

The DataDirect Remote Collector

10/28/04 CZ Rev A8

Features:

- ❖ **Easy to connect**
- ❖ **Up to 8 remote units can be read**
- ❖ **Three LED indicators**
- ❖ **Telemetry information at your PC (internet access required)**

About this Manual

To the best of our knowledge and at the time written, the information contained in this document is technically correct and the procedures accurate and adequate to operate this instrument in compliance with its original advertised specifications.

Notes and Safety Information

This Operator's Manual contains warning symbols that alert the user to check for hazardous conditions. These appear throughout this manual where applicable, and are defined below. These instructions must be adhered to ensure safe operating performance of this instrument.



Warning, refer to accompanying documents.



RF EXPOSURE FOR MOBILE EQUIPMENT: This equipment has been approved for applications where the equipment should be used at distances greater than 20cm (8in) from the human body (with the exception of hands, wrist, feet and ankles). Operation at distances less than 20cm (8in) is strictly prohibited.



Caution, risk of electric shock.

This instrument is designed to prevent accidental shock to the operator when properly used. However, no engineering design can render an instrument safe when used carelessly. Therefore, this manual must be read carefully and completely before making any measurements. Failure to follow directions can result in a serious or fatal accident.

FCC INFORMATION TO USERS:

Class A Device Statement: (Section 15.105(a) of the FCC Rules)

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

In general, there are two agency classifications of wireless applications, portable and mobile.

Portable – Portable is a classification of equipment where the user, in general, will be within 20cm of the transmitting antenna. Portable equipment is further broken into two classes: within 2.5cm of human contact and beyond 2.5cm (NOTE: Ankles, feet, wrists and hands are permitted to be within 2.5cm of the antenna even if the equipment is designated as being greater than 2.5cm). The DataDirect Remote Collector (SL4-47550) is not agency approved for portable applications. Contact Simpson Electric Co. for details.

Mobile – Mobile defines equipment where the user will be 20cm or greater from the transmitting antenna. The antenna must be mounted in such a way that it cannot be moved closer to the user with respect to the equipment, although the equipment may be moved. NOTE: Ankles, feet, wrists and hands are permitted to be within 20cm of mobile equipment.

CUSTOMER INFORMATION - GENERAL REQUIREMENTS

This equipment complies with Part 68 of the FCC rules and the requirements adopted by the ACTA. On the top of this equipment is a label that contains, among other information, a product identifier in the format US: AAAEQ##TXXXX. If requested, this number must be provided to the telephone company.

Applicable certification jack Universal Service Order Codes ("USOC") for this Equipment is RJ11C.

If service from the local telephone is requested they will require a Facility Interface Code ("FIC") and a Service Order Code ("SOC"). These are as follows:

- | | | |
|-----|---------------------------------|-------|
| (a) | Facility Interface Code ("FIC") | 02LS2 |
| (b) | Service Order Code ("SOC") | 9.0Y |

A plug and jack used to connect this equipment to the premises wiring and telephone network must comply with the applicable FCC Part 68 rules and requirements adopted by the ACTA. A compliant telephone cord and modular plug is provided with this product. It is designed for connecting to a compatible modular jack that is also compliant.

The Ringer Equivalence Number (REN) is used to determine the number of devices that may be connected to a telephone line. Excessive RENs on a telephone line may result in the devices not ringing in response to an incoming call. In most but not all areas, the sum of RENs should not exceed five (5.0). To be certain of the number of devices that may be connected to a line, as determined by the total RENs, contact the local telephone company. The REN for this product is part of the product identifier that has the format US: AAAEQ##TXXXX. The digits represented by ## are the REN without a decimal point (*e.g.*, 03 is a REN of 0.3).

If this equipment, DDRC, causes harm to the telephone network, the telephone company will notify you in advance that temporary discontinuance of service may be required. But if advance notice isn't practical, the telephone company will notify the customer as soon as possible. Also, you will be advised of your right to file a complaint with the FCC if you believe it is necessary.

The telephone company may make changes in its facilities, equipment, operations or procedures that could affect the operation of the equipment. If this happens, the telephone company will provide advance notice in order for you to make necessary modifications to maintain uninterrupted service.

