Operational Description of 17inch WBT Monitor MW-700

(please, refer to a block diagram attached)

1. Power

The part, power supplier of SMPS type, makes Dc voltage 185V, 75V, 5V, 12V, 22V, 15V to operate a monitor main board and Dc 5V to operate a web board(SMPS inserted) from AC 100~240V of mains network. The DC185V is supplied to FBT makes to high voltage. And others are supplied to a monitor main board after, signals are detected by a micro controller.

-DC 185V is supplied into source of MOSFET Q508 , Output of Drain is direct sanctions into PIN number 2 of FBT. Let adjust VR501(H.V) for B+ Converter and high voltage.

-DC 75V is supplied into PIN number 14 of CA202 to controls R,G,B bias circuit.

-DC 5V is supplied into 8-bits micro controller (NT 6862).

-DC 15V is supplied into vertical driver TDA 4866.

-DC 12V is supplied into auto synchronous deflection controller(TDA4856).

-DC 22V is supplied into DDT-529B a part of H-DY & H-DRV.

2. Video Pre-Amp & OSD Processing

R, G, B Signals, which come from a video source are transmits PIN #6, 8, 10 of IC801 individually through AC Coupling condenser (C801, C831, C861).

R, G, B OSD Outputs are transmits PIN # 2, 3, 4 of IC801 from PIN number 13, 14, 15 of IC204(OSD Generator; DWOSD07). When OSD Outputs generated, the signal that come from Pin #12 of IC204 is input into Pin #1 of IC801 as Fast-Blanking signal not to duplicate the video signal and OSD signal.

This circuit controls CONTRAST, R/G/B GAIN, OSD CONTRAST ETC method of I^2C. Controlled the same method(I^2C) R/G/B BIAS, BRIGHTNESS transmit BIAS Control circuit through PIN number 23, 20, 17 of IC801(internal DAC). BRIGHTNESS Control is capable of as variable R/G/B BIAS simultaneously.

3. Micro Controller(NT 6862) Processing

Applied μ-COM is manufactured NOVATEK.Co.Ltd. And Let describe main Operations.

- H/V Sync Processing : Polarity & Frequency Detect, Sync. Out, Free run
- Power Control : Stand-By & Suspend Mode, Sleep Mode, and POWER ON/OFF
- OSD control
- PWM Output : Sub-Bright, H-Lin., and Tilt
- DDC 1/2B/CI Function, I^2C Bus Control(EEPROM, H/V Deflection, Video Pre-Amp)
- HCS Port Output, Degaussing, Mute
- Auto Mode & Passivity Mode adjust Operation, RECALL
- Self Diagnosis, Burn-In

3-1. Power Control Function & Port

MODE	INPUT SYNC	PIN NO. #20(MUTE)	PIN NO. #18(SB/SS)	PIN NO. #19 (OFF)	LED INDICATOR
NOMAL	H-SYNC: NOMAL V-SYNC: NOMAL	L	H	H	GREEN
STAND-BY	H-SYNC: 0 V-SYNC: NOMAL	H	L	H	YELLOW
SUSPEND	H-SYNC: NOMAL V-SYNC: 0	H	L	H	YELLOW
SLEEP	H-SYNC: 0 V-SYNC: 0	H	L	L	AMBER
OFF	H-SYNC: 0 V-SYNC: 0	H	L	L	OFF
CONDITION		ACTIVE "H"	ACTIVE "L"	ACTIVE "L"	

3-2. H/V Sync Processing

From Signal source, When H-Sync is applied PIN number 39 and V-Sync is applied PIN number 40 of μ-COM(NT 6862), H-Sync is outputs to PIN number 32 and V-Sync is outputs to PIN number 33 regardless of polarity.

3-3. PWM Output

Describes PWM Port format

PIN NO.	DEFINITION	REMARK
#1	Tilt	
#26	Sub-Bright	8 bit
#38	H-Lin.	

3-4. HCS Port Output

Describes HCS Port format

Freq. Range	HCS0	HCS1	HCS2
	#21	#22	#23
Fh≤33KHz	L	L	L
33KHz<Fh≤36.5KHz	L	L	H
36.5KHz<Fh≤40KHz	L	H	L
40KHz<Fh≤45KHz	H	L	L
45KHz<Fh≤50KHz	H	H	L
50KHz<Fh≤61.5KHz	H	L	H
61.5KHz<Fh	H	H	H

3-5. Micro-Controller peripheral circuit

NT6862 is capable of Data exchanges IC202(EEPROM), IC204(OSD), IC501(H/V OSC.) among I^2C BUS Control via SDA(PIN 24) SCL(PIN 25) terminal, and it's possible in auto adjusting of factory mode.

E^2PROM Capacity is 1KBytes, 128Bytes of this is used for saving DDC EDID, the rest is used for saving DAC Value and Preset, DAC Value of User Mode, frequency, Data Sync polarity in basic function.