Panasonic Canada Inc.
5770 Ambler Drive
Mississauga ON
L4W 2T3

Technical Bulletin

Product: Microwave Oven	Model(s): **See model list below**	Number: TB-00-08a
Code: E01	Year: 1999, 2000, 2001, 2002, 2003, 2004	Date: July 28, 2004

SUBJECT: **Inverter power supply component level service**

1. **Introduction:** The inverter power supply has been employed since 1999.
In continous improvement of our customer service, the component level repair program will assist the servicentre in reducing the repair turn-around time at a lower service cost.

2. **Service Parts:** The repair kits and component are available in National Parts.

Year	Model No.	Inverter module	Kit P/N	Kit contents
1999	NNS759 NNS769 NNS789 NNS959 NNS989 NNT999	**A606Y4A00AP**	**A600S4A00AP**	DB701 D701, D702, C704, C705, Q701, Q702
2000	NNC980 NNC790 NNL520 NNL530 NNS510 NNS540 NNS560 NNS750 NNS760 NNS950 NNS960	**A606Y4T00AP** **A606Y4T00CP**	**A600S4T00AP**	DB701 D701, D702 Q701, Q702
2001	NNS561 NNS751 NNS951 NNT991			
2002	NNS252 NNS262 NNS512 NNS522 NNS562 NNS592 NNS752 NNS762 NNS952 NNS962			
2003	NNS253 NNS263			
2004	NNC994			

Technical support:

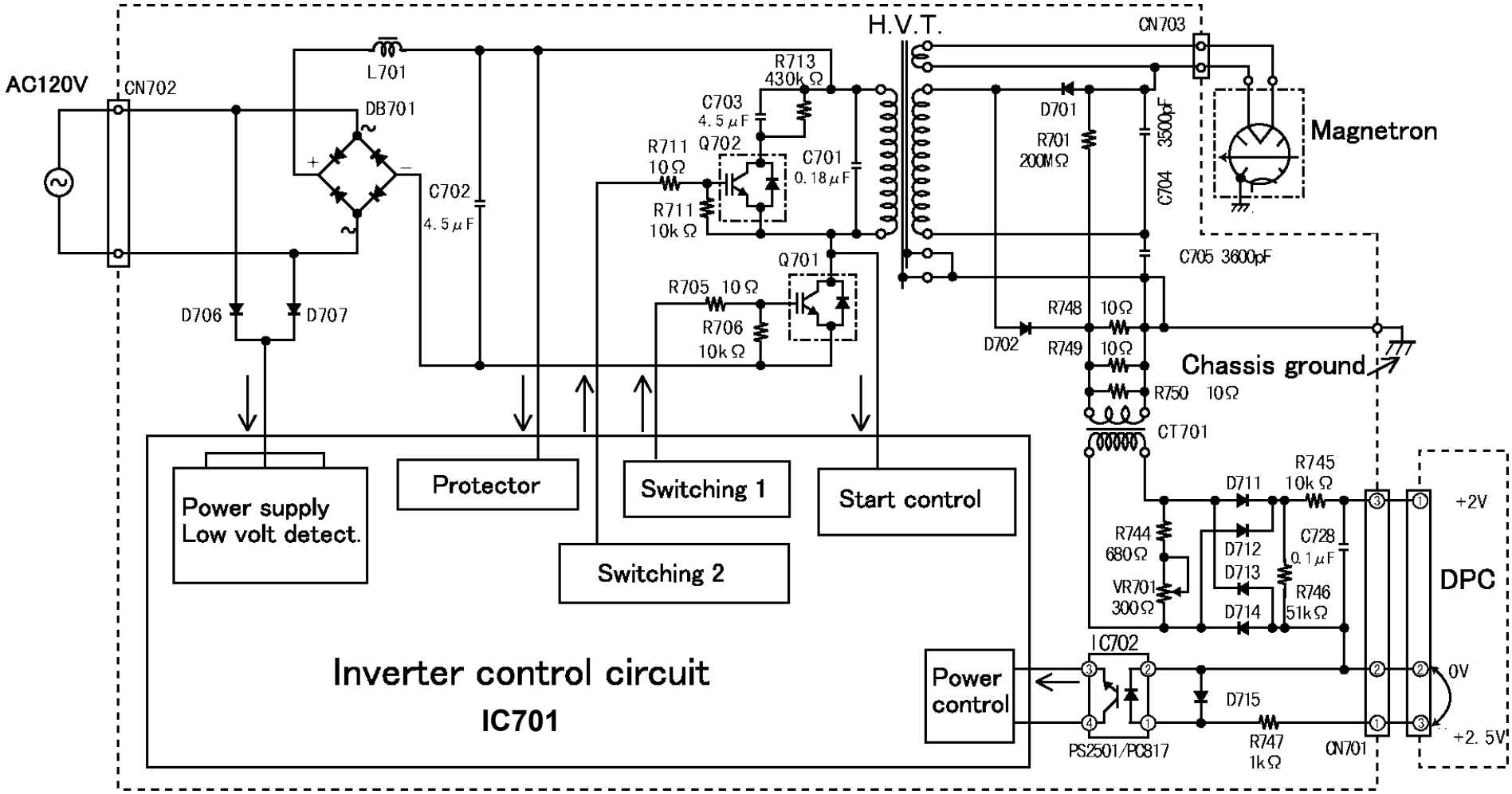
- Technical guide and service assistance will be provided by Consumer Products Service. Contact Thanh Pham, phone (905) 238 2116, email tpham@ca.panasonic.com
- Schematic diagram, parts list and service hint are attached.

