DriveRight®

CarChip & CarChipE/X

OBDII Data Logger and Software

8210
8220

CarChip and CarChipE/X plug into your car's OBDII port and are compatible with most passenger cars and light trucks sold in the US since 1996 and with many vehicles sold elsewhere in the world since that time. Once plugged in, CarChip records trip and performance data for later download to a PC computer. The downloaded data provides a detailed history of the vehicle's performance and operation. Recorded data includes trip start and end times, vehicle speeds, rates of acceleration and braking, and any detected OBDII trouble codes. The CarChipE/X also provides additional vehicle monitoring capabilities including the logging of additional engine data parameters and more detailed "accident" data for all sudden stops. This information can be viewed in summary, record, plot or table format and can also be exported to other applications.

CarChip software is included.

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	128KB for CarChip, 512KB for CarChipE/X
Data Logging Capacity, CarChip	75 hours
Data Logging Capacity, CarChipE/X	300 hours max., 42 hours min., depending on the number of optional data parameters and the selected logging 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
Dimensions	1.33" x 1.875" x 1" (35 mm x 48 mm x 25 mm)
Weight	0.9 oz. (25g)

OBDII Compatibility

Supported Protocols	J1850-41.6, J1850-10.4, ISO9141, KWP2000 (ISO 14230)
Protocols Not Supported (as of 12/03/2002)	CAN (Controller Area Network - ISO 11898)
Supported US Vehicles	Most domestic and import vehicles, 1996 or later The following model year 2003 vehicles use the CAN protocol and are not currently supported: Ford 6.0L A/T F250 Diesel, Ford 6.0L A/T F350 Diesel, 6.0L A/T Excursion Diesel, 3.0L A/T Lincoln LS, 3.9L A/T Lincoln LS, 3.9L Thunderbird, 2.3L A/T Focus, 2.3L M/T Focus, Saturn ION, Mazda 6 2.3L and 3.0L, Saab 9-3 2.0L 175 hp & 210 hp
Supported European Vehicles	Some 1996 and later vehicles and most 2000 and later vehicles compliant with the supported protocols listed above
Vehicles Supported Elsewhere	Most 1996 and later vehicles compliant with supported OBDII protocols

CarChip Software System Requirements

Operating System	Windows 95, 98, ME, NT 4.0, 2000, XP
Disk Space	5 MB free disk space
Display	Windows-compatible VGA minimum

Data Display

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

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	events, number of extreme braking events, number of hard acceleration events, number of extreme acceleration events, list of logged parameters (vehicle speed only for CarChip, vehicle speed plus up to 4 optional data parameters for CarChipE/X), comments
Trip Log Plot View	Line graph for vehicle speed only for CarChip. Line graph for vehicle speed plus line graphs for up to 4 optional data parameters for CarChipE/X.
Trip Log Table View	Elapsed time for trip and speed every 5 seconds for CarChip. CarChipE/X also logs 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
Accident Log Summary View (CarChipE/X only)	Date and time, CarChip ID, maximum speed in log
Accident Log Stop View (CarChipE/X only)	Date and time, CarChip ID, maximum speed in log, comments
Accident Log Plot View (CarChipE/X only)	Date and time, line graph of vehicle speed for 20 seconds prior to stop
Accident Log Table View (CarChipE/X only)	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 (parameters included in freeze frame 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 for CarChip and CarChipE/X

Parameter	Range*	Resolution*
Vehicle Speed	0 to 158 mph, 0 to 255 kph, 0 to 70 m/s	0.6 mph, 1 kph, 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 for CarChipE/X Only

Parameter	Range*	Resolution*
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

*Range and resolution of sensor meaurements only. Accuracy is dependent on the accuracy of the vehicle's sensors.