MINI COMPONENT SYSTEM
GX-707
GX-707VCD
SERVICE MANUAL

GX-707 is composed of GX-707 (main unit) and NX-P707 (speakers).
GX-707VCD is composed of GX-707VCD (main unit) and NX-P707 (speakers).
NX-P707 is composed of NX-GX505, NX-C707 and NX-E707.
The NX-C707 and NX-E707 loudspeakers are not field serviceable and must be replaced as complete units.

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 any 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 or recognition of any applicable technical capabilities, or establish a principle-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 specifications 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 part replacement. Recheck all work before you apply power to the unit.

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100713

YAMAHA
YAMAHA CORPORATION
P.O.Box 1, Hamamatsu, Japan

7. Removal of Tray & Traverse Unit

a. Remove 2 screws (⑫) and then remove the Clamper Bracket in Fig. 10.
b. Remove 1 screw (⑬) and then remove the Lever Switch in Fig. 10.
c. Disconnect the Flat Connecting Cable (9P) in Fig. 10.
d. Push the Friction Arm (the bottom side of the CD Mechanical Unit) with a screwdriver or the like and pull out the Tray forward as in Fig. 10.
e. Unhook 1 Tray hook in Fig. 11 and pull out the Tray.
f. Remove 4 screws (⑭ and ⑮) in Fig. 12.
g. Disconnect the Flat Connecting Cable (16P) and connectors (6P).
h. Take out the Traverse Unit with the Slider Cam and the TU Holder in Fig. 12.
i. Remove 2 screws (⑯) and then remove the TU Holder in Fig. 12.

