

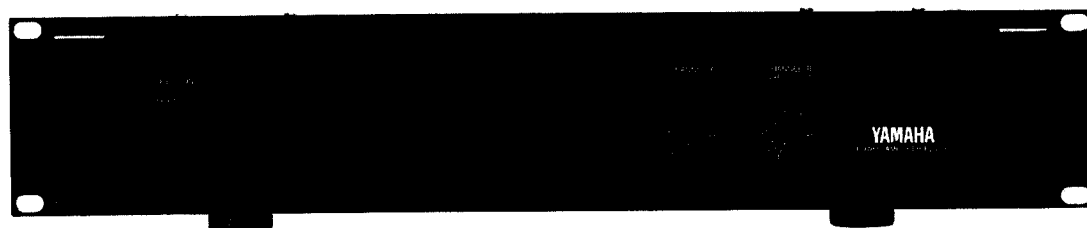
POWER AMPLIFIER

P2075/P2075C

SERVICE MANUAL



P2075



P2075C

■ CONTENTS

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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 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 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.

SPECIFICATIONS

POWER OUTPUT LEVEL

(STEREO)	50W + 50W	RL = 8ohms, f = 20Hz to 20kHz, THD $\leq$ 0.05%
	75W + 75W	RL = 4ohms, f = 20Hz to 20kHz, THD $\leq$ 0.1%
(BTL-MONO)	100W	RL = 16ohms, f = 20Hz to 20kHz, THD $\leq$ 0.05%
	150W	RL = 8ohms, f = 20Hz to 20kHz, THD $\leq$ 0.1%

FREQUENCY RESPONSE

+0, -1dB, f = 10Hz to 30kHz, RL = 8ohms, PO = 1W

POWER BAND WIDTH (THD $\leq$ 0.1%)

(STEREO)	10Hz to 50kHz	PO = 25W, RL = 8ohms, 10Hz to 50kHz
	PO = 38W, RL = 4ohms	
(BTL-MONO)	10Hz to 30kHz	PO = 50W, RL = 16ohms, 10Hz to 30kHz
	PO = 75W, RL = 8ohms	

TOTAL HARMONIC DISTORTION

(STEREO)	$\leq$ 0.01%	PO = 25W, f = 1kHz, RL = 8ohms
	$\leq$ 0.05%	PO = 25W, f = 20Hz to 20kHz, RL = 8ohms
	$\leq$ 0.01%	PO = 38W, f = 1kHz, RL = 4ohms
	$\leq$ 0.05%	PO = 38W, f = 20Hz to 20kHz, RL = 4ohms
(BTL-MONO)	$\leq$ 0.01%	PO = 50W, f = 1kHz, RL = 16ohms
	$\leq$ 0.05%	PO = 50W, f = 20Hz to 20kHz, RL = 16ohms
	$\leq$ 0.01%	PO = 75W, f = 1kHz, RL = 8ohms
	$\leq$ 0.05%	PO = 75W, f = 20Hz to 20kHz, RL = 8ohms

INTER MODULATION DISTORTION (70Hz, 7kHz = 4:1)

(STEREO)	$\leq$ 0.05%	PO = 25W, RL = 8ohms, $\leq$ 0.05% PO = 38W, RL = 4ohms
(BTL-MONO)	$\leq$ 0.05%	PO = 50W, RL = 16ohms, $\leq$ 0.05% PO = 75W, RL = 8ohms

CHANNEL SEPARATION (INPUT Short, ATT Max., RL = 8ohms,

<P2075>	PO = -3dB point from nominal power)	
$\geq$ 80dB	f = 1kHz	
$\geq$ 100	f = 1kHz, RL = 8ohms, $\geq$ 70	f = 20Hz to 20kHz, RL = 8ohms
<P2075C>	PO = -3dB point from nominal power)	
$\geq$ 80dB	f = 1kHz	
$\geq$ 70dB	f = 20Hz to 20kHz	

DAMPING FACTOR

<P2075>	$\geq$ 100	f = 1kHz, RL = 8ohms, $\geq$ 70
<P2075C>	$\geq$ 100	f = 1kHz, RL = 8ohms, $\geq$ 70
	$\geq$ 70	f = 20Hz to 20kHz, RL = 8ohms

SIGNAL TO NOISE

(STEREO)	$\geq$ 100dB	INPUT Short @ 12.7kHz LPF
	$\geq$ 105dB	INPUT Short @ IHF-A Network
(BTL-MONO)	$\geq$ 95dB	INPUT Short @ 12.7kHz LPF
	$\geq$ 100dB	INPUT Short @ IHF-A Network

SLEW RATE

(STEREO)	14V/ μ sec	RL = 8ohms, Full Swing
(BTL-MONO)	26V/ μ sec	RL = 16ohms, Full Swing

SENSITIVITY

+4dBm (1.23V rms) PO = 75W, RL = 4ohms, ATT Max., f = 1kHz

VOLTAGE GAIN

23.0dB f = 1kHz, RL = 4ohms, ATT Max.

INPUT IMPEDANCE

$\geq$ 15kohms, Balanced or unbalanced

RESIDUAL NOISE

$\leq$ -78dBm ATT Min., @ 12.7kHz, LPF $\geq$ -86dBm ATT Min., IHF-A Network

INDICATORS

Signal: Green LED f = 20Hz to 20kHz, VO $\geq$ 2V Clipping: Red LED THD $\geq$ 1%
Protection: Red LED during the protection or muting is on.
Protection: $\geq$ 60°C Heat sink temperature
Pilot: Red LED Power ON

PROTECTION CIRCUITS

Muting: 6 $\pm$ 2sec. After Power ON DC sense: DC $\pm$ 2V Output Voltage
Thermal: $\geq$ 85°C Heat sink temperature (General model)
PC limiter: ON RL = $\leq$ 2ohms

CONTROLS

Front: 2x31 step INPUT Attenuator, Push ON/Push OFF POWER switch.
Rear: MONO/STEREO MODE switch, IN/OUT Transformer switch, Voltage Selector switch (General model only)

POWER REQUIREMENTS

General model	220/240V AC, 50/60Hz
U.S. & Canadian models	120V AC, 60Hz

POWER CONSUMPTION

General model	400W
U.S. & Canadian models	250W, 300VA

WEIGHT

9.5 kg (21 lbs)

DIMENSIONS (W x H x D)

480 x 98 x 364 (18-7/8" x 3-7/8" x 14-3/8")