If trouble is encountered with this DDRC, please contact Simpson Electric Co. Customer Service 847-697-2260 for repair or warranty information. If the equipment is causing harm to the telephone network, the telephone company may request that you disconnect the equipment until the problem is resolved.

This equipment is of a type that is not intended for repair.

This equipment must not be used on party lines. Connection to party line service is subject to state tariffs. Contact the state public utility commission, public service commission or corporation commission for information.

If your location has specially wired alarm equipment connected to the telephone line, ensure the installation of this DDRC does not disable your alarm equipment. If you have questions about what will disable alarm equipment, consult your telephone company or a qualified installer.

Technical Assistance

SIMPSON ELECTRIC COMPANY offers assistance Monday through Friday 7:30 am to 5:00 pm Central Time. Please contact Technical Support or Customer Service at (847) 697-2260.

Internet: <http://www.simpsonelectric.com>

Warranty and Returns

SIMPSON ELECTRIC COMPANY warrants each instrument and other articles manufactured by it to be free from defects in material and workmanship under normal use and service, its obligation under this warranty being limited to making good at its factory or other article of equipment which shall within one (1) year after delivery of such instrument or other article of equipment to the original purchaser be returned intact to it, or to one of its authorized service centers, with transportation charges prepaid, and which its examination shall disclose to its satisfaction to have been thus defective; this warranty being expressly in lieu of all other warranties expressed or implied and of all other obligations or liabilities on its part, and SIMPSON ELECTRIC COMPANY neither assumes nor authorizes any other persons to assume for it any other liability in connection with the sales of its products.

This warranty shall not apply to any instrument or other article of equipment which shall have been repaired or altered outside the SIMPSON ELECTRIC COMPANY factory or authorized service centers, nor which has been subject to misuse, negligence or accident, incorrect wiring by others, or installation or use not in accord with instructions furnished by the manufacturer.

Introduction: The DataDirect Remote Collector (DDRC) is developed to operate with the DataDirect Micro Bulk and DataDirect Bulk Devices; which are remote units that mount and collect information on a subject tank.

The DDRC utilizes wireless technology to collect data from a remote unit(s) and forwards individual tank data to the Data2-U host. This tank data can then be observed on the Data2-U website and be used to aid in the scheduling and ‘routing’ of delivery trucks.

The DDRC is powered with 120VAC; which is converted to an isolated DC. This isolated DC is the internal power for the circuitry. The low side of this isolated DC is the internal ground for the circuitry, which is common to the shield of the antenna cable. This ground is not electrically connected to the magnetic mount of the antenna.

Electrical specifications:

- This DDRC operates at 120 VAC, 50/60 Hz and 0.375A max.
- The DDRC is internally fused.
- Backup battery: 3.6 Volt, AA size; Simpson # 06-117665 (Tadiran # TL-5903 S)
- The radio operates at ~915MHz with 500mW power max, with a line of sight range of 2 miles.
- This DDRC is designed for ‘indoor’ use only, at temperatures between 0 and 50C.
- Fuse Identification: AC input fuse, F1, use 375 milliamp, 125VAC, slo-blo; Simpson part #: 06-117655. Modem connection fuses: F2, F3, use 750 milliamp, 60VDC, PTC, Simpson part #: 06-117382. Fuses shall be serviced by manufacturer or authorized personnel only.

IMPORTANT SAFETY INSTRUCTIONS for installation:

TELECOMMUNICATION CABLE

To reduce fire risk, use only No.26 AWG or larger telecommunication cord.

POWER CORD

The socket-outlet shall be installed near the equipment and shall be easily accessible.

ANTENNA REQUIREMENTS:



WARNING: This device has been tested using a RPSMA connector on the antennas listed below. These antennas require professional installation preventing end-users from replacing them with non-approved antennas. Any antenna not supplied by Simpson Electric Co. must be tested to comply with FCC Section 15.203 for unique antenna connectors and Section 15.247 for emissions. Contact Simpson Electric Co. for assistance.

Caution: Any change or modification not expressly approved by Simpson Electric Co. could void the user’s authority to operate the equipment.

There are two magnetic mount antennae approved for use:

- Simpson part #: 1) 06-117712, antenna with short cable, 1.5ft; and
 2) 06-117713, antenna with long cable, 25ft.

The short cable is recommended.

Installation: To assure proper communication, the following steps should be followed in order.

