

KORG D888

SERVICE MANUAL



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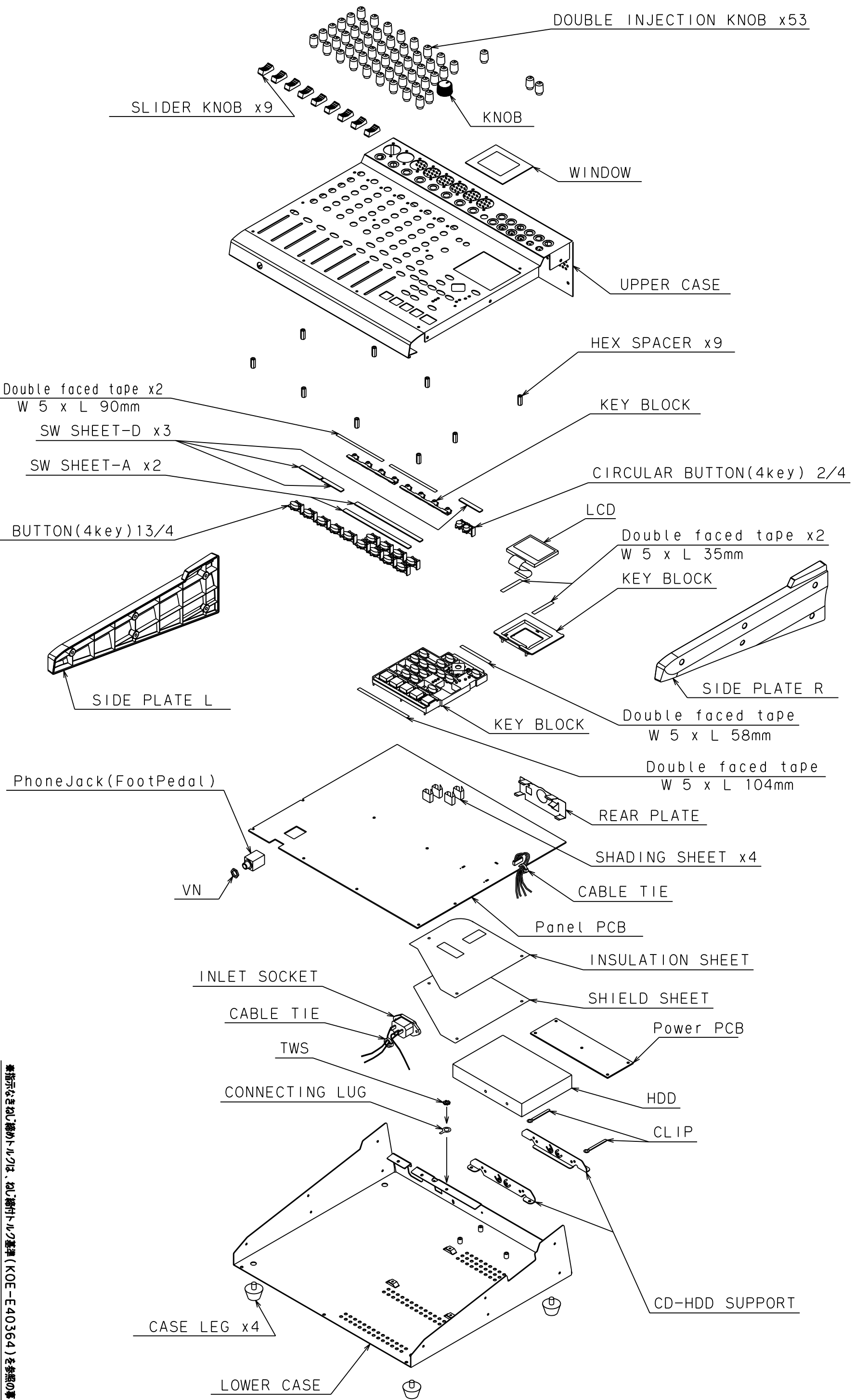
KORG

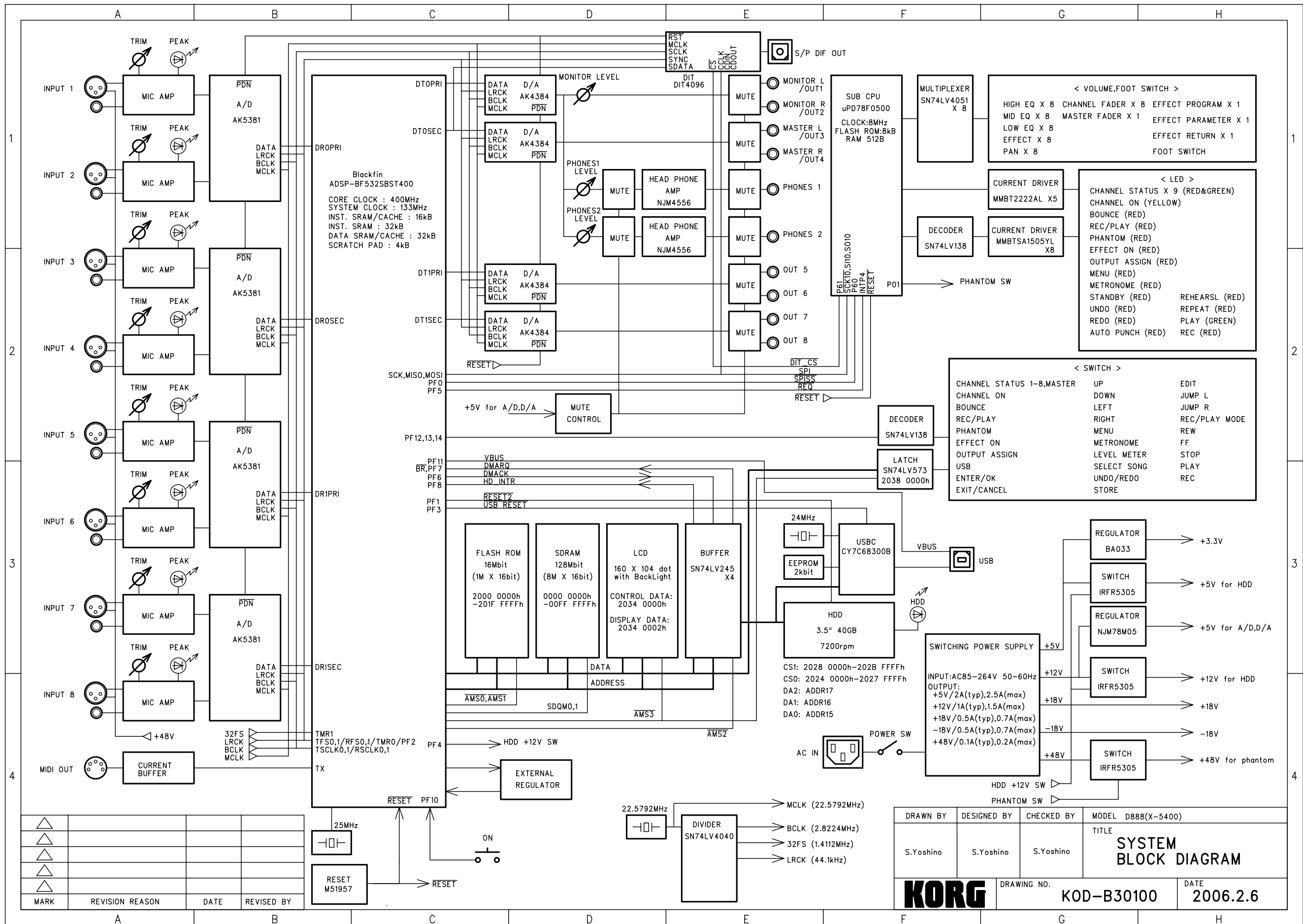
REVISED MARK	▶▶▶
REVISED REASON	
REVISED DATE	
REVISED BY	
APPROVED	