ACCESSORIES

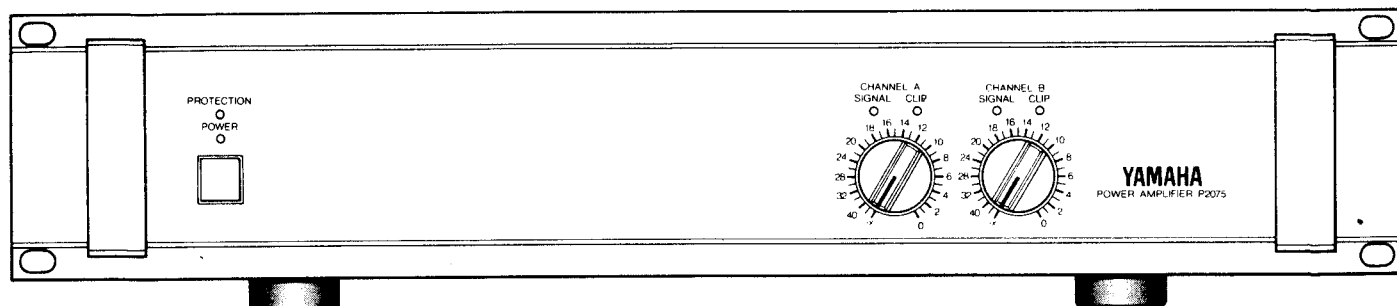
<P2075>
Rubber caps to discourage unauthorized or accidental changes in setting of input attenuators (included).
<P2075C>
Rubber caps to discourage unauthorized or accidental changes in setting of input attenuators (included). BRT15K input transformers, P150T output transformers for 25 & 70V lines (optional).

• All specifications subject to change without notice.

