General Description

AE6119 is a junction unit used to connect more than one controlbox position to the same base station.
AE6119 is built on a euro-card and contains line inputs and line outputs for connection of one base station and three controlboxes.
Two AE6119-boards can be connected together to connect a maximum of six controlboxes to the same base station. If the application requires, one of the controlbox connections can be connected to another AE6119 pair giving a total of eleven controlbox positions to one base station.

Functional Description

AE6119 operates on +12V. Regulator U1 regulates the 12 Volt supply to +8V. Resistors R24, R27 and capacitors C16 and C22 creates a mid-supply bias used by the amplifiers.

AE6119 contains three identical line inputs with line amplifier and equalizer. The line amplifier of input one is built up around U2A. The amplification is adjusted by strapping W1. The strap selects the feedback resistor of amplifier U2A. The amplification can be set between 0 and 21 dB in eight 3 dB steps.

The remaining two positions of W1 is used to set the equalizer.
When pin 17 and 18 on W1 is strapped the equalizer network C10, R19 is connected in parallel with the input resistor R25, giving a 3 dB boost at 3 kHz.
When pin 19 and 20 on W1 is strapped the equalizer network C12, R21 is connected in parallel with the input resistor R25, giving a 6 dB boost at 3 kHz.
When no equalizer is needed the strap is removed.

The line inputs are mixed together in amplifier U3A and fed to the radio station via transformer T1.
U3A has an extra input called TX_IN and an extra output called TX_OUT. These signals are used when two AE6119 are connected together.

The RX-line from the radio is amplified in line amplifier U2D.
This amplifier is identical with the one described above.
The amplified signal is then distributed to the three output amplifiers U3C, U3B and U3D. Strap W3 and the signals RX_OUT and

RX_IN is used when two AE6119 are connected together.

Installation and Adjustment

Installation depends on actual version of AE 6119 i.e. box,board,rack etc and is here described on the board level.See separate installation notes for other mounting versions.

Installation of one AE6119

The TX-lines from the different controlboxes are connected to J4, J6 and J8. The TX-line from the radio is connected to J1.
Each line amplifier (Strap W1, W6 and W7) is adjusted to give a nominal level of -13 dBm at the common TX-line terminal J1.

The RX-lines to the different controlboxes are connected to J5, J7 and J9.
The RX-line from the radio is connected to J3.
The line amplifier (Strap W2) is adjusted to give a nominal level of -13 dBm at RX-line terminals J5, J7 and J9.

The power supply is connected to J2.

Installation of two AE6119

Connect one AE6119-board to the radio, the power supply and to three controlboxes as described above. Strap W3, W4 and W5 shall be in position 1-2 on this board.
Connect the other AE6119-board to the remaining controlboxes described above and connect it also to the first AE6119-board with a 10-way flat-cable via connector P2. Strap W3, W4 and W5 shall be in position 2-3 on this board.

TECHNICAL SPECIFICATIONS

Supply Voltage

Nom 12 Volt
Max 16 Volt
Min 10.6 Volt

Current Consumption

Max: 50 ma

Line Input level

Max level -7dBm

Min level -33dBm

Nominal level -13dBm

Line Output level

Max level -7dBm

Nominal level -13dBm

Line impedance
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600 ohms symmetrical

