

PG-1000

SERVICE NOTES

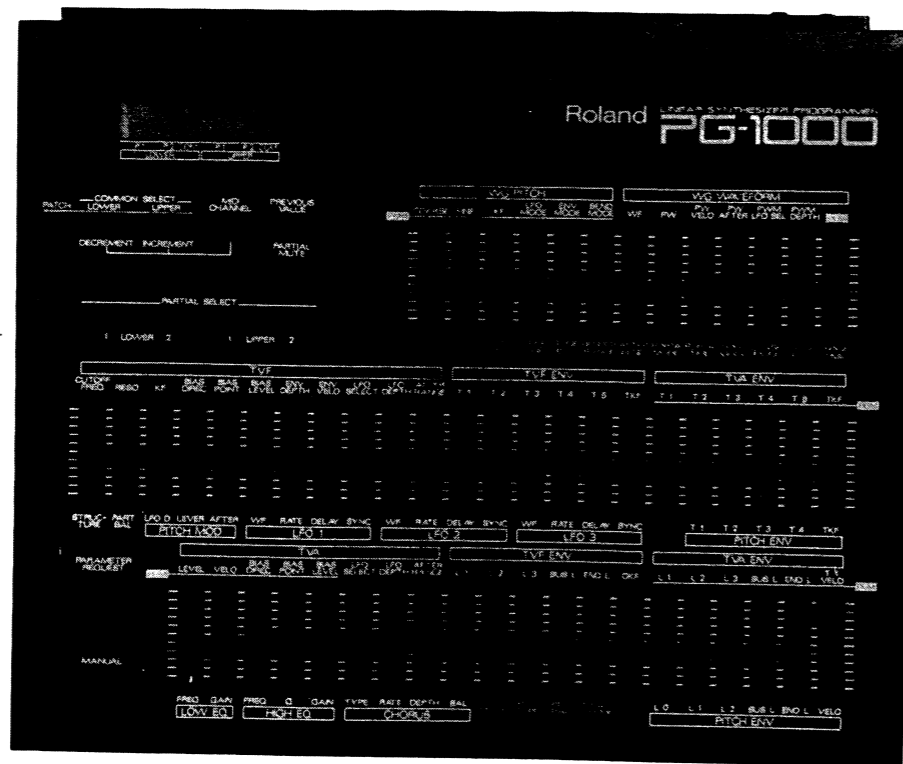
First Edition

SPECIFICATIONS

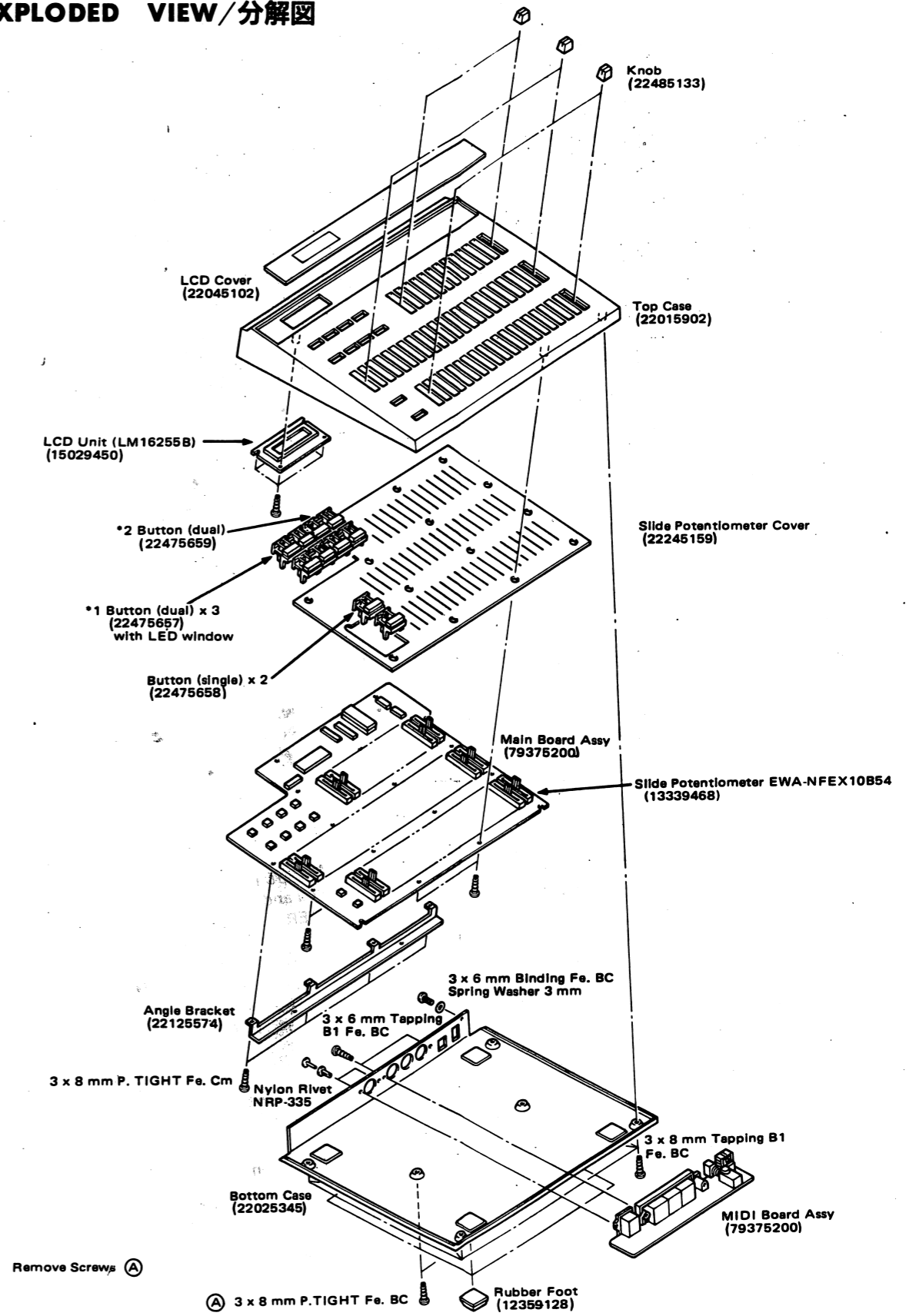
CURRENT CONSUMPTION . . . 150mA DC at 9V
WEIGHT 1.6 kg/3 lb 9 oz (without Adaptor)
DIMENSIONS 318(W) x 268(D) x 53(H) mm
 12-1/2" x 10-9/16" x 2-1/16"

ACCESSORY AC ADAPTER

PSA-100	100V
PSA-120	117V
PSA-220	220V
PSA-240	240V Australian



EXPLODED VIEW/分解図



*1 This type separable into two: replacement single type only.
 このボタンは2つに分割可能。補修品はシングルで供給します。
 Button (single) 22475656

*2 This type separable into two: replacement single type only.
 このボタンは2つに分割可能。補修品はシングルで供給します。
 Button (single) 22475658

PARTS LIST

CASING

22015902	Top Case
22025345	Bottom Case
22045102	LCD Cover
22125574	Angle Bracket
12359128	Rubber Foot
22245465	LCD Dust Cover
22245159	Slide Potentiometer Cover

BUTTON/KNOB

22485133	knob	slide potentiometer
22475657	*1 button (dual) with LED window	COMMON SELECT, PARTIAL SELECT
22475658	button (single)	PARAMETER REQUEST, MANUAL
22475659	*2 button (dual)	MIDI SELECT, PREVIOUS VALUE
22499175	button	POWER

*This type separable into two: replacement single type only.
1: button (single) 22475656. 2: button (single) 22475658

このボタンは2つに分割可能。補修品はシングルで供給します。

AC ADAPTER

12449509	PSA-100	100V
12449510	PSA-120	117V
12449511	PSA-220	220V
12449512	PSA-240	240V Australian

SOCKET

13429168	MIDI 3-NS (triplet)	MIDI IN/OUT/THRU
13429615	TCS5350-01-1111	DIN socket (PARAMETER IN)
13449706	HCE0470-01-230	AC adaptor jack
13429534	ICE-286-S-TG	EP ROM