記号	●	■	▲	▼
規格				
使用数				

DRAWN	丸山	CHECKED	丸山	APPROVED	田村	MODEL	X5400(D888)
	06/03/28		06/03/28		06/03/29	TITLE	組立図
DRAWING No.							KOE-F32148

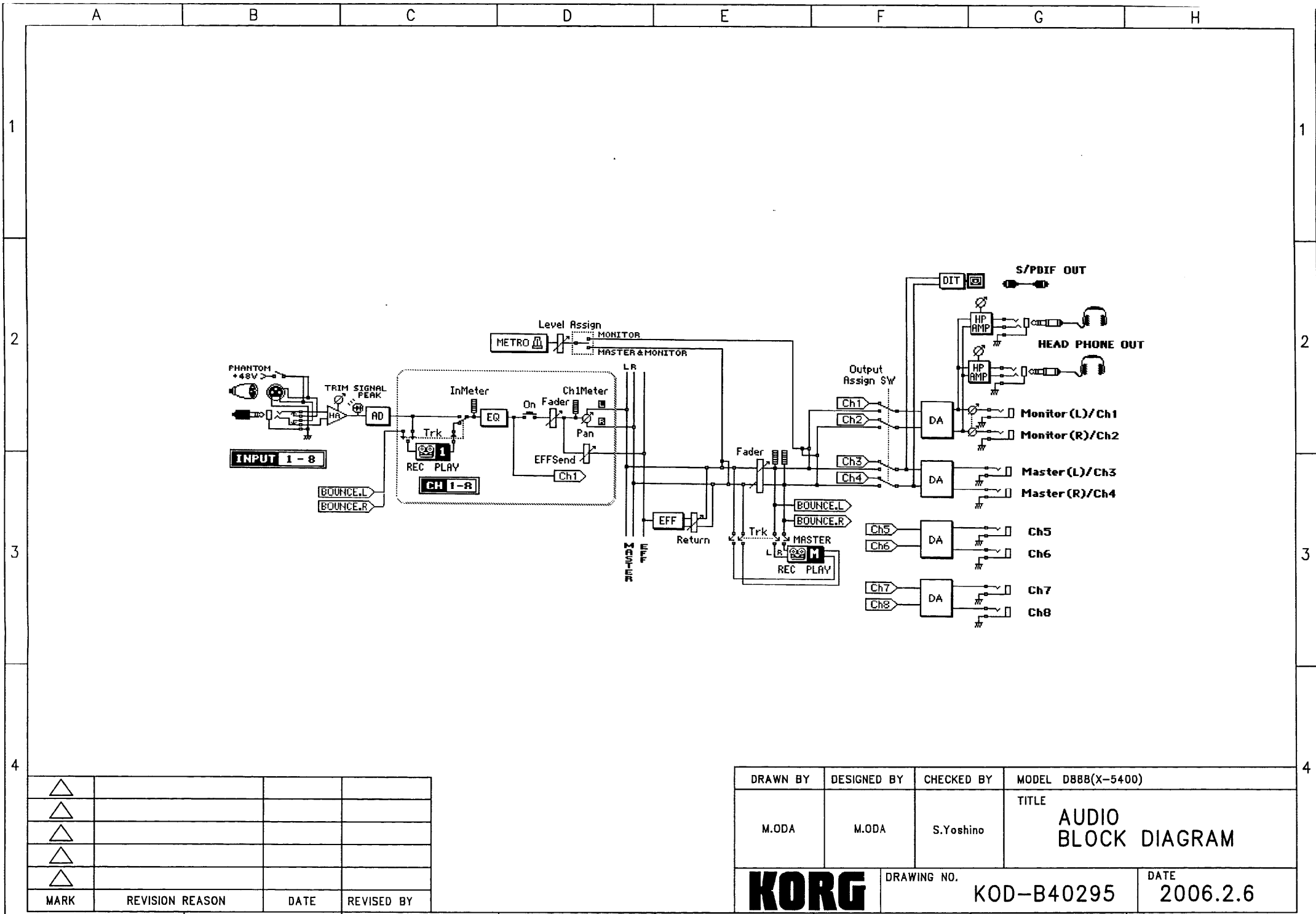
※指示なきねじ締めトルクは、ねじ締めトルク基準 (KOE-E40364) を参照の事