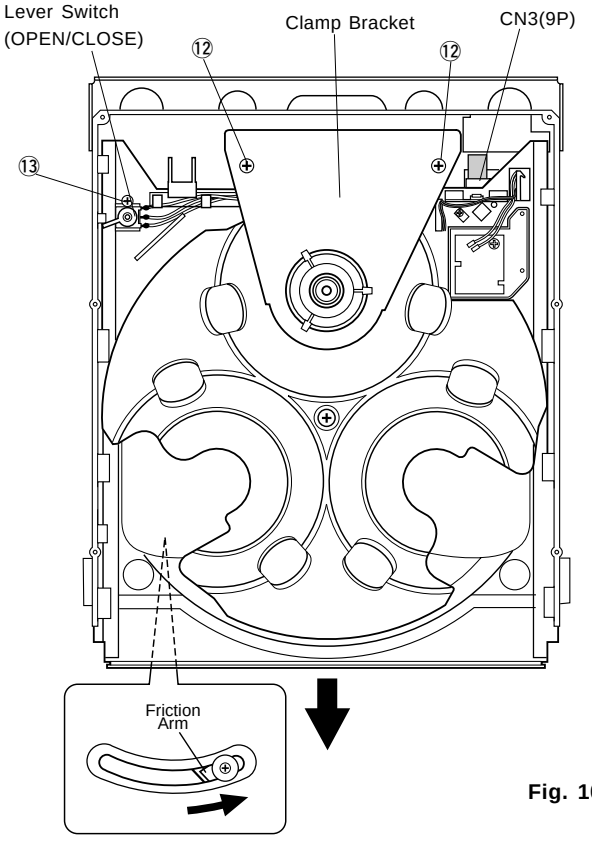


Fig. 10

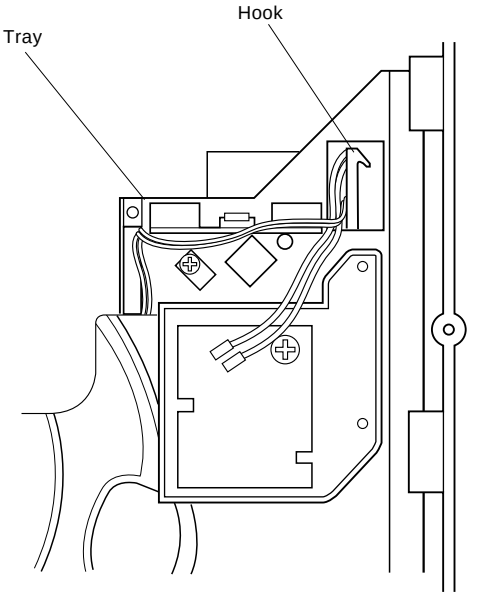


Fig. 11

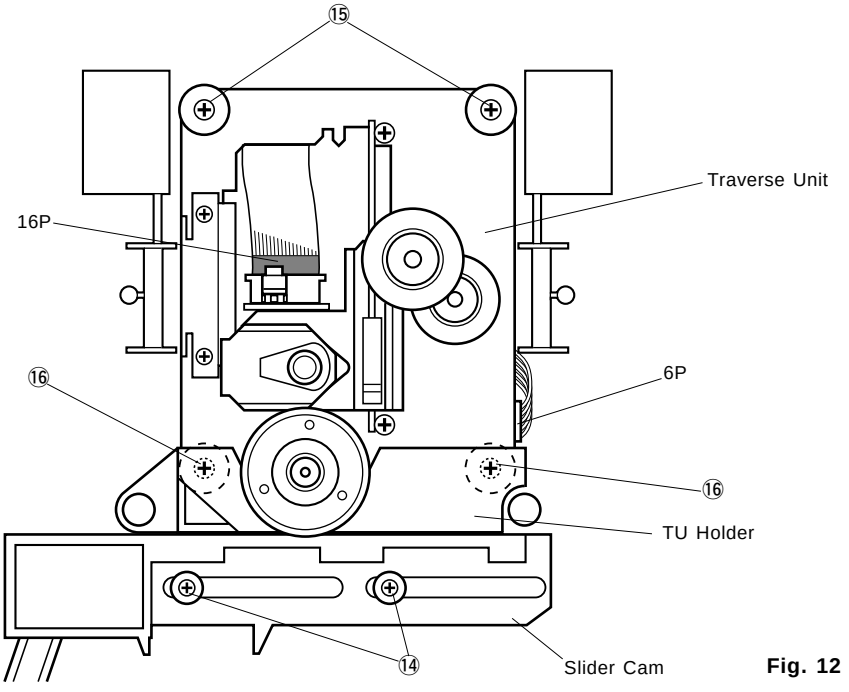


Fig. 12

"MECHANICAL ADJUSTMENT"

Step	Item to be Adjusted	Tape	Instrument required	Mode	Adjustment part	Rating	Remarks
1	Check each torque	CT-160L (FF, REW)	Torque meter	FF REW		FF, REW torque : within 70—160g/cm.	
		TW-2111A (FWD) TW-2121A (RVS)		PLAY		Take up torque : 30—60g/cm.	
						Back tension : 1.5—6g/cm.	
2	Check FF, REW take up time	AC-514 (C-60)		FF REW		80 to 120 seconds.	
3	Azimuth	MTT-114N 10kHz, –10dB	ACVM Oscilloscope	PLAY	Azimuth adjustment screw. (Fig. A)	Playback output of L and R is maximum and phase difference should be minimum both directions. (Fig. B)	After the adjustment make sure to apply screw lock paint.
4	Tape Speed	MTT-111N 3kHz, –10dB	Frequency counter	PLAY	VR7	3000Hz ± 15Hz	Perform adjustment at the center of the test tape, if possible.
5	Wow/Flutter	MTT-111N 3kHz, –10dB	Wow/flutter meter	PLAY		Less than 0.19% (WRMS)	Confirm at center of the test tape, if possible.

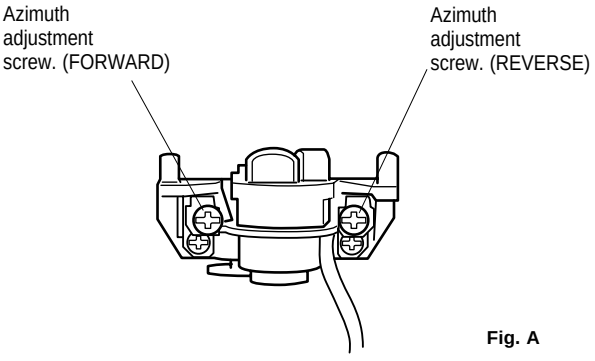


Fig. A

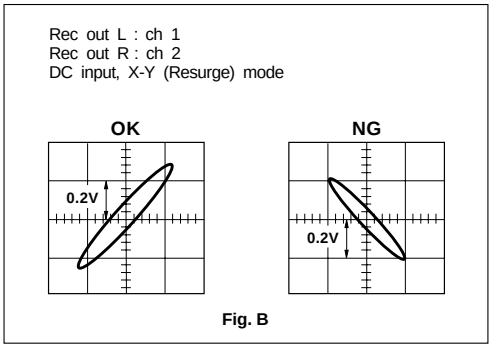


Fig. B

"ELECTRICAL ADJUSTMENT"

- Use 560 mV (250 nwb/m) for 0 dB as the standard level of the unit.
  0dB = 250 nwb/m (315 Hz) = – 7 dBV (Rec out level)

< Playback section >

Step	Item to be Adjusted	Tape	Instrument required	Mode	Points of measurement	Adjustment parts	Rating
1	Playback level (315Hz)	MTT-212N 315Hz, 250nwb/m	ACVM	PLAY	REC OUT	VR4 (L ch) VR1 (R ch)	– 7 dBV ± 0.3 dBV
2	Confirmation of playback frequency response	Test tape for frequency check. 3180µs + 120µs (LH) (MTT-256) 3180µs + 70µs (CrO_2) (MTT-356)	ACVM Oscilloscope	PLAY	REC OUT		Check that the 10kHz playback level is within 0 ± 3 dB of the 1kHz playback level. (Fig. C)

