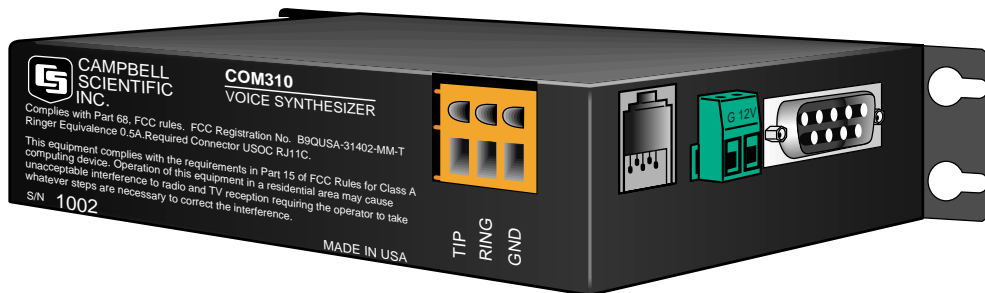


# Telephone Modem with Voice Synthesizer

## Model COM310

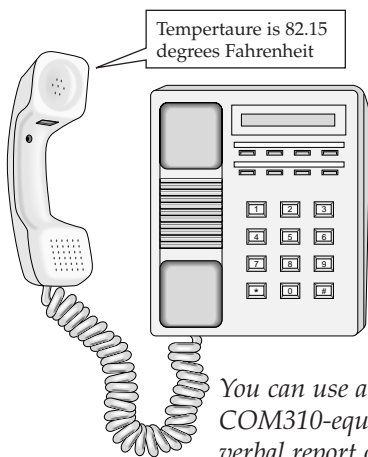
Campbell Scientific's COM310 voice-synthesizer modem provides a CR510, CR800, CR10(X), CR1000, CR23X, or CR3000 datalogger with speech capability, thus enabling the user to call the site for a spoken summary of real-time or historical data. The COM310 can also act as a standard modem, with data transmit rates up to 9,600 bps.



*A COM310's connections: The 9-pin serial port connects the COM310 to a datalogger via an SC12 cable. The RJ11C Modular Telephone Jack connects the COM310 to a surge-protected telephone line, or alternatively, the screw terminals (GND, RING, TIP) connect the COM310 to a phone line via a surge protector. Surge protectors are strongly recommended for sites where the phone company has not provided surge protection.*

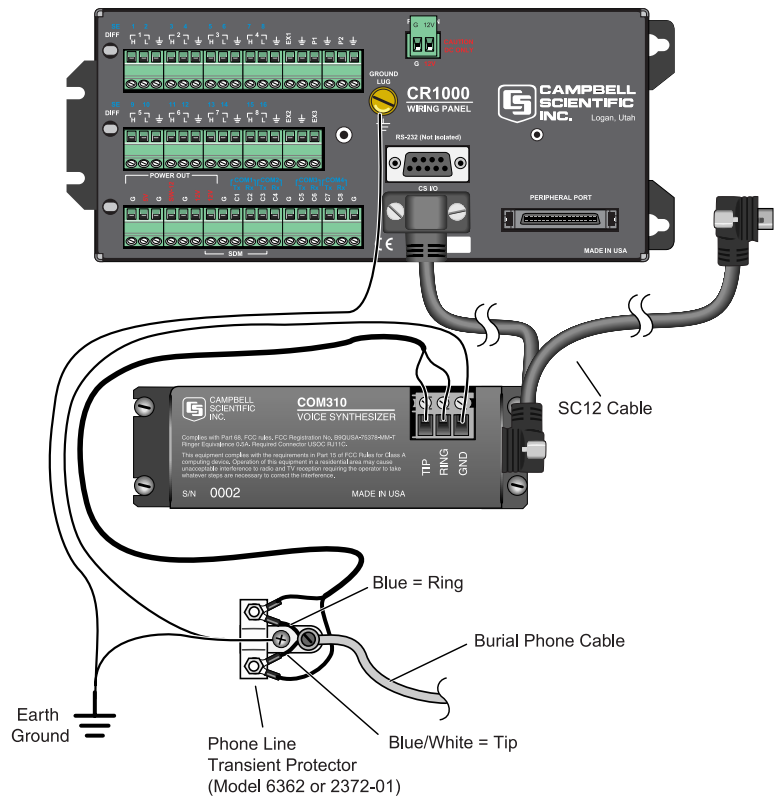
### Features:

