DriveRight® Spec Sheet

CarChip Fleet & CarChip Fleet with Alarm

OBDII-Based Vehicle & Driver Safety Monitoring System

8240
8244

CarChip Fleet, ***8240***, and CarChip Fleet with Alarm, ***8244***, log vehicle trip and engine data to provide a detailed history of driver performance and vehicle operation. The logged data includes trip start and end times, vehicle speeds, rates of acceleration and braking, engine performance data, all detected OBDII trouble codes, and detailed "accident" data for all sudden stops. CarChip Fleet with Alarm includes all the features of the CarChip Fleet, but also provides an audible alarm that can be used to alert drivers of unsafe driving. CarChip Fleet is compatible with most passenger cars and light trucks sold in the US since 1996 and with many cars sold elsewhere in the world since that time.

All CarChip Fleet versions require DriveRight Fleet Management Software (FMS) version 3.1 or later, purchased separately. Additional CarChip software included with DriveRight FMS allows you to view engine performance data and vehicle trouble codes.

Specifications

Physical

Operating Temperature	-40° to +185°F (-40° to +85°C)
Primary Power, Connected to Vehicle	12 VDC, 25 mA
Primary Power, Connected to Computer	9 VDC, AC-Power Adapter Provided
Backup Power	Internal battery, 10-15 year life in normal use
Memory	512KB
Data Logging Hours	300 hours max., 42 hours min., depending on the number of data parameters and the selected time intervals.
Time & Date	Accurate to +/- 2 seconds per day
Mounting	16-pin OBDII connector
Computer Interface	Serial, DB9
Computer Cable Length	5' (1.5m)
Indicator Lamp	LED, flashes to indicate unit status
Alarms, ***8244*** only	Audible alarm for exceeding speed, acceleration, and deceleration limits
Dimensions, ***8240***	1.36" x 1.875" x 1" (35 mm x 48 mm x 25 mm)
Dimensions, ***8244***	1.70" x 1.875" x 1" (35 mm x 48 mm x 25 mm)
Weight, ***8240***	0.9 oz. (25g)
Weight, ***8244***	1.0 oz. (28g)

OBDII Compatibility

Supported Protocols	J1850-41.6, J1850-10.4, ISO9141, KWP2000 (ISO 14230)
CarChip-Compatible Vehicles:	
US-Market	Most domestic and import vehicles, 1996 or later.
European-Market	Some 1996 and later vehicles and most 2000 and later vehicles compliant with the supported protocols listed above.
Elsewhere	Undetermined. Some 1996 and later vehicles that are compliant with the supported protocols may be CarChip Compatible.
Incompatible Protocols[a]	CAN (Controller Area Network - ISO 11898)
Incompatible US Market Vehicles[a]	See "Incompatible Vehicle List" on page 3.

Data Display in CarChip Software (included with DriveRight FMS)

Data Display in CarChip Software (included with DriveRight FMS)	
Trip Log Summary View	Start date and time, duration, distance, max speed, time in top speed band, number of hard braking events, number of extreme braking events, number of hard acceleration events, number of extreme acceleration events, vehicle ID
Trip Log Report View	Vehicle ID, CarChip data logger ID, start time, end time, duration, time spent at idle, time spent in first speed band, time spent in second speed band, time spent in third speed band, time spent in fourth speed band, distance, average speed, maximum speed, number of hard braking events, number of extreme braking events, number of hard acceleration events, number of extreme acceleration events, list of logged parameters, comments
Trip Log Plot View	Line graph for vehicle speed plus line graphs for up to four optional parameters
Trip Log Table View	Elapsed time for trip and speed every 5 seconds plus up to four optional engine data parameters
Activity Log Summary View	Date and time, CarChip ID, description of event
Activity Log Event View	Date and time, CarChip ID, description of event, and comments

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Accident Log Summary View . . . . . Date and time, CarChip ID, maximum speed in log
Accident Log Stop View . . . . . Date and time, CarChip ID, maximum speed in log, comments
Accident Log Plot View . . . . . Date and time, line graph of vehicle speed for 20 seconds prior to stop
Accident Log Table View . . . . . Vehicle speed for each of the 20 seconds prior to the stop
Trouble Log Summary View . . . . . Date and time, vehicle ID, trouble code, problem description
Trouble Log Problem View . . . . . Date and time, vehicle ID, CarChip ID, trouble code, problem description, comments, OBDII freeze frame info (freeze frame parameter vary from car to car)

Data Options

Supported Unit Systems. . . . . U.S., Metric, S.I., Custom (mix of U.S., Metric, and S.I.)
Vehicle Speed Logging Interval . . . . . 5 seconds
Vehicle Speed Bands . . . . . 4, user configurable, identifies normal vs. excessive vehicle speeds
Calculated Data . . . . . Hard and extreme braking, hard and extreme acceleration
Number of Optional Engine Data Parameters . . . . . 23 total, up to 4 can be selected at a time
Optional Parameters Logging Intervals . . . . . 5, 10, 20, 30, or 60 seconds, user selected

Fixed Data Parameters

Parameter	Range[b]	Resolution[b]
Vehicle Speed	0 to 158 mph, 0 to 255 km/h, 0 to 70 m/s	0.6 mph, 1 km/h, 0.3 m/s
Trip Distance Traveled	0 to 10,000 miles, 0 to 16,000 km	0.1 mile, 0.1 km
Acceleration/Deceleration Threshold	0 to 3 G, 0 to 30 m/sec^2	0.03 G, 0.3 m/sec^2

Optional Engine Data Parameters

Parameter	Range[b]	Resolution[b]
Engine Speed	0 to 16,384 rpm	1 rpm
Throttle Position	0 to 100%	0.1%
Coolant Temperature	-40° to +420°F, -40° to +215°C	2°F, 1°C
Engine Load	0 to 100%	0.1%
Air Flow Rate	0 to 8714 lb/min, 0 to 655.35 gm/sec	0.1 lb/min, 0.01 gm/sec
Intake Air Temperature	-40° to +420°F, -40° to +215°C	2°F, 1°C
Intake Manifold Pressure	0 to 75 in. hg., 0 to 255 kPaA	0.3 in. hg., 1 kPaA
Fuel Pressure	0 to 110 psiG, 0 to 765 kPaG	0.5 psiG, 3 kPaG
O2 Sensor Voltage	0 to 1.275 V	0.005 V
Ignition Timing Advance	-64° to 63.5°	0.5°
Short Term Fuel Trim	-100% to 99.22%	0.8%
Long Term Fuel Trim	-100% to 99.22%	0.8%
Battery Voltage	6 to 16 VDC	0.01 VDC

a As of publication date.
b Range and resolution of sensor measurements only. Accuracy is dependent on the accuracy of the vehicle's sensors.

Incompatible Vehicle List

The following 2003 and 2004 US market vehicles use the OBDII CAN protocol and are not currently CarChip Fleet-compatible.

Note: *CAN-compatible versions of CarChip Fleet are expected to be available in early 2004.*

Note: *Each vehicle listing includes the make, model, engine size, fuel if not gasoline, transmission, and body type of the model using the CAN protocol.*

Incompatible 2003 Model Year Vehicles

Ford

Ford Focus, 2.3L 4, automatic & manual, sedan & wagon
Ford, Excursion, 6.0L V8, diesel, automatic, SUV
Ford F-250, 6.0L V8, diesel, automatic & manual, pickup
Ford F-350, 6.0L V8, diesel, automatic & manual, pickup
Ford Thunderbird, 3.9L V8, automatic, sedan
Lincoln LS, 3.0L V6, automatic, sedan
Lincoln LS, 3.9L V8, automatic, sedan

General Motors

Saturn ION, 2.2L 4, automatic & manual, sedan

Mazda

Mazda, 6, 2.3L 4, automatic & manual, sedan
Mazda, 6, 3.0L V6, automatic & manual, sedan

Porsche

Porsche, Cayenne S, 4.5L V8, automatic, SUV
Porsche, Cayenne Turbo, 4.5L V8, automatic, SUV

SAAB

SAAB, 9-3, 2.0L 4, automatic & manual, sedan

Incompatible 2004 Model Year Vehicles

Audi

Audi A6 and others

Chrysler

Dodge, Durango, 3.7L V6, automatic, SUV
Dodge Durango, 4.7L V8, automatic, SUV
Dodge Durango, 5.7L V8, automatic, SUV

Ford

Ford Focus, 2.3L 4, automatic & manual, sedan & wagon
Ford Taurus, 3.0L V6, gas & FFV, automatic, sedan & wagon
Mercury Sable, 3.0L V6, automatic, sedan & wagon
Ford Thunderbird, 3.9L V8, automatic, sedan
Lincoln LS, 3.0L V6, automatic, sedan
Lincoln LS, 3.9L V8, automatic, sedan
Ford Explorer, 4.0L V6, gas and FFV, automatic, SUV
Ford Explorer, 4.6L V8, automatic, SUV
Ford F-150, 4.6L V8, automatic, pickup
Ford F-150, 5.4L V8, automatic, pickup
Ford E-250, 6.0L V8, diesel, automatic & manual, van
Ford E-350, 6.0L V8, diesel, automatic & manual, van
Ford F-250, 6.0L V8, diesel, automatic & manual, pickup
Ford F-350, 6.0L V8, diesel, automatic & manual, pickup
Ford Excursion, 6.0L V8, diesel, automatic, SUV

General Motors

Saturn ION, 2.2L 4, automatic & manual, sedan
Cadillac CTS, 3.6L V6, automatic, sedan
Cadillac SRX, 3.6L V6, automatic, SUV
Cadillac SRX, 4.6L V8, automatic, SUV
Buick Rendezvous, 3.6L V6, automatic, SUV
Cadillac XLR, 4.6L V8, automatic, sedan

Mazda

Mazda 6, 2.3L 4, automatic & manual, sedan & wagon
Mazda 6, 3.0L V6, automatic & manual, sedan & wagon
Mazda 3, 2.0L 4, automatic & manual, sedan
Mazda 3, 2.3L 4, automatic & manual, sedan
Mazda RX-8, 1.3L Rotary, automatic & manual, sedan

Porsche

Porsche, Cayenne S, 4.5L V8, automatic, SUV
Porsche, Cayenne Turbo, 4.5L V8, automatic, SUV

SAAB

SAAB 9-3, 2.0L 4, automatic & manual, sedan

Toyota

Lexus LS430, 4.3L, automatic, sedan
Toyota Prius, 1.5L 4, automatic, sedan