● PLAYBACK FREQUENCY RESPONSE

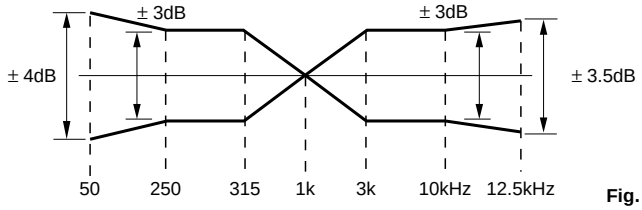
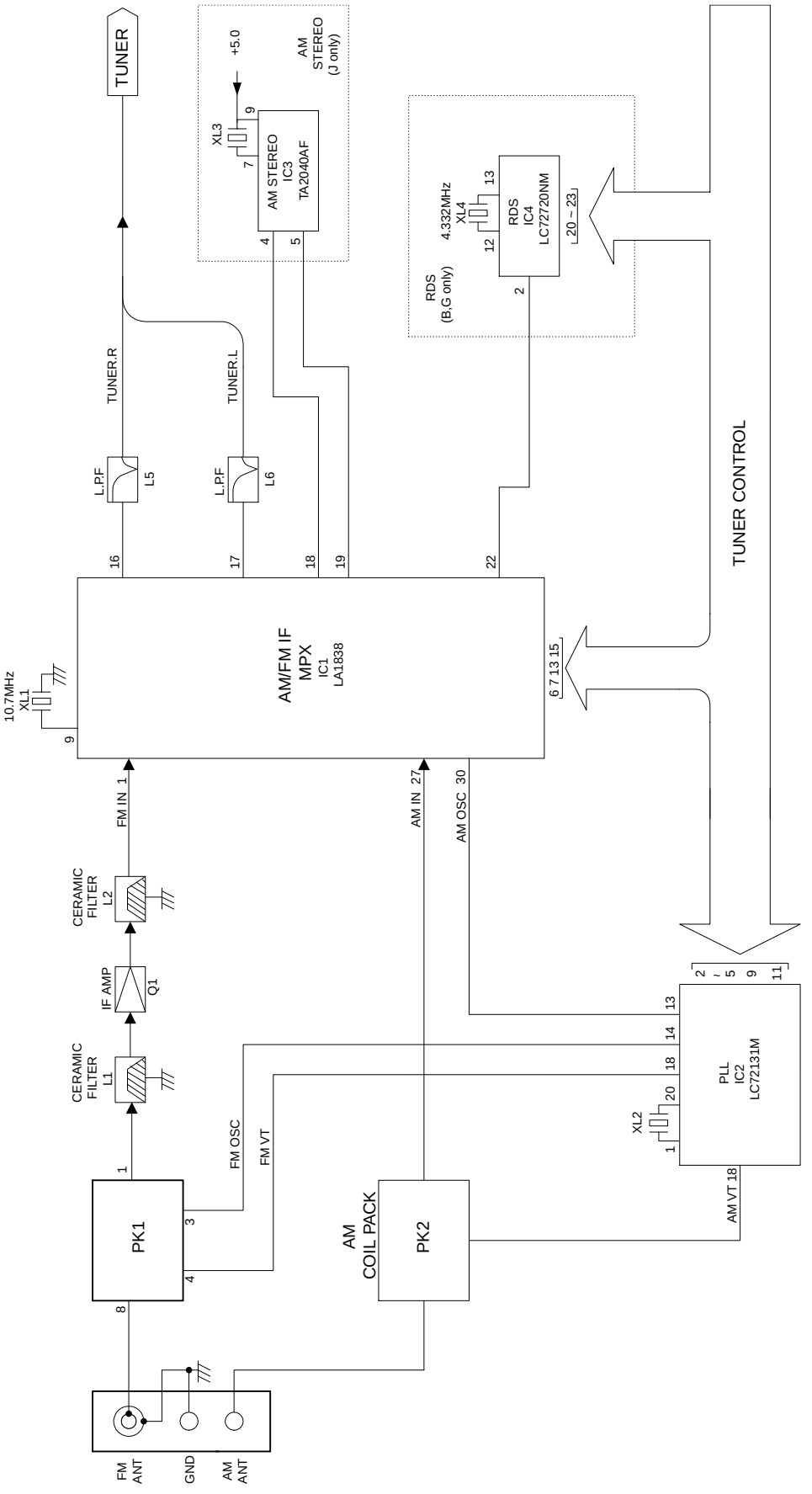


Fig. C

■ BLOCK DIAGRAM



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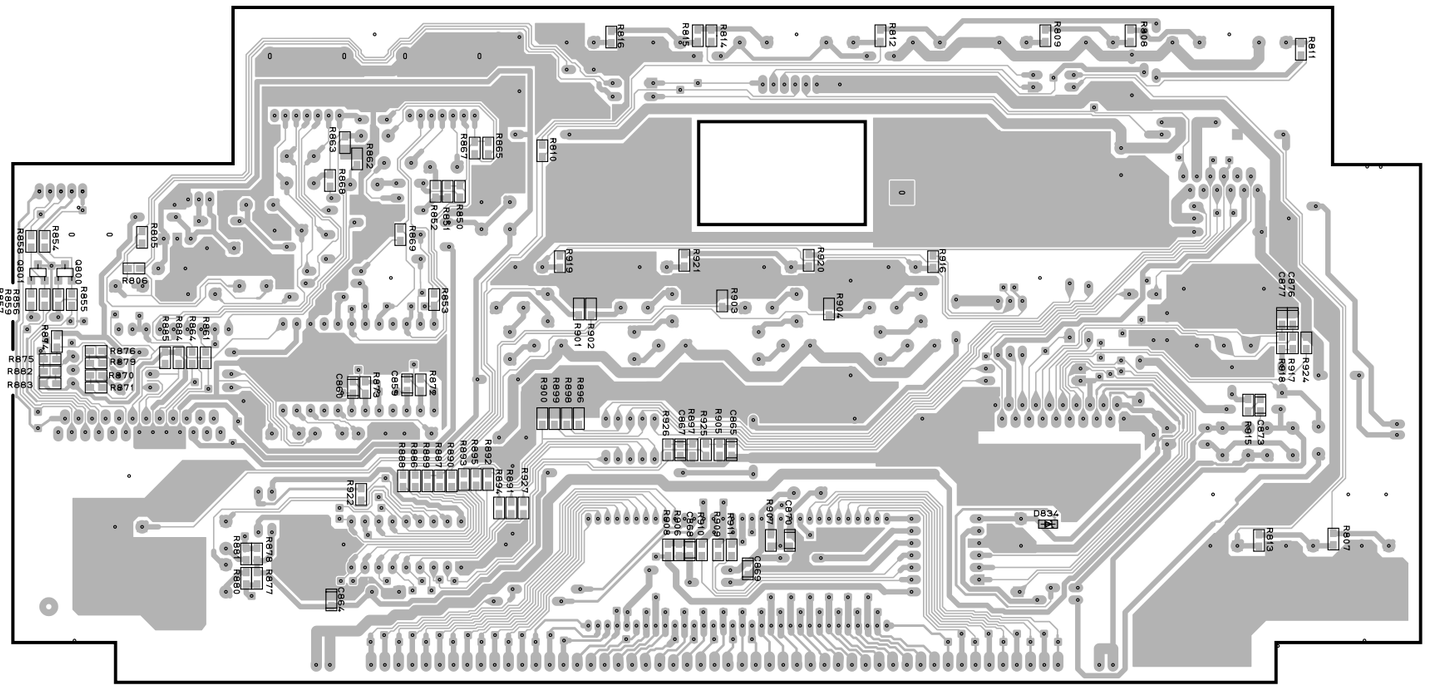
■ PRINTED CIRCUIT BOARD (Foil side)