- Allows anyone to call a COM310-equipped site from any phone (including cellular) to receive a verbal report of current site conditions.
- Enables the datalogger to call you and recite a verbal warning if specified conditions occur.
- Reports specific conditions or allows selection of information by pressing numbers on a touch-tone phone.
- Generates voice strings using CRBasic code for the CR800, CR1000, and CR3000 or LoggerTalk™ software for the CR510, CR10(X), and CR23X; see page 3 for standard word list
- Operates over a wide temperature range: -25° to +50°C standard, -55° to +80°C, optional
- Includes a speaker that aids troubleshooting in the field
- Compatible with both mixed-array and PAKBUS® dataloggers



## Required Equipment

- Phone. Typically a touch-tone phone, but a rotary phone can be used to receive a verbal report only when the report does not require user participation (i.e., pressing numbers to select information).
- Analog phone line. Some DBX office phone lines are digital and cannot be used with analog modems such as the COM310.
- Surge protector at the datalogger site if one is not installed by the phone company. CSI offers model 6362 (mounts inside enclosure) or model 4330 (similar to the 6362 but without enclosure mounts).
- COM310 voice-synthesizer modem (includes SC12 cable and LoggerTalk™ vocabulary software)
- CR800, CR510, CR10(X), CR1000, or CR3000 datalogger. The CR10 requires a UV EPROM.
- Environmental enclosure (typically an ENC12/14, ENC14/16, or ENC16/18).
- Power supply\*\*



A COM310 connected to a CR1000 datalogger, SC12 cable, and a surge protector.

Datalogger-to-computer communication also requires at the computer site an IBM-PC or compatible computer with our LoggerNet Datalogger Support Software, an SC25PS or equivalent modem cable, and a user-supplied Hayes-compatible modem.

## Specifications

Baud rate:	1200, 9600 bps
Typical current drain:	100 $\mu$ A quiescent 180 mA active (voice transmitting)
Operating voltage:	12 Vdc
Operating temperature range:	-25° to +50°C standard, -55° to +80°C, optional
Dimensions:	5.2" x 1.7" x 3.6" (13.1 x 4.3 x 9.2 cm)
Weight:	0.75 lbs (0.34 kg)
FCC Compliance:	Equipment complies with FCC Rules Part 68 and requirements in Part 15 of FCC Rules for Class A computing devices.
FCC Registration No.:	B9QUSA-31402-MM-T
Standards:	Bell 212A, CCITT V.21, V.32bis compatible

\*\* For information on analyzing your system's power requirements, please request a copy of Campbell Scientific's Power Supply brochure or application note.

## Standard COM310 Word List

Customer-requested words for specific applications can also be included; consult the factory for details. The COM310's "sentences" are programmed using CRBasic code or LoggerTalk™ software (included with the COM310).

50MS	CAMPBELL	EIGHTEEN	GRASS	LAYER
	CAN	EIGHTY	GROUND	LEVEL
<b>A</b>	CELSIUS	ELECTRON		LINE
A	CEMENT	ELEVATION	<b>H</b>	LITER
A-M	CENTI	ELEVEN	H	LOAD
ABOVE	CENTRAL	EMPTIED	H-2-S	LOCATED
ACCUMULATE	CHECK	ENGINE	HAD	LOCATION
ACKNOWLEDGE	CHILL	ENTER	HARDNESS	LOCATIONS
ACRE	CHILLER	EPROM	HAS	LOGAN
ADDITION	CHLORIDE	EQUAL	HASH	LOW
ADDITIONAL	CHLORINE	ERROR	HAVE	
AGAIN	CLOSED	EVENT	HEAD	<b>M</b>
AGO	CODE	EXCEEDS	HEAR	M
AIR	CONDUCTIVITY	EXTERNAL	HEAT	M-R-P
ALARM	CONTACT		HELLO	MANAGEMENT
ALL	CORRECTED	<b>F</b>	HERTZ	MAXIMUM
AMMONIUM	CROSSING	F	HIGH	MEMORY
AND	CUBIC	FAHRENHEIT	HOLD	MENDON
APPROACH	CURRENT	FAILED	HOT	MENU
ARE	CYCLES	FAILURE	HOUR	MERCURY
AREA		FALL	HOURS	MESSAGE
AT	<b>D</b>	FALLING	HUMIDITY	METER
AVAILABLE	D	FEET	HUNDRED	METERS
AVERAGE	D-O	FIFTEEN	HYDROLOGIC	MICRO
	DAM	FIFTY		MID
<b>B</b>	DATA	FIRST	<b>I</b>	MID-MOUNTAIN
B	DATALOGGER	FIVE	I	MIDNIGHT
BACK-UP	DAY	FLAG	IN	MILES
BAROMETRIC	DAYS	FLAGS	INCHES	MILLI
BARS	DEGREES	FLOW	INDEX	MILLION
BATTERY	DELTA	FLUORIDE	ING	MINIMUM
BAY	DEPTH	FOLLOWING	INPUT	MINUS
BE	DEVIATION	FORTY	INTAKE	MINUTE
BEAVER	DEW	FOUR	INTERNAL	MINUTES
BEDS	DING	FOURTEEN	INTRUDER	MODEM
BEHIND	DIRECTION	FREEZER	IRRADIANT	MOISTURE
BELOW	DISCONNECT	FREQUENCY	IRRIGATION	MONDAY
BIG	DISTRICT	FRIDAY	IS	MONITOR
BILLION	DIVERSION	FROM	IT	MONTH
BLAST	DOCK	FUEL		MOUNT
BOILER	DOOR		<b>J, K</b>	MOUNTAIN
BUILDING	DOWN	<b>G</b>	J	MULTIPLIER
BY	DRAW	G	K	
	DURING	GALLONS	KEY	<b>N</b>
<b>C</b>		GAS	KILO	N
C	<b>E</b>	GATE	KILOBYTES	N-T-U
C-O	E	GAUGE	KNOTS	NEEDS
CALCIUM	E-T-O	GENERATOR		NETWORK
CALIBRATE	E08'S	GOING	<b>L</b>	NEW
CALL	EAST	GOOD	L	NEXT
CALLBACK	EASTERN	GOODBYE	LAKE	NINE
CALLS	EFFLUENT	GRADIENT	LAST	NINETEEN
	EIGHT	GRAM		NINETY

