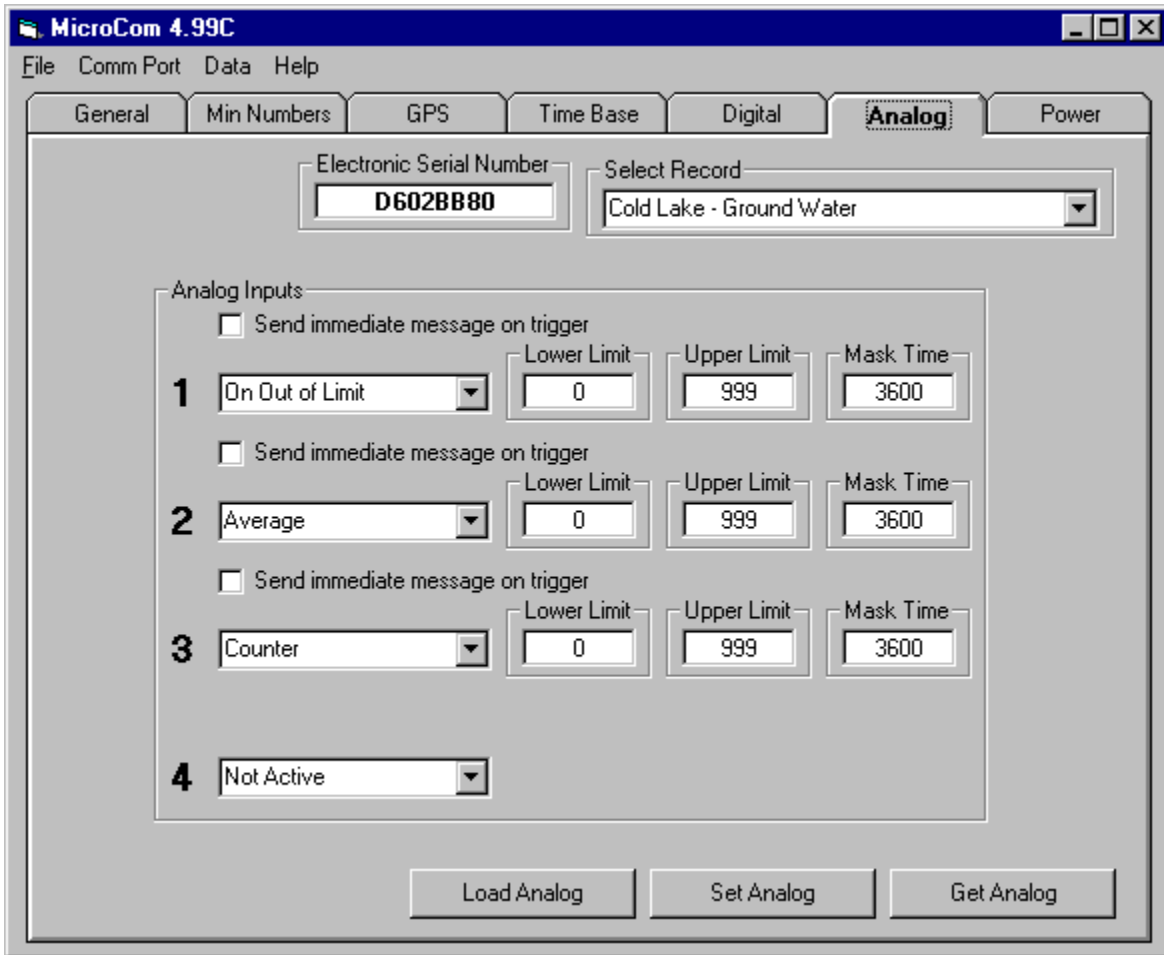


Figure 9 Analog Inputs Configuration Screen

ESN (Electronic Serial Number) – Displays the connected MicroCom Communicators unique ESN (Electronic Serial Number).

Select Record – Displays current profile record being used to configure the MicroCom Communicator

Analog Inputs – Sets the parameters for the analog inputs.

Not Active – Analog port not active.

Log Always – Activates analog port (reads selected port without event notification).

On out of limits – Activates analog port with event notification

Set immediate message on trigger – When selected, a message (event notification) will be sent immediately.

Lower limit – Sets the low threshold, if the reading goes below this threshold an event notification will be sent immediately if *Send immediate message on trigger* is selected.

Upper limit - Sets the high threshold, if the reading goes above this threshold an event notification will be sent immediately if *Send immediate message on trigger* is selected.

Mask time - The time set to prevent repeat messaging (event notification) from unchanged events measured in seconds.

Minimum – Minimum value for this analog channel based on the deliberate log time period.

Maximum - Maximum value for this analog channel based on the deliberate log time period.

Average - Average value for this analog channel based on the deliberate log time period.

