

SBE 37-SI (RS-232) MicroCAT Reference Sheet

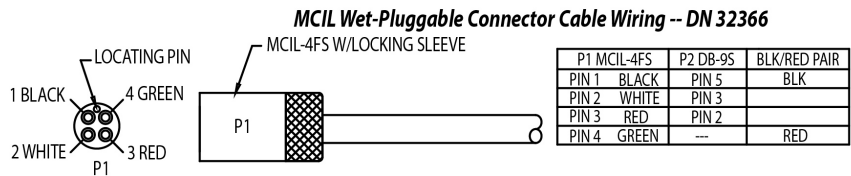
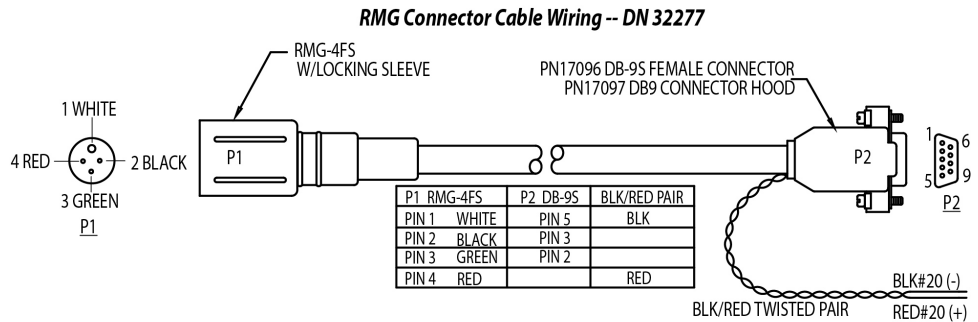
(see SBE 37-SI MicroCAT User's Manual for complete details)

Sampling Modes

- **Autonomous sampling** – There are two types of Autonomous sampling.
 - Interval sampling:* At pre-programmed intervals, sample and transmit data, and store data in FLASH memory.
 - Continuous sampling:* Continuously sample and transmit data, and store data in FLASH memory.
- **Polled sampling** – On command, take 1 sample and transmit data. Useful for integrating MicroCAT with satellite, radio, or wire telemetry equipment.
- **Serial Line Sync** – In response to a pulse on serial line, sample, transmit data, store data in FLASH memory, and go to sleep. Easy method for integration with Acoustic Doppler Current Profilers (ADCPs) or current meters which can synchronize MicroCAT sampling with their own, without drawing on their battery or memory resources.

Setup

1. Install I/O cable; connect to computer serial port and power supply (8.5 - 24 VDC).
2. Double click on SeatermV2.exe. SeatermV2 opens; in Instruments menu, select *SBE 37 RS232*. Seaterm232 opens.
3. In Seaterm232's Communications menu, select Configure. Select Comm port and baud rate (factory set to 9600), and click OK.
4. Seaterm232 automatically connects to MicroCAT. As it connects, it sends **GetHD** and displays response, and then fills Send Commands window with list of commands for your MicroCAT.



5. Program MicroCAT for intended deployment (see other side of this sheet for *Command Instructions and List*).
 - A. Ensure all data has been uploaded, and then send **InitLogging** to make entire memory available for recording. If **InitLogging** is not sent, data will be stored after last recorded sample.
 - B. Set date and time (**DateTime=**).
 - C. Establish setup and operating parameters. Parameters that control operation include:
 - **SampleMode=**
 - SampleMode=1:** When commanded to sample, take a single sample.
 - SampleMode=2:** When commanded to sample, sample at intervals defined by **SampleInterval=**.
 - SampleMode=3:** When commanded to sample, sample continuously.
 - **AutoRun=**
 - AutoRun=Y:** When power applied, automatically sample as defined by **SampleMode=**.
 - AutoRun=N:** When power applied, do not begin to automatically sample.

Deployment

1. Wiring - Install I/O cable and locking sleeve. Connect to computer serial port and power supply (8.5 - 24 VDC).
2. Deploy MicroCAT, using Sea-Bird mounting hardware or customer-supplied mounting hardware.

