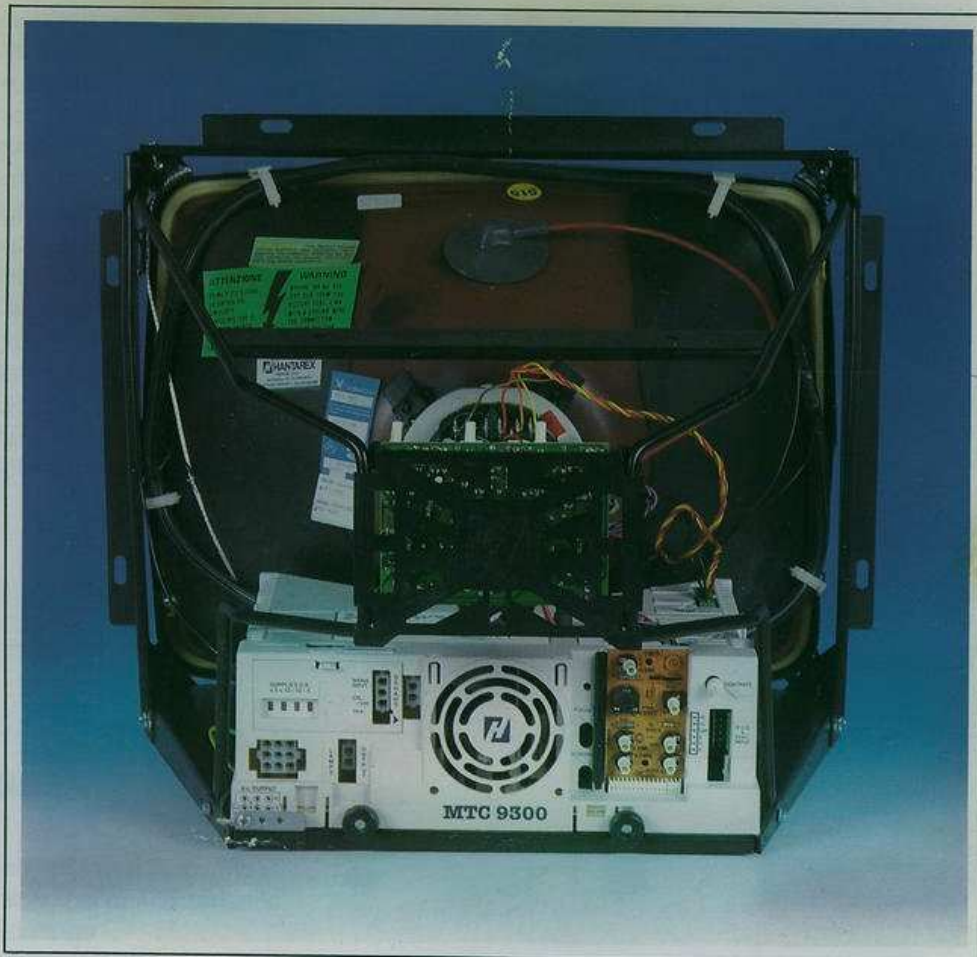


# HANTAREX

ELECTRONIC SYSTEMS



## MONITOR MTC9300

20"

**USERS' AND SERVICE MANUAL**  
**MANUALE DI SERVIZIO**

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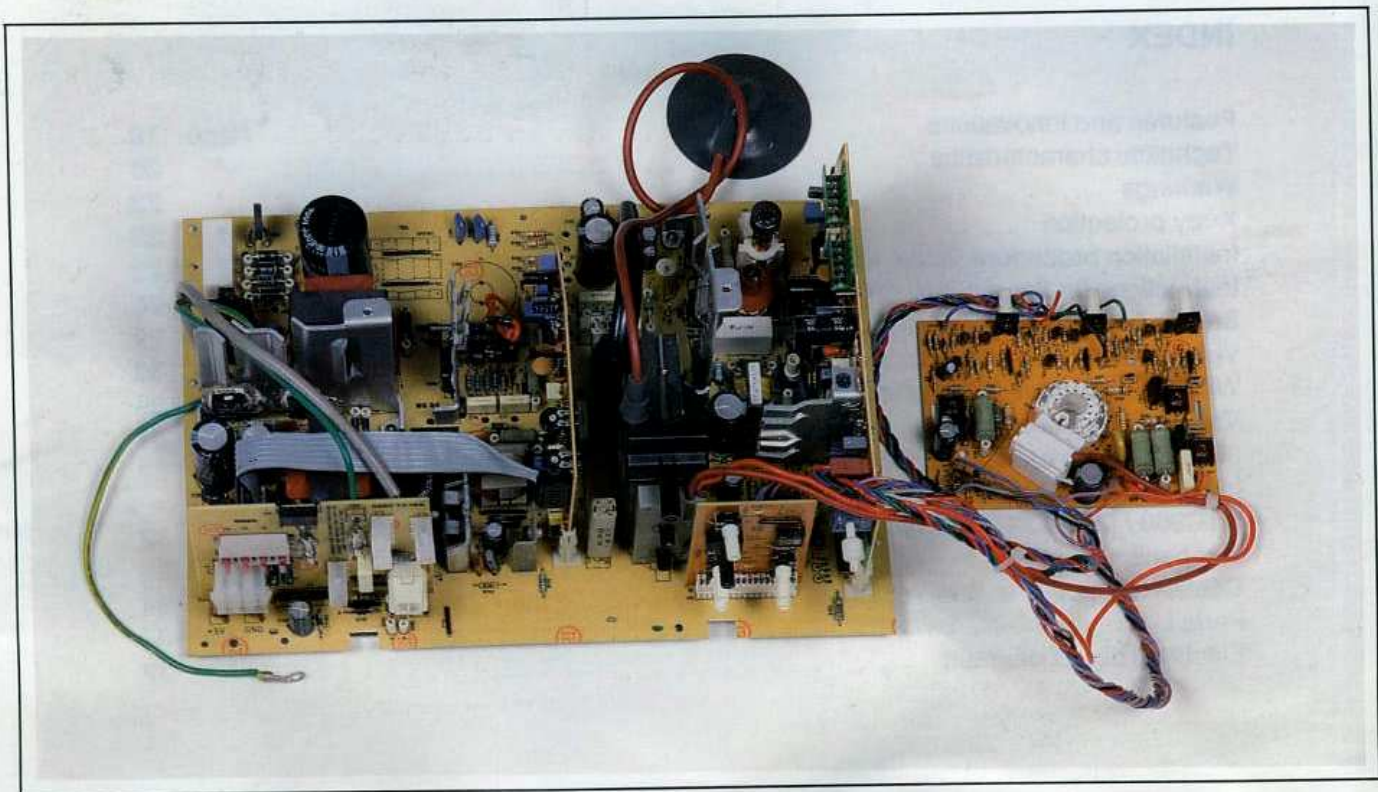
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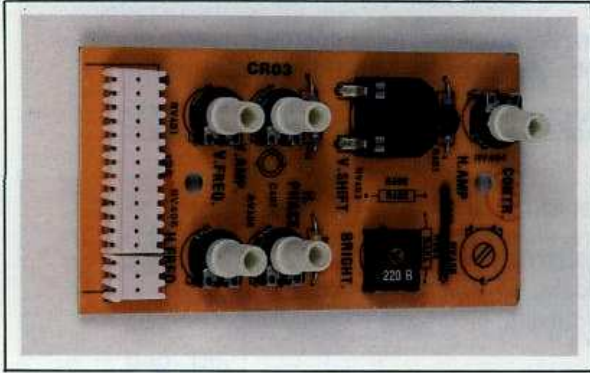
Assieme elettronica / Electronic assembly, cod. / part 63200640  
 Assieme protezione plastica / Plastic protection assembly, cod. / part 62012750



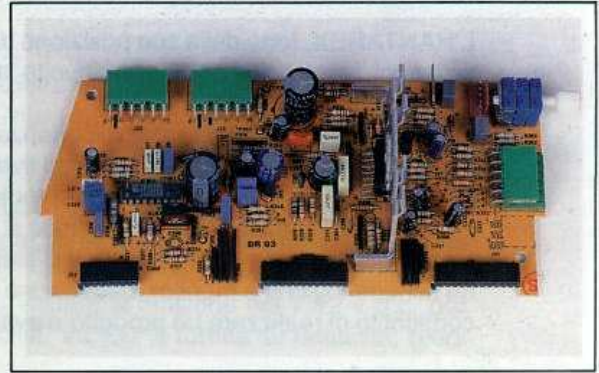
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 cod. / part 62012690

Assieme zoccolo cinescopio / C.r.t. socket assembly  
 cod. / part 62012700

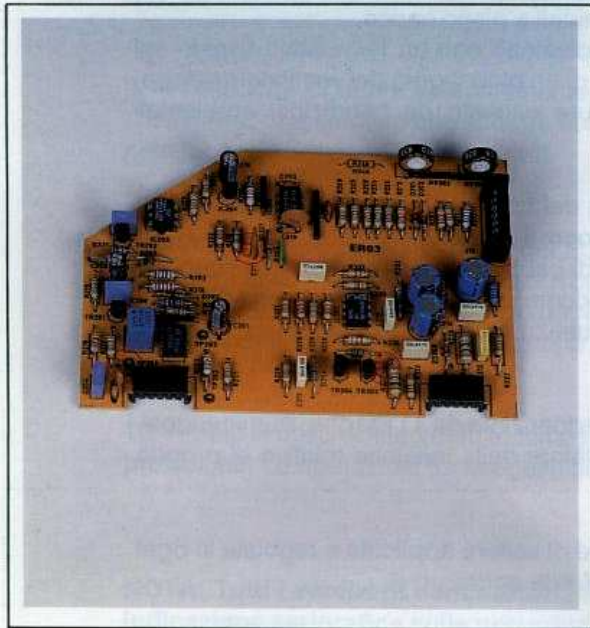
Scheda regolazioni / Adjustments card,  
cod. / part 62012720



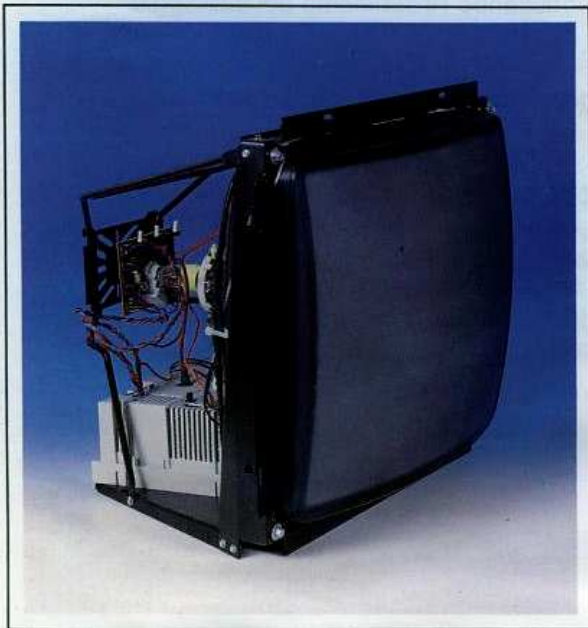
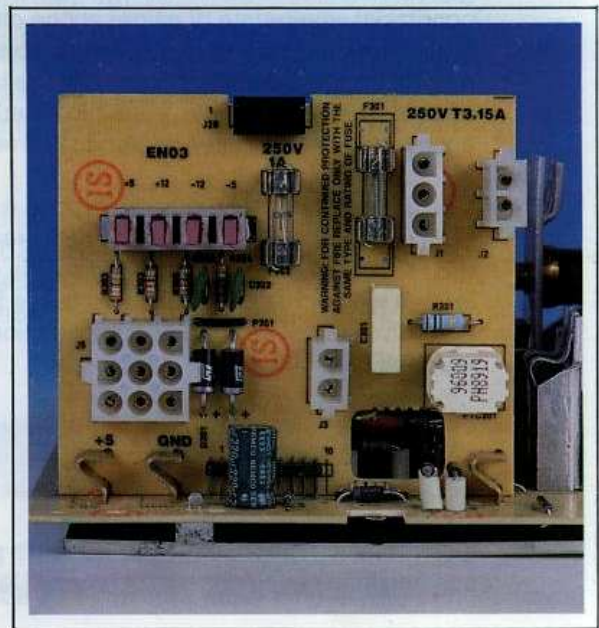
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cod. / part 62012710



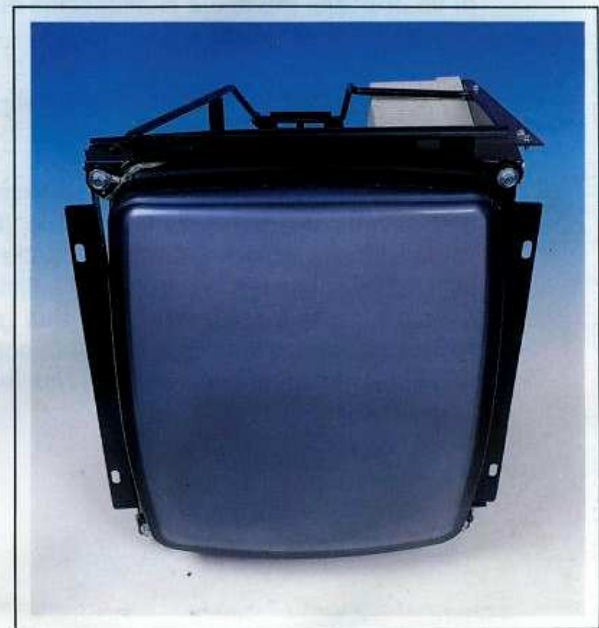
Scheda di pilotaggio alimentazione e stabilizzatore monitor ER  
monitor PSU and stabilizer driver card,  
cod. / part 62012730



Scheda ingresso rete ed uscite alimentazioni logica EN  
Mains input and EN logic power supply card,  
cod. / part 62012740



MTC9300 posizione orizzontale / Horizontal position



MTC9300 posizione verticale / Vertical position

**MTC 9300 20"**

**ENGLISH**

## PRODUCT DESCRIPTION - FEATURES AND INNOVATIONS

HANTAREX, on the strength of its dominant position in the monitor sector and in a constant search for technical and manufacturing solutions which address its customers' requirements, has created a new monitor named MTC9300.