Line isolation

Max level RMS 3540 V
Max level DC 5000 V

Hum and Noise

- 50 dB rel. nominal level

Frequency Response

300-3400 Hz +/- 1.5 dB

Ambient Temperature Range

-20 - +55 C

Size
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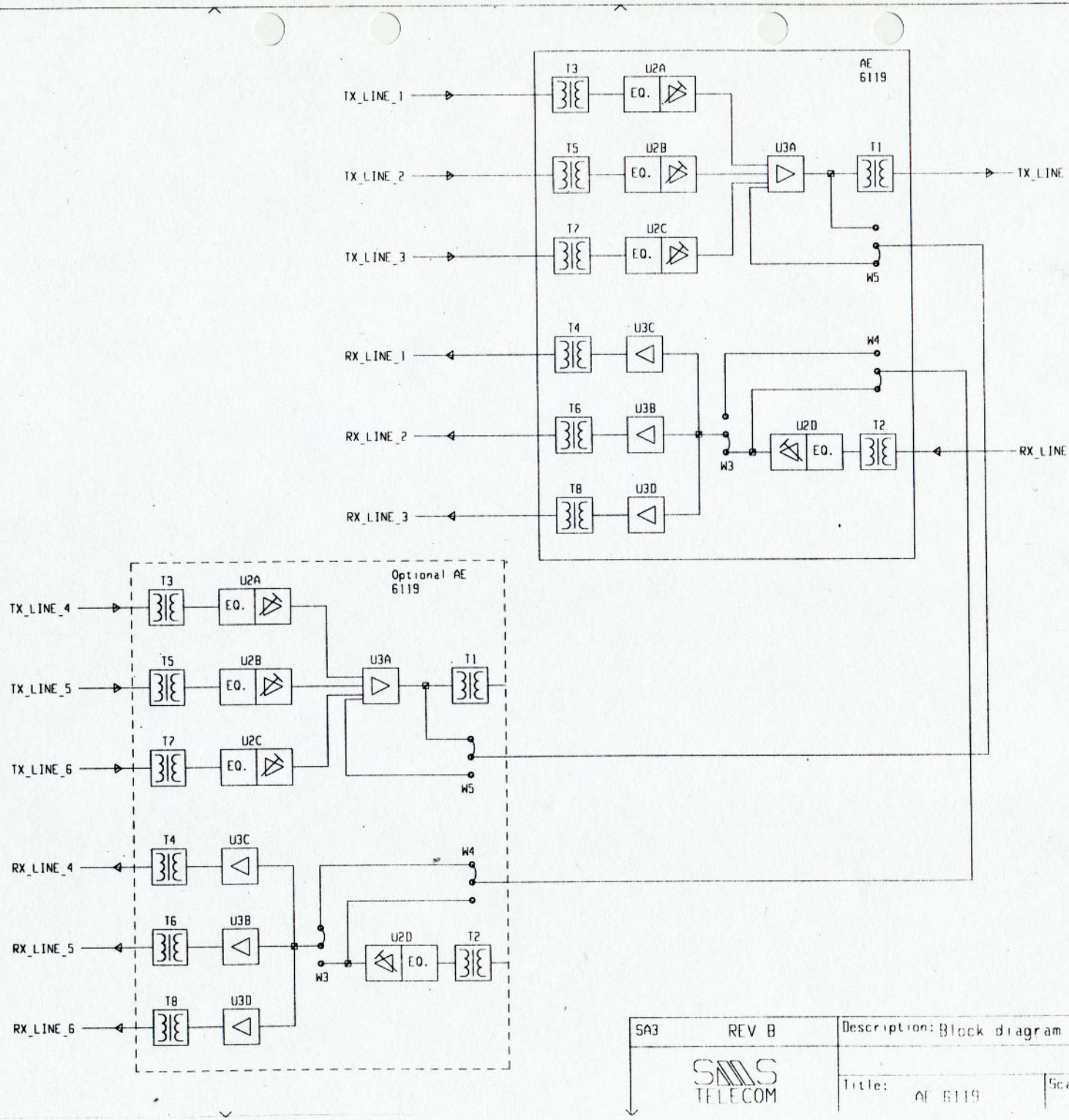
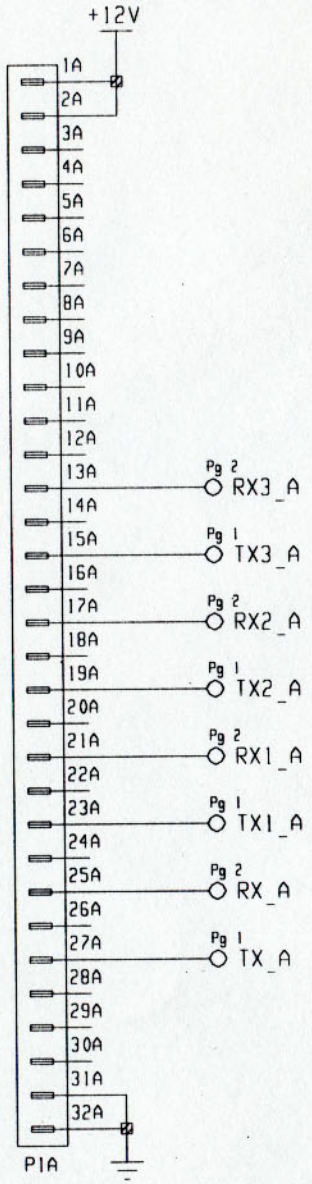
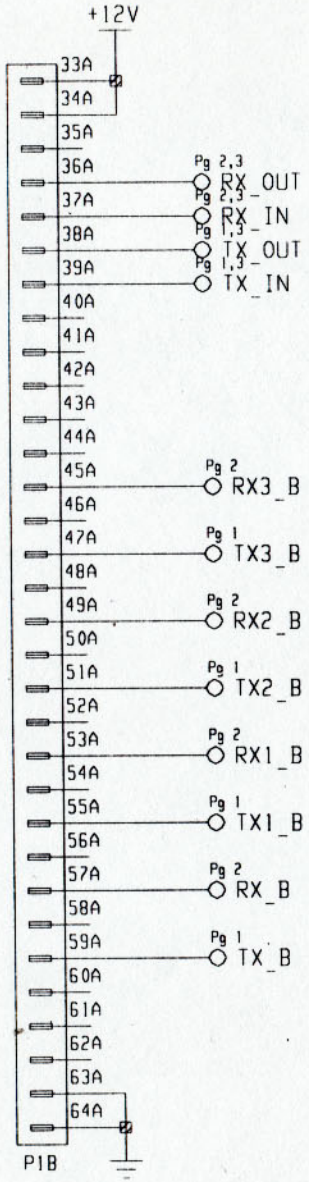
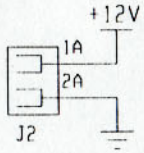
100 x 160 mm