1. **Find a suitable location for the DDRC and antenna.** Although the DDRC is for indoor use, the antenna may be routed outdoors. The DDRC can connect with a remote unit up to 2 miles away, if there are no obstructions. Start with the phone line and power source near the tanks; concrete and metal walls of buildings will reduce radio performance.
2. **Install the backup battery in the DDRC. DO NOT OPEN COVER WITH AC POWER PRESENT.** Remove 4 philips screws to open the unit cover. Place the battery supplied into the holder observing polarity and install battery holder cover. (The recommended replacement battery is Tadiran part #TL-5903 S) Close the cover and replace the 4 screws into the unit, do not over tighten.

Notes:

- A. This backup battery operates at 3.6 volts; do not use a standard AA battery that operates at 1.5 volts.
- B. Please visit <http://www.tadiran.com/> for Material Safety Data Sheets (MSDS) and instructions for proper disposal related to this battery.
3. **Connect the phone line to the DDRC,** using the cable supplied with unit. The DDRC will only work with a standard analog phone line. Do not connect the unit to a digital phone system, as damage will occur. Do not connect the DDRC to a dedicated phone line used for fire or security alarms, this may cause alarms to trigger or otherwise malfunction.
4. **Plug in 120 VAC power cord.** Make certain this outlet is not switched or turned off at night.
5. **Wait for DDRC to dial out.** Once the DDRC is plugged in, you will see the device initialize and attempt to dial out to connect to the Data2-U website. The device will go through a series of LED light combinations. If the unit is successful, all the LED lights will go out except the red light. If the unit fails, the green and yellow light will flash together.
6. **Set up remote unit radios.** If successful, now you may connect the radio batteries into the tank units so that they can identify themselves to the DDRC. Connect a maximum of 8 units.
7. **The remote unit should be flashing “SEND MAC”.** This means it is attempting to connect to the DDRC. When complete, the remote unit will display “Finished”.
8. **Check your results.** Approximately 30 minutes after all the tanks have been set up, log into the Data2-U web site to confirm the units were set up correctly.

How it works: The DDRC works in conjunction with the remote unit(s) to collect and forward tank data to the Data2-U website. The remote units are programmed to sample the tank pressure every 30 minutes. Normally, after 12 hours of tank data is collected, the remote unit transmits this data to the DDRC, the green LED will light indicating radio communication. If this communication is unsuccessful, the remote unit will make up to two additional attempts in connecting/transmitting to the DDRC. After three unsuccessful iterations, it will continue to store additional data. This can continue for a rolling 48 hours of collected tank data or until the next scheduled transmission is successful. If two consecutive samples are lower than the remote unit set points, the radio immediately transmits the alarm to the DDRC who forwards it directly to the Data2-U website. The relay associated with the alarmed set point closes.

After 12 or 24 hours of collected data, (depending on settings), the yellow LED will light and the DDRC will automatically dial a local Internet Service Provider (ISP) for connecting with the Data2-U host to download the tank data collected from each remote unit. If the DDRC is not successful connecting to the Data2-U host, it can continue collecting data up to 48 hours. During a power failure, the red LED on the DDRC will flash to indicate it is on backup battery power. The DDRC will attempt to immediately dial and send all data to the Data2-U host and then go into a power save mode.

During a power failure, the DDRC cannot receive data from the remote unit(s).

Trouble shooting:

- **Yellow and green light flash together.** This indicates the DDRC did not initialize with the Data2-U website. Check your phone line. Connect a standard handset to the phone line and listen for a dial tone and attempt to dial out. Check website for correct serial number activation.
- **To force a transmission.** Press and hold the small button on the bottom of the DDRC. Initially, the yellow LED will blink twice followed by a green blink. This pattern will continue for about 6 seconds, and then the green will blink alone. If you release the button at this time, the yellow will go solid on and attempt to dial to the Data2-U host.
- **To re-initialize the unit.** Press and hold the small button on the bottom of the DDRC. Initially, the yellow LED will blink twice followed by a green blink. This pattern will continue for about 6 seconds, and then the green will blink alone. Continue to hold the button until it changes to the yellow LED blinking alone. (another 6 seconds) Release the button and the yellow LED will go solid on, purge its internal settings and attempt to dial to the Data2-U host.