

COM320

56k Telephone Modem with



The datalogger connects with the CS I/O port on the COM320 via an SC12 or SC12R-6 cable. The RJ-11C jack is for attaching a surge-protected telephone line. Alternatively, the screw terminals (GND, RING, TIP) can be used to connect the COM320 with a phone line via a surge protector.

Campbell Scientific's COM320 voice-synthesizer modem provides a CR800, CR850, CR1000, or CR3000 datalogger with speech capability - thus enabling the user to call a site for a spoken summary of real-time or historical data. The COM320 can also act as a standard modem.

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).
- Analogue phone line. Some PBX office phone lines are digital and cannot be used with analogue modems such as the COM320.
- Surge protector at the datalogger site if one is not installed by the phone company. Campbell Scientific offers various optional protectors.

- COM320 voice-synthesizer modem (includes SC12 cable).
- CR800, CR850, CR1000, or CR3000 datalogger.
- Environmental enclosure (ENC12/14, ENC14/16, or ENC16/18).
- Power supply.**

Datalogger-to-computer communication also requires, at the computer site, a PC or laptop running PC400, LoggerNet, or RTDAQ datalogger support software, and a user-supplied Hayes-compatible modem.

***Information on analyzing your system's power requirements is provided in our Power Supply brochure and application note. You can also contact an applications engineer who will help you determine an appropriate power supply for your system.*

Features

- Allows anyone to call a COM320-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 telephone
- Uses voice strings created with CRBasic code
 - Operates over a wide temperature range (-25° to +50°C standard, -55° to +80°C optional)
- Comes with a speaker that aids troubleshooting in the field
- Supports communication rates up to 115.2 kbps between modem and datalogger (in practice, data transmission through phone lines is generally limited to 33.6 kbps)

Specifications

| | |
|-------------------------------------|--|
| Standards: | V.92, K56Flex, V.90, V.34, V.32bis, V32, V23, V22bis, V22, V.21, B212, B103 |
| Registration: | FCC US: 3A4M508BSM2-T-W IC 2377 A-SM2TW TBR21 |
| Compatible Dataloggers: | CR800, CR850, CR1000, CR3000 |
| Operating voltage: | 12 Vdc nominal |
| Operating temperature range: | -25° to +50°C standard, -40° to +85°C optional |
| Current drain: | ~125 µA quiescent; ~35 mA active Communication rate between logger and COM320: 9600, 38400, 57600, 115200 bps (selected by user) |
| Operation: | Full-duplex over standard analogue phone lines |
| Dimensions: | 16.5 x 2.5 x 6.6 cm (6.5" x 1.0" x 2.6") |
| Weight: | 0.16 kg (0.35 lbs) |
| Shipped with: | SC12 cable, ground cable, telephone patch cord, USB-to-USB cable, screws, grommets |

COM320 Word List - The standard word list currently contains the following words. Campbell Scientific may eventually add more words to the standard list. Customer-requested words for specific applications can also be included; consult the factory for details. The COM320's "sentences" are programmed using CRBasic code.

