PROJECT:

Conversion of E1.31 std. (Ether) to E1.11 std. (RS485)

- Data communication project done as a part of coursework for Advanced Microcontroller based Embedded Systems.
- Final defense was performed with 2 other teams, accepted Ether packets from STREAM MERGING team and sent the generated DMX 512 packets to the RS485-ETHER team.
- Project aimed at obtaining E1.31 packets at 10 MHz from one team and converting them to E1.11 packets (DMX protocol) to be sent over paths based on RS485 protocol at 250 KHz rate.
- As part of research the following topics were studied in detail: OSI model for data networks, data extraction from data packet, ping pong buffers, RS485, DMX protocol.
- Project implemented on a self-soldered DsPIC33FJ128MC802 based board connected to an Ethernet module ENC28J60 and MAX485.
- Programming Languages: Embedded C, C.
- IDE: MPLAB, Visual Studio.
- Softwares: Wireshark.
- Tools for debugging and testing: ICD3 (software breakpoints), DMX decoder.
- Team project with 3 members in each team.