Counter – Replaces the analog reading with the values from the digital counter.

SDI – Replaces the analog reading with SDI-12 values from the SDI-12 Interface.

ANALOG SCREEN (Buttons)

Load analog - Opens a dialogue box that allows you to load a saved MicroCom analog profile file to the connected MicroCom Communicator.

Set analog - Updates the connected MicroCom Communicator with the changed Analog settings.

Get analog - Displays the current Analog setting from connected MicroCom Communicator.

POWER SCREEN (Display)

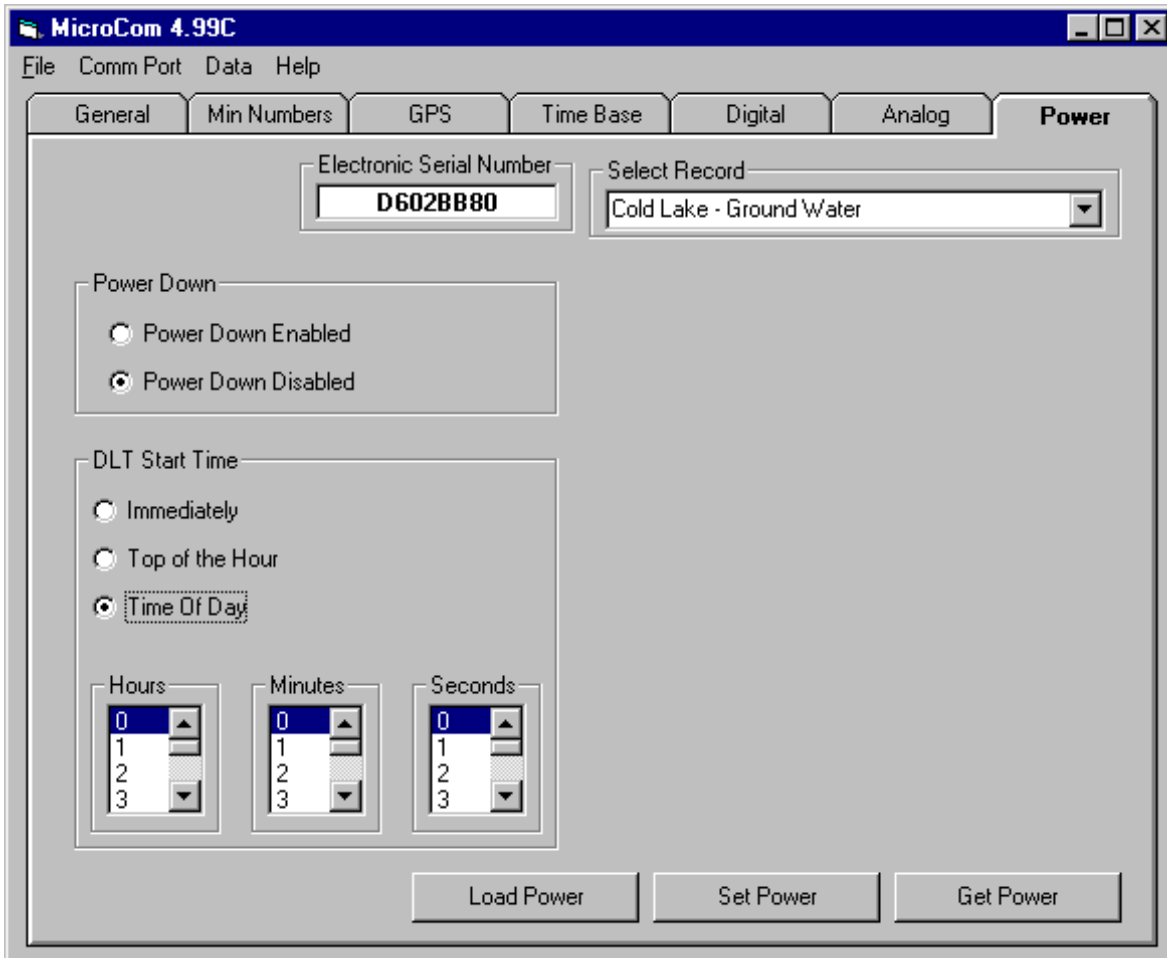


Figure 10 Power Configuration Screen

ESN (Electronic Serial Number) – Displays the connected MicroCom Communicators unique ESN (Electronic Serial Number).

Select Record – Displays current configuration record being used to configure the MicroCom Communicator

Power down – Selects power mode

Power-down enable – Activates MicroCom Communicators sleep mode.

Power-down disable - sleep mode not active.

DLT start time – Sets the start time for the initial deliberate log time event after the MicroCom unit has been reset.

Immediate – Sets the initial deliberate log time event to start immediately after the MicroCom unit has been reset.

