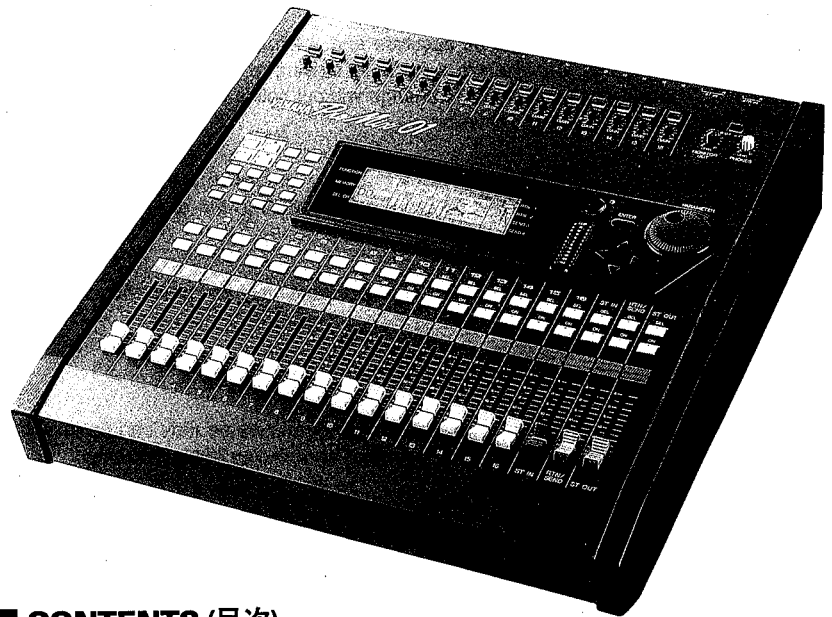


DIGITAL PROGRAMABLE MIXER

# Pro Mix 01

## SERVICE MANUAL



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YAMAHA CORP.

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### IMPORTANT NOTICE

This manual has been provided for the use of authorized Yamaha Retailers and their service personnel. It has been assumed that basic service procedures inherent to the industry, and more specifically Yamaha Products, are already known and understood by the users, and have therefore not been restated.

**WARNING:** Failure to follow appropriate service and safety procedures when servicing this product may result in personal injury, destruction of expensive components and failure of the product to perform as specified. For these reasons, we advise all Yamaha product owners that all service required should be performed by an authorized Yamaha Retailer or the appointed service representative.

**IMPORTANT:** The presentation or sale of this manual to any individual or firm does not constitute authorization, certification, recognition of any applicable technical capabilities, or establish a principal-agent relationship of any form.

The data provided is believed to be accurate and applicable to the unit(s) indicated on the cover. The research, engineering, and service departments of Yamaha are continually striving to improve Yamaha products. Modifications are, therefore, inevitable and changes in specification are subject to change without notice or obligation to retrofit. Should any discrepancy appear to exist, please contact the distributor's Service Division.

**WARNING:** Static discharges can destroy expensive components. Discharge any static electricity your body may have accumulated by grounding yourself to the ground buss in the unit (heavy gauge black wires connect to this buss).

**IMPORTANT:** Turn the unit OFF during disassembly and parts replacement. Recheck all work before you apply power to the unit.

This product uses a lithium battery for memory back-up.

**WARNING:** Lithium batteries are dangerous because they can be exploded by improper handling. Observe the following precautions when handling or replacing lithium batteries.

- Leave battery replacement to qualified service personnel.
- Always replace with batteries of the same type.
- When installing on the PC board, solder using the connection terminals provided on the battery cells. Never solder directly to the cells. Perform the soldering as quickly as possible.
- Never reverse the battery polarities when installing.
- Do not short the batteries.
- Do not attempt to recharge these batteries.
- Do not disassemble the batteries.
- Never heat batteries or throw them into fire.

#### ADVARSEL!

Lithiumbatteri. Eksplosionsfare.

Udskiftning må kun foretages af en sagkyndig, og som beskrevet i servicemanualen.

### WARNING: CHEMICAL CONTENT NOTICE!

The solder used in the production of this product contains LEAD. In addition, other electrical/electronic and/or plastic (where applicable) components may also contain traces of chemicals found by the California Health and Welfare Agency (and possibly other entities) to cause cancer and/or birth defects or other reproductive harm.

**DO NOT PLACE SOLDER, ELECTRICAL/ELECTRONIC OR PLASTIC COMPONENTS IN YOUR MOUTH FOR ANY REASON WHAT SO EVER!**

Avoid prolonged, unprotected contact between solder and your skin! When soldering, do not inhale solder fumes or expose eyes to solder/flux vapor!

If you come in contact with solder or components located inside the enclosure of this product, wash your hands before handling food.

#### ■ WARNING

Components having special characteristics are marked  $\triangle$  and must be replaced with parts having specification equal to those originally installed.

$\triangle$  印の部品は、安全を維持するために重要な部品です。交換する場合は、安全のため必ず指定の部品をご使用下さい。

## SPECIFICATIONS

### General Specifications

Frequency Response	20 Hz–20 kHz +1, –3 dB (@ +4 dB into 600 Ω)	
THD	Less than 0.1% (20 Hz–20 kHz @ +14 dB into 600 Ω)	
Dynamic Range	105dB typ. (ST IN to ST OUT AD/DA converters)	
Hum & Noise (20Hz–20kHz)* Rs = 150 ohms. Input gain max. Input pad = 0dB. Input sensitivity = –60dB.	–128dB Equivalent Input Noise	
	–88dB residual stereo output noise (ST OUT = OFF)	
	–88dB (92dB S/N) stereo output (ST OUT fader nominal, CH faders min.)	
	–64dB (68dB S/N) (ST OUT fader nominal, 1 channel fader at nominal)	
Maximum Voltage Gain	76dB input channel to stereo output	
	76dB input channel to sends 3 & 4 (pre-fader)	
	12dB stereo input to stereo output	
	76dB input channel to monitor output (via ST bus)	
Crosstalk (@1kHz)	–70dB adjacent input channels	
	–70dB input to output	
Sampling Frequency	48 kHz	
A/D Converter	20-bit linear 64-times oversampling	
D/A Converter	Stereo Out	20-bit linear 8-times oversampling
	Monitor out, SEND3, 4	18-bit linear 8-times oversampling
Processing	Internal	24-bit linear
	EQ	36-bit linear
Signal Delay	Less than 3.5ms (input channel to stereo output)	
GAIN control	44dB (–60...–16dB) continuously variable	
PAD	0/20dB attenuation	
PAN	33-position	
Parametric EQ	Low	F= 32 Hz–1 kHz; G= ±15 dB; Q=1/6, 1/4, 1/3, 1/2, 3/4, 1, 3/2, 2, 3 oct, shelving
	Mid	F= 32 Hz–18 kHz; G= ±15 dB; Q=1/6, 1/4, 1/3, 1/2, 3/4, 1, 3/2, 2, 3 oct
	High	F= 1 kHz–18 kHz; G= ±15 dB; Q=1/6, 1/4, 1/3, 1/2, 3/4, 1, 3/2, 2, 3 oct, shelving
Effects Types	Reverb, delay, chorus, symphonic, flange, pitch change, phasing, tremolo, auto pan	
Compressor Types	Compressor, Gate, Ducking	
Faders	Type	60 mm motorized
	Resolution	+6dB...–66dB, –∞dB (128 position)
Memories	Scenes	50
	Internal Effects	30 preset, 10 user
	EQ Presets	30 preset, 20 user
	COMP	10 preset, 10 user
LCD display	240 x 64 dot backlit graphic LCD display	
Meters	2 x 12-segment LED bars	
Power requirements	US & Canada model	120V AC, 60Hz
	General model	230V AC, 50Hz
	British model	240V AC, 50Hz
Power Consumption	70 W	
Weight	12.5 kg (27.6 lb)	
Dimensions (W x H x D)	435 x 124.7 x 487.4 mm (17.1" x 5" x 19.2")	
Free-air operating temperature range	10°C–35°C (50°F–95°F)	
Supplied Accessories	Button protector	
Optional Extras	Rack-Mount kit (RK01)	
	Wooden side panels (W01SP)	
	Carrying case	
	Color fader knob set (FK8R, G, B, W, Y)	

\* Hum & noise measured with a 6dB/octave 12.7kHz LPF, equivalent to a 20kHz filter with infinite dB/octave attenuation.

## Input Specifications

Input connection	PAD *4	GAIN	Actual load impedance	For use with nominal	Input level			Mixer connector
					Sensitivity *1	Nominal	Max. before clip	
CH INPUT CH1-CH8	0	-60	3k Ω	50-600 Ω mics & 600 Ω lines	-72dB (194μV)	-60dB (775μV)	-40dB (7.75mV)	XLR-3-31 type *2
	0	-16			-28dB (30.9mV)	-16dB (123mV)	+4dB (1.23V)	
	20				-8dB (309mV)	+4dB (1.23V)	+24dB (12.3V)	
CH INPUT CH9-CH16	0	-60	10k Ω	50-600 Ω mics & 600 Ω lines	-72dB (194μV)	-60dB (775μV)	-40dB (7.75mV)	Phone jack (TRS) *3
	0	-16			-28dB (30.9mV)	-16dB (123mV)	+4dB (1.23V)	
	20				-8dB (309mV)	+4dB (1.23V)	+24dB (12.3V)	
STEREO IN [L, R]	—	—	10k Ω	600 Ω lines	-8dB (309mV)	+4dB (1.23V)	+24dB (12.3V)	Phone jack *4
2TR IN [L, R]	—	—	10k Ω	600 Ω lines	-10dB (245mV)	-10dB (245mV)	+6dB (1.55V)	RCA/phono *5

\*1. Sensitivity is the lowest input level that will produce an output of +4dB (1.23V), the nominal output level when ProMix 01 is set to maximum gain (all level controls and faders set to maximum).

\*2. XLR-type connectors are balanced (1=GND, 2=HOT, 3=COLD).

\*3. MIC INPUT phone jacks are balanced (Tip=HOT, Ring=COLD, Sleeve=GND).

\*4. STEREO IN phone jacks are unbalanced.

\*5. 2TR IN RCA/phono jacks are unbalanced.

\*6. In these specifications, dB represents specific voltages. 0dB is referenced to 0.775 volts RMS.

## Output Specifications

Output connection	Actual source impedance	For use with nominal	Output level		Mixer connector
			Nominal	Max. before clip	
ST OUT (L, R)	150 Ω	600 Ω lines	+4dB (1.23V)	+24dB (12.3V)	XLR-3-32 type *1
REC OUT (L, R)	600 Ω	10k Ω lines	-10dB (245mV)	+10dB (2.45V)	RCA/phono *2
MONITOR OUT (L, R)	600 Ω	10k Ω lines	+4dB (1.23V)	+20dB (7.75V)	RCA/phono *2
AUX SEND (3, 4)	600 Ω	10k Ω lines	+4dB (1.23V)	+20dB (7.75V)	RCA/phono *2
PHONES	100 Ω	8 Ω phones	1 mW	25 mW	Stereo phone jack *2
		40 Ω phones	3 mW	110 mW	

\*1. Balanced connection (1=GND, 2=HOT, 3=COLD).

\*2. Unbalanced connection.

\* In these specifications, dB represents specific voltages. 0dB is referenced to 0.775 volts RMS.

## Digital OUT & MIDI Specifications

Output connection	Format	Level	Mixer connector
DIGITAL OUT (COAXIAL)	S/PDIF	0.5Vpk-pk/75 $\Omega$	RCA/phono
MIDI IN	MIDI	---	5-pin DIN
MIDI OUT	MIDI	---	5-pin DIN

## Digital Out Channel Status

Format	Consumer
Category	AD converter
Copy Prohibit	No
Emphasis	No
Type	2 Channel audio signal
Clock Accuracy	Level 2 (300 ppm)

## ■ 総合仕様

### 全体仕様

■ シーンメモリー数	50シーン	(1~50、0は初期値に固定)
■ サンプリング周波数	48kHz	
■ シグナルディレイ	3.5ms以下	(チャンネルインプット、ステレオアウトプット間)
■ フェーダー分解能	+6~-66, ∞ dB	(128ステップ/60mm)
■ 全高調波歪	0.1%以下	20Hz~20kHz @+14dB into 600ohms
■ 周波数特性	+1, -3dB	20Hz~20kHz @+4dB into 600ohms
■ ダイナミックレンジ	105dB typ.	AD+DA (ステレオインプット、ステレオアウトプット間)
■ ハム&ノイズ (20Hz~20kHz, Rs=150ohms, Input Gain=Max., Input Pad=0dB, Input Sensitivity=-60dB)	-128dB	Equivalent Input Noise
	-88dB	Residual Output Noise. ステレオアウトプットオフ
	-88dB	(92dB S/N) 全チャンネルインプットのフェーダーを下げ、ステレオアウトプットのフェーダーをノミナル (0dB) にしたとき
	-64dB	(68dB S/N) 全チャンネルインプットのフェーダーおよびステレオアウトプットのフェーダーををノミナル (0dB) にしたとき
	*Hum & Noise are measured with a 6dB/octave filter @12.7kHz; equivalent to a 20kHz filter with infinite dB/octave attenuation.	
■ 最大ゲイン	76dB	チャンネルインプット、ステレオアウトプット間
	76dB	チャンネルインプット、センド3, 4間 (プリアンプフェーダー時)
	12dB	ステレオインプット、ステレオアウトプット間
	76dB	チャンネルインプット、モニターアウトプット間
■ クロストーク (@1kHz)	-70dB	隣り合うチャンネル間
	-70dB	インプット、アウトプット間
■ チャンネルインプット (CH1~16)		
ゲインコントロール	44dB (-60~-16)	連続可変
パッドスイッチ	0/20dB	アッテネーター
ADコンバーター	20ビットリニア / 64倍オーバーサンプリング (Fs=48kHz)	
3バンドイコライザー	オン/オフ	
	ゲイン	LOW, MID, HIGH : ±15dB (1dBステップ)
	フリケンシー	LOW : 32Hz~1kHz (1/6octステップ 31ポジション)
		MID : 32Hz~18kHz (1/6octステップ 56ポジション)
		HIGH : 1.0 kHz~18kHz (1/6octステップ 26ポジション)
	Q	LOW : 1/6oct~3oct (9ポジション) / Shelving
		MID : 1/6oct~3oct (9ポジション)
		HIGH : 1/6oct~3oct (9ポジション) / Shelving
		(Q ステップ: 1/6, 1/4, 1/3, 1/2, 3/4, 1, 3/2, 2, 3oct)
オン/オフ		チャンネルインプットのオン/オフを選択

フェーダー	60mm モーター付 チャンネルインプット/センド1/センド2/センド3/センド4
キュー	オン/オフ (ポストイコライザー、プリフェーダー)
パン	33ポジション (L=16~1, C, R=1~16)
メーター	5ポイント (CLIP, 12, 6, 0, -40) 各チャンネルインプットのプリイコライザーレベルをディスプレイに表示可
ファントムスイッチ	チャンネル1~8の端子に+48V DC電源を供給