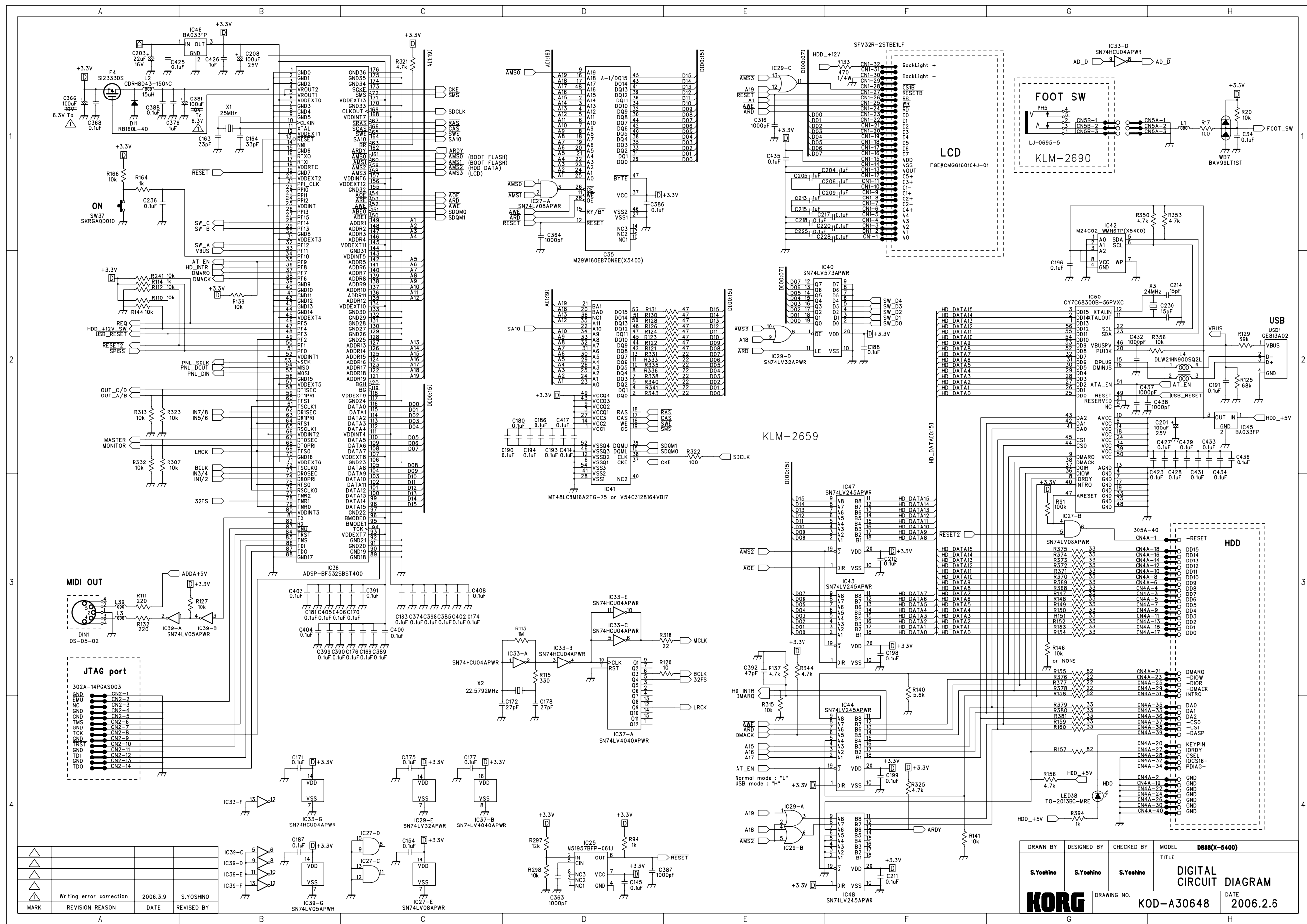
DRAWN BY	DESIGNED BY	CHECKED BY	MODEL
S.Yoshino	S.Yoshino	S.Yoshino	D888(X-5400)
TITLE			
SYSTEM BLOCK DIAGRAM			
DRAWING NO.		DATE	
KOD-B30100		2006.2.6	



