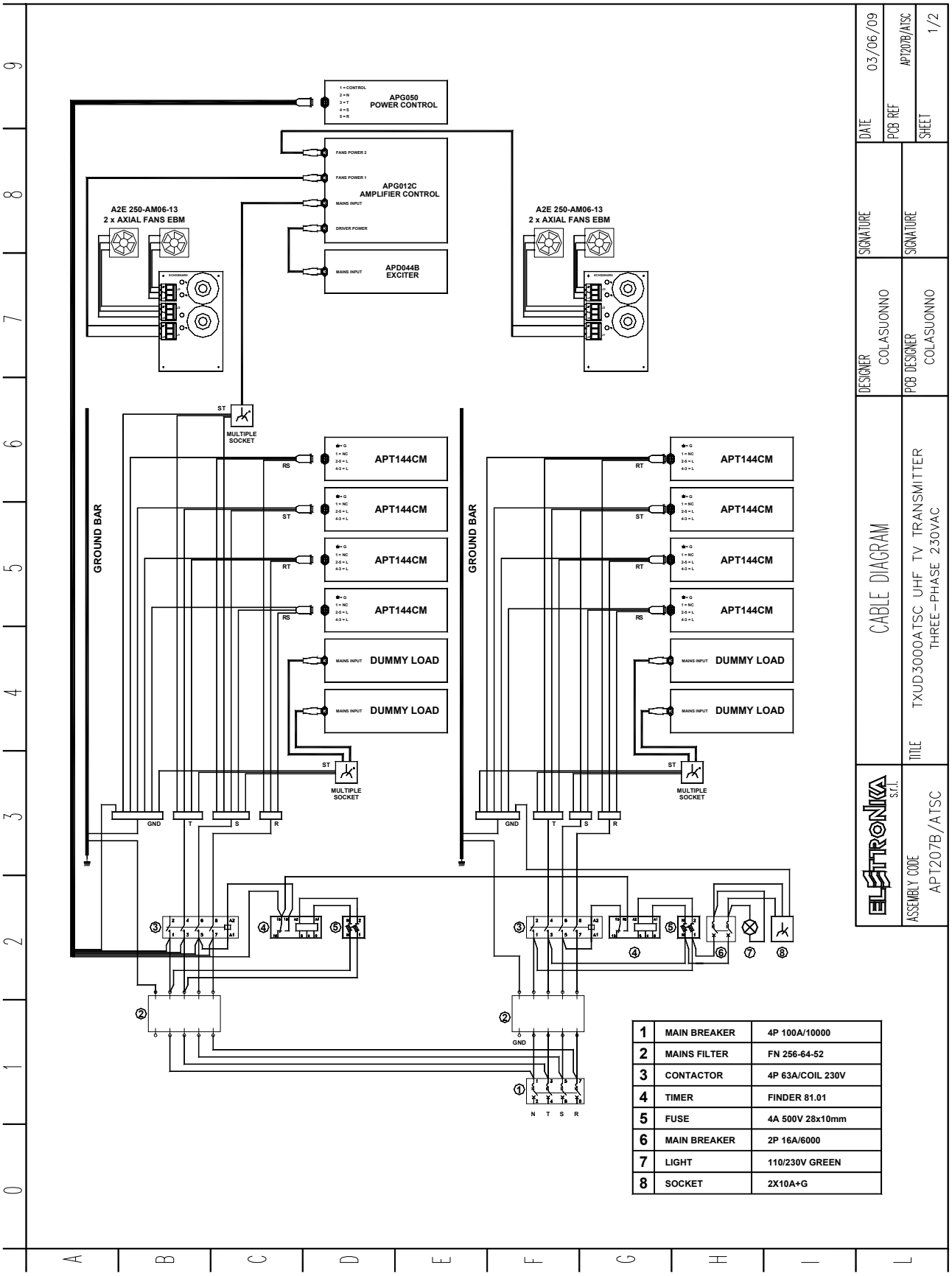
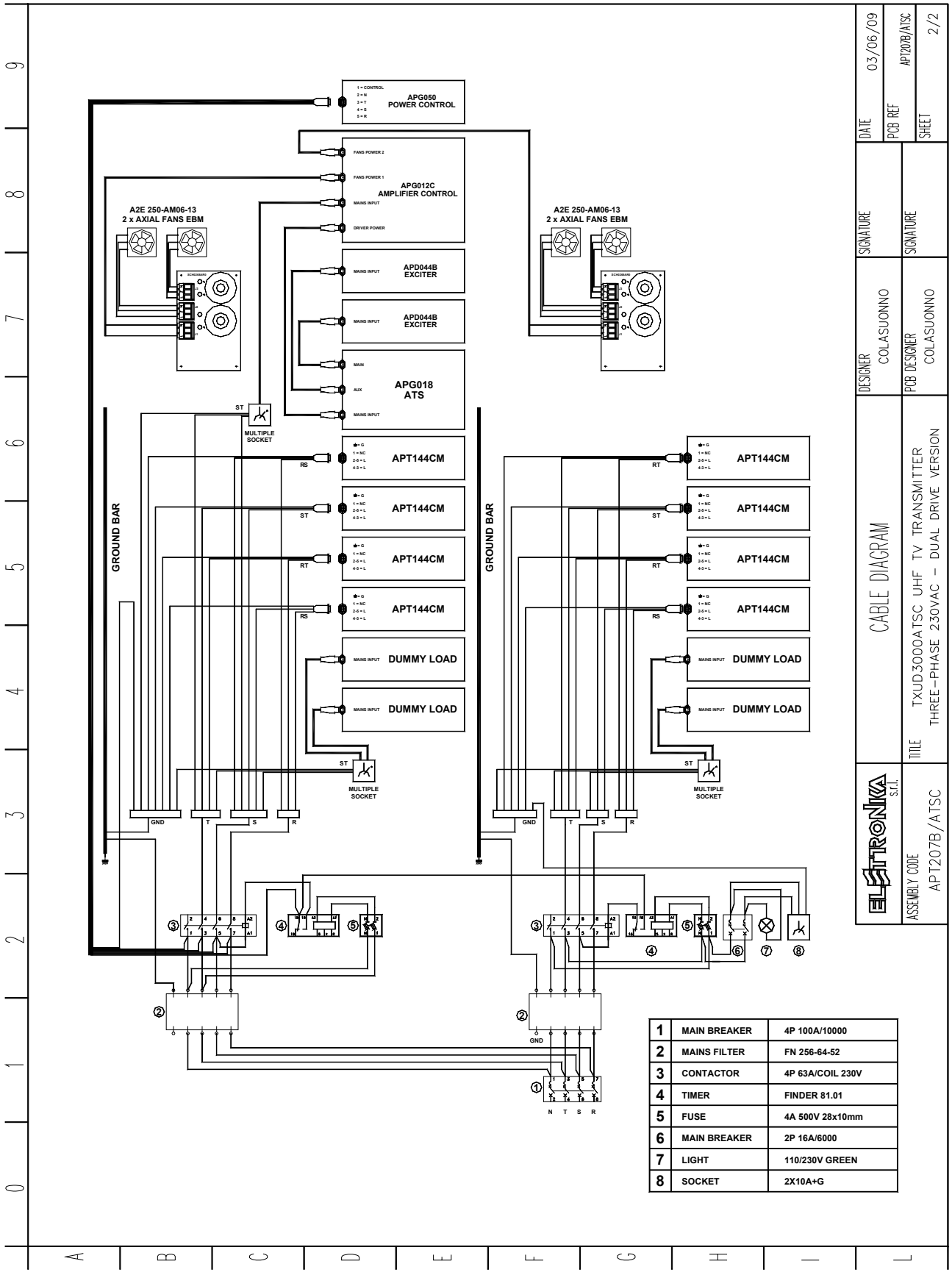
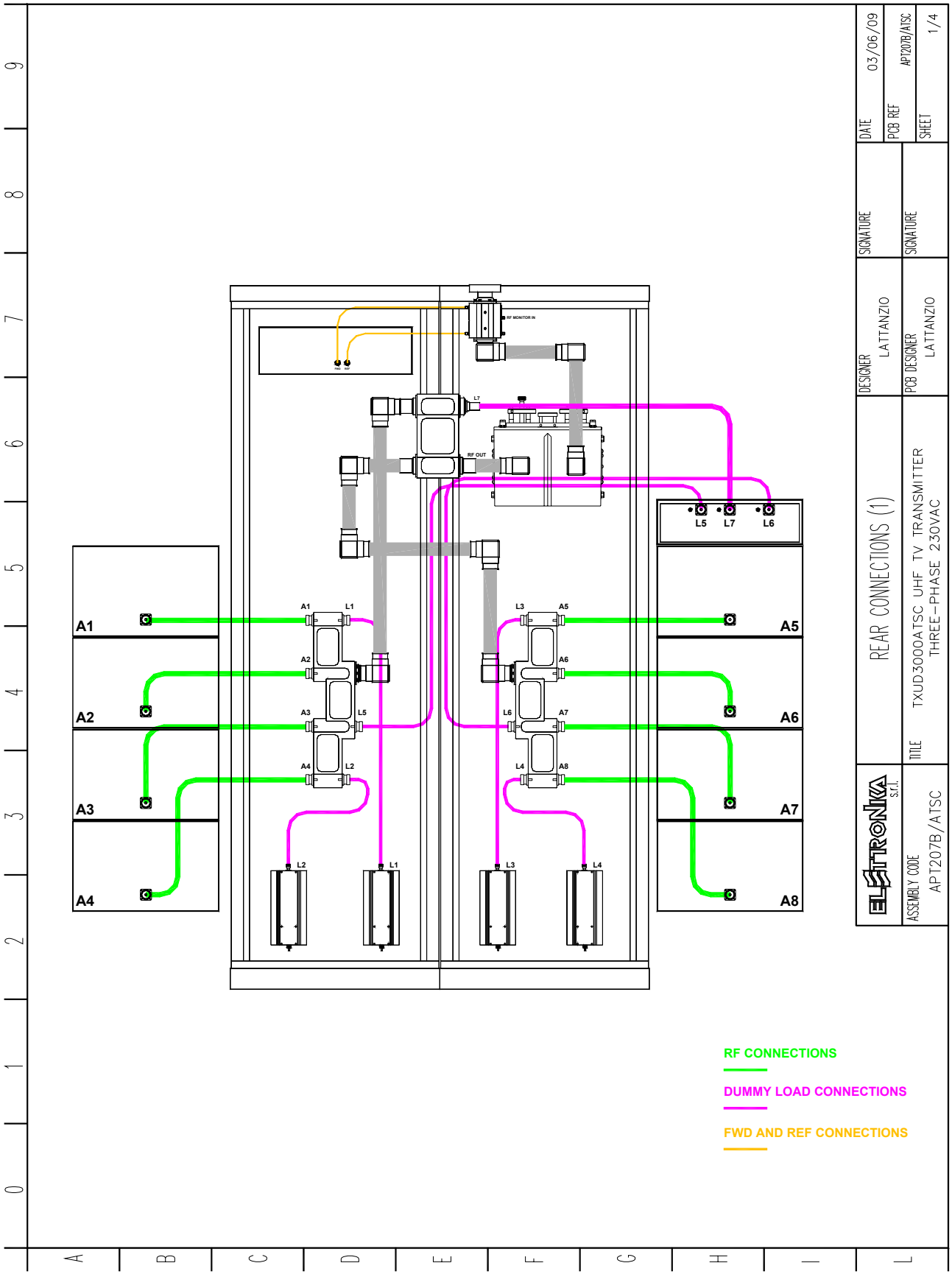
