



ESSENTIALS // OWNER FRED LYNCH • LOCATION OAKDALE, CA • VEHICLE 2001 VW PASSAT • POWER 344HP WITH 322LB-FT

# VERSION 4.0

TEXT BY MARK PEREIRA PHOTOS BY FRED LYNCH



**A**lthough most automotive enthusiasts enjoy customizing their cars, it takes a truly determined individual to dedicate the massive amount of time and resources needed to build the vehicle of their dreams. Enthusiast Fred Lynch has been obsessed with building his 2001 Volkswagen Passat into a personal work of art and it shows. Lynch has been involved in many extravagant builds appearing in our magazine for car audio manufacture ARC Audio and this one aimed to top them all.

This project originally started back in November of 2000 with Lynch buying his new 2001 VW Passat (originally purchased as a daily driver while his other vehicle was being built for sound quality competition circuits. Lynch still claims he never planned to modify his Passat but a call from a close friend to

build a demo car for the 2001 Consumer Electronics Show (CES) changed everything.

Almost 8 years, 3 full builds, 4 different system configurations, 3 different paint jobs and hundreds of late nights later, Lynch decided to take matters into his own hands and start over again, his way! But life took its turn and with the birth of Lynch's son (Fred Jr.) the now stripped chassis was destined to sit and wait. After sitting in his garage for nearly three years, Lynch received a phone call asking if the build could be completed in time upcoming 2008 SEMA Show in Las Vegas, NV. With only 36 days till showtime, Passat version 4 was underway and Lynch realized he was going to need some serious help to finish on time.

Lynch recruited the help of his super supportive boss Demitrios Karabinis »



## FAST FACTS // STAY COOL

OUTFITTED WITH DUAL CRY02 5-INCH FOGGER RINGS, LYNCH CAN INSTANTLY DROP THE TEMPERATURE OF THE AIR PASSING THRU THE INTERCOOLER HEADING INTO THE INTAKE MANIFOLD AS MUCH AS 32 DEGREES CELSIUS WHEN TRIGGERED VIA THE FULL THROTTLE PEDAL SWITCH. LEARN MORE AT [WWW.DESIGNENGINEERING.COM](http://WWW.DESIGNENGINEERING.COM)



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**FAST FACTS // DID YOU KNOW?**

TWO DAYS, SEVERAL OVER NIGHT PARTS AND A SET OF SCHEMATICS LATER, ARC AUDIO ENGINEERS ROBERT ZEFF AND RICHARD GREENWAY DEVELOPED A WAY TO SUCCESSFULLY SEPARATE THE TRANSPORT AND FACE PLATE OF THE ALPINE DVA9861 SOURCE UNIT OVER 6 FT FROM THE MAIN TRANSPORT. THERE WAS JUST NOT ENOUGH ROOM IN THE FRONT OF THE PASSAT CABIN WITH THE NEW DASH DESIGN.

CEO of ARC Audio, close friends Phil Adams, Paul and John Vina and several others to make it happen. Since this vehicle's main focus was sound, the initial plan of attack started with full Dynamat Extreme and Dynaliner sound deadening on every part of the vehicle.

With the vehicle sonically dead, the team started fabricating the extensive custom interior using a large combination of fiberglass, ABS Plastic, bendy board, Baltic Birch framing in combination with parts of the factory panels to create the full custom paneled interior creating the projects custom sound stage. The front stage started with an externally-vented, forward-firing subwoofer enclosure mounted in the center of the front dashboard to house the Dynaudio Esotar 12-inch subwoofer complimenting the symmetrical dash design for the proposed Dynaudio 3-way speakers in the front area sides.

A new "phantom dashboard" was fabricated and designed by the team to conceal the primary speakers and locations for the sound system eliminating the ability for the listeners to have visual influence on how the system is going to sound by seeing the speaker location

or speakers brand. When it came to choosing the right speakers, Lynch with help from industry veteran Emilio Mandalios hand picked a pair of Dynaudio Esotar2 E650 6.5-inch midrange speakers and Dynaudio Esotar2 E110 full format tweeters to create this high end rolling concert hall. For a very musical and highly impactful mid bass, the decision was made to use a pair of Dynaudio MW182 Mid-bass drivers that were installed into custom kick panels that are vented to the outside of the vehicle in an aperiodic enclosure with water resistance materials.

With the front stage complete, Lynch selected the deep rich tone of three ARC Audio Arc Series 15-inch dual 2ohm subwoofers on a custom fabricated sealed/aperodic trunk enclosure that uses the now reinforced trunk as the enclosure. To power these subwoofers, an ARC Audio SE4000 mono block amplifier delivers 4,500 watts to the subwoofers on a reinforced plexiglass amp rack display.

