

fleet-CONTROL™

fleet-CONTROL™ is a stand-alone software application that provides continuous and secure GPS location, vehicle status, text messaging and job ticketing information to third party enterprise software applications in a true *real time* environment using a TCP/IP connection.

CES Wireless's principal activity is to provide mobile information management products & services. Its solutions integrate global positioning system technology, wireless communications, transaction processing, and software applications to enable companies to efficiently manage their mobile resources. CES Wireless supports many of the popular wireless systems, including two-way radio, radio trunking, CDPD, CDMA, GPRS and satellite services. Strategic relationships with wireless carriers, software providers and Motorola result in a seamless solution installed and supported at a local level by true professionals. Customers include telecommunications, construction, facilities management, field service, security services, transportation, courier services, cable and utilities.

Many industries operate enterprise software that is very unique to their industry, with features and functionality specific to their operational needs. fleet-CONTROL™ provides for the seamless integration of the CES Wireless fleet management data solution to the enterprise software (*host* software) making it easy to integrate business-critical data into various market specific applications, providing a quick return on investment.

In addition to the wide range of currently supported data streams that can be easily integrated into any number of applications including routing, dispatching or payroll applications, fleet-CONTROL™ also supports two new features; secure-encrypted credit/magnetic card and bar code reader information.

fleet-CONTROL™ Key Benefits

- ⇒ Automatically ports data bi directional between mobile force and third party enterprise application software
- ⇒ Supports text messages, job tickets, vehicle status, vehicle sensors/controls, driver alerting, GPS location, geo-zones, credit card information, magnetic card data, bar code reader
- ⇒ Easily integrates information into existing applications using TCP/IP

Organizations that can benefit from CES Wireless fleet management and mobile information services include those in any industry or public sector in which improving the productivity of mobile workers has an impact on revenue, expenses, customer service or competitive advantage.

To gain a better understanding of the benefits associated with these products, please also refer to the mobile product brochures, which not only describe the mobile devices feature set, but also provide an understanding on the type and level of data that can be creatively generated for onward connectivity to the enterprise *host* application.



Message Display Terminal



Bar Code Scanner



CRD-500



Printer

Comptability

fleet-CONTROL™ provides either a TCP/IP connection to the host software using the CES Wireless protocol. The entire protocol and command structure to assist the software integrator is available from CES Wireless. A software development kit is also available (SDK-TRK).

fleet-CONTROL™ differs from trak-CONTROL™ in two areas. trak-CONTROL™ is an integrated part of the POWER-trak™ CAD/Mapping software suite and supports both CES Wireless and many host providers API protocols. fleet-CONTROL™ supports only the CES Wireless API protocol.

Vehicular peripheral devices, such as a credit card reader, GPS automatic vehicle location, engine management interfaces, sensors, controls and bar code scanner are also supported with the fleet-CONTROL™ interface.



Data Exchange

The following data exchange takes place *real time* between the CES Wireless system and the enterprise software system (*host*).

Note: Some radio infrastructures do not support some of the features available in the CES Wireless vehicle terminal. For example IP based cellular wireless systems such as CDPD, GPRS and CDMA do not permit all vehicles in the fleet to receive group messages, calls all, end talk mode group, and end talk mode all.

Note: Work Order packets apply to special mobile firmware only. These packets are not functional unless this function has been purchased and is installed in the mobile fleet.

Inbound data from mobile

Vehicle ID Received	Vehicle identity number received from mobile
Vehicle Request to Talk	Vehicle initiated a base request to talk
Vehicle Priority Request to Talk	Vehicle initiated a base priority request to talk
PRTT Received	
Vehicle Emergency Received	Vehicle activated Emergency input received
Transmit Status	This reports the status of a previous transmission by the base to a vehicle
Vehicle Radio Microphone PTT <i>double click</i> Received	Sometimes used as request to talk by the mobile, the driver can double click the radio PTT to send a unique packet
Vehicle Radio Stuck Mic Received	Vehicle radio microphone is in stuck/locked position
Vehicle Auxiliary Input Changed	Mobile terminal has a number of input sensors (door open, trunk open, ignition on). This provides the activation number and change state.
Vehicle Identity Received air	Terminal Product ID and Serial Number can be retrieved over the
Vehicle Auxiliary Input State Change Received	The <i>state</i> of the vehicle terminal auxiliary input has changed

Inbound continued...