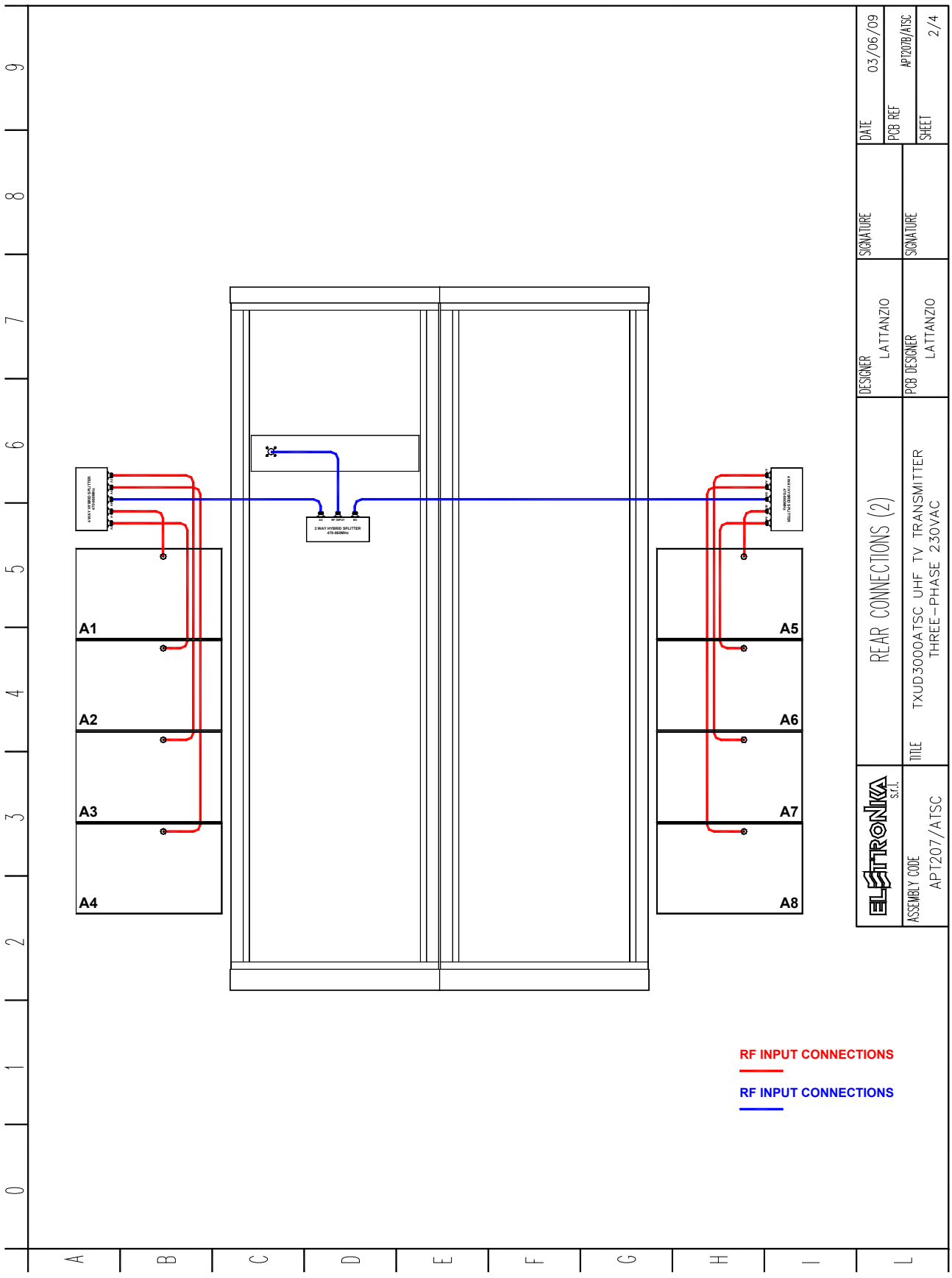
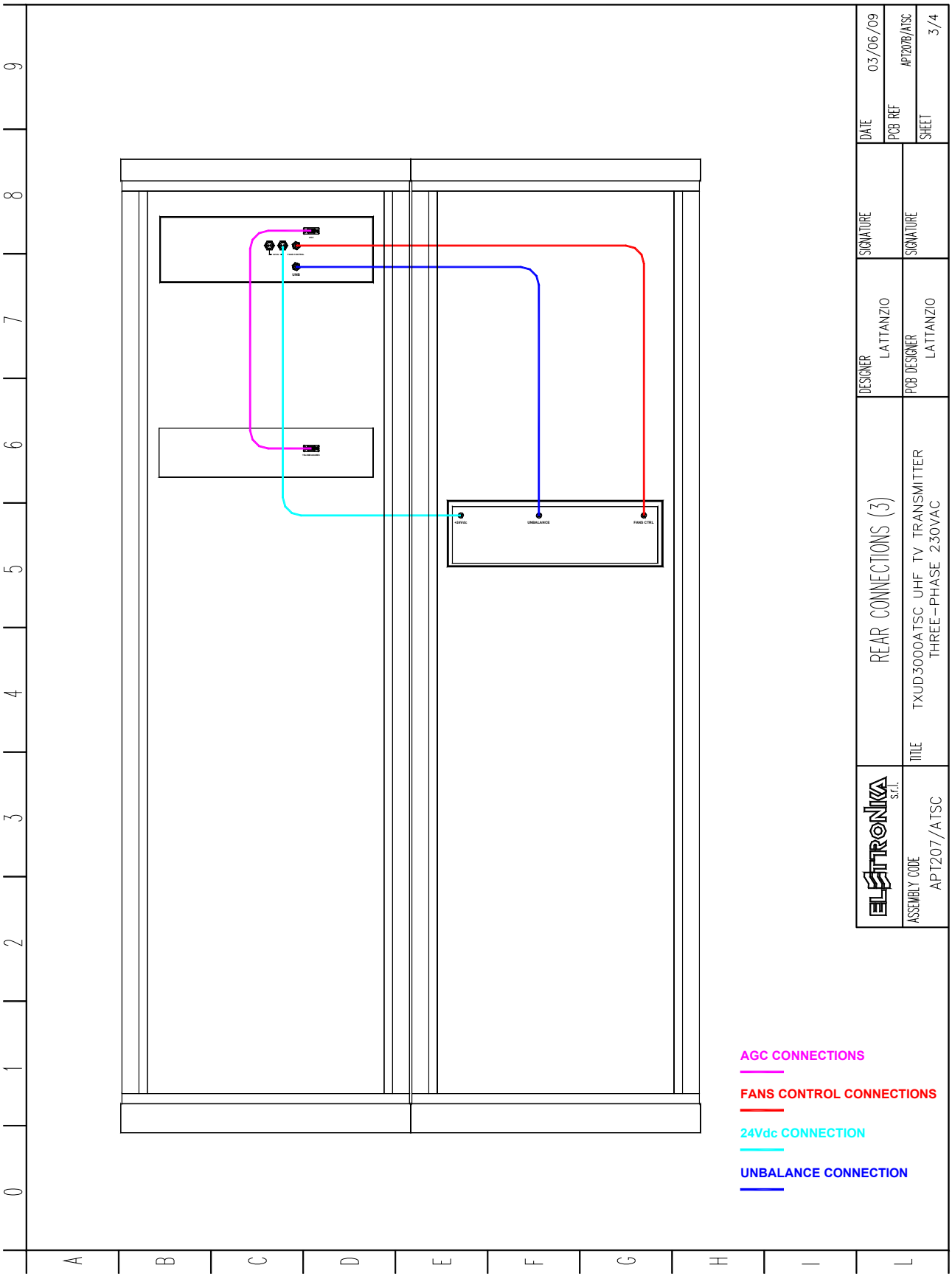