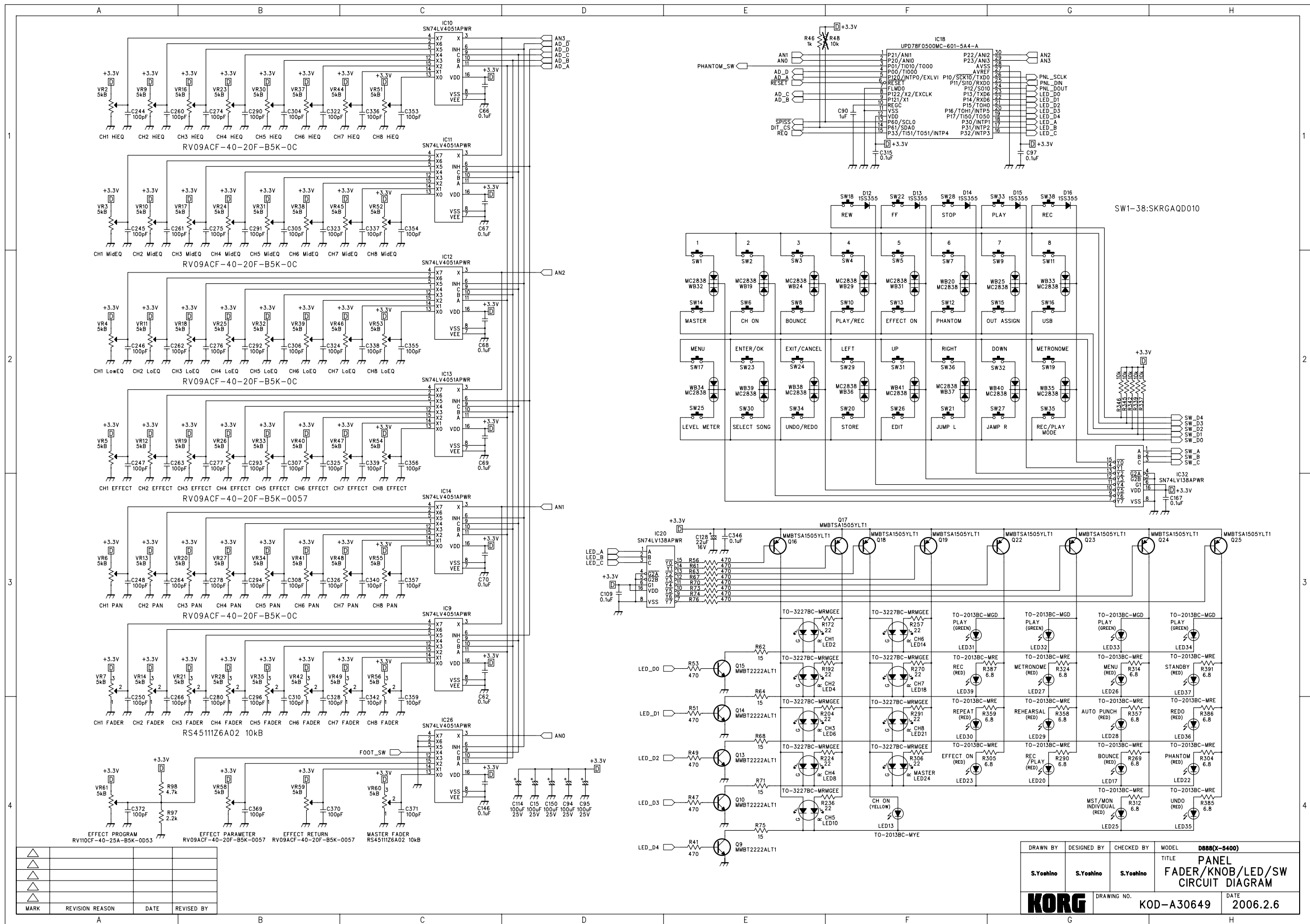


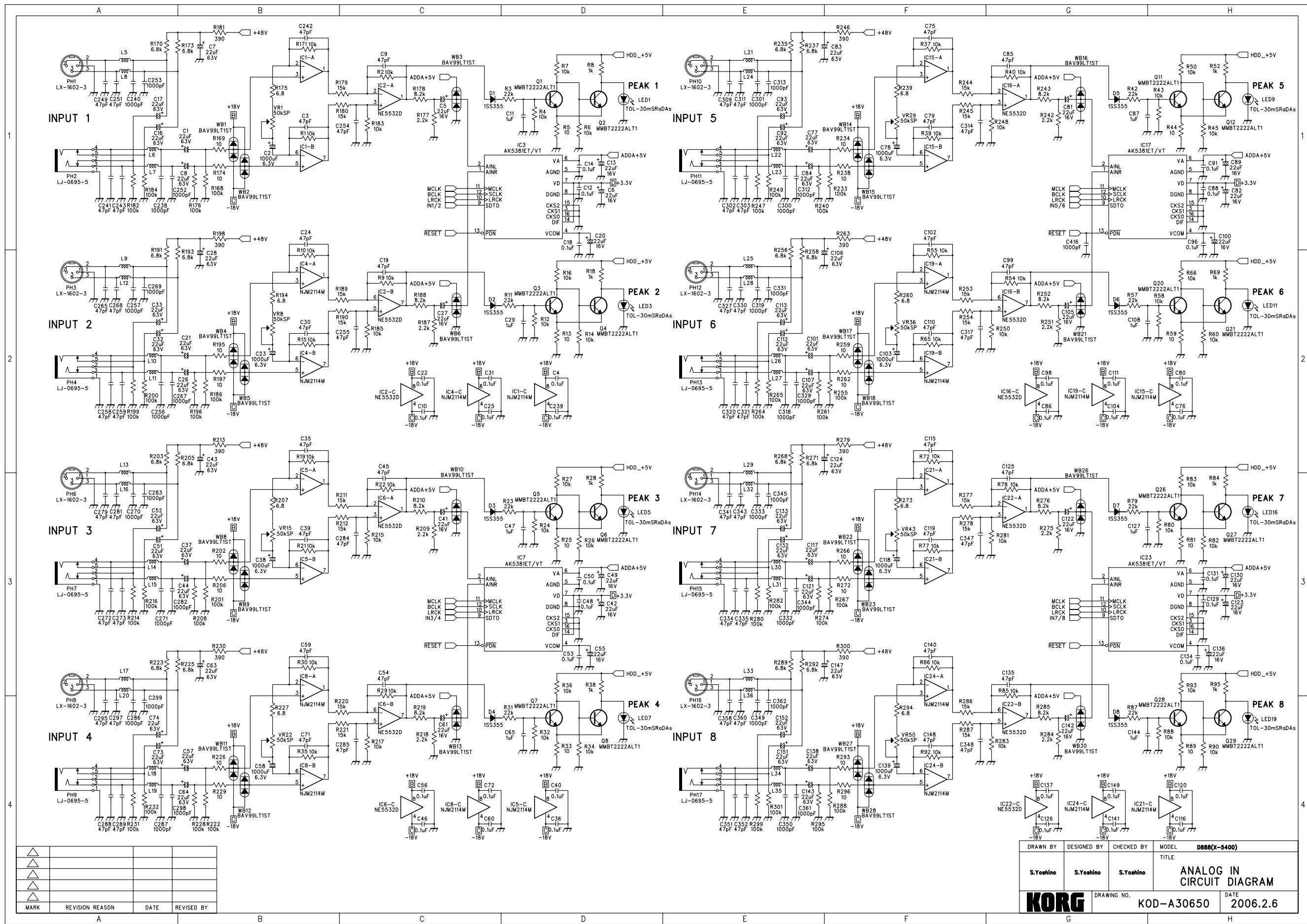
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MARK	REVISION REASON	DATE	REVISED BY

DRAWN BY	DESIGNED BY	CHECKED BY	MODEL DB88(X-5400)
M.ODA	M.ODA	S.Yoshino	TITLE AUDIO BLOCK DIAGRAM
KORG		DRAWING NO. KOD-B40295	DATE 2006.2.6



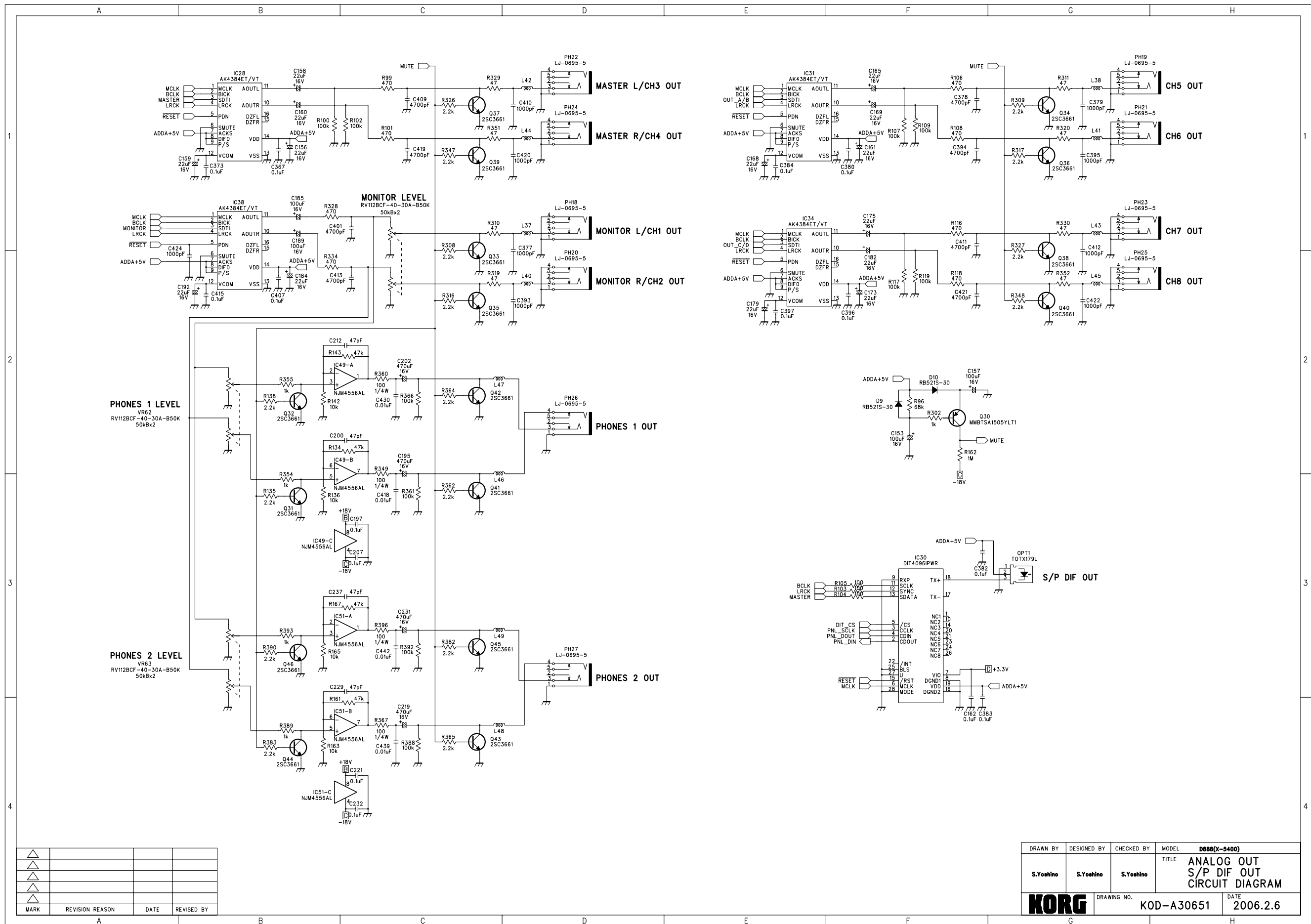
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S.Yoshino	S.Yoshino	S.Yoshino	TITLE	DIGITAL CIRCUIT DIAGRAM
MARK	REVISION REASON	DATE	REVISED BY	
DRAWING NO.			KOD-A30648	DATE
KORG				2006.2.6



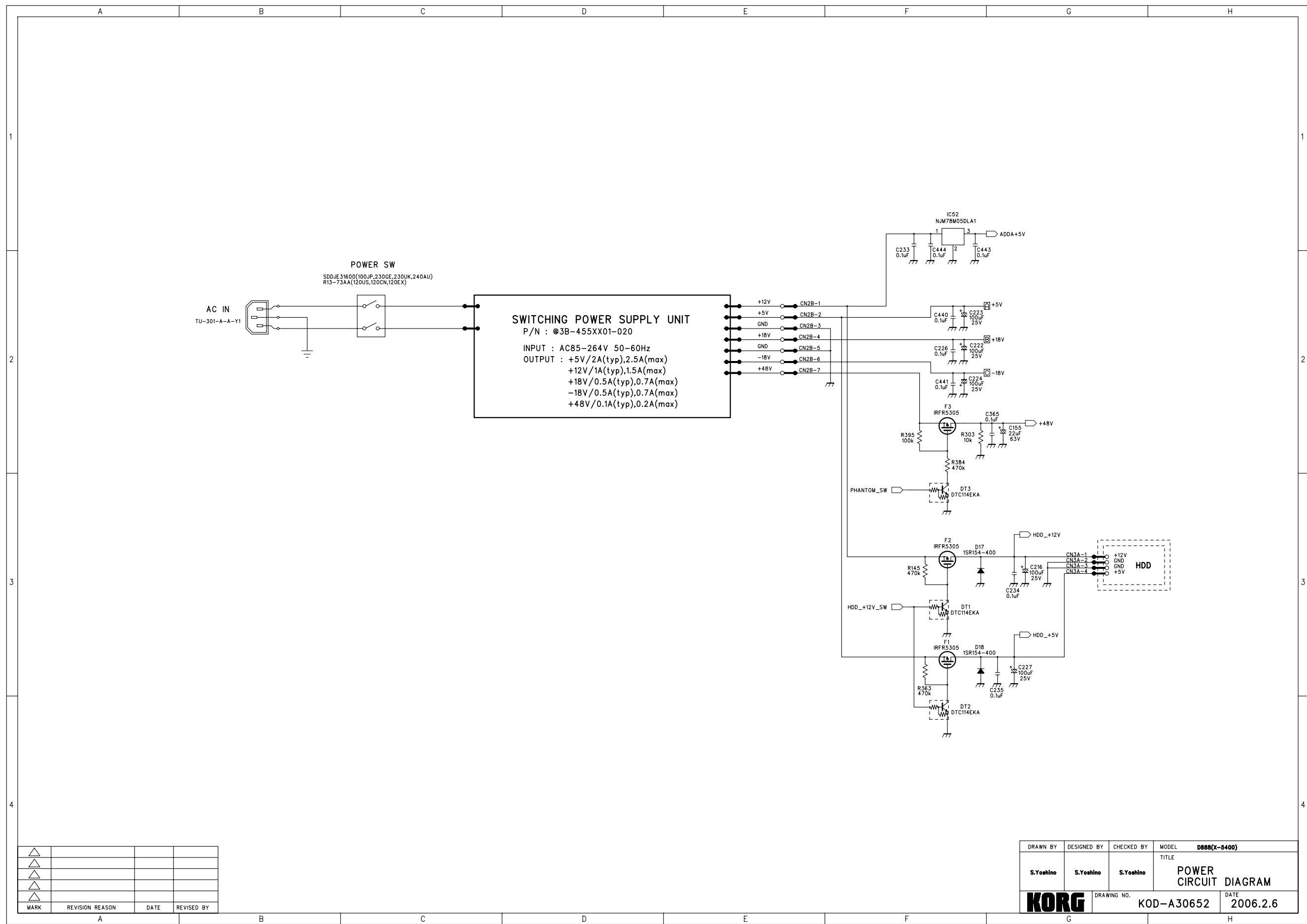


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DRAWN BY	DESIGNED BY	CHECKED BY	MODEL	D888(X-5400)
S.Yoshino	S.Yoshino	S.Yoshino	TITLE	ANALOG IN CIRCUIT DIAGRAM
DRAWING NO.		DATE		
KORG		KOD-A30650		2006.2.6



DRAWN BY	DESIGNED BY	CHECKED BY	MODEL	D888(X-5400)
S.Yoshino	S.Yoshino	S.Yoshino	TITLE	ANALOG OUT S/P DIF OUT CIRCUIT DIAGRAM
KORG			DRAWING NO.	KOD-A30651
			DATE	2006.2.6



POWER SW
SDDJE31600(100JP,230GE,230UK,240AU)
R13-73AA(120US,120CN,120EX)