With the help of fabricator John Hiller, a modular rear window steel framed amp rack was welded into place allowing several ARC Audio Signature Series amplifiers to be mounted and still safely incorporate »



a Recaro racing toddler seat for his son to attend shows too. Being power hungry, Lynch decided to go with one ARC Audio SE4200 bridged to the tweeters, another ARC Audio SE4200 bridged to the mid ranges, one more ARC Audio SE4200 bridged to the mid bass drivers and a single SE2300 to the front subwoofer providing a total of almost 4,000 watts to the front stage speakers.

Lynch then installed an Apogee Electronics mini D/A converter converting the optical source signal to a DBX482 Pro Audio sound processor that was converted to 12 volts so it could be used in a vehicle and linked to the factory-equipped RJ45 balanced Ethernet connections on the Arc Audio signature edition amplifiers. Spicing things up with some color, an array of custom interior lighting products from VARAD and an LED underbody kit were used to light things up.

After all of the interior panels were finished Vince Delgado of Seat Works in Sacramento, CA took over to immaculately customize every

surface of the interior in a carefully selected combination of Katzkin leather and suede. The Interior was elegantly detailed in running lengths of flowing French stitched seams with no compromise to detail.

Capable of consuming over 1,500 amps of current at full power, this serious system uses twenty Batcap 400 Series batteries flush mounted in the trunk, six more Batcap 400 Series Batteries in the rear seat display, four Batcap 2000 Series batteries in the rear unibody area, plus four more Batcap 800 Series batteries in the factory battery location all interconnected with hand formed brass buss bars.

To generate the current needed to recharge the batteries retired audio competitor and industry expert David Baird (Dave's DC Electric in Riverside, CA) created a custom high current capacity solution to replace thie factory alternator. It now provides 290 amps of current directly into the large array of batteries for the system. »



**FAST FACTS // THE PERFECT SOUND ROOM?**

TO CREATE THE PERFECT LISTENING ENVIRONMENT A COMBINATION OF 12 BULK PACKS OF DYNAMAT EXTREME, 20 ROLLS OF DYNAMAT DYNALINER, THREE 3/4" CUSTOM CUT SHEETS OF RUSSIAN BALTIC BIRCH, 5 GALLONS OF 1:1 20LB EXPANDABLE FOAM AND 10 LINEAR YARDS OF UPHOLSTERY JUTE WAS USED TO MAKE THE CAR AS QUIET AND RATTLE FREE AS POSSIBLE.

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# CRUTCHFIELD




## ARC AUDIO 2001 VOLKSWAGON PASSAT



For the exterior of the vehicle, Lynch contacted friend and automotive vehicle designer Chip Foose. Coincidentally Foose was preparing to release his new BASF paint line at SEMA, so with free reign on the paint and body styling the decision was made to keep the existing RS type body kit from Extreme Dimensions and carbon fiber hood from Carbon Creations. With the Foose-inspired design in hand and the clock still ticking, the team at Miracle Auto Body in Modesto, CA painted the Passat in BASF Cardinal Pearl White with Foose Butterscotch Orange.

Moving onto the Passat's engine bay, the work of prominent VW / Audi tuner APR armed the Passat with an APR Stage III+ turbo system estimated to produce 344hp and 322 lbs-ft of torque and a Quaife Limited Slip Differential. Then, to finish things off, a custom modified stainless Neuspeed exhaust system was installed and a hand-formed all aluminum engine bay cover and custom battery tray was made by the crew at BRE Rods and Customs in Salida CA. A newly released K40 RL360 and K40 EX Laser Diffuser provide radar detection and protection.

A custom-ordered KW Variant 3 front coil over system and rear adjustable perch spring and shock system were chosen to handle the total weight and control along with Neuspeed sway bars, bushings and CPP multilink F1 inspired upper and lower control link system. For showstopping performance, Lynch turned to the experts at Baer Brakes for a custom 6 piston version of their popular 6S Extreme Braking Package with monster 13.5-inch front rotors and braided lines. Then, AZA forged in Turlock, CA designed a set of 3 piece custom wheels to fit the style and size requirements of this project car measuring 19 x 8.5 [front] and 19 x 9 [rear] with color matched inserts and brushed spiral machine center finish wrapped in Pirelli P-Zero tires.

Since completion, this Passat has been featured at the SEMA show in 2008 and 2009 along with the 2009 Consumer Electronics Show. Lynch has also been active driving to events throughout California, emphasizing his "Why build it if you aren't going to drive it?" motto. Although Lynch insists this project is now complete, many insiders [us included] can't help but wonder if there will be a version 5? 

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