APG050
POWER CONTROL
APG012C
AMPLIFIER CONTROL
APD044B
EXCITER
A2E 250-AM06-13
2 x AXIAL FANS EBM
A2E 250-AM06-13
2 x AXIAL FANS EBM
MULTIPLE SOCKET
GROUND BAR
APT144CM
DUMMY LOAD
GND
T
S
R
N T S R
1 MAIN BREAKER 4P 100A/10000
2 MAINS FILTER FN 256-64-52
3 CONTACTOR 4P 63A/COIL 230V
4 TIMER FINDER 81.01
5 FUSE 4A 500V 28x10mm
6 MAIN BREAKER 2P 16A/6000
7 LIGHT 110/230V GREEN
8 SOCKET 2X10A+G
DATE 03/06/09
PCB REF APT207B/ATSC
SHEET 1/2
DESIGNER COLASUONNO
PCB DESIGNER COLASUONNO
CABLE DIAGRAM
TXUD3000ATSC UHF TV TRANSMITTER
THREE-PHASE 230VAC
ELETTRONIKA s.r.l.
ASSEMBLY CODE APT207B/ATSC

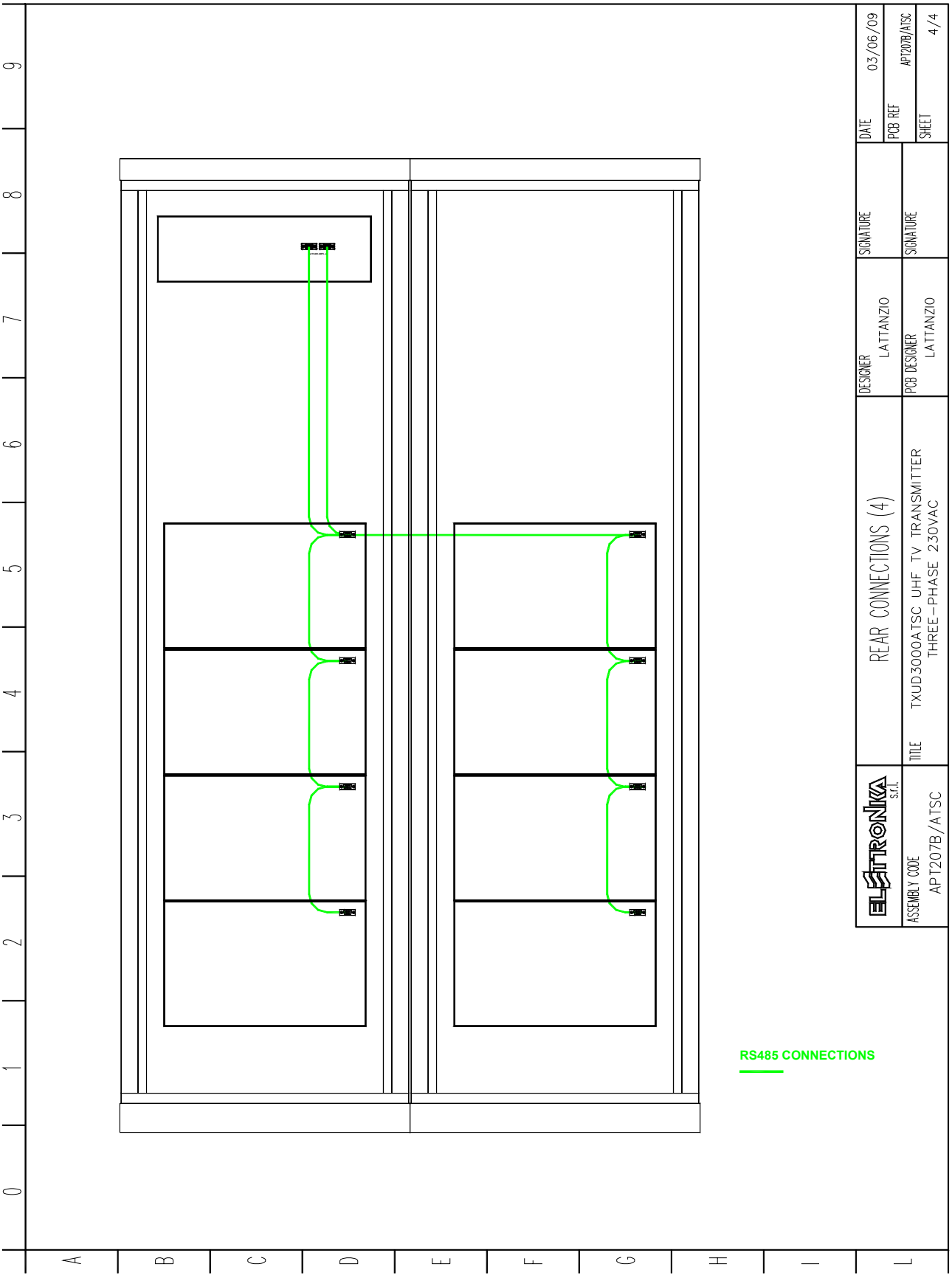


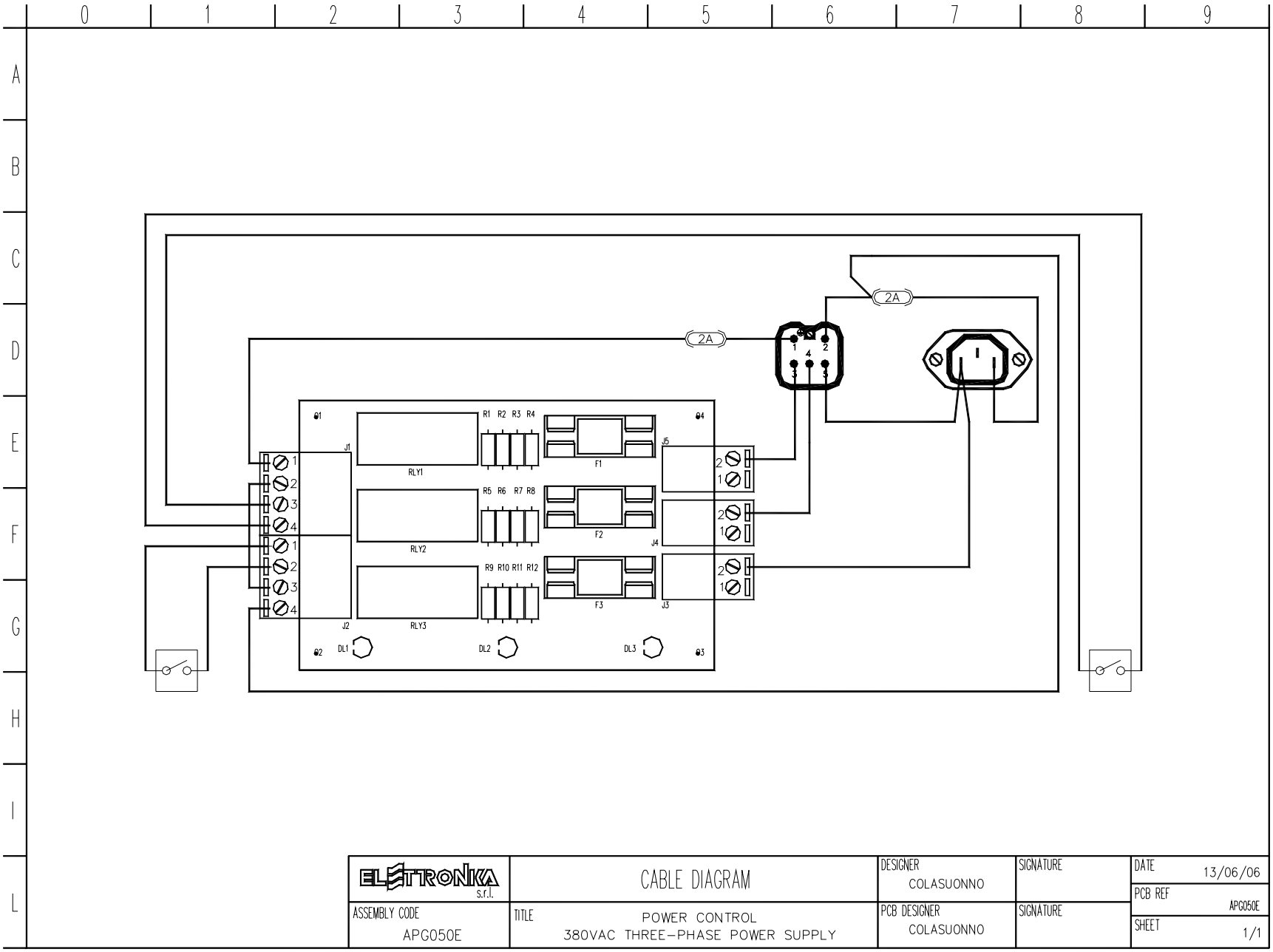

| | | |
|---|---|---|
| 1 | MAIN BREAKER | 4P 100A/10000 |
| 2 | MAINS FILTER | FN 256-64-52 |
| 3 | CONTACTOR | 4P 63A/COIL 230V |
| 4 | TIMER | FINDER 81.01 |
| 5 | FUSE | 4A 500V 28x10mm |
| 6 | MAIN BREAKER | 2P 16A/6000 |
| 7 | LIGHT | 110/230V GREEN |
| 8 | SOCKET | 2X10A+G |


RF MONITOR IN
RF OUT
L7
L5
L7
L6
A1
A2
A3
A4
A5
A6
A7
A8
L1
L2
L3
L4
L5
RF CONNECTIONS
DUMMY LOAD CONNECTIONS
FWD AND REF CONNECTIONS
DATE 03/06/09
PCB REF APT207B/ATSC
SHEET 1/4
SIGNATURE
SIGNATURE
DESIGNER LATTANZIO
PCB DESIGNER LATTANZIO
REAR CONNECTIONS (1)
TITLE TXUD3000ATSC UHF TV TRANSMITTER
THREE-PHASE 230VAC
ELETTRONIKA s.r.l.
ASSEMBLY CODE APT207B/ATSC

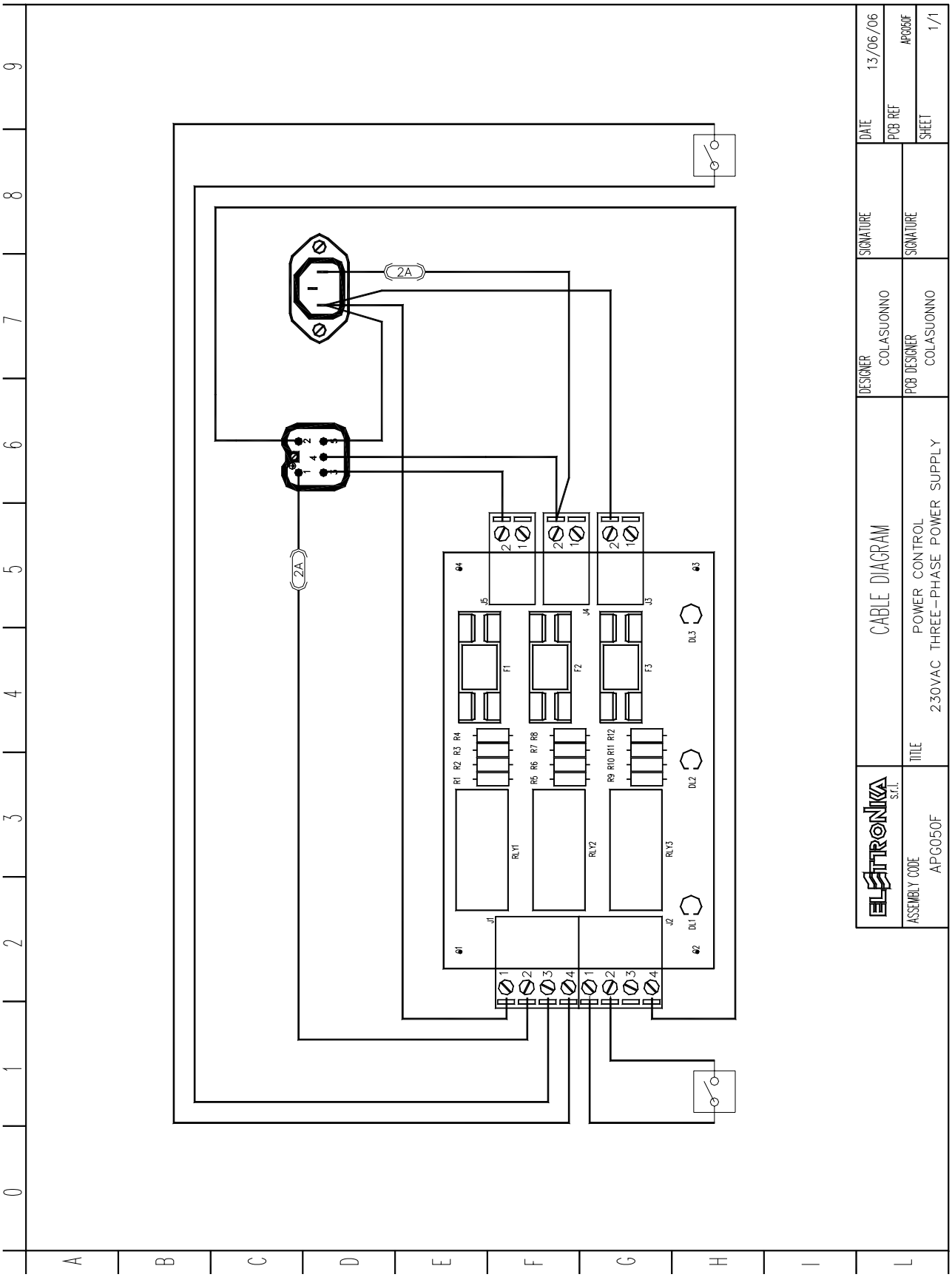

A1
A2
A3
A4
A5
A6
A7
A8
RF INPUT CONNECTIONS
RF INPUT CONNECTIONS
REAR CONNECTIONS (2)
TXUD3000ATSC UHF TV TRANSMITTER
THREE-PHASE 230VAC
APT207/ATSC
ELETTRONIKA S.r.l.
DESIGNER LATTANZIO
PCB DESIGNER LATTANZIO
DATE 03/06/09
PCB REF APT207B/ATSC
SHEET 2/4

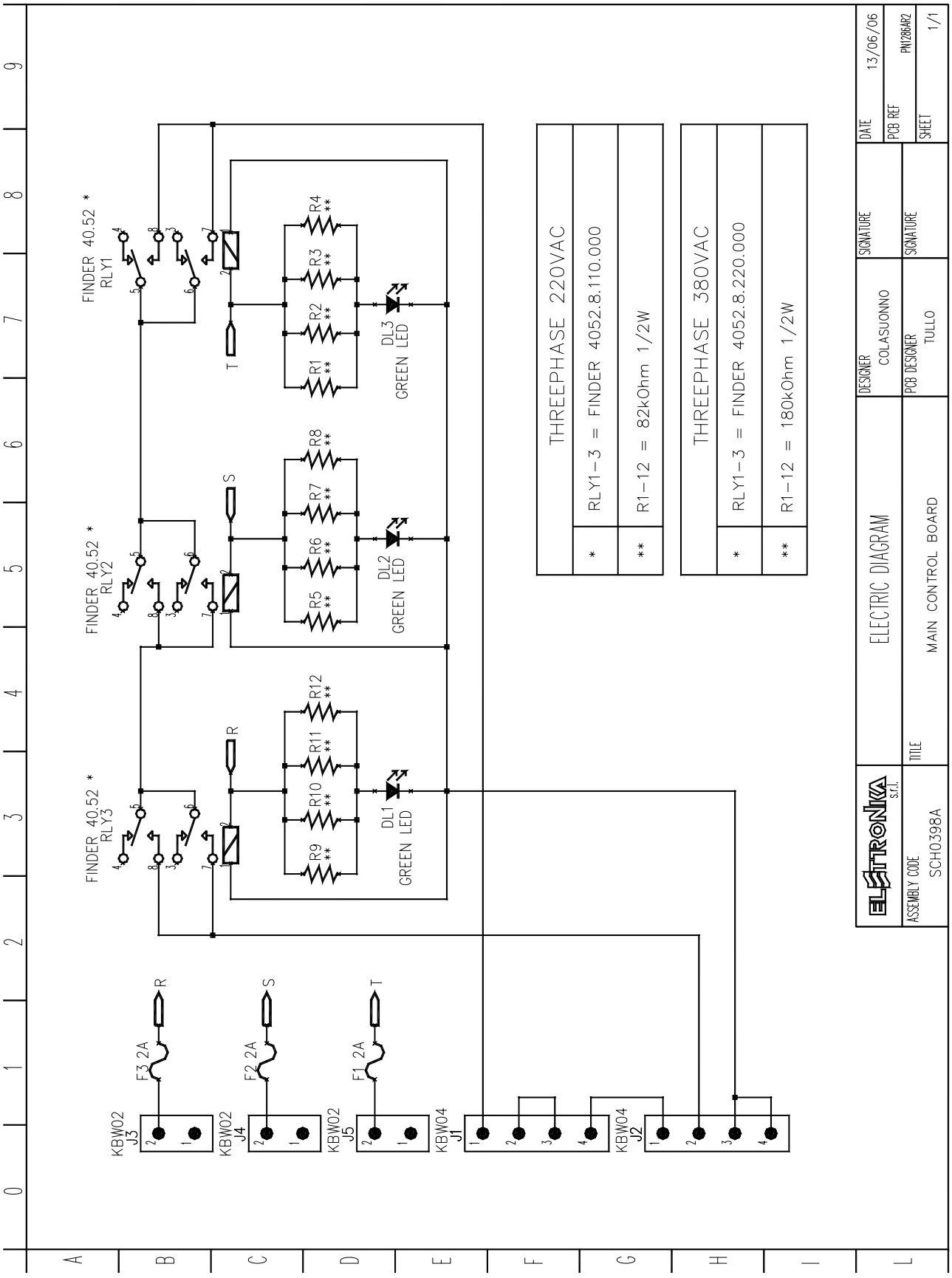

AGC CONNECTIONS
FANS CONTROL CONNECTIONS
24Vdc CONNECTION
UNBALANCE CONNECTION
REAR CONNECTIONS (3)
TXUD3000ATSC UHF TV TRANSMITTER
THREE-PHASE 230VAC
APT207/ATSC
LATTANZIO
LATTANZIO
03/06/09
APT207B/ATSC
3/4