SWITCH

13129143	SDDW A1	POWER
13169633	SKHHAD039A	

TRANSFORMER

12449552	D 32-45	EL inverter
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LCD UNIT

15029450	LM16255B with EL, PCB and wirings
<i>No replacement for individual parts.</i>	
ユニット単位で供給。	

PCB ASSEMBLY

79375200	Main Board (PCB 22925458 1/2)
79375300	MIDI Board (PCB 22925458 2/2)

POTENTIOMETER

13339468	EWA-NFEX10B54	50kΩ all potentiometers
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INDUCTOR

12449265	ELE-H102KA	1mH line filter
13529105	DSS 310-55D223S	EMI filter
12449294	BL03RN2-R62T2	

CRYSTAL

12389765	TQC-226A-612 12MHz
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TRANSISTOR

15119132	2SA1015GR
15129151	2SC1815GR

TRANSISTOR ARRAY

15149114	M54527P
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RESISTOR ARRAY

13919312	RMLS 8-153J 15k x 8
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CAPACITOR ARRAY

13529115	EXFP8101MW 100P x 8
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IC

(main board)		
15179256	μPD78C10G	CPU
15449102	TMM2764D	EP ROM
15179343S0	LC3517 AS 12	S RAM
15159113T0	TC4051BP	8 channel multiplexer/demultiplexer
15159503	TC40H000P	quad 2-input NAND gate