| | | | | | | | |
|-------------|--------------|------------|--------------|---------------|------------|-------------|-------------|
| - A - | CLOSED | FALLING | INPUT | - N - | PROBE | SKIING | - U - |
| A | CODE | FEET | INTAKE | N | PRODUCT | SMOG | U |
| A-M | CONDUCTIVITY | FIFTEEN | INTERNAL | N-T-U | PROGRAM | SNOW | ULTRAVIOLET |
| ABOVE | CONTACT | FIFTY | INTRUDER | NEEDS | PROGRESS | | UNITS |
| ACCUMULATE | CORRECTED | FIRST | IRRADIANT | NETWORK | PUMP | | UP |
| ACKNOWLEDGE | CROSSING | FIVE | IRRIGATION | NEW | - Q - | SODIUM | - V - |
| ACRE | CUBIC | FLAG | IS | NEXT | Q | SOIL | V |
| ADDITION | CURRENT | FLAGS | IT | NINE | QUALITY | SOLAR | V-O-C |
| ADDITIONAL | CYCLES | FLOW | - J, K - | NINETEEN | QUIT | SONAR | VALUE |
| AGAIN | - D - | FLUORIDE | J | NINETY | - R | SOUTH | VELOCITY |
| AGO | D | FOLLOWING | K | NITRATE | R | SPEED | VERSION |
| AIR | D-O | FORTY | KEY | NITROGEN | R-P-M | SPILL | VERTICAL |
| ALARM | DAM | FOUR | KILO | NO | RACE | SQUARED | VIA |
| ALL | DATA | FOURTEEN | KILOBYTES | NOON | RADIAL | STAGE | VOLTAGE |
| AMMONIUM | DATALOGGER | FREEZER | KNOTS | NORTH | RADIATION | STANDARD | VOLTS |
| AND | DAY | FREQUENCY | - L - | NOT | RAIN | STAR | - W - |
| APPROACH | DAYS | FRIDAY | L | NUMBER | RANGE | STATES | W |
| ARE | DEGREES | FROM | LAKE | - O - | RATE | STATION | WARNING |
| AREA | DELTA | FUEL | LAST | O | REACHED | STATUS | WAS |
| AT | DEPTH | - G - | LAYER | OF | READING | STORM | WATER |
| AVAILABLE | DEVIATION | G | LEVEL | OFF | RECEIVED | STREAMBED | WATTS |
| AVERAGE | DEW | GALLONS | LINE | OFFSET | REFERENCE | SUMMIT | WE |
| - B - | DING | GAS | LITER | OK | RELATIVE | SUMP | WEATHER |
| B | DIRECTION | GATE | LOAD | ON | RESERVOIR | SUNBURN | WEDNESDAY |
| BACK-UP | DISCONNECT | GAUGE | LOCATED | ONE | RESET | SUNDAY | WELCOME |
| BAROMETRIC | DISTRICT | GENERATOR | LOCATION | OPEN | RESIDUAL | SURFACE | WELL |
| BARS | DIVERSION | GOING | LOCATIONS | OR | RETURN | SURFACTANCE | WEST |
| BATTERY | DOCK | GOOD | LOGAN | OUT | REVISION | SYSTEM | WHAT |
| BAY | DOOR | GOODBYE | LOW | OVERFLOW | RISING | - T - | WIND |
| BE | DOWN | GRADIENT | - M - | OVERRUNS | RIVER | T | WITH |
| BEAVER | DRAW | GRAM | M | OZONE | ROAD | TABLE | - X, Y - |
| BEDS | DURING | GRASS | M-R-P | - P - | ROOM | TAIL | X |
| BEHIND | - E - | GROUND | MANAGEMENT | P | ROOM | TEMPERATURE | Y |
| BELOW | E | - H - | MAXIMUM | P-H | RUN | TEN | YEAR |
| BIG | E-T-O | H | MEMORY | P-M | RUNOFF | TESTING | YESTERDAY |
| BILLION | E08'S | H-2-S | MENDON | P-S-I | - S - | THANK | YOU |
| BLAST | EAST | HAD | MENU | PACIFIC | S | THAT | YOUR |
| BOILER | EASTERN | HARDNESS | MERCURY | PARAMETER | S-O-2 | THE | - Z - |
| BUILDING | EFFLUENT | HAS | MESSAGE | PARTS | SAMPLE | THIRTEEN | Z |
| BY | EIGHT | HASH | METER | PAST | SATURDAY | THIRTY | ZERO |
| - C - | EIGHTEEN | HAVE | METERS | PEAK | SCIENTIFIC | THIS | |
| C | EIGHTY | HEAD | MICRO | PENDING | SECOND | THOUSAND | |
| C-O | ELECTRON | HEAR | MID | PER | SECONDS | THREE | |
| CALCIUM | ELEVATION | HEAT | MID-MOUNTAIN | PERCENT | SECURITY | THRESHOLD | |
| CALIBRATE | ELEVEN | HELLO | MIDNIGHT | PHONE | SEDIMENT | THRU | |
| CALL | EMPTIED | HERTZ | MILES | PLANT | SELECTED | THURSDAY | |
| CALLBACK | ENGINE | HIGH | MILLI | PLEASE | SELECTION | TIME | |
| CALLS | ENTER | HOLD | MILLION | POINT | SENSOR | TING | |
| CAMPBELL | EPROM | HOT | MINIMUM | POND | SENSORS | TO | |
| CAN | EQUAL | HOUR | MINUS | PORT | SET | TODAY | |
| CELSIUS | ERROR | HOURS | MINUTE | PORTS | SEVEN | TODAYS | |
| CEMENT | EVENT | HUMIDITY | MINUTES | POTASSIUM | SEVENTEEN | TOGGLE | |
| CENTI | EXCEEDS | HUNDRED | MODEM | POUND | SEVENTY | TOTAL | |
| CENTRAL | EXTERNAL | HYDROLOGIC | MOISTURE | POWDER | SHAFT | TRIGGERED | |
| CHECK | - F - | - I - | MONDAY | POWER | SIEMENS | TUESDAY | |
| CHILL | F | I | MONITOR | PRECIPITATION | SIGNATURE | TURBIDITY | |
| CHILLER | FAHRENHEIT | IN | MONTH | PREHEAT | SINCE | TWELVE | |
| CHLORIDE | FAILED | INCHES | MOUNT | PRESS | SITE | TWENTY | |
| CHLORINE | FAILURE | INDEX | MOUNTAIN | PRESSURE | SIX | TWO | |
| | FALL | ING | MULTIPLIER | PREVIOUS | SIXTEEN | | |
| | | | | | SIXTY | | |