

# FAULT FINDING GAME

2.5K

SUBSCRIBER SPECIAL

## LAPTOP VOLTAGE FORMATION

1ST GEN TO 11TH GEN



LAPTOP Voltage Sequence  
According to Their Generation. (1st Gen to 11th)  
Date: / /  
ISA Generation  
Motherboard Voltage Sequence

### SMALL SOG VOLTAGE SEQUENCE

1. 19V Main Power Rail
2. 3.3V & 5V LDO (ALWS) (CS5) (Coil Voltage)
3. 3.3V & 5V (SS) RAM VDD8 (EN → SLP, SAH)
4. 1.5V (SS) (SO) (Load Switch Voltage)
5. 3V & 5V (SO) (Vee PLL)
6. 1.5V CPU VDD8
7. 1.8V (SO) Vee PLL
8. 1.05V PCH
9. 1.05V
10. 0.75 RAM VTT Supply (Half of RAM Voltage)
11. CPU Core
12. GFX Core Supply.

### PAID CONTENT FOR FREE

6, 7, 8, 9, 10  
ME Region  
1st Gen to 5th Gen  
CSME  
6th Generation to 11th Generation

# LAPTOP Voltage Sequence

Date: / /



According to Their Generation. (1st Gen to 11th)

1st Generation

with  
Small Soc

## Motherboard Voltage Sequence.

1. 19V Main Power rail
2. 3.3V & 5V LDO
3. 3.3V & 5V (ALWS) (S5) (Coil Voltage) \_\_\_\_\_ SW
4. 1.5V (S3) RAM VDDQ (EN → SLP-SA#)
5. 3V & 5V (S0) (Load Switch Voltage)
6. 1.5V CPU VDDQ
7. 1.8V (S0) VCCPLL
8. 1.05V PCH
9. 1.05V CPU VTT
10. 0.75 RAM VT Supply (Half of RAM Voltage)
11. CPU Core
12. GFX Core Supply.

6, 7, 8, 9, 10

ME Region

1st gen. to 5th gen

CSME

11, 12, 13, 15, 16

6th generation to 12th

2nd & 3rd generation

Date: / /

Motherboard Voltage Sequence.

There is No Difference between this 2 Generation Voltage Sequence.

1. 19V Main Power Rail.
2. 3.3V & 5V LDO
3. 3.3V & 5V (S5) Coil Voltage (ALWS)
4. 1.5V RAM (S3) (EN → SLP-S4#).
5. 3V & 5V (S0) Load Switch
6. 1.5V CPU VDDG Supply
7. 1.8V Vcc PLL (S0)
8. 1.05V (S0) PCH
9. 1.05V CPU VTT → 0.75 RAM VTT (I3)
10. Vcc SA 0.95V
11. CPU Core
12. GPU or Gfx Core.

# 4th & 5th generation Mother- Board Voltage Sequence.

Date: / /



There is No Difference between this 4 Gen-eration Voltage Sequence & 5th generation Voltage Sequence.

1. 19V Main Power Rail or 13V Main Power rail
2. 3.3V & 5V LDO
3. 3.3V & 5V (S5) (ALWS) (Coil) Voltage
4. 1.5V RAM (S3) (for 5th gen. Sometime RAM Voltage will be (1.35V) (S3) (DDR3L)

Note

[DDR3 → 4th gen DDR3 & 3L → 5th gen]

5. 3V & 5V (S0) Load Switch Voltage:

6. 1.5V (S0) PEH.


7. 1.05V VTT

9. 0.75V FOR DDR3 RAM VTT (4th gen)

and

0.67V FOR DDR3L RAM VTT (5th gen)

0.75V ~~FOR~~ FOR DDR3 RAM VTT (5th gen)

10. CPU Core. (Note → No GFX Will be Present   
in case of 4th & 5th gen CPU)

# 6th Generation Motherboard

Date: / /

## Voltage Sequence.

(New imp.)



1. 19V Main Power Rail or 13V Main Power Rail.
2. 3.3V & 5V LDO
3. 3.3V & 5V (S5) (ALWS) (Coil Voltage)
4. 1.8V ALWS
5. 1V ALWS
6. 2.5V (S3) → VPP (RAM) ←
7. 1V VeeST (S3)
8. 1.35V for DDR3L or 1.2V DDRA  
(S3) RAM
9. 3V (S0) Load Switch
10. 5V (S0) Load Switch
11. 12V (S0) Load Switch / 1.35V if DDR3L VDD0
12. 1.8V (S0) Load Switch
13. 1V VeeIO
14. (0.67V or 0.60V RAM VTT).
15. VeeSA
16. CPU Core
17. VeeGT ~~(GFX)~~ (GFX)

8th & 7th Generation Motherboard Date: / /

Voltage Sequence are the Same

1. 19V main Power rail or 13V Main Power rail
2. 3.3V / 5V LDO
3. 3.3V & 5V (S5) Coil Voltage (ALWS)
4. 1.8V ALWS
5. 1V ALWS
6. 2.5V VPP (S3)
7. 1V VCEST (S3)
8. 1.2V (S3) RAM → DDRA
9. 3V (S0) Load Switch
10. 5V (S0) Load Switch
11. 1.2V (S0) Load Switch
12. 1.8V (S0) Load Switch
13. 0.60V RAM VTT → VCEIO (13) (1V)
14. VCESA
15. CPU Core
16. VCEGT

14th & 10th Generation Motherboard Date: / /

## Voltage Sequence



1. 19V Main Power rail to 13V Main Power rail.

2. 3.3V & 5V LDO

3. 3.3V & 5V (SS) CoIL Voltage (ALWS)

4. 1.8V ALWS

5. 1V ALWS

6. 2.5V VPP (S3)

7. 1V VceST (S3)

8. 1.2V RAM (S3) DDRA

9. 3V (S0) Load Switch

10. 5V (S0) Load Switch

11. 1.2V (S0) Load Switch

12. 1.8V (S0) Load Switch

13. 1V VceIO

14. 0.60V RAM VTT

15. ~~0.60V~~ CPU Core

Note No GT Supply (GFX)

# SMALL Soc

Date: / /

like → Apollo Lake, Gemini Lake

TXE:- 3.3.1 TXE-4

1. 19V Main Power rail
2. 3.3V & 5V LDO
3. 3.3V & 5V (ALWS) (S5) Coil Voltage
4. 1.8V ALWS
5. 1.0V ALWS
6. 1.5V (S3) or (1.35V) (S3) RAM  
DDR3 or DDR3L
7. 3V (S0) Load Switch
8. 5V (S0) Load Switch
9. 1.5V (S0) Load Switch if DDR3L 1.35V
10. 0.75V or 0.67V VTT RAM
11. CPU Core
12. CPU GT