This product, derived from the experience gained in manufacturing thousands of monitors to date, offers electronic and mechanical solutions of the highest levels.

- The use of particularly advanced technology.
- Well researched technical and aesthetic design.
- The exclusive electronics design criteria, which bring together in one circuit the power supply circuits for both the logic cards and the monitor, the horizontal and vertical deflexion circuits, the video amplifier and output stages, have allowed the creation of an advanced product in terms of reliability, safety and versatility.

A specific design study was carried out to create an innovative plastic protection shield which, in addition to protecting the operator from touching potentially hazardous areas at high voltages, also facilitates assembly and disassembly at the time of servicing. The protective shield also acts as a support for the cooling fan, which allows full operation even under the most extreme operating conditions at ambient temperatures of over 50°C under full load. The design also includes a thermostatic protection device mounted on the output Mosfet device heat sink which, in the unlikely event of the fan stopping, or in the case of an unacceptable temperature rise inside the case due to excessive ambient temperature, will come into play by cutting out the power supply to the unit.

The power supply unit for the logic cards and for the monitor is of SWITCH MODE design using FORWARD technology and providing protection against overcurrent and overvoltage. All outputs (+5/—5/+12/—12 V d.c.) are protected against short circuit and against wiring errors which could cause the supply rails to be interconnected. The SWITCH MODE power supply unit uses a Mosfet power device, thus benefiting from fast switching speeds and consequently from low heat dissipation even at maximum loadings.

The power supply outputs for the logic cards are provided with 4 LED indicators which allow correct operation to be checked with ease; the power supply rail being monitored by each LED is indicated by corresponding legends on the plastic protective shield.

Although the electronic circuitry of the MTC9300 is protected as described, each function may easily be adjusted and correctly set without the need for opening the unit.

1.— The two interface connectors J22 and J23 (Normal and Reversed) are located at the top of a dedicated module and are flush with the protective shield to allow for easy cable connexion.

2.— The East-West adjustments and the adjustments to the +5 V d.c. supply are made by rotating the associated shafts, which protrude from the protective shield.

3.— The adjustments which affect the display : horizontal frequency, vertical frequency, vertical amplitude, horizontal amplitude, horizontal phase, vertical centring and luminosity, which HANTAREX has introduced on this new model, are located on a board which may also be used for remote control and which is connected to the main board by means of a connector; this board is mounted in two guides formed on the outside of the case in order to allow the board to be extracted without having to open the case. The board is provided with a hole which allows the insertion of a screwdriver or similar tool for its removal simply by pulling it upwards. (See photo on page 30).

4.— The fuses are easily accessible by opening a flap on the plastic protection cover.

5.— Innovative electronic circuitry allows automatic synchronization selection, whether these be composite, separate, positive or negative, without the need for manual intervention.

6.— In order to allow the use of the MTC9300 monitor with inverted video signals, HANTAREX has developed an interface board which may be fitted to the right-hand side of the protective shield, where two guides are provided for its mounting. The top of the protective housing is provided with a hole which allows the cabling to be inserted as well as the routing of the +12 V d.c. supply to the interface board. NOTE: The "INVERSE VIDEO BOARD" is supplied separately to order. (See page 30).

7.— A card which monitors and displays on a two-digit display the level of the +5 V d.c. supply may be fitted in the upper part of the protective housing. NOTE: The "VOLTMETER BOARD" is supplied separately to order. (See page 31).

8.— With a view to offering a constant level of accurate and complete service to its customers, HANTAREX has designed a board for the purpose of completing the machine wiring; this is known as the "Service Board". See page 29.

9.—The monitor is supplied with a plastic adjustment tool which, when inserted in the appropriate holes in the protective housing, allows the adjustment of the FOCUS and SCREEN potentiometers, which are situated within the housing, on the line output transformer. After use, the tool should be stored by clipping it into the retaining clips provided. (See page 27).

10.- The protective housing should be removed only for servicing, when access is required to the electronic circuitry. The procedure to be followed for its removal is described on page 26.

**NOTE: All connexions and adjustments of interest to the operator are clearly shown by means of appropriate legends printed on the protective safety housing.**

#### ITEMS SUPPLIED WITH THE MONITOR

The MTC9300 monitor is supplied with the following :

- 1 off 2-way connector (for female terminals)
- 1 off 3-way connector (for male terminals)
- 1 off 9-way connector (for male terminals)
- 14 off male terminals (plus 2 spare)
- 3 female terminals (plus one spare)
- 2 off M4 screws for fixing of earth wiring
- 1 off signal input cable, length 1.5 m

} Consult Parts List for part numbers

## GENERAL TECHNICAL CHARACTERISTICS

- 1) MAINS INPUT  
180 + 264 V a.c. 50/60 Hz.
- 2) DEGAUSSING  
180/264 V a.c., automatic, on switch-on.
- 3) POWER REQUIREMENTS  
With 90 CRT at maximum contrast, maximum luminosity, with all secondary power supply rails for logic cards and services at maximum loading, the total power requirement is 210 W max.
- 4) INRUSH CURRENT  
< 25 A peak.
- 5) VIDEO SIGNAL INPUT  
RGB positive, with 2.2 kOhm input impedance. Input sensitivity from 1.5 to 5 V p.p. For inverted video signal input, see the "INVERTED VIDEO" additional circuit.
- 6) VIDEO BANDWIDTH  
14 MHz to —3dB.
- 7) HORIZONTAL FLY-BACK TIME  
11.5  $\mu$ s.
- 8) VERTICAL FLY-BACK TIME  
0.7 ms.
- 9) SYNCHRONISING SIGNAL INPUTS  
Horizontal and vertical, positive or negative, composite or separate with automatic selection. Input impedance 2.2 kOhm. Input level 1.5 to 5 V p.p.
- 10) HORIZONTAL AND VERTICAL SCANNING FREQUENCIES  
Horizontal 15,700 Hz  $\pm$  500 Hz, adjustable.  
Vertical 45 + 65 Hz, adjustable.
- 11) MONITOR CONTROLS  
Contrast, brightness, focus, horizontal frequency, horizontal phase, horizontal amplitude, horizontal linearity, vertical frequency, vertical shift, vertical amplitude.



## INTERNAL VOLTAGES RELATING TO DEFLEXION, AMPLIFIERS AND VIDEO OUTPUT STAGES

|   |   |
|---|---|
| 130 V d.c. $\pm$ 2%, 0.5 A max (SP 104)   | Line o/p stage  |
| 25 V d.c. + 10%, 0.3 A max (SP 107)       | Vert. deflection and video amplifier  |
| 15 V d.c. $\pm$ 10%, 0.25 A max (SP 108)  | Cooling fan supply and 12 V d.c. regulator for horizontal deflection                |
| All the above are short-circuit protected |   |
| 200 V d.c. $\pm$ 5%, 0.04 A max (SP 21)   | Video o/p stage; protected by means of flameproof fusible resistor (R140 - 10 Ohms) |

KEY: SP = Test points described on pages 34, 35 and 36 .

## OUTPUT POWER SUPPLY VOLTAGES FOR LOGIC BOARDS

|                       |   |
|-----------------------|---|
| + 5 V d.c. $\pm$ 2%   | (min 1 A - max 13 A) adjustable from 4.9 to 5.5 V d.c. - Electronic overload and short circuit protection. Protection against over-voltage with intervention threshold at 6.2 V d.c. max. Residual ripple < 50 mV at full load. |
| + 5 V d.c. $\pm$ 2%   | (1 A protected by fuse) Panel lamp supply.  |
| - 5 V d.c. $\pm$ 6%   | Electronic overload and short circuit protection.   |
| + 12 V d.c. - 4% +15% | From 0 to 2 A (3 App) electronic overload and short circuit protection. Overvoltage protection threshold at 15.5 V d.c. max.  |
| - 12 V d.c. $\pm$ 6%  | Electronic overload and short circuit protection.   |

The above measurement data were obtained from 9-way connector J5, using all available pins.

- Time output voltages are maintained in the event of mains failure > 20 ms at 220 V a.c.
- Insulation: 1500 V a.c. (class 1 with safety earth in accordance with European Regulation EN 60950).
- Operating ambient temperature range 0°C - 50°C.

## WARNINGS

- 1) The MTC9300 monitor must be earthed (see installation procedure).
- 2) X-RAYS  
The chassis has been designed in such a way as to avoid X-ray emissions, and even in the case of a fault developing, special circuitry guarantees that radiation levels will never exceed 0.5 mR/h.
- 3) EHT  
The monitor contains parts which are at dangerously high voltage levels with regard to personal safety. Qualified personnel should be consulted with regard to servicing.
- 4) CRT  
The cathode ray tube is a high-vacuum component, and its external surfaces are subject to high external pressures. Care should therefore be taken to avoid subjecting the tube to knocks, as this may lead to implosion. Consequently service and installation personnel should wear gloves and protective clothing to avoid injury from glass splinters when handling the monitor for servicing or replacement.
- 5) **WARNING! When making measurements with a digital voltmeter or an oscilloscope, it is essential to separate the monitor from the mains supply by means of an ISOLATING TRANSFORMER, at the same time ensuring that the earth is disconnected, hence preventing damage to components and ensuring the safety of the operator. The isolating transformer must have the following characteristics:**

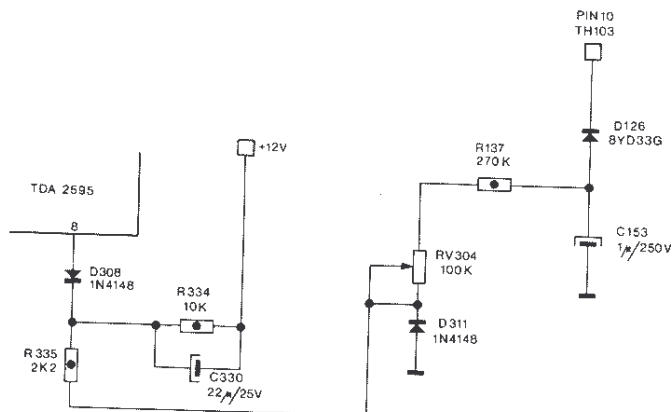
Input 220/240 V a.c.

Output 220/240 V a.c., 200 W min.

This precaution is not necessary when effecting measurements of the outputs to feed the logic boards or the monitor (+130 V d.c.).

---

## X-RAY PROTECTION



The MTC9300 monitor includes circuitry for protection against X-ray emission. A reference voltage level from a pulse from the e.h.t. transformer is sent via a resistive voltage divider to pin 8 of the TDA 2595 IC.

