

ech S. dreyk 7/10/01

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ech S. idreyk 7/10/01

Product Service Manual – Level 2

Service Manual for BenQ:

G700

P/N: 9J.0BV72.ISx/IBx

Applicable for All Regions



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Version: 001
Date: 07/06/12

Notice:

- For RO to input specific "Legal Requirement" in specific NS regarding to responsibility and liability statements.
- Please check BenQ's eSupport web site, http://esupport.benq.com, to ensure that you have the most recent version of this manual.

First Edition (June, 2006)

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1. Precautions & Safety Notices

1.1 Safety Precaution

This monitor is manufactured and tested on a ground principle that a user's safety comes first. However, improper used or installation may cause damage to the monitor as well as to the user.

Com WARNINGS:

- This monitor should be operated only at the correct power sources indicated on the label on the rear of the 2007/monitor. If you're unsure of the power supply in you residence, consult your local dealer or Power
 - Do not try to repair the monitor by yourself, as it contains no user-serviceable parts. This monitor should only be repaired by a qualified technician.
 - Do not remove the monitor cabinet. There is high-voltage parts inside that may cause electric shock to human bodies.
 - Stop using the monitor if the cabinet is damaged. Have it checked by a service technician.
- Put your monitor only in a lean, cool, dry environment. If it gets wet, unplug the power cable immediately and consult your closed dealer. Comtech S./
 - Always unplug the monitor before cleaning it. Clean the cabinet with a clean, dry cloth. Apply non-ammonia based cleaner onto the cloth, not directly onto the class screen.
 - Do not place heavy objects on the monitor or power cord.

1.2 PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in this chassis have special safety visual inspections and the protection afforded by them cannot necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Before replacing any of these components read the parts list in this manual carefully. The use of substitute replacement parts, which do not have the same safety characteristics as specified in the parts list, may create shock, fire, or other hazards.

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1.3 SERVICE NOTES

- When replacing parts or circuit boards, clamp the lead wires around terminals before soldering.
- Keep wires away from high voltage, high temperature components and sharp edges.
- Keep wires in their original position so as to reduce interference.
- Adjustment of this product please refers to the user' manual. Comtech S.A.

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2. Product Overview

2.1 Power supply

Comtech S.A.

Item		condition	Spec	ок	NA	Remark
Input Voltage range		Universal input full	100~240V	$\sqrt{}$		
		range	AC			
Input Current range		100Vac	1.5A	\checkmark		
		240Vac	(max.)			
itech S.A.	Con	itech S.A.	Co.6A3c/	S.A		Comtach S.A.
ndrevk	6	ndrévk	(max.)	vk -		andreyk
Power consumption	20	normal "on" operation	≤38W	101		LED: Green // ()/
DMPS			<2W	\checkmark		LED: Orange
In rush Current		100Vac,cold	40A (max)	√		
		star,25°C;				

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Con Ben andre			ntech S.A. Indreyk	Comtec andre		Comt Service Ma andreyk	nual Comtech S andreyk
2007/1	0/01	20	240Vac,cold	60A(max)	0/01	2007/10/01	2007/10/01
Earth	Leakage Current		star,25°C				
Hi-po	t						
Powe	er Line Transient						
Constact	Operation range	Con	itech S.A. Indrevk	Comtec andre	2010	Comtech S.A. andrevk	Comtech S andrevk
20 Powe	er cord	20	07/10/01	2007/1	0.401	To be determined by the business country.	2007/10/01

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Comtech S.

2.2 Signal interface

Con 6-		5	: S.A.	(Somtec	h S.A.	ć	Comte	ch S.A.
ärmry	y 1 2	15 MLONES	J/k		ändn				lreyk .
2007/1	Pin	Symbol 2007/1	(Pip1	Symbol	2007/1	Rin/	Symbol	2007	/10/01
	1	Red+	6	Red_GNI	D	11	GND		
	2	Green+	7	Green_G	ND	12	DDC_DAT	•	
	3	Blue+	8	Blue_GN	D	13	Hsync		
	4	NC	9	5V_VGA		14	Vsync		
Comtect	5 5.A.	Cable Comtec	h19.д.	GND (Somtec	Д 15 5, Д	DDC_CLK	Comte	ch S.A.
andre	yk	Detect andre	eyk -		andh	eyk		and	freyk -
2007/4	0/0/	2007/6	70/01		2007/1	(0/0/		2007	/50/01

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2.3 Video Performance

Item	condition	Spec	ок	NA	Remark		
Max. support Pixel rate		135.000MHz	√				
Max. Resolution		1280×1024	√				
Rise time+Fall time	Comtech S.A.	<25% of	£.A		Refer to VESA	5.A.	C
andreyk	andreyk	minimum pixel	yk –		VSIS Standard	<	
007/10/01	2007/10/01	clock period	0/01		V1R2 2007/10/	01	
Setting Time after		<5% final	√		Refer to VESA		
overshoot/undershoot		full-scale value			VSIS Standard		
					V1R2		
Overshot/undershoot		<12% of step	√		Refer to VESA		
mtech S.A. C	Comtech S.A.	function voltage	S.A		VSIS Standard	S.A.	C
andreyk	andreyk	level over the full	yk		V1R2 andrey		
007/10/01	2007/10/01	voltage range	107		2007/10/	01	

omtech S. andreyk 2007/10/0:

BenQ G700	ã	ntech S.A Indreyk 07/10/01	. С	omteci andre 2007/1	yk		Comt Service Ma andreyk 2007/10/01	anual Comtech S. andreyk 2007/10/0
Item	condition		Spec		ок	NA	Remark	
Horizontal	Sync polar	ity: (+) or (-)	31.0~8	3KHz	V			
Com Vertical A	1 -	ity: (+) or (-)	56~76H	lz mteci			Comtech \$.A.	Comtech S.
andreyk 202.5 Plug & Play		C-CI Suppo	rt	andre 2007/1			andreyk 2007/10/01	andreyk 2007/10/0
Item		condition	Spec	ок	NA	Rem	ark	
DDC channel type	ре		DDC2B	V				
EDID			Version 1.3	√				
Con z.6 Support Ti n andreyk 2007/10/01	á	ntech S.A Indreyk 07/10/01	. С	Comteci andre 2007/1	yk .		Comtech S.A. andreyk 2007/10/01	Comtech S. andreyk 2007/10/0
Comtech S.A. andreyk 2007/10/01	á	ntech S.A Indreyk 07/10/01	. с	Comteci andre 2007/1	yk -		Comtech S.A. andreyk 2007/10/01	Comtech S. andreyk 2007/10/0
Comtech S.A. andreyk 2007/10/01	ã	ntech S.A Indreyk 07/10/01	. с	Comteci andre 2007/1	yk .		Comtech S.A. andreyk 2007/10/01	Comtech S. andreyk 2007/10/0
Comtech S.A. andreyk 2007/10/01	á	ntech S.A Indreyk 07/10/01	. С	Comteci andre 2007/1	yk -		Comtech S.A. andreyk 2007/10/01	Comtech S. andreyk 2007/10/0
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17/10/01	2007	V10/01	2007/10	/01	2007/10/01	200
Preset	Pixel Format	Horz Freq(kHz)	Horz Polarity	Vert Freq (Hz)	Vert Polarity	Pixel Clk (MHz)
1	640x350	31.47	-	70.09	-	25.18
2	640x400	31. 47	-	70.09	-	25. 18
3	640x480	35.00	-	66.67	-	30.24
140ch S.A	640x480 Comt	31.47	- Comtech	59.94	Comtach S.,	⁴ 25.17 Comt
iareyk Zavovov	640x480	37.86	+ angrej	72.81	+ andreyk	31.50 ar.
6	640x480	37. 50	+ 2007770	75. 00	+ 2007770907	31. 50
7	720x400	31.47	+	70.08	+	28.32
8	832x624	49.71	±	74.53	<u>+</u> _	57.27
9	800x600	35.16	-	56.25	-	36.00
10	800x600	37. 88	Camtack	60. 32	Constant C	40.00
.eur G.r 11 idřélyk	800x600	48. 08	andrei	72. 19	+ andrevk	50.00
12/10/01	800x600 2007	46.88	2007/10	75.00	2007/10/01	49.50 200
13	848x480	31.02	+	60.00	+	33.75
14	848x480	29.83	-	59.66	+	31.50
15	848x480	35. 00	-	70.00	+	37. 52
16	848x480	36.07	±	72.00	±	39.25
19ch S.A	848x480 Comto	37.68	± Comtech	74.77	€omtech S.,	141.00
18/rey/k	720x576 @hi	35.83	+ andrej	60.00	 andreyk 	32.71
19/10/01	1024x768 2007	48. 36	+ 2007/10	60.00	2007/10/01	65. 00 200
20	1024x768	56.48	±	70.07	±	75.00
21	1024x768	57.67	+	72.00	+	78.43
22	1024x768	60. 24	+	74. 93	+	80.00
23	1024x768	60.02	+	75.03	+	78.75
24	1152x720	44.86	Comtech	60	Comtech S.	66.75
1918/1 0/01	1152x864	63.85	andrej 2007/30	70.01	andreyk 2007/10/01	9450
26	1152x864	67.50	2007770	75.00	200777000	108.00
27	1152x870	68.68		75.06		100.00
28	1152x900	61.80		65.95		92.94
29	1152x900	71.73		76.07		105.59
30ch S. 4	1280x720 Comb	45.00	Comtech	59.94	Comtech S.	174.25 Com
atheyk	1280x720	44.77	andrei	59.86	andreyk	74.50
32/10/01	1280x720 2007	56.46	2007/10	74.78	2007/10/01	95.75 200
33	1280x768-R	47.40		60.00		68.25
34	1280x768	47.78		59.87		79.50

Con ä	BenQ G7	VV	rch S.A. Ireyk	Comtech andrei		Comt Service andreyk	Manual Comto	ech S dreyk
20	07/10/01	2007	/10/01	2007/10	V01	2007/10/01	2007	710/0:
	Preset	Pixel Format	Horz Freq(kHz)	Horz Polarity	Vert Freq (Hz)	Vert Polarity	Pixel Clk (MHz)	
	35	1280x768	60.29		74.89		102.25	
	36	1280x800	61.648		59.81		83.50	
	37	1280x800	62.8		75		106.5	
Con	138ch S.A	1280x960 Comte	60.00	Comtech	60.00	Comtach S.	108.00 Comto	ich S.
á	39	1280x1024	63.98	andrej 2027 w.c	60.02	andreyk	108.00	theyk Localos
20	40	1280x1024	74.88	2007/70	69.85	2007/70/07	126.99	710/01
	41	1280x1024	74.40		70.00		124.90	
	42	1280x1024	77.90		72.00		134.60	
	43	1280x1024	79.98		75.02		135.00	
Con	44 Hech S.A	1280x1024	81.18	Comtech	76.16	Comtach S.	135.09	ech S.