SWITCHING POWER SUPPLY UNIT
P/N : @3B-455XX01-020
INPUT : AC85-264V 50-60Hz
OUTPUT : +5V/2A(typ),2.5A(max)
 +12V/1A(typ),1.5A(max)
 +18V/0.5A(typ),0.7A(max)
 -18V/0.5A(typ),0.7A(max)
 +48V/0.1A(typ),0.2A(max)

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DRAWN BY	DESIGNED BY	CHECKED BY	MODEL	D888(X-5400)
S.Yoshino	S.Yoshino	S.Yoshino	TITLE	POWER CIRCUIT DIAGRAM
DRAWING NO.			KOD-A30652	DATE
KORG				2006.2.6

▼Needed Apparatus for test

- 1) Monaural standard chord x2-8(for INPUT-OUTPUT, for FOOT SW)
- 2) FOOT SW
- 3) Headphones
- 4) AC chord
- 5) S/P DIF optical cable
- 6) MIDI cable
- 7) D3200 (if you can prepare)

Note

Switch operation in the test mode
[REC]: Go to the next test

(1) TEST MODE INSPECTION

- > Connect AC chord to D888
- > Turn power on the switch at rear panel
- .> Pushing [FF] and [PLAY], push [ON-STAND-BY]
Continue pushing [FF] and [PLAY]
After several seconds, following display will appear.

D888 TEST MODE
External Check
TEST01:SPEC.
HDD Volume : 37.3GB
SYSTEM
→*.* B000**

Then, take your fingers off from the switches.

Push [REC]

●TEST02 PHANTOM

In the LCD display,

External Check
TEST02:PHANTOM
STEP01:PHANTOM ON

Above display will appear.

> Confirm the LED of [PHANTOM] lit.

Push [REC]

In the LCD

External Check
TEST02:PHANTOM
STEP02:PHANTOM OFF

Above display will appear.

> Confirm the LED of [PHANTOM] turned off.

Push [REC]

●**TEST03 LED/SWITCH**

STEP1:LED ALL-ON

>Confirmation of all LEDs lit, confirm LEDs are lighting like followings.

*HDD does not light.

Red light (SW) :PHANTOM、 OUTPUT ASSIGN、 BOUNCE、 REC/PLAY、 EFFECT ON、 MENU、 METRONOME、 REC

Red light (LED) :STANDBY、 UNDO、 REDO、 AUTO PUNCH、 REHEARSAL、 REPEAT(14 red LEDs)

Orange light (SW) :CH ON、 1、 2、 3、 4、 5、 6、 7、 8、 MASTER (Orange 10 LEDs)

Green light (SW) :PLAY(4 LEDs)

White light :LCDBack light-

Push [REC]

STEP2:CLick

>Push [name] appears in the LCD display one by one, then confirm the SW and LED.

Regarding following switches, push twice or more.

>CH1-8, and MASTER, push twice each switch and confirm that LED changes from red to green.

>UNDO/REDO: push twice and confirm UNDO and REDO LED light red one by one.

>REC/PLAY MODE: push three times and confirm that AUTO PUSH, REHEARSAL, REPEAT LED light one by one.

>PLAY: Push three times and the 4 LEDs light one by one.

Push [REC]

●**LCD INSPECTION**

Black dots are displayed in the LCD.

>Confirm that there are no chipped dot or uneven dot.

Push [REC]

All dots in the LCD disappeared.

>Confirm that the backlight is lighting not unevenly.

Push [REC]

●**LCD CONTRAST INSPECTION**

>"#" is displayed in the LCD, confirm the contrast changes.

Push [REC]

●**TEST05 A/D**

Rotate CH1 EQ GAIN "HIGH" from MAX to MINI and stop at the center click position.

>Confirm that the "HIGH" characters in the display are reversed.

The reversed characters means that the working of the volume is OK.

Same as above, test MID>LOW>EFFECT>PAN>Fader, one by one.

"EFFECT" and "Fader" have not the center click, so the test ends when MINI position is detected .

After all tests until Fader are OK , the LED of CH2 TRACK lights.

Same as above, proceed the tests until CH8.

After CH8 test, LED of MASTER lights and EFFECT PROGRAM INSPECTION begins.

Move the EFFECT selector, then ">11" is displayed.

Adjust the EFFECT selector at the position of "11".

"Wait" is displayed, after some while, ">10" is displayed.

Move the EFFECT selector at the position of "10".

Same as above, move the selector to "displayed number"(6,2,1) after "WAIT".

After finished "1", proceed the tests PARAMETER, RTN, and MST.

*NOTE: In the A/D test, when the wrong VR was moved, and D888 read wrong value, ERROR is displayed, in this case push[REW] then the test begins from the VR in the test.

"FSW" in the LCD display is the test of FOOT SW.

Connect foot switch to D888.

Push foot switch once.

>Confirm the characters "FSW" in the LCD is reversed.

Disconnect the foot switch.

Push [REC]

Followings are displayed in the LCD.

TEST06:EXIT

Power off = UNDO SW

Push [UNDO]

LCD display is cleared.

Test mode has finished.

(2)NORMAL MODE INSPECTION

Push [ON-STANDBY], and turn power on.

Demo Song "Black Swan" is displayed.

>Connect standard monaural chords as following.

MONITOR OUT L -> INPUT 1
 MONITOR OUT R ->INPUT 2
 MASTER OUT L ->INPUT 3
 MASTER OUT R->INPUT 4
 INDIVIDUAL 5 -> INPUT 5
 INDIVIDUAL 6 ->INPUT 6
 INDIVIDUAL 7 ->INPUT 7
 INDIVIDUAL 8 -> INPUT 8

>Confirm all TRIM knobs are at the position of "4".

●Test of Demo Song play

>Connect headphones to PHONE1 jack.

>Push [PLAY]

Demo Song playing begins.

>Rotate PHONE1 and listen at appropriate volume.

Confirm that the sound is not distorted or not including noise.

>Push [STOP]

>Pushing [STOP} and push [REW]

The counter in the LCD becomes to "00::00:00.000"

>Connect headphones to PHONE2 jack.

>Push [PLAY]

Demo Song playing begins.

>Rotate PHONE2 and listen at appropriate volume.

Confirm that the sound is not distorted or not including noise.

>Push [STOP]

>Pushing [STOP} and push [REW]

The counter in the LCD becomes to "00::00:00.000"

●INPUT/OUTPUT INSPECTION

>Confirm that MONITOR LEVEL KNOB (left of INDIVIDUAL 5) is set at "10"

When using standard monaural chords less than 8, do following inspection changing the chords.

>Push [PLAY]

Demo Song playing begins.

Rotate INPUT1-8TRIM to -60.

Confirm each PEAK LED lights.