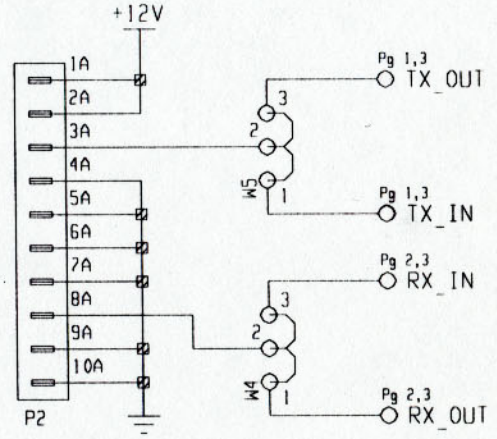


SA3	REV B	Description: Block diagram		Date: 97-04-08
SAAS TELECOM				Page: 1 of 1
		Title: AE 6119	Scale:	Dwg.no:

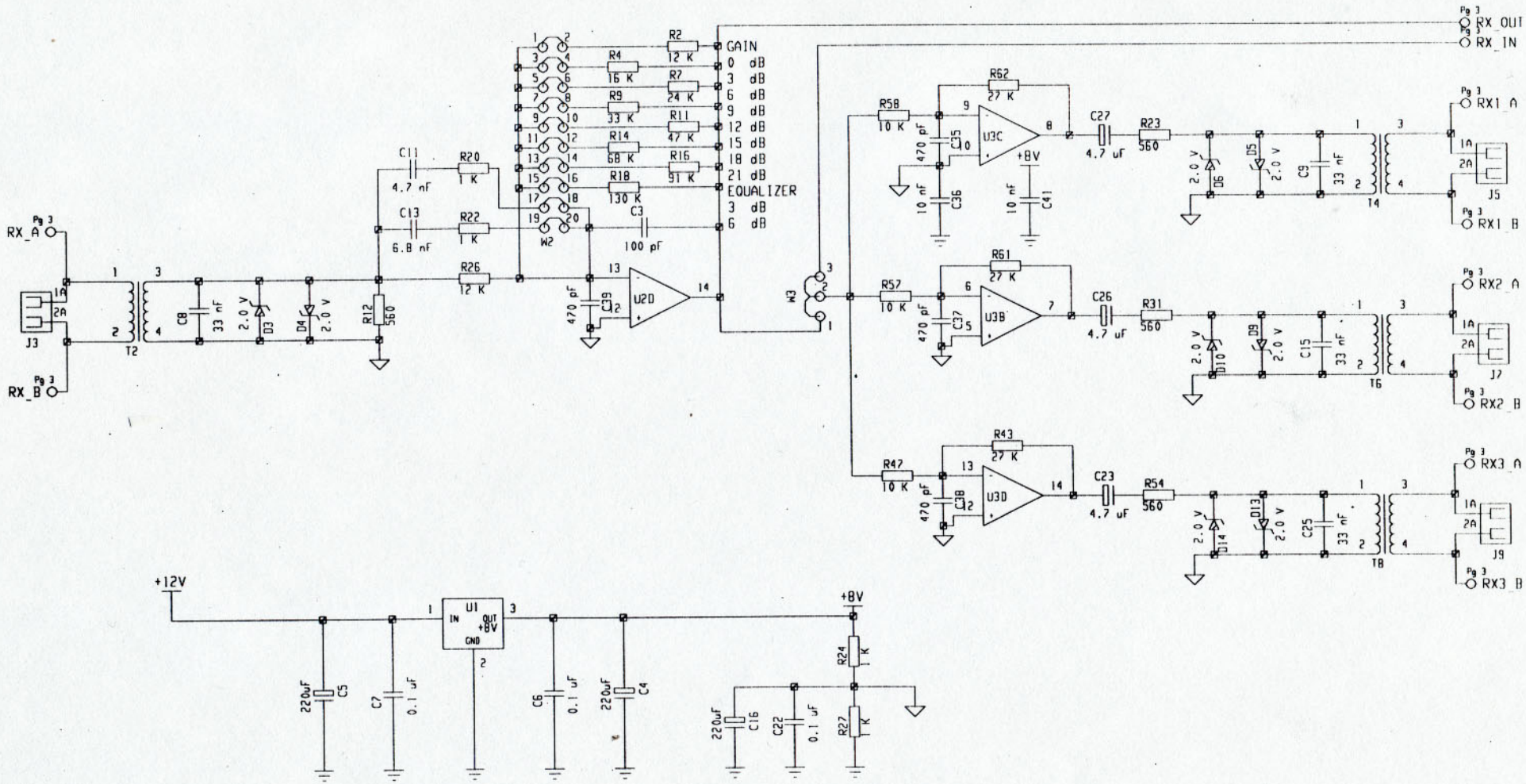




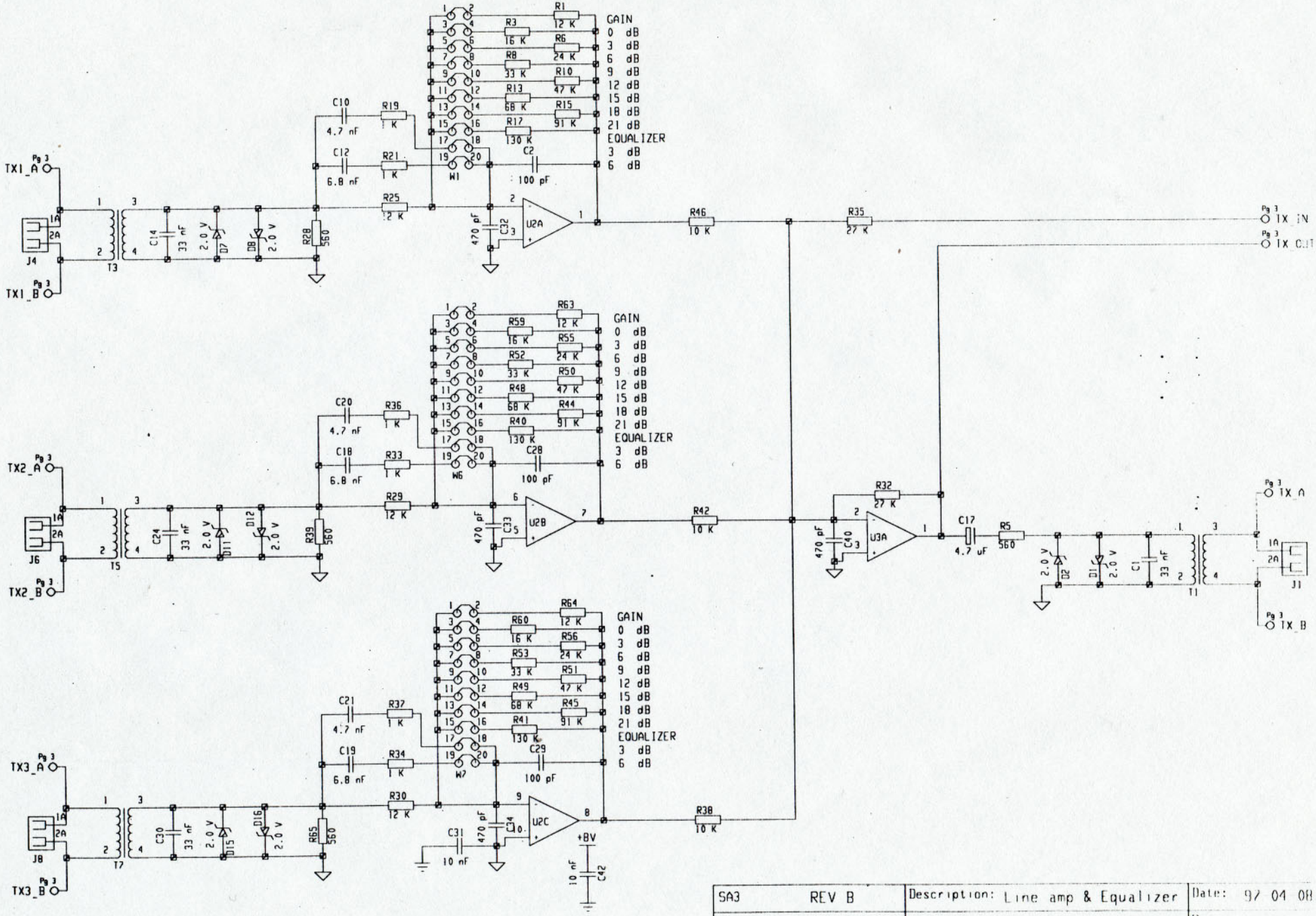


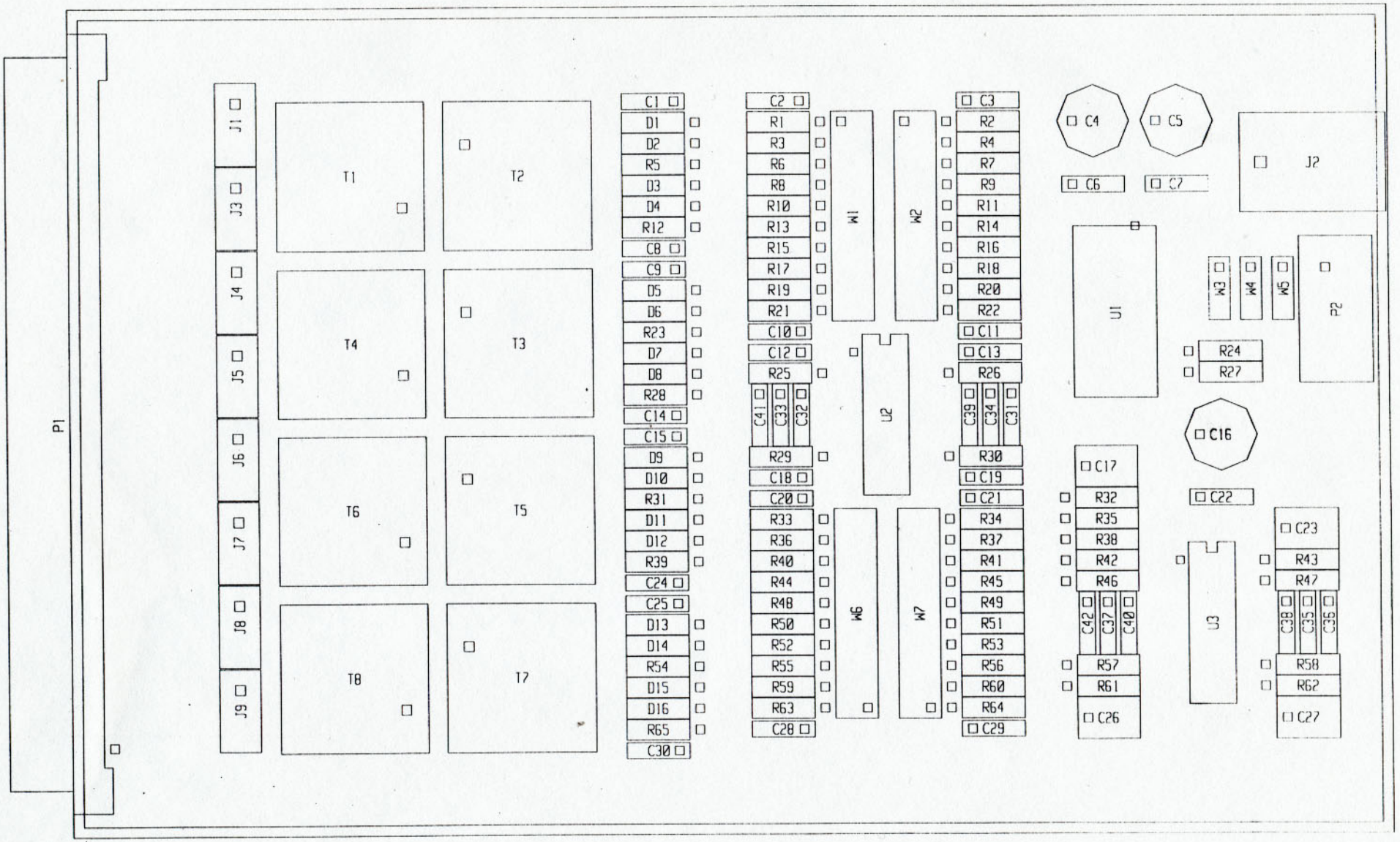


SA3 REV B	Description: Connectors for lines, power and expansion		Date: 97 04 08
SMS TELECOM			Page: 3 of 3
	Title: AE 6119	Scale:	Dwg.nr:



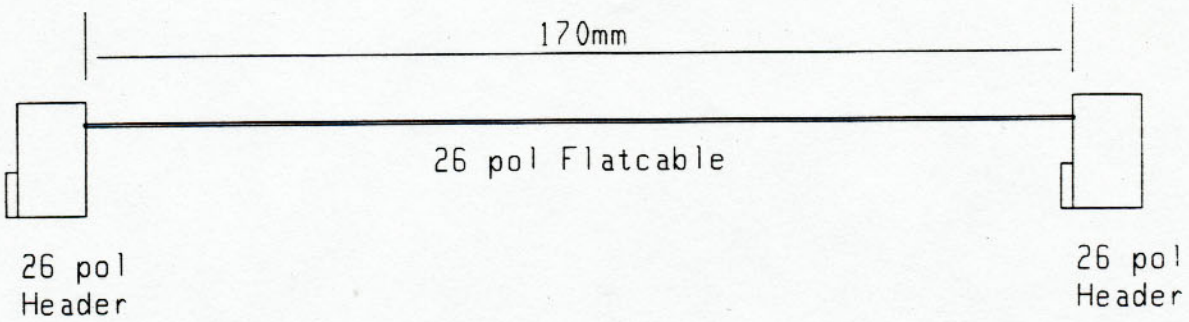
SA3 REV B	Description: Line amp & Equalizer	Date:	97-04-08
SMS TELECOM	1 line with buffer to 3 lines	Page:	2 of 3
	Title: AE 6119 Scale:	Dwg.nr:	


TX1_A
TX1_B
TX2_A
TX2_B
TX3_A
TX3_B
J4
J6
J8
T3
T5
T7
GAIN
0 dB
3 dB
6 dB
9 dB
12 dB
15 dB
18 dB
21 dB
EQUALIZER
3 dB
6 dB
W1
W6
W7
U2A
U2B
U2C
U3A
+8V
TX IN
TX OUT
TX A
TX B
J1
T1
SA3
REV B
SMS TELECOM
Description: Line amp & Equalizer
for 3 lines with mixer to 1 line
Date: 92 04 08
Page: 1 of 3
Title: AE 6119
Scale:
Dwg.nr:



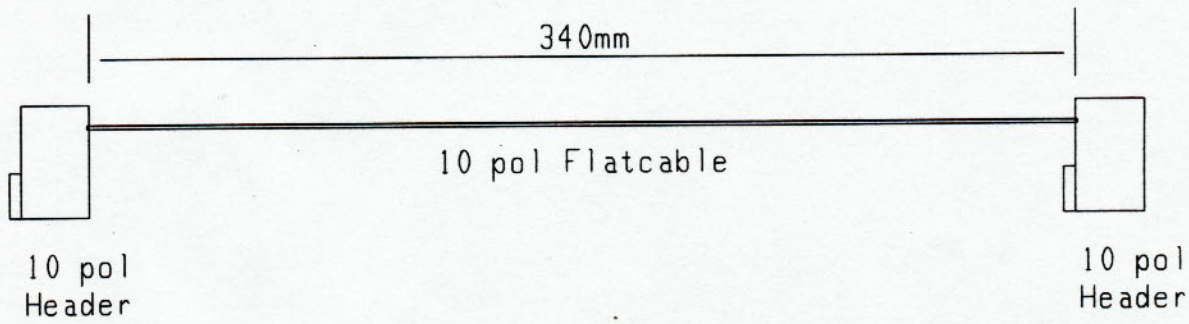
LAYOUT NOTE, □ MARKED PIN ON LAYOUT DENOTES FOR
LEDS: CATODE PIN ,SHORT PIN OR PHASED BODY SIDE
DIODES: CATODE PIN
TANTAL AND ELECTROLYT: POSITIVE PIN
CONNECTORS: 1A OR A1 PIN
SMD IC : PIN 1

SA3LAY REV B	Description: Component layout		Date: 97-04-09
STYRSYSTEM			Page: 1 of 1
	Title: AE 6119	Scale:	Dwg.nr:



CC6102

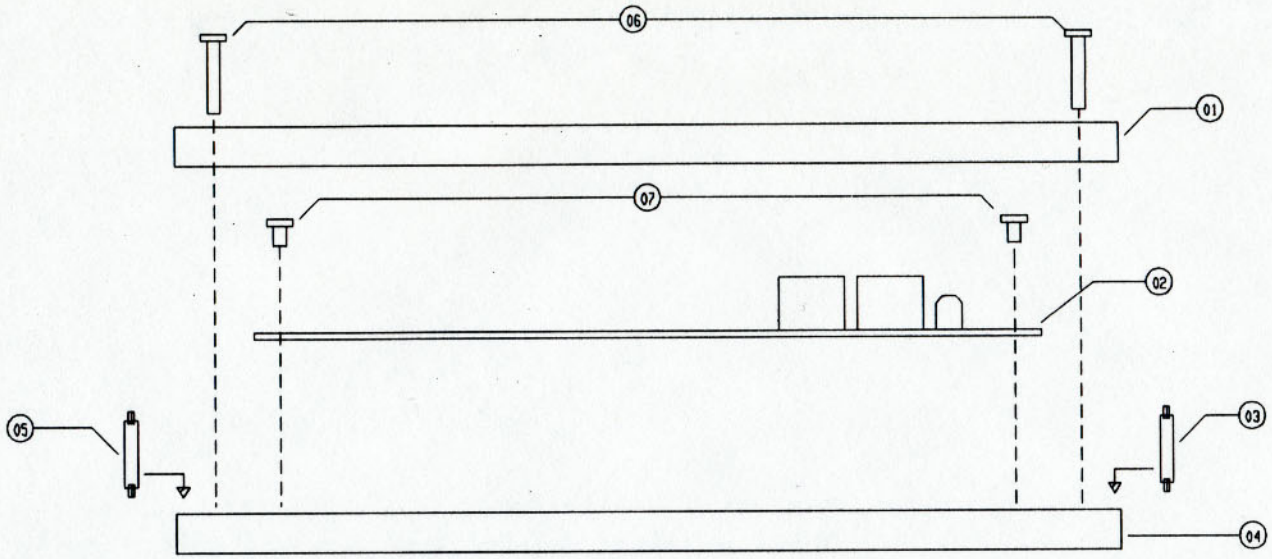
Material	041.0026-10 041.0026-10	CON FEM 26S FLAT CABLE HEADER CON FEM 26S FLAT CABLE HEADER
Part	018.0030-00	CL6113 to IU6114 cable