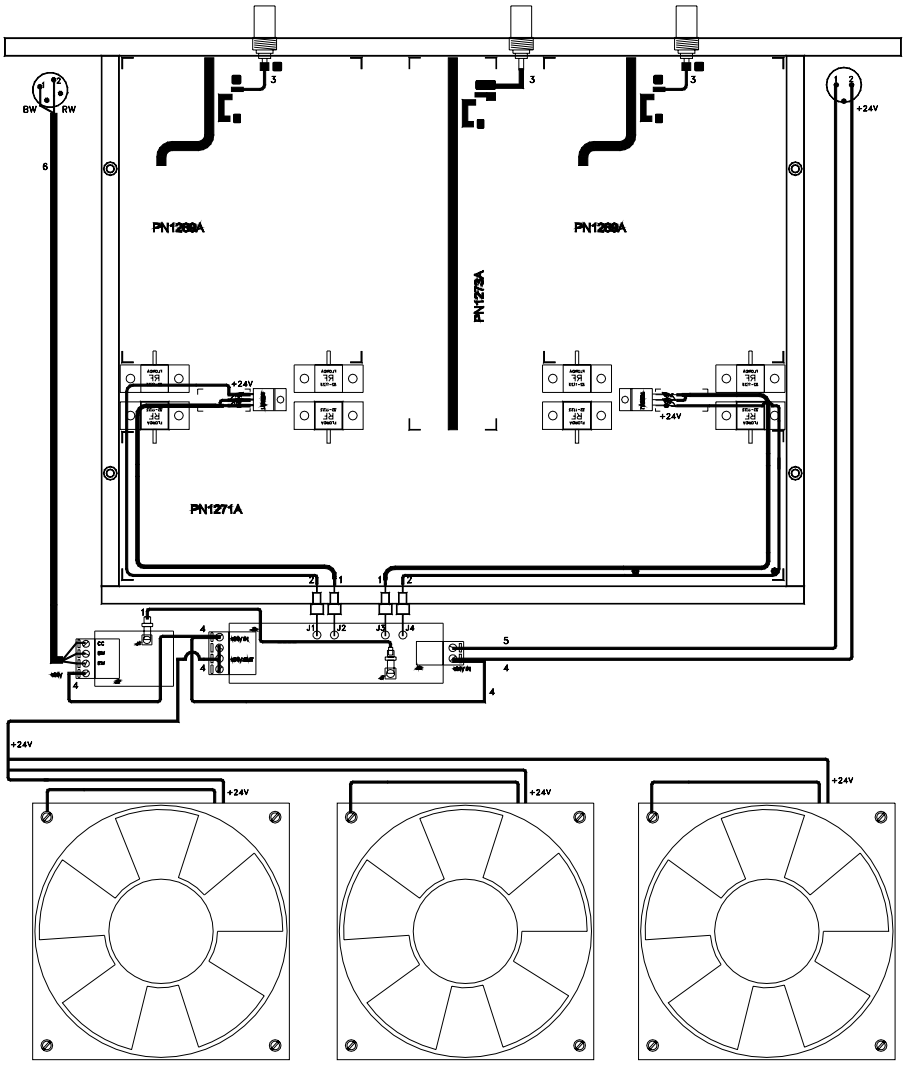

RS485 CONNECTIONS
REAR CONNECTIONS (4)
TXUD3000ATSC UHF TV TRANSMITTER
THREE-PHASE 230VAC
APT207B/ATSC
LATTANZIO
LATTANZIO
03/06/09
APT207B/ATSC
4/4




| | | | | |
|---|---|---|---|---|
| ELETTRONIKA s.r.l. | CABLE DIAGRAM | DESIGNER COLASUONNO | SIGNATURE | DATE 13/06/06 |
| ASSEMBLY CODE APG050E | TITLE POWER CONTROL 380VAC THREE-PHASE POWER SUPPLY | PCB DESIGNER COLASUONNO | SIGNATURE | PCB REF APG050E |
| | | | | SHEET 1/1 |

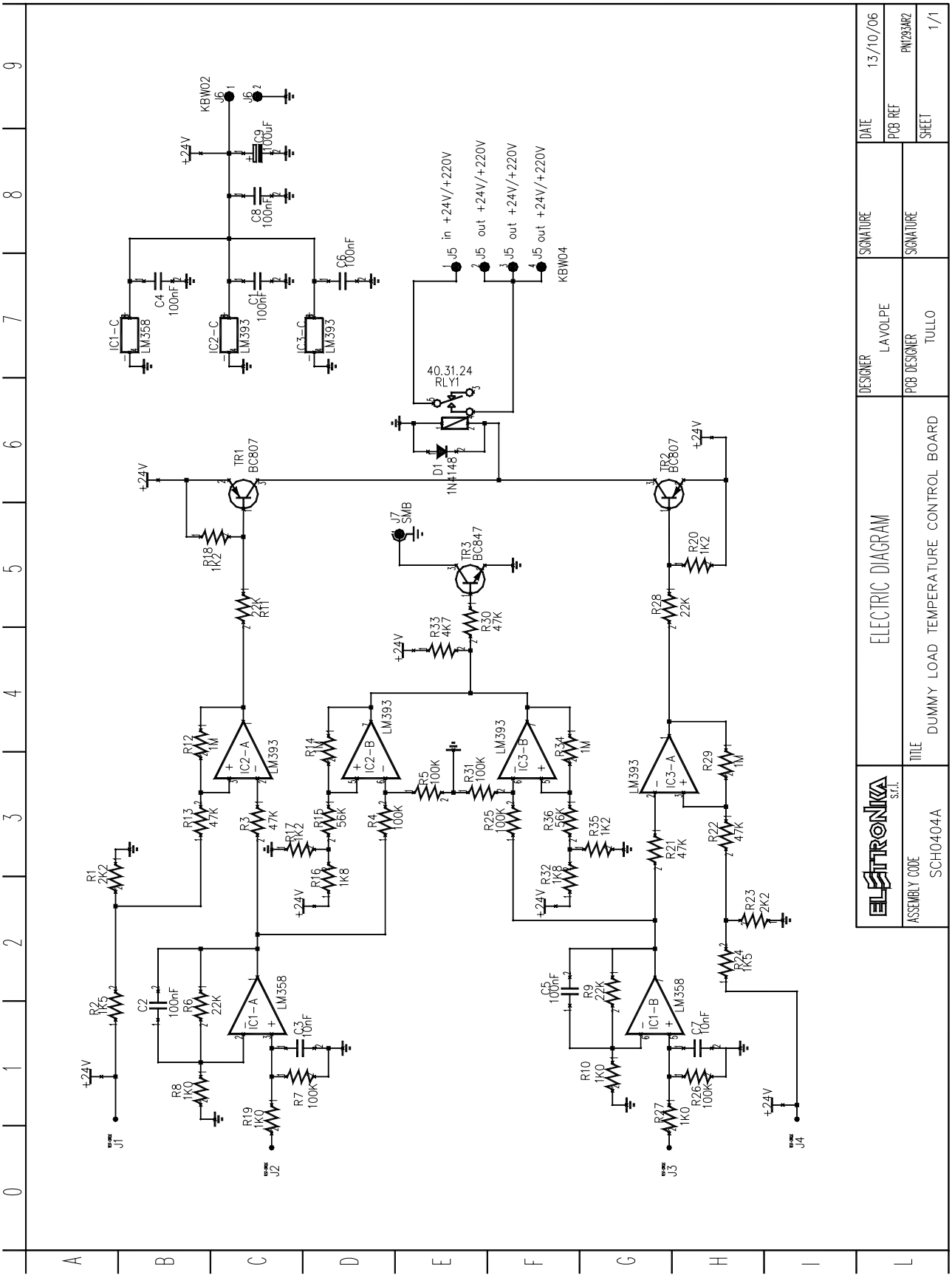

2A
2A
J5
J4
J3
J1
J2
F1
F2
F3
RLY1
RLY2
RLY3
R1 R2 R3 R4
R5 R6 R7 R8
R9 R10 R11 R12
DL1
DL2
DL3
CABLE DIAGRAM
POWER CONTROL
230VAC THREE-PHASE POWER SUPPLY
ELETTRONIKA S.r.l.
DESIGNER COLASUONNO
PCB DESIGNER COLASUONNO
SIGNATURE
SIGNATURE
DATE 13/06/06
PCB REF APG050F
SHEET 1/1
TITLE
ASSEMBLY CODE APG050F

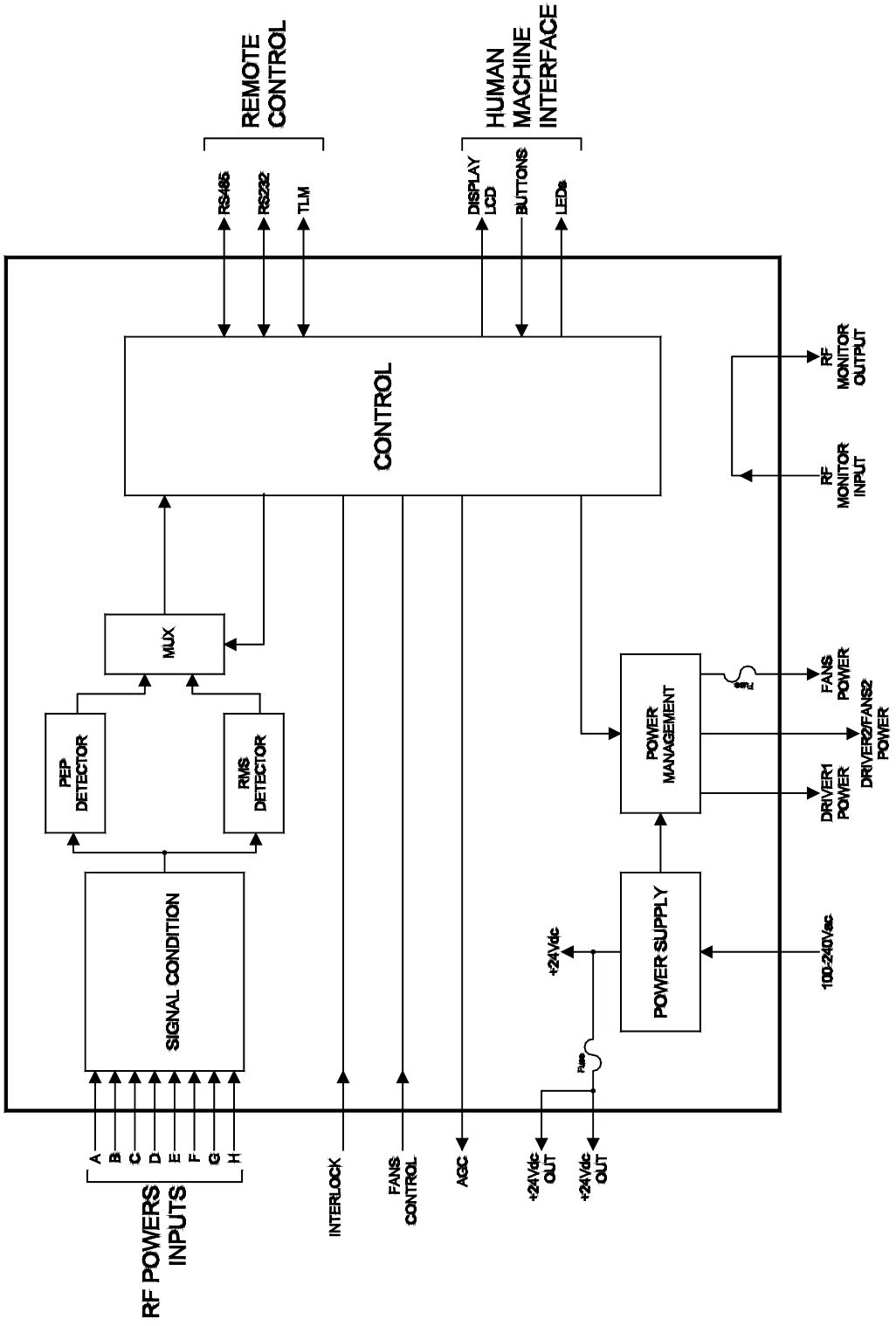

FINDER 40.52 *
RLY1
FINDER 40.52 *
RLY2
FINDER 40.52 *
RLY3
R1 **
R2 **
R3 **
R4 **
R5 **
R6 **
R7 **
R8 **
R9 **
R10 **
R11 **
R12 **
DL1 GREEN LED
DL2 GREEN LED
DL3 GREEN LED
R
S
T
F3 2A
F2 2A
F1 2A
KBW02 J3
KBW02 J4
KBW02 J5
KBW04 J1
KBW04 J2
THREEPHASE 220VAC
* RLY1-3 = FINDER 4052.8.110.000
** R1-12 = 82kOhm 1/2W
THREEPHASE 380VAC
* RLY1-3 = FINDER 4052.8.220.000
** R1-12 = 180kOhm 1/2W
ELETTRONICA S.r.l.
ELECTRIC DIAGRAM
DESIGNER COLASUONNO
SIGNATURE
DATE 13/06/06
PCB REF PN1286AR2
SHEET 1/1
ASSEMBLY CODE SCH0398A
TITLE MAIN CONTROL BOARD
PCB DESIGNER TULLO
SIGNATURE

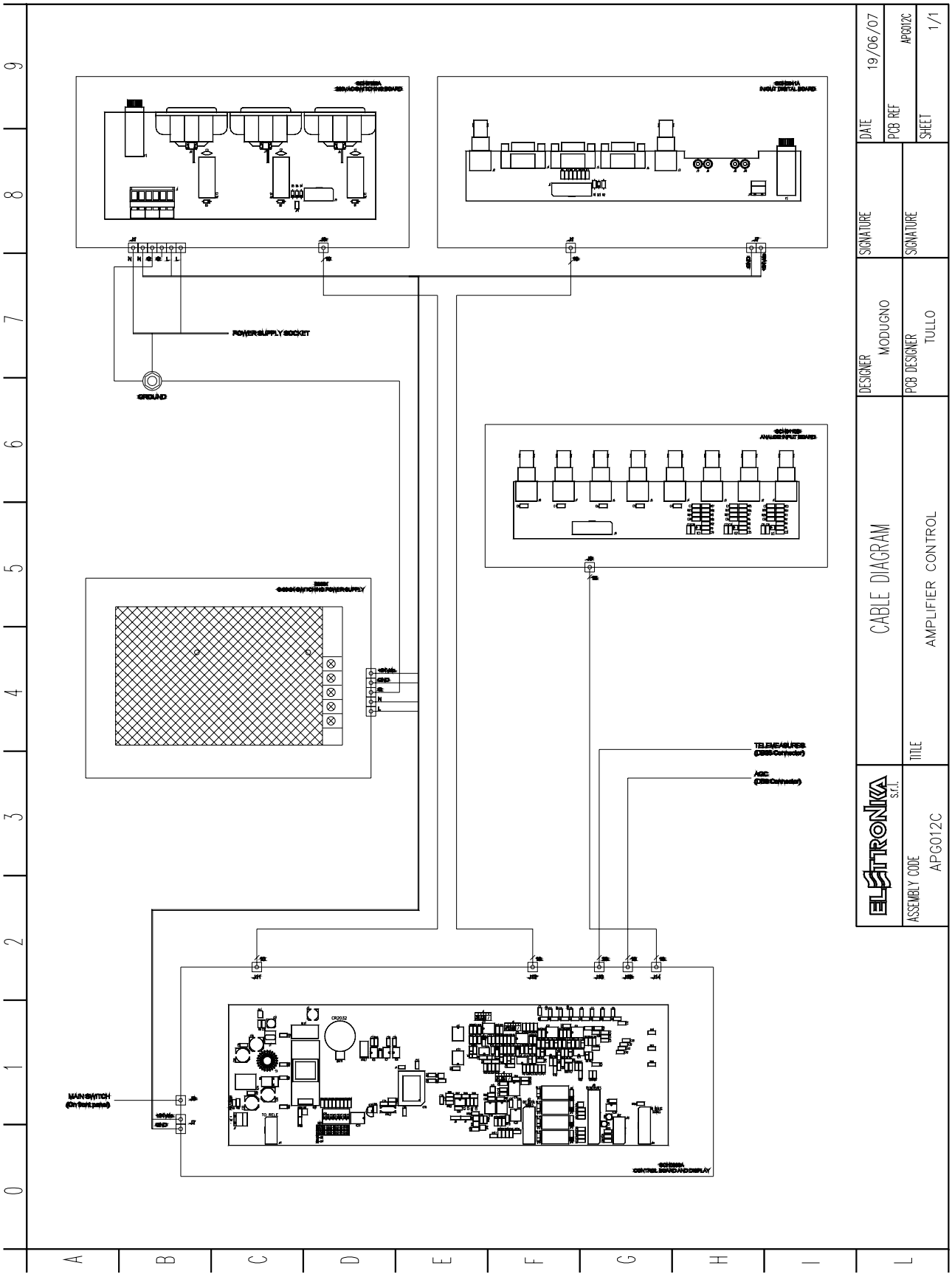



1 RG316 50 Ohm CABLE
2 0.25mm ø WHITE TEFLON
3 WHITE TEFLON CABLE
4 1.5mm ø RED SILICONE CABLE
5 1.5mm ø BLACK SILICONE CABLE
6 MULTIPOLES WIRE (BW=Black Wire - RW=Red Wire)

| | | | |
|---|---|---|---|
| ELETTRONIKA S.r.l. | CABLE DIAGRAM | DESIGNER LAVOLPE | SIGNATURE |
| | | PCB DESIGNER LAVOLPE | SIGNATURE |
| ASSEMBLY CODE MTG0152A | TITLE 0.7+0.7+1.4kW UHF DUMMY LOAD | DATE 17/01/07 | |
| | | PCB REF MTG0152A | |
| | | SHEET 1/1 | |


ELETTRONIKA S.r.l.
ELECTRIC DIAGRAM
DUMMY LOAD TEMPERATURE CONTROL BOARD
DESIGNER LAVOLPE
PCB DESIGNER TULLO
SIGNATURE
SIGNATURE
DATE 13/10/06
PCB REF PM1293AR2
SHEET 1/1
ASSEMBLY CODE SCH0404A
TITLE
KBW02
KBW04
in +24V/+220V
out +24V/+220V
out +24V/+220V
out +24V/+220V
40.31.24
RLY1
D1 1N4148
TR1 BC807
TR2 BC807
TR3 BC847
IC1-A LM358
IC1-B LM358
IC1-C LM358
IC2-A LM393
IC2-B LM393
IC2-C LM393
IC3-A LM393
IC3-B LM393
IC3-C LM393
+24V
J1
J2
J3
J4
J5
J6
J7 SMB


REMOTE CONTROL
HUMAN MACHINE INTERFACE
RS485
RS232
TLM
DISPLAY LCD
BUTTONS
LEDs
CONTROL
RF MONITOR OUTPUT
RF MONITOR INPUT
MUX
PEP DETECTOR
RMS DETECTOR
SIGNAL CONDITION
POWER MANAGEMENT
FANS POWER
DRIVER2/FANS2 POWER
DRIVER1 POWER
POWER SUPPLY
+24Vdc
100-240Vac
A
B
C
D
E
F
G
H
RF POWERS INPUTS
INTERLOCK
FANS CONTROL
AGC
+24Vdc OUT
+24Vdc OUT

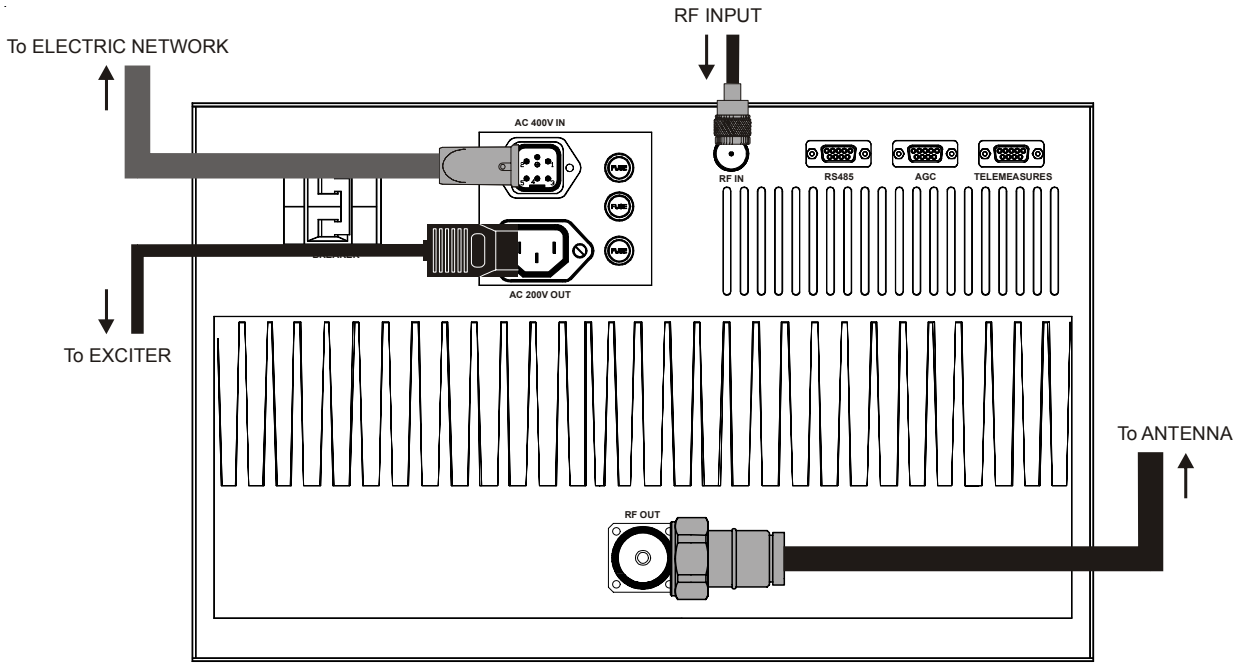

POWER SUPPLY SOCKET
GROUND
MAIN SWITCH
CABLE DIAGRAM
AMPLIFIER CONTROL
ELETTRONIKA S.r.l.
DESIGNER MODUGNO
PCB DESIGNER TULLO
DATE 19/06/07
PCB REF APG012C
SHEET 1/1
ASSEMBLY CODE APG012C

## 2.1 OPERATING ENVIRONMENT

You can install the equipment in a standard component rack or on a suitable surface such as a bench or desk. In any case, the area should be as clean and well-ventilated as possible. Do not locate the equipment directly above a hot piece of device. The upper lid can be dismounted to allow an easy internal access. The equipment is designed with a modular design, that is each circuit is realized inside different modules or boards. All interconnections between modules are made by means of connectable cables which allow an easy and quick maintenance of demaged modules.