Data Upload

1. Connect cable from MicroCAT to computer and power source.
2. Double click on SeatermV2.exe. SeatermV2 opens; in Instruments menu, select *SBE 37 RS232*. Seaterm232 opens.
3. In Seaterm232's Communications menu, select *Configure*. Select Comm port and baud rate (factory set to 9600), and click OK.
4. Seaterm232 automatically connects to MicroCAT. As it connects, it sends **GetHD** and displays response, and then fills Send Commands window with list of commands for your MicroCAT.
5. If sampling autonomously (logging), command MicroCAT to stop logging by sending **Stop**.
6. Click Upload menu to upload stored data.
7. Seaterm232 prompts you to run SBE Data Processing to convert uploaded .hex file to .cnv file for use by other modules in data processing software. Process file and review data in Sea-Bird data processing software to ensure all data has been uploaded.

Command Instructions and List

- Input commands in upper or lower case letters and register commands by pressing Enter key.
- If in quiescent (sleep) state, re-establish communications by clicking Connect in Communications menu or pressing Enter key.
- If a new command is not received within 2 minutes after completion of a command, MicroCAT returns to quiescent (sleep) state.
- MicroCAT sends an error message if invalid command is entered.

Shown below are commands used most commonly in the field. See Manual for complete listing and detailed descriptions.

CATEGORY	COMMAND	DESCRIPTION
Status	GetCD	Get and display configuration data.
	GetSD	Get and display status data.
	GetCC	Get and display calibration coefficients.
	GetEC	Get and display event counter data.
	ResetEC	Reset event counter.
	GetHD	Get and display hardware data.
	DS	Get and display status.
General Setup	DC	Get and display calibration coefficients.
	DateTime= mmddyyyyhhmmss	Set real-time clock month, day, year, hour, minute, second.
	BaudRate=x	x= baud rate (600, 1200, 2400, 4800, 9600, 19200, 38400, 57600, or 115200). Default 9600.
	OutputExecutedTag=x	x=Y: output XML Executed and Executing tags. x=N: do not.
	ReferencePressure=x	x = reference pressure (decibars) (used when MicroCAT has no pressure sensor).
Memory Setup	QS	Quit session and place MicroCAT in quiescent (sleep) state.
	StoreData=x	x=Y: Store data to FLASH memory when sampling. x=N: do not.
	InitLogging	Initialize logging to make entire memory available for recording.
Output Format Setup	SampleNumber=x	x= sample number for last sample in memory. SampleNumber=0 equivalent to InitLogging .
	OutputFormat=x	x=0: raw decimal data. x=1: converted decimal data. x=2: converted decimal data in XML. x=3: converted binary data. x=4: converted decimal data, alternate format. x=5: converted data, BSH format.
	OutputTime=x	x=Y: output date and time. x=N: do not.
	OutputSal=x	x=Y: output salinity (psu). x=N: do not.
	OutputSV=x	x=Y: output sound velocity (m/sec). x=N: do not.
	OutputDensity=x	x=Y: output local density (kg/m ³). x=N: do not.
	OutputDepth=x	x=Y: output depth (meters). x=N: do not.
Operating	Latitude=x	x= latitude (degrees) to use in depth calculation.
	SampleMode=x	x=1: When command to sample, take single sample. x=2: When command to sample, sample at intervals defined by SampleInterval= . x=3: When command to sample, sample continuously.
	SampleInterval=x	x = interval between samples (6 - 21600 seconds) when SampleMode=2 .
	AutoRun=x	x=Y: When power applied, automatically sample as defined by SampleMode= . x=N: When power applied, do not begin to automatically sample.
Polled Sampling	Start	Start sampling, as defined by SampleMode= .
	Stop	Stop sampling. Must send Stop before uploading data.
	TS	Take sample, store data in buffer, output data.
	TSH	Take sample, store data in buffer, do not output data.
	TSS	Take sample, store data in buffer and in FLASH memory, output data.
	TSn:x	Take x samples, output data.
Data Upload	SL	Output last sample stored in buffer.
	SLT	Output last sample stored in buffer, then take new sample and store data in buffer.
Calibration Coefficients	DDb,e	Upload scan b to scan e , in alternate converted decimal form (OutputFormat=4) (regardless of user setup for OutputFormat=).
	GetSamples:b,e	Upload scan b to scan e , in format defined by OutputFormat= .
Calibration Coefficients	<i>See manual.</i>	