#### ■ステレオインプット

ADコンバーター	20ビットリニア / 64倍オーバーサンプリング (Fs=48kHz)
3バンドイコライザー	チャンネルインプットと同様
フェーダー	60mm モーター付 ステレオインプット/センド1/センド2/センド3/センド4
キュー	オン/オフ (ポストイコライザー、プリフェーダー)
デュアルパン	33ポジション (L=16~1, C, R=1~16)
メーター	5ポイント (CLIP, 12, 6, 0, -40) ステレオインプットのプリイコライザーレベルをディスプレイに表示可

#### ■エフェクトリターン1, 2/センド3, 4

3バンドイコライザー	チャンネルインプットと同様 (リターン1とリターン2のみ)
オン/オフ	リターン1, 2のオン/オフ、センド3, 4のオン/オフを選択
フェーダー	60mm モーター付 リターン1/リターン2/センド3/センド4
キュー	オン/オフ (プリフェーダー)
メーター	リターン1, 2のプリフェーダーレベルとセンド3, 4のポストマスターフェーダーのレベルをディスプレイに表示可
DAコンバーター	18ビットリニア / 8倍オーバーサンプリング

#### ■ステレオアウトプット

3バンドイコライザー	チャンネルインプットと同様
オン/オフ	ステレオアウトプットのオン/オフを選択
フェーダー	60mm モーター付
キュー	オン/オフ (ポストフェーダー)
メーター	12エレメント×2 LEDメーター (ポストフェーダー)
DAコンバーター	20ビットリニア / 8倍オーバーサンプリング

#### ■モニターアウトプット (CUE)

DAコンバーター	18ビットリニア / 8倍オーバーサンプリング
キュー/2トラックインプットスイッチ	キュー/2トラックインプットを選択
モニターアウトプットボリューム	アナログ式ボリューム
フォンボリューム	アナログ式ボリューム

#### ■内蔵デジタルエフェクター (エフェクト1, 2)

プリセット 30種類 (1~30)  
 ユーザーライブラリー 10種類 (31~40)

■コンプレッサー (コンプレッサー1~3)

プリセット 10種類 (1~10)  
 ユーザーライブラリー 10種類 (11~20)

■イコライザー

プリセット 30種類 (1~30)  
 ユーザーライブラリー 20種類 (31~50)

コントローラー

■アナログコントローラー

インプット1~16 PAD (パッド) スイッチ : 0/20  
 GAIN (ゲイン) ボリューム :-16~-60  
 PHANTOM MASTER (ファンタム) スイッチ  
 アウトプット CUE/2TR IN (キュー/2トラックインプットスイッチ)  
 MONITOR OUTPUT (モニターアウトプット) ボリューム  
 PHONES (ヘッドフォン) ボリューム

■デジタルコントローラー

、、フェーダー #1~#16 チャンネルインプット/センド1/センド2/センド3/センド4  
 #17 ステレオインプット/センド1/センド2/センド3/センド4  
 #18 リターン1/リターン2/センド3マスター/センド4マスター  
 #19 ステレオアウトプットマスター

ファンクションキー EQ KEYS      
 SEND KEYS      
 METER   
 PAN / PHASE   
 COMP   
 CUE   
 GROUP   
 PAIR   
 UTILITY   
 MIDI   
 SCENE MEMORY KEYS      
 カーソルキー UP, DOWN, LEFT, RIGHT      
 データエンター デイアル (1周24 クリック)  
 ENTER  (押すことでパラメーターを決定)

■ディスプレイ

240×64ドットグラフィックLCD (バックライト付)  
 ディスプレイ右側のツマミでコントラスト調整可



## 入力仕様

Input Terminals	PAD	GAIN	Actual Load Impedance	For Use With Nominal	Input level			Connector in Console
					Sensitivity	Nominal	Max. before clip	
CH Input CH1~CH8	0	-60	3k $\Omega$	50~600 $\Omega$ Mics & 600 $\Omega$ Lines	-72dB (0.194mV)	-60dB (0.775mV)	-40dB (7.75mV)	XLR-3-31
	0	-16			-28dB (30.9mV)	-16dB (0.123V)	+4dB (1.23V)	
	20				-8dB (0.309V)	+4dB (1.23V)	+24dB (12.3V)	
CH Input CH9~CH16	0	-60	10k $\Omega$	50~600 $\Omega$ Mics & 600 $\Omega$ Lines	-72dB (0.194mV)	-60dB (0.775mV)	-40dB (7.75mV)	Phone Jack
	0	-16			-28dB (30.9mV)	-16dB (0.123V)	+4dB (1.23V)	
	20				-8dB (0.309V)	+4dB (1.23V)	+24dB (12.3V)	
ST IN [L,R]			10k $\Omega$	600 $\Omega$ Lines	-8dB (0.309V)	+4dB (1.23V)	+24dB (12.3V)	Phone Jack
2 ST IN [L,R]			10k $\Omega$	600 $\Omega$ Lines	-10dB (245mV)	-10dB (245mV)	+6dB (1.55V)	Pin Jack

- ・0dBは0.775Vrmsです。
- ・センシティブリティは、+4dB (1.23V) を出力するために必要な最小レベルです。
- ・チャンネル1~8インプット端子はバランス型です。(1=GND, 2=HOT, 3=COLD)
- ・チャンネル9~16インプット端子はバランス型です。(Tip=HOT, Ring=COLD, Sleeve=GND)
- ・ステレオインプット、2トラックインプットはアンバランス型です。

## 出力仕様

Output Terminals	Actual Source Impedance	For Use With Nominal	Output level		Connector in Console
			Nominal	Max. before clip	
STEREO OUT [L,R]	150 $\Omega$	600 $\Omega$ Lines	+4dB (1.23V)	+24dB (12.3V)	XLR-3-32
REC OUT [L,R]	600 $\Omega$	10k $\Omega$ Lines	-10dB (245mV)	+10dB (2.45V)	Pin Jack
MONITOR OUT [L,R]	600 $\Omega$	10k $\Omega$ Lines	+4dB (1.23V)	+20dB (7.75V)	Phone Jack
AUX SEND [3,4]	600 $\Omega$	10k $\Omega$ Lines	+4dB (1.23V)	+20dB (7.75V)	Phone Jack
PHONES	100 $\Omega$	8 $\Omega$ Phones	1mW	25mW	Stereo
		40 $\Omega$ Phones	3mW	110mW	Phone Jack

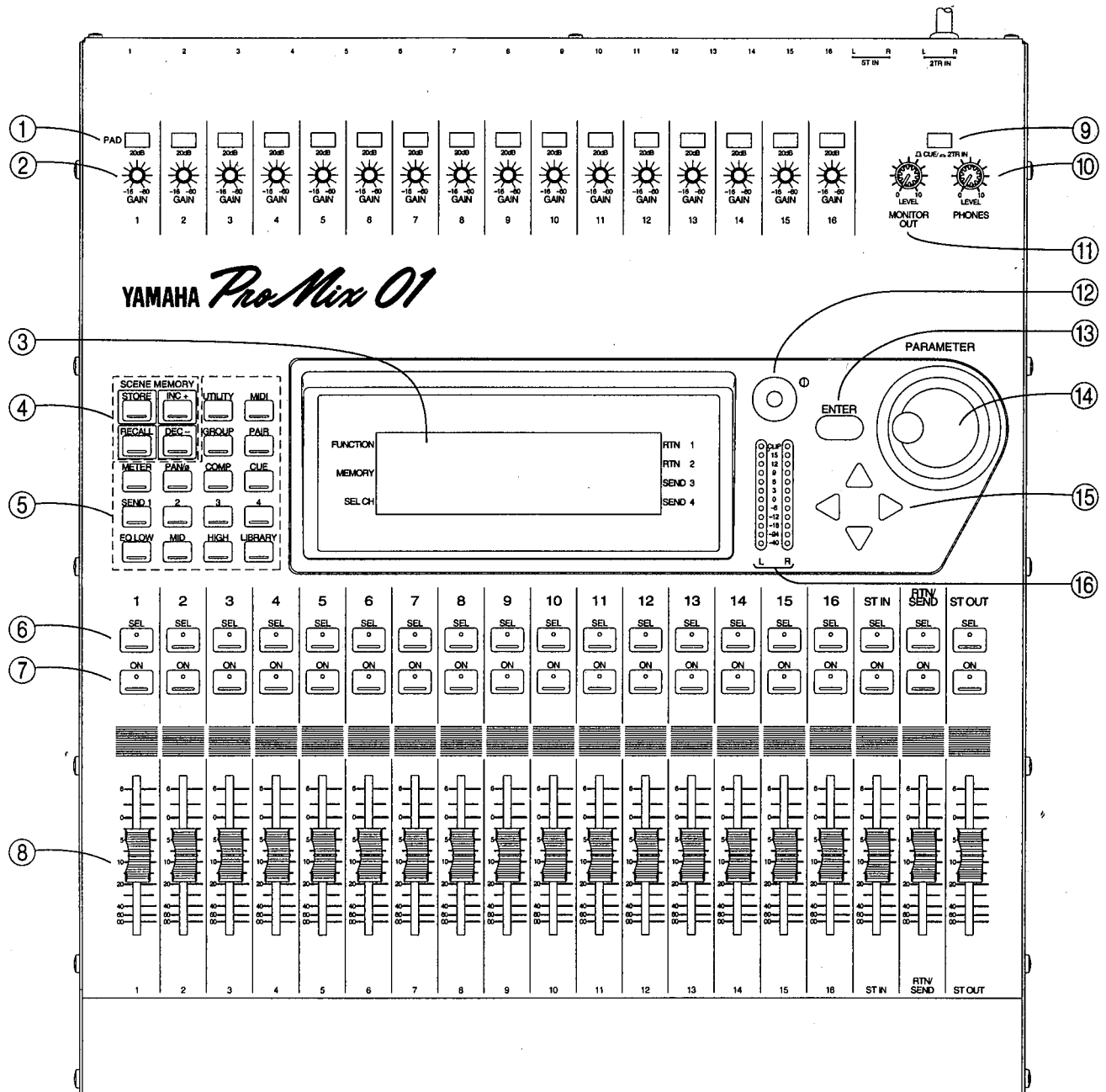
- ・0dBは0.775Vrmsです。
- ・ステレオアウトプット端子はバランス型です。(1=GND, 2=HOT, 3=COLD)
- ・レコーディングアウトプット、モニターアウトプット、センド3,4、ヘッドフォンアウトプットはアンバランス型です。

## その他

- 電源 100V AC 50/60Hz
- 消費電力 50W
- 最大外形寸法 435.0mm (幅) × 487.4mm (奥行) × 124.7mm (高さ)  
11Uラックマウントサイズ
- 重量 12.5kg
- 動作保障温度 10~35 $^{\circ}$ C
- アクセサリ キープロテクター×1個

## ■ PANEL LAYOUT (パネルレイアウト)

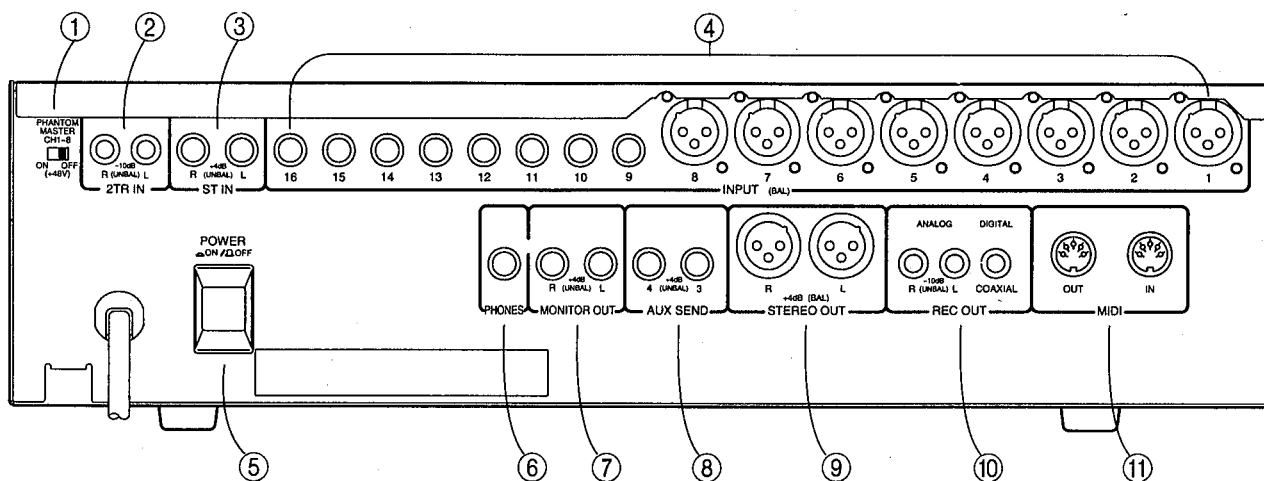
### ● Front Panel (フロントパネル)



- ① PAD switches
- ② GAIN controls
- ③ LCD
- ④ SCENE MEMORY buttons
- ⑤ Function buttons
- ⑥ SEL buttons
- ⑦ ON buttons
- ⑧ Faders