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2.7 Operational &Function Specification

2.7.1 Video Performance

* All Spec. of monitor need to warm up at lease 1hr

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Item	condition	Spec	ок	NA	Remark
Resolution	Any input resolution	Max. resolution	√		
Comtech S.A. Col	modes which are	1280x1024	Д		Comtech .
andreyk	list in the timing	andreyk			andrey
2007/10/01 20	table (under	2007/10/0	ſ		2007/10/
	1280x1024).				
Contrast ratio		700:1	√		
Brightness		300 cd/m2 (Typ.)	√		
Response time		5ms(typ.)	√		
Viewing angle	CR>10	160 _{omtech} S	N		Comtech .
andreyk	CR>10	160 andreyk	V		andrey
20 CIE coordinate of white 2	007/10/01	x0.313 ±/10/0	ſ √		2007/10/
		0.015;			
		y0.329 ±			
		0.015			
Display colors		16.7M	√		
Comtech S.A. Cor	wtech S.A.	(6bit+Hi-FRC)	А.		Comtach .
andreyk	andreyk	andreyk			andrey
2007/10/01 20	007/10/01	2007/40/0	1		2007/10/

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2 2.7.2 Brightness Adjustable Range

	Item	condition	Spec	ок	NA	Remark
	Brightness adjustable range	At default	\geq 100 cd/m 2	√		
		contrast level	(Setting			
		(saturate	brightness max.			
Con	tech S.A. Con	point)&S_A	value 100%; Min.	S.A		Comtech :
	ndreyk s	Full-white color	brightness value)			andreyi
20	07/10/01 20	pattern	2007/10	1/04		2007/10/

2.7.3 Acoustical Noise

Item		condition	Spec	ок	NA	Remark
Acoustical Noise		At 1 meter	≦40dB/A	√		
omtech S.A.	Con	distance&	Comtech	S.A		Comtech
andreyk	ő	audio function	andre	yk –		andrey
2007/10/01	20	disable	2007/10	1/07		2007/10

Comtech S. andreyk 2007/10/01

2.7.4 Environment

	Item	condition	Spec	ок	NA	Remark
	Temperature	Operating	0°C to 40°C	\checkmark		
Con	itech S.A.	Non-operating	-20°C to 60°C	· \$5.A		Comtech S
á	Humidity	Operating	20% to 80%	V		andrey
20	07710/01	Non-operating	10% to 80%	m/1.1		2007/10/1
	Altitude	Operating	0 to 3048 M (10000 ft)	√		
		Non-operating	0 to 12192M (40000 ft)	V		

Comtech S. andreyk 2007/10/04

2.7.5 Transportation

Item	condition	Spec	ок	NA	Remark
Vibration	Package, Non-operating	Sweep frequency :5~200Hz Amplitude: 1.47 Grms 3. Duration Time:	V	2	anunay 1007/10/
		20 minute each axis, total is 60 Min :4.			
		Direction: 3 mutually perpendicular axes (x, y,			
		z) 5. Fix direction : Only fix top&buttom			
Unpackaç vibration	Unpackage , Non-operating	Comtech S.A. Comtech S.A.		√ Cc	mtech -
Drop 2007/10/0	Package, Non-operating	1. Test Height: 106 cm. 2. Test Frequence: 1C-3E-6F	V	2	anany 1007/10/
shock	Wooden package , Non-operating			√	

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2.7.6 Electrostatic discharge Requirements

Item	condition	Spec	ок	NA	Remark
Electrostatic discharge	IEC61000-4-2(EN	Contact	\checkmark		
	55024)	discharge : 4KV			

Con 2.7 .	.7 Reliability	Comtech	S.A. Co	mtech S.A.	Comtach	S.A.	Comtech S.,
and	lrevk	andrev		andrevk	andrei	/k	andreyk
2007)	Items		Condition	Spec		Note	2007/10/01
	MTRE			> 50	0,000 Hours	Excluding the	
	MTBF				5,000 Hours	LCD, CCFL	
	CCFL Life time		Luminance become	es 50% ≥ 40,0	000 Hours(min)		

Note. Display an all WHITE field at mid Brightness and Contrast settings Comtech S.A. ändreyk andrevk andreyk. ändreyk

2.7.8 Audio performance 2007/40/04

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2007/10/01

	Items	Specification	
	Speaker	NA	
	Input impedance	NA	
	Frequency response range	NA	
angi	Signal to noise ratio Output power	. Comtech S.A. Comtech S.A. NA <u>andreyk</u> NA pnozwawa pnozwawa	Comtech S., andreyk 2007/90/04
2007/	7U/17 ZUU377U/U1	20077070 20077070	Z007/710/04

2.8. LCD Characteristics

2.8.1 The physical definition &technology summary of LCD panel

	Item	condition	Spec	ок	NA	Remark
Comtec	LCD panel supplier	554	InnoLux & CPT	1	tach (2.4
ändi	Panel type of supplier	retyk	MT170EN01 V.9 & CLAA170	V 6	indrevi	ζ.,
2007/	_	10/01	EA07P-V107/10/01	20	07/10/	01
	Screen diagonal		17 inch diagonal	$\sqrt{}$		
	Display area		304.1x228mm	√		
	Pixel pitch		0.264	$\sqrt{}$		
	Pixel arrangement		RGB vertical stripe	V		
Comtec	Display mode	sh S.A.	Normally White	Con	itech S	S.A.
andi	Support color and	reiyk	16.7M (6bit+Hi-FRC)	√ €	ndreyl	(
2007/	10/01 2007/	10/01	2007/10/01	20	07/40/	01

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2.9 User Controls

User's hardware control definition:

Item	condition	Spec	ок	NA	Remark
Monitor power button			√		
Enter button			√		
Right/Inc.button	mtech S.A.	Comtect	₹.A.		Comtach S.
Left/Dec. button	andreyk	andre	V		andreyk
20 I-key button 2	007/10/01	2007/1	QD1		2007/10/0
Mode selection button			V		
Input Select key			√		
Mute button				V	
Input source select button			√		
Comtech S.A. Co	mtech S.A.	Comteci	1 S.A.		Comtech S.

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2.10 Mechanical characteristics

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2.10.1Dimension

	Item	condition	Spec	ок	NA	Remark
	Bezel opening	Lx W	272.1X339.7mm	√		
	Monitor without stand	L×W×Hmm	370x365.9x60.83mm	√		
Con	Monitor with stand	L×W×Hmm	370x380.91x93.7mm 4	√Con	itech	S.A.
â	Carton Box(outside)	L×W×Hmm	440x434x120mm	√ @	ndre	yk
20	Tilt and Swivel range	07/10/01	Tilt:-5~21degree	√ 20	07/10	1/01
			Swivel: 0 degree			

2.10.2 Weight

	Item	condition	Spec	ОК	NA
Con	Monitor (Net)	itech S.A. Con	3.7±0.3 Kg (Net)	itech S.A.√ Con	itech S.,
ő	Monitor with packing(Gross)	ndreyk s	4.7±0.3Kg(Gross / with	hdřelýk á	ndreyk
20	07/10/01 20	07/10/01 20	packing)	07/10/01 ₹ 20	07/10/01

2.10.3 Plastic

	Item	condition	Spec	ок	NA	Remark
	Flammability		94-HB	\checkmark		
Con	Heat deflection to	ABS	. 80°C Comtech S.A.	\checkmark	Co	mtech S.A.
á	UV stability	ABS	Delta E<12	\checkmark	,	andreyk nazwarak
20	resin	07/70/07	ABS	√		007/70/07

BenQ G700	Comtech S.A andreyk	. Comtech S.A. andreyk		Ca	Service Manual	Comtech S andreyk
20 Texture	2007/10/01	MT11000&MT11010&MT11	1	- 2	1.BEZEL: MT11000 &	2007/10/03
		020& & polishing2000&			MT11010&	
		polishing3000&			polishing2000	
		polishing6000			2.BACK COVER:	
		Special Texture			MT11000 &	
Comtech S.A.	Comtech S.A	. Comtech S.A.		Co	MT11020&	Comtech S.,
ändreyk	andreyk	andreyk			polishing2000	andheyk
2007/10/01	2007/10/01	2007/10/01		2	3.STAND: MT11010&	2007/10/04
					polishing2000	
					4.POWER KEY	
					BUTTON:	
					polishing2000	
Comtech S.A.	Comtech S.A			- 00	5.LED: polishing6000	Comtech S.,
ähdreyk	andreyk	ändreyk			Others:MT11020	ändreyk
20 Color 07	2007/10/01	BCS-7015A(BLACK)/BCS-	$\sqrt{}$	2	007/10/01	2007/10/01
		T8110C(SILVER)			Bezel painting	

2.10.4 Carton

	Carton:Item	condition	Spec	OK	NA	Remark
	Color		Kraft	√		
Con	Material A. Con	itech S.A.	C Flute om te	h V.	А.	Comtech \$
á	Compression strength	ndreyk	440 KGF ^{and}	rey/y	,	andreyk
20	Burst strrngth	07/10/01	15 KGF/cm2	1 CM.		2007/10/01
	Stacked quantity		7 Layers	√		

Comtech S., andreyk 2007/10/04

2.11. Pallet &Shipment

2.11.1 Container Specification

0,	Stowing Type	Containter	Quantity of	Quantity of	Quantity of Pallet
4			Produces (sets)	Produces (sets)	(sets)
4			(Every container)	(Every Pallet)	(Every container)
		20'	1140	Pallet A:106	Pallet A:6
	With Pallet			Pallet B:76	Pallet B:6
				Pallet C:24	Pallet C:2
ě	ntech S.A. andreyk 107/10/01	40' Comtec and 2007/	2414 ^A . 0 letyk 10/01	Pallet A:106 Pallet B:76 Pallet C:24	Pallet A:13 Pallet B:13 Pallet C:2
_		20'	N/A	N/A	N/A

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Comtech S.A. andreyk 2007/10/01

Without Pallet		andreyk 007/110/01	ändreyk 2007/10/01	andreyk 2007/10/01	andrej 2007/10
Without Fanot	40'	N/A	N/A	N/A	
2.11.2 Carton S	•	mtech S.A.	Comtech S.A.	Comtech S.A.	Comtech
Net Weight (Kg)	Gross Weight(Kg	Dimension w/o Base LxWxH (mm)	Dimension w/ Base LxWxH (mm)	andrey 2007/10
3.7±0.3 Kg (N	et)	4.7±0.3Kg	370x365.9x93.7mm	370x371.35x137.91mm	
Package:					
Carton Interior	·	₍ mm)	Carton External Dimens	sion (mm)	
LxW	1	เกเซรเก จะค.	LxWxH	оотпест э.А.	Comtech
429x416x110mn	m	ändreyk	440x434x120mm	ändreyk	ändrej
007/10/01	20	007/10/01	2007/10/01	2007/10/01	2007/10
mtech S.A. andreyk 007/10/01		mtech S.A. andreyk 007/10/01	Comtech S.A. andreyk 2007/10/01	Comtech S.A. andreyk 2007/10/01	Comtech andrei 2007/10
mtech S.A. andreyk 007/10/01		mtech S.A. andreyk 007/10/01	Comtech S.A. andreyk 2007/10/01	Comtech S.A. andreyk 2007/10/01	Comtech andre 2007/10
mtech S.A. andreyk 1007/10/01		mtech S.A. andreyk 007/10/01	Comtech S.A. andreyk 2007/10/01	Comtech S.A. andreyk 2007/10/01	Comtech andre 2007/11

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ändreyk

2007/10/01

Comtech S.A.

andreyk 2007/10/01

Comtech S.A.