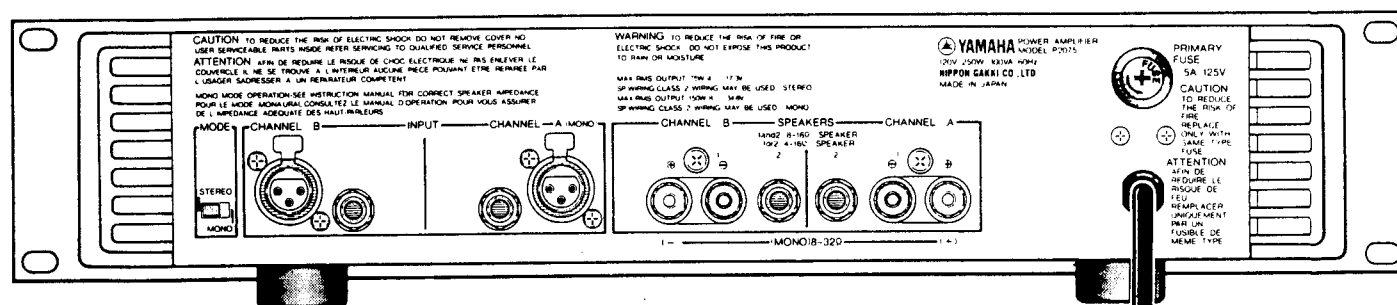
■ PANEL LAYOUT

P2075

● Front

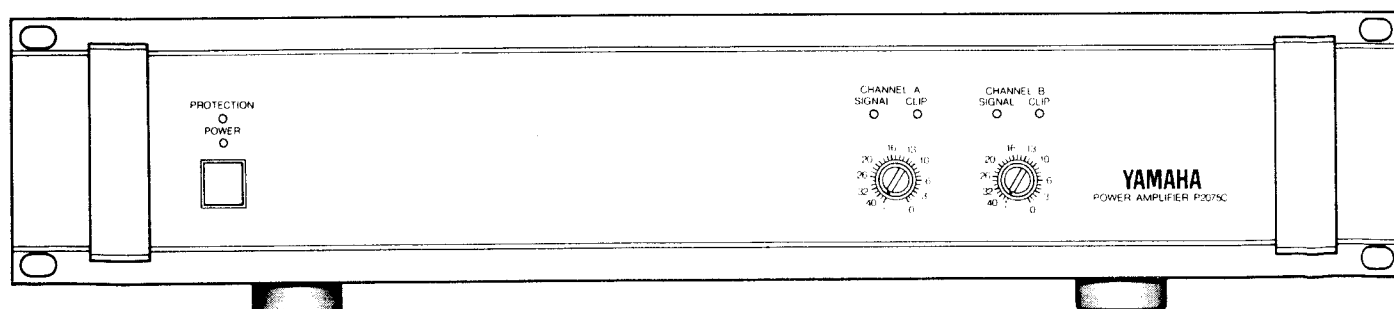


● Rear



P2075C

● Front



● Rear

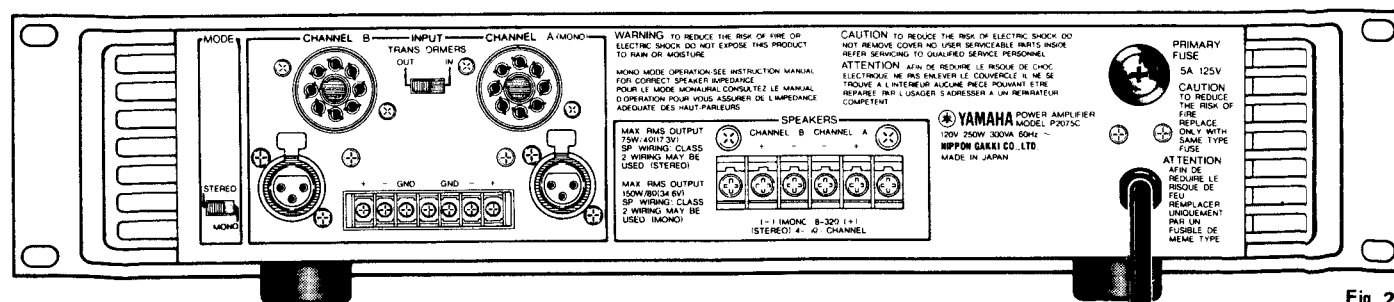
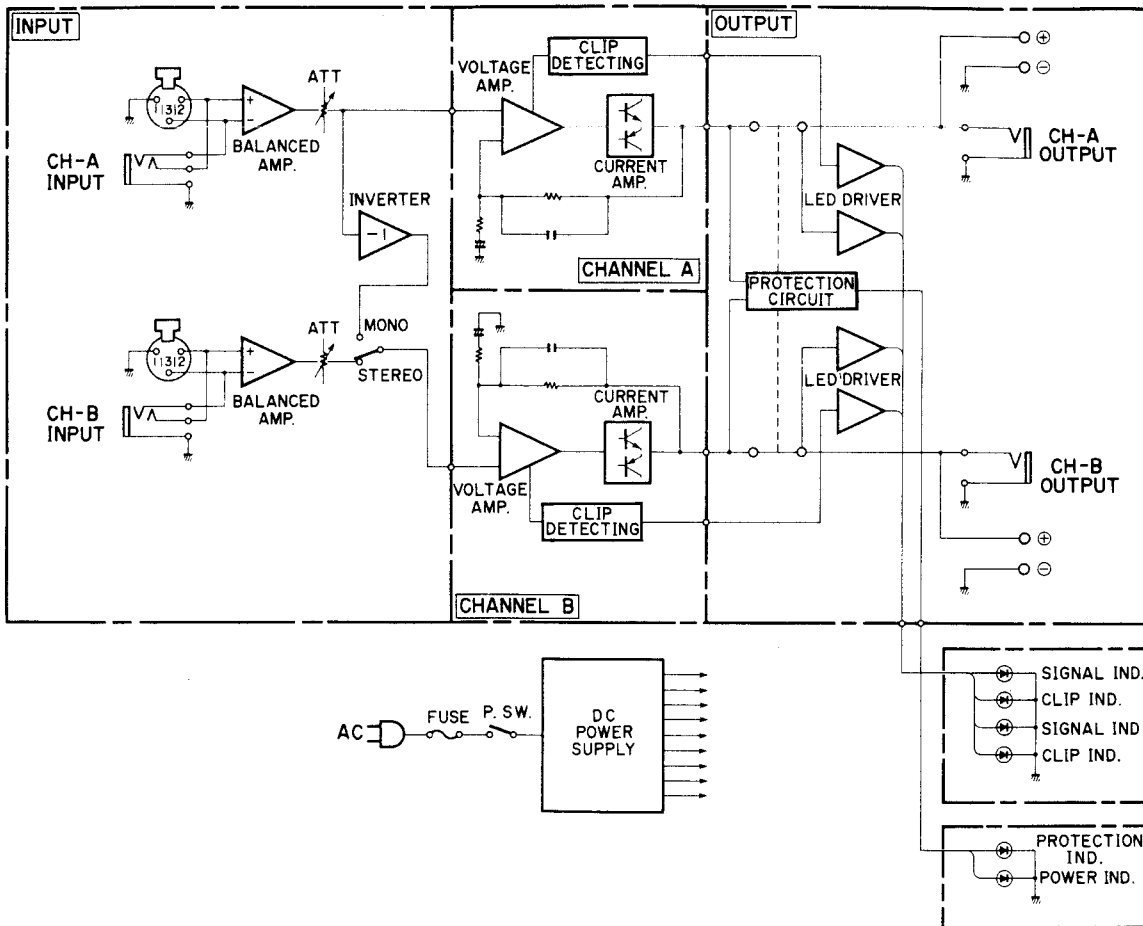


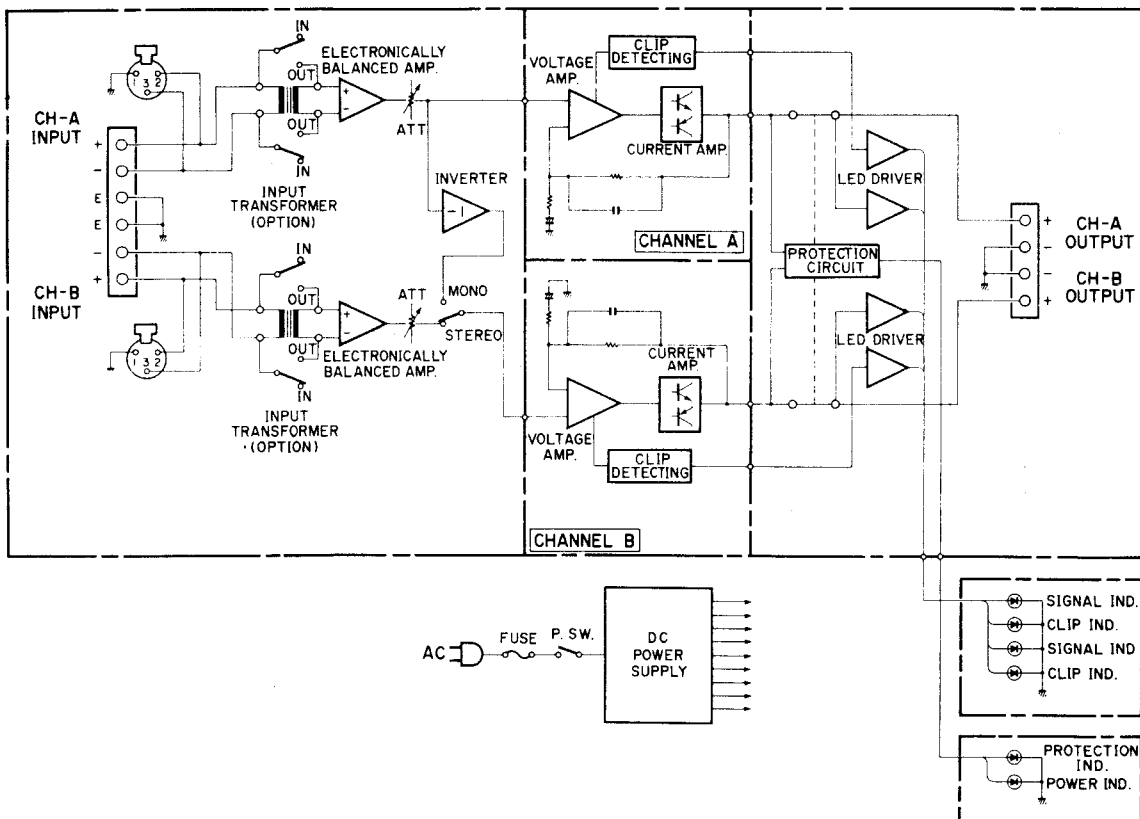
Fig. 2

BLOCK DIAGRAM

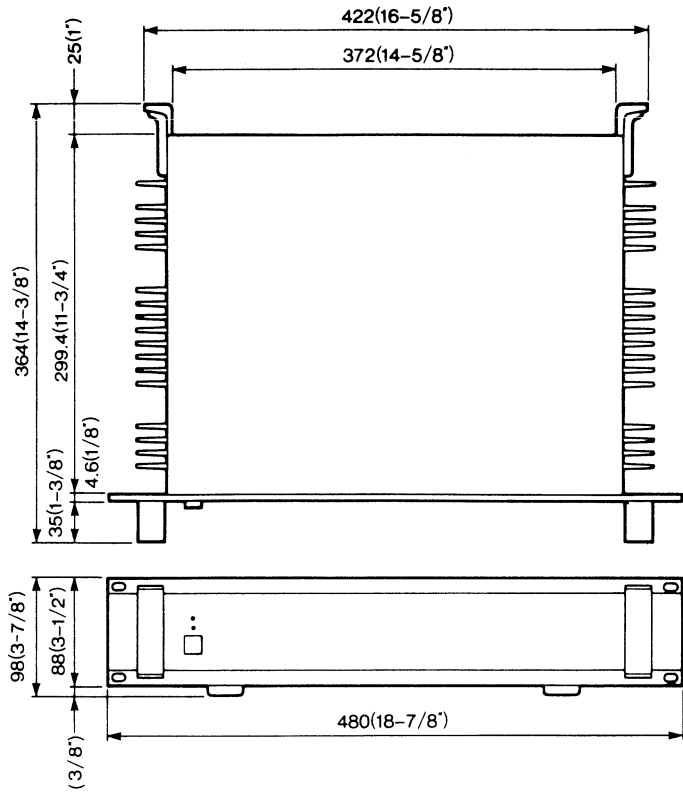
P2075



P2075C



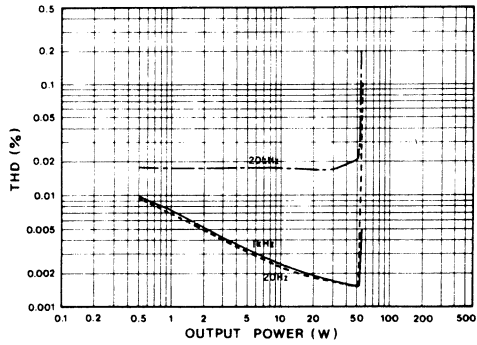
DIMENSIONS



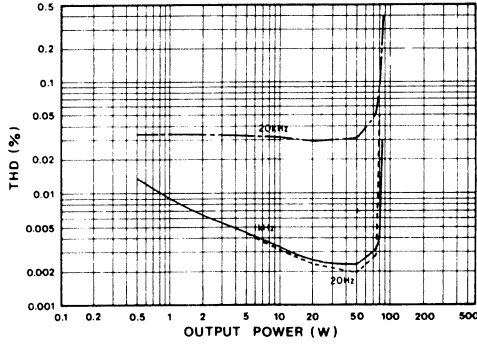
Unit: mm (Inch)

PERFORMANCE GRAPHS

THD vs OUTPUT POWER CHARACTERISTICS
Load Impedance: 8Ω
Mode: STEREO
Both Channels Driven

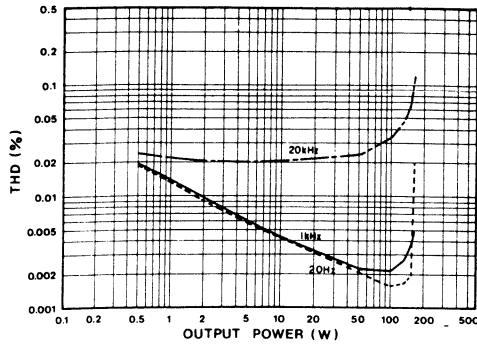


THD vs OUTPUT POWER CHARACTERISTICS
Load Impedance: 4Ω
Mode: STEREO
Both Channels Driven



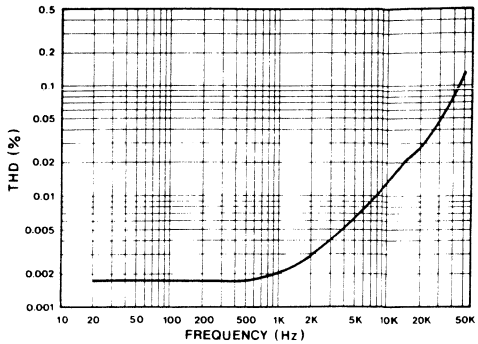
THD vs OUTPUT POWER CHARACTERISTICS

Load Impedance: 8Ω
Mode: MONO (BTL)



