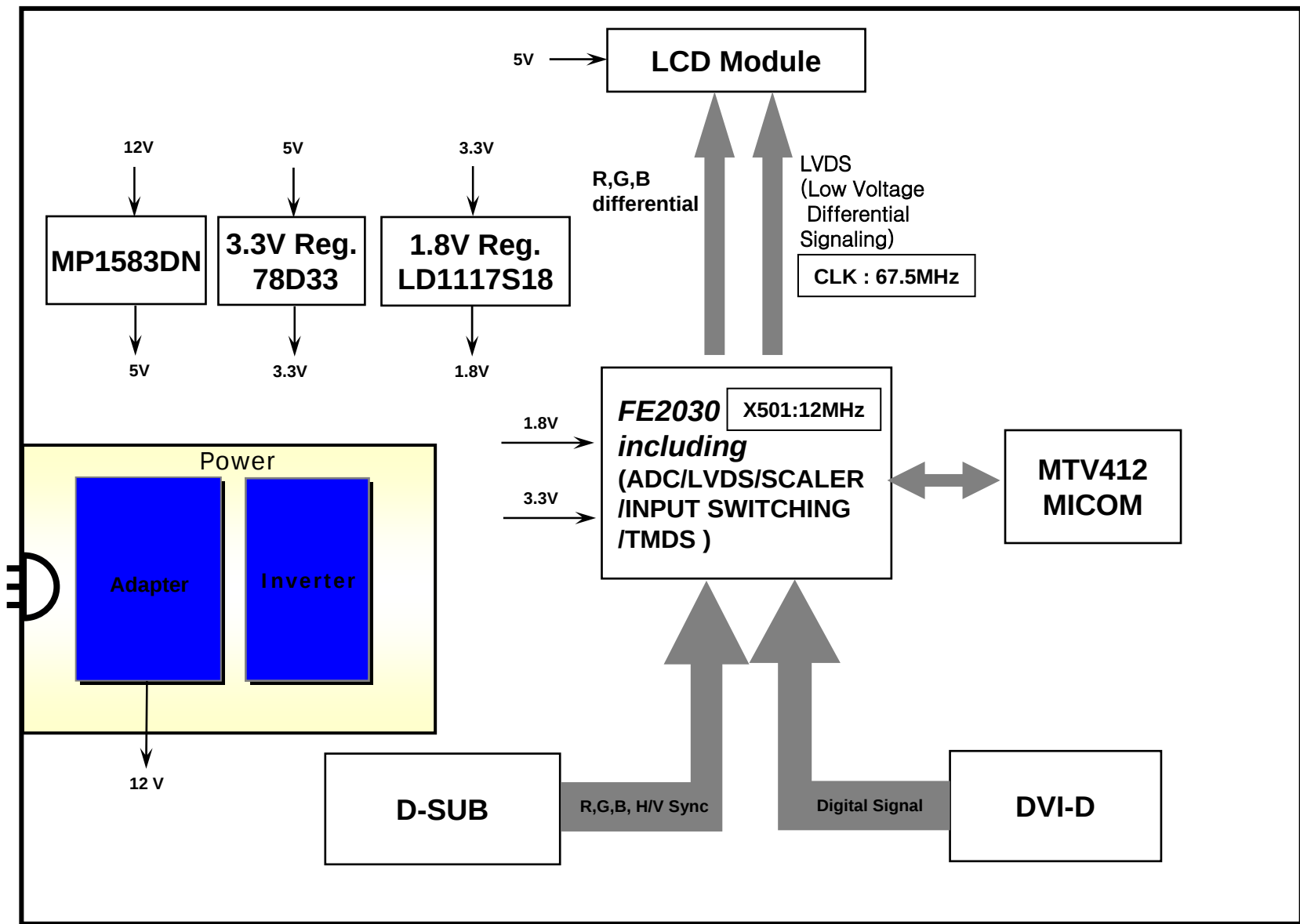


**APPENDIX D**  
**: BLOCK DIAGRAM**

# Main Board Block Diagram



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## DESCRIPTION OF BLOCK DIAGRAM

### 1. Video Controller Part.

This part amplifies the level of video signal for the digital conversion and converts from the analog video signal to the digital video signal using a pixel clock.

The pixel clock for each mode is generated by the PLL.

The range of the pixel clock is from 25MHz to 135MHz.

This part consists of the Scaler, ADC and TMDS receiver .

The Scaler gets the video signal converted analog to digital, interpolates input to 1280 X 1024 resolution signal and outputs 8-bit R, G, B signal to transmitter.

### 2. Power Part.

This part consists of the 3.3V regulator to convert power which is provided 12V, 5V in Power board and Micom  
5V is provided for LCD panel.

Also, 5V is converted 3.3V by regulator and 3.3V is converted 1.8V by regulator.

Converted power is provided for IC in the main board.