ändreyk

2007/10/01

Comtech S.

ändreyk

2007/10/0/

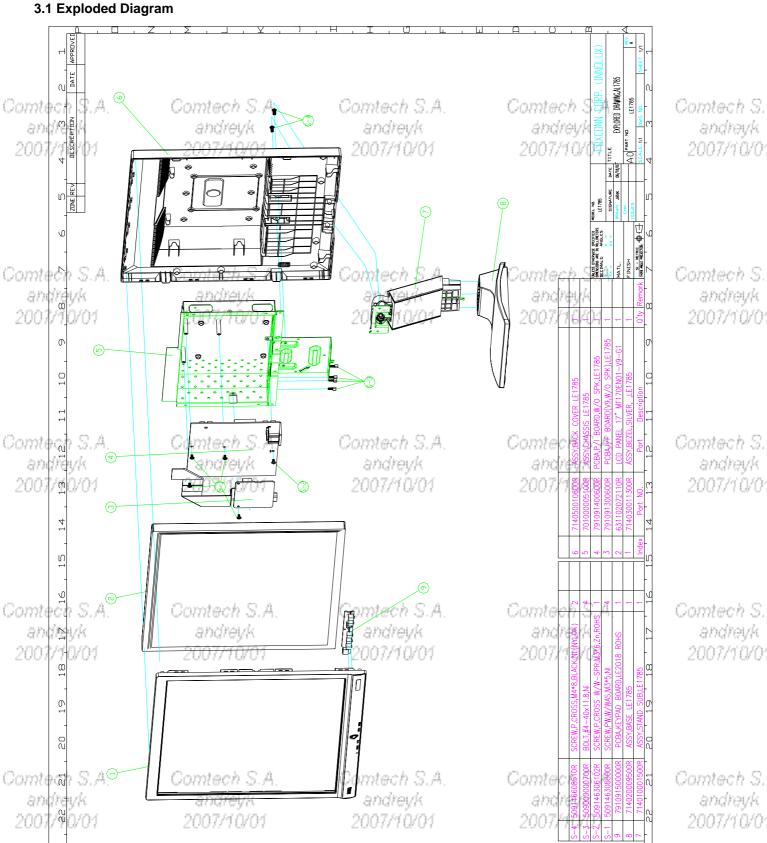
Comtech S.A.

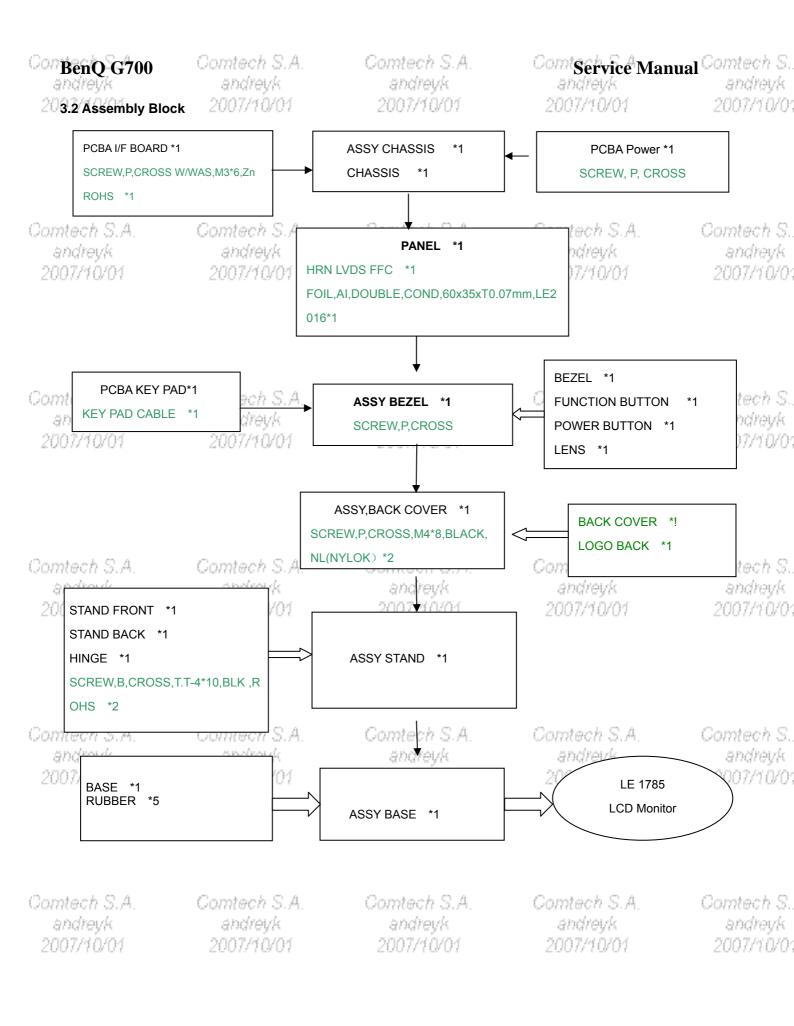
andreyk 2007/10/01

Comtech S.A. andreyk 203. Disassembly & Assembly 7/10/01

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ComtService Manual Comtech S. andrevk ändreyk 2007/10/01 2007/10/0:





Comtech S.A. andreyk 2007/10/01 Comtech S.A. andreyk 2007/10/01

Comtech S.A. andreyk 2007/10/01

Con BenQ G700 andreyk 20 <mark>07/1 0/01</mark>	Comtech S.A. andreyk 2007/10/01	Comtech S.A. andreyk 2007/10/01	Comt Service Mar andreyk 2007/10/01	nual ^{Comtech} S. andreyk 2007/10/0
Assemble the panel with front-bezel			Comtech S.A. andreyk 2007/10/01	Comtech S. andreyk 2007/10/0
Assemble chassis & Plug in the			Comtech S.A. andreyk 2007/10/01	Comtech S. andreyk 2007/10/0
Keypad assembly			Comtech S.A. andreyk 2007/10/01	Comtech S. andreyk 2007/10/0
Plug in the lamp lines			Comtech S.A. andreyk 2007/10/01	Gomtech S. ändreyk 2007/10/0
Back cover assembly			Comtech S.A. andreyk 2007/10/01	Comtech S. andreyk 2007/10/0

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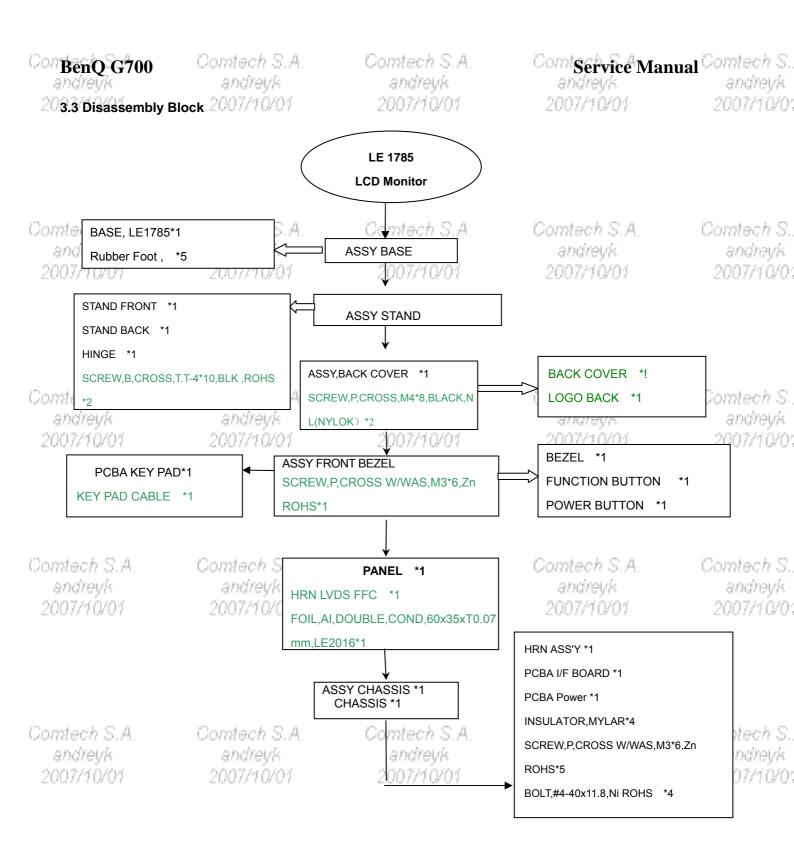
Comtech S.A. andreyk 2007/10/01 Comtech S.A. andreyk 2007/10/01 Comtech S.A. andreyk 2007/10/01 Comtech S.A. andreyk 2007/10/01

BenQ G700	Comtech S.A. andreyk	Comtech S.A. ändreyk	Service Mai	nual Comtech S. andreiyk
andreyk 2007/10/01	2007/10/01	2007/10/01	andreyk 2007/10/01	2007/10/0
Assemble the stand Comtech S.A.			Comtech S.A. andreyk 2007/10/01	Comtech S. andreyk 2007/10/0
7 Lock screw Comtech S.A. andrelyk 2007/10/01	Juni 2 de		Comtech S.A. andreyk 2007/10/01	Comtech S. andreyk 2007/10/0
Base 10 Control assembly androvk 2007/10/01			Comtech S.A. andreyk 2007/10/01	Comtech S. andreyk 2007/10/0
Comtech S.A. andreyk 2007/10/01	Comtech S.A. andreyk 2007/10/01	Comtech S.A. andreyk 2007/10/01	Comtech S.A. andreyk 2007/10/01	Comtech S. andreyk 2007/10/0
Comtech S.A. andreyk 2007/10/01	Comtech S.A. andreyk 2007/10/01	Comtech S.A. andreyk 2007/10/01	Comtech S.A. andreyk 2007/10/01	Comtech S. andreyk 2007/10/0
Comtech S.A.	Comtech S.A.	17 Comtech S.A.	Comtech S.A.	Comtech S

Comtech S.A andreyk 2007/10/01 Comtech S./ andreyk 2007/10/01

Comtech S.A andreyk 2007/10/01

andreyk 2007/10/0:



Note:

The disassembly direction please following direction of arrowhead andreyk 2007/10/01 2007/10/01 2007/10/01 2007/10/01 2007/10/01 2007/10/01

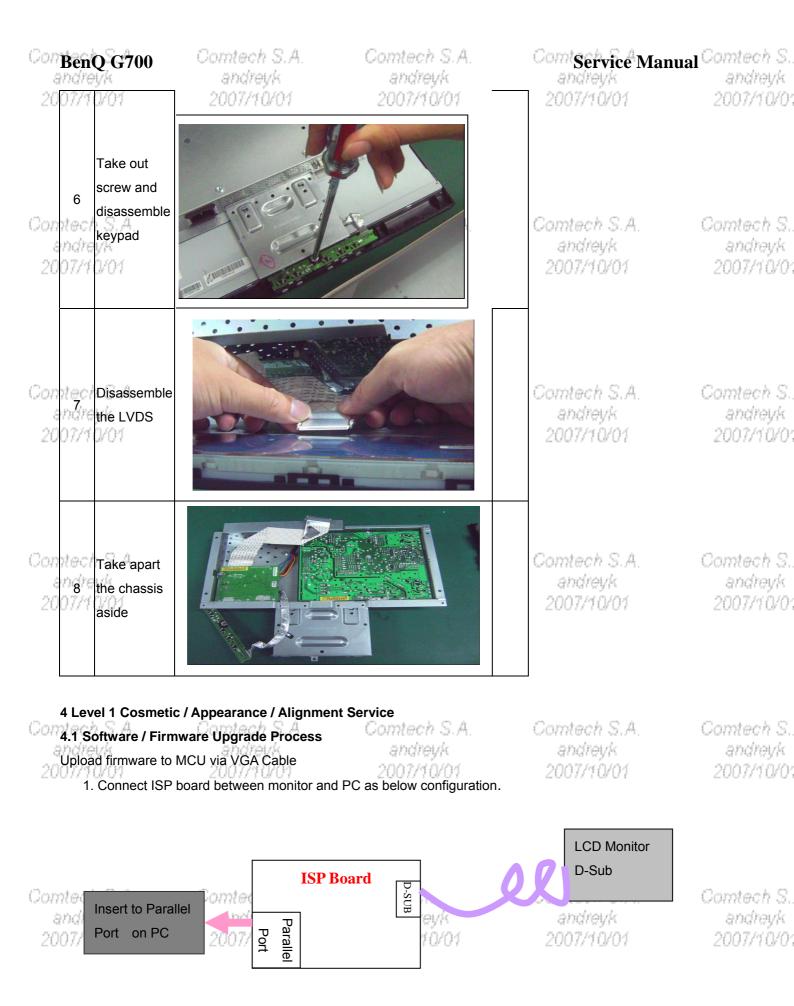
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Comtech S.A. andreyk 2007/10/01 Comtech S.A. andreyk 2007/10/01 Comtech S.A. andreyk 2007/10/01

Comtech S.A. andreyk 2007/10/01

Con BenQ G700 andreyk 2007/10/01	Comtech S.A. andreyk 2007/10/01	Comtech S.A. andreyk 2007/10/01	Comt Service Ma n andreyk 2007/10/01	nual ^{Comtech} S. andreyk 2007/10/0
Disassemble the base(press two points as photo showing 2007/10/04			Comtech S.A. andreyk 2007/10/01	Comtech S. andreyk 2007/10/0
Disassemble 2 the stand(take Control out screw)			Comtech S.A. andreyk 2007/10/01	Comtech S. andreyk 2007/10/0
Move out the 3 stand and revk 2007/10/01			Comtech S.A. andreyk 2007/10/01	Comtech S. andreyk 2007/10/0
Disassemble 4 Contect back cover andrevk 2007/1 3/01			Comtech S.A. andreyk 2007/10/01	Comtech S. andreyk 2007/10/0
Move out LVDS			Comtech S.A. andreyk 2007/10/01	Comtech S. andreyk 2007/10/0

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2. Press the "connect" button in ISP.exe, and select the device type, which is used in this monitor. Choose the

20

BenQ G700	Comtech S.A. andreyk	Comtech S.A. andreyk	Com Service Mar	nual Comtech S. andreyk
	vare version, and load to	P P	2007/10/01	2007/10/0
, -		d re-start monitor again.		
, , , , , , , , , , , , , , , , , , ,	3 1	J		
4.2 Alignment proced 4.2.1 Preparation:	dure (for function adju	stment)		
Con 1. Setup input timing V	/ESA to 1280*1024@60	Hz,32-Grays pattern. 🗸	Comtech S.A.	Comtech S.
2 Setup units and kee 2007/10/01	ep it warm up for at least 2007/10/01	:30 minutesodreyk 2007/10/01	andreyk 2007/10/01	andreyk 2007/10/0
4.2.2 Timing adjustme	nt			
1. Enter to factory mod	de setting area (by press	sing "ENTER"+ "MENU" + "POWE	ER" at the same time dur	ing
power off).				
2. Check the settings t	to following values:			
Contrast =50; Brightness=100; Color enhancement	andreyk	Comtech S.A. andreyk 2007/10/01	Comtech S.A. andreyk 2007/10/01	Comtech S. andreyk 2007/10/0
3. Then turn off the mo	onitor power.			
4.2.3 Function key Dev				
Comtech S.A.	"UB"mtech S.A.	Comtech S.A.	Comtech S.A.	Comtech S.
andreyk		Brightness/Contrast Control menu		andrevk
2007/10/01		t function in the OSD Main menu	2007/10/01	2007/10/0
		value of the specific function whic	h has been selected	
•	• "MENU"	·		
	■ Activate the 0	Control Button Description menu		
	Activate the 0	OSD Main menu		
Comtech S.A.	Uiew the next	t function in the OSD Main menu	Comtech S.A.	Comtech S.
andreyk -	"DOWN"	andreyk	ändreyk	andreyk
2007/10/01	2 ■ 7 Activate the 1	heme Mode menu	2007/10/01	2007/10/0
	■ View the prev	vious function in the OSD Main me	enu	
	Decrease the	value of the specific function whi	ch has been selected	
•	• "AUTO"			
	Activate the A	Auto Adjustment function		
Comtech S.A.	Co, ■t⊕ Go back to th	e OSD Main menu from the sub-	m enus ntach S.A.	Comtech S.
andreyk		OSD Main menu	andreyk	andreyk
2007/10/01	ENTER"	2007/10/01	2007/10/01	2007/10/0
	■ Perform function ■ Enter the OS	tion of menu icon that is highlight D item	or enter next level menu	
		21		
Comtech S.A. andreyk	Comtech S.A. andreyk	Comtech S.A. andreyk	Comtech S.A. andreyk	Comtech S. andreyk
2007/10/01	2007/10/01	2007/10/01	2007/10/01	2007/10/0

BenQ G700 andrevk 2007/10/01

Comtech S.A. andreyk

Comtech S.A. andreyk 2 7/ Change the source input 7/10/01

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ändreyk 2007/10/0:

- "POWER"
 - Turn on/off the monitor

4.2.3.2 OSD Control

The On-Screen Display (OSD) shall be an easy to use icon based menu through keypad OSD buttons or remote control unit. The unit shall leave the factory with all OSD controls set to their default values

and Level 1	Level 2	Level 3	Level 4		Def	ault
007/10/01	Auto Adjustment	2007/10/	01 2007.	/10/01		-2007/1
	H. Position	(0~100)	-		5	50
DISPLAY	V. Position	(0~100)	-		5	50
	Pixel Clock	(0~100)	-		5	50
	Phase	(0~63)	-			-
mtech S.A.	Con Brightness A	(0~100)ech	S.A. Comte	ch S.A.	S	O mteci
ändreyk	a Contrast	(0~100)d/el//	- ähd	lreyk -	5	o andre
007/10/01	Sharpness	(1~5)	01 2007	/10/01		3 2007/1
			Normal		No	rmal
			Bluish			-
PICTURE			Reddish			
	Color	*Color temperature	User Mode		100	
ntech S.A.	Comtech S.A.	Comtech S	> Red (0~100)	ch S.A.	(Comteci
indreyk 07/10/01	andreyk	andrey/	Green (0~100)Blue (0~100)	(reyk		andh
	2007/10/01	Reset Color		(YES/NO)		2007/1
	Dynamic Contrast	*Dynamic Contrast	(YES/NO)			
		Standard				Standard
		Movie	Sharpness 不可调节	1.任一项村		
ntech S.A.	Comtech S.A.	Dynamics	Sharpness 不可调节	44 C A	Demo 设为 两个模式下	Comteci
andreyk 107/10/01	andreyk 2**Picture Mode		1 474	的 Sensey	ye Demo 自	andre onnovi
077 707 07	7003mld10040	2007/10/	01 2007	动变为 OI	N	20077 [
DICTUDE		Photo	Sharpness 不可调节	2. Sensey	/e Demo 处	
PICTURE ADVANCED			F 1 4 4/4 1.	于 ON 时,	做 Auto 自	
ADVANCED				动变为 OI	FF	
atanh O A	Senseye Demo	sRGB (ON/OFF)	Sharpness 不可调节	ch S A		OFE.
ntech S.A. andreyk	andreyk		0.0			rwrrrew G
007/10/01	2007/10/01	2007/40/	01 2007	769K 750704		2007/4
7077 100 01	2007.1001	2007710				20077

BenQ G700	Comtech S.A. ändreyk	Comtech : andreyl	Service Mailuar	Domtech S. andreyk
2007/10/01	2007 16put /04	(D-sub/DVI)	01 2007/10/01	2007/50/03
			-EU version: 14 languages	
SYSTEM	OSD Settings	Language	(English/Français/Deutsch/Italiano/Espanol/Poli sh/Czech/Hungarian/Serbo-croatian/Romanian/ Netherlands/Russian/Swedish/Protuguese) -Asian version: 8 languages	English
Comtech S.A.	Comtech S.A.	Comtech ((English/Francais/Deutsch/ Ita liano/Espanol/⊟ 本語/繁體	Comtech S.
andreyk	andreyk	H. Position	中文/简体中文)	andheyk 50
2007/10/01	2007/10/01	V. Position	(0~100) (0~100)	2050/10/03
	OSD Settings	Display Time	(5, 10, 15, 20, 25, 30)	15
	DDC/CI	OSD Lock	(YES/NO)	No
	Information	(ON/OFF)	-	Yes
		-	-	
	Reset All	(YES/NO)	-	
Comtech S.A.	Comtech S.A.	Comtech :	S.A. Comtech S.A. (Comtech S.

4.2.3.3. Factory Mode Introduction

When signal is input, press "power key" to turn off the monitor. Press "ENTER"+"MENU" +"Power" together to turn on the monitor. After power on, press "MENU" to call out Main Menu, then press "-"for select the "F" item, then press "power/menu", you can go into Factory mode.

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2007/10/0:

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EXIT: Escape from Factory menu.

PANEL: Display panel information.

AUTO COLOR: Automatically calibrate chip ADC parameter by using chip internal DAC.

GAIN!/k ADC gain value andreyk andreyk

2007/10/01 ADC offset value 0/01 2007/10/01 2007/10/01

9300K: Set color temperature 9300K 6500K: Set color temperature 6500K

USER: Set user preferred color temperature

Comtech S.A.

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2007/40/01

LANGUAGE: Country language

Comtech S.A.

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2007/10/01

ConReset BE.Hr: the time of backlighth S.A. Comtech S.A. Comtech S.A.

Reset Total Hr: the total time when connect power

2007/10/01 2007/10/01 2007/10/01

4.2.3.4 After repair, to ensure the quality you should do the following test and adjustment

	Item	Content		Content Equipment			
Tes	est OSD	1.Signal is set as1280×1024@60H	zunder General-1				
Comte _{fun}	nction	2.Checking whether each single for	unction key and compound function ke	Chroma A	Comte		
andre	eyk	ahdreyk	andreyk	Signal Generator	ang		
2007/9	10/01	can be worked.	2007/40/04 2	Olgridi Gerieratoi	2007		

Comtech S.A.

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2007/10/01

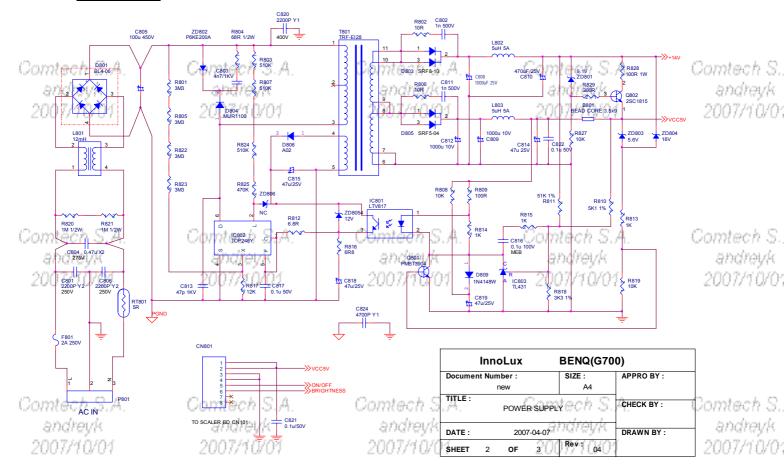
ConBenQ G700	Comtech S.A. andreyk	Comtech S.A. andreyk		Service Manu	ial Comtech andrej	
Contrast	1. Set input mode to 1280×102	4@60Hz	26	07/10/01	2007/10	100
Check	2. Set Pattern to 32 gray shade	es .		Chroma		
	3. Set contrast to the max. The bri	ightest 5~8 shades brightne	ess	Signal Generator		
	cannot be distinguished.					
Comi Colors A	1. Do "Auto color Balance" at 12	280×1024@60Hz, 32gray	Con	ntech S.A.	Comtech	S.
Temperature 2007/10/01	shades 2. Measure color temperature, c	check it complies with the	26 26	Chroma Signal Gen and color analyzer	andrei	/k V01
	following temperature :			and obioi dilaij20.		
	6500K x = 0.313 +/- 0.03,	y = 0.329 <u>+</u> /-0.03				
	1. Use Chroma Pattern Generat	or to make sequence.				
Modes Comtech S.A.	VESA (640x480 800x600 1024	x768 1280x1024), 🧢 🗸	Con	Chroma	Comtech	S.
switching	and power saving signal,etc.		Š	Signal Generator	andrej	Æ.
2007check01	2. Confirm the above timing mo	odes must be full screen a	nd 20	07/10/01	2007/10	VO:
	the picture must be normal.					
VGA cable	When VGA cable is not plugged	, the monitor will work in p	ower saving			
detector	mode.			Visual check		
Comtech S.A.	Comtech S. A.	Comtech S.A.	Con	Chroma Signal Gen		Ş.
andreyk 2007/10/01	 Mode:1280×1024@60Hz Set Brightness& contrast to c 	andreyk 2007/50/04	20 20	Chroma signal gene	ähdhej rator 2007/50	
		lefault value	20		Idioi 2007/10	,,,,
Panel Flicker	3. Do "Auto Adjustment"		·	& PC		
check	4. Shut down PC to check whether	er there's glitter on the cent	er			
Power saving	of the picture. 1. Mode:1280×1024@60Hz					
andrevk	2. Pattern: full white	Comtech S.A. andrevk	Con	Chroma signal gene	Comtech rator andres	
2007/10/01	3. Brightness: Max.	at each modes	20	07/10/01	2007/10	
	Contrast: Default					
	State	Power Consumption	LED color			
	Normal		green			
Comtech S.A.	Stand By	Comtech S.A.	amber	ntech S.A.	Comtech	S.,
andreyk 2007/10/01	Power Key Off	andreyk 2007/10/01	no 26	indreyk 07/10/01	andrej 2007/10	

Comtech S.A. andrevk Comtech S.A. andreyk ComtService Manual Comtech S. andreyk andreyk 2007/10/01 2007/10/05

205. Level 2 Circuit Board and Standard Parts Replacement 10/01

5.1. Block diagram

Power Board



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2007/10/01

Comtech S.A. andreyk 2007/10/01 Comtech S.A. andreyk 2007/10/01

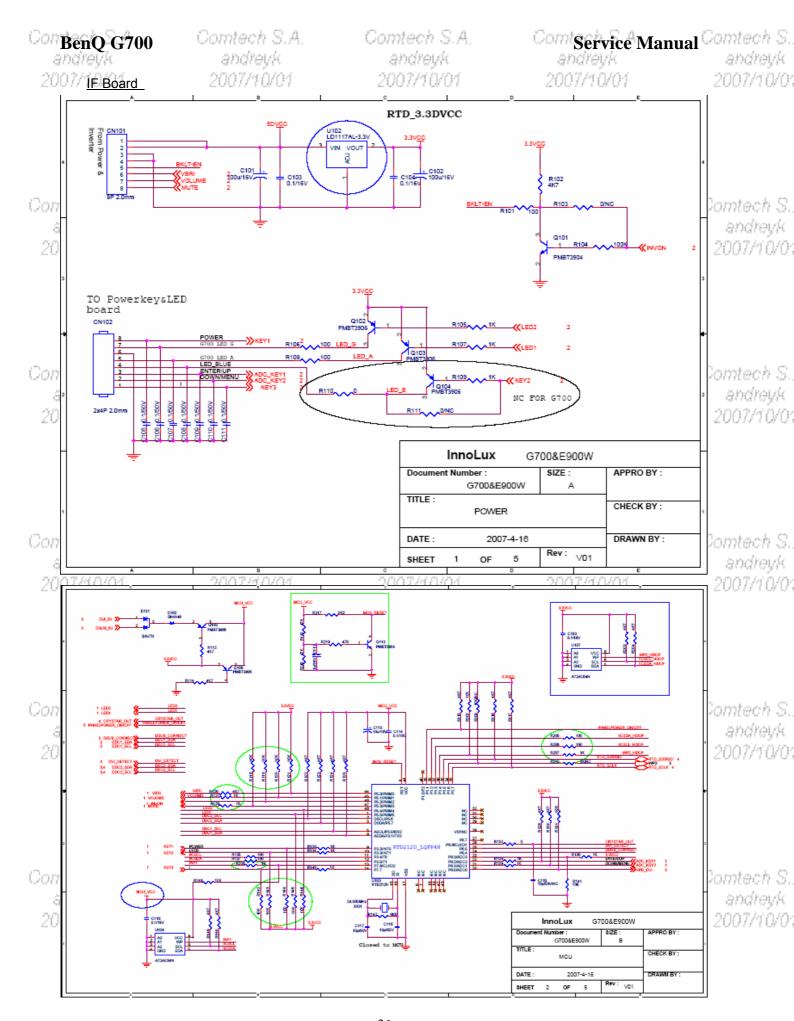
Comtech S.A. andreyk 2007/10/01 Comtech S. andreyk 2007/10/00

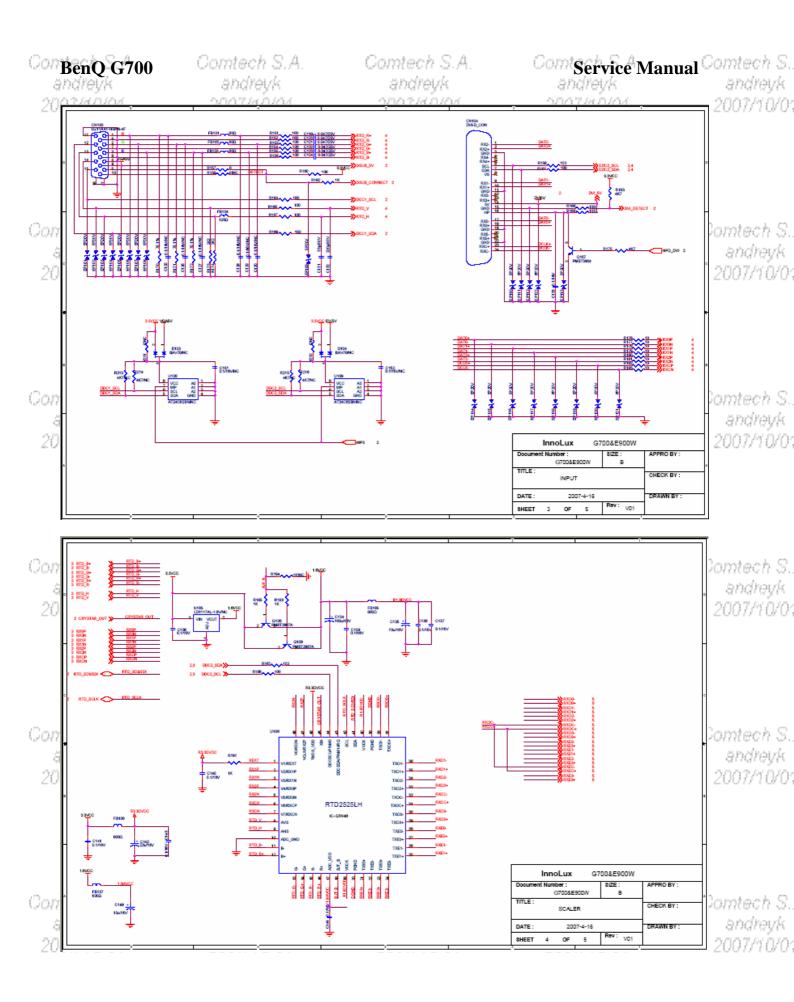
Comtech S.A. andreyk 2007/10/01

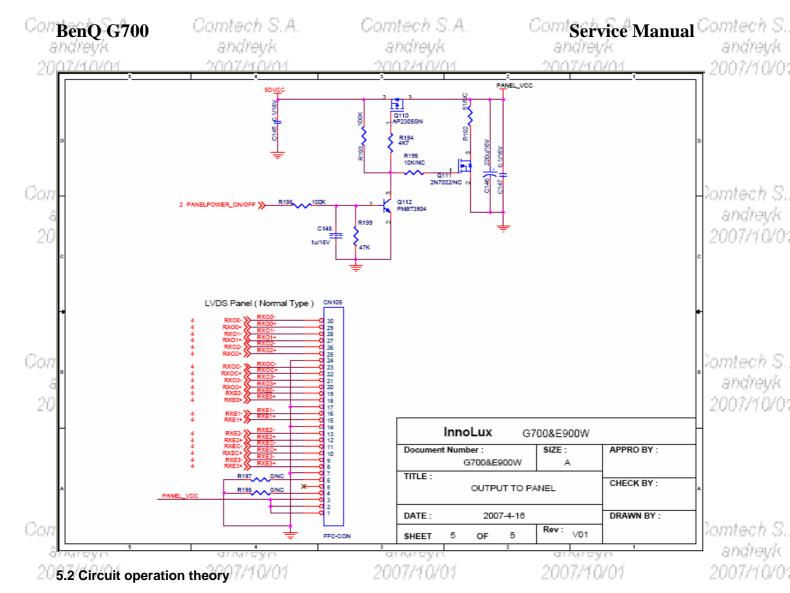
Comtech S.A. andreyk 2007/10/01 Comtech S.A. andreyk 2007/10/01 Comtech S. andreyk 2007/10/05

Comtech S.A. andreyk 2007/10/01 25 Comtech S.A. andreyk 2007/10/01

Comtech S.A. andreyk 2007/10/01







5.2.1. Electronic Circuit Theory

Switching Mode Power Supply theory

2.1.1 AC Current Input Circuit

P801 is a connector for connecting AC Power. F801 is a fuse to protect all the circuit. AC input voltage is from 90V to 264V. R820 and R821 joined between two inputting main circuit to prevent man from shock. L801 is used to clear up low frequency wave. C801 and C806 are used to discharge the waves that L801 produced. High frequency waves are damped by C801 and C806. D801 is a rectifier which composed of 4 build-in diodes, it inverts AC to DC.

2.1.2 High Voltage to Low Voltage Control Circuit

C805 is used to smooth the wave from rectifier. IC802 is a highly integrated PWM controller, which build-in a power MOSFET. When rectified DC high voltage is applied to the DRAIN pin during start-up, Comtec the MOSFET is off initially, and the CONTROL pin capacitor is charged through a switched high voltage current source connected internally between the DRAIN and CONTROL pins. When the CONTROL pin voltage Vc reaches approximately 5.8V, the control circuitry is activated and the soft-start begins. The soft-start circuit gradually increases the duty cycle of the MOSFET from zero to the maximum value over approximately 10ms. If no external feedback/supply current is fed into the CONTROL pin by the end of

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Comtech S.A. andreyk 2007/40/01

Comtech S.A. andrevk 2007/10/01

Comtech S.A. andreyk 2007/10/01

Comtech S. ändrevk 2007/10/0:

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Comtech S.

Comtech S

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the soft-start, the high voltage current source is turned off and the CONTROL pin will start discharging in 2007/10/07 response to the supply current drawn by the control circuitry.

Resistor R803, R807, R824 and R825 are for line over voltage shut-down (OVP) and line under-voltage detection (UVP).Resistors R801, R805, R822, and R823 are for external current limit adjustment, and used to reduce the current limit externally to a value close to the operating peak current of primary about 1.35A. The mean is power will protected when the primary current over about 1.35A.

When PWM is turned off, the main current flow will be consumed through D804 and ZD802, This will prevent MOSFET which built-in IC802 from being damaged under large current impulse and voltage spike.

D806 and C815 provide internal Auxiliary current to CONTROL pin during normal operation. In addition, error amplifier and feedback current to the CONTROL pin are for duty cycle control.

2.1.3 DC 5V and DC 12V Output Circuit

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For DC 5V, D805 is used to rectify the inducted current. R806 and C811 are used to store energy when current is reversed. The parts including C812, C814, C822, C821, B801 and L803 are used to smooth the current waves.

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For DC 12V, D803 is used to rectify the inducted current. R802 and C802 are used to store energy when current is reversed. The parts including C808, C810 and L802 are used to smooth the current waves.

2.1.4 Feedback and OVP Protect Circuit

Pin R of IC803 is supplied 2.5V stable voltage. It is connected to 5V and 12V output through R811, R810 and R818. R811, R810 and R818 are output sampling resistor. When the sampling voltage more than 2.5V or less than 2.5V, feedback current of IC802 will change, this can change the voltage from transformer T801.

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For 5V_{DC} output OVP, ZD803 is a zener diode, when 5V output voltage becomes up to 5.6V, the zener current cause R819 voltage become up to 0.7V, Q801 is triggered and OVP starts. For 12V_{DC} output OVP, ZD804 is a Zener Diode, when 12V output voltage becomes up to 15V, the zener current cause R819 voltage become up to 0.7V, Q801 is triggered and OVP starts. The collector current of Q801 is used to make build-in diode light. FB Current of IC802 will be changed; it can change the voltage from T801.

Q802, R827, R828 and ZD801 make up of dummy loading circuit. For start-up sequence, during 5V output take place high loading first, this dummy loading circuit operated to insure 12V not be increased.

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Con Low voltage to high voltage circuit

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14VDC provides the power for IC501; the control signals Brightness and ON/OFF come from I/F board.
20N/OFF signal connect to pin10 of IC501 and makes IC501 enable. Brightness signal connect to pin4 of IC501 2007/10/00 and regulates the panel brightness, R501, R518, C518 make up a network of delaying time circuit and R512, R514 make up a divided voltage network, C510 is used to dump noise. The operation frequency is determined by the external Resistor R508 and capacitor C512 connected to pin13 of IC501. BURST MODE regulated

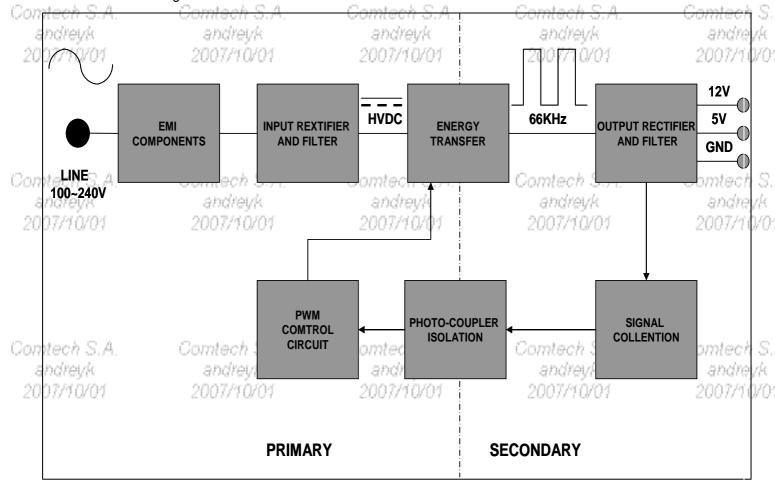
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20 dimming frequency is determined by the external resistor R507 and capacitor C516 connected to pin11 of 2007/10/0 IC501. C511 is used for soft start and compensation, C507, C518 are used for dump noise.

The output drives, include DRV1, DRV2 (pins1,15 respectively) output square pulses to drive MOSFET U501, U502, and each of U501, U502, is consist of a N channel MOSFET. U501, OR U502 work as Push-Pull- topology, it is high efficient, PWM switching.

During start up, VSEN (pin6) senses the voltage at the transformer secondary. When VSEN reaches 3.0V, the output voltage is regulated. If no current is sensed approximately 2seconds IC501 shut off. 2007/10/0: The current flowing through CCFL is sensed and regulated through sense resistor R509, R534. The feedback voltage connected to Pin5 (ISEN), then compared with a reference voltage (1.5V) via a current amplifier, resulting in PWM drive outputs to PUSH-PULL switches

5.2.2 Power board diagram:

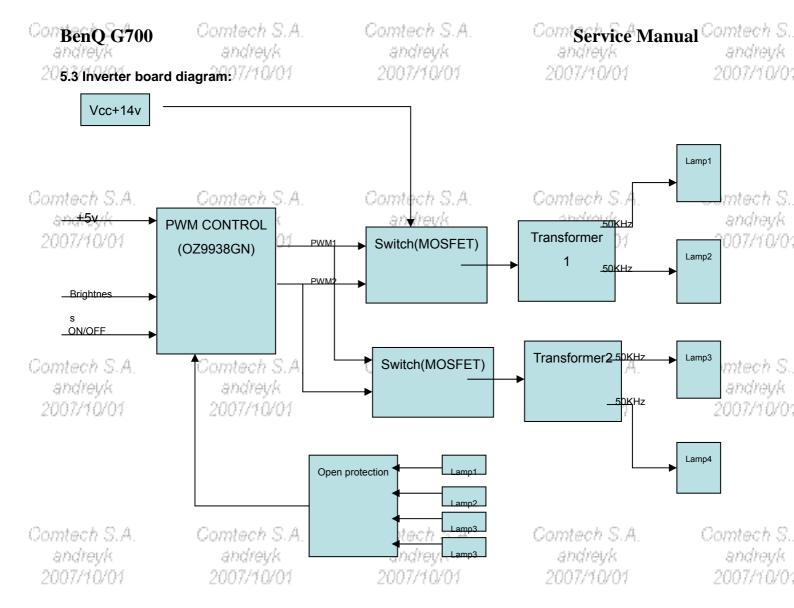


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PUSH-PULL INVERTER

5.3.1 I/F Circuit

5.3.1.1 RGB CAPTURE

- Signal RED,GREEN,BLUE input through CN103 #1,#2,#3, Stop DC via C119, C121 and C123, and then enter into U106 (scaler) analog input terminal #12,#14,#16, and then scaler deals with signal internally.
- Signal DDC_SCL (series clock) inputs via CN103#15, and then passes through ZD101 Zener for ESD protection, goes into U103#5.
- Signal DDC_SDA (series data) inputs via CN103#12, and then passes through ZD104 Zener for ESD protection, goes into U103 #8.
- Signal TTL vertical sync. (Vsync) inputs via CN103 #14, and then clamped by ZD102 Zener, passes through R165, and then goes into IC U106 (scaler) #8.
 - Signal TTL horizontal sync. (Hsync) inputs via CN103 #13, and then clamped by ZD103 Zener, passes through FB104,R167, and then goes into IC U106 (scaler) #9.
 - CN103#5 is defined as cable detect pin, this detector realize passes through R160 Pull high, go

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2007/10 into U103#24.

- U108 power is supplied by PC via CN103#9, or supplied by Monitor self via D103.
- U108 is an EEPROM IC which is memory and EDID data saved in it.

5.3.1.2 Buttons Control

- Button "Power" on bottom side bezel connects to U103 (scaler) # 9 through R133, via CN102#8.
 - Button "UP" "DOWN ""MENU" "ENTER" on bottom side bezel connects to U103 (scaler) #21,#22,#14 through R138,R139,R140 via CN102 #1, #2,#3
 - U104 is an EEPROM IC which memory OSD setting and save the value adjusted by user.
 - LED Indicator on Front Bezel
 - a. When press button "power", U103 (scaler) #48 sends out a low potential, via R105, flow to CN102 #7 on keypad, LED Green ON.
- Comtech b. When in "Suspend" mode, U103 (scaler) #1 sends out a low potential, via R107, flows to CN102 #5 on keypad, LED Amber ON. 2007/40/04 2007/40/01

5.3.1.3 Realtek CHIP U106 (scaler), and U103(MCU)

- U106 (RTD2525LH) #29. #30. #31~#38 output 8 bit even LVDS digital data to panel control circuit through CN104.
- U106 (RTD2525LH) #21~#30 output 8 bit odd LVDS digital data to panel control circuit through Comtach CN104. Comtech S.A. Comtech S.A. Comtech S.A.
 - U103 (RTD2120_LQFP48) #44 outputs Brightness "PWM" signals to control CCFL brightness.
 - U103 (RTD2120 LQFP48) #39 output PANELPOWER ON/OFF to make Q112 conducted, and then make Q110 conducted, +5V flow to CN105#1~#3 as Panel VDD.
 - U103 (RTD2120_LQFP48) #46 output CCFL_ON/OFF "H" and "L" potential to control Inverter on/off.

Please refer to RTD2120_LQFP48 Pin Assignments table in IC spec.

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200 5.3.1.4 Regulator Circuit 7/10/01

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- +5V is from switching mode power supply for Panel used.

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- +3.3V generates from +5V through C103 filtering and U102 which is output +3.3V LDO for U105, U106,U103 and U104 used.
- +1.8V generates from +3.3V through C138 filtering and U105 which is output +1.8V LDO.

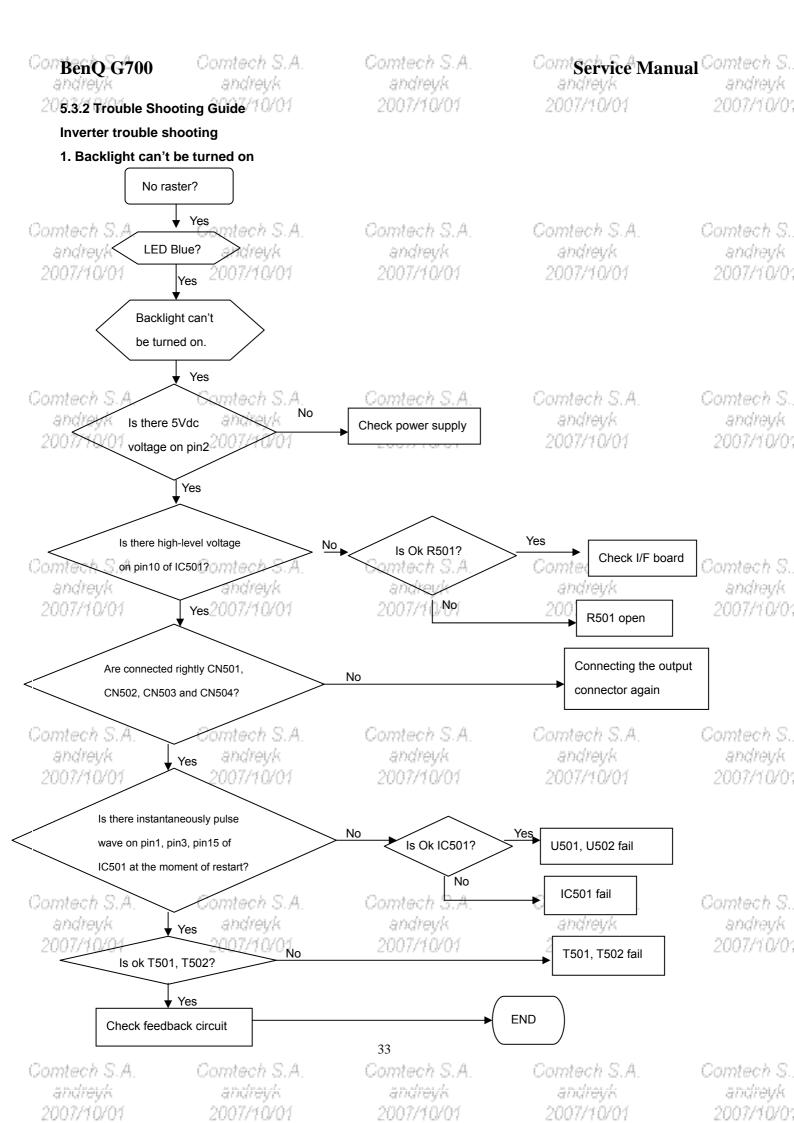
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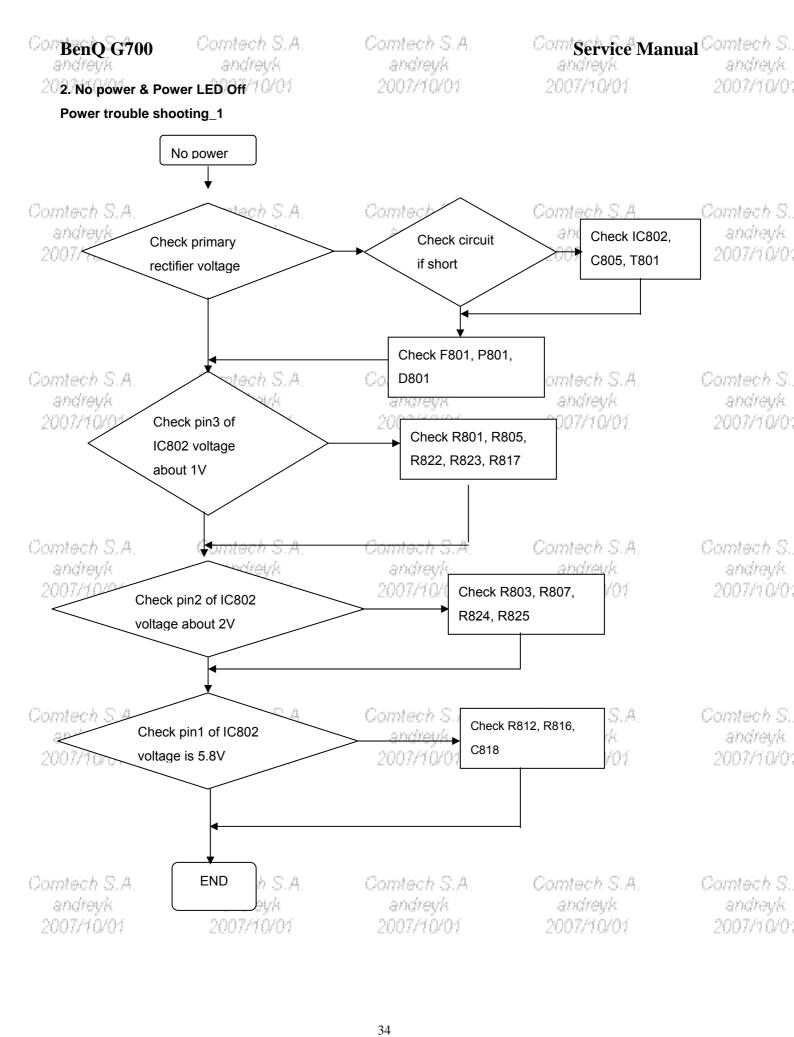
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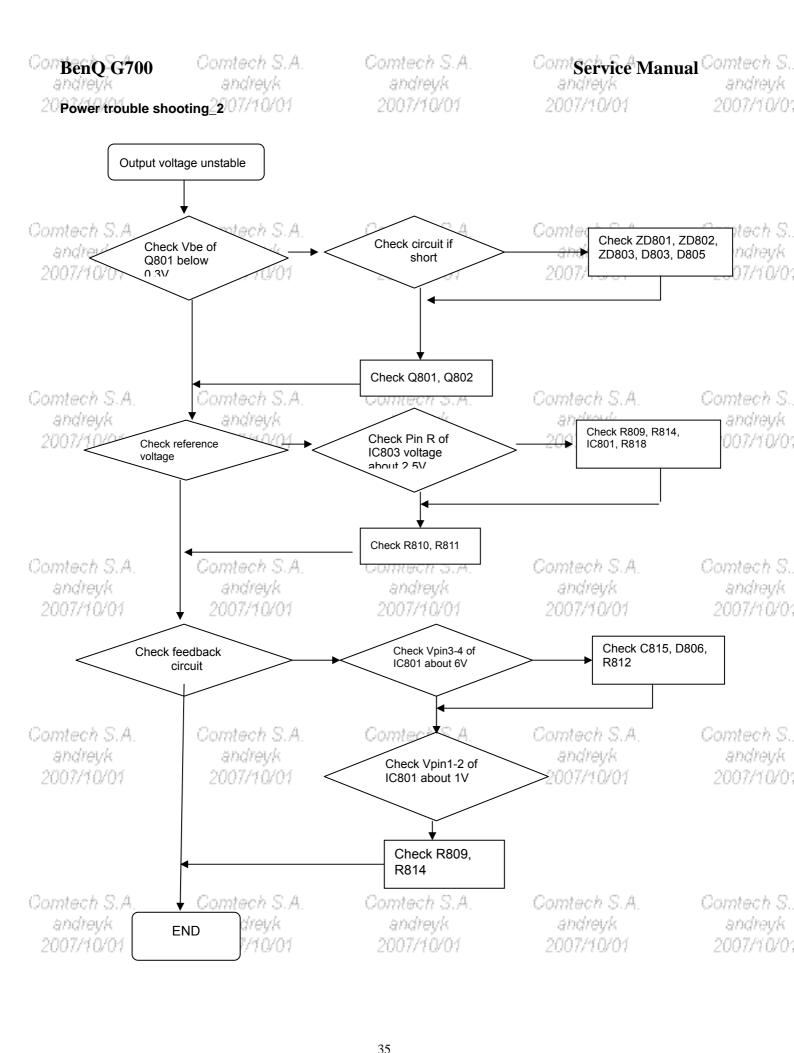
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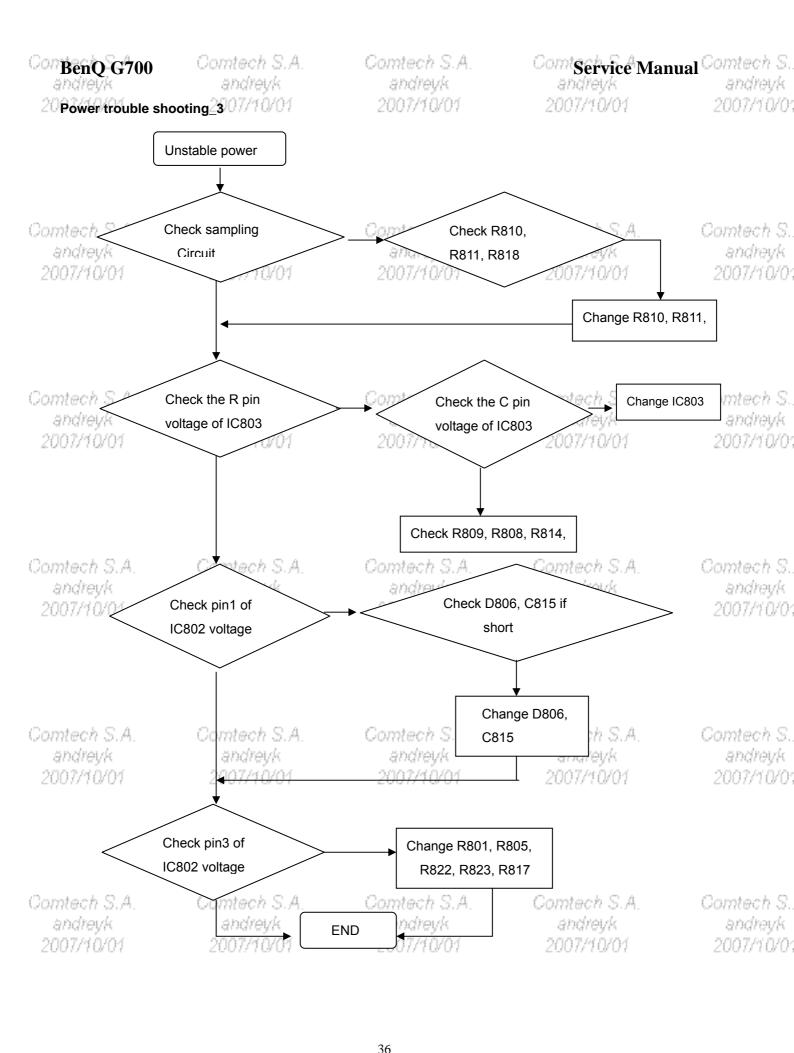


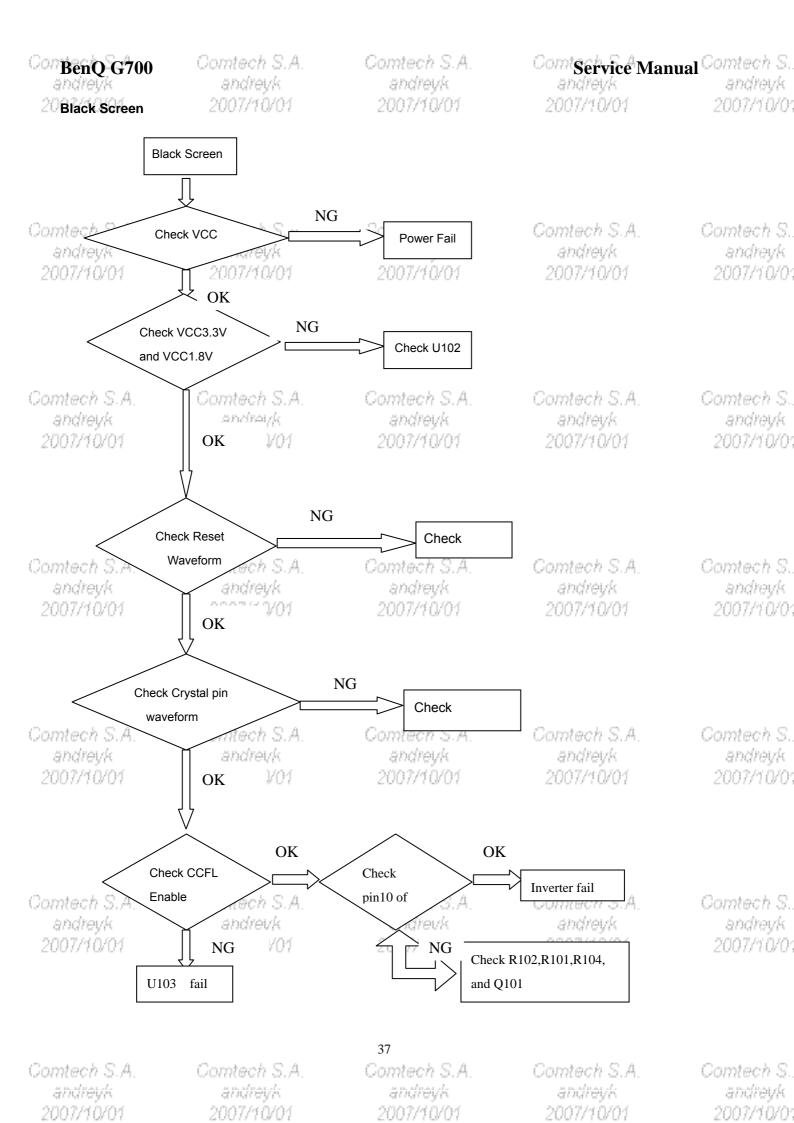
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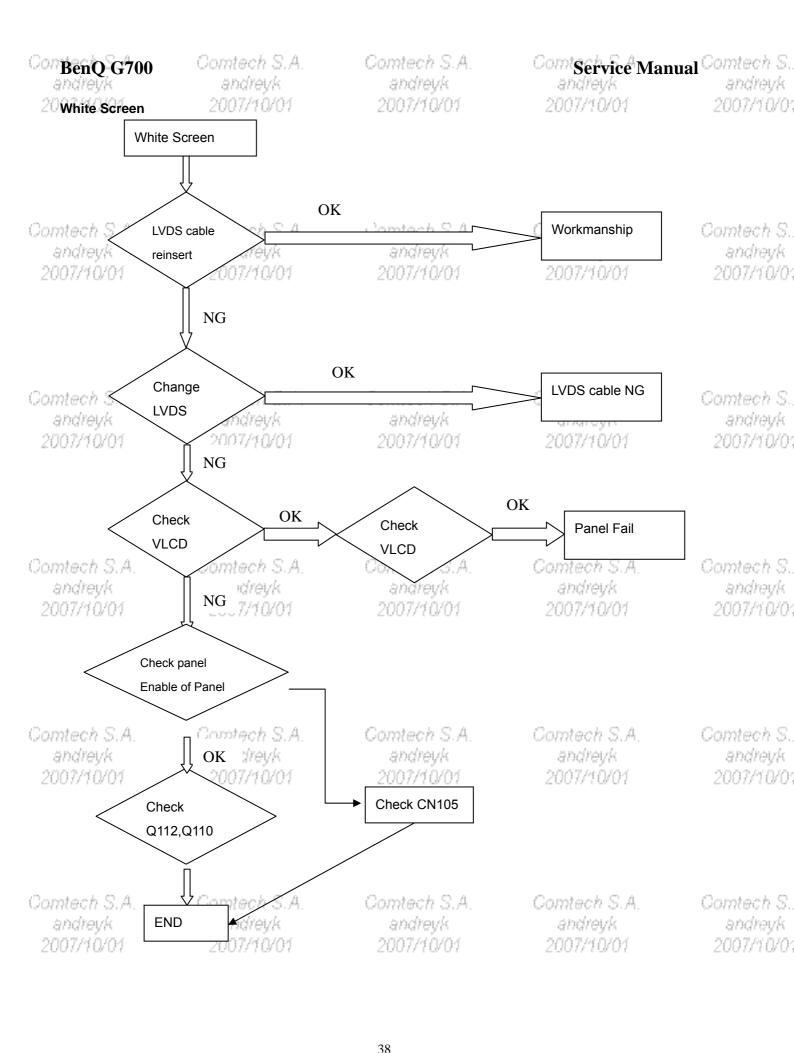
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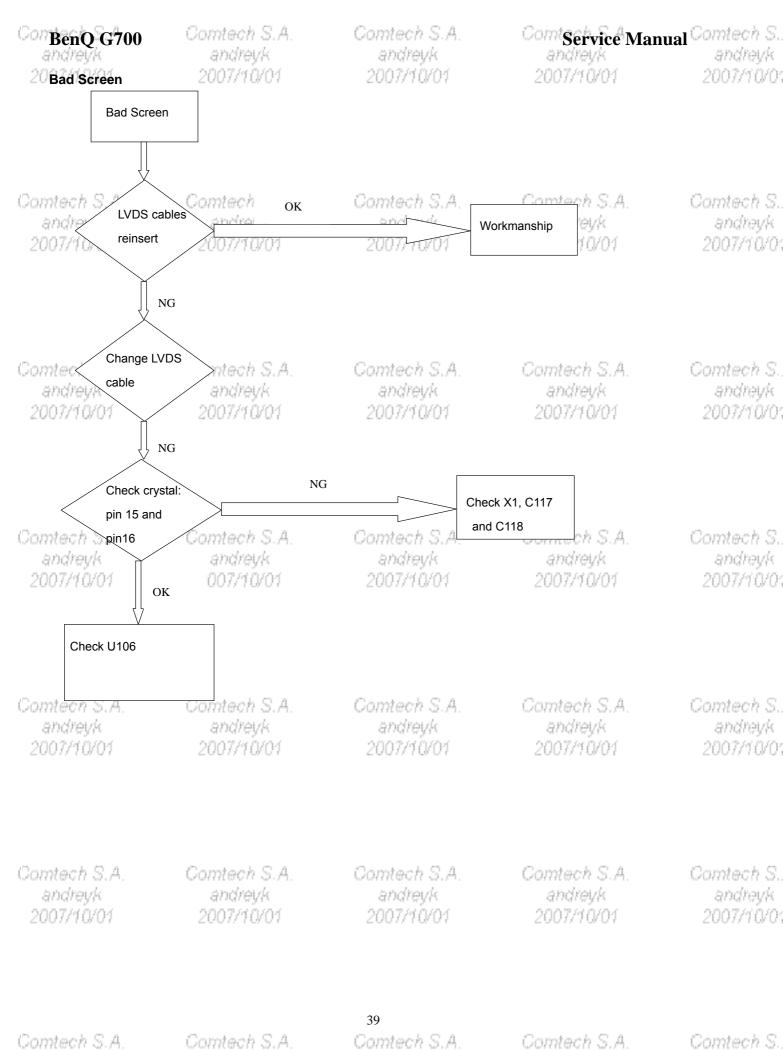






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2 5.4 Spare Parts List

* THIS PARTS LIST MAY BE SUBJECT TO CHANGE WITH PRIOR NOTICE BY SPM OF BENQ CC TEAM.

	Site	Innolux 23-Jul-07		
	Released Date			
Con	Ship To Area	99 Part Number	Description	
é	EU, VN	9H.0BVLN.ISE	17 LCD MNT G700-ISE	
20	Asia Pacific	9H.0BVLN.IBP	17 LCD MNT G700-IBP	
	Australia	9H.0BVLN.IBW	17 LCD MNT G700-IBW	

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	Category	BenQ Part Number	BenQ Parts Description
Con	Panel	CS.5FL1C.011	LCDM 17 CLAA170EA07P-040 CPT
â	â	CS.5FL1C.001	LCDM 17 MT170EN01 V9 G1
20		CS.5D0BV.001	PCBA I/F BOARD CPT PANEL
	РСВА	CS.5D0BV.011	PCBA I/F BOARD INNOLUX PANEL
	r CDA	CS.5D0BV.021	PCBA P/I BOARD G700
		CS.5D0BV.031	PCBA KEYPAD BOARD G700
		CS.6E0BV.001	ASSY BACK COVER G700
Con	Cover	CS.6E0BV.011	ASSY BEZEL SILVER G700
â	Cover	CS.6E0BV.031	ASSY BASE G700
20		CS.6E0BV.041	ASSY STAND SUB G700
		2G.02718.051	CORD H05VV-3G 10A250V 1500 EUR
	Cable	5K.L9005.501	CABLE SIGNAL15/15P CORE*1 1.5M
		CS.5K0BV.001	CABLE LVDS 30P 214MM G700
		CS.5K0BV.011	CABLE IFBD/KEYPAD 8P170MM G700
Con	KIT	CS.6E0BV.051	ASSY KIT EU VN G700
20 20	Package	CS.4D0BV.001	CARTON ENGLISH WORLD WILD G700
20		CS.4G0BV.001	CUSHION EPS-L G700
		CS.4G0BV.011	CUSHION EPS-R G700

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Appendix: Dimensional Drawing

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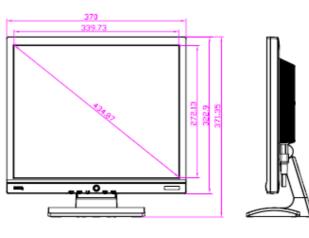
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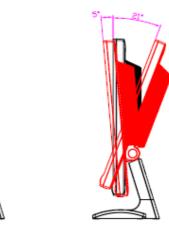
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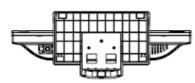




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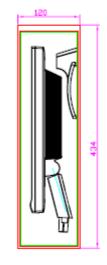
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