Massachusetts Institute of Technology
6.101 Project Checklist
NTSC Transmission through Optic Fiber

Level 1 Implementation

1. Transmit FM modulated audio through optic fiber and demodulate it.

    - Take audio from NTSC camera and FM modulate it using crystal oscillator.
    - Pass FM modulated signal through optic fiber transmitter and receive it.
    - The audio signal will be fed to a limiter circuit to eliminate AM noise.
    - Limited signal will be extracted using band pass filter.
    - FM signal will go through slope detector to extract audio signal.

Level 2 Implementation

2. Transmit both NTSC video signal and FM modulated audio signal through optic fiber and demodulate it.

    - Take audio from NTSC camera and FM modulate it using crystal oscillator.
    - Take video from NTSC camera and pass it through.
    - Add FM modulated audio signal and NTSC camera signal using an adder.
    - Pass added signal through optic fiber transmitter and receive it.
    - The audio signal will be fed to a limiter circuit to eliminate AM noise.
    - Limited signal will be extracted using band pass filter.
    - Video will be extracted using band pass filter.
    - FM signal will go through slope detector to extract audio signal.

Level 3 Implementation

3. Transmit NTSC video signal and two FM modulated audio signals through optic fiber and demodulate it.

    - Take audio from NTSC camera and FM modulate it using crystal oscillator.
    - Take audio from alternative source and FM modulate it using crystal oscillator.
    - Take video from NTSC camera and pass it through.
    - Add FM modulated audio signals and NTSC camera signal using an adder.
    - Pass added signal through optic fiber transmitter and receive it.
    - The audio signals will be fed to limiter circuits to eliminate AM noise.
    - Limited signals will be extracted using band pass filters.
    - Video will be extracted using band pass filter.
    - FM signal will go through slope detector to extract audio signal.