



**BHADRA
ELECTRONICS**

ADVANCED AUTOMOTIVE

ECM repair training & service

Connect with us. Quality service. Affordable cost.

WHAT IS AN ECU MODULE?

If a car will not start or does not respond when the accelerator is pressed, the ECU may need diagnosis. Its connectors and printed circuit board can develop defects. Repair may offer an alternative to buying a new unit.

FOR STUDENTS & AUTOMOTIVE PROFESSIONALS

Learn car tuning and techniques for remapping electronic control units for cars.

YESHWANTHPUR, BENGALURU

COMPANY SERVICES

ECU training & service

Reliable training and speedy services for car ECUs.

Mileage correction

EEPROM HEX-data remapping using the UPA 1.3 programmer.

Key programming

Smart-key programming and transponder cloning using Xhorse and Xpad 2 tools.

www.bhadraelectronics.com

+91 8904890230 / +91 7204913693



Engine, body & restraint modules

Understand module functions, common symptoms and repair considerations.

01

ECU / ECM



If the car does not react when the accelerator is pressed, there may be a problem with the ECU. The ECU/ECM uses connectors and a printed circuit board and can therefore develop defects and malfunctions.

02

Body Control Module



If the lights or wipers no longer work, the Body Control Unit may be involved. The BCM controls lights, windows, door locks and various comfort functions.

03

Airbag module



The diagnostic and control module receives information from collision sensors. It processes this information to control airbag deployment during an impact.



Braking, instruments & driver assistance

Understand module functions, common symptoms and repair considerations.

04

ABS units



An illuminated ABS light can indicate a fault in the anti-lock braking system. Causes can range from a broken control unit to a faulty ABS sensor.

05

Instrument clusters



A dashboard contains odometer counters and other components. Electronic and non-electronic parts can fail, including gears, indicators, windows and plastic housings, affecting dashboard operation.

06

Adaptive Cruise Control



Adaptive cruise control (ACC) automatically adjusts vehicle speed to maintain a safe distance from vehicles ahead.



Displays, lighting & steering

Understand module functions, common symptoms and repair considerations.

07

Information displays



LCD pixel problems can result from a broken connection between the printed circuit board (PCB) and the LCD. Many companies repair the connections; some connection repairs may take about an hour.

08

LED headlights



LED headlights illuminate the road ahead. A headlamp is the lighting device itself; the headlight is the beam of light it produces and distributes.

09

Electronic steering



Practical training includes electronic steering modules and the electronic control systems used for steering assistance.



Transmission & engine actuators

Understand module functions, common symptoms and repair considerations.

10

Transmission Control Unit



The TCU can develop component defects and malfunctions. As the causes of complaints or fault codes may also be mechanical, incoming components undergo an entry test.

11

Throttle bodies



Modern throttle bodies combine mechanical and electronic parts. Remanufacturing these mechatronic components requires a different approach from working with purely electronic components.

12

Turbo actuators



Turbo-pressure problems may involve the turbo actuator. Its mechanical and electronic parts can both develop faults.



ECU training & service hub

Practical and theoretical learning in automotive electronics.

30 DAYS

FEE: Rs. 60,000/-

01. Car scanning, fault-code reading and problem solving
02. Preparing ECU pin-voltage data sheets
03. ECU tuning: KTAG read and write
04. Basics of EPS, BCM, SRS, ABS, immobilizer and meter
05. Airbag crash programming / reset training
06. Sensor signal testing using DSO
07. Soldering training at SMD chip level
08. Fuel-injection coding and testing
09. Key programming for ECU / BCM / IMMO
10. Driver-IC testing using voltage data sheets
11. Basic marketing skills
12. ECU data for Indian cars
13. ECU service guidebook at the end of training

WHY THIS COURSE?

Practical and theoretical programming and remapping of car ECUs, with exercises using software for hardware servicing and EPROM-memory remapping.

COURSE PROGRAM

Programming and remapping for Bosch ME7.xx, ME9.xx, MED9.xx and MED17.xx, plus Marelli and Siemens families. BDM pseudo-serial interface techniques, EDC17, MED17, TriCore CPUs and newer generations.

ABOUT US

Founded in 2019, Bhadra Electronics provides automotive embedded technology services and training. Our work draws on years of experience in embedded technology.

"I am Deepak Shivarudrappa. My job is my passion. My life is linked to mechanics and electronics. I share my knowledge of car control-unit remapping and embedded projects."



Airbag resetting & programming



- Our airbag-module service includes software repair and accident-data reset for suitable, serviceable units.
- Repair may allow reuse of a serviceable module instead of purchasing another unit, reducing cost.
- We work across vehicle makes and models and are committed to high technical repair standards.

Safety-critical repairs require the applicable manufacturer procedures and complete restraint-system checks.



BHADRA ELECTRONICS

VISIT BHADRA ELECTRONICS

Start your automotive training journey

OUR TRAINING CENTRE

**2nd Floor, Bhadra Electronics, #49, 1-13,
near Eicher Service Center, Yeshwanthpur
Industrial Suburb,
Mahalakshmi Layout, Bengaluru, Karnataka
560022**

CONTACT US

**+91 7204913693
+91 8904890230**

support@bhadraelectronics.com
www.bhadraelectronics.com

HOW TO REACH US

Our ECM training hub is in Bengaluru, Karnataka, India. Overseas and outstation students can arrive at Kempegowda International Airport and continue by taxi to Yeshwanthpur.

Allow approximately 45 minutes by taxi in favourable conditions; actual travel time depends on traffic.

We assist students with hotels, lodges and PG accommodation according to their preferences.

FOLLOW BHADRA ELECTRONICS

Instagram / LinkedIn / Facebook
bhadraelectronics