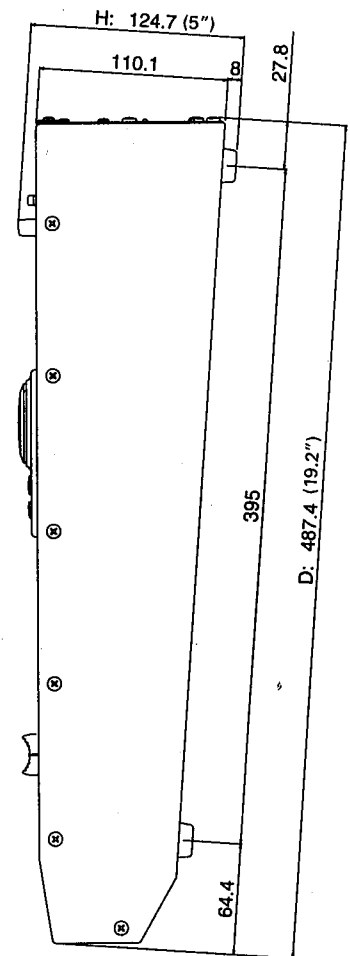
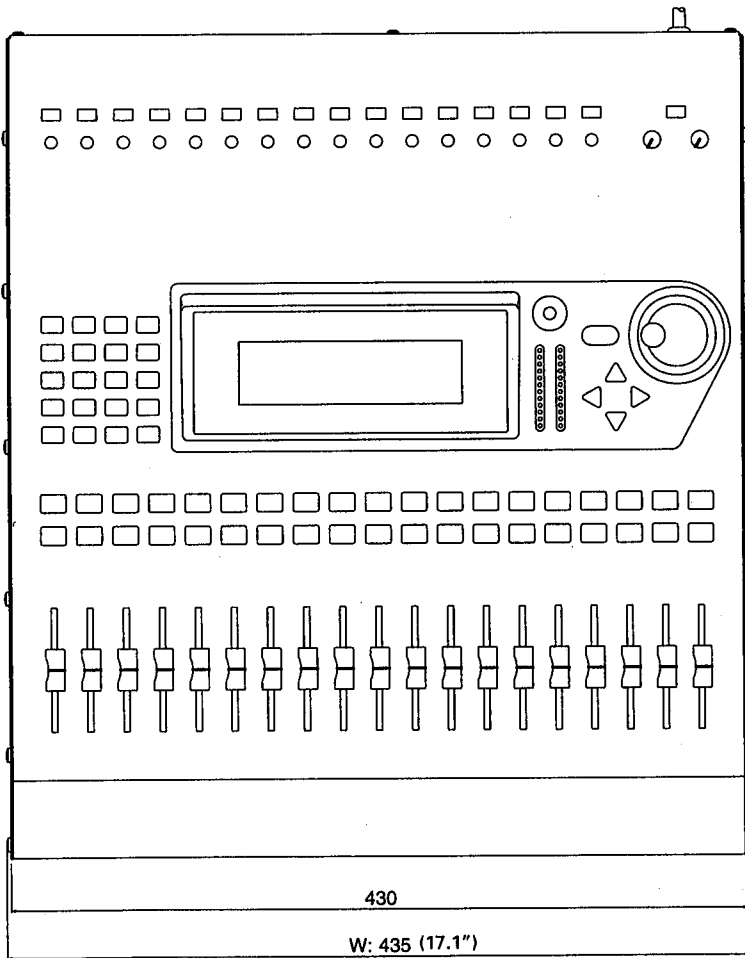
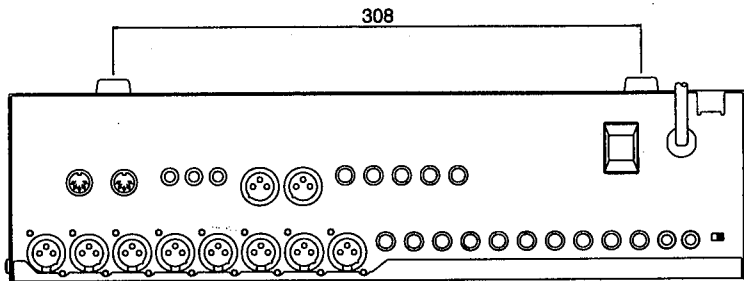
- ⑨ CUE/2TR IN switch
- ⑩ PHONES LEVEL control
- ⑪ MONITOR OUT LEVEL control
- ⑫ LCD Contrast control
- ⑬ ENTER button
- ⑭ PARAMETER wheel
- ⑮ Cursor buttons
- ⑯ Stereo output meters

• Rear Panel (リアパネル)



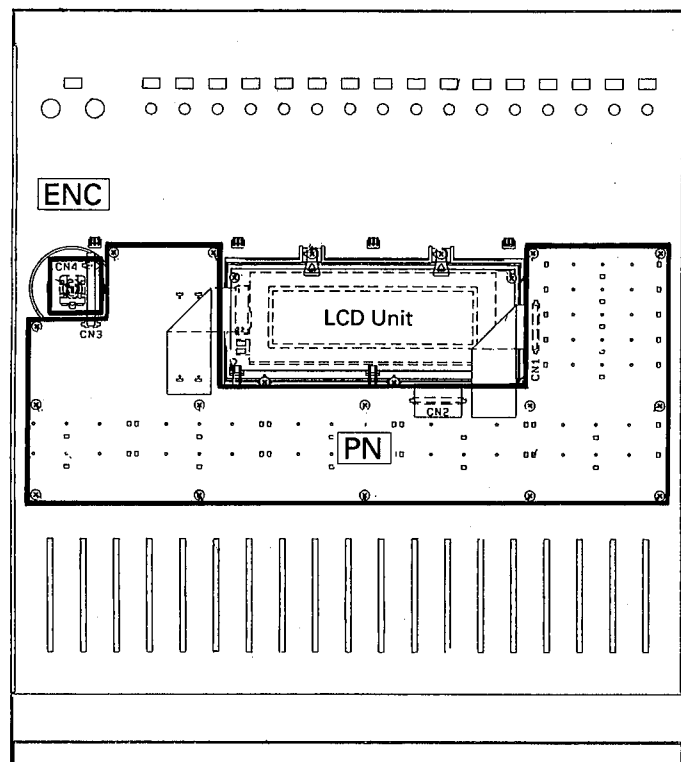
- |                         |               |
|-------------------------|---------------|
| ① PHANTOM MASTER switch | ⑦ MONITOR OUT |
| ② 2TR IN                | ⑧ AUX SEND    |
| ③ ST IN                 | ⑨ STEREO OUT  |
| ④ INPUT (BAL)           | ⑩ REC OUT     |
| ⑤ POWER switch          | ⑪ MIDI        |
| ⑥ PHONES                |               |

# DIMENSIONS (寸法図)

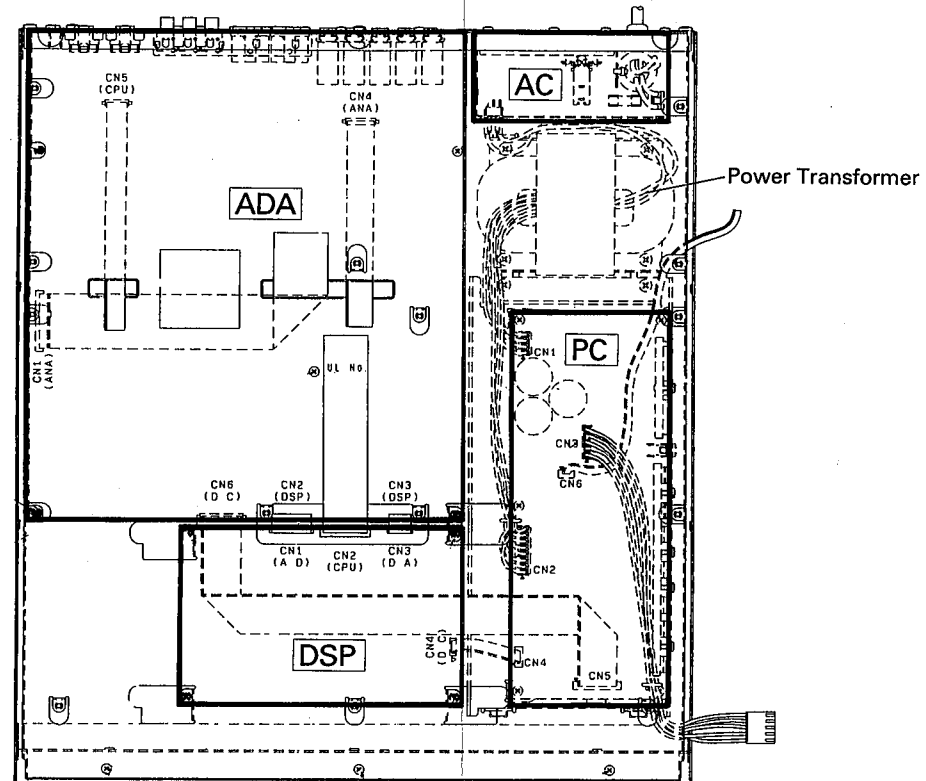


# CIRCUIT BOARD LAYOUT (ユニットレイアウト)

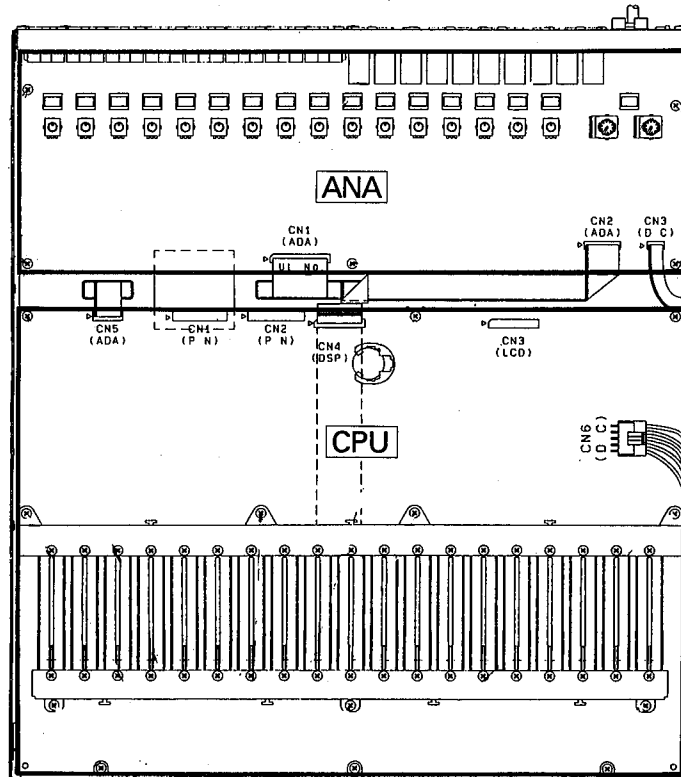
● Control Panel (Back side view)



Main chassis (Bottom chassis side) and Bottom chassis

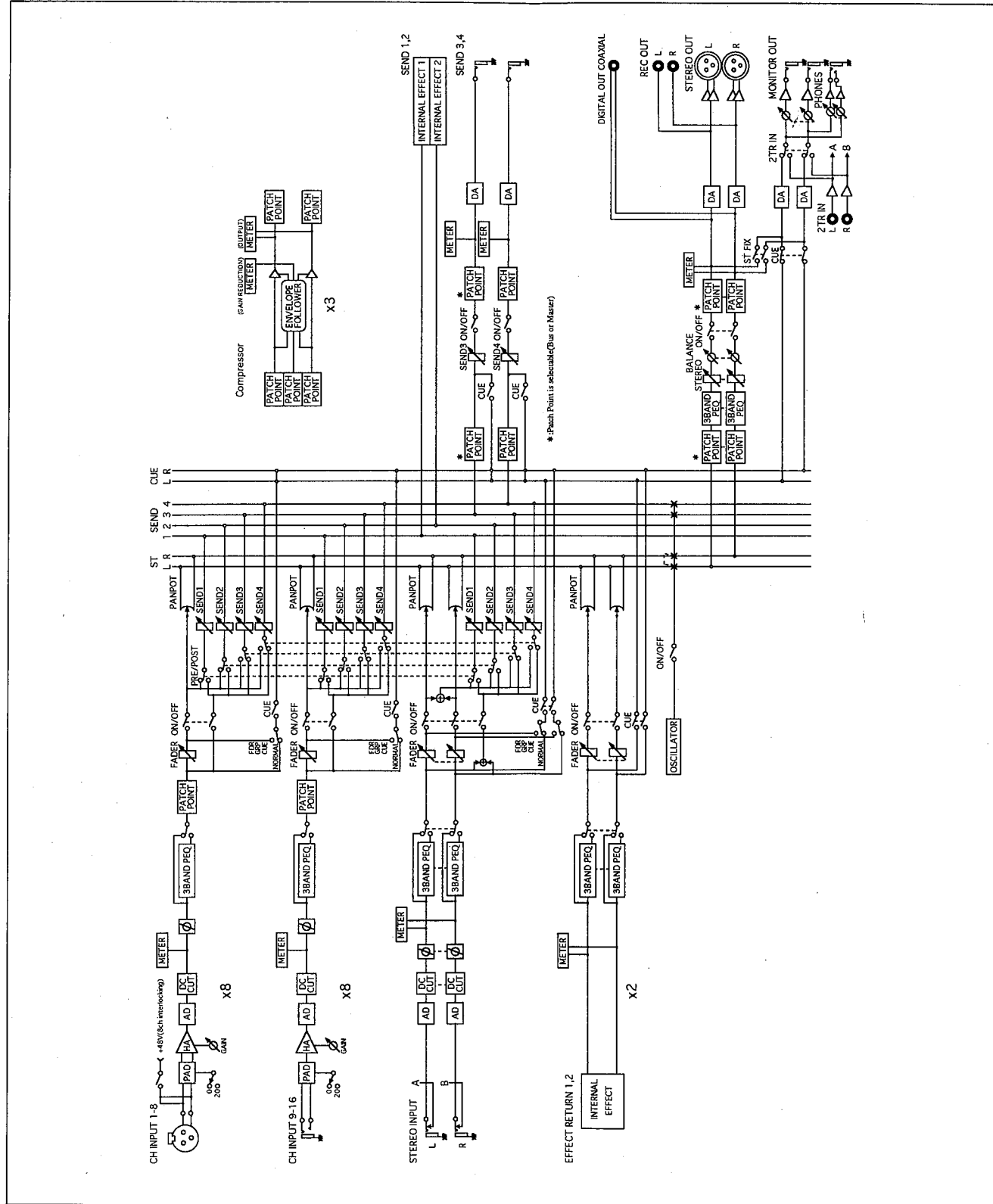


Main chassis (Control panel side)