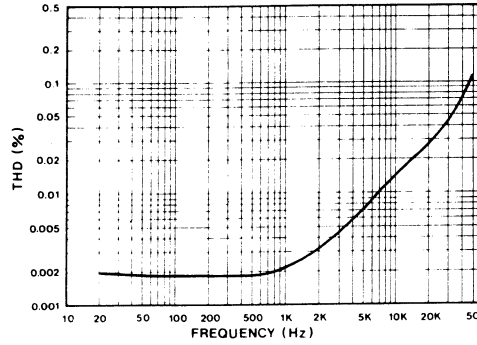
THD vs FREQUENCY CHARACTERISTICS

Load Impedance: 8Ω
Mode: MONO (BTL)
Output Power: 75W constant



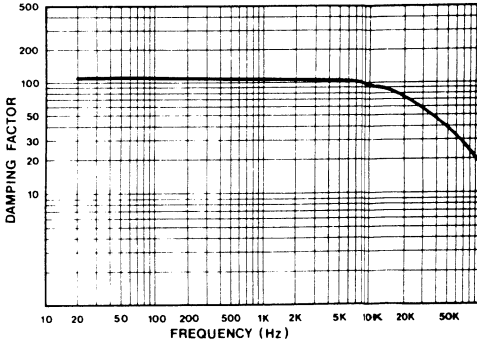
THD vs FREQUENCY CHARACTERISTICS

Load Impedance: 4Ω
Mode: STEREO
Both Channels Driven
Output Power: 38W constant



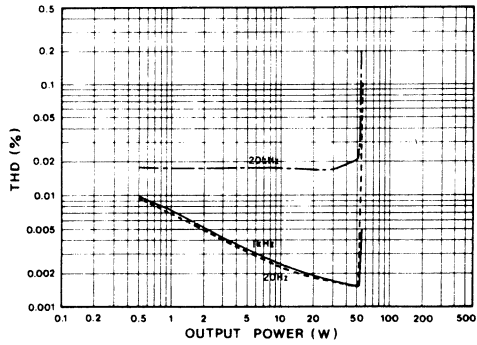
DAMPING FACTOR CHARACTERISTICS

Load Impedance: 8Ω
Mode: STEREO
Output Power: 25W constant



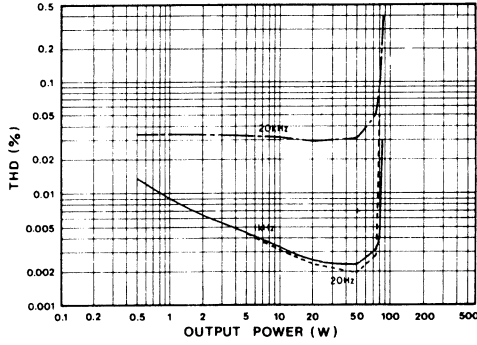
THD vs OUTPUT POWER CHARACTERISTICS

Load Impedance: 8Ω
Mode: STEREO
Both Channels Driven



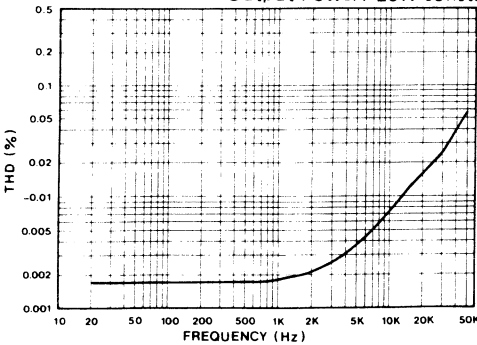
THD vs OUTPUT POWER CHARACTERISTICS

Load Impedance: 4Ω
Mode: STEREO
Both Channels Driven



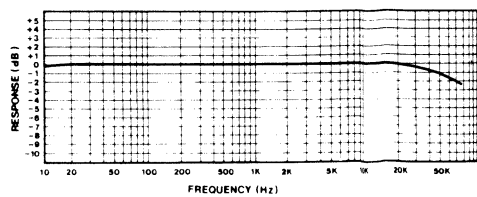
THD vs FREQUENCY CHARACTERISTICS

Load Impedance: 8Ω
Mode: STEREO
Both Channels Driven
Output Power: 25W constant



FREQUENCY RESPONSE CHARACTERISTICS

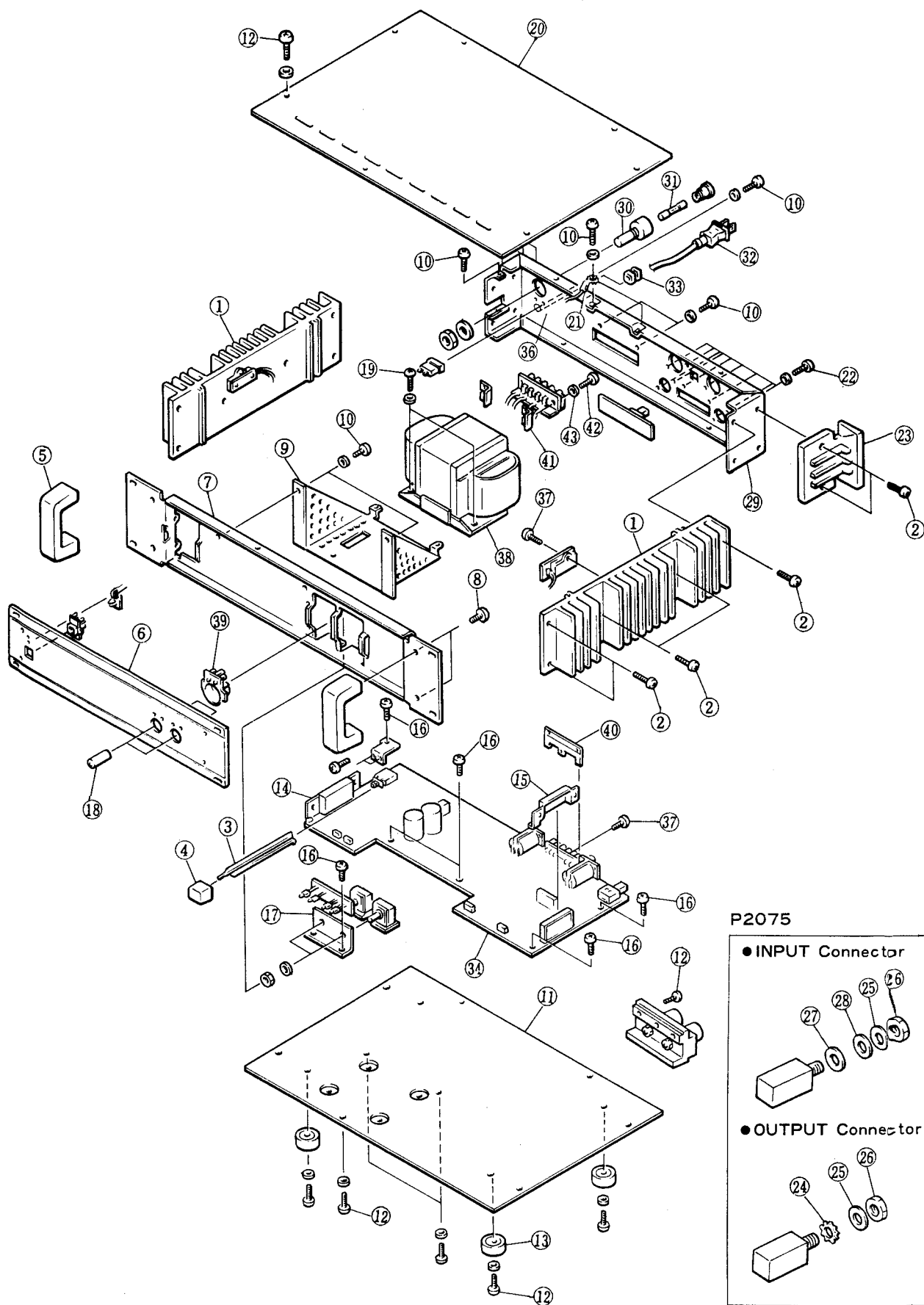
Load Impedance: 8Ω
Input Attenuators: Max
Mode: STEREO



DESTINATION ABBREVIATION

ランク: Japan only

Overall Assembly (総組立)



Overall Assembly (総組立)