15159510	TC40H074P	dual D-type flip-flops
15159506	TC40H138P	3-8 line decoder/demultiplexer
15169544	TC74H573P	octal transparent latches (with 3 state outputs)
(MIDI board)		
15169304X0	SN74LS04N	hex inverters
15229706	TLP-552	optoisolator
15199135	L78MR05	voltage regulator

DIODE

15019152T0	1SS176 TPA-7	
15019281	1SR35-100A T-93	100V 1A rectifier
(LED)		
15029222	SLR55VC3F	

CONNECTOR

13439330	IL-S-3P-S2T2-EF
13439297	IL-S-8P-S2T2-EF

MISCELLANEOUS

22195889	MIDI holder	
22255137	LCD shield paper	
12469158	SC-7-BS-T	heat sink

TEST MODE

1. Press and hold PARAMETER REQUEST then switch the power on: the instrument will turn on all of the display dots, indicating that it is now in the test mode.
2. Test panel buttons, LCD and LEDs to the table below (in any order).

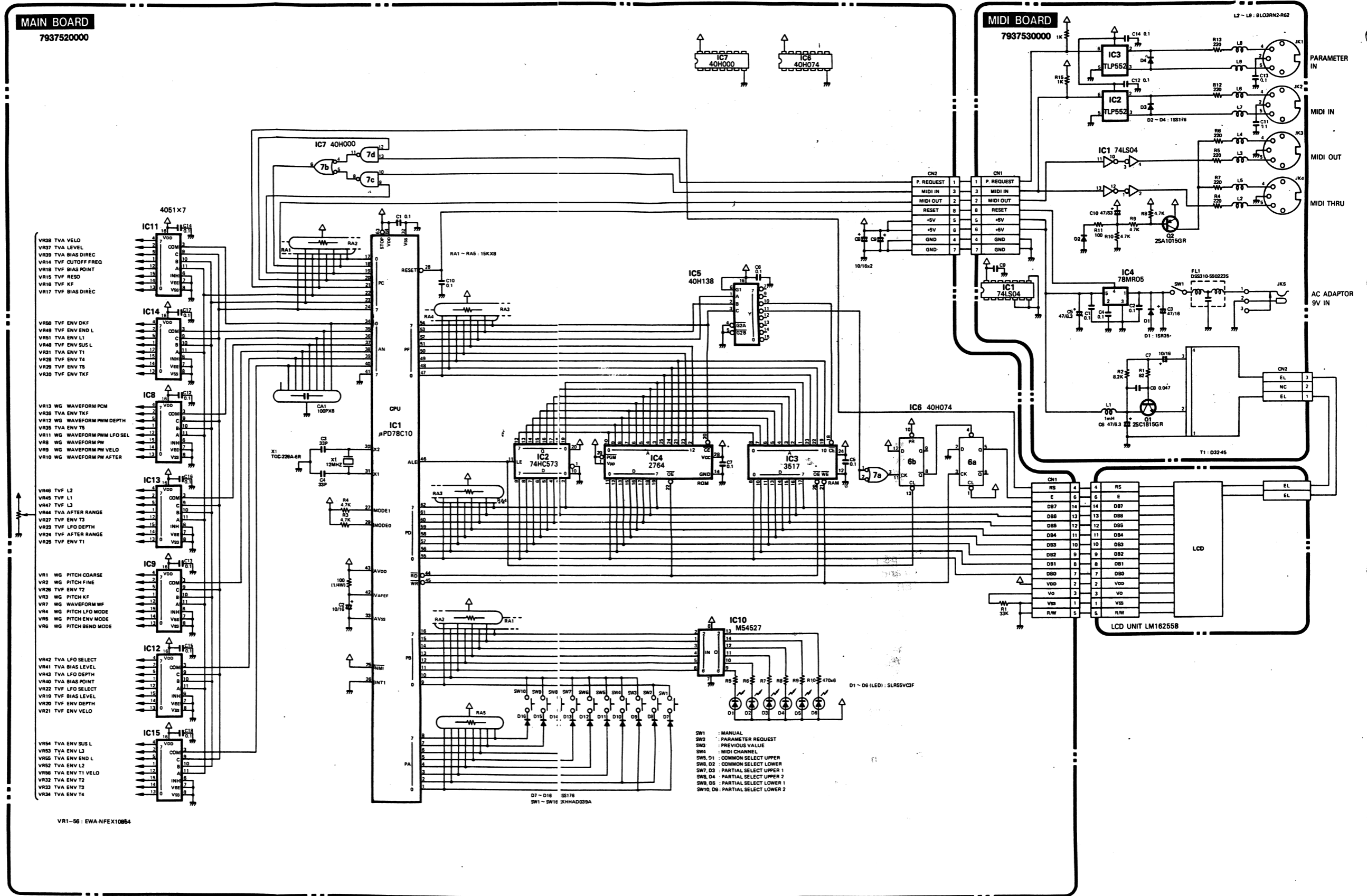
Press button	LCD will	How LEDs response
MANUAL	Turn off all dots 全ドット消灯	COMMON SELECT: on, others: off COMMON SELECTの2つのLEDのみ
PARAMETER REQUEST	Turn on all dots 全ドット点灯	PARTIAL SELECT: on PARTIAL SELECTの4つのLED点灯
MIDI CHANNEL	Unaffected 変化せず	All: on 全LED点灯
PREVIOUS VALUE	Unaffected 変化せず	All: off 全LED消灯
COMMON SELECT PARTIAL SELECT	Unaffected 変化せず	Only LED associates with pressed button: on 押したボタンのLEDのみ点灯

3. Turn the power off.
Conducting the following checking is recommended to make sure that all panel controls are functioning satisfactorily.
4. Turn the power on (normal play mode).
5. Press all PARTIAL SELECT buttons to light mated LEDs.
6. Move all edit knobs in any order and verify the corresponding indications on the display.

1. PARAMETER REQUEST を押しながら、電源オン。
(ディスプレイの全ドットが点灯し、テストモードになる。)
2. 各ボタンで、LCD、LEDの動作を確認。
3. 電源オフにする。
各エディット・ツマミのチェックは、通常の操作状態で次のように行なう。
4. 電源オンにする。
5. PARTIAL SELECT のインジケータをすべて点灯させる。
6. 任意の順に EDIT ツマミを動かすと、EDIT ツマミに対応した画面になると同時に、設定値が変化することを確認。

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30

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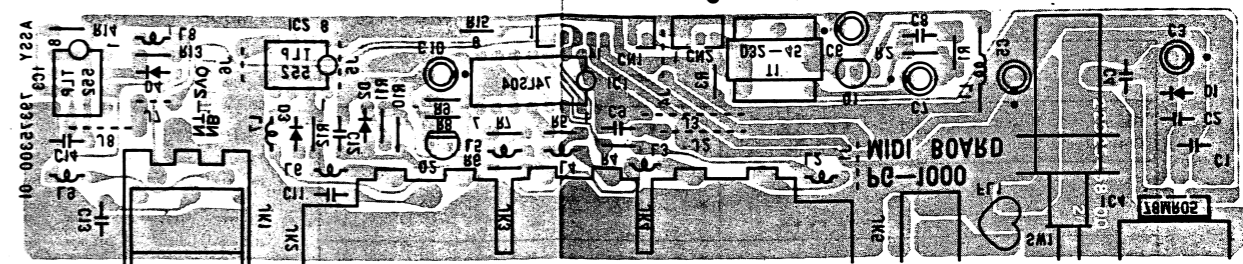
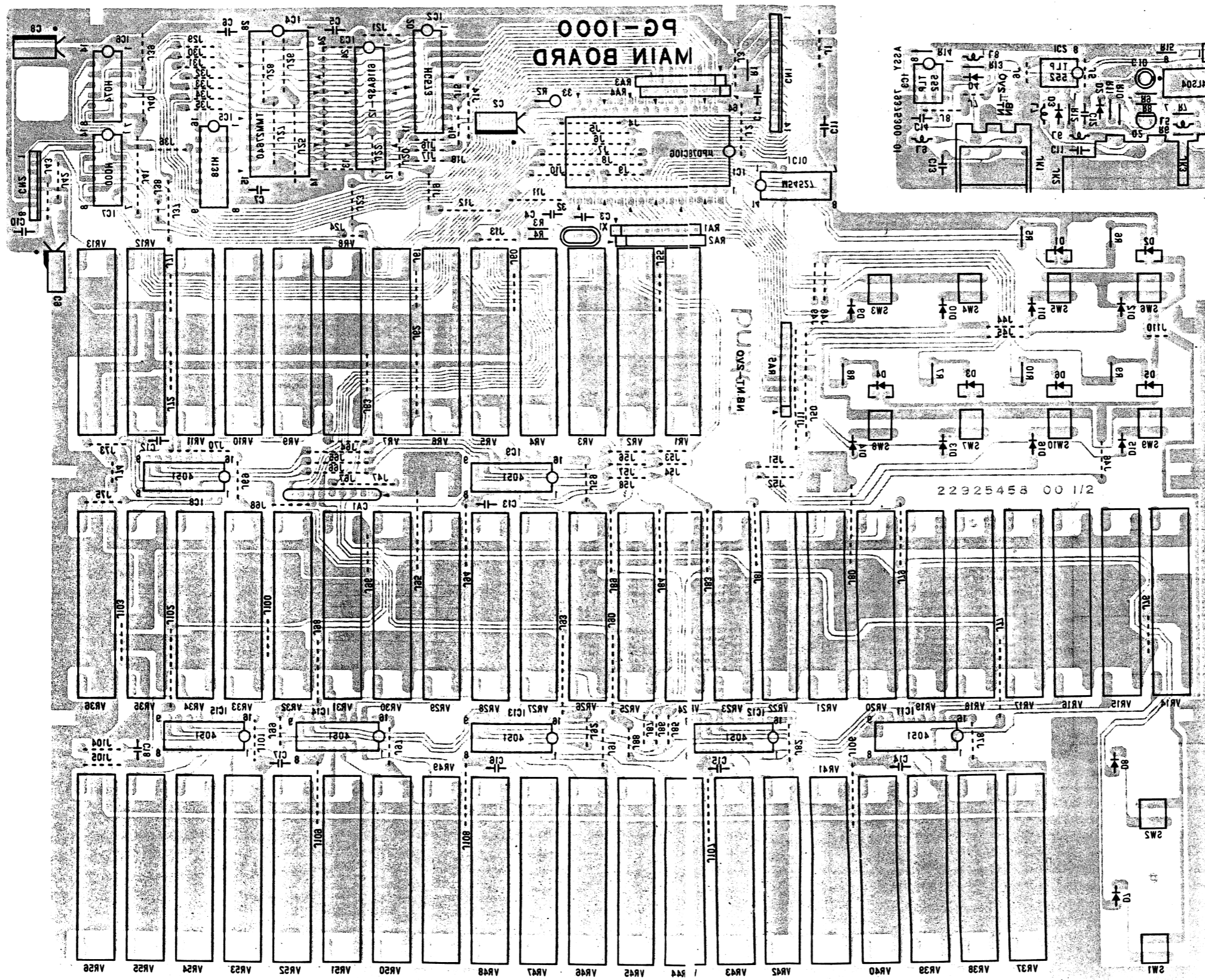


VR1-56 : EWA-NFEX10854

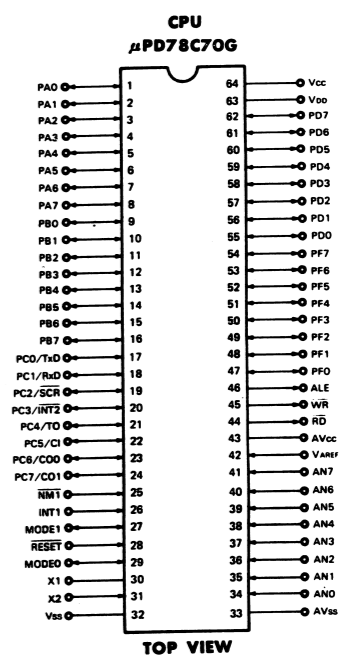
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22
MAIN BOARD 79375200 (pcb 22925458 1/2)