Free Form Data Received	Free form text data inputted by driver
Vehicle Status Key Received	The driver has activated a Status key on the vehicle terminal. Data is numeric digits representing the key pressed, numeric digits representing the number of minutes from when the key was pressed until it was sent and a string of additional numerics relating to the status key activation entered by the driver.
Vehicle Magnetic Card Transaction Received	Data received from the vehicle to process onwards to the credit card authorizing merchant, includes encrypted data - card number, expiration date, amount and reference number
Card authorization Received	Sent to the vehicle when a credit card authorization is received from the card processing company.
Vehicle GPS, Status Key with Position	Vehicle GPS position, status key data, minutes offset delay, driver inputted data in a single packet.
Vehicle GPS, Position	Vehicle GPS position
Vehicle GPS, ANI with Position	Vehicle GPS position, vehicle identify from a radio PTT activation in a single packet
Vehicle A GPS, RTT with Position	Vehicle GPS position together with a Request to Talk from the driver to the dispatcher.
Vehicle GPS, Auxiliary Input Changed with Position	Each vehicle terminal device also has a number of auxiliary inputs and outputs. This indicates that an auxiliary input (e.g. door open) is active together with the GPS position.
Vehicle GPS, Status Key with minutes offset	The driver has activated a status key on the vehicle terminal, and together with GPS position and any driver inputted data is received.
geo-STATUS™ Zone Trigger	Mobile has entered or exited a geographical zone preprogrammed in the vehicle device.
geo-STATUS™ Zone Structure	Zone data from host software for onward transmission to vehicle
geo-STATUS™ Zones Status	Sent by mobile in response to a query regarding zones programmed
Work Order, Status Key with Position Received	Sent by mobile when a work order or job ticketing status key is activated – includes key number, minutes offset, data, work order number and GPS position.
Work Order, Status Response	Sent by mobile in response to a query regarding Last Work Order Key Pressed and Current Work Order Number
Work Order, Ack	Received in response to Work Order, Delete Message

Outbound Data to Mobile

Call Single	Sends a CALL to a mobile
Call Group	Sends a CALL to group of mobiles
Call All	Sends a CALL to all mobiles
End Talk Mode Single	Ends a call to a single mobile
End Talk Mode Group	Ends a call to a group of mobiles
End Talk Mode All	Ends a call to all mobiles
Poll Mobile	Sends a POLL to mobile to determine its status
Stun Mobile	Sends a STUN to mobile and disables dataterminal
Revive Mobile	Sends a REVIVE to mobile and enables data terminal
Change Output Mobile	Sends a command to mobile and activates an auxiliary output to requested state
Request Mobile Status	Requests the mobile to report its current status
Request Mobile Identity	Requests the mobile to reports its unique identity
Data Send ASCII Mobile	Sends data to a mobile for text messaging, also supports the capability to have the message printed and displayed
Data Send Predefined Message	Sends a message number to mobile - mobile then displays a preprogrammed text message based on the number received
Data Send ASCII All Mobile	Sends data message to ALL mobiles - also supports the capability to have the message printed and displayed
Data Send Predefined Message	Sends a message number to mobile - mobile then displays a preprogrammed text message based on the number received
Data Send ASCII All Mobile	Sends data message to ALL mobiles - also supports the capability to have the message printed and displayed
GPS, Request Position	Requests the mobile to report its position
geo-STATUS™ Define Zone	Sends a new geo-STATUS™ zone to the mobile
geo-STATUS™ Read Zones Status	Requests geo-STATUS™ data from mobile
Work Order, Message	Sends a new work order to a mobile
Work Order, Delete Message	Sends a delete work order command to mobile based on a specific work order number
Work Order, Request Status	Sends a work order status request to the mobile

Software Development Kit

The TRK-SDK Software Developers Kit consists of a number of components to provide the enterprise software developer with a realistic testing environment. The testing can be *direct connect* laboratory testing, and/or, live field-testing.

The SDK-TRK consists of the following items:

TRK-SDK Simulation Kit

CES Wireless Part Number	Description
TRK-240	Message Display Terminal
TRK-240/01	Radio Interface Cable – open fly lead
SDK-TRK Adapter	Junction adapter to direct connect equipment requiring radios
MDC-150	Base channel modem
fleet-CONTROL™ software	fleet-CONTROL™ software
TRK-240/P	Programming adapter with 120V-AC to 12V DC Power Adapter
TRK-240/01	Base radio interface cable
Optional	
TRK-240/GPS	Message Display Terminal with GPS
ANT-01	GPS Antenna
CRD-500	Credit Card Reader

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The information provided in this document is for informational purposes only. The CES Wireless document gatewayx.doc is the definitive document which defines the integration protocol.

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925-122 South Semoran Blvd.
Winter Park, Florida 32792 USA

Tel: 407.679.9440
Fax: 407.679.8110

e-mail: sales@ceswireless.com
<http://www.ceswireless.com>

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