### 3. MICOM Part.

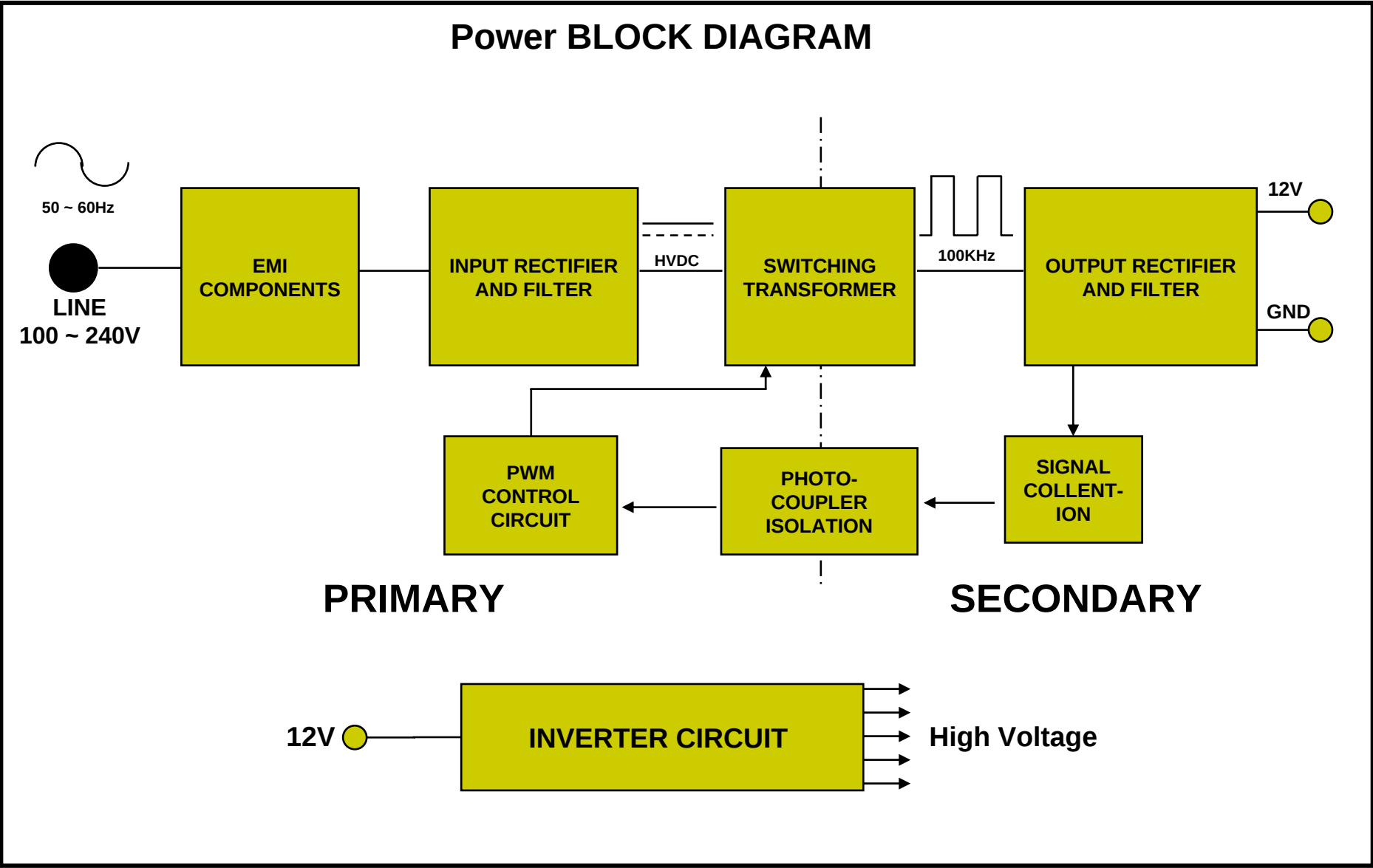
This part consists of EEPROM IC which stores control data and the Micom.

The Micom distinguishes polarity and frequency of the H/V sync are supplied from signal cable.

The controlled data of each modes is stored in EEPROM.

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# Power Board Block Diagram



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## OPERATION DESCRIPTION OF POWER

### 1. EMI components.

This part contains of EMI components to comply with global marketing EMI standards like FCC,VCCI CISPR, the circuit included a line-filter, across line capacitor and of course the primary protection fuse.

### 2. Input rectifier and filter.

This part function is for transfer the input AC voltage to a DC voltage through a bridge rectifier and a bulk capacitor.

### 3. Energy Transfer.

This part function is for transfer the primary energy to secondary through a power transformer.

### 4. Output rectifier and filter.

This part function is to make a pulse width modulation control and to provide the driver signal to power switch,to adjust the duty cycle during different AC input and output loading condition to achieve the dc output stabilized, and also the over power protection is also monitor by this part.

### 5. Photo-Coupler isolation.

This part function is to feed back the dc output changing status through a photo transistor to primary controller to achieve the stabilized dc output voltage.

### 6. Signal collection.

This part function is to collect the any change from the dc output and feed back to the primary through photo transistor

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