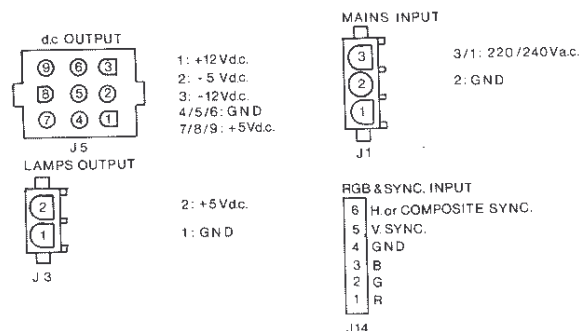
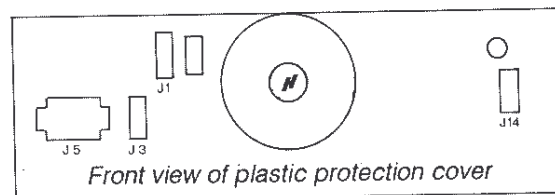
The voltage level on pin 8 is compared with a precise reference within the IC; when the e.h.t. exceeds 28 kV, the variation in the voltage level on pin 8 triggers a circuit which inhibits the oscillator and consequently inhibits the high-voltage circuit.

The circuit continues to block the oscillator until the fault has been repaired. In any case, the monitor will first have to be switched off and then on again to reset the protection.

## INSTALLATION PROCEDURE FOR THE MTC9300 MONITOR

- 1.— Connect the 220/240 V a.c. mains supply to the 3-way connector J1 in positions 1-3.
- 2.— Connect an earthing lead to the metal bracket welded to the tube support structure using one of the galvanised M4 screws supplied. See page 27 ref. C.
- 3.— Wire the 9-way connector J5 to provide the power rail voltages to the logic cards, following the wiring details given on the side of the connector. All the low-voltage outputs (+5V/—5V/+12V/—12V) are indicated by means of 4 leds; check the voltage level of the +5V supply rail with a voltmeter, and if necessary adjust by rotating the trimmer which protrudes from the upper part of the protective housing and which is labelled "+5 V d.c. Adj"; the range of this adjustment is from 4.9 to 5.5 V d.c.
- 4.— Wire the 2-way connector J3 to provide a power supply to the panel indicator lamps.
- 5.— Connect the signal input wiring to connector J14.
- 6.— Adjust the various video controls on the CR Control board as necessary (see page 27 ref. 2).

### CONNEXION DIAGRAM



### WARNING!

*In order to achieve a unified production standard for EUROPE/USA monitors, the new wiring layout for the input signal connections is as follows:*

- 1.— RED (previous version was BLUE)
- 2.— GREEN
- 3.— BLUE (previous version was RED)
- 4.— BLACK
- 5.— YELLOW
- 6.— WHITE

### NOTE

*For design reasons, the 9-way connector J5, which is used to provide the power supply voltages to the logic cards, has a different layout from the previous US250/US300. Refer to the diagram for the new layout.*

## PROCEDURE FOR CHECKING AND ADJUSTMENT OF THE MTC9300 MONITOR

1) Check the monitor supply voltage on the yoke connector (black link on terminals 3 - 4): this value should be 130 V d.c.  $\pm$  2%. If necessary, adjust this voltage by means of the trimmer labelled "Set Vdc Monitor" on the plastic housing.

2) Horizontal frequency



Adjust RV 406

3) Vertical frequency



Adjust RV 401

4) Horizontal position



Adjust RV 405

5) Horizontal amplitude



Adjust RV 404

6) Vertical amplitude



Adjust RV 402

7) Vertical shift



Adjust RV 403

NOTE The above adjustment trimmers are located on the CR adjustment card

8) East - West



Adjust by means of the shaft which protrudes from the top of the plastic housing labelled "East-West Adj."

### 9) BRIDGE COIL CALIBRATION

The bridge coil (L 105) is factory-set; however, in the event of the ferrite core being displaced by accident, carry out the following procedure:

- Set horizontal amplitude to minimum by means of trimmer RV 404 on the CR card;
- Rotate the core to obtain the minimum horizontal amplitude;
- Readjust RV 404 to obtain the required horizontal amplitude.

### 10) ADJUSTMENT OF RGB VIDEO OUTPUT STAGE GAIN

Having connected an RGB video signal source, adjust the BLUE gain control (RV1) located on the CRT socket assembly to the mid-point setting and measure the video signal level on the relevant cathode; adjust this level to 80 V p.p. by means of the contrast control RV 301. Repeat the procedure for the RV 2 green and the RV 3 red cathodes in turn, bringing the signals to the same level by means of the appropriate gain controls.

### 11) ADJUSTMENT OF BLACK LEVEL AND GREY SIGNAL

- Remove the video input signal.
- Set the c.r.t. grid 1 control RV 101 (base unit) for maximum brightness.
- Set the trimmer RV 407 on the module CR for maximum brightness (fully clockwise).
- Adjust the black level trimmers RV 4 blue, RV 5 green and RV 6 red for a voltage of 150 V d.c. on the collectors of transistors (BF 459) TR 10, TR 11 and TR 12 (adjustment and measurements are made on the c.r.t. base assembly)
- Reduce the setting of c.r.t. grid 2 (SCREEN) on the line output transformer TH 103 so as to leave the dominant colour barely visible, on the c.r.t. screen and adjust the other two colours to obtain the best grey possible, e.g. if green were dominant, then red and blue would need adjustment.
- Adjust the external brightness control on module CR for the desired brightness level.

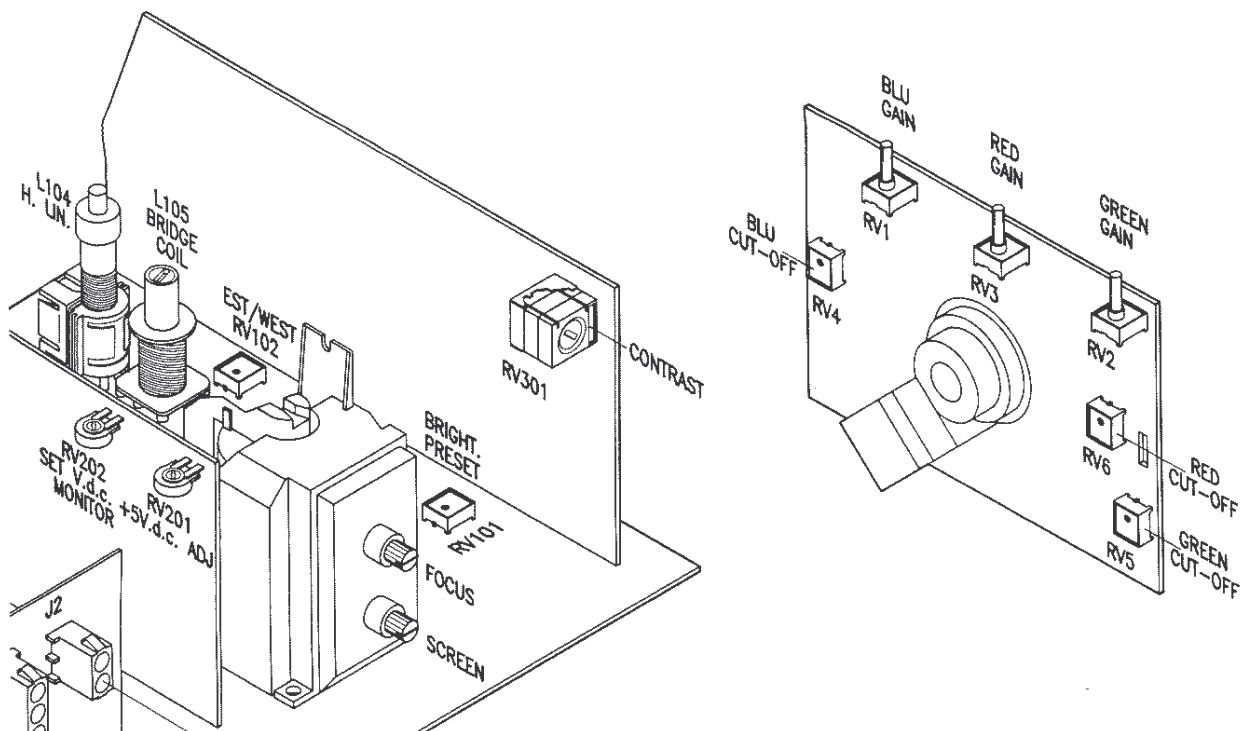
### 12) FOCUS

Adjust the focus (FOCUS located on line transformer TH 103), with medium brightness, to obtain the best possible picture.

### 13) HORIZONTAL LINEARITY

Having connected a crosshatch signal to the input, adjust the ferrite core of coil L 104 with a plastic screwdriver until the first square on the right of the picture is the same size as the last on the left.

## SILK-SCREENED CONTROL REFERENCES

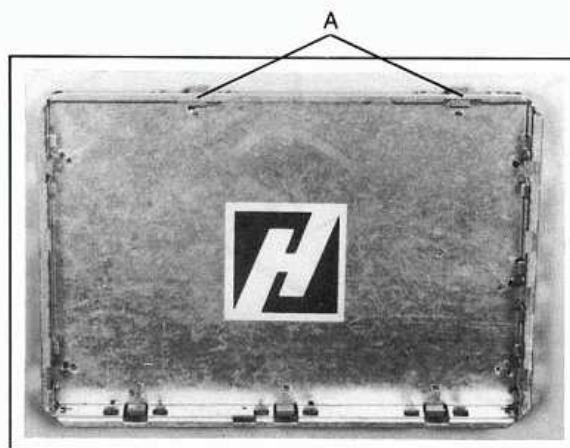


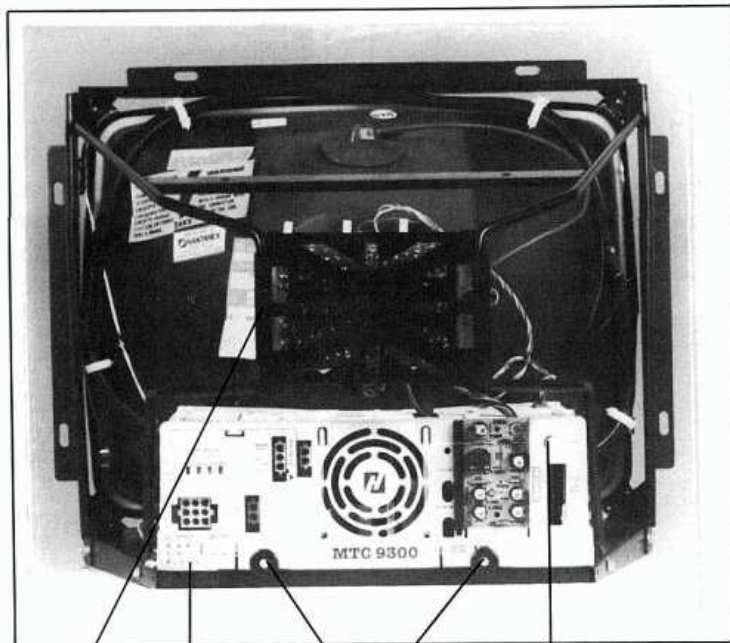
## INSTRUCTIONS FOR THE REMOVAL OF THE PROTECTIVE PLASTIC HOUSING

- 1) Unscrew the two handscrews which retain the plastic housing on the metal support chassis. (See page 27 ref. A).
- 2) Remove the plastic grille protecting the c.r.t. socket assembly from the fixing peg on the chassis by flexing the grille laterally. (See page 27 ref. B).
- 3) Pull out the c.r.t. socket assembly, having first disconnected the black earth lead.
- 4) Extract the yoke cables.
- 5) Remove the e.h.t. connector.
- 6) Loosen and remove the screws fixing the earth leads to the common earthing point on the metal chassis. (See page 27 ref. C).
- 7) Disconnect the following connectors: • Mains Input, • Logic Cards Power Output, • Panel indicator lamp output, • Degaussing Braid Output, • Signal Input.
- 8) Pull off the contrast adjustment shaft. (See page 27 ref. D).
- 9) Remove the complete assembly from the metal chassis.
- 10) Pull off the adjustment shaft for the +5 V d.c. supply. (See page 27 ref. 3).
- 11) Remove the upper cover plate by pressing on the two retaining tongues to allow clearance for the c.r.t. socket assembly and the e.h.t. connector; pull out the wiring harness for the cooling fan supply. (See page 27 ref. 4).
- 12) Remove cover plate by depressing the retaining tongue. (See page 27 ref. 5).
- 13) Extract the control card. (See page 27 ref. 2).
- 14) Unscrew the three screws. (See page 27 ref. 6, 7 and 8).
- 15) Place the assembly on one of the 4 sides, insert a screwdriver in the slot next to the retaining catches, depress the retainer slightly towards the outside and pull the printed circuit board from its mounting fixture. Repeat this procedure on the remaining fixing points until the housing is totally free of the electronics. Replace the assembly in a horizontal position and remove the housing by lifting upwards. (See page 28 photo 1).