WARNING!

1. **Unplug the oven when removing the outer cabinet.**
2. **Never touch the inverter PCB with the oven plugged in the AC outlet.**
3. **Do not touch the heat sink due to high voltage and high temperature.**
4. **Discharge high voltage by using the insulated lead jumper to short across high voltage diode D701 Anode and D702 Cathode**
5. **Before testing, install the inverter module completely into the oven, and make sure to have proper grounding by screwing the grounding plate onto the bottom base.**
6. **Do not adjust VR701.**

Schematic Diagram

Inverter module A606Y4A00AP



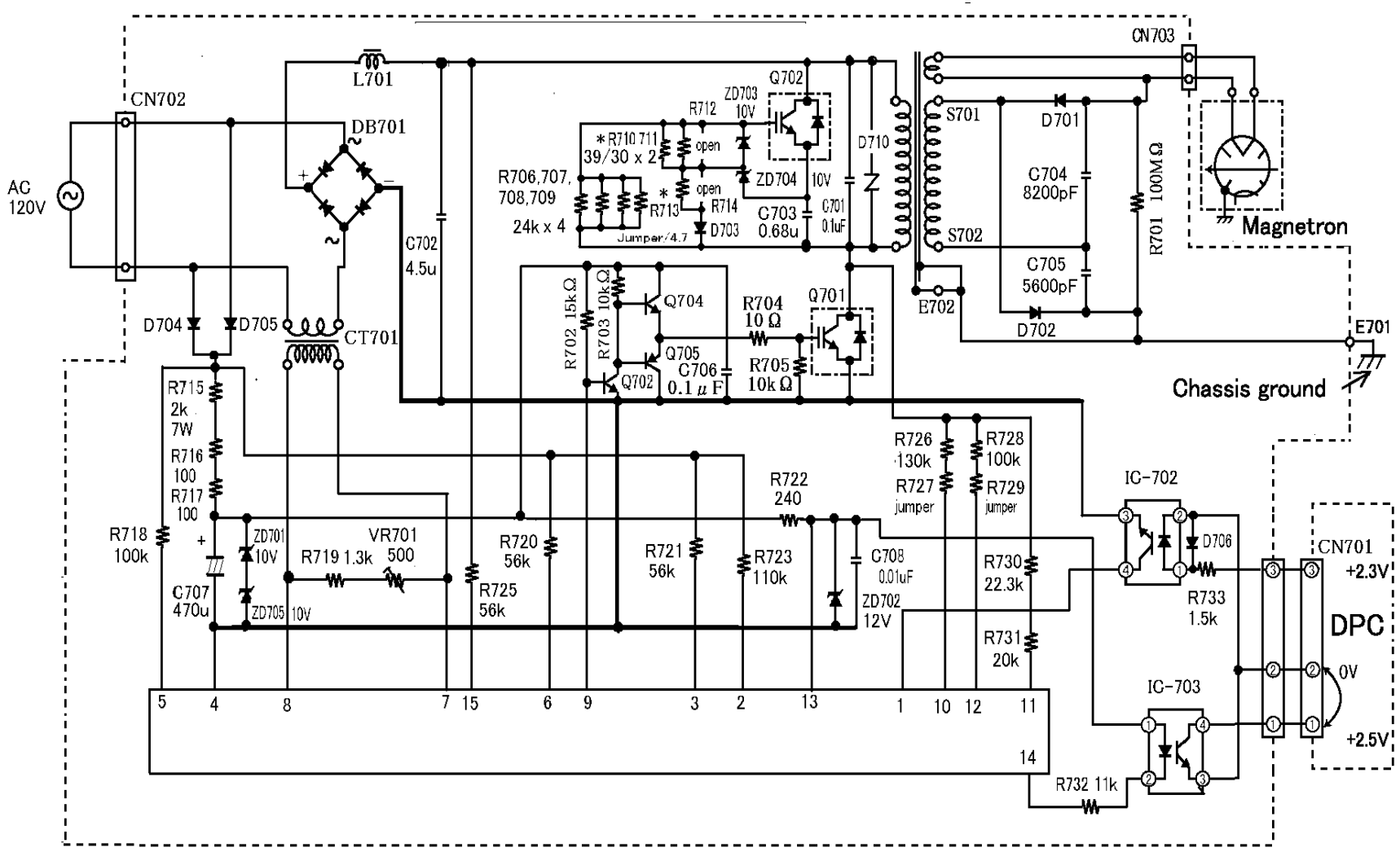
Inverter Replacement Part List

Module Part Number A606Y4A00AP

Ref. No.	Part No.	Description & Specification		Remarks
CN701	AEEMF00703W	Connector	3 PIN	
CT701	A66904A00AP	Current transformer		
C701	AECQ2G184J21	Capacitor	0.18uF/400V	
C702	AECQ2D455JD1	Capacitor	4.5uF/200V	
C703	AECQ2E455JB3	Capacitor	4.5uF/500V	
C704	ECKK3F362KDU	Ceramic Capacitor	3600PF/3KV	
C705	ECKK3F362KDU	Ceramic Capacitor	3600PF/3KV	
DB701	AEDBRBV1506	Diode	15A/600V	
D701	A6202-1880T	H.V. Diode	0.35A/6.4KV	