Ref	Part No	Description	部品名	Remarks	ランク
* 1	VA277000	Heat Sink	放熱板		
2	EI340120	Bind Head Tapping Screw	ハ"イント"タッピ"ンク"ネジ		01
* 3	VA276000	Rod	ロッド		
4	CB812380	Push Button	プッシュボタン		01
5	BA803270	Handle	ハンドル		07
* 6	VA277100	Front Panel	フロントパネル	P2075	
* 6	VA291500	Front Panel	フロントパネル	P2075C	
* 7	VA276200	Sub Panel	サブパネル		
8	EA350120	Pan Head Screw	ナ"ハ"小ネジ		01
* 9	VA276300	Angle Trans	トランスアングル		
10	EI340080	Bind Head Tapping Screw	ハ"イント"タッピ"ンク"ネジ		01
* 11	VA275800	Bottom Cover	底板		
12	EI340100	Bind Head Tapping Screw	ハ"イント"タッピ"ンク"ネジ		01
13	CB806590	Leg	ゴム脚		01
* 14	VA275800	Cover, IC	ICカバー		
* 15	VA275900	Cover, IC	ICカバー		
16	EI330066	Bind Head Tapping Screw	ハ"イント"タッピ"ンク"ネジ	PACK	01
* 17	VA276400	Angle, VR	VRアングル		
18	CB812370	Knob	ツマミ	P2075	02
18	CB835670	Knob	ツマミ	P2075C	02
19	EA040080	Pan Head Screw	ナ"ハ"小ネジ		01
* 20	VA276100	Top Cover	天板		
21	LA003690	Lug Terminal	ラック端子		01
22	EI330066	Bind Head Tapping Screw	ハ"イント"タッピ"ンク"ネジ	PACK	01
* 23	VA275500	AC Cord Holder	コードリール		
24	EV410096	Toothed Lock Washer	歯付座金	P2075 PACK	01
25	LX200010	Flat Washer	特殊平座金	P2075	01
26	LX200060	Hexagonal Nut	特殊六角ナット	P2075	01
27	EK002370	Washer	ファイバーワッシャー	P2075	01
28	CB810090	Nut	絶縁ナット	P2075	01
* 29	VA976800	Rear Panel	リアパネル	P2075 J	
* 29	VA276500	Rear Panel	リアパネル	P2075 U,C	
* 29	VA276600	Rear Panel	リアパネル	P2075 H	
* 29	VA976900	Rear Panel	リアパネル	P2075C J	10
* 29	VA276700	Rear Panel	リアパネル	P2075C U,C	
* 29	VA206800	Rear Panel	リアパネル	P2075C H	
30	LB200490	Fuse Holder	ヒューズホルダー	J, U,C	04
30	LB200590	Fuse Holder	ヒューズホルダー	H	
31	KB001280	Fuse	ヒューズ	J	02
31	KB001420	Fuse	ヒューズ	U,C	
31	KB000690	Fuse	ヒューズ	H	
32	MG000610	AC Cord	電源コード	J	06
32	MG000530	AC Cord	電源コード	U,C	
32	MG001130	AC Cord	電源コード	H	
33	CB806850	Cord Stopper	コードストッパー	J, U,C	02
* 33	CB328400	Cord Stopper	コードストッパー	H	
* 34	VA880200	MA Circuit Board	MAシート	P2075 J	
* 34	VA263200	MA Circuit Board	MAシート	P2075 U	
* 34	VA263300	MA Circuit Board	MAシート	P2075 C	
* 34	VA263500	MA Circuit Board	MAシート	P2075 H	
* 34	VA880300	MA Circuit Board	MAシート	P2075C J	
* 34	VA263700	MA Circuit Board	MAシート	P2075C U,C	
* 34	VA263900	MA Circuit Board	MAシート	P2075C H	
35	LB201540	Phone Jack	ホンジヤック	P2075 C	
36	CB068880	Plastic Rivet	プラスチックリベット	H	
37	EI330106	Bind Head Tapping Screw	ハ"イント"タッピ"ンク"ネジ	PACK	01
* 38	GA841100	Power Transformer	電源トランス	J	18
* 38	GA841200	Power Transformer	電源トランス	U,C	
* 38	GA841300	Power Transformer	電源トランス	H	
39	CB836210	Cover, Knob	ノブカバー	P2075C	02
40	AA833430	Angle	BSカバー(小)	P2075C	02
41	AA832860	Angle	BSカバー(大)	P2075C	01
42	EI330120	Bind Head Tapping Screw	ハ"イント"タッピ"ンク"ネジ	P2075C	01
43	EV203030	Flat Washer	平座金	P2075C	01

*: New Parts (NR)

ランク: Japan only

A

B

C

D

E

F

MA

CHANNEL A

INPUT

CHANNEL A

CHANNEL B

A
B
C
D
E
F
G
H

P-2075 (C)

CHANNEL B

P-2075

MA 1/11

(Notes)

IC101, 102
IC103
IC104, 105
IC201

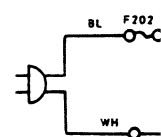
Q101 ~ 104, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000

RY201
RY202
RY203, 204
RY205, 206

	*1 JK101,102	*2 BS101	*3 MA 7/11	*4 JK103,104	*5 SP101,102	*6 MA 8/11	*7 JUMPER
P2075	SET	NONSET	NONSET	SET	SET	NONSET	SHORT
P2075C	NONSET	SET	SET	NONSET	NONSET	SET	OPEN

	J	U. C	E
F201	0.75A 250V	750mA 250V	T630mA 250V
F202	6A 250V	5A 125V	T2.5A 250V
MA 2/10,6/10	NONSET	NONSET	SET

JAPANESE MODEL



F

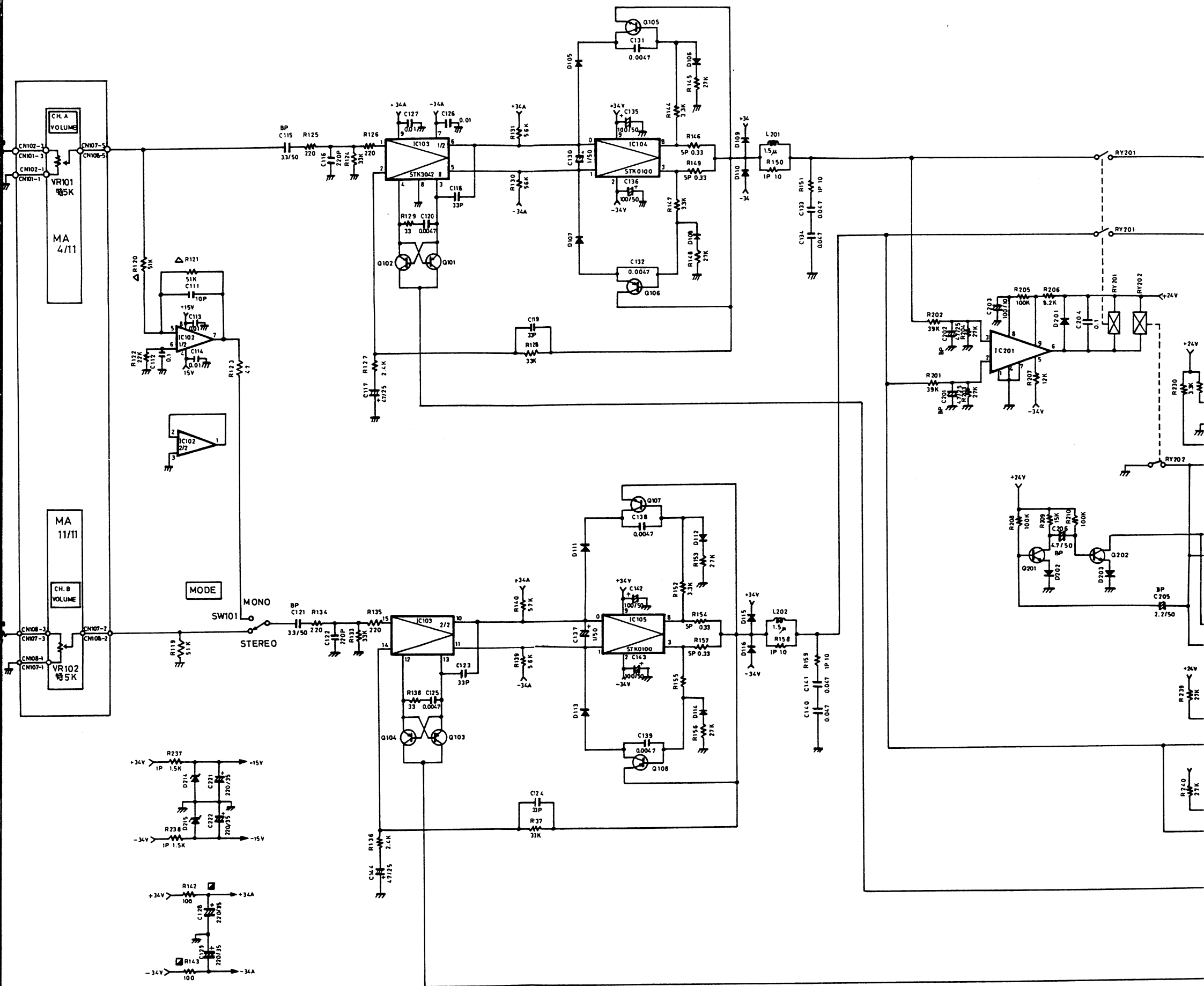
G

H

I

J

K



(Notes)

IC101, 102
IC103
IC104, 105
IC201

Q101-104, 106, 108
204, 206, 208, 210
Q105, 107, 201-203
205, 207, 209
L201, 202

RY201
RY202
RY203, 204
RY205, 206

NJM4560ED (IG040000)
STK3042III (XA229001)
STK0100 (XA230001)
TA7317P (IG034800)

2SA970 (GR, BL)

2SC2240 (GR, BL)