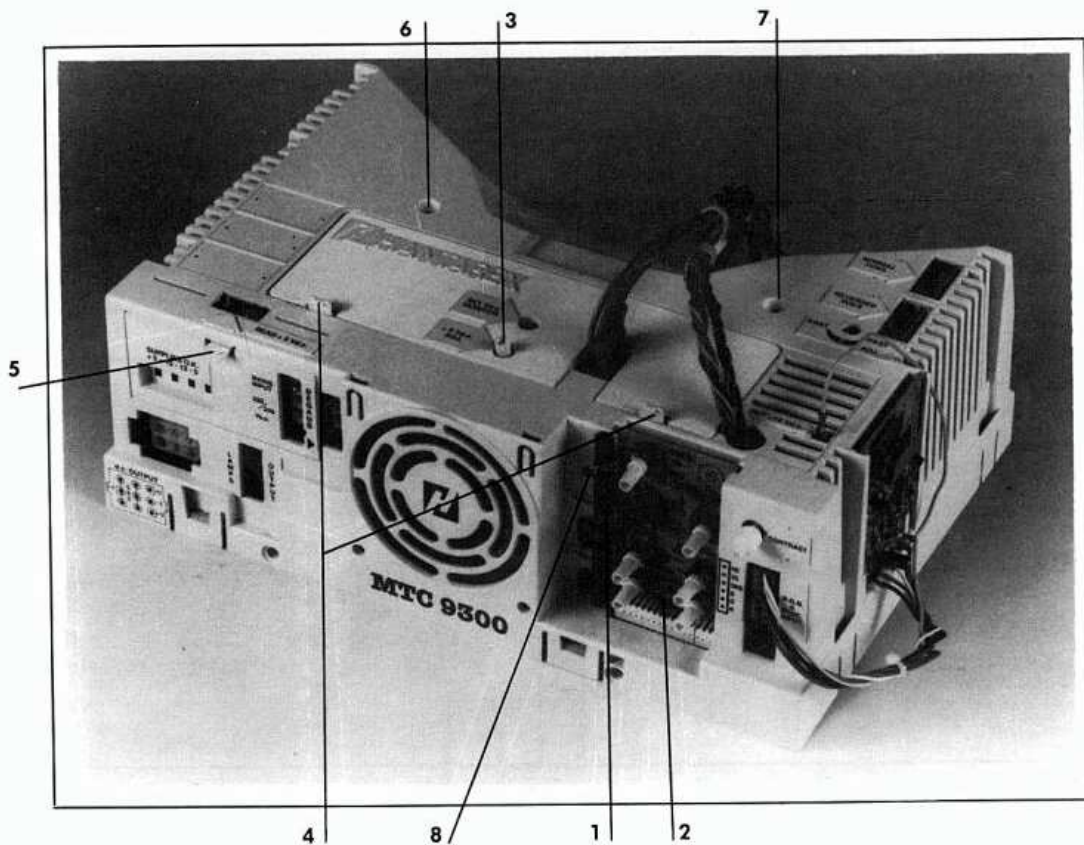
NOTE: HANTAREX has produced a metal base plate which allows the extraction of the housing from the PCB in one operation in order to simplify the dismantling procedure. It is sufficient to place the assembly in the metal jig with the cooling fan towards the two extraction points shown in the photograph and labelled "A"; light pressure is then all that is required to release the housing. (See page 28 photos 2, 3 and 4).

Part 50121400

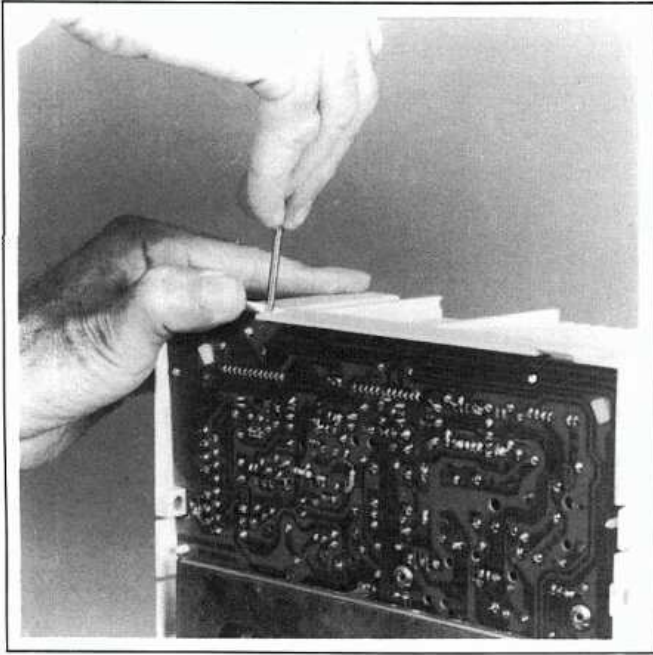




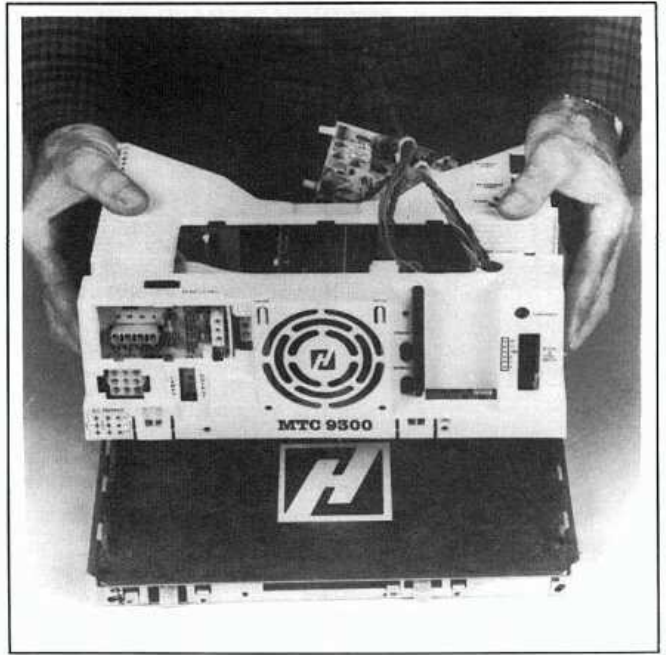
- A.**— Control knobs  
**B.**— Plastic grill  
**C.**— Earthing posts  
**D.**— Contrast control shaft



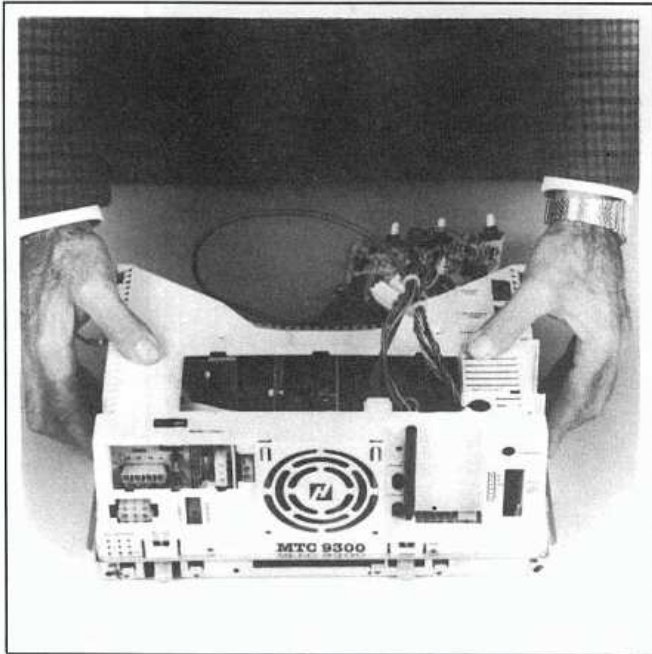
- 1.**— Plastic screwdriver  
**2.**— CR board controls  
**3.**— +5 V d.c. control shaft  
**4.**— Cover  
**5.**— Fuses access flap  
**6./7./8./** Fixing screws



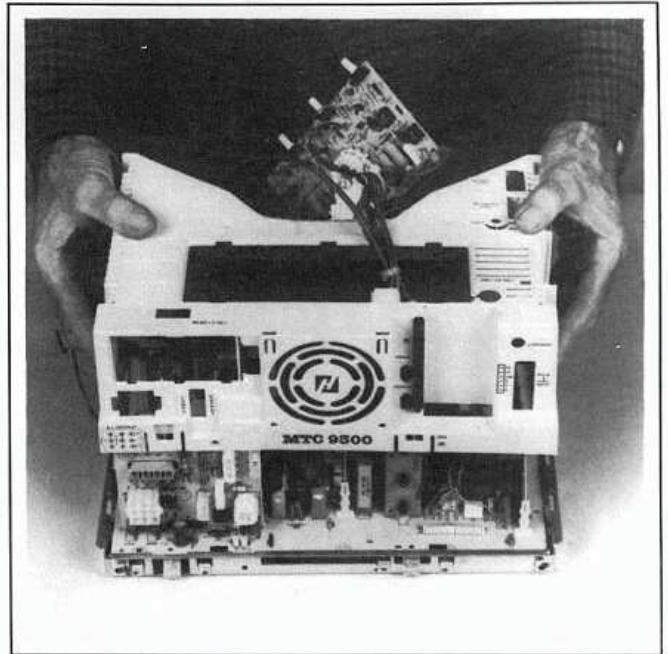
1



2



3



4



## SERVICE BOARD

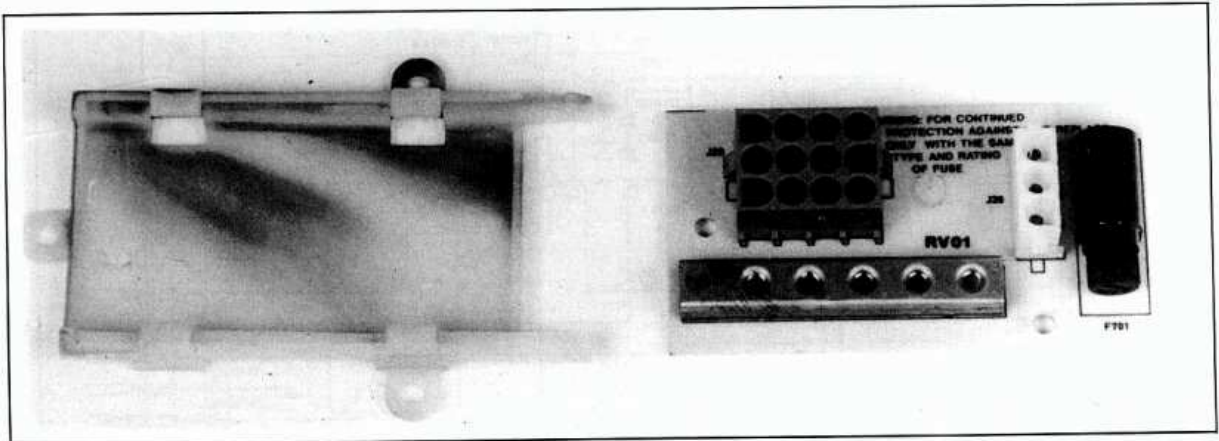
The following items are mounted on this board:

- 1 off 3-way female mains input connector, part 34074630.
- 1 off 12-way female connector for the various units requiring 220/240 V a.c. power, part 34076930; e.g. neon indicators, monitor, 2-pole or single-pole switch, etc..
- 1 off 4 AT protection fuse, part 29100004.
- 1 off fuseholder, part 29100440.
- 1 off metal plate with 5 M4 threaded holes to act as the common earth point for the entire machine: mains input, coin panel, control panel, metal chassis, and any other point which needs to be earthed.

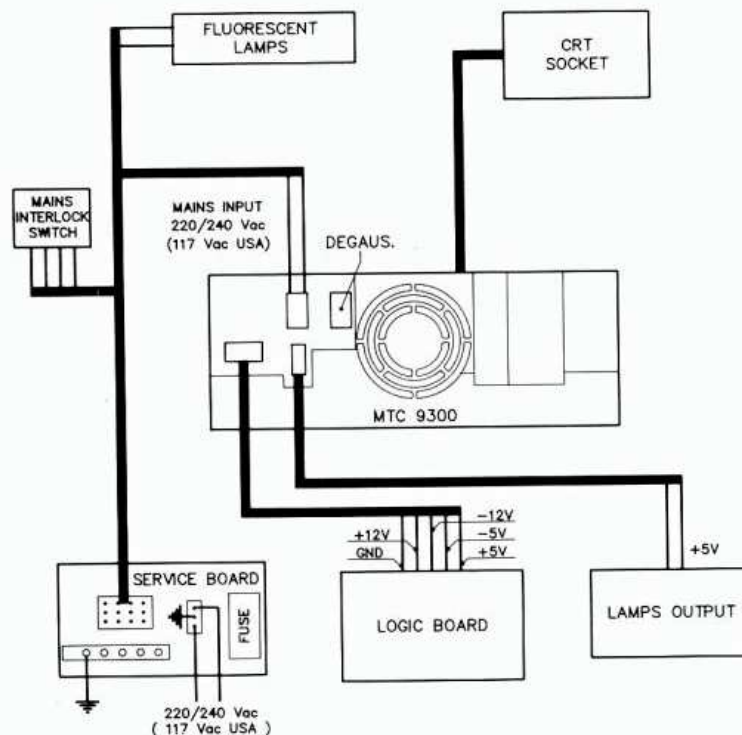
The following items are supplied with the Service Board:

- 1 off 3-way male connector, part 34074010.
- 1 off 12-way male connector, part 34076940.
- 16 off male pin inserts, part 34074550.
- 5 off M4 screws
- 5 off washers 1 off plastic support bracket with three holes for fixing the board in any position of the operator's choice. Part 50429120.

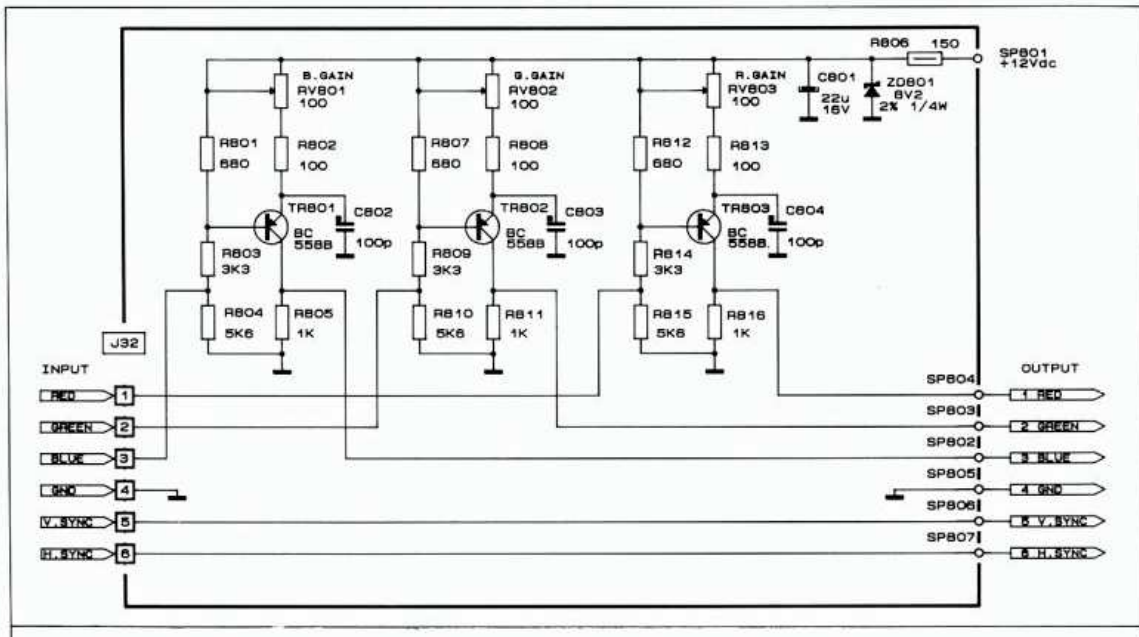
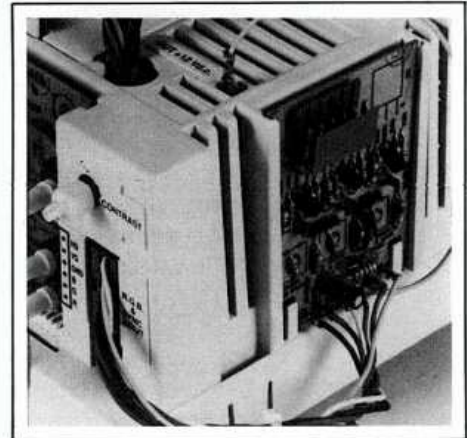
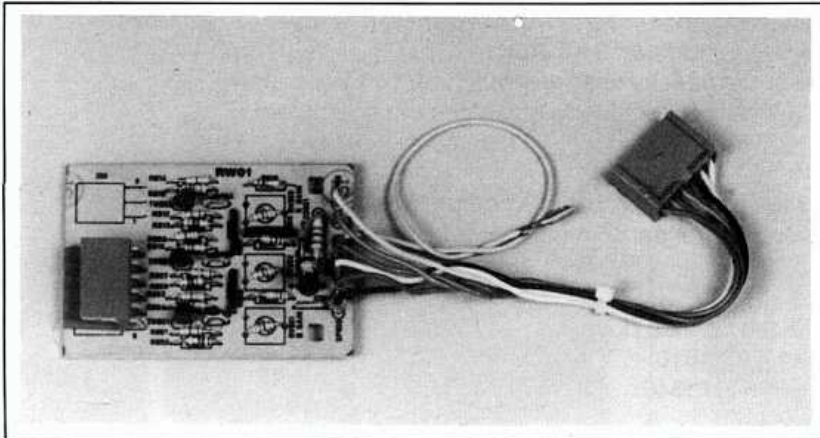
NOTE: The Service Board, complete with all accessories, is supplied as part 62013280.



## MACHINE WIRING

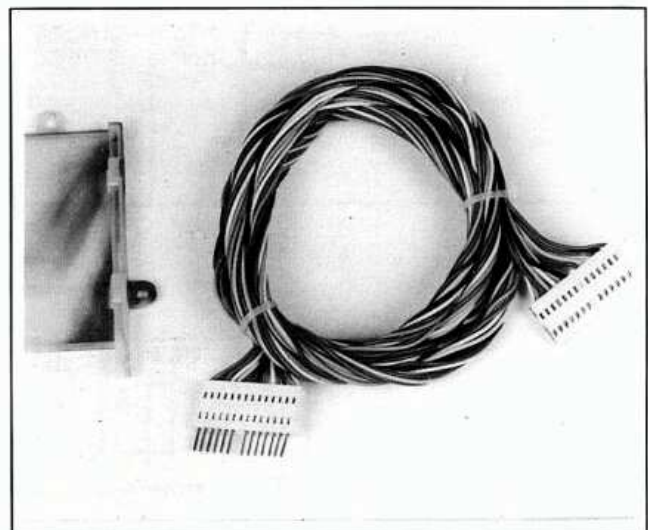
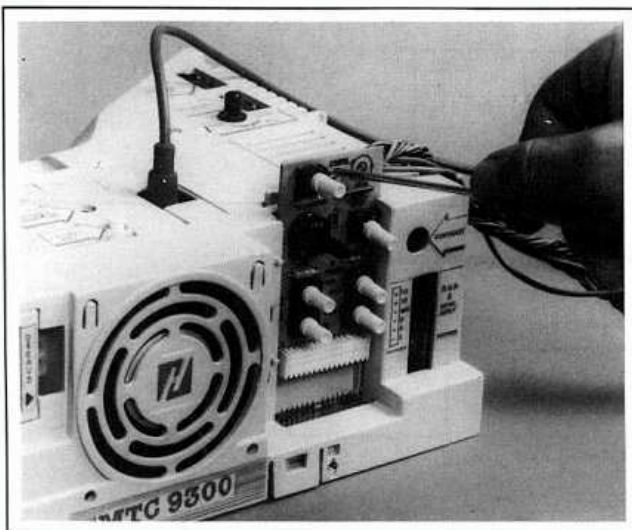


**VIDEO INVERTER BOARD - Order as part 62013300**

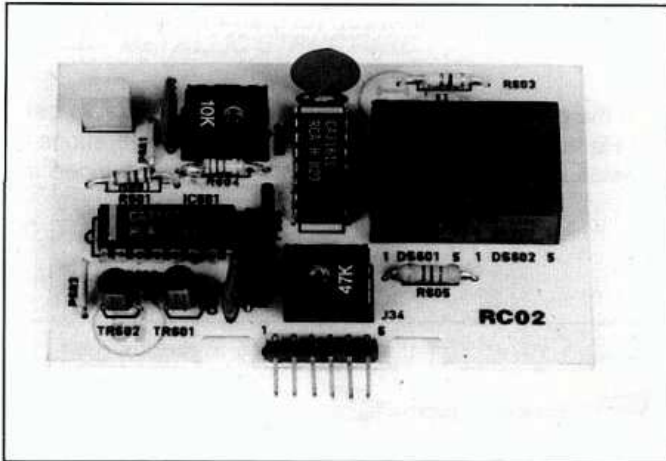


**WIRING AND SUPPORT BRACKET FOR REMOTE CONTROL BOARD**

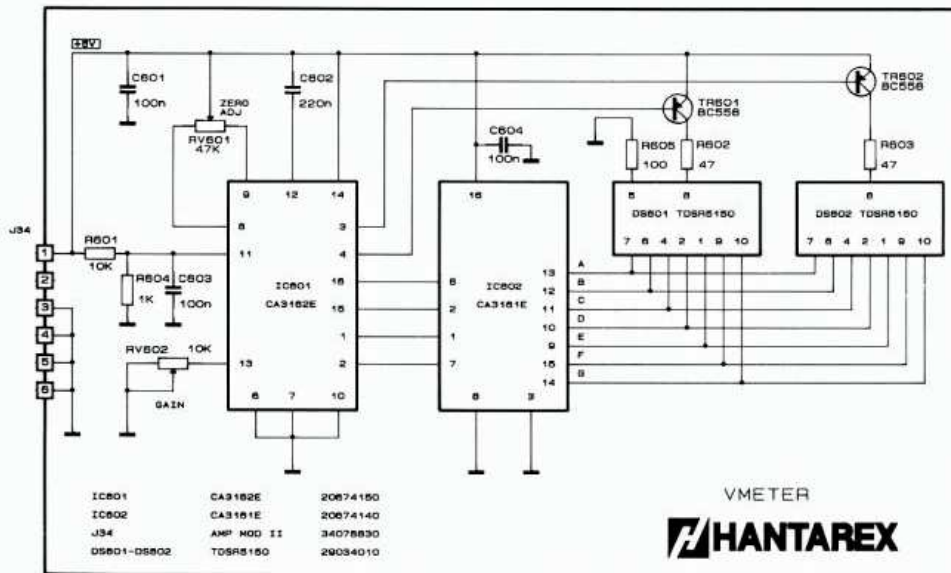
1.5 m long cable is supplied on request together with a plastic support to mount the controls in such a position that the operator may carry out the adjustments while viewing the picture on the screen directly. Order as part 62013310.



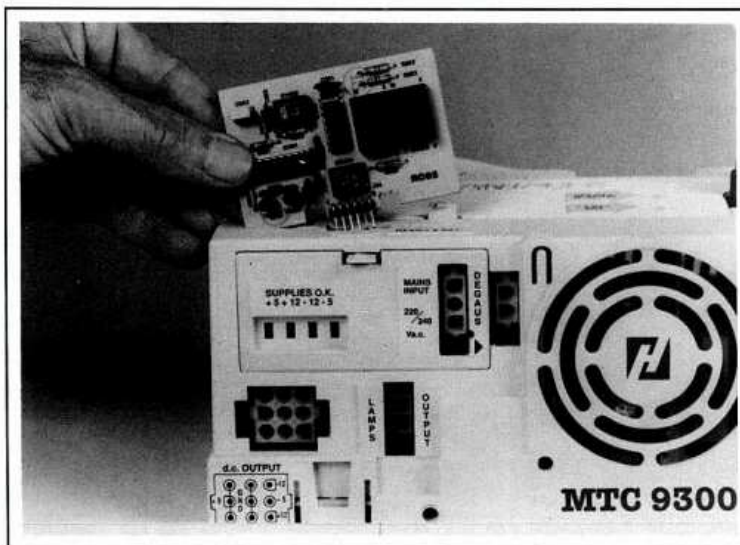
**VOLTMETER - Order as part 62013290**



**ELECTRICAL CIRCUIT DIAGRAM**



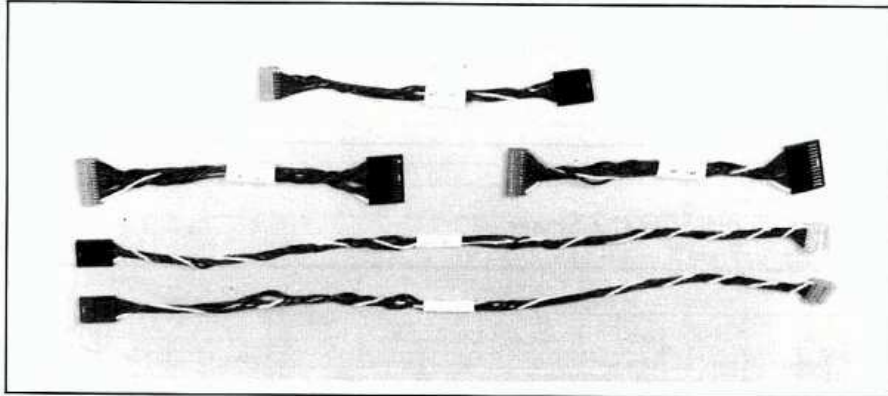
**FITTING**



## INTERCONNECTION CABLES

### For stabilization (ER) and deflexion (DR) modules

Boards ER and DR are mounted on the mother board by connectors. It is difficult to gain access to these boards for servicing, and Hantarex has therefore made servicing operations easier by providing, on request, 30 cm extension cables which allow the boards to be serviced away from the mother board.

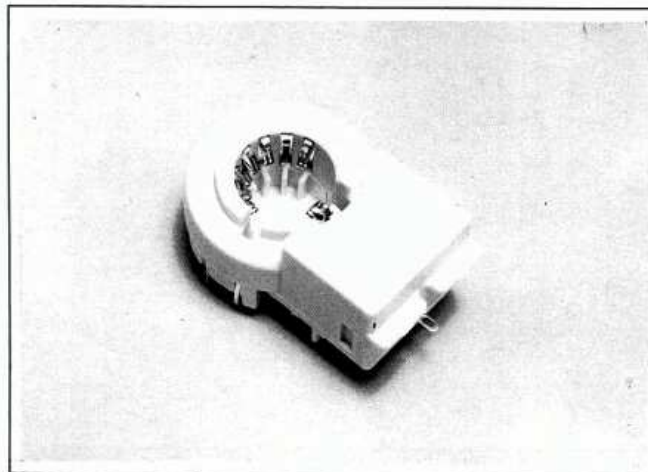


N.B. To identify the polarization of the connectors, each cableform contains one white wire which must be connected to pin n. 1 both on the p.c.b and on the base unit.  
Each cableform is bound by a cable tie carrying an individual identification.  
For ordering quote code 62013550.

### INFORMATION FOR THE INTERCHANGEABILITY OF THE MTC9300 MONITOR WITH PREVIOUS MODELS MTC900/MTC900E/MTC9000

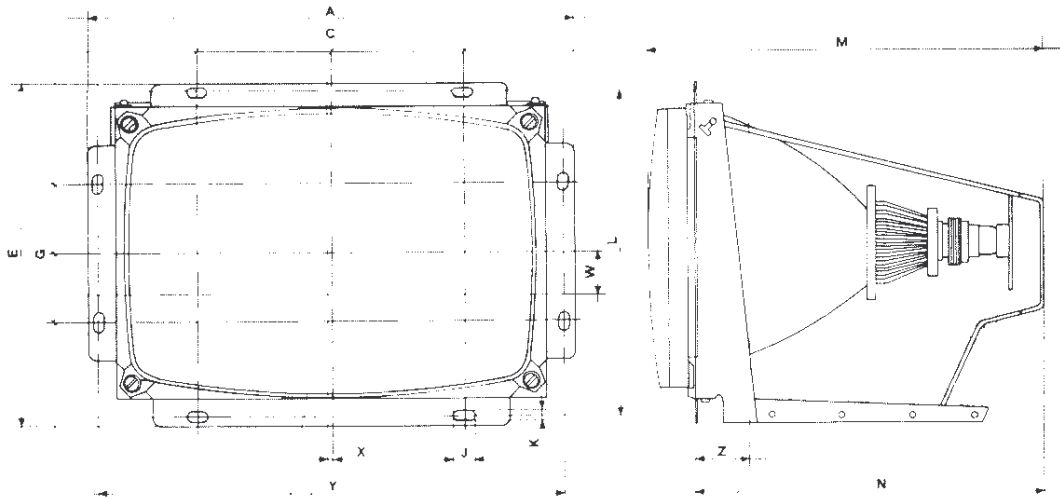
The electronic circuitry on the MTC9300 monitor is interchangeable with the previous models, in terms of signal input, control yoke deflection and fixing points, with a minimum of modification to the machine wiring.

The new monitor, MTC9300, in the 20" version, is fitted with a JEDEC B10-277 (PH) CRT socket for the following CRTs: PHILIPS, ORION, SAMSUNG, TOSHIBA, VIDEOCOLOR A51-427X. For interchangeability with the CRTs fitted to the MTC900, 900E and 9000 monitors, with JEDEC B8-274 (S4) CRT socket, we recommend ordering just the plastic socket, which may be replaced by unsoldering the socket fitted to the CRT, with the obvious advantage of not having to replace the whole assembly. Order as part 34020170 Hosiden Socket type S4.



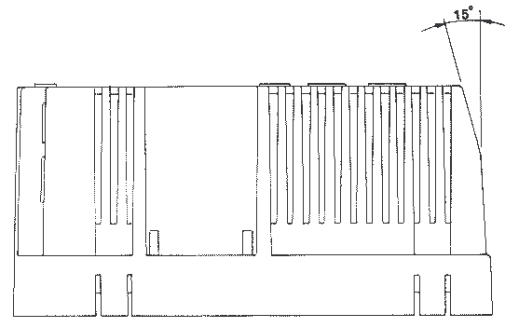
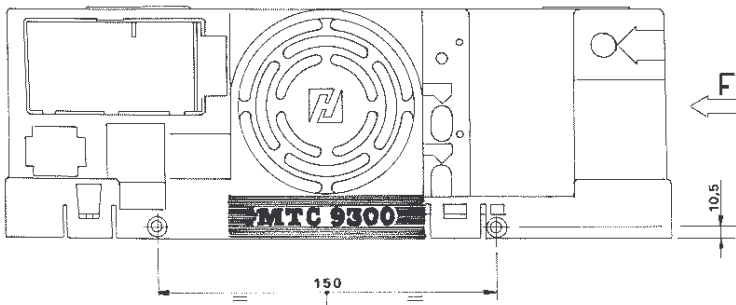
## DATI MECCANICI - MECHANICAL DATA

### STRUTTURA METALLICA - METALLIC STRUCTURE

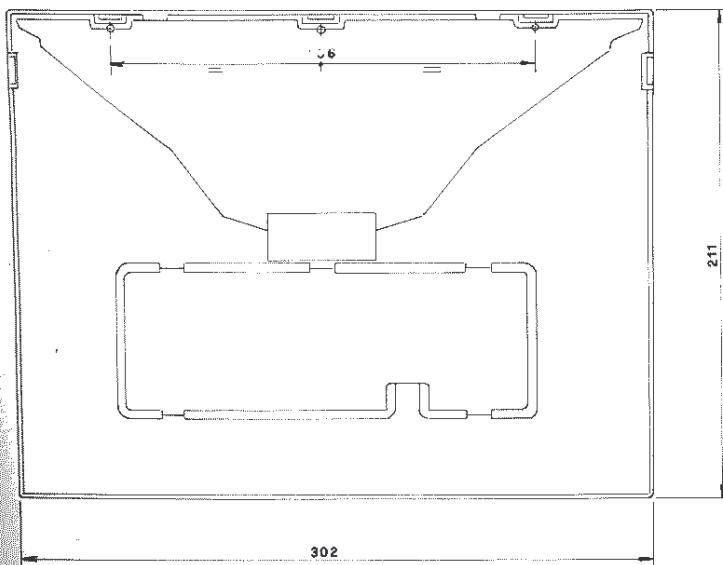


| DIM.   | A   | C   | E   | G   | J  | K | L   | M   | N   | W  | X | Y   | Z  |
|--------|-----|-----|-----|-----|----|---|-----|-----|-----|----|---|-----|----|
| 20''mm | 512 | 280 | 406 | 200 | 20 | 8 | 390 | 442 | 387 | 34 | 3 | 496 | 43 |

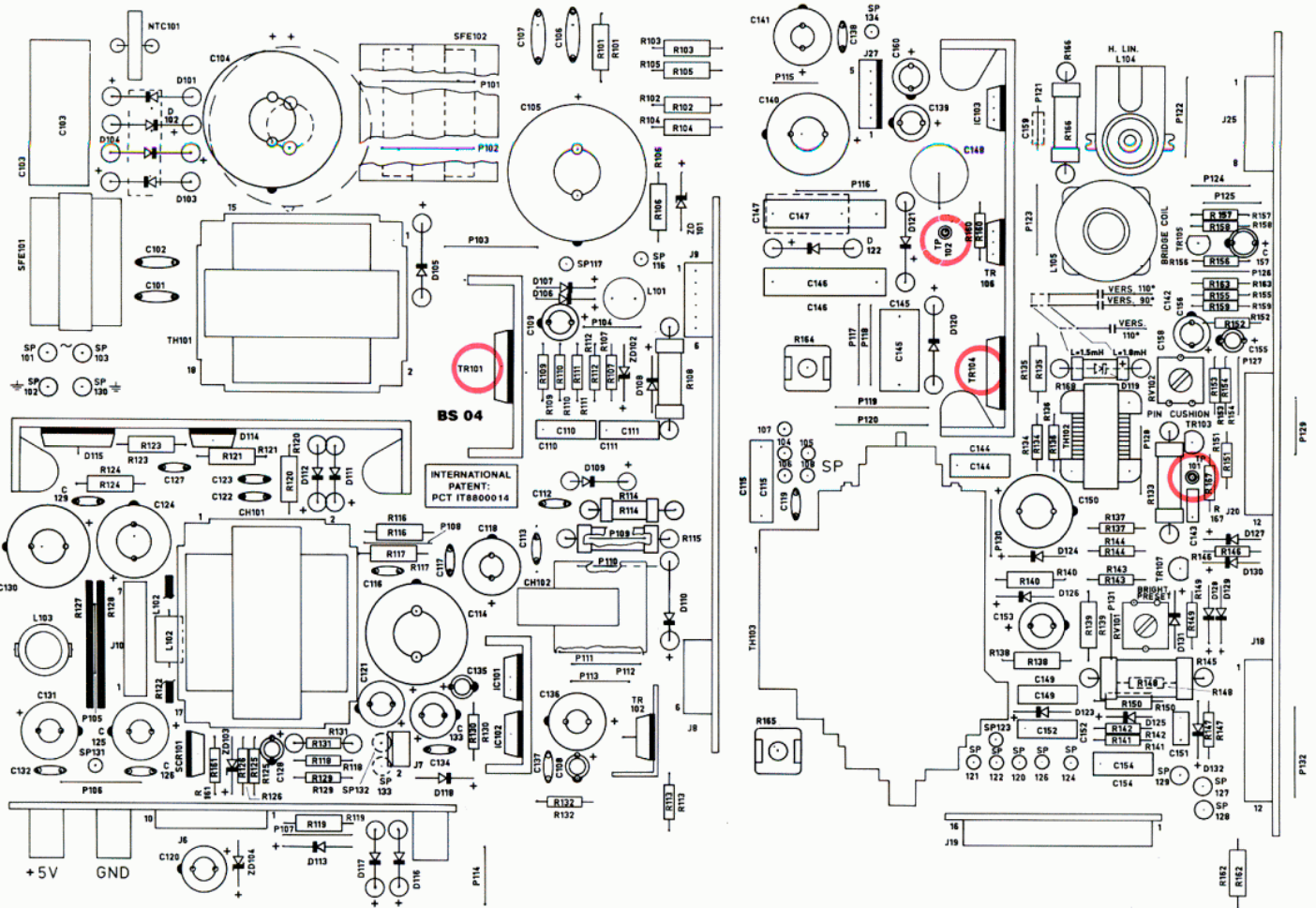
### PROTEZIONE PLASTICA - PLASTIC PROTECTION



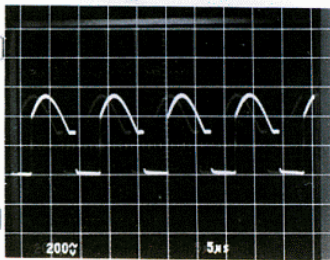
Vista da F



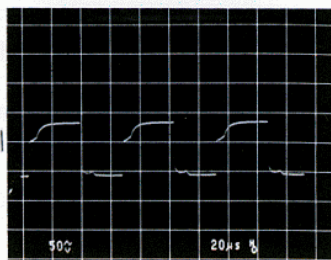
# T.P. DI CONTROLLO E FORME D'ONDA / CONTROL TEST POINTS AND WAVEFORMS



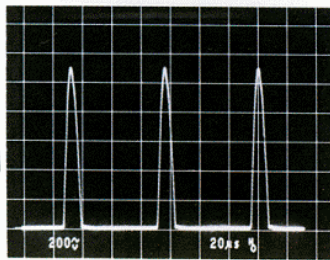
1 TR 101



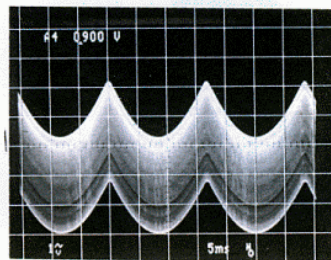
2 TP 101



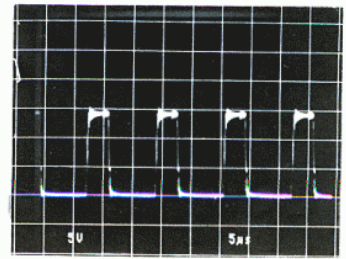
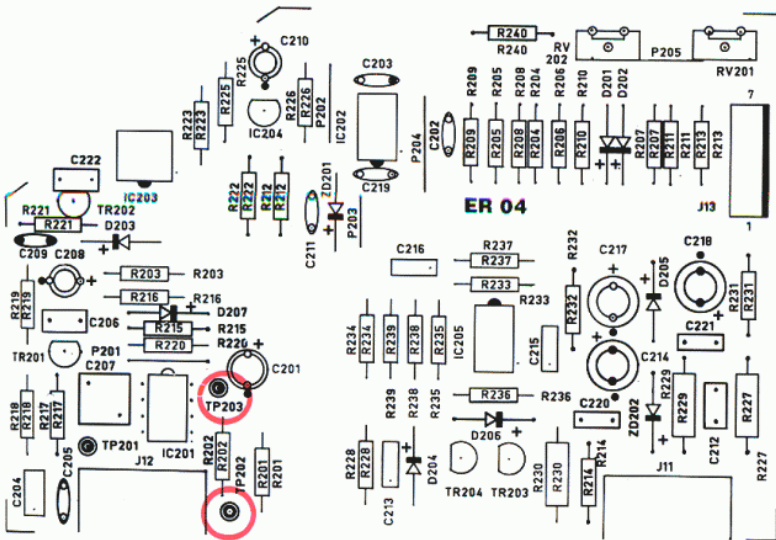
3 TR 104



4 TP 102

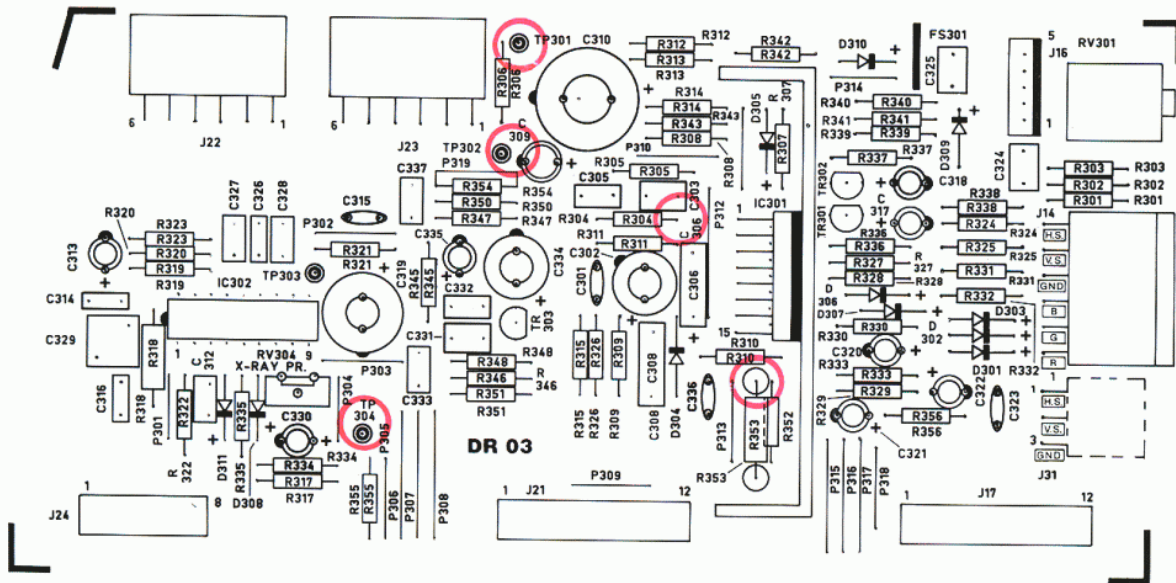


- 1.— Drain (collettore) Mosfet primario  
*Drain (Collector) Mosfet switch*
- 2.— Pilotaggio del transistor finale di riga  
*Horizontal drive*
- 3.— Collettore BU 508 A  
*BU 508 A collector*
- 4.— Correzione Est/Ovest  
*East/West correction*

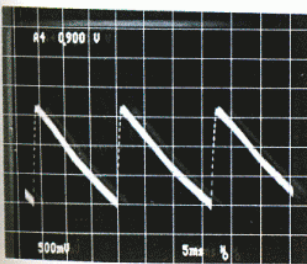


5.— Pilotaggio Gate (base) Mosfet primario (TR 101) Drive Switch (TR 101)

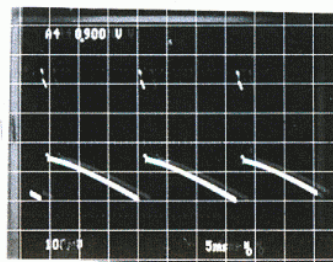
TP 203 12 : 14 V d.c.



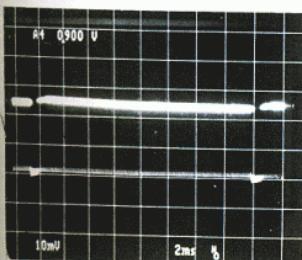
6 TP 302



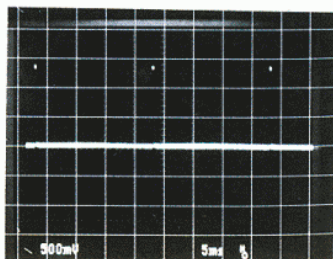
7 TP 301



8 R 356



9 R 304



6.— Reazione della deflessione verticale Vertical feedback

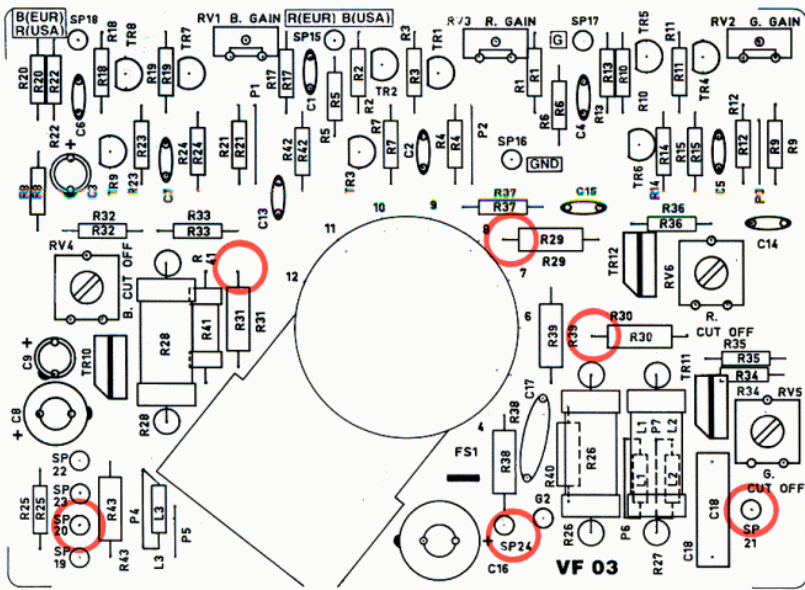
7.— Pilotaggio deflessione verticale Vertical deflection drive

8.— Sincronismo composto Composite sync.

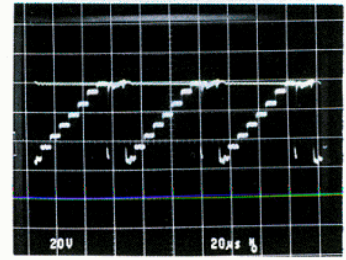
9.— Sincronismo verticale Vertical sync.

TP 304 + 12 V d.c.

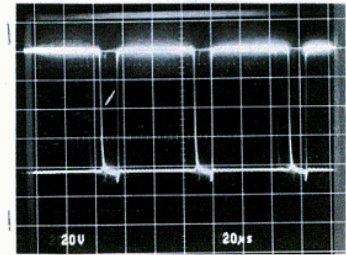
R 356 + 26 V d.c.



10



11



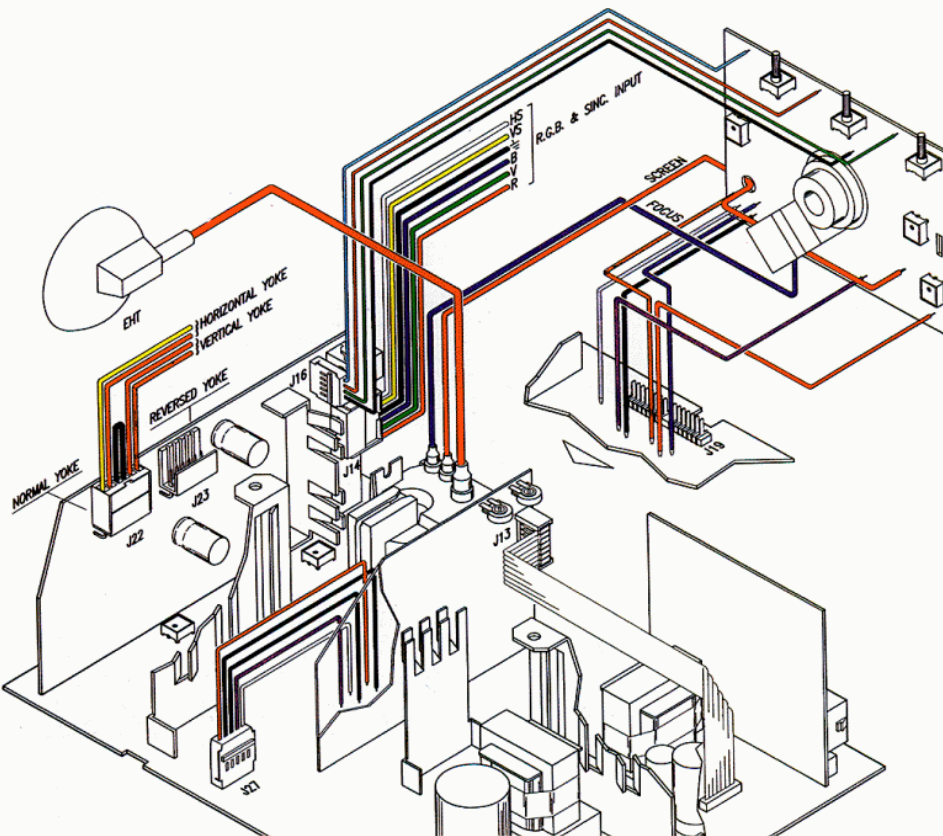
10.— R 29/30/31 Segnali video catodi RVB  
Signals at cathodes of RGB Video

SP 20 + 25 V d.c.

11.— SP 24 Spegnimento orizzontale e verticale G1  
Horizontal and vertical blanking

SP 21 + 190 + 210 V d.c.

### DIAGRAMMA DELLE CONNESSIONI - CONNEXIONS DIAGRAM





PARTS LIST

MAIN P.C.B. ASSEMBLY,  
POWER SUPPLY AND MONITOR MTC9300 20"220VAC (BS) Code 62012690

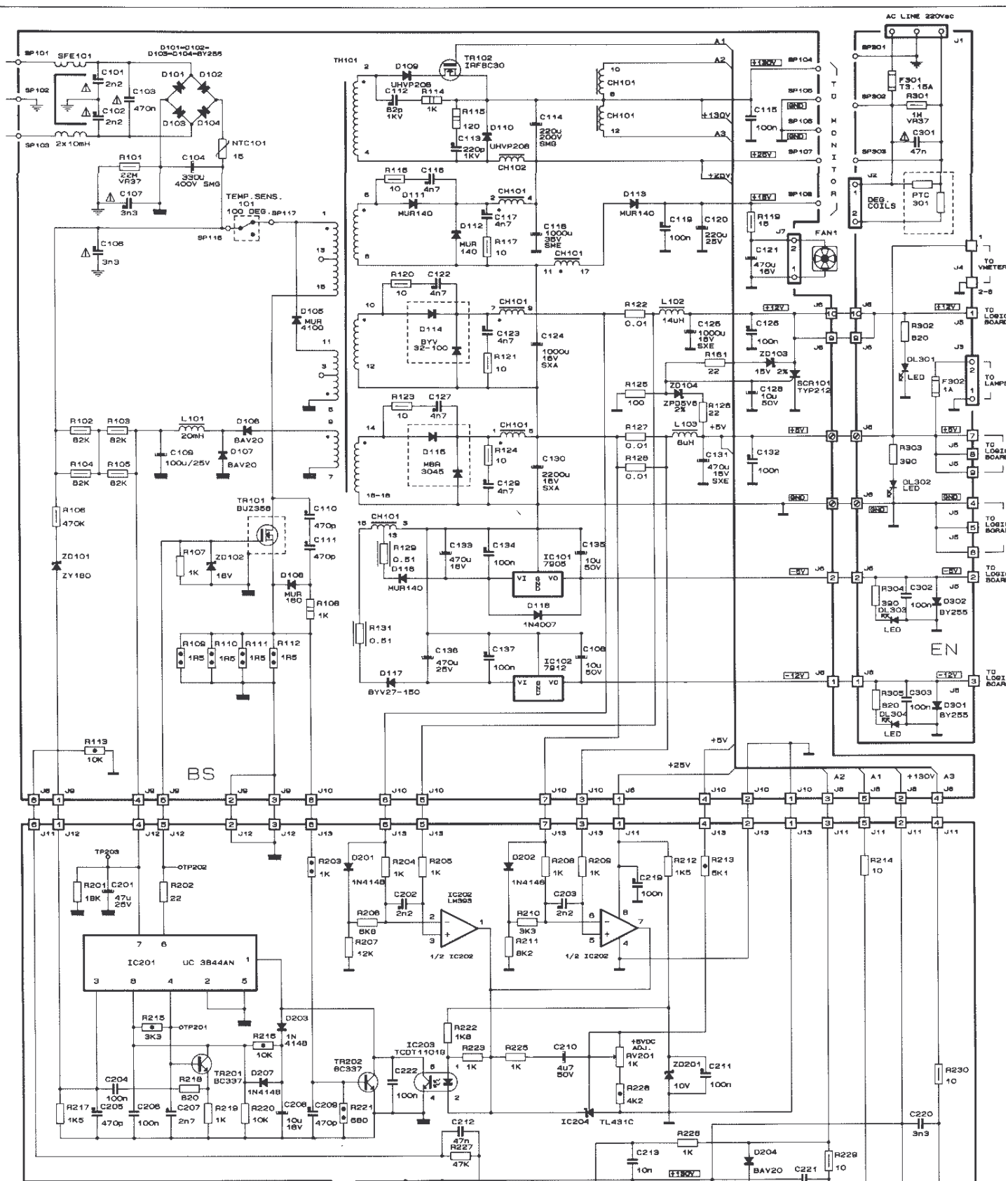
Table with 4 columns: CODE, DESCRIPTION, REF. No., Q.TY. containing a comprehensive list of components for the main assembly, including diodes, transistors, resistors, capacitors, and various connectors.

Continuation of the parts list from the previous table, listing components such as carbon resistors, metal layer resistors, and capacitors with their respective reference numbers and quantities.

MTC9300 DEFLEXION MODULE DR, P.C.B. ASSEMBLY Code 62012710

Table with 4 columns: CODE, DESCRIPTION, REF. No., Q.TY. containing a list of components for the deflexion module assembly, including integrated circuits, resistors, and capacitors.





**SCHEMATIC NOTES**  
Unless otherwise specified

**RESISTANCE**

|  |      |      |      |
|--|------|------|------|
|  | 1/4W | 1/4W | 1/4W |
|  | 1K   | 2K   |      |
|  | 1/2W | 1W   | 2W   |
|  | 5W   |      |      |

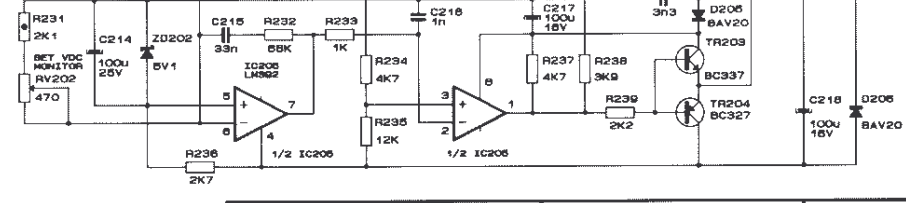
**CAPACITANCE**

|  |                |                        |      |        |
|--|----------------|------------------------|------|--------|
|  | MKT            | KP                     | MKP  | KP-MKP |
|  | 1.73           | 1.78                   | 2.5% |        |
|  | CERAMIC BYPASS | CERAMIC HIGH STABILITY |      |        |

**FUSE TYPE**

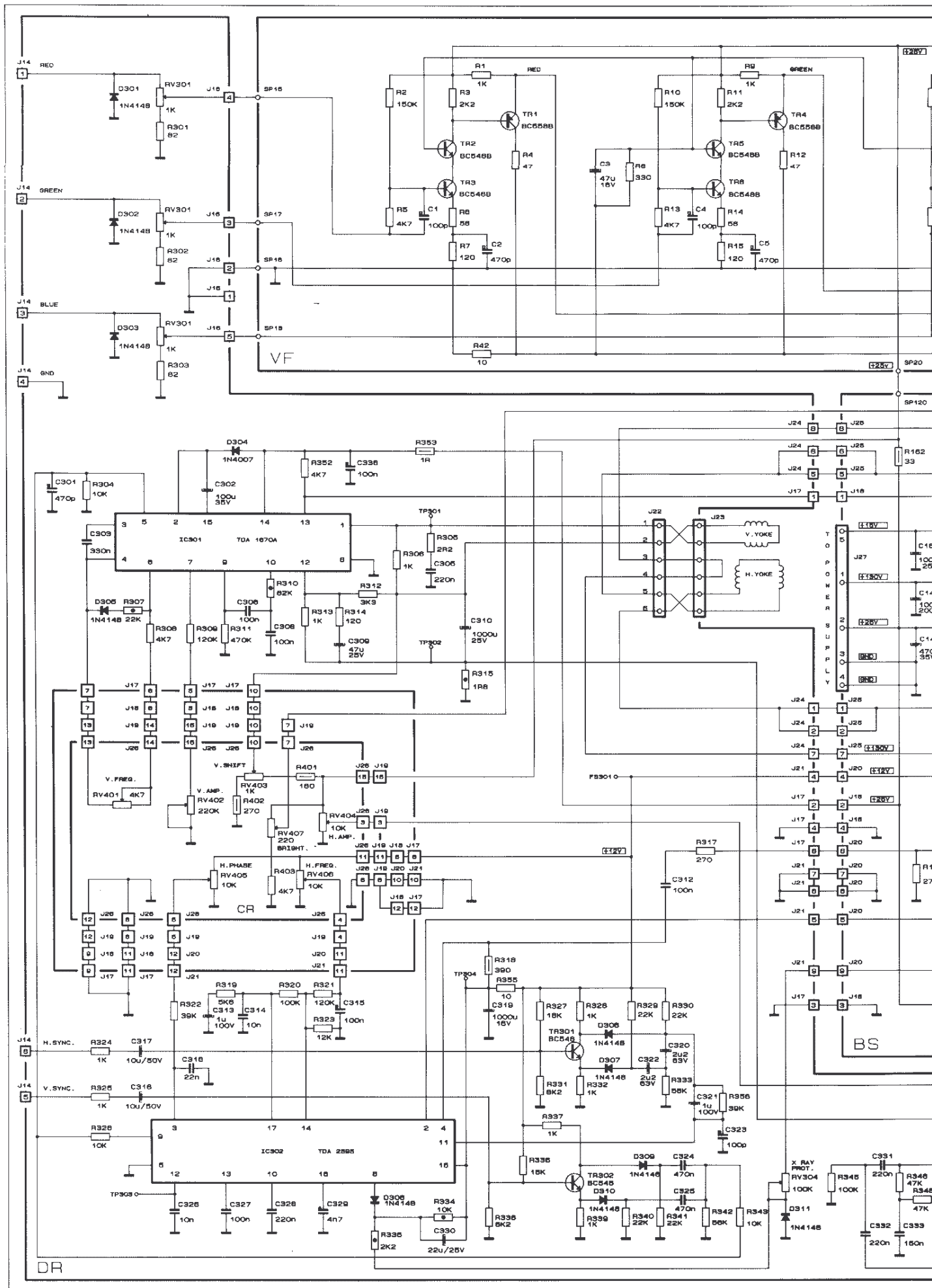
|  |      |
|--|------|
|  | 1/4H |
|--|------|

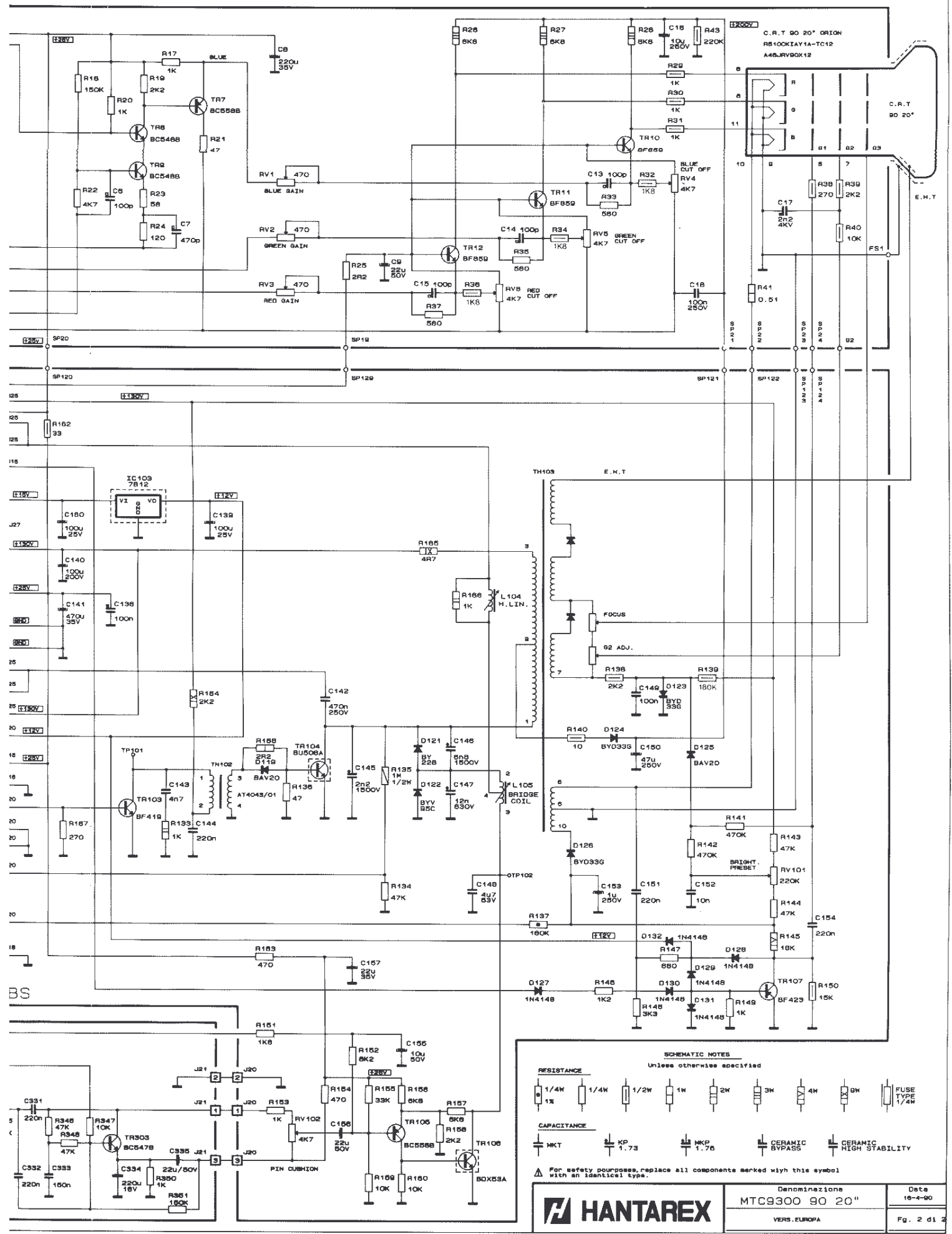
For safety purposes, replace all components marked with this symbol with an identical type.



ER

|  |                             |            |
|--|-----------------------------|------------|
|  | Denominazione               | Data       |
|  | MTC9300 90 20 <sup>11</sup> | 18-4-90    |
|  | VERS. EUROPA                | Pg. 1 di 2 |





**SCHEMATIC NOTES**  
Unless otherwise specified

**RESISTANCE**

**CAPACITANCE**

⚠ For safety purposes, replace all components marked with this symbol with an identical type.



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