D702	A6202-1880T	H.V. Diode	0.35A/6.4KV	
D703	AEDNERA3806	Diode,Si	ERA38-06	
D705	AEDNERA3806	Diode,Si	ERA38-06	
D706	AEDNERA1504	Diode, Si	ERA1504	
D707	AEDNERA1504	Diode, Si	ERA1504	
H.S.	A6691-1881	Heat sink		
IC701	AN6712	IC		
IC702	AEICP25011HL	Photo-Coupler		
L701	A5020-1900	Choke Coil		
Q701,702	A691E4A00AP	Transistor	AESPGT50J323	Must be replaced
			AESPG30J322	as a pair.
Q703	2SC2785TFK	Transistor		
Q704	2SC2785TFK	Transistor		
Q705	2SA1175TFK	Transistor		
Q706	2SC2785TFK	Transistor		
Q707	2SC2785TFK	Transistor		
Q708	2SA1175TFK	Transistor		
Q709	2SC5201TPE6	Transistor		
Q710	2SC3623TLL	Transistor		
R701	AERG110B207P	Bleeder Resistor	200 M Ohm	
R715	ERG7ZXJ202	Sand Bar Resistor	2.0 K Ohm7W	
R720	AER023F1303T	Resistor	130 k Ohm, 1/2W	
T701	A609A-1880	H.V.Transformer		
VR701	EVMAASA00B32	Variable resistor	300 Ohm	
ZD701	AEDZ15EB2T1	Zenner Diode	RD15EB2	
ZD702	AESZ12JS2T1	Zenner Diode	RD12JS2	
ZD703	AEDZ8R2ES2T1	Zenner Diode	RD8.2ES2	
ZD704	AEDZ36ES2T1	Zenner Diode	RD36ES2T1	
ZD705	AEDZ8R2ES2T1	Zenner Diode	RD8.2ES2	
ZD706	AEDZ9R1ES2T1	Zenner Diode	RD9.1ESAB2	
ZD707	AEDZ10ES2T1	Zenner Diode	RD10ES2T1	