23 24 25 26 27 28 29
MIDI BOARD 79375300 (pcb 22925458 1/2)

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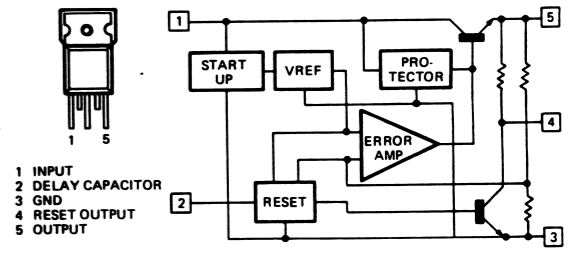


View from foil side



TOP VIEW

L78M05R



- 1 INPUT
- 2 DELAY CAPACITOR
- 3 GND
- 4 RESET OUTPUT
- 5 OUTPUT

View from foil side

PROGRAMMER FOR D-50
MODEL PG-1000

MIDI Implementation Chart

Date: Feb. 6. 1987
Version: 1.00

Table with 4 columns: Function..., Transmitted, Recognized, Remarks. Rows include Basic Channel, Mode, Note Number, Velocity, After Touch, Pitch Bender, Control Change, Prog Change, System Exclusive, System common, System Real Time, Aux Message, and Notes.

Mode 1: OMNI ON, POLY Mode 2: OMNI ON, MONO Mode 3: OMNI OFF, POLY Mode 4: OMNI OFF, MONO

PPOGRAMMER FOR D-5
MODEL PG-1000

MIDI Implementation

Date: Feb. 6. 1987
Version: 1.00

1. TRANSMITTED DATA

1.1 Undefined Status (F4H, F5H) of Common message. Transmits all received MIDI messages except for Reset (FFH)

1.2 Created message.

Table with 5 columns: Status, Second, Third, Description, and a numeric code. Rows include Note F, All m off, System exclusive, and Activemsg.

Notes:

- *1-1 Transmitted when the Parameter Rest button is pushed or when MIDI IN's Non Active condition detected.
*1-2 See section 3 (EXCLUSIVE COMMUNICATION).
*1-3 This unit stops transmitting Active Se message if this unit detects Non Active condition on MIDI IN.

2. RECOGNIZED RECEIVE DATA

Table with 5 columns: Status, Second, Third, Description, and a numeric code. Rows include System exclusive and Activemsg.

Notes:

- *2-1 See section 3 (EXCLUSIVE COMMUNICATION).

3. EXCLUSIVE COMMUNICATION

3.1 Request (One way) HGI 1

Table with 2 columns: Byte and Description. Rows include Exclusive status, Device-ID #, Model-ID #, Address MSB, Address LSB, Size, and Checksum.

Summed value of the all bytes between Cand-ID and EDX must be 00H (7 bits). It doesn't include cand-ID and EDX.

3.2 Data set (One way) DT1 1

Table with 2 columns: Byte and Description. Rows include Exclusive status, Device-ID #, Model-ID #, Command-ID #, Address MSB, Address LSB, Size, and Checksum.

Notes:

- *3-1 PG-1000 transmits this command when the Parameter Request button is pushed. The following value Address and Size are transmitted.

Address : [00-00-00] (4bits)
Size : [00-03-25] (4bits)

[hh-mm-ll] 'h', 'm' and 'l' are showed by hex decimal.
00hh00mm00ll (binary), MS bit must be 0.

*3-2 When operating Parameter Request, the receive connector is not MIDI IN but PARAMETER IN

*3-3 If aaaaaa - ccccc doesn't indicate the address of the tone parameter or the patch factor, the message will be ignored.

*3-4 The received value that exceeds the valid range of the parameter will be ignored.

When the Manual button is pushed, all the parameter values (knob's positions on the panel) of the Partial, Common and Patch will be transmitted.

*3-5 See section 4 (ADDRESS MAPPING OF PARAMETERS AND REMOTE FUNCTION).