Top of the hour - Sets the initial deliberate log time event to start at the top of the next hour after the MicroCom unit has been reset.

Time of day - Set the initial deliberate log time event to start at a specific time of day (24 hour clock) after the MicroCom unit has been reset.

POWER SCREEN (Buttons)

Load power - Opens a dialogue box that allows you to load a saved MicroCom Power profile file to the connected MicroCom Communicator.

Set power - Updates the connected MicroCom Communicator with the changed Power settings

Get power - Displays the current Power setting from connected MicroCom Communicator.

APPENDIX A - MicroCom-CM Diagram

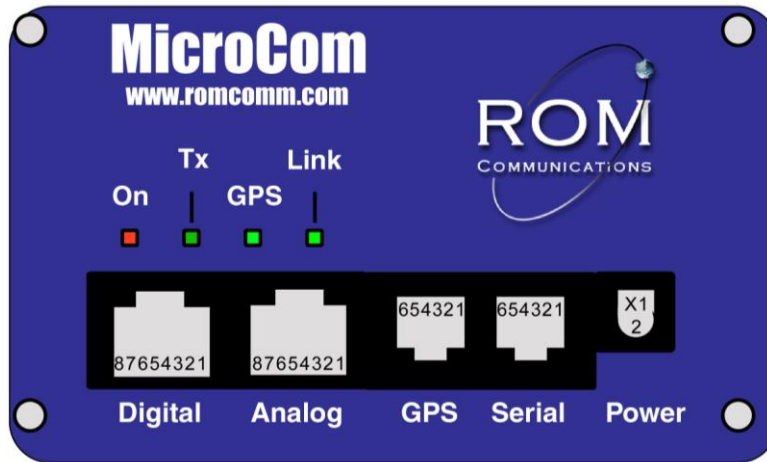


Figure 11 MicroCom-CM Front View

Digital Interface	Description	Analog Interface	Description
Pin 1	Digital In 1	Pin 1	Analog In 1 (+)
Pin 2	Digital In 2	Pin 2	Analog In 1 (-)
Pin 3	Digital In 3	Pin 3	Analog In 2 (+)
Pin 4	Digital In 4	Pin 4	Analog In 2 (-)
Pin 5	Ground (Common)	Pin 5	Analog In 3 (+)
Pin 6	Digital Out 1	Pin 6	Analog In 3 (-)
Pin 7	Digital Out 2	Pin 7	Analog In 4 (+)
Pin 8	Digital Out 3	Pin 8	Analog In 4 (-)

Serial Interface	Description	GPS Interface	Description
Pin 1	+12 Volts	Pin 1	+12 Volts
Pin 2	N/C	Pin 2	N/C
Pin 3	TX	Pin 3	RX (GPS)
Pin 4	RX	Pin 4	TX (GPS)
Pin 5	N/C	Pin 5	N/C
Pin 6	Ground (Common)	Pin 6	Ground (Common)

Power Interface	Description	Antenna Interface	Description
Pin X	N/C	Connector	SMA
Pin 1	+12 Volts		
Pin 2	Ground		

APPENDIX B - MicroCom-CM Specifications

Wireless Modem

Operating frequency	824.01—893.97 MHz
Supply voltage	13.2 Volts DC (Nom)
Supply current	125 mA (nom) receive 1300 mA (nom) Transmit
Antenna Connection	50 ohm SMA
Power output	3 Watt
Operating Temperature	-40 to + 70C

Interfaces

DC Power connector	RP34
Digital Interface	RJ45
Analog Interface	RJ45
GPS Interface	RJ11
Serial Interface	RJ11
Antenna Connector	SMA

Processor

Processor	25 Mhz
SRAM	128K
Flash memory	512K
Real-time clock	Calendar & alarm functions

Inputs

4 Analog - 0-5 volts level, 4-20 mA level, 10-bit resolution
4 digital - 0-5 volts logic level, 10K pull-up to 5 volts
1 Serial RS-232 - 9600 baud, N, 8, 1
1 GPS (serial) - 4800 baud, N, 8, 1, NMEA-2 compatible

Outputs

3 Digital - 0-5 CMOS levels, 1K series resistor
4 Status LED's - Power, service, Transmit, GPS
1 Serial RS-232 - 9600 baud, N, 8, 1

Mechanical

Enclosure	Extruded Aluminium
Dimensions	13 cm x 5 cm x 8 cm (5.25" x 2" x 3.125")
Weight	378 Grams (13.5 OZ)
Colour	Blue Anodized

Power

Voltage	13.2 VDC (nom)
Current operating	150 mA
Current transmit	1.5 Amps
Current Sleep	5 mA
Current Max.	1.5 Amps

Certification

Class 1 Div. 2, Group C, D Temp Code T4
Can/CSA C22.2 E-79-15