

- (1) Software version
- (2) Error buffer
- (3) Options
- (4) Alignments and geometry

M12XXx-x x	0	0	0	0	0	0	0	0	0
ER	0	0	0	0	0	0	0	0	0
EZ	N	N	N	N	N	N	N	N	N
UC	N	N	N	N	N	N	N	N	N
LL	N	N	N	N	N	N	N	N	N
NI	N	N	N	N	N	N	N	N	N
TI	N	N	N	N	N	N	N	N	N
HI	N	N	N	N	N	N	N	N	N
14	N	N	N	N	N	N	N	N	N

Figure 6.1 Screen of the Service Alignment Mode (SAM)

6.3 Error codes and "blinking LED" procedure

The error code buffer contains all errors detected since the last time the buffer was erased. The buffer is written from left to right.

- The last error detected (actual) is the error at the left side
- The error buffer will be reset in the following cases:
 1. exiting the SAM with the 'standby' command on the remote control
 2. transmitting the commands 'DIAGNOSE 9 9 OK' with the DST
- By leaving the SAM with the mains switch, the error buffer is not reset.

Examples:
 ERROR: 0 0 0 0 0 0: No error code detected
 ERROR: 3 0 0 0 0 0: Error code 3 is the last and only detected error
 ERROR: 5 3 0 0 0 0: Error code 3 first and error code 5 last detected

The contents of the error buffer can also be made visible through the "blinking LED" procedure. This is especially useful when there is no picture. There are two methods:

1. When the SDM is entered, the LED will blink the number of times, equal to the value of the last error code. The LED will stay off briefly and blink again the number of times, equal to the value to the last error code
2. With the DST all error codes in the error buffer can be made visible. While in SDM, transmit the command: "DIAGNOSE x OK" where x is the position in the error buffer to be made visible (actual) error to 7 (the first error)

The LED will operate in the same way as in point 1, but now for the error code on position x.

Example:
 Error code position 1 2 3 4 5 6 7
 Error buffer 2 4 1 0 0 0

- after entering SDM blink (2x) - pause - blink (2x)
- after transmitting "DIAGNOSE 2 OK" with the DST blink (4x) - pause - blink (4x)
- after transmitting "DIAGNOSE 3 OK" with the DST blink - pause - blink
- after transmitting "DIAGNOSE 4 OK" with the DST nothing happens

Note!
 Note that it may take up to 7 seconds before the set responds to a DIAGNOSE command. Interruption of the blinking sequence may lead to incorrect results.

Important!
 Not all software versions of the MD1.2E chassis support the blinking LED procedure and the DIAGNOSE 99 command. Software versions NOT supporting the blinking LED procedure are M12BAx-x.x and M12COx-3.x.

Error code	Error description	Blinking LED	Possible defective components
0	No error detected	—	—
1	BIMOS (TDA8366) error	1x	IC7119 (SSP)
2	MSP3400/3410 error	2x	IC7353 (SSP)
3	I ² C bus error	3x	All I ² C-related components
4	Wrong EEPROM	4x	IC7685 (SSP)
5	EEPROM defective	5x	IC7685 (SSP)
6	Tuner error	6x	U1000 (SSP)
7	TXT error	7x	IC7702 (SSP)
8	Histogram Proc. error	8x	IC7210 (reserved)
9	16:9 processor error	9x	IC7440 (16:9 module)
10	WSSB module error	10x	IC7540 (WSSB module)
11	Dolby processor error	11x	IC7600 (Audio module)

Table 6.1 Error code list

6.4 Protections

6.4.1 In the MD 1.2E the following protections are possible:

- Protections generated by the power supply:
 - Overload protection → Hick up mode
 - Underload → Hick up mode
 - Over voltage → Hick up mode
 - Under voltage → Hick up mode

- Deflection:
 - Horizontal Protection → Supply to standby
 - EW-Protection → Supply to standby
 - Vertical Protection → BIMOS standby mode

Software protection

- BIMOS IC7119 defective → (Error code 1)

Set can be switched between standby and ON, but there is no picture, no OSD, sound is only noise.

- SDA or SCL shorted → (Error code 3)

Set is switched to standby via standby line, set tries to restart.

- No +5Db or +8Sc at µC → Set is switched to standby via standby line, set tries to restart.

6.4.2 Power supply protections

The power supply will go to a very good audible hick-up mode in the following situations:

- Overload protection
- Under load
- Over voltage
- Under voltage

In hick-up mode
 Pin 1 of IC7520 starts up from the start circuit for approximately 2 seconds, immediately after that the protection is activated. This cycle is constantly repeated in hick-up mode. When the set is in hick-up mode a short squeak is audible every 2 seconds.

6.4.3 Horizontal-protection

When the beam current becomes too high for a long period the voltage across C2450 will drop. D6450 will start conducting and as soon as the voltage drop across R9456 is 0V7, TS7450 will conduct, making PROT high. Via the hold-circuitry of the power supply, the set will stay in the protection mode (standby) and can only be reset by switching the set off and on via the mains switch. If the fault is still present, the set will switch to standby (protection mode) again.

6.4.4 EW-protection (not for 21" sets)

The East/West protection switches the power supply to standby via the signal line STANDBY-SUPPLY PROTECTION. Via the hold-circuitry of the power supply, the set will stay in the protection mode (standby) and can only be reset by switching the set off and on via the mains switch. If the fault is still present, the set will switch to standby (protection mode) again.

The East/West protection detects when the current through the East/West power output stage with TS7480 is too high

Note: A current through the East/West stage (I_{ha}) is too high can be caused by a defective part in the line-deflection circuitry!

The current through the East/West stage is measured on the LSP via 2 precision resistors (R3483 and R3484). In case of a line problem, the east/west-current becomes too high and the voltage across resistors R3483 and R3484 rises. When the voltage level exceeds 0.6V, D6480 starts to conduct and STANDBY-SUPPLY PROTECTION becomes HIGH. When the voltage across C2480 is very high (e.g. when a line problem is already present when the set is switched on with the mains switch), D6481 and D6482 conduct and EW-PROTECTION is activated very fast.

The East/West protection becomes active in the following cases:

- Bad contacts of horizontal deflection circuit:
 - bad contacts of horizontal deflection coil
 - bad contacts of linearity corrector coil L5421
 - bad contacts of S-corrector capacitor C2427
 - Bad contacts of flyback capacitor C2425.
 - Shorted flyback diode D6421 or D6423.
 - Shorted S-corrector capacitor C2427
 - Bad solder contacts in the line output stage.
- When EW-protection has been active, the line output transistor 7420 may also be defective.

6.4.5 Vertical-protection

The vertical output stage creates VERTICAL-PROTECTION pulses at every flyback pulse when it is functioning correctly. These pulses are sensed by the BIMOS IC7119-4D on pin 37. When the pulse train is interrupted, the BIMOS will switch to BIMOS STANDBY mode. In the BIMOS STANDBY mode, the BIMOS switches off the VDRIVE+ and VDRIVE- while the RGB outputs are blanked. Circuit breaker 1463 may be open. Probably, the line output stage will not work and the power supply will switch to hick-up mode (under voltage protection).

6.4.5 Software protection

The software protection is managed by the microprocessor. It continuously verifies the presence of the +5 and +8 supply voltages on pin 34 and the activity of the IC bus. When the protection becomes active, the software will switch the power supply on and off continuously via the STANDBY line. In this situation the power supply produces a squeaking sound.

iC protection

The iC bus is controlled at each iC-command. Therefore every iC command has a defined start/stop condition. When the defined start/stop condition is repeatedly incorrect, error 3 is placed in the error buffer and the set switches to software protection.

iC-protection is generated in the following situations:

- SDA shorted to earth
 - SCL shorted to earth
 - SDA and SCL shorted
- When SCL or SDA is shorted, the set tries to restart and the LED lights in a clearly recognisable pattern.

- SDA/SCL shorted when the set is switched ON with the mains switch:
- LED is 8 seconds RED, 8 seconds GREEN, flashes RED, 8 seconds GREEN, flashes RED, 8 seconds GREEN, flashes RED, etcetera.
- SDA/SCL shorted during operation
- LED is 8 seconds GREEN, flashes RED, 8 seconds GREEN, flashes RED, etcetera.

- +5Db and +8Sc protection of the microprocessor
- +5Db and +8Sc are the main supply voltages of the entire small signal processing of the set. At pin 34 the microprocessor senses whether the supply voltages +5Sdb or +8Sc coming from the power supply are present. When one or both the supply voltages are missing, the set switches to software protection.

6.5 Fault finding and repair tips

Note that for 21* sets, voltages and wave forms may differ.

6.5.1 General

- LED indication after start-up procedure is completed
 - No LED
 - Set is switched OFF, supply problem or microprocessor problem.
 - LED continuously
 - Set is in standby, control part defective, standby mode defective.
 - LED blinking
 - Set in SDM, transmitting error buffer.
- Audible checks**
- Demagnetisation audible: mains voltage is present at LSP.
 - EHT audible: supply is operational (line output stage only works in case VOS (+140V for 25 & 29*, +95V for 21*) is present.
 - Hick-up sound power supply audible: power supply is shorted. Check the LOT (item 5430) and the line output transistor TS7420.

6.5.2 Fault finding in the power supply

In case of a power supply problem, the power supply can be simplified to a stand alone power supply at low voltages (low risk) as follows:

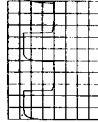
Control part of the power supply

- Disconnect the SSP (as a result the line will not function any more and therefore will no longer be a load of the power supply) or disconnect the line by removing jumper 9400 and R3400 (if present) on the LSP.
- Connect an external DC power supply between supply pin 1 (C7520 (via a diode - e.g. BYD33D - with cathode to supply pin 1 (C7520) and hot earth (e.g. earth of the big smoothing capacitor C2505).
- Connect an oscilloscope to test point P4 at pin 3 (C7520).
- Turn up the external DC supply voltage slowly to 17V DC.

Remark: The IC starts at a supply voltage of 14V DC, after that the supply voltage can drop to approx. 9V DC. At approximately 18V DC, over voltage protection becomes active, resulting in a supply voltage drop below 7V DC before a new start-up is performed by turning up the supply voltage above 14V DC.

- The correct (measured) situation is displayed in . Other results indicate a defect in the power supply control part (C7520 or peripheral components at pins 10 or 11).

Figure 6.2:
5V/div;
→ 50µS/div
40kHz pulse



Energy transfer of the power supply (only if control part is OK)

- Apply action 1, 2 and 4 as described earlier.
- Connect a lamp of 230V/100W across the VOS output capacitor, C2569.
- Connect a 1kΩ resistor between the +5STANDBY (connector 7L10) and the STANDBY line (connector 8L10) to switch the power supply to normal operation.
- Connect the mains connector to a VARIAC but leave it at 0.
- Connect a voltmeter across C2569 and an oscilloscope between the drain of TS7541 (25 & 29*) or TS7540 (21*) and hot earth.
- Slowly increase the mains input voltage by the VARIAC (in this way further damage to the power supply can be avoided).

The wave forms for the following mains voltage are given:

Mains in voltage
 10V AC: 20kHz and VOS 7V5
 20V AC: 40kHz and VOS 30V
 40V AC: 40kHz and VOS 80V
 65V AC: 40kHz and VOS 140V
 > 65V AC: Stable situation, so 40kHz and 140V in case of a feedback problem, the situation will not stabilise or the voltage will exceed 140V (95V with 21*)

Figure 6.3:



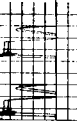
Figure 6.4:



Figure 6.5:



Figure 6.6:



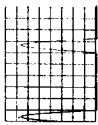
6.5.3 Fault finding of the horizontal circuitry

When the horizontal circuitry itself is defective, it can be simplified to a stand alone "switched mode supply" at low voltages (low risk) as follows:

- Disconnect the set from mains.
- Disconnect the SSP by removing all cables to the SSP.
- Connect an external 50V DC (or 40V DC) supply with current measurement possibility across C2400.
- Replace the HDRIVE by an external LF generator (TTL level (between 0 and 5V), duty cycle 50%) with a 16 kHz pulse at the base of TS7410 (near LOT at the side of the PCB).
- Connect an oscilloscope to test point L1 (collector of line output transistor 7420).

Possibilities:

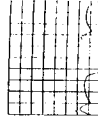
- Figure 6.7:
L3; test point at collector line output transistor (7420)
50V/div;
10µS/div
Current from external DC supply approx. 100mA



Observation: normal 16kHz pulses and 100mA supply current

Correct horizontal circuitry
 Note that the amplitude of the signal strongly depends on the frequency of the generator.

- Figure 6.8:
L3; test point at collector line output transistor (7420)
50V/div; 10µS/div



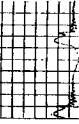
Line deflection open:

Current from external DC supply is approximately 100mA.

Observation: small pulse followed by wide pulse and 100mA supply current

Causes: horizontal deflection coil open
 linearity coil L5421 open
 S-correction C2427 open

Figure 6.9:



- Figure 6.9:
L3; test point at collector line output transistor (7420)
50V/div; 10µS/div
Current from external DC supply approx 500mA !!

Observation: fast oscillations and 500mA supply current
 horizontal deflection shorted (e.g. line deflection coil shorted)

When the line deflection is not completely shorted but only a number of windings are shorted, the wave form does not show the oscillation and the current of the external DC supply is approximately 200mA.

Figure 6.10:



- Figure 6.10:
L3; test point at collector line output transistor (7420)
100V/div; 10µS/div

Current from external DC supply is approximately 150mA

Observation: flyback time is shorter, one extra pulse in between, 150mA supply current

Cause: flyback capacitor C2425 open

Figure 6.11:



- Figure 6.11:
L3; test point at collector line output transistor (7420)
100V/div; 10µS/div

Current from external DC supply > 1A

Observation: 2 pulses per cycle extra and supply current from more than 1A
 short-circuit in picture tube (e.g. EHT to Aquadag)

Service Modes, DST, Error messages,

6.5.4 Fault finding "no picture, no protection" (problem in the video controller IC part TDA8366-4C)

When there is no picture and no protection, it is most likely that there is a problem with the BC_INFO caused by the TDA8366, the RGB amplifiers or the picture tube.

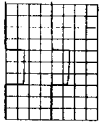
For measuring, connect a video generator (e.g. PM5518) at the aerial input with a white pattern to the tuner. Trigger the oscilloscope field frequent. A stable picture is obtained if triggered with VDRIVE+ at pin 4 S11.

Normal start up procedure

1. First phase of start up: 4 white measuring lines (lines 15, 16, 17, 18) and the main picture is muted (wave forms are better visible if the picture tube is cold);

Figure 6.12:

Red (pin 8 of connector R43 on the CRT panel) and green gun (pin 6) 100V/div DC; 100µs/div



The total beam current is measured and fed back to pin 16 TDA8366 (IC7119)

The TDA8366 checks the voltage at pin 16 of the TDA8366 during these lines

- < 4.5V : set remains in this phase
- ≥ 4.5V : set continues with start up phase 2

2. Second phase of start up: each beam is separately measured and the main picture is still muted. Line 15 is Red, line 16 is Green and line 17 is Blue. BC_INFO is measured.

- differences between the lines (guns) are compensated
- when the differences are minimal the set continues with phase 3, otherwise it remains in phase 2

Figure 6.13:

Red (lower line) (pin 8 of connector R43 on the CRT panel) and green (upper line) gun (pin 6) 50V/div AC; 100µs/div



3. After start up the picture is present and differences in cut-off points of the R, the G and the B gun are compensated continuously.

Repair procedure

Typical situation: no picture and no error codes

- Switch the set on.
- In a 4:3 set, press "picture size" to switch the set to "16:9 compressed" mode.
- In a 16:9 set, shift down the picture with the cursor keys.