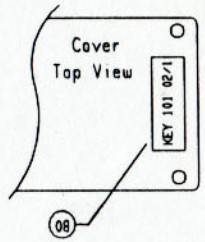


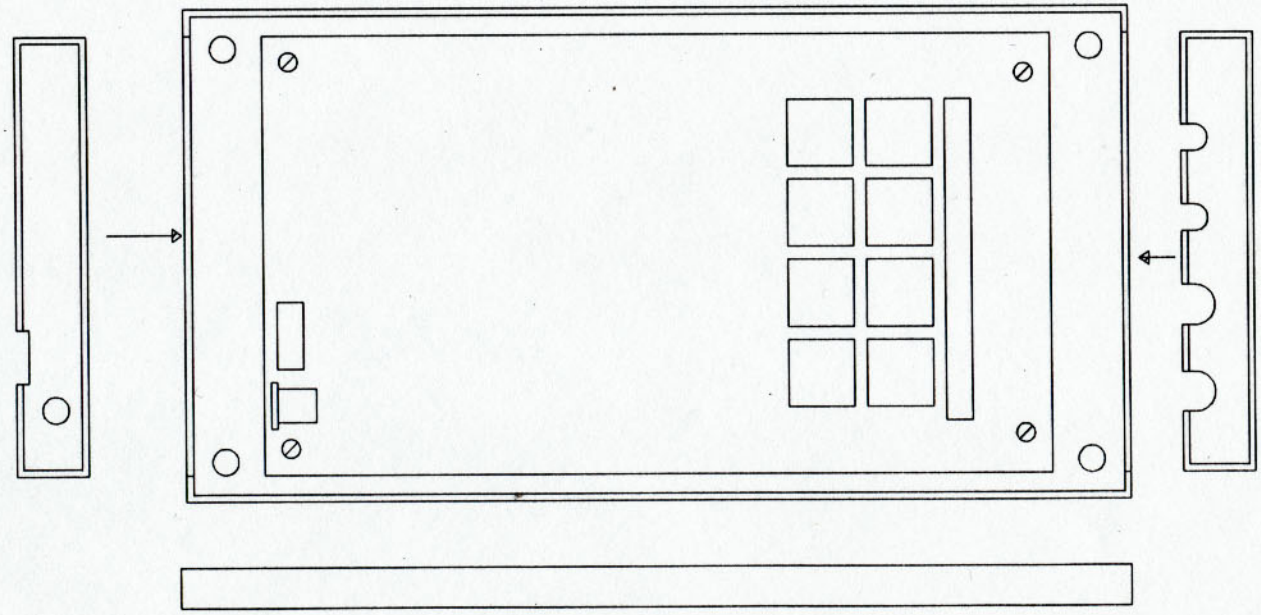
CC6103

Material	041.0010-10 041.0010-10	CON FEM 10S FLAT CABLE HEADER CON FEM 10S FLAT CABLE HEADER
Part	018.0031-00	AE6119 to AE6119 cable

	Description: Cable Assembly		Date: 93-06-22
SMS STYRSYSTEM	018.0030-00/018.0031-00		Page: 1 of 1
	Title: CC6102/CC6103	Scale:	Dwg.nr:







SA3	Description: Assembly Drawing		Date: 89-08-11
SMS STYRSYSTEM			Page: 1 of 1
	Title: JU200	Scale:	Dwg.nr: