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**Project Code & Schematics Subject:** MS12 Main Board

**PCB P/N:**
- 1P-0067200-8M11 (FHAD)
- 1P-0067200-8M11 (NAN YA)
- 1P-0067500-8M11 (HANSTAR)
CPU_VCCA----->120mA
CPU_VCCP------->2.5A
CPU_VCC------->44A
Layout note: Place 1 cap close to every 1 R-pack terminated to +0_9VSUS

Layout note: Place 1 cap close to every 1 R-pack terminated to +0_9VSUS
Voltage change from NV_VDD to 1.2V for G7X
30mA (Frame Buffer core power for I/O)

Follow FAE suggest
BCAL_TERM_GND is not used for DDR.
7/4 DACC function not used, delete L21, C467, C468, C469 and pull-down DACC_VDD with 10K.

PAE suggest
If use G72M, please unstuff U13, U14 and their related circuit.
Decoupling for right MEMORY

Place around the MEM

Decoupling for left MEMORY

Place around the MEM

Place under the MEM
Decoupling for right MEMORY

Place around the MEM

Decoupling for left MEMORY

Place around the MEM

Place under the MEM

NO USE
LVDS CONNECTOR

INVERTE CONNECTOR

PANEL ID

DISCHARGE

The R461 will consume about 0.054 Watt (3.3x3.3/200 = 0.054W). We changed resistor to 0603 size (1/8 Watt)

LVDS

Group1, Group1 should be close

A

A

B

B

C

C

D

D

E

E

F

F

G

G

H

H

I

I

J

J

K

K

L

L

M

M

N

N

O

O

P

P

Q

Q

R

R

S

S

T

T

U

U

V

V

W

W

X

X

Y

Y

Z

Z
S-VIDEO ANALOG SWITCH

H : S-VIDEO&CVBS
L : PORT REPLICATOR

COME TO DOCKING

When DOCKED# L, MB SCAN OFF,
When DOCKED# H, MB SCAN ON.

Semi-PnP

MS12 DVT modify

These component close to S-Video connector within 700 mil
PCI Pullups

Interrupt 17/3

Place within 500 mils of ICH and don’t routing next to high speed signals
Add R1463 and R1464 for discriminate system ID.
FLASH BIOS

JIG-120

B TO B CONN_2x15P
FOX_GT510064-011-7F

3.32,37,39,57 +ECVCC

CN15

32,37 LPC_ADDR
33 LPC_DATA
34 LPC_CLK
35 LPC_RESET
36 LPC_SRVRQ
372,37,39,41,42,44,46,48,50,52,54,56,58,60,62,64 37,38,39,57 +ECVCC

FOXCONN HON HAI Precision Ind. Co., Ltd. CCPBG - R&D Division Flash ROM X-Bus CONN

Size Document Number Rev

MS12-1-01 (MBX-149) 2.0

Friday, July 14, 2006

A3

38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96
If new codec part evaluate OK, pls change to ver: 4th+

20mil

10mil

AUDIO POWER (Change to 4.75V/200mA)
MS12 DVT

2.2uF_16V --> 2.2uF_10V
This array must be placed close to AVDD(Pin U15). They must be tied to a low-impedance GND.

This capacitor should be placed between Pin P15 and Pin R17.

This capacitor must be placed to IC pin VSSPLL must be tied to a low-impedance GND.

Resistors should be placed on the SCL and SDA terminals.
These capacitors should be closed to socket pin.
USB CONN X 3

Place ESD Diode near Common Choke side
BOM notice:

Add R1461 0 ohm to GND when EEPROM not in use to make sure GANGED# is not left floating.

When EEPROM is used, R1461 is NC.

Hi : EEPROM disable
Low : EEPROM enable

Layout note:
Place R1243, R1244 under U88 Pin 1, Pin 2
Place R1459, R1460 under U88 Pin 11, Pin 12
Place R1247, R1248 under U88 Pin 15, Pin 16

FOXCONN
HON HAI Precision Ind. Co., Ltd.
CCBG - R&D Division

Follow MS20:
Add R1461 0 ohm to GND when EEPROM not in use to make sure GANGED# is not left floating.
When EEPROM is used, R1461 is NC.
near LVDS connector for active Inverter audio noise

Add 1 K ohm discharge circuit for quickly AC plug-out and plug-in can't boot issue

Notice:
3.3V/5V Output capacitor
ECGUD0J151ER(18 mohm,H=2.8mm)
TPF150M(25 mohm,H=1.8mm)

Change the resistor's value

TON connect to VCC = 5V/200KHZ,3.3V/300KHZ

57.66 Friday, July 14, 2006
Change from +5VSUS to +5VRUN

Need to keep PR140 near to mosfets (PQ33, PQ34) and inductors (PL13)

Need to keep the MAX8771, DH1, and MAX8771, DL1 same length. Width DH1=40mils, DL1=40mils

Need to keep the MAX8771, DH2, and MAX8771, DL2 same length. Width DH2=40mils, DL2=40mils

VCCSENSE and VSSSENSE shall be routed as follows. Signals must be 18mil wide and shall use differential routing with 7mil separation. Signals must have equal trace length within 25mil and are to be routed using external layer and GND referencing (no split plane referencing).

VCCSENSE/VSSSENSE are to use 25mil separation distance away from any other signals.
HISTORY

(2006/04/27 Initail REV 0.30 )
P.5 Change C4,C6,C8,C9,C10,C11,C12,C13,C14,C15,C16,C17,C18,C19,C20,C21,C22,C23 from 22uF to 10uF for 22uF shortage.
P.5 Change C1310,C1311,C1312,C1313,C1314,C1315,C1316,C1317,C1318,C1319,C1320,C1321 to mount for 22uF shortage.
P.5 Change US8 from 5VH005G020E to 5VH005G020F for making BOM conveniently.
P.33 Change U10 from 74H004G008 to 74H004G010 for making BOM conveniently.
P.44 Change Q77,Q78,Q84,Q85 from KBSS2515F,115 to KBSS2525F,115. Because KBSS2515F,115 will be EOL.
P.44 Change CAP22,CAP23 from SHOEI (SE0J101-3B) to Panasonic (ECGUD0J101ER). Because SE0J101-3B will be EOL.
P.45 Change C117,C112 from 2.20uF_M to 2.20uF_V for 2.20uF_V shortage.
P.47 Change Q81,Q90,Q91,Q92 from KBSS2515F,115 to KBSS2525F,115. Because KBSS2515F,115 will be EOL.

Power modify

P.56 Add PR27. Change PR38/PR34/Q90 to NC_condition. Design change and can achieve the same function.
P.60 Change R1311 from +4VDD to +4VSS. Keep the same power sequence with MAB771 Y5V.
P.60 Delete PR38. R38 has reserved R38H, so can delete PR38.
P.60 Add PC72 to avoid INV_JX signal 100nW pulse when power on.
P.60 Change PC167/PC168 from 2.20uF_M to 2.20uF_V for 2.20uF_V shortage.
P.61 Change PC164/PC165 from 2.20uF_M to 2.20uF_V for 2.20uF_V shortage.
P.62 Change PC1214/PC1215/PC1216 for LCT2535M from NSC22250MSHTG for LCT2535M shortage.
P.62 Change PC324 from 0.10uF_M to 0.10uF_M (Y5V) because X5R specialty is more stable than Y5V.
P.62 Change PC325/PC326/PC330 to avoid INV_J signal. When delete PC36, can also achieve the same function by SY4_P8# signal.
P.62 Change PC368 from 2.20uF_V to 2.20uF_M for 2.20uF_M shortage.
P.62 Change PR351.2 from +4VSS to +4VDD. To achieve more logical design and can save a little power consumption on 03 mode

(2006/05/05 System ID modify )
P.37 Add R1463 and R1464 for making BOM conveniently.
P.37 Change R179 from 100K_J to NV72_100K_J for making BOM conveniently.
P.37 Change R174 from 100K_J to NV72_100K_J for new System ID table.
P.37 Change R175 from 100K_J to NV72_100K_J for new System ID table.
P.37 Change R172 from 100K_J to NV72_100K_J for new System ID table.
P.37 Change R178 from 100K_J to NV72_100K_J for new System ID table.
P.41 Change Q93 from DC14144U to DC14144U.
P.53 Change R11 from C2 to C2. Keep the same power sequence with MAB771 Y5V.
P.53 Change R1461 from C2 to C2. Keep the same power sequence with MAB771 Y5V.
P.56 Change C1003 from 1210 to 1206/1210 dual layout package for MLCC shortage

(2006/05/11)
P.52 Change C1103 from 1210 to 1206/1210 dual layout package for MLCC shortage
P.58 Change PC126, PC127, PC128 from 1206/1210 dual layout package for MLCC shortage
P.59 Change PC84, PC85, PC106 from 1210 to 1206/1210 dual layout package for MLCC shortage
P.60 Change PC276, PC277, PC278, PC279, PC280, PC281 from 1206 to 1206/1210 dual layout package for MLCC shortage
P.63 Change PC103, PC104, PC195 from 1206 to 1206/1210 dual layout package for MLCC shortage
P.58 Change R79 from 3.3K to 3.3K for MG812 2nd source OCP common setting.
P.63 Change PR227 from 3.9K to 3.9K for MG812 2nd source OCP common setting.

(2006/05/16)
P.63 Change R361.2 from +4VSS to +4VDD. To achieve more logical design and can save a little power consumption on 03 mode

P.60 Change R15 from 1206 to 1206/1210 dual layout package for MLCC shortage
P.65 Change R16 from 1206 to 1206/1210 dual layout package for MLCC shortage
P.65 Change R17 from 1206 to 1206/1210 dual layout package for MLCC shortage
P.65 Change R18 from 1206 to 1206/1210 dual layout package for MLCC shortage
P.65 Change R19 from 1206 to 1206/1210 dual layout package for MLCC shortage

P.63 Change R1461 from +4VSS to +4VDD. Keep the same power sequence with MAB771 Y5V.
P.63 Change R1462 from +4VDD to +4VSS. Keep the same power sequence with MAB771 Y5V.
P.63 Change R1463 from +4VSS to +4VDD. To achieve more logical design and can save a little power consumption on 03 mode

(2006/05/18)
P.63 Change R166 from 100_K_J to 100_K_J, Keep the same power sequence with MAB771 Y5V.
P.63 Change R361 from 100_J to 100_J, Add a resistor PR418 (1K_J) for prevent EC damage when power protect occur.

(2006/06/13)
P.36 Change CN23 footprint from FOXCONN_QTRH0506_M1138_4P to FOXCONN_QTRH0506_M1138_4P_M112. Modify footprint to avoid connector short.
P.56 Change net_R40 pin3) from A1W_GN to A1W_GN.
P.57 Change R483, R555 from 100_J to 100_J and add a resistor PR418 (10K_J) for prevent IC damage when power protect occur.

(2006/06/16)
P.5 Change C4,C5,C6,C7,C8,C9,C10,C11,C12,C13,C14,C15,C16,C17,C18,C19,C20,C21,C22,C23 from 10uF to 22uF for BOM control.
P.5 Change C1310,C1311,C1312,C1313,C1314,C1315,C1316,C1317,C1318,C1319,C1320,C1321 from mount to NC for BOM control.

(2006/06/20)
P.46 Change V67 from A9H050-030-0 to CH520350V. Because A9H050-030-0 will be EOL.
HISTORY

MP MODIFY
(2006/07/11)

P.36 Add D72 to avoid ESD fail for Pioneer SMDL R10VAD.

P.63 Change PR217 and PR224 head value from NV72_ to NV722B01_. Because NV72M_B01 NVDD need 1.1V.

P.63 Change PR414 and PR415 head value from NV73_ to NV73A02_. Because NV73M_A02 NVDD still need 1.0V.