Schematic Diagram
Inverter Module A606Y4T00CP

(Inverter module A6064T00AP should be modified to CP by replace short jumper R713 with 4.7 ohm resistor and R710, R711 changed from 39 ohm to 30 ohm)



Inverter Replacement Part List
Module number A606Y4T00CP

Ref. No.	Part No.	Description & Specification		Remarks
C701	ECWF5104N300	Capacitor	0.1uF/500V	
C702	ECWF2455JBA	Capacitor	4.5uF/250V	
C703	ECWF4684JBA	Capacitor	0.68uF/400V	
C704	ECWH30822JUA	Capacitor	8200PF/3KV	
C705	ECWH30562JUA	Capacitor	5600PF/3KV	
DB701	AESTRBV6206	Diode	15A/600V	
D701,702	A62024T00AP	H.V. Diode	0.35A/6KV	
D704,705	AEDNERA1506	Diode, Si	ERA1506	
D703	AEDNERA3806	Diode,Si	ERA38-06	
D710	AERZ360NR14D	Varistor	360V	
ZD701,703	AEDZ10ES2T1	Zenner Diode	RD10ES2T1	
ZD704,705				
ZD702	AESZ12JS2T1	Zenner Diode	RD12JS2	
L701	A50204T00AP	Choke Coil		
Q701,702	A691E4T10AP	Transistor	AESCH50D060 AESPA50D060R	Must be replaced as a pair
Q703,4	2SC2785TFK	Transistor		
Q705	2SA1175TFK	Transistor		
R701	AERG419S107M	Bleeder Resistor	100MΩ	
R715	ERG7ZXJ202	Sand Bar Resistor	2.0KΩ7W	
IC702,703	AEICP25011HL	Photo-Coupler		
IC801	AN9DF02S-T2	IC		
VR701	AEVNNV6TL501	Variable resistor	500Ω	
T701	A609A4T00AP	H.V.Transformer		
CT701	A66904T00AP	Current transformer		
H.S.	A66914T00AP	Heat sink		
CN701	AEEMXH00703W	Connector		
R710,711	ERDS1TJ300T	Resistor	**30Ω 1/2W 5%**	(R713 added)
R713	ERQ14AJ4R7E	Fuse resistor	4.7Ω 1/2W 5%	
Control board	F607D4T00AP	Mini PCB		

Service Hint

1. Test procedure:

It's recommended to use an AC line input current Ampere meter and 1 litre of water load for testing

- Program DPC: press CLOCK, TIMER, START, POWER pad
- Unplug HV lead wire connector CN703 from inverter
- Program oven for 1 minute and press START
- After approximately 23 seconds, oven displays H98 and stops
- Confirm the input current is 0.8A to 1.7A during 23 seconds operation
- Press RESET pad
- Unplug CN701 (4A0; 4T0)
- Program oven for 1 minute and press START
- After approximately 3 seconds, oven displays H97 and stops
- Confirm the input current is 0.4A to 0.8A during 3 seconds operation

If the above test is satisfied, the Inverter can be determined OK

2. A606Y4T00CP Check point:

- Visual checking: R710, R711, C703 burnt
- VOM test: D701, D702, DB701 and Q702, Q701 (replace both Q701 & Q702), ZD703, ZD704 shorted

Note: Replace a short jumper at R713 location by a 4.7 ohm resistor to prevent R710, R711 from burning and correct R710, R711 value from 39 ohm to 30 ohm

Symptom	Check
Shuts down after few seconds	**Q701, Q702, DB701, D701, D702, ZD703, ZD704, R710 / R711 (burnt), R713 (opened)**
Low or Fluctuating input current	**C703 (crack, leakage), D710, CT701** **Mini PCB**
Hissing sound	**C703, R713 (opened),** **CT701 (secondary opened)**
Shrieking sound at start up	**L701**

Service parts stocking: