

DUCKSAN model CGM-1301 (Merit type 55) & CGM-1901 (Merit type 59)
VGA monitor repair

Bad capacitors to replace:

On main board:

C319 1 mfd. @ 250 volts (off value)
C334 10 mfd. @ 160 volts (off value)
C804 2.2 mfd. @ 50 volts (open) [Change to 10 mfd. @ 50 volts](#)
C337 470 mfd. @ 16 volts (off value)
C336 470 mfd. @ 16 volts (off value)
C806 100 mfd. @ 160 volts (off value)
C809 1000 mfd. @ 35 volts (off value)
C208 47 mfd. @ 25 volts (off value)
C210 1 mfd. @ 50 volts (open)
C209 220 mfd. @ 35 volts (off value)
C306 1 mfd. @ 50 volts (off value)
C203 1 mfd. @ 50 volts (off value)
C330 1 mfd. @ 50 volts (off value, may cause picture too wide)
C207 2200 mfd. @ 16 volts (off value)
C808 100 mfd. @ 160 volts (off value)
C851 10 mfd. @ 160 volts (off value)

On # 1301 neck board:

C405 1 mfd. @ 50 volts BI-POLAR (open) [Upgrade to 100 volts](#)
C445 1 mfd. @ 50 volts BI-POLAR (open) [Upgrade to 100 volts](#)
C425 1 mfd. @ 50 volts BI-POLAR (open) [Upgrade to 100 volts](#)
C406 1 mfd. @ 160 volts (open)
C446 1 mfd. @ 160 volts (open)
C426 1 mfd. @ 160 volts (open)
C404 3.3 mfd. @ 100 volts (off value)
C424 3.3 mfd. @ 100 volts (off value)
C444 3.3 mfd. @ 100 volts (open)
C467 47 mfd. @ 25 volts (off value)
C461 220 mfd. @ 16 volts (off value)
C469 47 mfd. @ 100 volts
C475 10 mfd. @ 160 volts

CRT Information:

Orion # M34KXG30X55. Use B & K rejuvenator adapter CR-23 to test and set the testing G1 voltage to 30 volts or you'll damage the tube! This tube typically has a Microtouch touchscreen glass attached to it by Merit.

Circuit Board Information:

Neckboard is marked: DS-1301V. Main Board is marked: DS-1301 Main Unit. Remote adjustment board is marked: DS-1301S Control Unit.

Flyback Information:

Embossed on the top of the flyback is: DNF-FL1A. On a paper label on the side of the flyback is this number: FL 2715B.

Yoke Information:

Yoke part number is ODY-D1455. Horizontal winding is the red & blue wires with 0.5 ohm resistance. Vertical winding is yellow & brown wires with 2 ohms resistance.

User Controls:

On neckboard are these controls: VR441 Blue Drive (100 ohm), VR401 Red Drive (100 ohm), VR421 Green Bias (10k), VR442 Blue Bias (10k), and VR402 Red Bias (10k).

On main board are these controls: VR301 Horizontal Hold (5k), VR302 Sub-Contrast (10k), VR303 SPC Side Pincushion Correction (10k), and VR304 Horizontal Centering {located next to flyback} (2k). All are horizontal mount style pots.

On remote adjustment board are these controls: VR1 Horizontal Position (5k), VR2 Horizontal Size {width} (5k), VR3 Brightness (100k), VR4 Contrast (10k), VR5 Vertical Position (20k), VR6 Vertical Size (100k), and VR7 SPC Side Pincushion Correction {not normally installed} (10k). All are horizontal mount style pots. Other parts on this board are: C1 (not installed, empty), R1 2.2k 0.5 watt resistor, R2 1 k 0.5 watt resistor, R3 15k 0.5 watt resistor, R4 4.7k 0.5 watt resistor, R5 1k 0.5 watt resistor, J1 jumper wire, CN1 15 pin connector (connects to CN104 on main board).

Vertical jitter problems:

1. Replace Vertical output chip U201 or resolder it's pins. It is marked DBL2054D but is in reality a TDA 1675A (or you can sub an NTE 1862). Mouser's number for it is 511-TDA1675A (only \$3.00 each). This chip is a high failure item. Can also cause no vertical deflection problem if it's bad.
2. Change diodes D806 and D803 to type RU3A diodes.
3. Replace caps C209, C210, C211, and C809.

Dim Picture or color problems:

1. If you've recapped this monitor and picture is still dim or the colors aren't right, then replace U401 (LM1203N, may be marked DBL2056) integrated circuit on the neck board.

Power Supply Problems:

1. If monitor doesn't startup, C804 (2.2 uf @ 50 volts) needs to be upgraded to 10 uf @ 50 volts or 100 volts. Check resistor R801 to see if it's gone open.
2. U801 is the switching regulator control integrated circuit. It is type STK73410 II.

Manufacturers contact info:

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<http://www.monitec.co.kr/english/product-1301-chassis.htm>

<http://monitec.co.kr/english/product-etc.htm>

Note: as of September 2003 Ducksan's website disappeared. You can still go to the "Wayback Machine" (internet website archive) and type in the Ducksan address above and see what Ducksan made and accessories. It is unknown at this time if Ducksan is still in business or not.

Merit Industries (www.meritind.com or www.meritgames.com) has schematics of this monitor available free of charge on their website. Be sure to check out their tech support and FAQ pages.

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