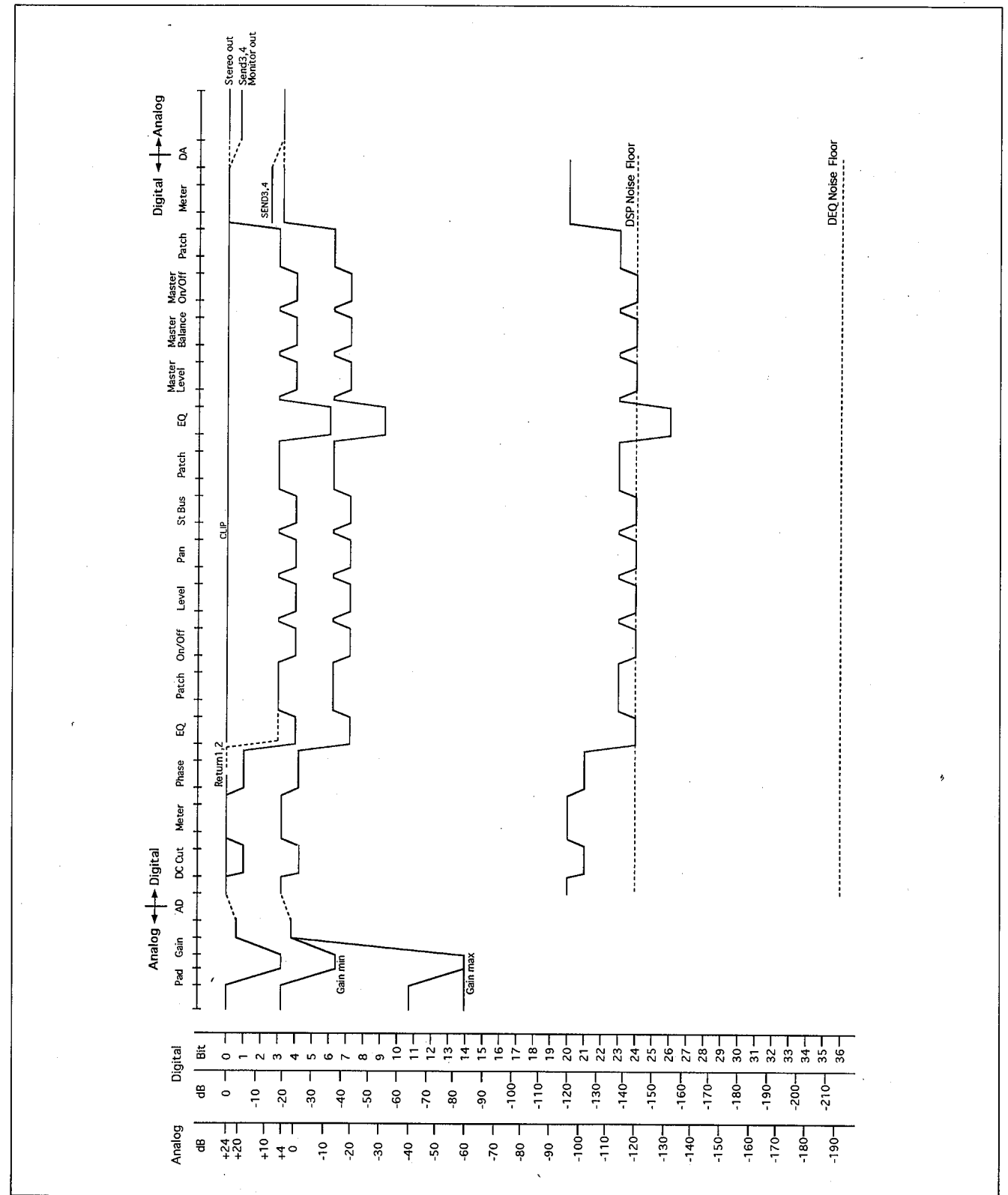


## ■ BLOCK DIAGRAM (ブロックダイアグラム)

### ● Software (ソフトウェアブロックダイアグラム)



## ■ LEVEL DIAGRAM (レベルダイアグラム)



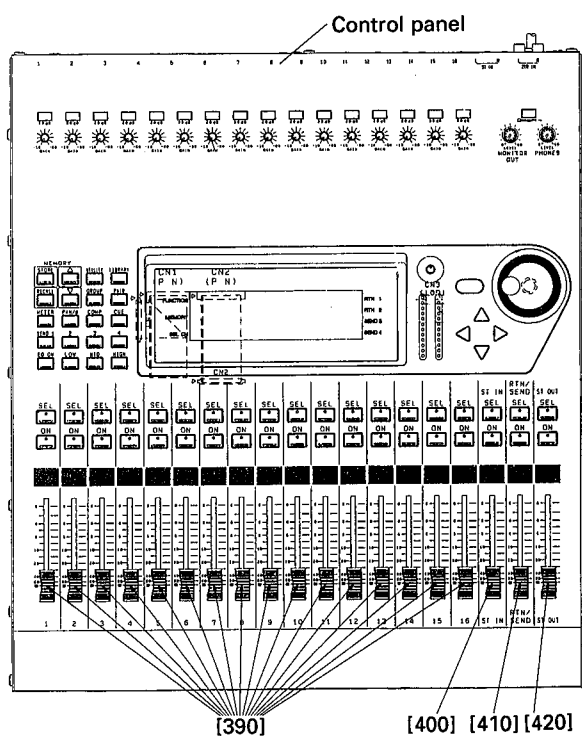
## DISASSEMBLY PROCEDURE (分解手順)

### 1. Control Panel

- 1-1 Remove the sixteen (16) gray-colored knobs marked [390], the black-colored knob marked [400], the blue-colored knob marked [410] and the red-colored knob marked [420]. (Fig. 1)
- 1-2. Remove the twelve (12) screws marked [380A] located on both side panels. (Fig. 2)
- 1-3. Remove the three (3) screws marked [380B] located on the front-low side. (Fig. 3)
- 1-4. Remove the three (3) screws marked [380C] located on the rear panel, then the control panel can be separated from the main chassis. (Fig. 4)
- 1-5. Pull out the three (3) connectors (CN1, CN2 and CN3) on the CPU circuit board, then the control panel can be removed. (Fig. 5)

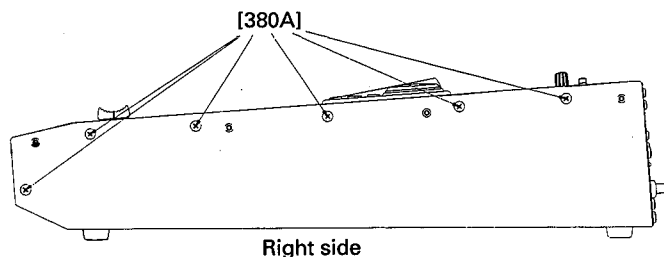
### 1. コントロールパネルの外し方

- 1-1. [390]の灰色のフェーダーツマミ16個、[400]の黒色のフェーダーツマミ1個、[410]の青色のフェーダーツマミ1個、[420]の赤色のフェーダーツマミ1個の、全部で19個のフェーダーツマミを外します。(図1)
- 1-2. 右側面と左側面にある[380A]のネジ12本を外します。(図2)
- 1-3. 前面下にある[380B]のネジ3本を外します。(図3)
- 1-4. リアパネル上側にある[380C]のネジ3本を外し、コントロールパネルを、メインシャーシから浮かします。(図4)
- 1-5. CPUシートのコネクタCN1、CN2、CN3を外し、コントロールパネルを外します。(図5)



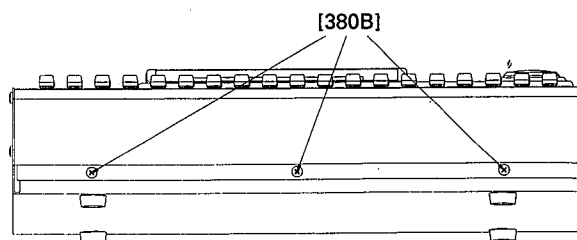
- [390]: Knob, Fader (ノブ, フェーダー) BL/S.GY (VR275600)
- [400]: Knob, Fader (ノブ, フェーダー) S.GY/D.GY (VS086200)
- [410]: Knob, Fader (ノブ, フェーダー) S.GY/BE (VS086300)
- [420]: Knob, Fader (ノブ, フェーダー) BL/RE (VR282700)

(Fig. 1)



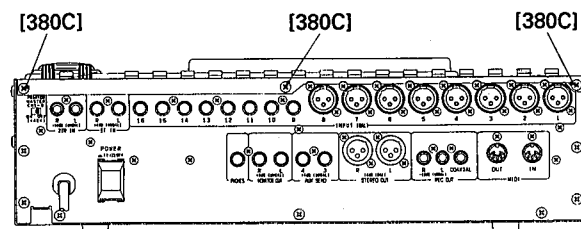
- [380A]: Bind Tapping Screw-B (+バインドBタイト) A4.0X8 MFZN2-BL (VC688800)

(Fig. 2)



- [380B]: Bind Head Tapping Screw-B (+バインドBタイト) A4.0X8 MFZN2-BL (VC688800)

(Fig. 3)



- [380C]: Bind Head Tapping Screw-B (+バインドBタイト) A4.0X8 MFZN2-BL (VC688800)

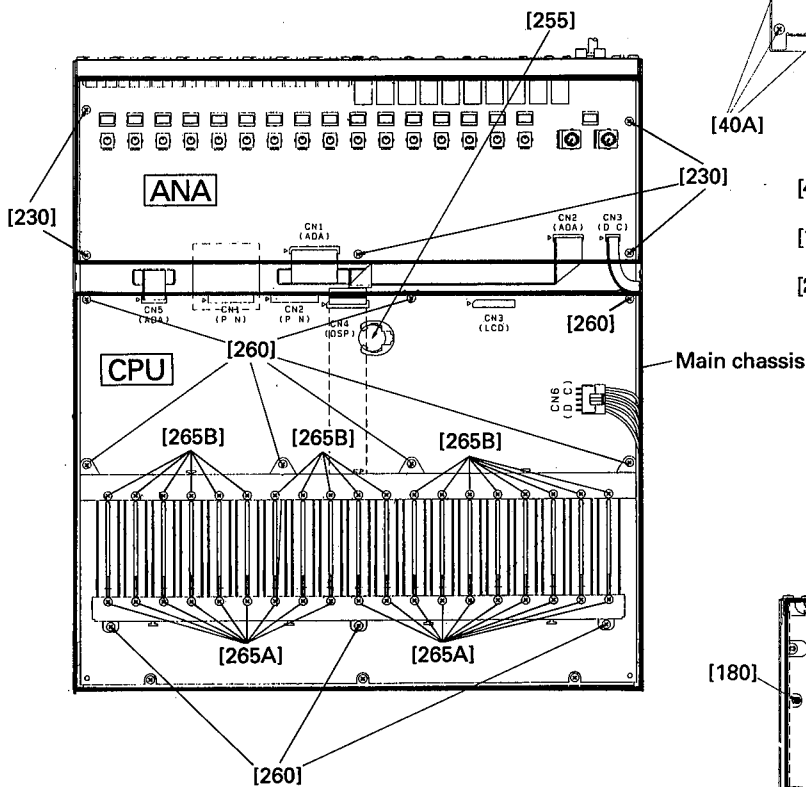
(Fig. 4)

**2. Bottom Chassis**

- 2-1. Remove the seven (7) screws marked [40A] located on the rear panel. (Fig. 6)
- 2-2. Remove the three (3) screws marked [210] located in front side of the CPU circuit board, then the bottom chassis can be separated. (Fig. 7)
- 2-3. Pull out the connector CN6 on the CPU circuit board. (Fig. 5)
- 2-4. Pull out the connector CN3 on the ANA circuit board. (Fig. 5)
- 2-5. Pull out the connectors CN4 and CN5 on the DC circuit board. (Fig. 7)
- 2-6. Pull out the connector CN6 on the AC circuit board, now the bottom chassis can be removed. (Fig. 9)

**2. ボトムシャーシの外し方**

- 2-1. リアパネルにある[40A]のネジ7本を外します。(図6)
- 2-2. CPUシート手前にある[210]のネジ3本を外し、メインシャーシを、ボトムシャーシから浮かすことができます。(図7)
- 2-3. CPUシートのコネクタCN6を外します。(図5)
- 2-4. ANAシートのコネクタCN3を外します。(図5)
- 2-5. DCシートのコネクタCN4、CN5を外します。(図7)
- 2-6. ACシートのコネクタCN6を外し、ボトムシャーシをメインシャーシから外します。(図9)

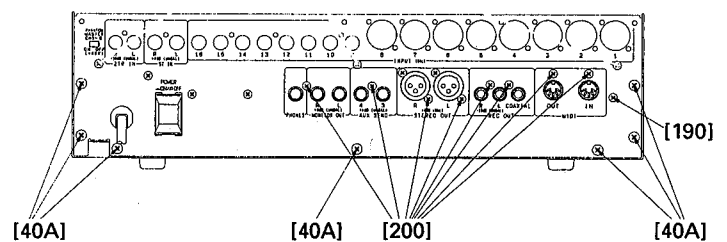


- [230]: Bind Head Tapping Screw-B (+バインドBタイト)  
3.0X6 MFZN2-BL (EP600230)
- [255]: Lithium Battery (リチウム電池)  
CR2032 (VN103500)
- [260]: Bind Head Tapping Screw-B (+バインドBタイト)  
3.0X6 MFZN2-BL (EP600230)
- [265A][265B]: Flat Head Screw (+皿小ネジ)  
3.0X4 MFZN2-Y (VD016900)

(Fig. 5)

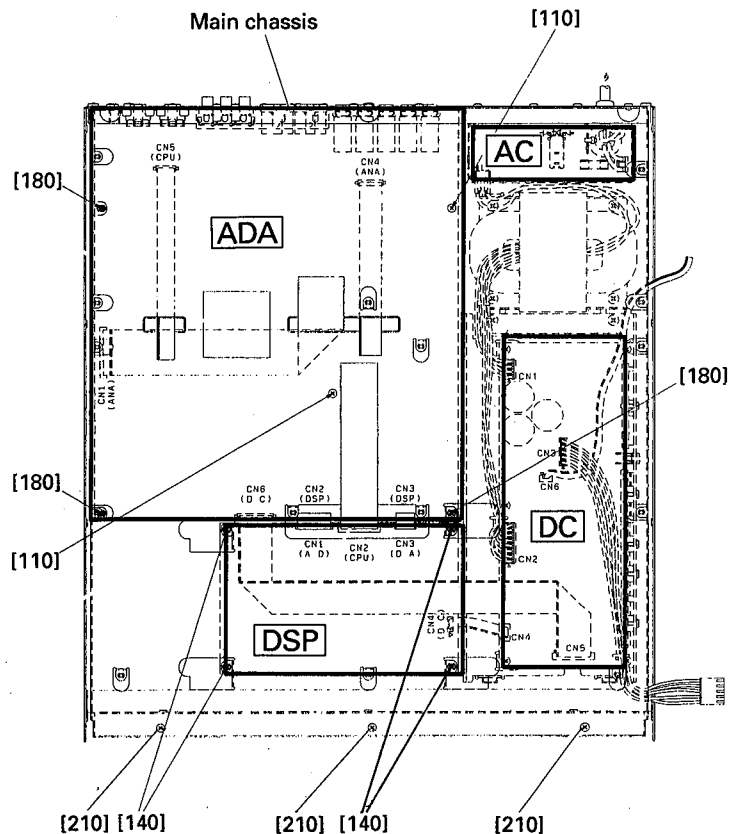
- [110]: Bind Head Screw (+バインド小ネジ)  
3.0X6 ZMC2-BL (EG330360)
- [140]: Bind Head Tapping Screw-B (+バインドBタイト)  
3.0X6 MFZN2-BL (EP600230)
- [180]: Bind Head Tapping Screw-B (+バインドBタイト)  
3.0X6 MFZN2-BL (EP600230)
- [210]: Bind Head Tapping Screw-B (+バインドBタイト)  
A3.0X8 MFZN2-BL (VP157000)

(Fig. 7)



- [40A]: Bind Head Tapping Screw-B (+バインドBタイト)  
A4.0X8 MFZN2-BL (VC688800)
- [190]: Bonding Head Screw (+ボンディング小ネジ)  
3.0X8 MFZN2-BL (VP157800)
- [200]: Bonding Head Tapping Screw (ボンディングBタイト)  
3.0X8 MFZN2-BL (VN413300)