● **Semiconductor Location**

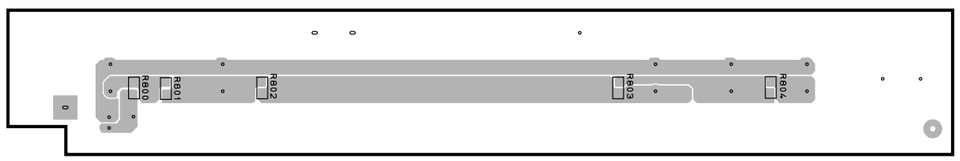
Ref. No.	Location
D834	E3

Ref. No.	Location
Q800	B2
Q801	B2

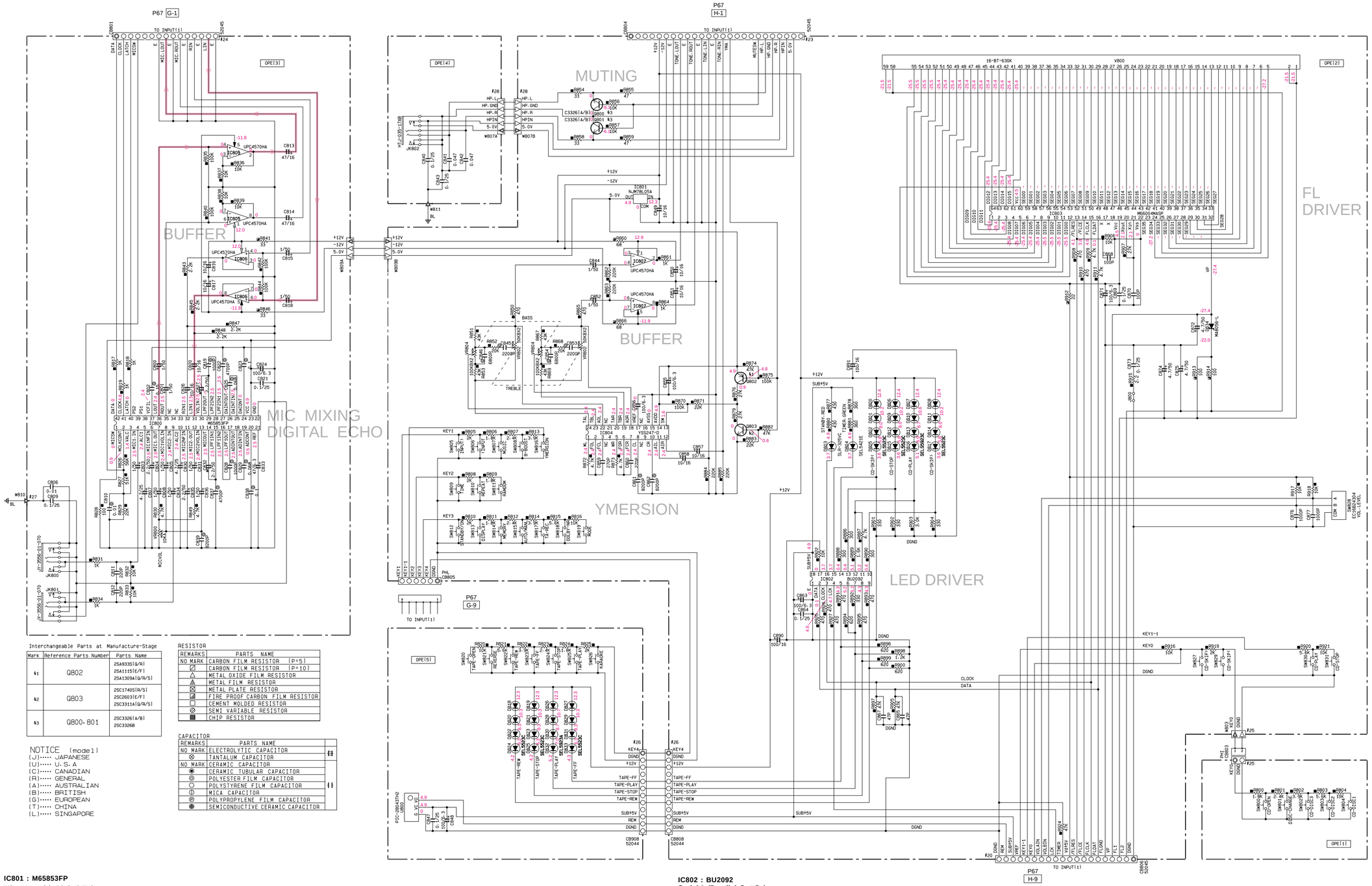
OPERATION P.C.B. (2) (Surface Mount Device)



OPERATION P.C.B. (1) (Surface Mount Device)



■ SCHEMATIC DIAGRAM (GX-707VCD OPERATION)



Interchangeable Parts at Manufacture-Stage

Mark	Reference Parts Number	Parts Name
k1	Q802	2SA933S[Q/R] 2SA1115[E/F] 2SA1309A[Q/R/S]
k2	Q803	2SC1740S[R/S] 2SC2603[E/F] 2SC3311A[Q/R/S]
k3	Q800·801	2SC3326[A/B] 2SC3326B

NOTICE [model]
(J)····· JAPANESE
(U)····· U.S.A
(C)····· CANADIAN
(R)····· GENERAL
(A)····· AUSTRALIAN
(B)····· BRITISH
(G)····· EUROPEAN
(T)····· CHINA
(L)····· SINGAPORE

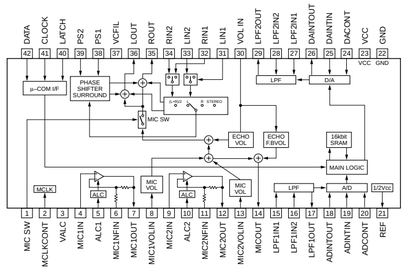
RESISTOR

REMARKS	PARTS NAME
NO MARK	CARBON FILM RESISTOR (P=5)
☑	CARBON FILM RESISTOR (P=10)
△	METAL OXIDE FILM RESISTOR
▲	METAL FILM RESISTOR
⊠	METAL PLATE RESISTOR
◪	FIRE PROOF CARBON FILM RESISTOR
□	CEMENT MOLDED RESISTOR
⊘	SEMI VARIABLE RESISTOR
■	CHIP RESISTOR