After inspection of INPUT1-8, set theTRIM of 1-8 at +4.

>Push [STOP]

>Pushing [STOP} and push [REW]

The counter in the LCD becomes to "00::00:00.000"

>Disconnect standard monaural chords.

●MIDI, S/P DIF INSPECTION

*Regarding MIDI S/P DIF INSPECTION

MIDI, S/P DIF INSPECTION is written by a premise of using D3200

Please do following inspection when you can use D3200.

When you can not prepare D3200, connect other external MIDI equipment and some equipment with digital connection. And confirm the working by D888 user's manual and other equipment's user's manual.

Turn power on D3200 refer to "Settings of D3200" page.

>Connect the AC chord to D888

>Turn power on by pushing rear POWER SWITCH.

STANDBY LED lights.

>Push ON right of STANDBY LED. (D888 starts.)

●S/P DIF INSPECTION

>Connect S/P DIF OUT of D888 to S/PDIF IN of D3200.

>Move up TRACK1, TRACK2, and MASTER fader of D3200 to "0"

>Set MONITOR LEVEL and PHONE LEVEL of D3200 to "0"

>Change to connect headphones from D888 to D3200.

Push [PLAY] of D888.

Move up D3200 headphone level appropriately, and confirm the D888's demosong output..

>Push [STOP] of D888.

>Pushing [STOP] and push [REW] of D888.

>Disconnect the digital cable.

●MIDI INSPECTION

>Set D888 like followings. MIDI OUT setting)

1)Push [MENU] (EDIT MENU is displayed.)

2)Push ▾(DOWN) of CURSOR 4 times.

"5.MIDI OUT <>OFF" is displayed.

3)Push ▷(RIGHT) of CURSOR. "MTC" is displayed.

4) Push [ENTER/OK]

5)Push [LEVEL METER]



>Connect MIDIOUT of D888 to MIDI IN of D3200.

>Push [PLAY] of D3200.

"Waiting MTC" is displayed.

>Push [PLAY] of D888. (Demo song play begins.)

-The counter of D888 starts.

Confirm that the counter of D3200 is also working.

(After around 2 seconds display, D3200 starts. This is not malfunction.)

>Push [STOP] of D888.

>Confirm that the D3200 also stopped..

>Pushing [STOP] and push [REW] of D888.

(The counter of D3200 also becomes 00:00:00.000)

>Push [STOP] of D3200.

>Disconnect MIDI cable.

- Recover the D888 settings.

- 1)Push [MENU] (EDIT MENU is displayed.)
"5.MIDI OUT <>MTC" is displayed..
- 2) push ◀ (left) of CURSOR. MTC changes to OFF.
- 3) Push [ENTER/OK]
- 4)Push ▲ (up) of CURSOR 4 times.
At 1.Track, "<>Copy " is displayed.
- 5)Push [LEVEL METER]



>Push [ON-STANDBY] of D888 until following display appears.

Shut Down: AreYou Sure? OK or CANCEL
--

After above display, take your fingers off from the switch.

>Push [ENTER/OK]
After around 10 seconds, LCD display disappears..

>Turn power off by rear power switch.

>Disconnect AC chord.

The Inspection completed.

Setting of D3200

Set D3200 as following.
(Example is from factory setting)

Turn power on.

Demo song [I'd Be A FOOL] is displayed.

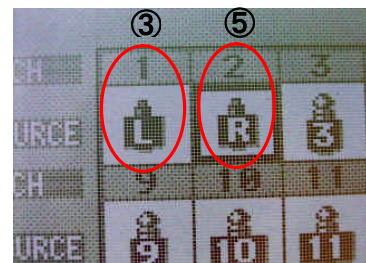
- Using the joystick move the arrow in the LCD to "NEW", then click.
"44.1kHz/16bit" is displayed in reversed characters.
Move the arrow to "OK" then click.
After Working, display becomes the song which was made.



JOY STICK

•Setting of S/P DIF

- 1) Push [MIXER]
The square CURSOR is at the CH INPUT/Submixer.
- 2) Push [MIXER] again.
The display becomes to Channel Assign.
The square CURSOR is at the CH1..
- 3) Rotate ENCODER to right and set display to S/P DIF L.
- 4) Push [>] at the right of the joystick once.
CURSOR moves to CH2.
- 5) Rotate ENCODER to right and set display to S/P DIF R.
- 6) Push [SONG], display returns to the former screen.
- 7) Push TRACK1 and TRACK2 once for each.
The red LED lights.



Display of CH 1= S/P DIF L
Display CH 2= S/P DIF R

•Setting of MIDI

- 1) Push [SYSTEM MIDI]
- 2) Using the joystick, move the arrow in the display to MIDI/MMC, then click.
The screen of MIDI/MMC is displayed.
The setting of MTC MIDI Sync is checked at OFF.
- 3) Using the joystick and move the arrow to O of "MTC Slave", then click.
The check mark appears in "O MTC Slave" and becomes reversed display.
"Chase Mode" under the " O MTC Slave" is OFF.
- 4) Using the joystick and move the arrow to OFF, then click.
"OFF" changes to "ON"
- 5) Push [SONG]
LCD returns to SONG screen.
- 6) Pushing [SONG], and push [ENTER].
The setting is saved.

The preparation has finished.