Coil 1.5μH

MS24D4
MZ24
OHD-70M
OHD-85M

D101-104
D105-108, 111-114
D109, 110, 115, 116
D201
D202-205
D206, 207, 210, 211
D208, 209
D212
D213
D214, 215

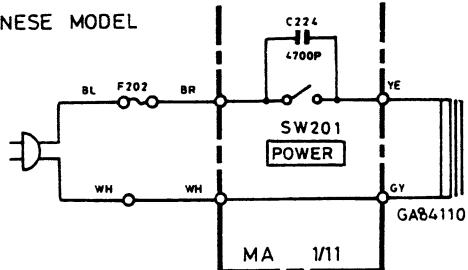
RESISTOR
NO MARK CARBON FILM
△ MARK METAL FILM
▲ MARK FLAME PROOF CARBON

MC931
1SS82
1S1888
10D1
1S2473
LN222RP
LN322GP
10G4B41
1G4B41
05Z15

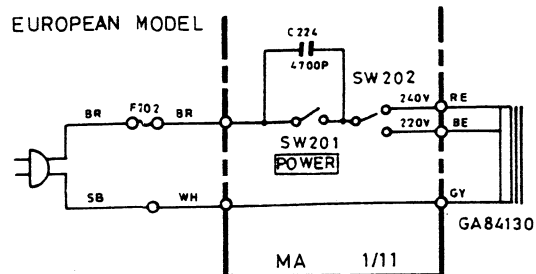
A 1/11

J. C	E
m A 250V	T630mA 250V
125V	T2.5A 250V
ONSET	SET

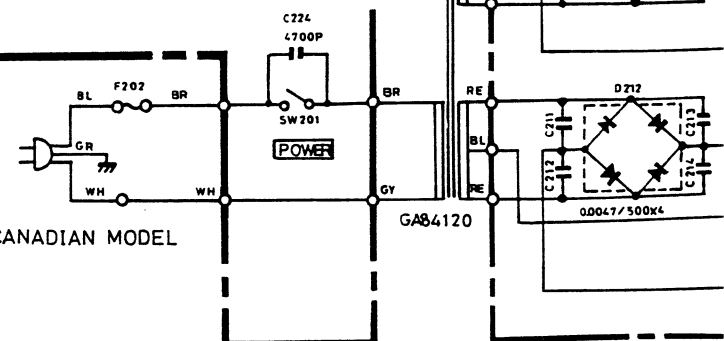
JAPANESE MODEL



EUROPEAN MODEL



U.S.A. & CANADIAN MODEL



C

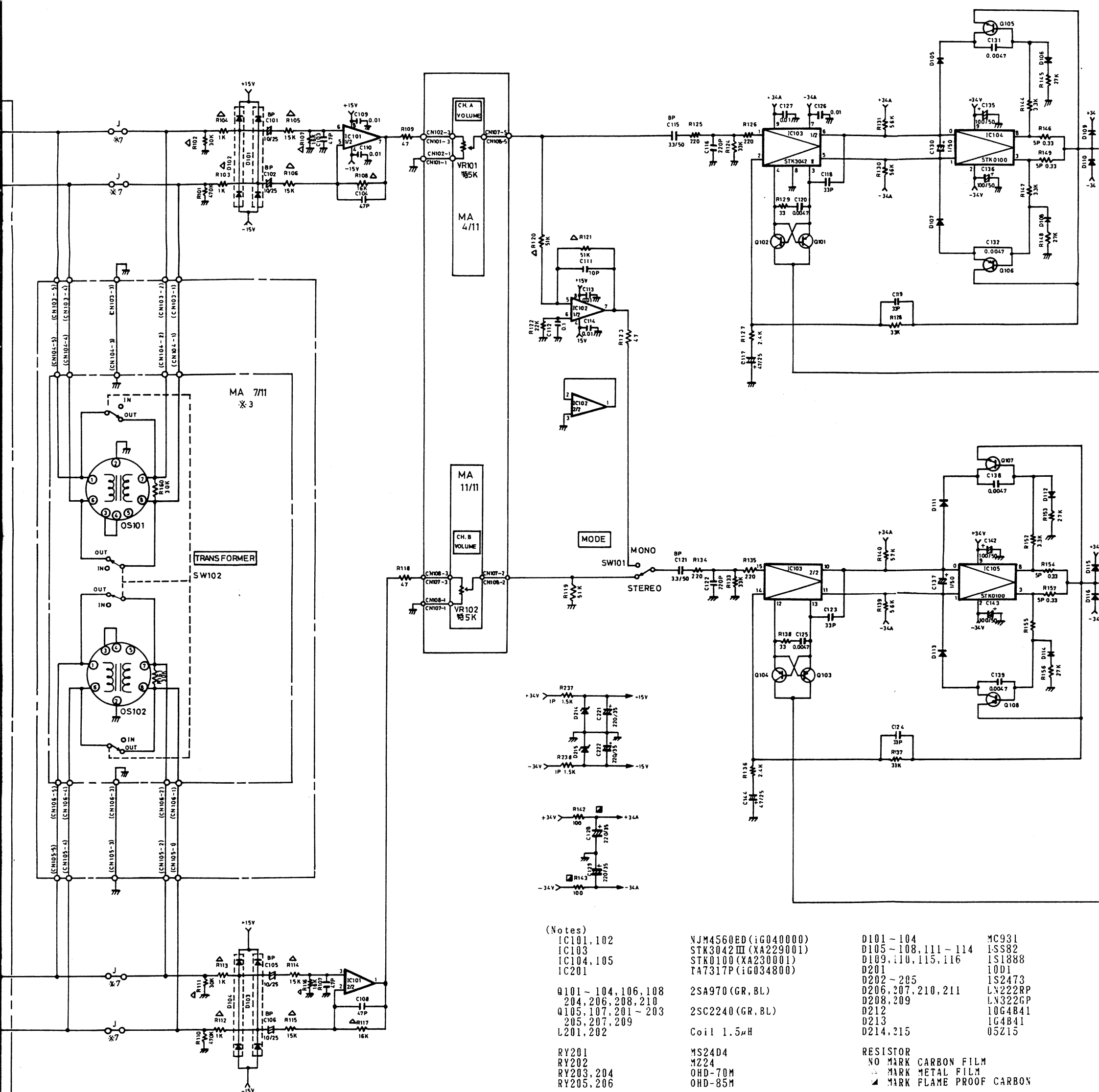
D

E

F

G

H

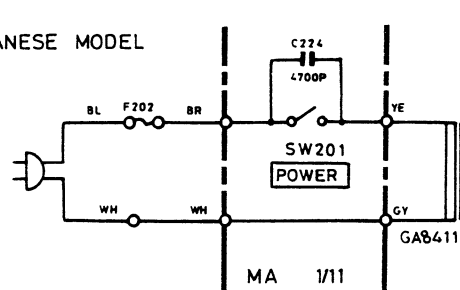


MA 1/11

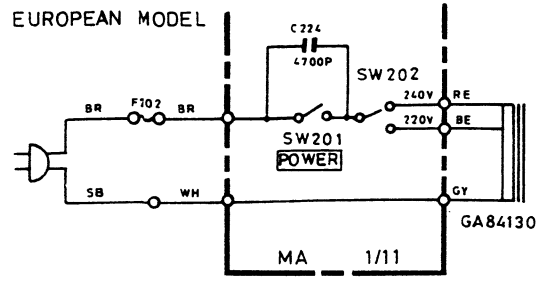
*5 SP101, 102	*6 MA 8/11	*7 JUMPER
SET	NONSET	SHORT
NONSET	SET	OPEN

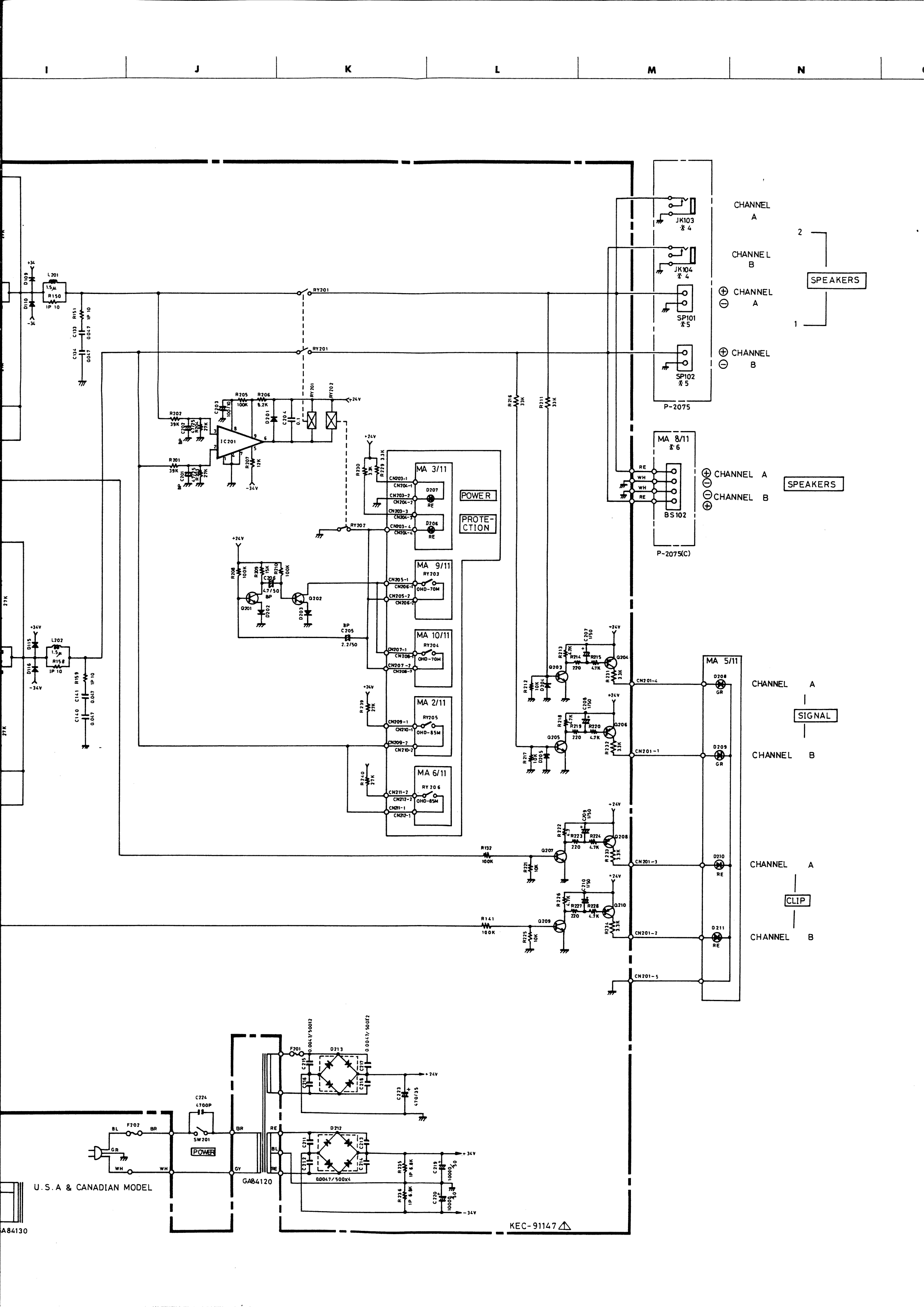
	J	U. C	E
F 201	0.75A 250V	750mA 250V	T630mA 250V
F 202	6A 250V	5A 125V	T2.5A 250V
MA 2/10, 6/10	NONSET	NONSET	SET

JAPANESE MODEL



EUROPEAN MODEL





U.S.A & CANADIAN MODEL

KEC-91147