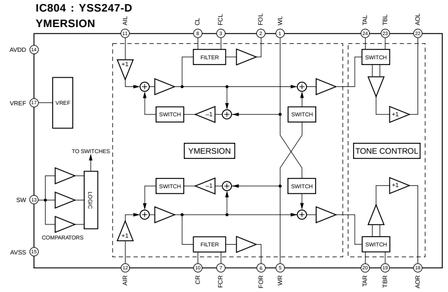
CAPACITOR

REMARKS	PARTS NAME	
NO MARK	ELECTROLYTIC CAPACITOR	⫷⫸
⊗	TANTALUM CAPACITOR	
NO MARK	CERAMIC CAPACITOR	⫷⫸
◉	CERAMIC TUBULAR CAPACITOR	
◎	POLYESTER FILM CAPACITOR	
○	POLYSTYRENE FILM CAPACITOR	
ⓘ	MICA CAPACITOR	
ⓟ	POLYPROPYLENE FILM CAPACITOR	
◉	SEMICONDUCTIVE CERAMIC CAPACITOR	

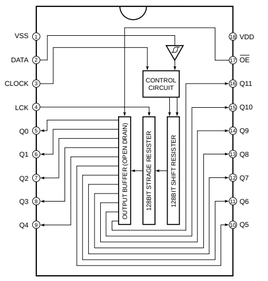
IC801 : M65853FP
Mic Amp with Digital Echo



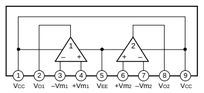
IC804 : YSS247-D
YMERSION



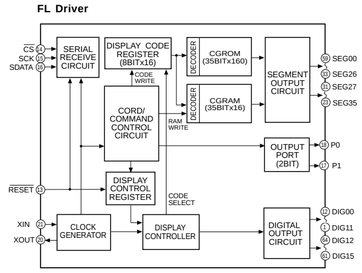
IC802 : BU2092
Serial In/Parallel Out Driver



IC805~807 : μPC4570HA
Dual OP-Amp



IC803 : M66004MASP
FL Driver



** All voltage are measured with a 10MΩ/V DC electric volt meter.*
** Components having special characteristics are marked ⚠ and must be replaced with parts having specifications equal to those originally installed.*
** Schematic diagram is subject to change without notice.*

GX-707 P.C.B. OPERATION

	Schm Ref.	PART NO.	Description	
*	D807	V5479500	LED(or)	SELS5923C
*	D808	V5820000	LED(gr)	SEL5523C
*	D809	V5820000	LED(gr)	SEL5523C
*	D810	V5479500	LED(or)	SELS5923C
*	D811	V5820000	LED(gr)	SEL5523C
*	D812	V5820000	LED(gr)	SEL5523C
*	D813	V5479500	LED(or)	SELS5923C
*	D814	V5820000	LED(gr)	SEL5523C
*	D815	V5820000	LED(gr)	SEL5523C
*	D816	V5479500	LED(or)	SELS5923C
*	D817	V5820000	LED(gr)	SEL5523C
*	D818	V5820000	LED(gr)	SEL5523C
*	D819	V5820000	LED(gr)	SEL5523C
*	D820	V5820000	LED(gr)	SEL5523C
*	D821	V5820000	LED(gr)	SEL5523C
*	D822	V5820000	LED(gr)	SEL5523C
*	D823	V5820000	LED(gr)	SEL5523C
*	D824	V5820000	LED(gr)	SEL5523C
*	D825	V5820000	LED(gr)	SEL5523C
	D826	V5910100	LED(or)	SEL5923A
*	D827	V5820000	LED(gr)	SEL5523C
	D828	V5910100	LED(or)	SEL5923A
*	D829	V5820000	LED(gr)	SEL5523C
	D830	V5910100	LED(or)	SEL5923A
*	D831	V5820000	LED(gr)	SEL5523C
	D832	V5910100	LED(or)	SEL5923A
*	D833	V5820000	LED(gr)	SEL5523C
	D834	VU992900	DIODE.ZENR	MA8056-L 5.4V
	IC801	XJ757A00	IC	NJM78L05A-T3
*	IC802	XW416A00	IC	BU2092 SER/PAR
	IC803	XW059A00	IC	M66004MASP
	IC804	XT952A00	IC	YSS247-D
	IC807	XB247A00	IC	uPC4570HA
	JK802	VT941600	JACK.MNI	SW
	PN801	V3750200	PIN	L=70
	PN802	V3750200	PIN	L=70
	PN803	V3750200	PIN	L=70
	Q800	VD303700	TR	2SC3326 A,B
	Q801	VD303700	TR	2SC3326 A,B
	Q802	iA093320	TR	2SA933S Q,R
	Q803	iC174020	TR	2SC1740S R,S
	R860	HV754680	R.CAR.FP	68Ω 1/4W
	R866	HV754680	R.CAR.FP	68Ω 1/4W
	R912	HV754220	R.CAR.FP	22Ω 1/4W
	R913	HV755100	R.CAR.FP	100Ω 1/4W
	R914	HV755100	R.CAR.FP	100Ω 1/4W
	SW800	VG392900	SW.TACT	SKHVAA
	SW801	VG392900	SW.TACT	SKHVAA
	SW802	VG392900	SW.TACT	SKHVAA
	SW803	VG392900	SW.TACT	SKHVAA
	SW804	VG392900	SW.TACT	SKHVAA
	SW805	VG392900	SW.TACT	SKHVAA
	SW806	VG392900	SW.TACT	SKHVAA