(Fig. 6)





### 3. ANA Circuit Board

- 3-1. Remove the control panel. (See procedure 1)
- 3-2. Remove the bottom chassis. (See procedure 2)
- 3-3. Pull out the two (2) connectors (CN1 and CN2) on the ANA circuit board. (Fig. 5)
- 3-4. Remove the twenty-one (21) screws marked [240] located on the rear panel. (Fig. 8)
- 3-5. Remove the five (5) screws marked [230], then the ANA circuit board can be removed. (Fig. 5)

### 4. CPU Circuit Board

- 4-1. Remove the control panel. (See procedure 1)
- 4-2. Remove the bottom chassis. (See procedure 2)
- 4-3. Pull out the two (2) connectors (CN4 and CN5) on the CPU circuit board. (Fig. 5)
- 4-4. Remove the ten (10) screws marked [260], then the CPU circuit board can be removed. (Fig. 5)

### 5. DSP Circuit Board

- 5-1. Remove the control panel. (See procedure 1)
- 5-2. Remove the bottom chassis. (See procedure 2)
- 5-3. Pull out the connector CN2 on the DSP circuit board. (Fig. 7)
- 5-4. Remove the four (4) screws marked [140]. (Fig. 7)
- 5-5. Unplug two (2) connectors (CN1 and CN3), detach the retaining hook with a flat blade screwdriver and remove the DSP circuit board. (Fig. 7)

### 6. ADA Circuit Board

- 6-1. Remove the control panel. (See procedure 1)
- 6-2. Remove the bottom chassis. (See procedure 2)
- 6-3. Remove the DSP circuit board. (See procedure 5)
- 6-4. Remove the ten (10) screws marked [200] and the screw marked [190]. (Fig. 6)
- 6-5. Remove the three (3) screws marked [180] and the two (2) screws marked [110], and the ADA circuit board can be removed. (Fig. 7)

### 3. ANAシートの外し方

- 3-1. コントロールパネルを外します。(1項参照)
- 3-2. ボトムシャーシを外します。(2項参照)
- 3-3. コネクタCN1、CN2を外します。(図5)
- 3-4. リアパネルにある[240]のネジ21本を外します。(図8)
- 3-5. [230]のネジ5本を外し、ANAシートを外します。(図5)

### 4. CPUシートの外し方

- 4-1. コントロールパネルを外します。(1項参照)
- 4-2. ボトムシャーシを外します。(2項参照)
- 4-3. コネクタCN4、CN5を外します。(図5)
- 4-4. [260]のネジ10本を外し、CPUシートを外します。(図5)

### 5. DSPシートの外し方

- 5-1. コントロールパネルを外します。(1項参照)
- 5-2. ボトムシャーシを外します。(2項参照)
- 5-3. コネクタCN2を外します。(図7)
- 5-4. [140]のネジ4本を外します。(図7)
- 5-5. DSPシートを少し浮かし、マイナスドライバーで、コネクタCN1、CN3のフックを外し、コネクタCN1、CN3を外し、DSPシートを外します。(図7)

### 6. ADAシートの外し方

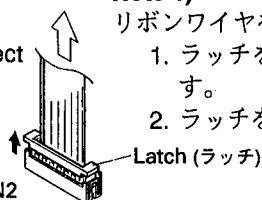
- 6-1. コントロールパネルを外します。(1項参照)
- 6-2. ボトムシャーシを外します。(2項参照)
- 6-3. DSPシートを外します。(5項参照)
- 6-4. [200]のネジ10本と、[190]のネジ1本を外します。(図6)
- 6-5. [180]のネジ3本と、[110]のネジ2本を外し、ADAシートを外します。(図7)

#### Note 1)

Removing the ribbon cable.

1. Lift up the latch on the connector, and disconnect the ribbon cable.
2. Push and lock the latch on the connector.

ex. CPU-CN1, CN2



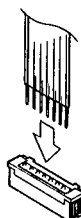
#### Note 1)

リボンワイヤを引き抜く時

1. ラッチを持ち上げて、リボンワイヤを引き抜きます。
2. ラッチを戻します。(ロックする)

Re-installing the ribbon cable.

1. Verify the locking of the latch on the connector.
2. Place the ribbon cable on the connector.



リボンワイヤを差し込む時

1. ラッチを戻してあること(ロックされていること)を確認してください。
2. リボンワイヤを差し込みます。

**7. AC Circuit Board**

- 7-1. Remove the control panel. (See procedure 1)
- 7-2. Remove the bottom chassis. (See procedure 2)
- 7-3. Unplug the connector CN3 on the AC circuit board. (Fig. 9)
- 7-4. Remove the three (3) screws marked [70] located on the rear panel, the AC circuit board can be removed. (Fig. 8)

**8. ENC Circuit Board**

- 8-1. Remove the control panel. (See procedure 1)
- 8-2. Remove the PARAMETER knob marked [430]. (Fig. 10)
- 8-3. Remove the nut marked [365]. (Fig. 11)
- 8-4. Detach the retaining hook for the ENC circuit board, to remove circuit board. (Fig. 11)

**9. PN Circuit Board**

- 9-1. Remove the control panel. (See procedure 1)
- 9-2. Remove the ENC circuit board from the control panel. (See procedure 7)
- 9-3. Remove the fifteen (15) screws marked [360], then the PN circuit board can be removed. (Fig. 11)

**7. ACシートの外し方**

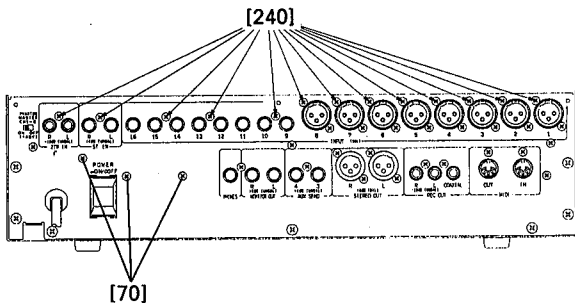
- 7-1. コントロールパネルを外します。(1項参照)
- 7-2. ボトムシャーシを外します。(2項参照)
- 7-3. ACシートのコネクタCN3を外します。(図9)
- 7-4. リアパネルの[70]のネジ3本を外し、ACシートを外します。(図8)

**8. ENCシートの外し方**

- 8-1. コントロールパネルを外します。(1項参照)
- 8-2. [430]のPARAMETERツマミを外します。(図10)
- 8-3. [365]の六角ナットを外します。(図11)
- 8-4. コントロールパネルのフックを外して、ENCシートを外します。(図11)

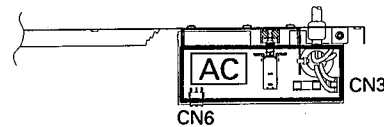
**9. PNシートの外し方**

- 9-1. コントロールパネルを外します。(1項参照)
- 9-2. ENCシートを外します。(7項参照)
- 9-3. [360]のネジ15本を外し、PNシートを外します。(図11)

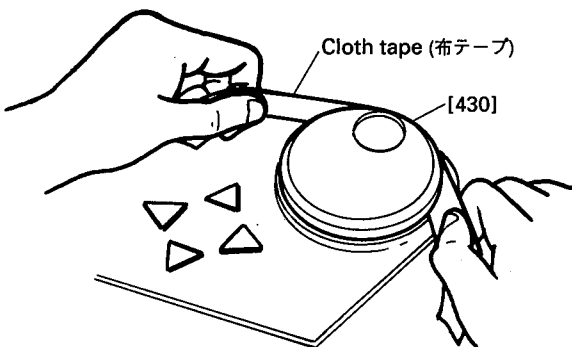


[70]: Bind Head Tapping Screw-B (＋バインドBタイト)  
A3.0X8 MFZN2-BL (VP157000)  
[240]: Bonding Head Tapping Screw (ボンディングBタイト)  
3.0X8 MFZN2-BL (VN413300)

(Fig. 8)

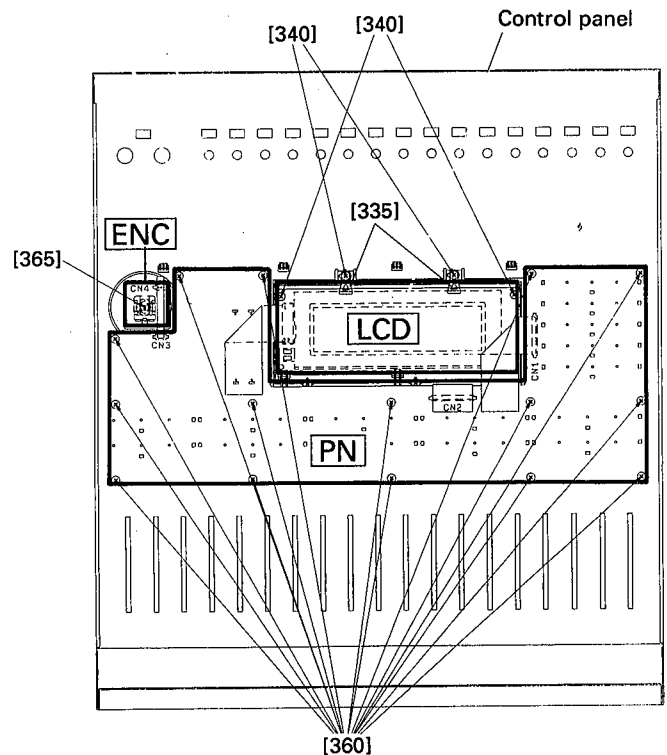


(Fig. 9)



[430]: Knob, Encoder (エンコーダーツマミ)  
(VK091700) PARAMETER

(Fig. 10)



[335]: Contact (接触子) (BB807050)  
[340]: Bind Head Tapping Screw-B (＋バインドBタイト)  
3.0X6 MFZN2-BL (EP600230)  
[360]: Bind Head Tapping Screw-B (＋バインドBタイト)  
3.0X6 MFZN2-BL (EP600230)  
[365]: Hexagonal Nut (特殊六角ナット)  
9 MFZN2-BL (VJ388000)

(Fig. 11)

**10. LCD Unit**

- 10-1. Remove the control panel. (See procedure 1)
- 10-2. Remove the four (4) screws marked [340]. (Fig. 11)
- 10-3. Remove the two (2) contacts marked [335], then the LCD unit can be removed. (Fig. 11)

**11. DC Circuit Board**

- 11-1. Remove the control panel. (See procedure 1)
- 11-2. Remove the bottom chassis. (See procedure 2)
- 11-3. Pull out the two (2) connectors (CN1 and CN2) on the DC Circuit board. (Fig. 12)
- 11-4. Remove the two (2) screws marked [80A], then the DC assembly can be removed. (Fig. 12)
- 11-5. Remove the five (5) screws marked [50], the five (5) screws marked [80B] and the screw marked [40B], the DC circuit board can be removed. (Fig. 13)

**12. Power Transformer**

- 12-1. Remove the control panel. (See procedure 1)
- 12-2. Remove the bottom chassis. (See procedure 2)
- 12-3. Pull out the two (2) connectors (CN1 and CN2) on the DC Circuit board. (Fig. 12)
- 12-4. Remove the four (4) screws marked [60], the power transformer can be removed. (Fig. 12)

**10. LCDユニットの外し方**

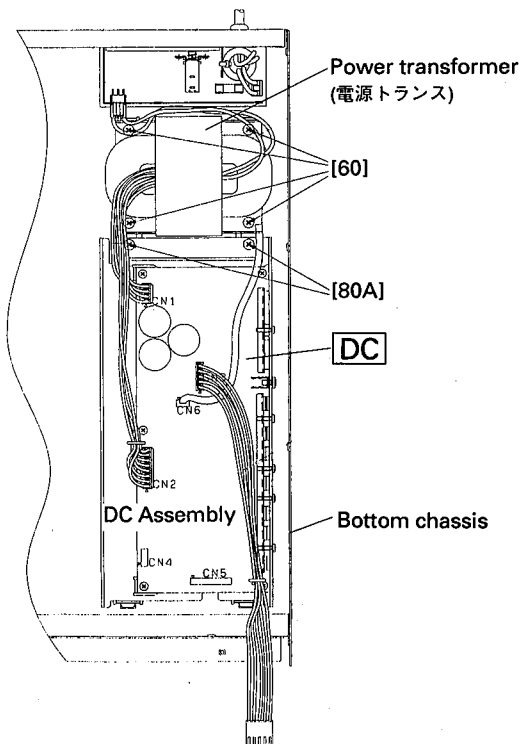
- 10-1. コントロールパネルを外します。(1項参照)
- 10-2. [340]のネジ4本を外します。(図11)
- 10-3. [335]の接触子2個を外し、LCDユニットを外します。(図11)

**11. DCシートの外し方**

- 11-1. コントロールパネルを外します。(1項参照)
- 11-2. ボトムシャーシを外します。(2項参照)
- 11-3. DCシートのコネクタCN1、CN2を外します。(図12)
- 11-4. [80A]のネジ2本を外し、DC Ass'yを外します。(図12)
- 11-5. [50]のネジ5本、[80B]のネジ5本、[40B]のネジ1本を外し、DCシートを外します。(図13)

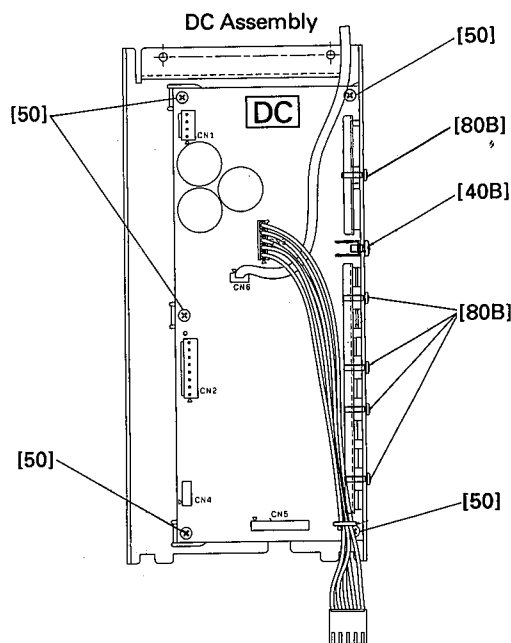
**12. 電源トランスの外し方**

- 12-1. コントロールパネルを外します。(1項参照)
- 12-2. ボトムシャーシを外します。(2項参照)
- 12-3. DCシートのコネクタCN1、CN2を外します。(図12)
- 12-4. [60]のネジ4本を外し、電源トランスを外します。(図12)



[60]: Pan Head Screw (+ナベ小ネジ)  
 SP 4.0X8 MFZN2-Y (EL200020)  
 [80A]: Bind Head Tapping Screw-B (+バインドBタイト)  
 A4.0X8 MFZN2-BL (VC688800)

(Fig. 12)



[40B]: Bind Head Screw (+バインド小ネジ)  
 A4.0X8 MFZN2-BL (VP156800)  
 [50]: Bind Head Tapping Screw-B (+バインドBタイト)  
 3.0X8 MFZN2-BL (EP600190)  
 [80B]: Bind Head Screw (+バインド小ネジ)  
 SP 3.0X12 MFZN2-Y (VB763800)

(Fig. 13)

**13. Lithium Battery**

- 13-1. Remove the control panel. (See procedure 1)
- 13-2. Remove the lithium battery marked [255]. (Fig. 5)

**14. Fader with Motor Drive**

- 14-1. Remove the control panel. (See procedure 1)
- 14-2. Remove the bottom chassis. (See procedure 2)
- 14-3. Remove the CPU circuit board. (See procedure 4)
- 14-4. Remove the nineteen (19) screws marked [265A], then remove the front angle for the fader. (Fig. 5)
- 14-5. Remove the screw on the fader marked [265B] located on the rear angle of the fader. Unsolder fader from the board and remove the fader. (Fig. 5)

**Note 2)**

- 1. The connectors CN3, CN4 on the CPU circuit board has not the latch or the hook.
- 2. Set the blue line side on the ribbon wire and the printed white line side of the connector on the circuit board before installing the ribbon wire.

**Note 3)**

How to disconnect the CN1 and CN3 on the DSP circuit board.

Open the retaining hook for the connectors using a flat blade screw-driver as shown.

**13. リチウム電池の外し方**

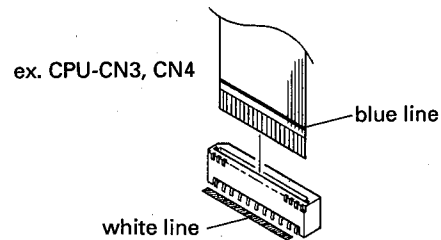
- 13-1. コントロールパネルを外します。(1項参照)
- 13-2. [255]のリチウム電池を外します。(図5)

**14. 電動スライドVR (フェーダー) の外し方**

- 14-1. コントロールパネルを外します。(1項参照)
- 14-2. ボトムシャーシを外します。(2項参照)
- 14-3. CPUシートを外します。(4項参照)
- 14-4. [265A]のネジ19本を外し、前側のアングルFDを外します。(図5)
- 14-5. 後ろ側の外すべき電動スライドVRの[265B]のネジを外し、基板裏の半田を取りますと、外すべき電動スライドVRが外せます。(図5)

**Note 2)**

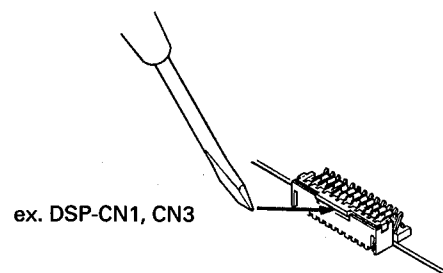
- 1. CPUシートのCN3, CN4のコネクタには、抜き差しに関するラッチまたはフック等は有りません。
- 2. 差し込み時の方向は、基板上のマーキングと、リボンワイヤの青線マーク側を合わせて差し込んでください。



**Note 3)**

DSPシートのCN1, CN3の外し方

マイナスドライバーで、コネクタのフックを外す。



## ■ STEPS INVOLVED IN REPAIRING (修理時のセッティング方法)

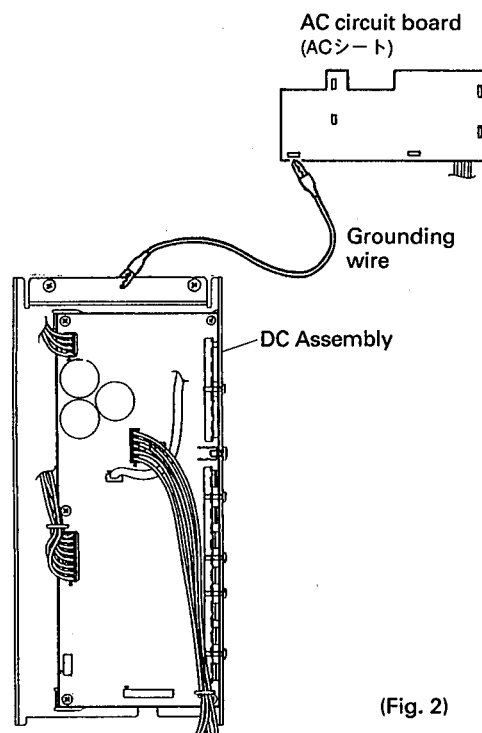
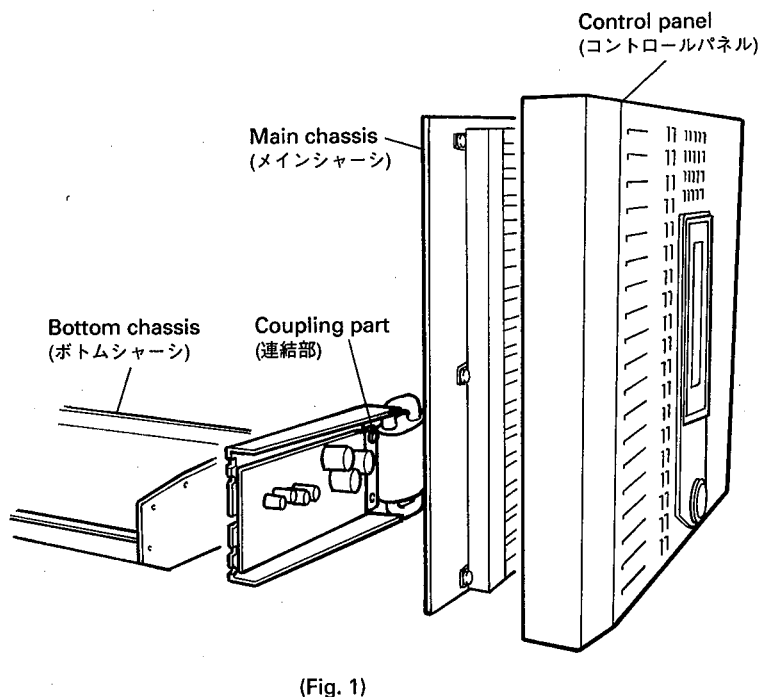
1. The unit disassembles in the three blocks;  
(Control panel, Main chassis, Bottom chassis).  
(See disassembly procedure 1 and 2)
2. Remove the power transformer and  
the DC assembly from the bottom chassis.  
(See disassembly procedure 11 and 12)
3. Connect the removed power transformer and  
the DC assembly using a pair of screws and nuts,  
then stand the coupled power transformer and  
DC assembly. Now the remainder of the wire can  
be connected. (Fig. 1)
4. Connect a cable between the AC circuit board  
and the chassis of the DC assembly for  
grounding purposes, Now the power can be  
applied to the unit. (Fig. 2)

1. ProMix01をコントロールパネル、メインシャーシ、  
ボトムシャーシの3つのブロックに分解します。  
(分解手順 1,2項参照)
2. ボトムシャーシから電源トランス、DC Assyを外  
します。  
(分解手順 11,12項参照)
3. 外した電源トランスとDC Assyを、図1の様にネジ  
とナット1組でとめ、立てます。この状態で、全  
ての線材を接続することができます。(図1)
4. ACシートとDC Assyのシャーシの間にアースの為  
のコードを追加してください。これで、通電  
チェックが出来ます。(図2)

### Service Jig (サービス治具)

Extension cable (between connectors DC-CN4 and DSP-CN4)  
(中継ケーブル:コネクタDC-CN4とDSP-CN4間の)

Part number: TX800560



## LSI PIN DESCRIPTION (LSI端子機能表)

### • HD6435208A00P H8/520 (XK278A00) CPU

Pin No.	Name	I/O	Function	Pin No.	Name	I/O	Function		
1	EXTAL	I	Clock	33	A7	O	Address bus		
2	XTAL	I		34	A8	O			
3	P10	I	Bus cycle wait	35	A9	O			
4	IRQ0	O	Interrupt request	36	A10	O			
5	A18	O	Address bus	37	A11	O			
6	A17	O		38	A12	O			
7	A16	O		39	A13	O			
8	AS	O	Address strobe	40	A14	O		Power supply	
9	RD	O	Read control	41	A15	O			
10	WR	O	Write control	42	VCC	O			
11	VCC	O	Power supply	43	P50	O			Port 5
12	MD0	I	Mode select	44	P51	O			
13	MD1	I		45	P52	O			
14	MD2	I		46	P53	O			
15	RES	I	Reset	47	P54	O		Ground	
16	NM1	I	Non-maskable interrupt	48	P55	O			
17	VSS	I	Ground	49	P56	O			
18	D0	I/O	Data bus	50	P57	O	Ground		
19	D1	I/O		51	VSS	I			
20	D2	I/O		52	AVSS	I	Analog ground		
21	D3	I/O		53	AN0	I	Analog data input		
22	D4	I/O		54	AN1	I			
23	D5	I/O		55	AN2	I			
24	D6	I/O		56	AN3	I	Analog power supply		
25	D7	I/O		57	AVCC	O			
26	A0	O	Address bus	58	TX2	O	Transmit data		
27	A1	O		59	RX2	I	Receive data		
28	A2	O		60	A19	O	Address bus		
29	A3	O		61	TXD1	I	Transmit data		
30	A4	O		62	RXD1	I	Receive data		
31	A5	O		63	SCK1	I	Clock for serial operation		
32	A6	O		64	Vss	I	Ground		

### • PCM69AP-3 (XM051A00) DAC (Digital to Analog Converter)

PIN NO.	NAME	I/O	FUNCTION	PIN NO.	NAME	I/O	FUNCTION
1	+Vcc		Analog power supply	9	DGND		Digital ground
2	VC, L		V-common, L channel	10	DA, R		Data input, R channel
3	IO, L		Current output, L channel	11	BCK		Bit clock
4	SER		Servo filter	12	CLK		System clock
5	REF		Reference filter	13	WDCK		Word clock
6	IO, R		Current output, R channel	14	DA, L		Data input, L channel
7	VC, R		V-common, R channel	15	TP1		Test pin
8	AGND		Analog ground	16	+VDD		Digital power supply

### • PCM1702U (XP551A00) DAC (Digital to Analog Converter)

PIN NO.	NAME	I/O	FUNCTION	PIN NO.	NAME	I/O	FUNCTION
1	DATA	I	Data input	11	+VCC		Power supply (+5 V)
2	CLK	I	Clock	12	BPO		Bipolar de-couple
3	NC			13	NC		
4	+VDD		Power supply (+5 V)	14	IOUT	O	Output current
5	D.GND		Digital ground	15	A.GND		Analog ground
6	-VDD		Power supply (-5 V)	16	A.GND		Analog ground
7	LE	I	Latch enable	17	SERV		Servo de-couple
8	NC			18	NC		
9	NC			19	REF		Reference de-couple
10	NC			20	-VCC		Power supply (-5 V)

● YSS214-F (XM099A00) CDSP (Digital Signal Processor)

PIN NO.	NAME	I/O	FUNCTION	PIN NO.	NAME	I/O	FUNCTION	
1	/MCE	I	CPU-I/F Chip Enable	65	D21	I/O	Data Bus for External RAM	
2	/WAIT	I	Not used. (CPU-I/F Wait)	66	D20	I/O		
3	MD0	I/O	CPU I/F Data Bus	67	D19	I/O		
4	MD1	I/O		68	D18	I/O		
5	MD2	I/O		69	D17	I/O		
6	MD3	I/O		70	D16	I/O		
7	MD4	I/O		71	D15	I/O		
8	MD5	I/O		72	D14	I/O		
9	MD6	I/O		73	D13	I/O		
10	MD7	I/O	74	N.C.		Not used.		
11	MA0	I	CPU I/F Address Bus	75	Vss		Ground	
12	MA1	I		76	Vss		Ground	
13	MA2	I		77	N.C.		Not used.	
14	MA3	I		78	Vdd		Power Supply +5V	
15	N.C.		Not used.	79	Vdd		Power Supply +5V	
16	Vdd		Power Supply +5V	80	N.C.		Not used.	
17	Vdd		Power Supply +5V	81	N.C.		Not used.	
18	N.C.		Not used.	82	N.C.		Not used.	
19	Vss		Ground	83	N.C.		Not used.	
20	Vss		Ground	84	D12	I/O	Data Bus for External RAM	
21	N.C.		Not used.	85	D11	I/O		
22	N.C.		Not used.	86	D10	I/O		
23	N.C.		Not used.	87	D9	I/O		
24	N.C.		Not used.	88	D8	I/O		
25	N.C.		Not used.	89	D7	I/O		
26	/MUI	I	Not used. (Gate for Serial Data)	90	D6	I/O		
27	/MUO	O	Not used. (Mute for Serial Data)	91	D5	I/O		
28	/MDS	I	Not used. (CPU-I/F Mode Select)	92	D4	I/O		
29	/IRQ	O	Interrupt Request	93	D3	I/O		
30	/TEST	I	Not used. (for Test)	94	D2	I/O		
31	XCLK	I	Not used.	95	D1	I/O		
32	/CRS	I	Not used. (Serial Control Data I/O)	96	D0	I/O		
33	CDI	I	Not used.	97	A0	O	Address Bus for External RAM	
34	CD0	O	Not used.	98	A1	O		
35	SI0	I	Serial Data Input	99	A2	O		
36	SI1	I		100	A3	O		
37	SI2	I		101	A4	O		
38	SI3	I		102	A5	O		
39	SO0	O	Serial Data Output	103	A6	O		
40	SO1	O		104	A7	O		
41	SO2	O		105	A8	O		
42	SO3	O		106	A9	O		
43	/SYW	I	SYNC Clock Input	107	A10	O		
44	MCLK	I	Master Clock Input (256fs)	108	N.C.		Not used.	
45	N.C.		Not used.	109	Vdd		Power Supply +5V	
46	N.C.		Not used.	110	Vdd		Power Supply +5V	
47	N.C.		Not used.	111	N.C.		Not used.	
48	Vss		Ground	112	Vss		Ground	
49	Vss		Ground	113	Vss		Ground	
50	N.C.		Not used.	114	N.C.		Not used.	
51	Vdd		Power Supply +5V	115	N.C.		Not used.	
52	Vdd		Power Supply +5V	116	N.C.		Not used.	
53	N.C.		Not used.	117	N.C.		Not used.	
54	SCLK	O	Clock Output for Serial Audio Data	118	A11	O	Address Bus for External RAM	
55	DIT0	O	Digital Audio I/F Data Output	119	A12	O		
56	DIT1	O		120	A13	O		
57	DIT2	O		121	A14	O		
58	DIT2	O		122	A15	O		
58	DBOE	I	Memory Data Bus Output Enable	123	A16	O		
59	N.C.		Not used.	124	A17	O		
60	/WE	O	External RAM Write Enable	125	A18/LHS	O		
61	/OE	O	External RAM Output Enable	126	/IC	I		Initial Clear
62	/CE	O	External RAM Chip Enable	127	/MWE	I		Write Enable Input
63	D23	I/O	Data Bus for External RAM	128	/MOE	I	Output Enable Input	
64	D22	I/O						