NITRATE  
NITROGEN  
NO  
NOON  
NORTH  
NOT  
NUMBER

**O**

O  
OF  
OFF  
OFFSET  
OK  
ON  
ONE  
OPEN  
OR  
OUT  
OVERFLOW  
OVERRUNS  
OZONE

**P**

P  
P-H  
P-M  
P-S-I  
PACIFIC  
PARAMETER  
PARTS  
PAST  
PEAK  
PENDING  
PER  
PERCENT  
PHONE  
PLANT  
PLEASE  
POINT  
POND  
PORT  
PORTS  
POTASSIUM  
POUND  
POWDER  
POWER

PRECIPITATION  
PREHEAT  
PRESS  
PRESSURE  
PREVIOUS  
PROBE  
PRODUCT  
PROGRAM  
PROGRESS  
PUMP

**Q**

Q  
QUALITY  
QUIT

**R**

R  
R-P-M  
RACE  
RADIAL  
RADIATION  
RAIN  
RANGE  
RATE  
REACHED  
READING  
RECEIVED  
REFERENCE  
RELATIVE  
RESERVOIR  
RESET  
RESIDUAL  
RETURN  
REVISION  
RISING  
RIVER  
ROAD  
ROOM  
RUN  
RUNOFF

**S**

S  
S-O-2  
SAMPLE  
SATURDAY  
SCIENTIFIC  
SECOND  
SECONDS  
SECURITY  
SEDIMENT  
SELECTED  
SELECTION  
SENSOR  
SENSORS  
SET  
SEVEN  
SEVENTEEN  
SEVENTY  
SHAFT  
SIEMENS  
SIGNATURE  
SINCE  
SITE  
SIX  
SIXTEEN  
SIXTY  
SKIING  
SMOG  
SNOW  
SODIUM  
SOIL  
SOLAR  
SONAR  
SOUTH  
SPEED  
SPILL  
SQUARED  
STAGE  
STANDARD  
STAR  
STATES  
STATION  
STATUS  
STORM  
STREAMBED

SUMMIT  
SUMP  
SUNBURN  
SUNDAY  
SURFACE  
SURFACTANCE  
SYSTEM

**T**

T  
TABLE  
TAIL  
TEMPERATURE  
TEN  
TESTING  
THANK  
THAT  
THE  
THIRTEEN  
THIRTY  
THIS  
THOUSAND  
THREE  
THRESHOLD  
THRU  
THURSDAY  
TIME  
TING  
TO  
TODAY  
TODAYS  
TOGGLE  
TOTAL  
TRIGGERED  
TUESDAY  
TURBIDITY  
TWELVE  
TWENTY  
TWO

**U**

U  
ULTRAVIOLET  
UNITS  
UP

**V**

V  
V-O-C  
VALUE  
VELOCITY  
VERSION  
VERTICAL  
VIA  
VOLTAGE  
VOLTS

**W**

W  
WARNING  
WAS  
WATER  
WATTS  
WE  
WEATHER  
WEDNESDAY  
WELCOME  
WELL  
WEST  
WHAT  
WIND  
WITH

**X, Y**

X  
Y  
YEAR  
YESTERDAY  
YOU  
YOUR

**Z**

Z  
ZERO