* New Parts

	Schm Ref.	PART NO.	Description	
	SW807	VG392900	SW.TACT	SKHVAA
	SW808	VG392900	SW.TACT	SKHVAA
	SW809	VG392900	SW.TACT	SKHVAA
	SW810	VG392900	SW.TACT	SKHVAA
	SW811	VG392900	SW.TACT	SKHVAA
	SW812	VG392900	SW.TACT	SKHVAA
	SW813	VG392900	SW.TACT	SKHVAA
	SW814	VG392900	SW.TACT	SKHVAA
	SW815	VG392900	SW.TACT	SKHVAA
	SW816	VG392900	SW.TACT	SKHVAA
	SW817	VG392900	SW.TACT	SKHVAA
	SW818	VG392900	SW.TACT	SKHVAA
	SW819	VG392900	SW.TACT	SKHVAA
	SW820	VG392900	SW.TACT	SKHVAA
	SW821	VG392900	SW.TACT	SKHVAA
	SW822	VG392900	SW.TACT	SKHVAA
	SW823	VG392900	SW.TACT	SKHVAA
	SW824	VG392900	SW.TACT	SKHVAA
	SW825	VG392900	SW.TACT	SKHVAA
	SW827	VG392900	SW.TACT	SKHVAA
	SW828	VT941400	SW.RT.ENC	EC16B24304
	SW829	VG392900	SW.TACT	SKHVAA
	SW830	VG392900	SW.TACT	SKHVAA
	SW831	VG392900	SW.TACT	SKHVAA
	U800	V2856200	L.DTCT	PIC-28043TH2
	V800	V2959000	FL.DSPLY	16-BT-63GK
*	VR802	V5089100	VR	50KΩ
*	VR804	V5089200	VR	100KΩ
		VU351500	SPACER	FL
		V3112800	FL.SHEET	
		Vi491100	FER.CORE	BP53RB19012080M

* New Parts

GX-707VCD P.C.B. EFFECT

Schm Ref.	PART NO.	Description		
C10	UR837470	C.EL	47uF	16V
C11	UA655470	C.MYLAR	0.47uF	50V
C12	UR847100	C.EL	10uF	25V
C13	UA655100	C.MYLAR	0.1uF	50V
C14	UR865470	C.EL	0.47uF	50V
C15	UR866470	C.EL	4.7uF	50V
C16	UR865470	C.EL	0.47uF	50V
C17	UR866470	C.EL	4.7uF	50V
C18	UR865220	C.EL	0.22uF	50V
C19	UR866330	C.EL	3.3uF	50V
C20	UA655150	C.MYLAR	0.15uF	50V
C21	UA655150	C.MYLAR	0.15uF	50V
C22	UR866330	C.EL	3.3uF	50V
C23	UR865220	C.EL	0.22uF	50V
C24	UR866470	C.EL	4.7uF	50V
C25	UR865470	C.EL	0.47uF	50V
C26	UR866470	C.EL	4.7uF	50V
C27	UR865470	C.EL	0.47uF	50V
C28	UA655100	C.MYLAR	0.1uF	50V
C29	UR847100	C.EL	10uF	25V
C30	UR847100	C.EL	10uF	25V
C31	UA655100	C.MYLAR	0.1uF	50V
C32	UR847100	C.EL	10uF	25V
C33	UR847100	C.EL	10uF	25V
C34	UR838220	C.EL	220uF	16V
C35	UB013100	C.CE.M.CHP	1000pF	50V
C36	UR838330	C.EL	330uF	16V
C37	UA954470	C.MYLAR	0.047uF	50V
C38	UA954220	C.MYLAR	0.022uF	50V
C39	UA952680	C.MYLAR	680pF	50V
C40	UR838220	C.EL	220uF	16V
C41	UA954820	C.MYLAR	0.082uF	50V
C42	UA953330	C.MYLAR	3300pF	50V
C43	UA954820	C.MYLAR	0.082uF	50V
C44	UR865470	C.EL	0.47uF	50V
C45	UR865330	C.EL	0.33uF	50V
C46	UR847100	C.EL	10uF	25V
C47	UR847100	C.EL	10uF	25V
C48	UR847100	C.EL	10uF	25V
C49	UR866220	C.EL	2.2uF	50V
C50	UR838220	C.EL	220uF	16V
C51	UR866470	C.EL	4.7uF	50V
C52	UA954100	C.MYLAR	0.01uF	50V
C53	UA953470	C.MYLAR	4700pF	50V
C54	UR838220	C.EL	220uF	16V
C55	UR838220	C.EL	220uF	16V
C56	UR847100	C.EL	10uF	25V
C57	UR866470	C.EL	4.7uF	50V
C58	UB052100	C.CE.M.CHP	100pF	50V
C59	UB052100	C.CE.M.CHP	100pF	50V
C60	UB052100	C.CE.M.CHP	100pF	50V
C61	UR837100	C.EL	10uF	16V
C62	UA952470	C.MYLAR	470pF	50V
C63	UR847100	C.EL	10uF	25V
C64	UA953150	C.MYLAR	1500pF	50V
C65	UA952560	C.MYLAR	560pF	50V
C66	UR837100	C.EL	10uF	16V