Protections, Faultfinding and Repair tips

Notes

- The start up phase of the set can be identified:
1. A bright white horizontal line at the top; the rest of the picture is dark (set hangs in first phase of start up procedure)
Oscilloscope picture of the voltage over the guns looks like figure 6.12.

TDA8366 (IC7119), picture tube and RGB amplifiers are OK

There should be 4.5V at pin 16 TDA8366.

Possible problem: if there is no 4.5V present at pin 16 of TDA8366, there is a defect (in one or more of the components) in the BC_INFO feedback loop.

2. Small horizontal red, green and blue lines at the top; the rest of the picture is dark (set hangs in second phase of start up procedure)
TDA8366 is OK

Possible problem: one or more of the guns of the picture tube are bad
Measure at pin 16 TDA8366 which feedback line(s) (the R or G or B line) is/are smaller; the corresponding amplifier(s) or gun(s) is/are faulty.

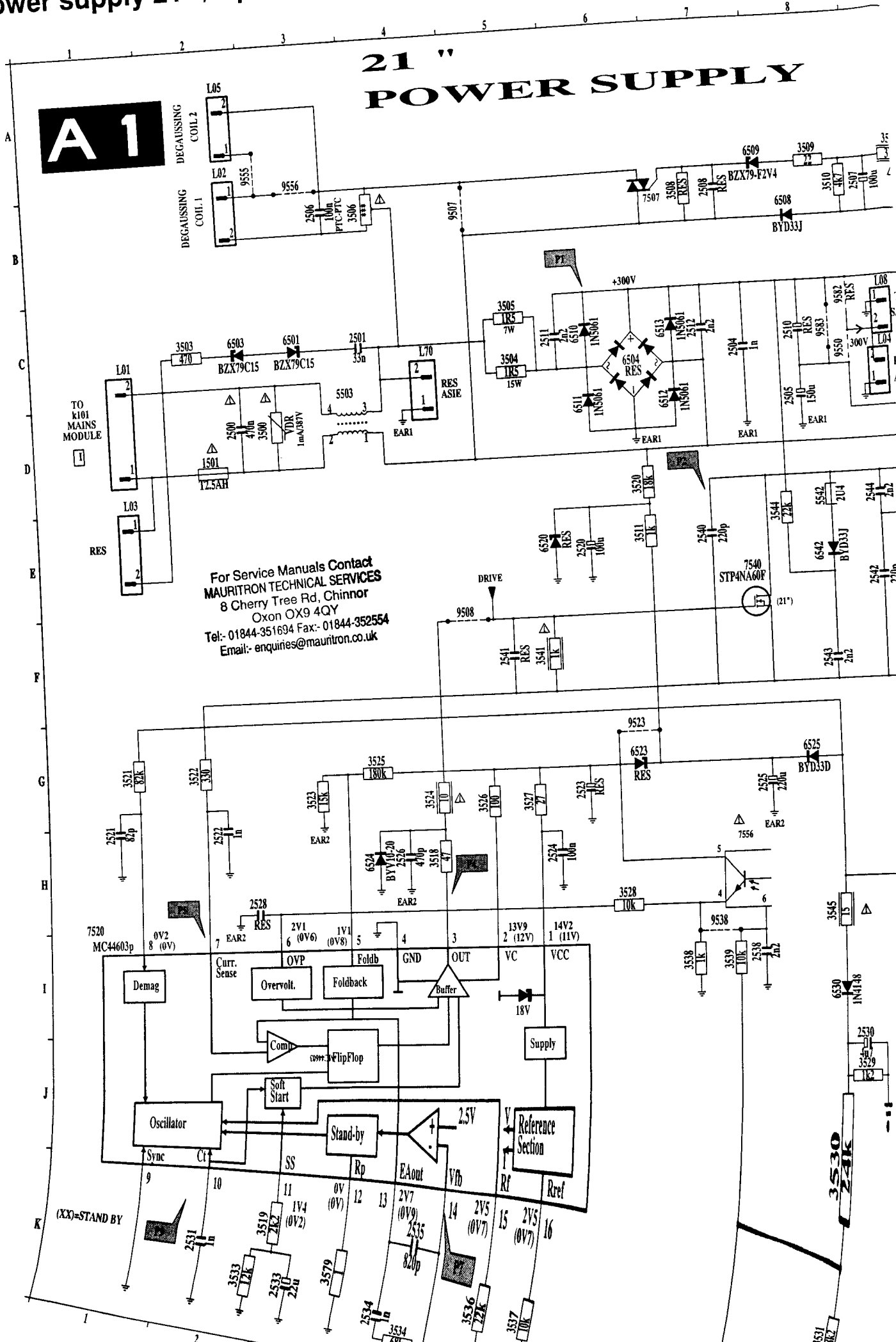
3. No lines visible (picture dark)

Measure pin 16 TDA8366; possible measurements:

- 0V : Check TDA8366 (sandcastle and the supply voltage)
- 5V : Check RGB amplifiers
Short pin 16 TDA8366 to ground, now there will be measuring lines (at continuously 5V, phase 1 and 2, is bypassed)
there is a measuring line, so the TDA8366 is OK
- Pulses : Measure on cathode on the CRT panel if the measuring lines are present:
Yes → BC_INFO circuit is open or no HEATER voltage
No → RGB amplifier problem

For Service Manuals Contact
MAURITRON TECHNICAL SERVICES
8 Cherry Tree Rd, Chinnor
Oxon OX9 4QY
Tel:- 01844-351694 Fax:- 01844-352554
Email:- enquiries@mauritron.co.uk

Power supply 21" / Speisespannung 21" /



A 1

21" POWER SUPPLY

For Service Manuals Contact
MAURITRON TECHNICAL SERVICES
 8 Cherry Tree Rd, Chinnor
 Oxon OX9 4QY
 Tel: 01844-351694 Fax: 01844-352554
 Email: enquiries@mauritron.co.uk

TO K101 MAINS MODULE

RES

RES

RES

RES

RES

RES

RES

RES

RES

(XX)=STAND BY

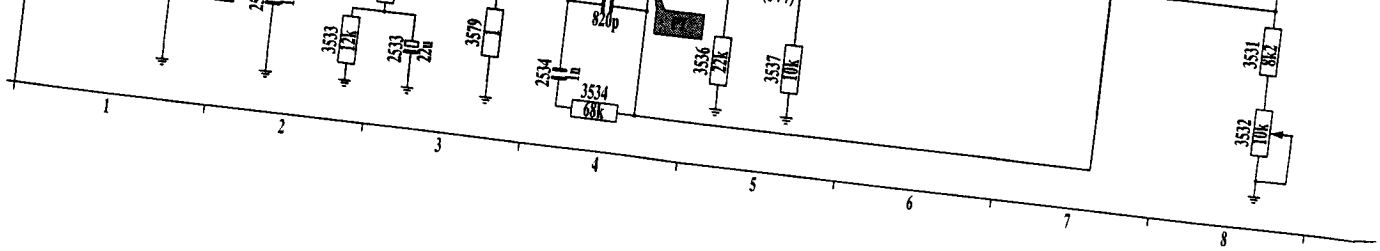
(XX)=STAND BY

(XX)=STAND BY

(XX)=STAND BY

(XX)=STAND BY

(XX)=STAND BY



[Redacted text]

[Redacted text]

[Redacted text]



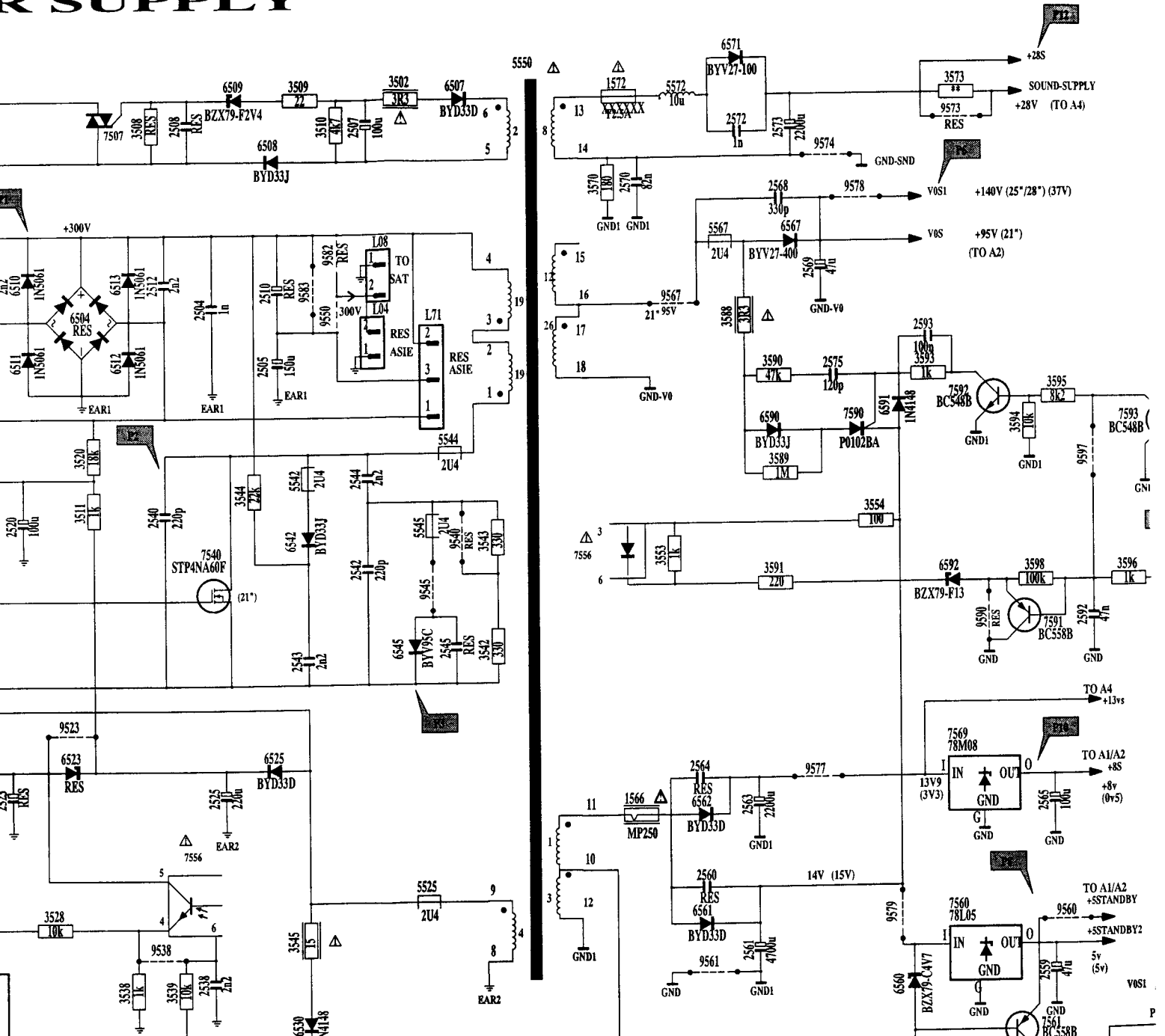
[Redacted text]

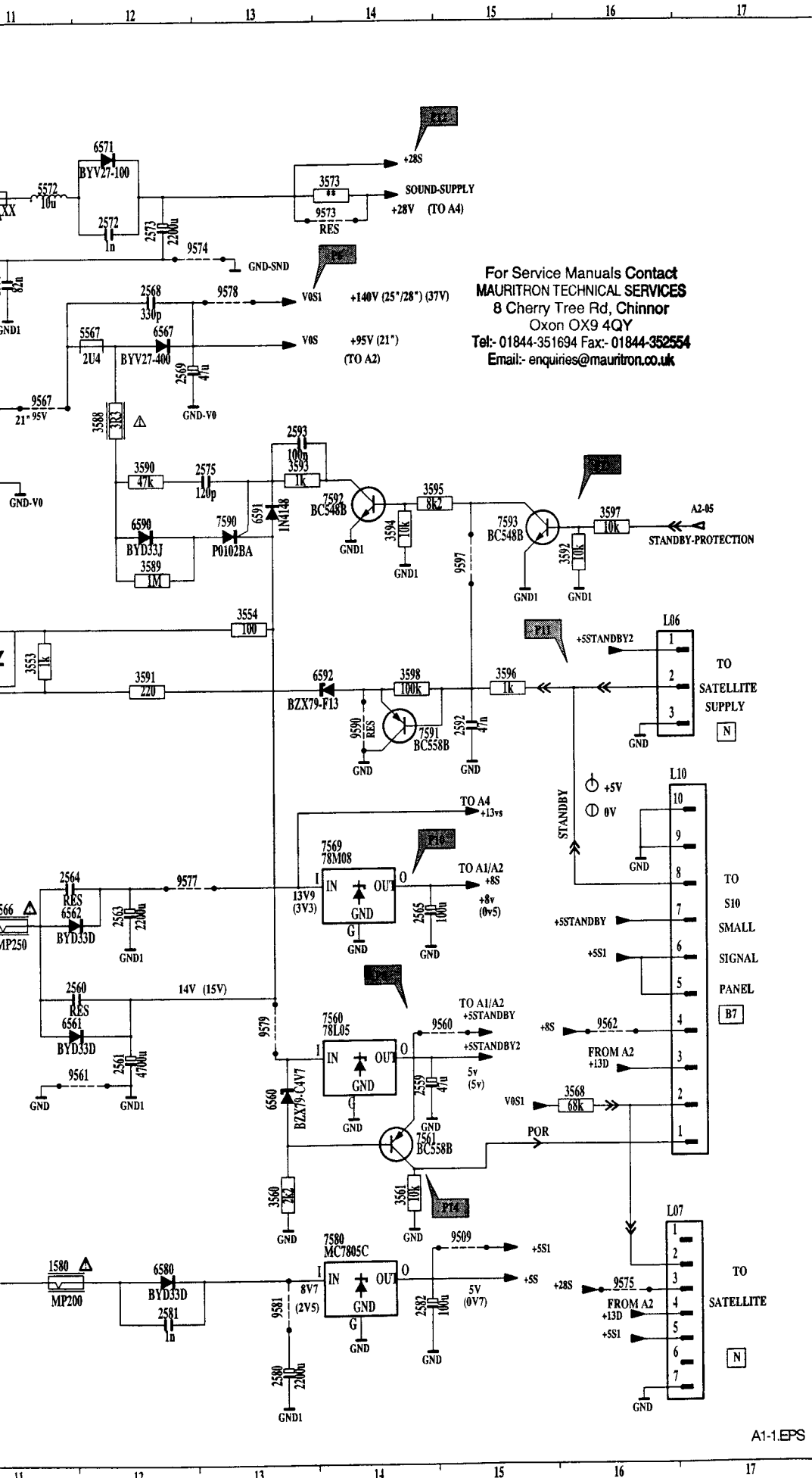
Chassis MD1.2E

13

Alimentation 21"

R SUPPLY





For Service Manuals Contact
MAURITRON TECHNICAL SERVICES
 8 Cherry Tree Rd, Chinnor
 Oxon OX9 4QY
 Tel: 01844-351694 Fax: 01844-352554
 Email: enquiries@mauritron.co.uk

A
B
C
D
E
F
G
H
I
J
K

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

- P1 pin 4 item 5550
300VDC
- P2 tran item 7540/754
- 100V / div DC
10µs / div
- P3 cathode item 6545
- 0.2V / div DC
5µs / div
- P4 pin 3 item 7520
- 2V / div DC
10µs / div
- P5 pin 7 item 7520
- 50mV / div AC
10µs / div
- P6 v0S
non 21: 140V DC
21: 95V DC
- P7 pin 14 item 7520
- 2V5DC
- 0.5V / div DC
0.1s / div
- P8 +5VSTANDBY
⊕ 5VDC
⊖ 0VDC
- P9 pin 10 item 7520
- 0.5V / div DC
10µS / div
- P10 +8S
⊕ 8VDC
⊖ 0VDC
- P11 STANDBY
⊕ 5VDC
⊖ 0VDC
- P12 +28S/
SOUND-SUPPLY
+28VDC
- P13
⊕ PROTECTION
0VDC = not in protection
- P14
POR (⊕ to ⊕)
0V / 5V
POR (⊕ to ⊕)
5V / 0V

OSC A1.CDR

17

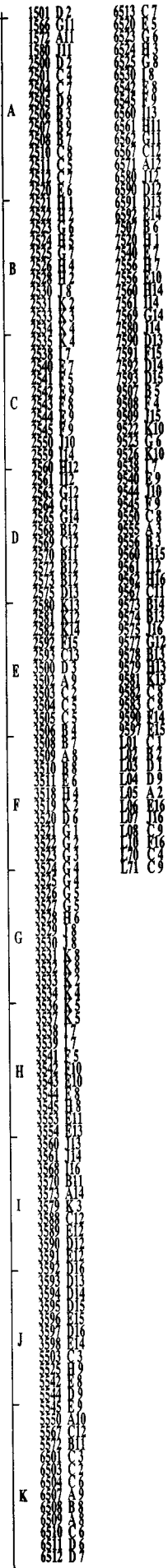
SECTION

TO SATELLITE SUPPLY

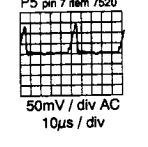
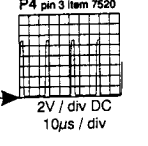
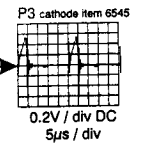
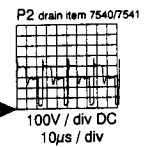
TO S10 SMALL SIGNAL PANEL

TO SATELLITE

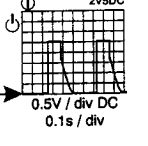
A1-1.EPS



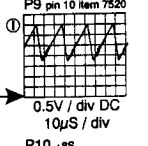
P1 pin 4 item 5550
300VDC



P6 VDS
non 21: 140V DC
21: 95V DC



P8 +5VSTANDBY
⓪ 5VDC
⓪ 0VDC



P10 +5S
⓪ 5VDC
⓪ 0VDC

P11 STANDBY
⓪ 5VDC
⓪ 0VDC

P12 +28S/
SOUND-SUPPLY
+28VDC

P13
⓪ PROTECTION
0VDC = not in protection

P14
POR (⓪ to ⓪)
0V / 5V
POR (⓪ to ⓪)
5V / 0V

OSC A1.CDR

For Service Manuals Contact
MAURITRON TECHNICAL SERVICES
8 Cherry Tree Rd, Chinnor
Oxon OX9 4QY
Tel:- 01844-351694 Fax:- 01844-352554
Email:- enquiries@mauritron.co.uk

Large signal panel / Groß-Signal Platine / Platine forts signaux

L01 J10	2545 H6	3503 K9	3756 A9	7540 H8	9577 C8
L02 I10	2550 F6	3504 J7	3757 B9	7541 H7	9578 C6
L03 J10	2554 E9	3505 K7	3758 B9	7555 E10	9579 D8
L04 K6	2555 E10	3506 H9	3759 B9	7560 C9	9581 D8
L05 H10	2557 E10	3507 I9	3760 A9	7561 D10	9582 I6
L06 B10	2559 D9	3508 I9	3761 B6	7569 B9	9583 I8
L07 C10	2560 D8	3509 H9	3762 B8	7580 D9	9590 D9
L08 K7	2561 C7	3510 G8	3763 B6	7590 D7	9601 B2
L10 D10	2563 D8	3511 H8	3764 A7	7591 D9	9602 A5
L11 A5	2564 D8	3512 H9	3765 B8	7592 D6	9603 A4
L13 A3	2565 B10	3518 F9	3766 B8	7593 C6	9604 B3
L14 A5	2568 E6	3519 G10	3767 B8	7600 C2	9605 B3
L15 A3	2569 F6	3520 I8	5400 C3	7601 C4	9606 B4
L17 I4	2570 E7	3521 G9	5401 D2	7602 B2	9607 B4
L19 J4	2572 D8	3522 H8	5410 J4	7603 B4	9608 A5
L22 C7	2573 D7	3523 F9	5411 K5	7604 B3	9609 B4
L24 J1	2575 D6	3524 H8	5421 G4	7605 B2	9611 B4
L25 B1	2580 E9	3525 G9	5424 E5	7606 B4	9615 A3
L28 A10	2581 D8	3526 F9	5430 H3	7760 A9	9620 A1
L38 A8	2582 D9	3527 F9	5460 G2	7761 B6	9621 B1
L39 A8	2592 D9	3528 G9	5461 F2	7763 B8	9625 B2
L70 K7	2593 D7	3529 G9	5462 F2	9001 K3	9626 B2
L71 J8	2600 B2	3530 G10	5463 J1	9002 K4	9650 B5
L91 F4	2602 B3	3531 G10	5480 D4	9003 K4	9750 A7
L92 F2	2603 A2	3532 G10	5503 J8	9004 K5	9751 A7
L116 C9	2604 A2	3533 G10	5525 F8	9005 K3	9752 A8
L200 C7	2605 C2	3534 F10	5542 G7	9006 K4	9753 A8
L463 E2	2606 B3	3535 G10	5544 G6	9007 K4	9754 A8
1566 E8	2607 B4	3536 F10	5545 G6	9008 K5	9755 A10
1572 E8	2608 B2	3537 F10	5550 F7	9400 E3	9758 B8
1580 E8	2609 B5	3538 F10	5567 E6	9401 D2	9759 B7
2400 D3	2750 B9	3539 F10	5572 D8	9402 E1	9781 A6
2401 D3	2751 A9	3540 H7	5750 B6	9403 E1	9786 A10
2409 K3	2752 A9	3541 H7	5751 B6	9404 C1	
2410 K2	2755 B7	3542 H6	6411 K5	9405 C2	
2411 J3	2756 A6	3543 G6	6421 G5	9406 C4	
2412 K3	2760 B9	3544 G7	6422 F5	9407 E1	
2419 E5	2763 B7	3545 G8	6423 G5	9408 D2	
2420 I5	2764 C8	3546 G8	6424 F5	9409 G2	
2423 E3	2765 A7	3547 E9	6425 F3	9410 K4	
2424 G3	2766 A8	3555 D10	6426 F3	9412 C2	
2425 H5	2776 A6	3556 E10	6427 C2	9418 C5	
2426 F5	2778 A7	3557 E10	6428 D2	9419 E5	
2427 F3	2787 A7	3558 E10	6441 J2	9420 F4	
2429 D3	2788 A6	3559 D10	6450 D3	9421 H4	
2432 E3	2789 A8	3560 D10	6457 J2	9422 E4	
2433 J5	3400 E3	3561 D10	6460 G1	9423 F5	
2434 F4	3401 D2	3568 C10	6462 E2	9424 E4	
2442 J2	3402 E2	3570 E7	6463 E2	9425 F4	
2450 J2	3410 K5	3573 C6	6480 E4	9426 F4	
2451 D2	3411 J3	3579 G10	6481 D4	9427 I5	
2460 G1	3412 J3	3588 E6	6482 D4	9430 J4	
2461 G2	3414 A4	3589 D6	6501 K8	9436 G2	
2462 E2	3415 K2	3590 D6	6503 K8	9440 H4	
2463 E2	3417 J5	3591 E9	6504 J7	9441 I4	
2464 C2	3418 B4	3592 D6	6507 G8	9442 H5	
2465 E2	3420 G5	3593 D6	6508 I8	9443 E1	
2466 E2	3421 C5	3594 D6	6509 H9	9450 J3	
2470 B5	3430 H4	3595 D6	6510 J7	9451 G2	
2471 B5	3431 H4	3596 D10	6512 J7	9453 G1	
2472 D2	3432 H4	3597 C6	6513 J8	9455 G5	
2479 D4	3433 G3	3598 D9	6513 J8	9460 G2	
2480 E5	3434 G3	3601 B1	6520 H8	9461 F2	
2481 D5	3435 G3	3602 B1	6523 H8	9462 F2	
2487 C6	3436 D4	3603 A1	6524 H9	9464 D2	
2500 J9	3443 I1	3604 C3	6525 G8	9465 D3	
2501 K7	3444 D2	3605 B3	6530 G9	9466 C4	
2504 F7	3450 J1	3606 B3	6542 G7	9470 G2	
2505 I7	3451 J2	3607 B3	6545 H6	9480 D5	
2506 I10	3452 J2	3608 B3	6560 C9	9482 C5	
2507 G8	3453 J3	3609 B3	6561 D8	9507 I9	
2508 I9	3454 D3	3610 A2	6562 D8	9508 H8	
2510 J6	3455 D2	3611 A3	6567 E6	9509 C9	
2511 J7	3456 D3	3612 B4	6571 D7	9511 H8	
2512 J8	3457 J2	3613 B3	6572 D7	9522 H8	
2520 I9	3461 H1	3614 B4	6580 D8	9523 H9	
2521 G9	3462 F2	3615 A2	6590 D6	9526 F9	
2522 G9	3463 F2	3616 A2	6591 C7	9538 E10	
2523 G9	3464 D2	3617 B2	6592 E9	9540 G6	
2524 F9	3465 B5	3618 C1	6600 B4	9541 H8	
2525 G8	3466 B5	3619 C2	6601 A2	9544 F9	
2526 F9	3467 B5	3620 B4	6610 C4	9545 H6	
2528 G9	3470 B5	3621 C3	6750 B6	9550 I6	
2530 G9	3472 F2	3623 A1	6751 B6	9555 I10	
2531 G10	3478 D5	3624 A2	6763 B7	9556 I10	
2533 G10	3479 D5	3625 B2	6764 B8	9560 C8	
2534 F10	3480 D5	3626 C1	7410 K3	9561 C8	
2535 F10	3481 D5	3627 B1	7411 D2	9562 C10	
2538 F10	3482 C5	3750 B6	7420 I5	9567 E7	
2540 H7	3483 E5	3751 B6	7421 H5	9568 E7	
2541 H8	3484 E5	3752 A6	7450 D3	9573 C6	
2542 H7	3487 D4	3753 A8	7480 D5	9574 C6	
2543 G7	3488 G7	3500 K10	7507 I9	9575 C7	
2544 G7	3502 G8	3755 A9	7520 F9		

For Service Manuals Contact
MAURITRON TECHNICAL SERVICES
 8 Cherry Tree Rd, Chinnor
 Oxon OX9 4QY
 Tel: 01844-351694 Fax: 01844-352554
 Email: enquiries@mauritron.co.uk