## 2.2 FIRST INSTALLATION

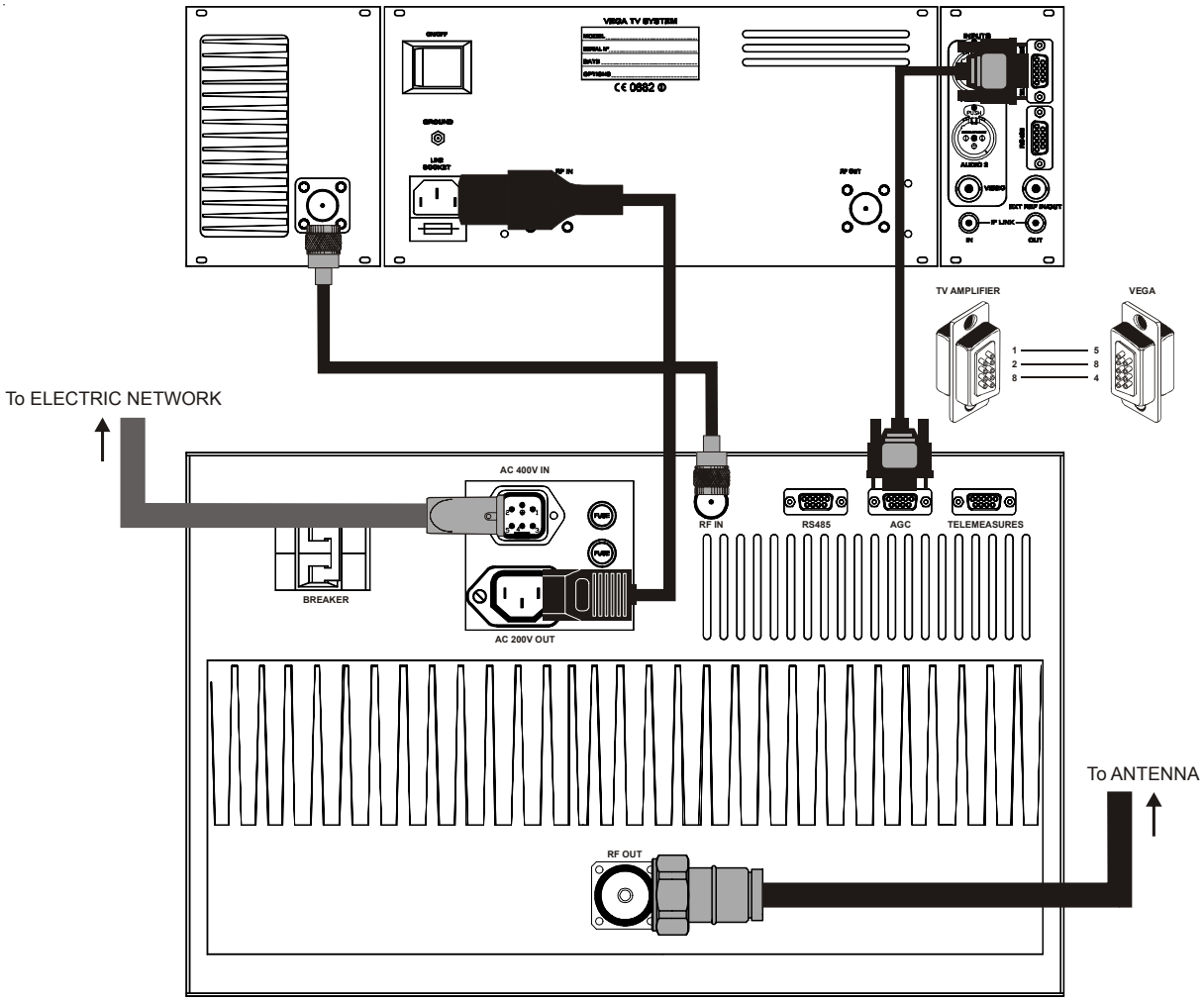
Correct installation of the equipment is important for maximum performance and reliability. Antenna and earth connections must be installed with the greatest care. The equipment adjustment isn't need, because the unit is completely adjusted by our technical staff.



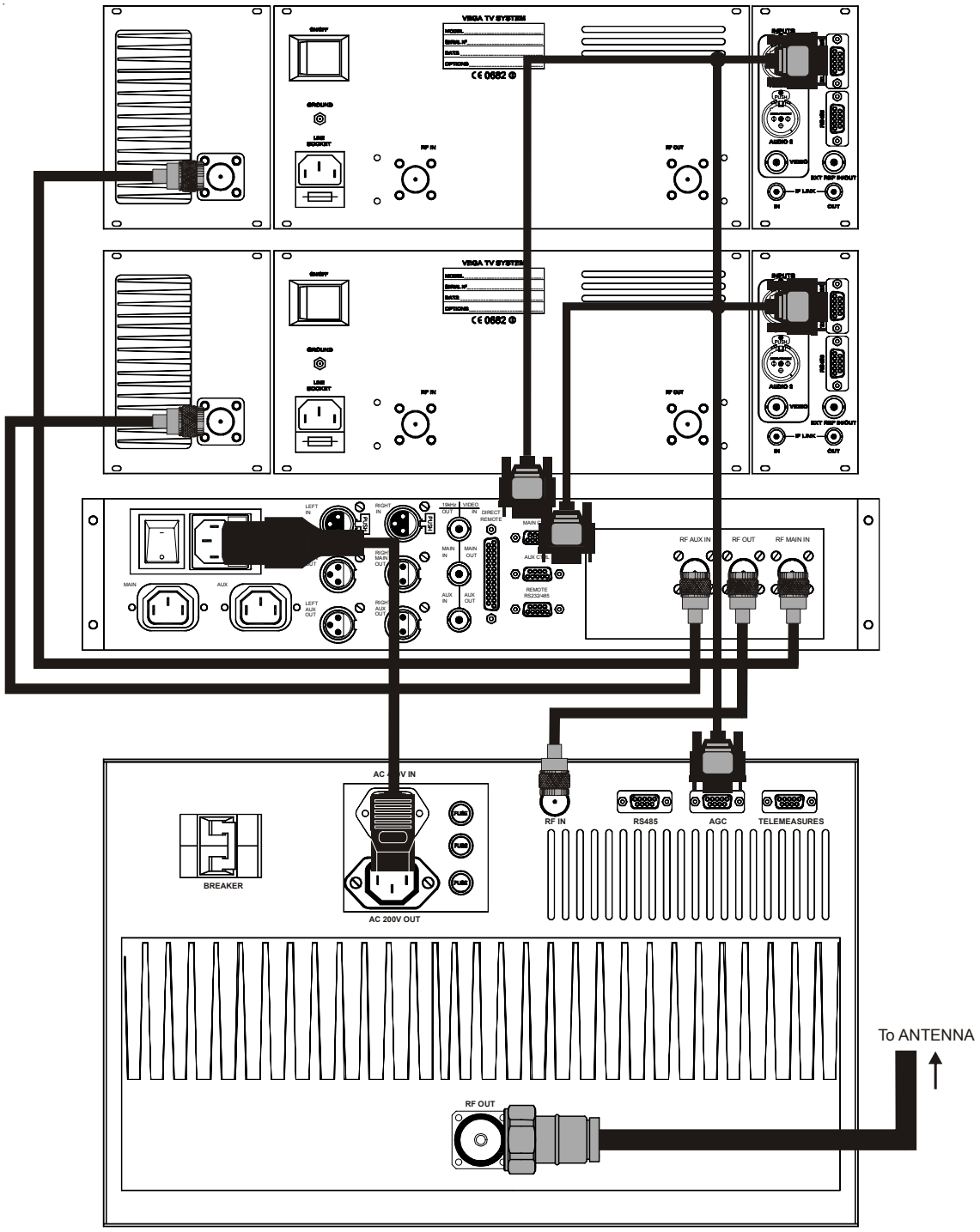

1. Connect Power Supply cable of the Exciter to the Auxiliary Socket on the rear panel of the Amplifier;
2. connect the Power Supply cable of the Amplifier to the electric network (230VAC Monophase or 400VAC Threephase); if present the Isolator Transformer, the Amplifier is provided with cable and plug;
3. connect the RF OUT Exciter cable to the RF IN connector on the rear panel of the Amplifier;
4. connect the Antenna cable to the RF OUT connector on the rear panel of the Amplifier.

When the equipment is put within a combined system it is directly connected to the input splitting and output combining systems.
Before fully powering the equipment, check that the output connections of the coaxial cable to the antenna system are working.
In order to this it is possible to check the indication of the Reflected Power at low power levels. Only if the SWR indication on the display is 0, the output power can be slowly increased. At maximum output power, some watts might be shown as Reflected Power.

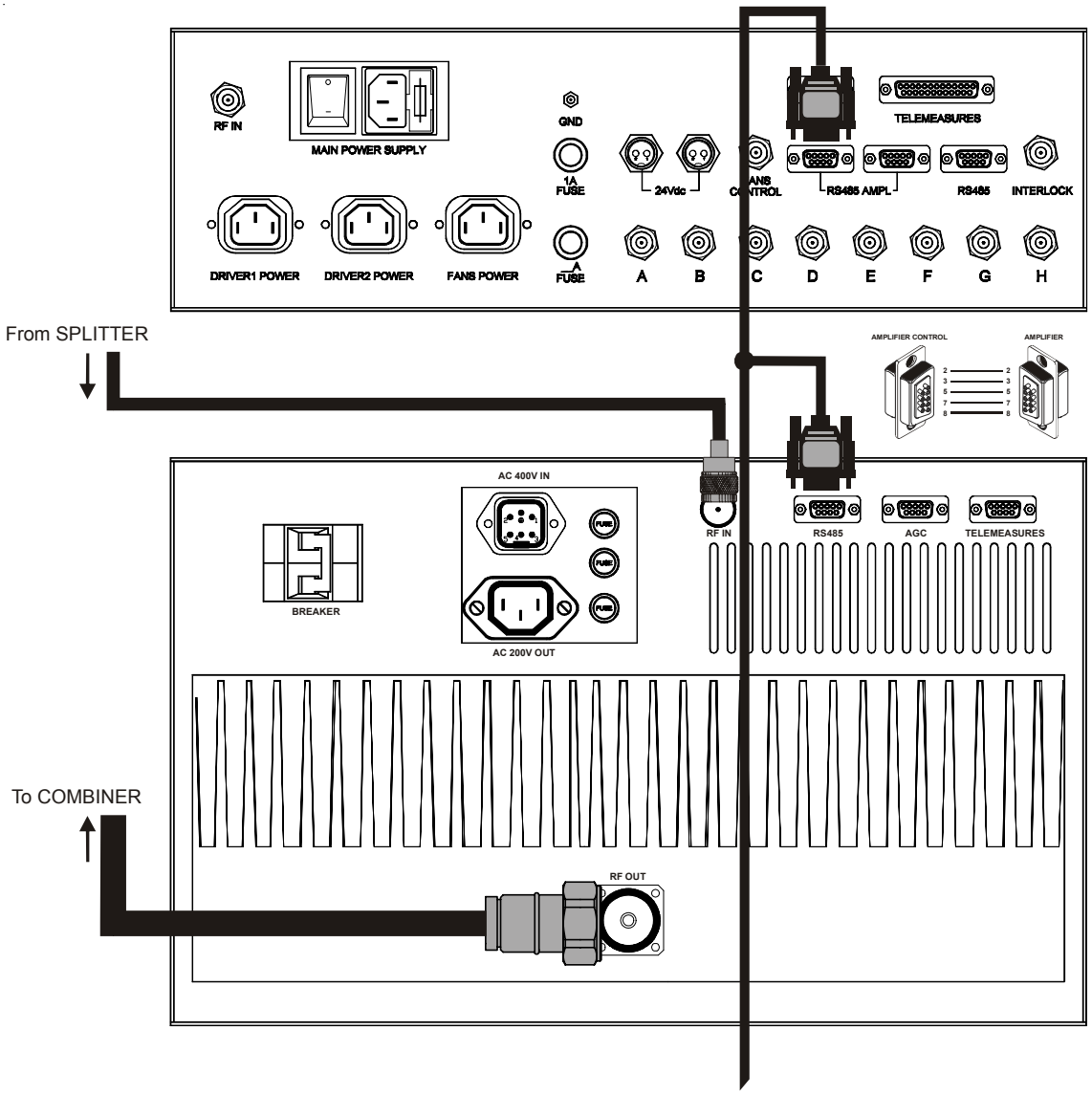
## 2.3 CONNECTION WITH VEGA TV TRANSMITTER

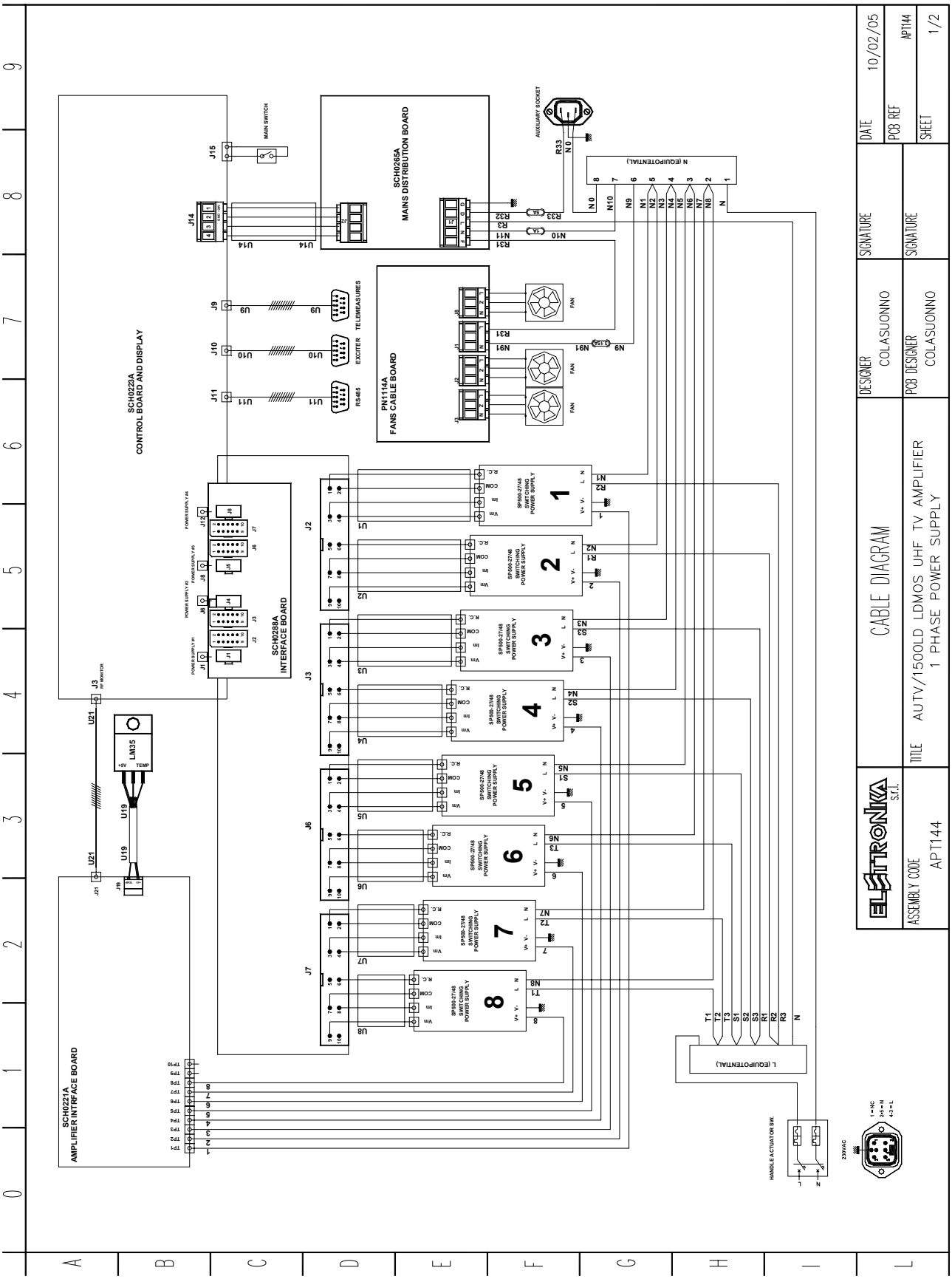


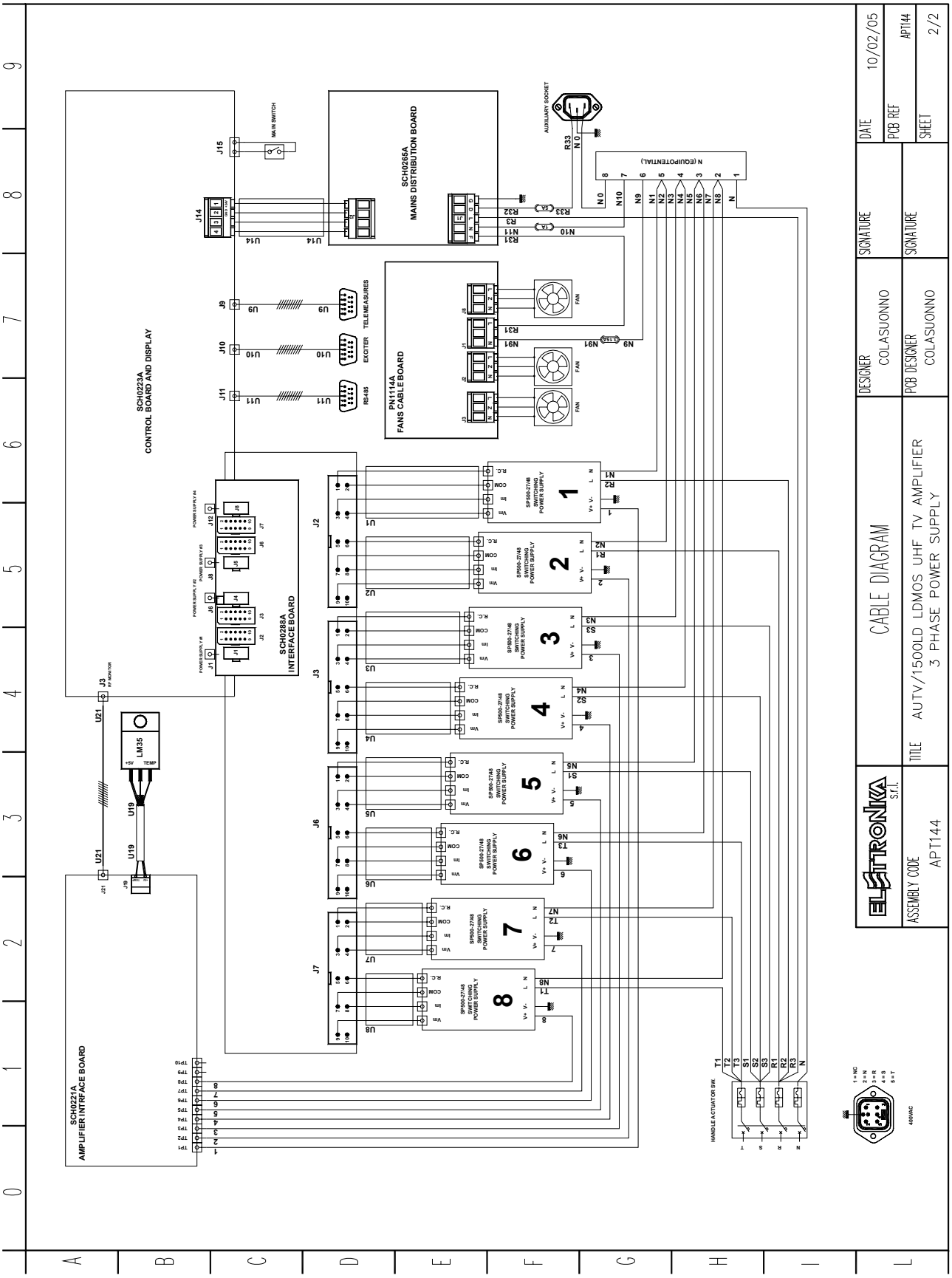
## 2.4 STAND-ALONE AMPLIFIER CONFIGURATION IN DUAL DRIVE VERSION



## 2.5 SLAVE MULTI-AMPLIFIER CONFIGURATION WITH AMPLIFIER CONTROL




SCH0223A
CONTROL BOARD AND DISPLAY
SCH0288A
INTERFACE BOARD
SCH0221A
AMPLIFIER INTRFACE BOARD
SCH0265A
MAINS DISTRIBUTION BOARD
PN1114A
FANS CABLE BOARD
MAIN SWITCH
AUXILIARY SOCKET
TELEMEASURES
EXCITER
RS485
FAN
SP500-27/48
SWITCHING
POWER SUPPLY
LM35
HANDLE ACTUATOR SW.
230VAC
N (EQUIPOTENTIAL)
L (EQUIPOTENTIAL)
ELETTRONIKA
S.r.l.
CABLE DIAGRAM
AUTV/1500LD LDMOS UHF TV AMPLIFIER
1 PHASE POWER SUPPLY
DESIGNER
COLASUONNO
PCB DESIGNER
COLASUONNO
SIGNATURE
SIGNATURE
DATE
10/02/05
PCB REF
APT144
SHEET
1/2
ASSEMBLY CODE
APT144


SCH0223A
CONTROL BOARD AND DISPLAY
SCH0265A
MAINS DISTRIBUTION BOARD
MAIN SWITCH
AUXILIARY SOCKET
PN1114A
FANS CABLE BOARD
FAN
TELEMEASURES
EXCITER
RS485
SCH0288A
INTERFACE BOARD
SCH0221A
AMPLIFIER INTRFACE BOARD
SP500-27/48
SWITCHING
POWER SUPPLY
LM35
HANDLE ACTUATOR SW.
N (EQUIPOTENTIAL)
ELETTRONICA S.r.l.
CABLE DIAGRAM
AUTV/1500LD LDMOS UHF TV AMPLIFIER
3 PHASE POWER SUPPLY
DESIGNER
COLASUONNO
PCB DESIGNER
COLASUONNO
DATE
10/02/05
PCB REF
APT144
SHEET
2/2
ASSEMBLY CODE
APT144

## DESCRIPTION

The Control Board SCH0223A manages the operational logic of the amplifier: switching on and off, power supply and fans, alarms and protections, remote control, human-machine interface. All of that is performed by a modern and powerful 16 bit micro-controller, which is the main part of the board.