∗ New Parts

Schm Ref.	PART NO.	Description		
C67	UB052100	C.CE.M.CHP	100pF	50V
C69	UB052100	C.CE.M.CHP	100pF	50V
C70	UR837100	C.EL	10uF	16V
C71	UR847100	C.EL	10uF	25V
C72	UR837100	C.EL	10uF	16V
C73	UB052100	C.CE.M.CHP	100pF	50V
C74	UB012220	C.CE.M.CHP	220pF	50V
C75	UB012220	C.CE.M.CHP	220pF	50V
C76	UR837100	C.EL	10uF	16V
C77	UR837100	C.EL	10uF	16V
C78	UR865220	C.EL	0.22uF	50V
C79	UR837100	C.EL	10uF	16V
C80	UR865220	C.EL	0.22uF	50V
C81	UR837100	C.EL	10uF	16V
C82	UB012220	C.CE.M.CHP	220pF	50V
C83	UB012220	C.CE.M.CHP	220pF	50V
C84	UB052100	C.CE.M.CHP	100pF	50V
C85	UR837100	C.EL	10uF	16V
C86	UB045100	C.CE.M.CHP	0.1uF	50V
C90	UR837100	C.EL	10uF	16V
C300	UB012220	C.CE.M.CHP	220pF	50V
C301	UB051220	C.CE.M.CHP	22pF	50V
C302	UB052100	C.CE.M.CHP	100pF	50V
C303	UA655220	C.MYLAR	0.22uF	50V
C304	UR847220	C.EL	22uF	25V
C305	UB045100	C.CE.M.CHP	0.1uF	50V
C306	UR867100	C.EL	10uF	50V
C307	UR828220	C.EL	220uF	10V
C308	UR867100	C.EL	10uF	50V
C309	UA954100	C.MYLAR	0.01uF	50V
C310	UA954100	C.MYLAR	0.01uF	50V
C311	UA954100	C.MYLAR	0.01uF	50V
C313	UB044100	C.CE.M.CHP	0.01uF	50V
C314	UA954100	C.MYLAR	0.01uF	50V
C315	UA953220	C.MYLAR	2200pF	50V
C316	UA953220	C.MYLAR	2200pF	50V
D300	VT332900	DIODE	1SS355	
D301	VT332900	DIODE	1SS355	
D302	VU992300	DIODE.ZENR	MA8047-H 4.9V	
D303	VT332900	DIODE	1SS355	
IC1	XH436A00	IC	LA7956	
IC2	iG054600	IC	HD14053BP MPX	
IC5	XV873A00	IC	LV1035M	
IC7	XB247A00	IC	uPC4570HA	
IC8	XB247A00	IC	uPC4570HA	
IC9	XB247A00	IC	uPC4570HA	
IC10	XS884A00	IC	LC7536Y	
IC11	XV466A00	IC	LM1875T POWER	
L1	VD473700	COIL	60uH	
L2	VU038100	COIL	1.5uH	
L3	VU038100	COIL	1.5uH	
PJ1	VV307100	JACK.PIN	4P	
Q1	iC1815I0	TR	2SC1815 Y	
Q2	iC1815I0	TR	2SC1815 Y	
Q3	iC174020	TR	2SC1740S R,S	
Q4	VG722000	TR.DGT	DTC144ES	
Q5	VG722000	TR.DGT	DTC144ES	

∗ New Parts

■ EXPLODED VIEW (CD Mechanism Unit)