• HD62098 (XM309A00) MEG (Multiple Effect Generator)

PIN NO.	NAME	I/O	FUNCTION	PIN NO.	NAME	I/O	FUNCTION
1	GND		Ground	41	GND4		Ground
2	MD8	I/O	DRAM data bus	42	SYW	O	Synch. signal for 256fs system
3	MD9	I/O		43	SYW0D	O	Synch. signal for 128/64 fs system
4	MD10	I/O		44	QCLK	O	1/4 clock
5	MD11	I/O		45	HCLK	O	1/2 clock
6	MD12	I/O		46	/CS	I	Chip enable
7	MD13	I/O		47	/RD	I	Read enable
8	MD14	I/O		48	/WR	I	Write enable
9	MD15	I/O		49	A0	I	CPU address bus
10	MD0	I/O		50	A1	I	
11	MD1	I/O		51	A2	I	
12	MD2	I/O		52	A3	I	
13	MD3	I/O		53	A4	I	CPU data bus
14	MD4	I/O		54	D0	I/O	
15	MD5	I/O		55	D1	I/O	
16	MD6	I/O		56	D2	I/O	
17	MD7	I/O		57	D3	I/O	
18	/WE	O		58	D4	I/O	
19	/RASH	O	59	D5	I/O		
20	/RASL	O	60	D6	I/O		
21	Vcc1		61	D7	I/O		
22	GND2		62	TEST	I	Test pin	
23	MA0	O	63	/IC	I	Initial clear	
24	MA1	O	64	Vcc4		Power supply	
25	MA2	O	65	GND5		Ground	
26	MA3	O	66	IMEL0	I	MEL formatted signal input	
27	MA4	O	67	IMEL1	I		
28	MA5	O	68	IMEL2	I		
29	MA6	O	69	IMEL3	I		
30	MA7	O	70	AUXMEL0	I	MEL cascade input	
31	/CASH	O	71	AUXMEL1	I		
32	/CASL	O	72	OMEL0	O	MEL formatted signal output	
33	Vcc2		73	OMEL1	O		
34	EXTAL	I	74	DAC0L	O	L channel signal output	
35	XTAL	O	75	DAC0R	O	R channel signal output	
36	GND3		76	DAC1L	O	L channel signal output	
37	MCLK	O	77	DAC1R	O	R channel signal output	
38	CLKIN	I	78	WDCX	O	Load signal for DAC	
39	SYWIN	I	79	PAD18/20	I	18-bit/20-bit select	
40	Vcc3		80	Vcc5		Power supply	

• PCM1760U (XN848A00) ADC (Analog Digital Converter)

PIN NO.	NAME	I/O	FUNCTION	PIN NO.	NAME	I/O	FUNCTION
1	O-2R	O	Rch second stage amplifier output	15	NC		Lch bipolar offset decoupling L/R clock output (64fs) Data strobe output (128fs) System clock input (256fs) - 5V negative Digital ground + 5V digital Data output (LSB) Data output Data output Data output (MSB) Rch bipolar offset decoupling
2	I-2R	I	Rch second stage amplifier input	16	BPO-DCL		
3	O-1R	O	Rch first stage amplifier output	17	L/R CK	O	
4	I-1R	I	Rch first stage amplifier input	18	STB	O	
5	SERVO		Servo decoupling	19	256fs	I	
6	+Vcc		+ 5V analog	20	-Vdd		
7	AG		Analog ground	21	DG		
8	-Vcc		- 5V analog	22	+Vdd		
9	DGDC		Band gap decoupling	23	D0	O	
10	NC			24	D1	O	
11	I-1L	I	Lch first stage amplifier input	25	D2	O	
12	O-1L	O	Lch first stage amplifier output	26	D3	O	
13	I-2L	I	Lch second stage amplifier input	27	BPO-DLR		
14	O-2L	O	Lch second stage amplifier output	28	NC		



● YM01C HG62F22S33FH (XN753A00) Gate Array

PIN NO.	NAME	I/O	FUNCTION	PIN NO.	NAME	I/O	FUNCTION	
1			Not used.	69	SD1	I	} Sub-CPU Address Bus	
2			Not used.	70	SD0	I		
3			Not used.	71	/SWR	I		Sub-CPU /WR
4			Not used.	72	/SRD	I		Sub-CPU /RD
5			Not used.	73	ACO	O	Clock Output (to A/D)	
6	GND		Ground	74	ST2	O	A/D#2 Conversion Start	
7	GND		Ground	75	OE2	O	A/D#2 Conversion Output Enable	
8	SC0	O	} Key & LED Matrix Control (Scan Lines)	76	ST1	O	A/D#1 Conversion Start	
9	SC1	O		77	OE1	O	A/D#1 Conversion Output Enable	
10	SC2	O		78	ST B	O	} STEREO OUT Fader Motor Cont.	
11	SC3	O		79	ST A	O		
12	SC4	O		80	RT B	O	} RETURN/SEND Fader Motor Cont.	
13	SC5	O		81	RT A	O		
14	SC6	O		82	SI B	O	} STEREO IN Fader Motor Cont.	
15	SC7	O	83	SI A	O			
16	Vcc		Power Supply +5V	84	Vcc		Power Supply +5V	
17	GND		Ground	85	GND		Ground	
18	NO	O	Inverter (for MIDI Out) Output	86	F16B	O	} CH.16 Fader Motor Cont.	
19	/DSP1	O	CDSP#1 Chip Select (to DSP C.B.)	87	F16A	O		
20	/DSP2	O	CDSP#2 Chip Select (to DSP C.B.)	88	F15B	O	} CH.15 Fader Motor Cont.	
21	/DSP3	O	CDSP#3 Chip Select (to DSP C.B.)	89	F15A	O		
22	/MEG	O	MEG Chip Select (to DSP C.B.)	90	F14B	O	} CH.14 Fader Motor Cont.	
23	/IC	O	Initial Clear Output	91	F14A	O		
24	/LCD	O	LCD Device (Chip) Enable	92	F13B	O	} CH.13 Fader Motor Cont.	
25	LCD0	I/O	} LCD Control Signal Bus	93	F13A	O		
26	LCD1	I/O		94	F12B	O	} CH.12 Fader Motor Cont.	
27	LCD2	I/O		95	F12A	O		
28	LCD3	I/O		96	F11B	O	} CH.11 Fader Motor Cont.	
29	LCD4	I/O		97	F11A	O		
30	LCD5	I/O		98	F10B	O	} CH.10 Fader Motor Cont.	
31	LCD6	I/O		99	F10A	O		
32	LCD7	I/O	100	F9B	O	} CH.9 Fader Motor Cont.		
33	/RES/RENI	I	/RES Input	101	F9A		O	
34	/OE	O	SRAM Output Enable	102	F8B	O	} CH.8 Fader Motor Cont.	
35	/W	O	SRAM Write Enable	103	F8A	O		
36	MA15	I	Main-CPU Address Bus	104	F7B	O	} CH.7 Fader Motor Cont.	
37	/RST	I	/RST Input	105	F7A	O		
38	NI	I	Inverter (for MIDI Out) Input	106	F6B	O	} CH.6 Fader Motor Cont.	
39	MA1	I	} Main-CPU Address Bus	107	F6A	O		
40	MA0	I		108	F5B	O	} CH.5 Fader Motor Cont.	
41	MD7	I/O	109	F5A	O			
42	MD6	I/O	} Main-CPU Address Bus	110	F4B	O	} CH.4 Fader Motor Cont.	
43	MD5	I/O		111	F4A	O		
44	MD4	I/O		112	F3B	O	} CH.3 Fader Motor Cont.	
45	MD3	I/O		113	F3A	O		
46	MD2	I/O		114	F2B	O	} CH.2 Fader Motor Cont.	
47	MD1	I/O		115	F2A	O		
48	MD0	I/O		116	F1B	O	} CH.1 Fader Motor Cont.	
49	/RES	O	RESET Output	117	F1A	O		
50	Vcc		Power Supply +5V	118	Vcc		Power Supply +5V	
51	GND		Ground	119	GND		Ground	
52	//MWR	I	Main-CPU /WR	120	KD0	I	} Key (Switch) Matrix Control	
53	//MRD	I	Main-CPU /RD	121	KD1	I		
54	MA16	I	} Main-CPU Address Bus	122	KD2	I		
55	MA17	I		123	KD3	I		
56	MA18	I		124	KD4	I		
57	SA8	I	} Sub-CPU Address Bus	125	KD5	I		
58	SA9	I		126	KD6	I		
59	SA10	I		127	KD7	I		
60	SA14	I		128	GND		Ground	
61	SA15	I	} 10MHz Clock	129	LD0	O	} LED Matrix (LED Driver) Control	
62	CLK	I		130	LD1	O		
63	SD7	I		131	LD2	O		
64	SD6	I		132	LD3	O		
65	SD5	I		133	LD4	O		
66	SD4	I		134	LD5	O		
67	SD3	I		135	LD6	O		
68	SD2	I	136	LD7	O			

● YM01T (XP238A00) Gate Array

PIN NO.	NAME	I/O	FUNCTION	PIN NO.	NAME	I/O	FUNCTION
1	XI1	I	Crystal Osc. 21.4722MHz: X2	10	XI0	I	Crystal Osc. 12.288MHz: X1
2	XO1	O		11	XO0	O	
3	X10	O		12	WCLKB	O	
4	GND		Ground	13	FS64B	O	Not used.
5	ICN	I	Reset Input	14	FS64N	O	Clock for DF1760U
6	FS256A	O	System Clock for PCM69AP	15	FS256B	O	System Clock for DF1760U
7	FS64A	O	Clock for YSF210D	16	FS256C	O	System Clock for CDSP
8	WCLKA	O	Word Clock for YSF210D	17	SYWN	O	SYNC Clock for CDSP, MEG
9	GND		Ground	18	Vcc		Power Supply +5V

● HD6475208P10 <H8-520> (XP508B00) SUB CPU

PIN NO.	NAME	I/O	FUNCTION	PIN NO.	NAME	I/O	FUNCTION	
1	EXTAL	O	Crystal Oscillation Output	33	A7	O	Address Bus	
2	XTAL	I	Crystal Oscillation Input	34	A8	O		
3	P10//WAIT		Not used.	35	A9	O		
4	P11//RD0		Not used.	36	A10	O		
5	A10	O	Address Bus	37	A11	O		
6	A17	O		38	A12	O		
7	A16	O		39	A13	O		
8	/AS			Not used. (Address Strobe)	40	A14		O
9	/RD	O	Read enable	41	A15	O		Power Supply +5V
10	/WR	O	Write enable	42	Vcc			
11	Vcc		Power Supply +5V	43	P50	I	A/D#1 End of Conversion	
12	MD0	I	CPU Mode Select	44	P51	I	A/D#2 End of Conversion	
13	MD1	I		45	P52/FT12	I	Encoder A Input	
14	MD2	I		46	P53	O	Not used.	
15	/RES	I	Reset Input	47	P54		Not used.	
16	NMI	I	Not used. (Pull-up)	48	P55	I	Encoder B input	
17	Vss		Ground	49	P56		Not used.	
18	D0	I/O	Data Bus	50	P57		Clock Output for A/D#1,#2	
19	D1	I/O		51	Vss		Ground	
20	D2	I/O		52	AVss		Analog Circuit Ground	
21	D3	I/O		53	AN0	I	ST IN Fader Position (A/D In)	
22	D4	I/O		54	AN1	I	RTN/SEND Fader Position	
23	D5	I/O		55	AN2	I	ST OUT Fader Position	
24	D6	I/O		56	AN3	I	Not used.	
25	D7	I/O		57	AVcc		Analog Circuit Power Supply +5V	
26	A0	O	Address Bus	58	TXD2	O	Main-CPU Communication	
27	A1	O		59	RXD2	I		
28	A2	O		60	A19	O	Address Bus	
29	A3	O		61	TXD1	O	Midi Signal Output	
30	A4	O		62	RXD1	I	Midi Signal Input	
31	A5	O		63	P75/SCI		Not used.	
32	A6	O		64	Vss		Ground	

• **DF1760U (XN849A00)** Decimation Filter

PIN NO.	NAME	I/O	FUNCTION	PIN NO.	NAME	I/O	FUNCTION
1	OVL	—		15	SYCLK	I	System clock input (256fs/384fs)
2	OVR	—		16	SCLK	I/O	Data clock (32fs to 64fs)
3	D3	I	Data input (MSB)	17	L/R	I/O	L/R channel distinguishing clock
4	D2	I	Data input	18	SDATA	O	Serial data output
5	D1	I	Data input	19	FSYNC	I/O	
6	DO	I	Data input (LSB)	20	LRSC	—	
7	TST1	—		21	PD	—	
8	VSS1	—	Ground for modulator	22	MODE 2	I†	Selects form of output data
9	VDD	—	Power source for modulator (+5V)	23	MODE 1	—	
10	256fs	O	System clock output (256fs)	24	S/M	—	(H indicates slave)
11	STB	I	Data strobe input (128fs)	25	CLKSEL	—	
12	LRCK	I	L/R clock input (64fs)	26	TST2	—	
13	CALD	—		27	VDD2	—	+5V digital
14	CAL	—		28	VSS2	—	Digital ground

\*† Input with internal pull-up

• **YSF210-D (XJ905A00)** 8 time Over Sampling Digital Filter

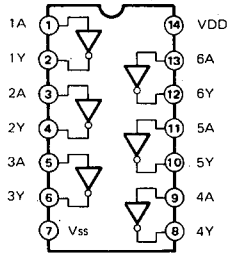
PIN NO.	NAME	I/O	FUNCTION	PIN NO.	NAME	I/O	FUNCTION																													
1	XO	—	System clock	13	OBIT1	I	Output bit selection																													
2	XI	I		14	OBIT2	I																														
3	Vss2	—	Ground				<table border="1"> <tr> <td></td> <td>22 bit</td> <td>20 bit</td> <td>18 bit</td> <td>no output</td> </tr> <tr> <td>OBIT1</td> <td>H</td> <td>L</td> <td>H</td> <td>L</td> </tr> <tr> <td>OBIT2</td> <td>H</td> <td>H</td> <td>L</td> <td>L</td> </tr> </table>		22 bit	20 bit	18 bit	no output	OBIT1	H	L	H	L	OBIT2	H	H	L	L														
	22 bit	20 bit	18 bit	no output																																
OBIT1	H	L	H	L																																
OBIT2	H	H	L	L																																
4	BCI	I	Bit clock	15	NC	—	No connection																													
5	SDSY	I	L/R select and input timing	16	ASY	I	Synchronous/Asynchronous system clock selection																													
6	IBIT1	I	Input bit selection	17	Vss1	—	Ground																													
7	IBIT2	I		<table border="1"> <tr> <td></td> <td>22 bit</td> <td>20 bit</td> <td>18 bit</td> <td>16 bit</td> <td>AV-DSP</td> <td>MEL</td> </tr> <tr> <td>IBIT1</td> <td>H</td> <td>L</td> <td>H</td> <td>L</td> <td>H</td> <td>L</td> </tr> <tr> <td>IBIT2</td> <td>H</td> <td>H</td> <td>L</td> <td>L</td> <td>H</td> <td>H</td> </tr> <tr> <td>IBIT3</td> <td>H</td> <td>H</td> <td>H</td> <td>H</td> <td>L</td> <td>L</td> </tr> </table>		22 bit	20 bit	18 bit	16 bit	AV-DSP	MEL	IBIT1	H	L	H	L	H	L	IBIT2	H	H	L	L	H	H	IBIT3	H	H	H	H	L	L	18	BCO	O	Bit clock of DLO, DRO
	22 bit	20 bit		18 bit	16 bit	AV-DSP	MEL																													
IBIT1	H	L		H	L	H	L																													
IBIT2	H	H	L	L	H	H																														
IBIT3	H	H	H	H	L	L																														
8	IBIT3	I		19	WCO	O	Word clock of DLO, DRO																													
9	MUTE	I	Mute	20	SHL	—																														
10	NC	—	No connection	21	DRO	O	Output data of R channel																													
11	SDI	I	Input data	22	NC	—	No connection																													
12	VDD2	—	Power supply	23	DLO	O	Output data of L channel																													
				24	VDD1	—	Power supply																													

• **ADC0809CCN (XG740A00)** ADC (Analog Digital Converter)

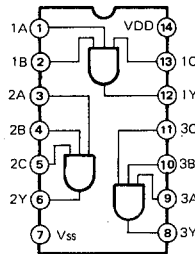
PIN NO.	NAME	I/O	FUNCTION	PIN NO.	NAME	I/O	FUNCTION
1	IN3	I	Fader Position Input	15	2-6	O	Digital Data Output
2	IN4	I		16	VREF-	I	Reference Voltage -
3	IN5	I		17	2-8	O	Digital Data Output
4	IN6	I		18	2-4	O	
5	IN7	I		19	2-3	O	
6	START	I	Start data Input	20	2-2	O	
7	EOC	O	End of Conversion Data Output	21	2-1	O	
8	2-5	O	Digital Data Output	22	ALE	I	Address Latch Enable Data Input
9	OE	I	Output Enable Data Input	23	ADDC	I	Address Data Input
10	CLK	I	Clock Data Input	24	ADDB	I	
11	Vcc	—	Power Supply +5V	25	ADDA	I	
12	VREF+	I	Reference Voltage +	26	IN0	I	Fader Position Input
13	GND	—	Ground	27	IN1	I	
14	2-7	O	Digital Data Output	28	IN2	I	

## IC BLOCK DIAGRAM (ICブロック図)

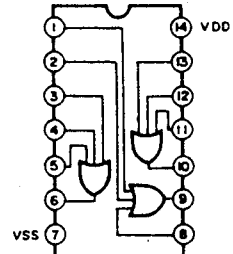
- **SN74HCU04N** (IG142250)  
Hex Inverter



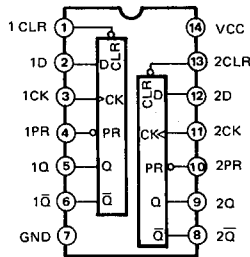
- **TC74HC11AP** (IR001100)  
Triple 3 Input AND



- **TC74HC4075AP** (IR407500)  
Triple 3-Input OR Gate

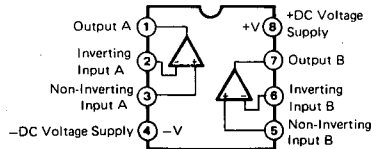


- **TC74HC74AP** (IR007400)  
Dual D-Type Flip-Flop

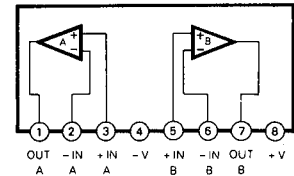


INPUTS				OUTPUTS	
PR	CLR	CLK	D	Q	Q-bar
L	H	X	X	H	L
H	L	X	X	L	H
L	L	X	X	H	H
H	H	f	H	H	L
H	H	f	L	L	H
H	H	L	X	Q <sub>o</sub>	Q <sub>o</sub> -

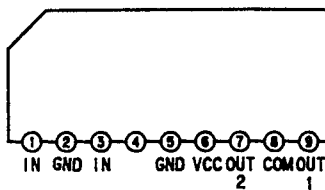
- **NJM4580DD** (XM651A00)
- **NJM072D** (IG107000)  
Dual Operational Amplifier



- **NJM2068L-D** (XM356A00)
- **NJM4556L** (XM921A00)
- **BA15532N** (XQ030A00)
- **XRA4560N** (XJ631A00)  
Dual Operational Amplifier



- **BA6218** (IG153500)  
Motor Driver



## INSPECTIONS

### 1. Preparation

#### 1-1. Condition

Unless otherwise specified, the settings are set as below. If it becomes necessary to change any of these settings, please follow the instructions for each individual measurement item when making the change.

Press only the measuring channel on/off switch to On.

The fader should be set to "Nominal (0 dB)" position.

The connection of measurement equipment to the STEREO OUT is balanced.

The load resistors for the Analog outputs are as follows;

STEREO OUT:	600 $\Omega$
REC OUT:	10 k $\Omega$
MONITOR OUT:	10 k $\Omega$
AUX SEND:	10 k $\Omega$
PHONES:	8 $\Omega$

0 dB = 0.775 Vrms

Use the LPF (12.7 kHz, -6 dB/OCT) for measuring the noise level, then read the mean value (Not root mean square value).

#### 1-2. Initialization

To initialize the ProMix 01, press and hold the [STORE] button and the [INC+], turn the power switch On.

#### 1-3. Test Program

Press and hold the [METER] button and the [CUE] button, turn the power switch On. The test program will start automatically. (See TEST PROGRAM on this service manual page 51.)

#### 1-4. Fader Set-up

Press and hold the [PAN/Ø] button and the [CUE] button, turn the power switch On. All of the faders are set up to "Nominal (0 dB)", then all of the on/off switch are set up to "off" automatically.

### 2. Inspection

#### 2-1. STEREO OUT(L ch/R ch)

Condition: Apply the input signals to the ST IN (L/R ch).

Set the PAN of the ST IN as follows:

Measuring channel	Center (C)
Another channel	L ch End of left (L16)
	R ch End of right (R16)

The load resistor of the STEREO OUT is balanced 600  $\Omega$ .

#### a. Gain (L and R ch)

Input Level	Input Frequency	Output Level	Tolerance Range
+4 dB	20 kHz	+4.0 dB	+3.0~+5.0 dB
+4 dB	20 Hz	+3.5 dB	+2.5~+4.5 dB

#### b. Distortion (L and R ch)

Adjust the input level to get +22 dB of the output level.

Input Frequency	Output Level	Tolerance Range
1 kHz	+22.0 dB	0.003~0.03 %

#### c. Residual Noise (L and R ch)

Condition: Set the ST OUT switch to off.

Tolerance Range
-95~-89 dB

#### d. Gang Error between L and R ch

Make sure the difference between L ch gain and R ch gain (at 20 kHz) is within the range as indicated.

Tolerance Range
-0.5~+0.5 dB

#### e. Noise Level ST IN A/D (L and R ch)

Tolerance Range
-86~-74 dB

### 2-2. Analog REC OUT (L/R ch)

Condition: Apply the input signals to the ST IN (L/R ch).

Set the PAN of the ST IN as follows:

Measuring channel	Center (C)
Another channel	L ch End of left (L16)
	R ch End of right (R16)

The load resistor of the REC OUT is unbalanced 10 k $\Omega$ .

#### a. Gain (L and R ch)

Input Level	Input Frequency	Output Level	Tolerance Range
+4 dB	20 kHz	-10.0 dB	-11.0~-9.0 dB

### 2-3. DIGITAL REC OUT (L ch/R ch)

Condition: Apply the input signals to the ST IN (L/R ch).

Set the PAN of the ST IN as follows:

Measuring channel	Center (C)
Another channel	L ch End of left (L16)
	R ch End of right (R16)

Connect the DIGITAL REC OUT and the input of the YAMAHA D/A converter DA202 or DA2X, then measure at the L ch and R ch analog output of the DA converter.

The load resistor of the DIGITAL REC OUT is balanced 600 Ω.

a-1. Gain L and R ch. (Measure at the output of L and R ch of DA202.)

Input Level	Input Frequency	Output Level	Tolerance Range
+4 dB	20 kHz	-2.0 dB	-3.0~-1.0 dB

a-2. Gain L and R ch. (Measure at the output of L and R ch of DA2X.)

Input Level	Input Frequency	Output Level	Tolerance Range
+4 dB	20 kHz	0.0 dB	-1.0~+1.0 dB

**2-4. MONITOR OUT (L ch/R ch)**

Condition: Apply the input signals to the ST IN (L/R ch).

Select the CUE type to "LAST CUE".

Set the SEL switch on the ST IN to On.

Set the ON switch for the ST IN and the ST OUT to Off.

Set the MONITOR LEVEL control to maximum.

The load resistor for the MONITOR OUT is unbalanced 10 kΩ.

a. Gain (L and R ch)

Input Level	Input Frequency	Output Level	Tolerance Range
+4 dB	20 kHz	+4.0 dB	+3.0~+5.0 dB
+4 dB	20 Hz	+3.5 dB	+2.5~+4.5 dB

b. Distortion (L and R ch)

Adjust the input level to get +18 dB of the output level.

Input Frequency	Output Level	Tolerance Range
1 kHz	+18.0 dB	0.003~0.04 %

c. Residual Noise (L and R ch)

Condition: Set STEREO OUT to Off.

Select the CUE type to "MIX", set all of the CUE switch to Off.

Output VR (MONITOR)	Tolerance Range
MAX.	-93~-85 dB
MIN.	-110~-100 dB

d. Gang Error between L and R ch

Make sure the difference between L and R ch gain (at 20 kHz) is within the range as indicated.

Tolerance Range
-0.5~+0.5 dB

**2-5. PHONES (L ch/R ch)**

Condition: Apply the input signals to the 2TR IN (L/R ch).

Set the CUE/2TR IN switch to the 2TR IN (L/R ch). (This inspection is not use the digital circuit of this mixer.)

Set the PHONES LEVEL control to the maximum.

The load resistor of the PHONES (L/R ch) is unbalanced 8 Ω.

a. Gain (L and R ch)

Input Level	Input Frequency	Output Level	Tolerance Range
-10 dB	20 kHz	-18 dB	-20.0~-16.0 dB
-10 dB	20 Hz	-18.5 dB	-20.5~-16.5 dB

b. Distortion (L and R ch)

Adjust the input level to get -8.0 dB of the output level.

Input Frequency	Output Level	Tolerance Range
1 kHz	(-8.0 dB)	0.003~0.02 %

c. Residual Noise (L and R ch)

Condition: Set the PHONES LEVEL control to the minimum.

Output VR (PHONES)	Tolerance Range
MIN.	-120~-100 dB

d. Gang Error between L ch and R ch

Make sure the difference between L and R ch gain (at 20 kHz) is within the range as indicated.

Tolerance Range
-1.0~+1.0 dB

**2-6. SEND (3/4)**

Condition: Apply the input signals to the ST IN (L/R ch).

Set the pre/post switch of the SEND 3/4 to pre.

Set the SEND LEVEL for the ST IN to the nominal(0 dB).

The load resistor for the SEND (3/4) is unbalanced 10 kΩ.

a. Gain (3/4)

Input Level	Input Frequency	Output Level	Tolerance Range
+4 dB	20 kHz	+1.0 dB	+0.0~+2.0 dB
+4 dB	20 Hz	+0.5 dB	-0.5~+1.5 dB

b. Distortion (3/4)

Adjust the input level to get +18 dB of the output level.

Input Frequency	Output Level	Tolerance Range
1 kHz	+18.0 dB	0.003~0.04 %

c. Residual Noise (L/R ch)

Condition: Set the master switch of the SEND 3/4 to Off.

Tolerance Range
-95~-89 dB

2-7. 2TR IN (L/R ch)

Condition: Apply the input signals to the 2TR IN (L/R ch) via the ST IN (L/R ch). Disconnect any plugs from the ST IN (L/R ch) jack that time.

Set the PAN of the ST IN to the end of left (L ch) and the end of right (R ch). This output level is 3 dB up from the normal output.

Measure at the ST OUT (L/R ch).

Gain (L and R ch)

Input Level	Input Frequency	Output Level	Tolerance Range
+4 dB	20 kHz	+7.0 dB	+6.0~+8.0 dB

2-8. CH IN (1~16)

Measure the output at STEREO OUT L ch.

The load resistor of the STEREO OUT L ch is balanced 600 Ω.

2-8-1. GAIN MAX./PAD OFF

a. Gain (CH1~16)

Input Level	Input Frequency	Output Level	Tolerance Range
-60 dB	20 kHz	+4.0 dB	+2.0~+6.0 dB
-60 dB	20 Hz	+3.0 dB	+1.0~+5.0 dB

b-1. Noise Level (CH1~16)

Tolerance Range
Less than -64 dB

b-2. Equivalent Input Noise Level (CH1~16)

The basic numerical expression

Noise Level value - Gain value at 20 kHz ≤ -128

ex.) -64 - (64) = -128

Tolerance Range
-131~-128 dB

2-8-2. GAIN MIN./PAD ON

a. Gain (CH1~16)

Input Level	Input Frequency	Level	Tolerance Range
+4 dB	20 Hz	+3.5 dB	+1.5~+5.5 dB

b. Distortion (CH1~16)

Adjust the input level to get +22 dB of the output level.

Input Frequency	Output Level	Tolerance
1 kHz	+22.0 dB	0.003~0.025 %

c. Noise Level of the Channel A/D Converter (CH1~16)

Tolerance Range
-86~-76 dB

2-8-3. Phantom (CH1~8)

Verify the voltage is on the XLR connector (phantom switch On), measure between pin 2 and pin 1 or pin 3 and pin 1 on the XLR connector.

Tolerance Range
DC +43.0~49.0 V

3. Effect Test

Listen to verify the following effects.

EFFECT 1/2

COMP 1/2/3

4. Factory Settings

Note) The following switches are not controlled by the CPU.

PAD (CH1~16): OFF

GAIN (CH1~16): MIN. (Counterclockwise)

CUE/2TR IN switch: CUE

MONITOR OUT LEVEL:

MIN. (Counterclockwise)

PHONES LEVEL: MIN. (Counterclockwise)

PHANTOM MASTER switch(Rear Panel):

OFF