KORG D888 Parts List

Parts No.	Parts Name	Note	QTY
510313501001	LCD FGE#CMGG160104J-01		1
510374520022	Power Switch SDDJE31600	240AU/230GE/230UK/100JP	1
510374527001	Power Switch R13-73AA	120CN/EX/US	1
510450500001	AC Inlet Socket TU-301-A-A-Y1		1
510405540022	Switching Power Supply 3B-455XX01-020		1
510430500501	Hard Disk Driver SP0411N,ST340014A		1
510470522505	Harness HNS-3598 Inlet-SW		1
510470522506	Harness HNS-3599 SW-SWPS		1
510470522507	Harness HNS-3649 Inlet-GND		1
500600005800	SC-111-JO1 AC CORD	240AU	1
510600540005	UC-953-J01(UL) AC CORD	120CN/EX/US	1
510600540006	EC-652-E03(VDE) AC CORD	230GE	1
510540501001	CONVERTER SOCKET YL-212	100JP	1
500600006505	AC CORD TEM-M055-0011	100JP	1
510600540007	KP-610/KS-31AY(BS) ACCORD	230UK	1
510685500010	Insulation Sheet KOC-F41277		1
510685500009	Shield Sheet KOC-F41276		1
510640506507	UPPER CASE KOC-C10257		1
510640506508	LOWER CASE KOC-C10258		1
510640505536	CD-HDD SUPPORT KOC-C30667		2
510640506509	REAR PLATE KOC-C41455		1
510646504162	KEY BLOCK KOC-E10233		1
510646504163	SIDE PLATE-L KOC-E10234-1		1
510646504164	SIDE PLATE-R KOC-E10234-2		1
510646504148	DOUBLE INJECTION KNOB KOC-E30393		53
510646502025	SLIDER KNOB ABS-HB Painting KOC-E40578		9
510646502048	Knob KOC-E40851		1
510646504140	OVAL BUTTON (4-KEY) KOC-E20257		13/4
510646504141	CIRCULAR BUTTON(4-KEY) KOC-E20258		1/2
510802500505	SW SHEET (A) KOC-F30110-1		2
510802500508	SW SHEET (D) KOC-F30110-4		3
510500506001	CASE LEG HAA-082010		4
510700503572	HEX SPACER SUM24L M3X14X5.5 NIC		9
510646506502	X-5400 WINDOW KOC-F30118		1
510646506503	X-5400 SHADING SHEET F41260		4
510C90092659	KLM-2659 X-5400(D888) ASS'Y	KLM-2659	1
510320511016	VoltageRegulator NJM78M05DL1A(S)	KLM-2659	1
500324026011	IC USB CY7C68300B-56PVXC SSOP56	KLM-2659	1
500320001617	CPU UPD78F0500MC-601-5A4-A (X5400)SSOP30	KLM-2659	1
500324006013	V54C3128164VB17(TP)	KLM-2659	1
510320519505	Flash ROM M29W160EB70N6E(STM)	KLM-2659	1
510320519506	EEPROM M24C02-WMN6TP(STM)	KLM-2659	1
500324018019	ADC AK5381ET TSSOP16	KLM-2659	4
510324038010	AK4384ET-E2 TSSOP16	KLM-2659	4
510324021147	DIT DIT4096IPWR	KLM-2659	1
510320516009	Logic IC SN74HCU04APWR SSOP14 (S)	KLM-2659	1
510320516002	IC logic SN74LV4040APWR (S)	KLM-2659	1
510320516027	IC logic SN74LV08APWR (s)	KLM-2659	1
510320516011	IC logic IC SN74LV32APWR (TS) (S)	KLM-2659	1
510320516001	IC SN74LV245APWR (S)	KLM-2659	4
510320516008	Logic IC SN74LV138APWR SSOP16 (S)	KLM-2659	2
500324021112	Logic IC SN74LV573APWR	KLM-2659	1
510320516010	IC logic IC SN74LV05APWR (S)	KLM-2659	1
510320516047	Logic IC IC SN74LV4051APWR(TS)	KLM-2659	7
510320512001	IC RESET M51957AFP-CF1J TS (S)	KLM-2659	1
510320511026	OPAMP NJM4556AL-#ZZZB	KLM-2659	2
510320511011	OPAMP NJM2114M-TE2#ZZZB (S)	KLM-2659	8
500324021160	OPAMP NE5532DR SOP8	KLM-2659	4
510320514013	BA033CC0FP(TO252-3) (s)	KLM-2659	2
510310511512	DI RB160L-60TE25(TS)	KLM-2659	1

KORG D888 Parts List

Parts No.	Parts Name	Note	QTY
510306510501	FET Si2333DS-T1-E3	KLM-2659	1
510300512501	FET IRFR5305TR-PBF(TS)	KLM-2659	3
510300511504	Transistor 2SC3661-TB-E (S)	KLM-2659	16
510300513001	Transistor MMBTSA1505YLT1	KLM-2659	9
510300513002	Transistor MMBT2222ALT1	KLM-2659	21
510300511009	Transistor DTC114EKA T146 (TS) (S)	KLM-2659	3
510310512501	Diode 1SS355ST(A)	KLM-2659	13
510310511501	Diode 1SR154-400 TE25 (PMDS) (S)	KLM-2659	2
510310511517	Diode RB521S-30	KLM-2659	2
510310510501	Diode MC2838-T112-1 (S)	KLM-2659	16
510310512502	BAV99LT1ST(A7)	KLM-2659	25
510312513001	LED RED TO-2013BC-MRE(S)	KLM-2659	15
510312513003	Chip LED Yellow TO2013BC-MYE	KLM-2659	1
510312513005	LED Green Chip LED TO2013BC-MGE (S)	KLM-2659	4
510312513009	Chip LED(2colors) TO-3227BC-MRMG EE	KLM-2659	9
510312513010	Lead LED(Red) TOL-30mSRaDAs	KLM-2659	8
510330003600	OPT module TOTX179L	KLM-2659	1
510402511505	Solid Inductor BK1608HS102-T	KLM-2659	47
510402513001	Inductor CDRH8D43-150NC	KLM-2659	1
500404001180	CHIP COIL DLW21HN900SQ2L	KLM-2659	1
510335510006	HC-49US SMD SURFACE MOUNT 22.5792MHz SS	KLM-2659	1
510335510007	HC-49US SMD SURFACE MOUNT 24.000MHz SS	KLM-2659	1
510335510009	HC-49US 25.000MHZ SMD(S)	KLM-2659	1
510360520018	Rotary VR RK09K1130D18 50k(G38266420)	KLM-2659	8
510374524022	Rotary VR RV09ACF-40-20F-B5K-0C	KLM-2659	32
510374524017	RV09ACF-40-20F-B5K-0057(With Handmark)	KLM-2659	10
510374524023	Rotary VR RV112BCF-40-30A-B50K	KLM-2659	3
510360520015	RS45111Z6A02 10KB(F2062395M)	KLM-2659	9
510374524025	11 clicks Rotaly RV110CF-40-25A-B5K-0D53	KLM-2659	1
510374520021	Tact Switch SKRGAQD010 9.5mm 1.27N	KLM-2659	38
510474525005	FFC Connector SFV32R-2STBE1LF	KLM-2659	1
510450520506	DIN JACK 5p DS-05-02(W/OUT SW) (D)	KLM-2659	1
510474520501	USB Connector B Type GE813A02 (D)	KLM-2659	1
510450524502	Phone Jack LJ-0695 (P:9MM)	KLM-2659	19
510450524503	XLR JACK LX-1602-3	KLM-2659	8
510450523008	LED Spacer LEDH-11 11mm (D)	KLM-2659	8
510470522501	Harness HNS-3600 Switch PS-Main	KLM-2659	1
510470522502	Harness HNS-3601 Main-HDD(Power)	KLM-2659	1
510470522503	Harness HNS-3602 Main-HDD(Data)	KLM-2659	1
510470522504	Harness HNS-3603 Main-Foot SW	KLM-2659	1
500320020210	CPU ADSP-BF532SBST400-5400 LQFP176	KLM-2659	1