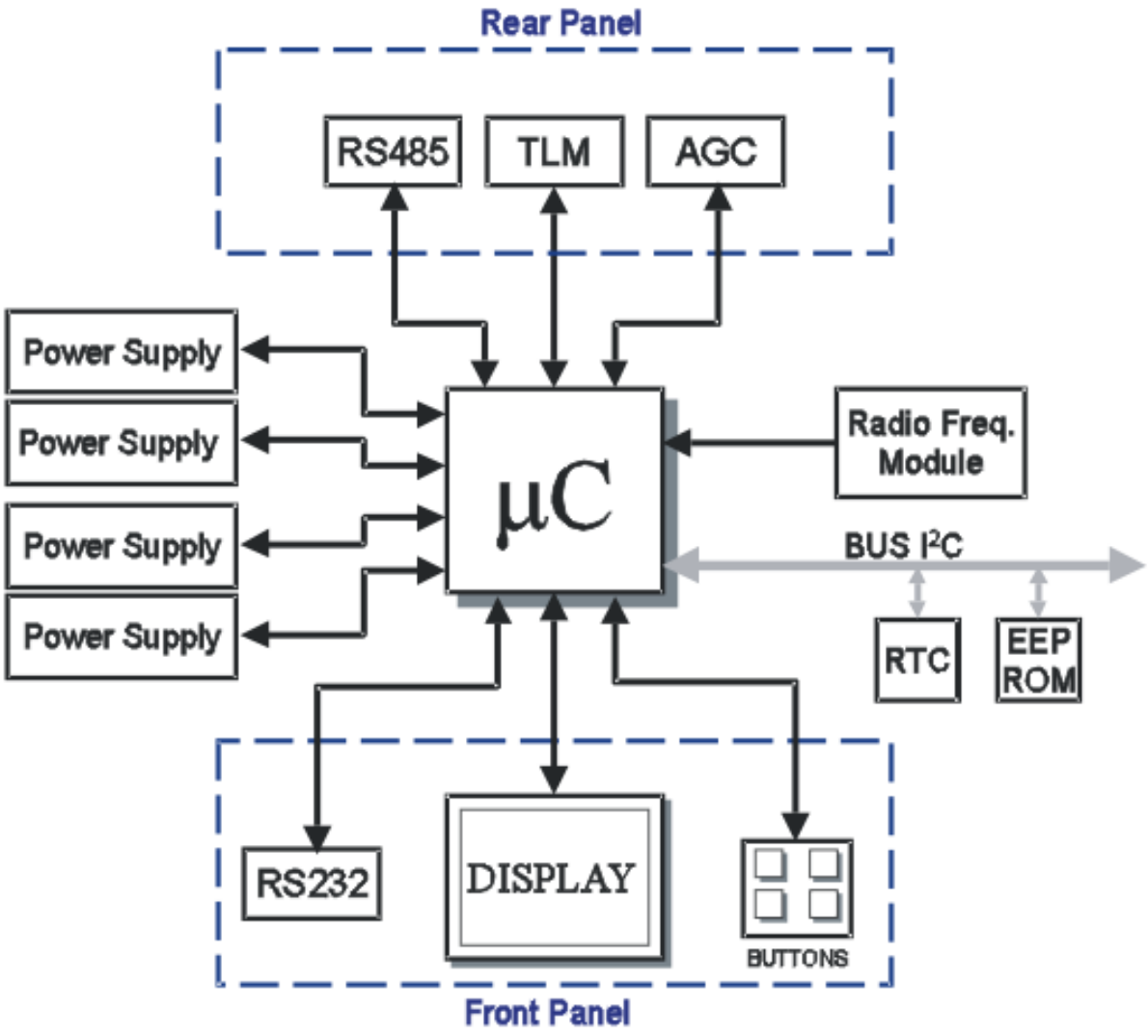
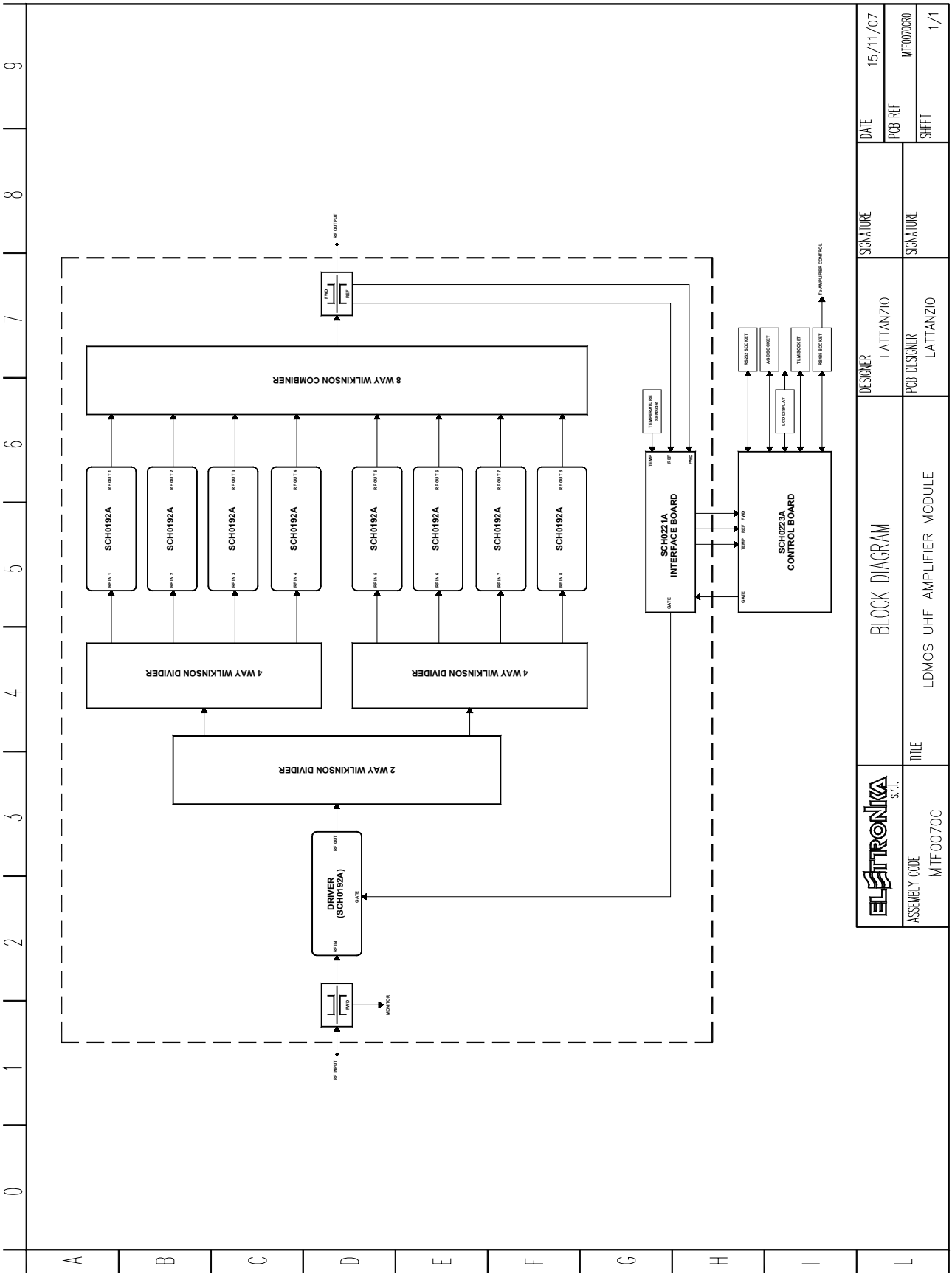
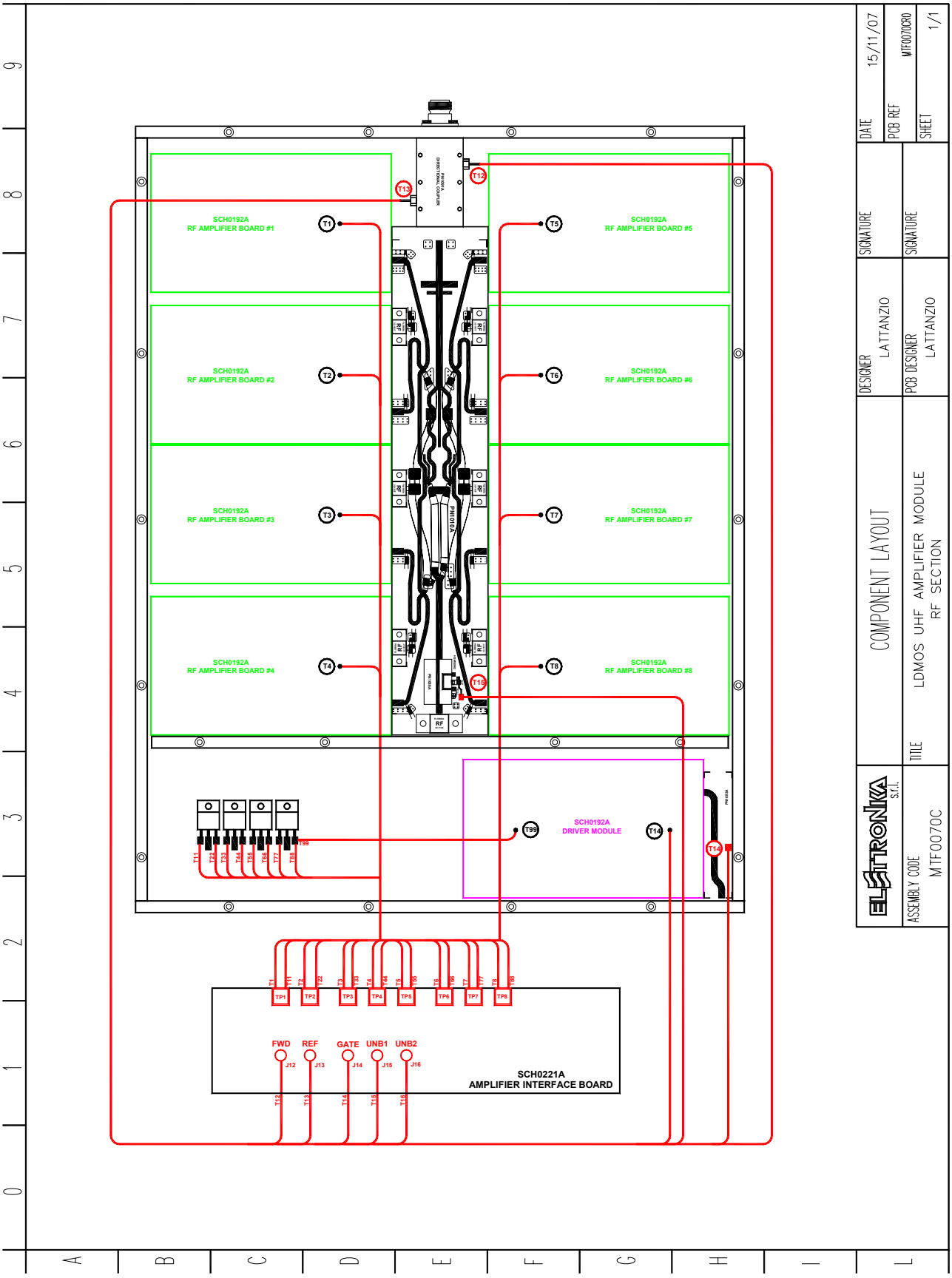



Figure 1: Simplified block diagram of the control and display board


RF INPUT
RF OUTPUT
FWD
REF
MONITOR
DRIVER (SCH0192A)
RF IN
RF OUT
GATE
2 WAY WILKINSON DIVIDER
4 WAY WILKINSON DIVIDER
4 WAY WILKINSON DIVIDER
8 WAY WILKINSON COMBINER
SCH0192A
SCH0192A
SCH0192A
SCH0192A
SCH0192A
SCH0192A
SCH0192A
SCH0192A
SCH0221A INTERFACE BOARD
TEMP
REF
FWD
GATE
TEMPERATURE SENSOR
SCH0223A CONTROL BOARD
RS232 SOCKET
AGC SOCKET
LCD DISPLAY
TLM SOCKET
RF AMPLIFIER CONTROL
ELETTRONIKA S.r.l.
BLOCK DIAGRAM
LDMOS UHF AMPLIFIER MODULE
ASSEMBLY CODE
MTF0070C
DESIGNER
LATTANZIO
PCB DESIGNER
LATTANZIO
SIGNATURE
SIGNATURE
DATE
15/11/07
PCB REF
MTF0070CRO
SHEET
1/1


SCH0192A
RF AMPLIFIER BOARD #1
SCH0192A
RF AMPLIFIER BOARD #2
SCH0192A
RF AMPLIFIER BOARD #3
SCH0192A
RF AMPLIFIER BOARD #4
SCH0192A
RF AMPLIFIER BOARD #5
SCH0192A
RF AMPLIFIER BOARD #6
SCH0192A
RF AMPLIFIER BOARD #7
SCH0192A
RF AMPLIFIER BOARD #8
SCH0192A
DRIVER MODULE
SCH0221A
AMPLIFIER INTERFACE BOARD
FWD
REF
GATE
UNB1
UNB2
DATE 15/11/07
PCB REF MTF0070GR0
SHEET 1/1
SIGNATURE
SIGNATURE
DESIGNER LATTANZIO
PCB DESIGNER LATTANZIO
COMPONENT LAYOUT
TITLE LDMOS UHF AMPLIFIER MODULE
RF SECTION
ELETTRONIKA S.r.l.
ASSEMBLY CODE MTF0070C