4. ADDRESS MAPPING OF PARAMETERS AND REMOTE FUNCTION

4.1 Parameter base address (Top address)

Table with 2 columns: Address and Description. Rows include Upper Partial 1, Upper Partial 2, Lower Partial 1, Lower Partial 2, and Patch.

4.2 Patch write address

Transmitted when the Manual Button is pushed twice while holding the Partial Mute button down.

Table with 2 columns: Address and Description. Row includes Patch write function.

*4-1 Transmitted a Data byte consisting of two 00H (2 bytes).

4.3 Partial parameters

(Parameter address = Base address + Offset)

Table with 2 columns: Offset/Function and Value. Rows include WG Pitch Coarse, WG Pitch Fine, WG Pitch Keyfollow, WG Mod LFO Mode, WG Mod P-ENV Mode, WG Mod Bender Mode, WG Waveform, WG PCM Wave No., WG Pulse Width, WG PW Velocity Range, WG PW LFO Select, WG PW LFO Depth, WG PW Aftertouch Range, TVF Cutoff Frequency, TVF Resonance, TVF Keyfollow.

Table with 2 columns: Offset/Function and Value. Rows include TVF Bias Point/Direction, TVF Bias Level, TVF ENV Depth, TVF ENV Velocity Range, TVF ENV Depth Keyfollow, TVF ENV Time 1, TVF ENV Time 2, TVF ENV Time 3, TVF ENV Time 4, TVF ENV Time 5, TVF ENV Level 1, TVF ENV Level 2, TVF ENV Level 3, TVF ENV Sustain Level, TVF ENV End Level, TVF Mod LFO Select, TVF Mod LFO Depth, TVF Mod Aftertouch Range.

Table with 2 columns: Offset/Function and Value. Rows include TVA Level, TVA Velocity Range, TVA Bias Point/Direction, TVA Bias Level, TVA ENV Time 1, TVA ENV Time 2, TVA ENV Time 3, TVA ENV Time 4, TVA ENV Time 5, TVA ENV Level 1, TVA ENV Level 2, TVA ENV Level 3, TVA ENV Sustain Level, TVA ENV End Level, TVA ENV T1 Velo Follow, TVA ENV Time Keyfollow, TVA Mod LFO Select, TVA Mod LFO Depth, TVA Mod Aftertouch Range.

4.4 Common parameters

(Parameter address = Base address + Offset)

Table with 2 columns: Offset/Function and Value. Rows include Structure No., P-ENV Velocity Range, P-ENV Time Keyfollow, P-ENV Time 1, P-ENV Time 2, P-ENV Time 3, P-ENV Time 4, P-ENV Level 0, P-ENV Level 1, P-ENV Level 2, P-ENV Sustain Level, P-ENV End Level, Pitch Mod LFO Depth, Pitch Mod Lever, Pitch Mod Aftertouch, LFO-1 Waveform, LFO-1 Rate, LFO-1 Delay Time, LFO-1 Sync, LFO-2 Waveform, LFO-2 Rate, LFO-2 Delay Time, LFO-2 Sync, LFO-3 Waveform, LFO-3 Rate, LFO-3 Delay Time, LFO-3 Sync, Low EQ Frequency.

Table with 2 columns: Offset/Function and Value. Rows include Low EQ Gain, High EQ Frequency.

Table with 2 columns: Offset/Function and Value. Row includes High EQ Q.

Table with 2 columns: Offset/Function and Value. Rows include High EQ Gain, Chorus Type, Chorus Rate, Chorus Depth, Chorus Balance.

Table with 2 columns: Offset/Function and Value. Row includes Partial Mute.

Table with 2 columns: Offset/Function and Value. Row includes Partial Balance.

4.5 Patch Factors

(Parameter address = Base address + Offset)

Table with 2 columns: Offset/Function and Value. Rows include Portamento Mode, Hold Mode, Upper Tune Key Shift, Lower Tune Key Shift, Upper Tune Fine Tune, Lower Tune Fine Tune, Bender Range, After Bend Range, Portamento Time, Output Mode, Reverb Type, Reverb Balance, Total Volume, Tone Balance, Chase Mode, Chase Level, Chase Time.

Table with 3 columns: Value, Partial 1, Partial 2. Rows include 0 Muting, 1 Sounding, 2 Muting, 3 Sounding.