

**IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION**

PAICE LLC,

Plaintiff,

v.

**TOYOTA MOTOR CORP., TOYOTA
MOTOR NORTH AMERICA, INC. and
TOYOTA MOTOR SALES U.S.A., INC.**

Defendants

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CIVIL ACTION NO. 2:07-CV-180 (DF)

CLAIM CONSTRUCTION ORDER

Construing Terms in U.S. Patent Nos. 5,343,970, 7,104,347, and 7,237,634

Before the Court are Paice’s Opening Brief on Claim Construction (Dkt. No. 46), Toyota’s Responsive Claim-Construction Brief (Dkt. No. 47), and Paice’s Reply Brief on Claim Construction (Dkt. No. 51). Also before the Court are the Local Patent Rule (LPR) 4-3 Joint Claim-Construction and Prehearing Statement (Dkt. No. 45) and the LPR 4-5 Joint Claim-Construction Chart (Dkt. No. 55). A claim-construction hearing, in accordance with *Markman v. Westview Instruments*, 52 F.3d 967 (Fed. Cir. 1995) (en banc), *aff’d*, 517 U.S. 370 (1996), was held in Texarkana on September 10, 2008. *See* Dkt. No. 58 (hearing transcript). After hearing argument of counsel and reviewing the relevant pleadings, presentation materials, other papers, and case law, the Court finds the disputed terms of the patents-in-suit should be construed as set forth herein.

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 2. “means for performing the following functions responsive to input commands and monitored operation of said vehicle” - 5 -

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 1. “operating at least one electric motor to propel the hybrid vehicle when the RL required to do so is less than a setpoint (SP)” - 18 -

 2. “operating an internal combustion engine of the hybrid vehicle to propel the hybrid vehicle when the RL required to do so is between the SP and a maximum torque output (MTO) of the engine, wherein the engine is operable to efficiently produce torque above the SP, and wherein the SP is substantially less than the MTO” - 19 -

 3. “operating both the at least one electric motor and the engine to propel the hybrid vehicle when the torque RL required to do so is more than the MTO” - 20 -

 4. “wherein energy originating at the battery is supplied to the solid state inverter at a voltage and current such that the ratio of voltage to current is at least about 2.5 to 1” - 21 -

 5. “wherein energy originating at the battery is supplied to the solid state inverter at a maximum current of no more than 150 amperes” - 22 -

6. “wherein energy originating at the battery is supplied to the second motor at a peak voltage of at least about 500 volts” - 23 -

7. “wherein power originating at the battery is supplied to a second motor at a peak current no greater than about 150 amperes” - 24 -

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I. BACKGROUND

This is the second lawsuit between these parties over the same technology, which relates to hybrid vehicles. *See* Civil Action No. 2:04-CV-211. In the previous lawsuit, Paice asserted claims from U.S. Patent Nos. 5,343,970 ('970 Patent), 6,209,672 ('672 Patent), and 6,554,088 ('088 Patent) against Toyota for infringement by certain Toyota's vehicles. *Id.*; Dkt. No. 1.

In the present lawsuit, Paice contends certain new hybrid vehicles made by Toyota infringe claims of the '970 Patent and that all Toyota hybrid vehicles infringe two other patents, U.S. Patent Nos. 7,104,347 ('347 Patent) and 7,237,634 ('634 Patent) (collectively, the "patents-in-suit"). These patents are entitled "Hybrid Electric Vehicle," "Hybrid Vehicles," and "Hybrid Vehicles," respectively. The '347 Patent issued from a division of the application that became the '088 Patent, and the '634 Patent issued from a division of the application that became the '347 Patent. '347 Patent, at [60] (filed Mar. 7, 2003); '634 Patent, at [60] (filed Jan. 13, 2006).

The claim construction in this case involves analyzing terms that have never been construed as well as terms that have been previously construed by this Court in the first lawsuit. Because of the technology overlap and the divisional nature of the patents-in-suit, there are also terms that have been previously construed in a different patent but that now appear in claims of the newly-asserted Paice patents. For additional background on the previous lawsuit, see Dkt. No. 91, Civil Action No. 2:04-CV-211 (claim-construction order).

II. LEGAL PRINCIPLES

A determination of patent infringement involves two steps: first, the patent claims are construed, and, second, the claims are compared to the allegedly infringing device. *Cybor Corp. v. FAS Techs., Inc.*, 138 F.3d 1448, 1455 (Fed. Cir. 1998) (en banc). The legal principles of claim construction were reexamined by the Federal Circuit in *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc). The Federal Circuit in *Phillips* expressly reaffirmed the

principles of claim construction as set forth in *Markman v. Westview Instruments, Inc.*, 52 F.3d 967 (Fed. Cir. 1995) (en banc), *aff'd*, 517 U.S. 370 (1996), *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576 (Fed. Cir. 1996), and *Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111 (Fed. Cir. 2004). Claim construction is a legal question for the courts. *Markman*, 52 F.3d at 979.

The Court, in accordance with the doctrines of claim construction which it has outlined in the past, will construe the claims of the Paice Patents below. *See Pioneer v. Samsung*, No. 2:07-CV-170, Dkt. No. 94, at 2-8 (E.D. Tex. filed Mar. 10, 2008) (claim-construction order).

III. PATENTS-IN-SUIT

The patents-in-suit are directed to particular features of electric/combustion engine hybrid drive systems. The '970 Patent issued on September 6, 1994 from an application filed on September 21, 1992. The patent generally discloses and claims a hybrid vehicle, including an internal combustion engine and one electric motor, both of which can provide torque to the wheels of the vehicle through a controllable torque transfer unit, and that can recharge storage batteries for the motor. The direction of torque transfer is controlled by a microprocessor responsive to the mode of operation of the vehicle. The '970 Patent abstract reads:

An improved hybrid electric vehicle includes an internal combustion engine and an electric motor. Both the motor and the engine provide torque to drive the vehicle directly through a controllable torque transfer unit. Typically at low speeds or in traffic, the electric motor alone drives the vehicle, using power stored in batteries; under acceleration and during hill climbing both the engine and the motor provide torque to drive the vehicle; and in steady state highway cruising, the internal combustion engine alone drives the vehicle. The internal combustion engine is sized to operate at or near its maximum fuel efficiency during highway cruising. The motor is operable as a generator to charge the batteries as needed and also for regenerative braking. No transmission is employed. The motor operates at significantly lower currents and higher voltages than conventionally and has a rated power at least equal to that of the internal combustion engine. In this manner a cost efficient vehicle is provided, suffering no performance disadvantage compared to conventional vehicles.

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