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# Automatic AES Change-Over

- 3 AES inputs to 1 AES output
- Analog stereo monitor outputs
- Clean and noiseless switching
- Detection of signal failure, CRC error, AES/EBU carrier los, sync loss
- Clip and Silence Detection
- Level and time user setting by software control over TCP/IP)
- Local control panel
- Remote control panel with level meters for inputs and outputs

## Introduction

Thank you for choosing a GHIELMETTI product.

We are convinced that your choice will prove to be a wise and worthy decision for many years to come.

Your GHIELMETTI product has been tested for performance at the factory according to the specifications given for the system in this manual.

However, before putting the device into operation we kindly ask you to read this manual and act according to the instructions given. All information given in this document is property of Ghielmetti AG.

To the knowledge of Ghielmetti AG there are no errors in the manual. Should any errors be discovered, please notify us.

Ghielmetti will under no circumstances accept responsibility neither for errors in this manual, nor consequences of such errors.

### Warranty

Ghielmetti warrants products for one year from date of purchase against defects in materials and workmanship.

During the warranty period, Ghielmetti will, at its option, either repair or replace products that prove to be defective.

The warranty does not cover any defects caused by accident, misuse, neglect, improper or inadequate installation or maintenance by buyer, buyer-supplied software or interfacing, unauthorized modification, operation outside of the environmental specifications for the product, or improper site preparation or maintenance.

## Safety Considerations

### General

This product and related documentation must be reviewed for familiarization with safety markings and instructions before operation. This product has been designed and tested in accordance with international standards.

### Safety Earth Ground

This is a Safety Class 1 product (a protective earth terminal is provided). An uninterrupted safety earth ground must be provided from the main power source to the product input wiring terminals, power cord, or supplied power cord set.

Whenever it is likely that the protection has been impaired, the product must be made inoperative and secured against any unintended operation.

## Installation

### Initial Inspections

Check the contents of the shipment for completeness and possible transport damage. If the contents are incomplete or damaged, contact Ghielmetti immediately to get the concerned parts repaired or replaced.

### Before Applying Power

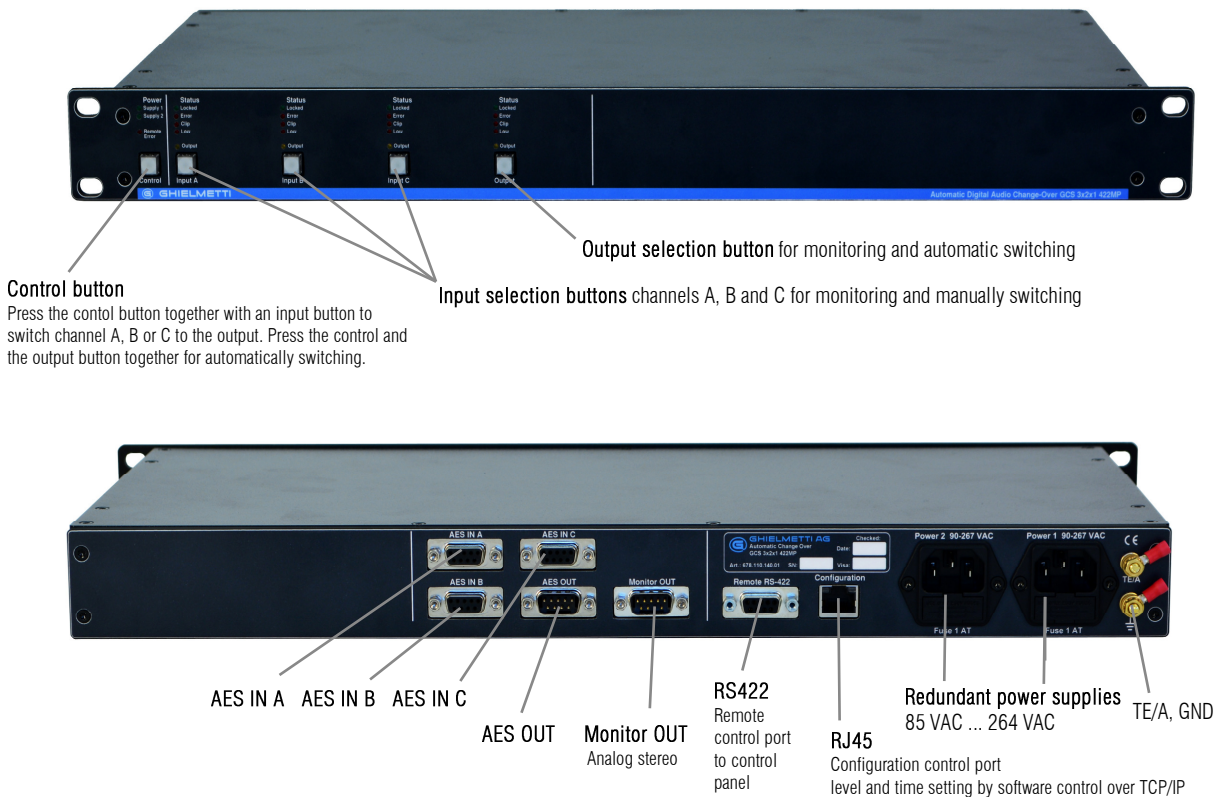
Verify that the product is configured to match the available main power source per the input power configuration instructions provided in this manual.

### Servicing

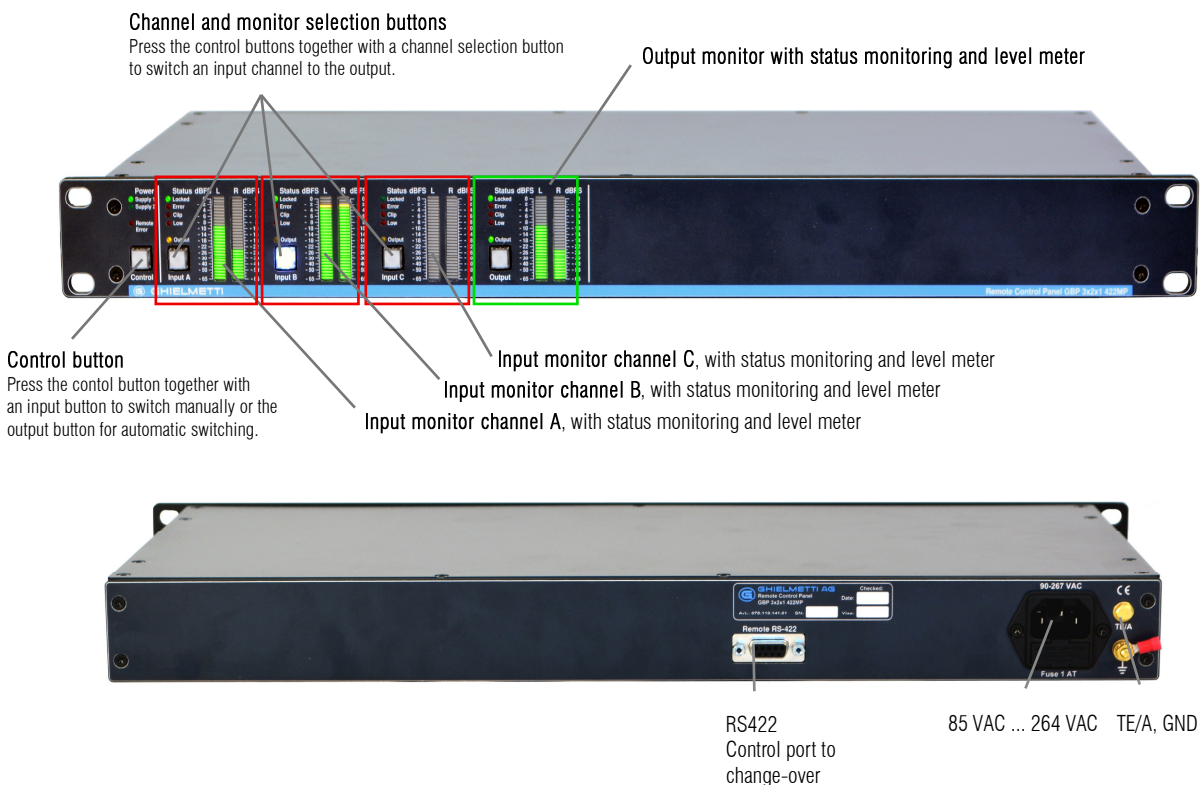
Servicing, adjustments, maintenance or repair of this product may be performed by qualified personnel only.

## System description

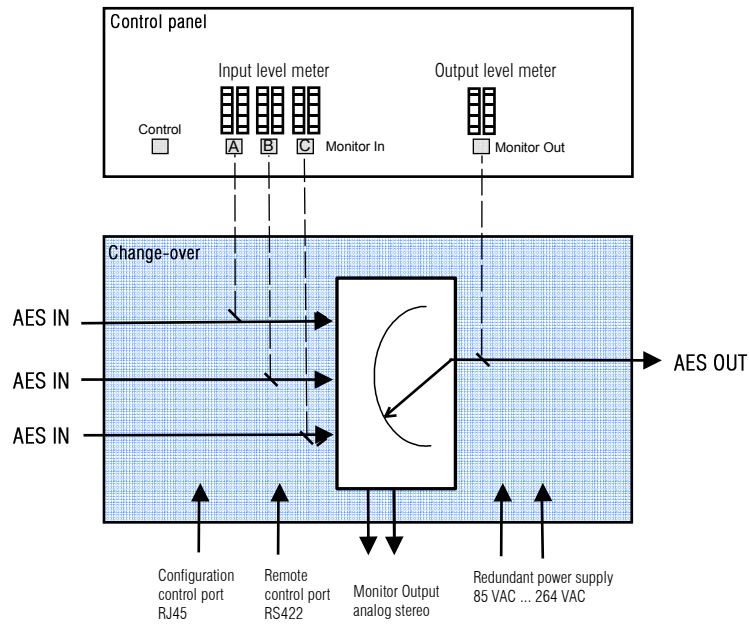
### Change-over GCS 3x2x1 422MP



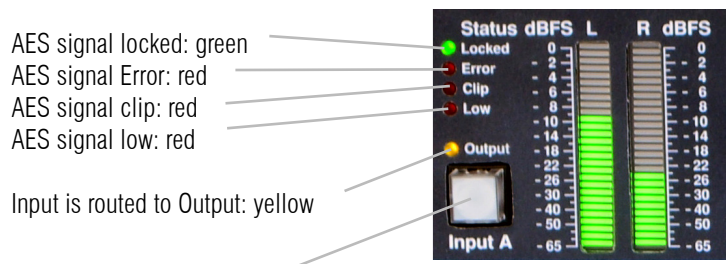
### Remote Control Panel GBP 3x2x1 422MP



## Schematic diagram

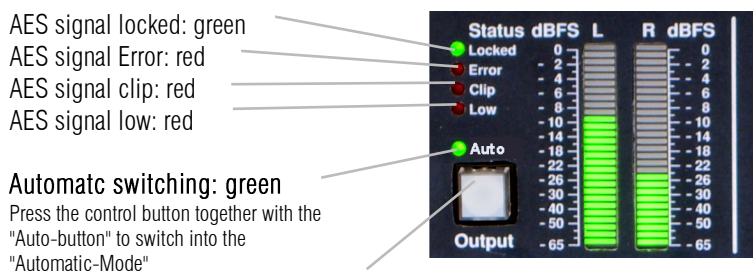


## Input Signal Status display



Input channel button lights: Input signal is switched to the analog monitor output.

## Output Signal Status display

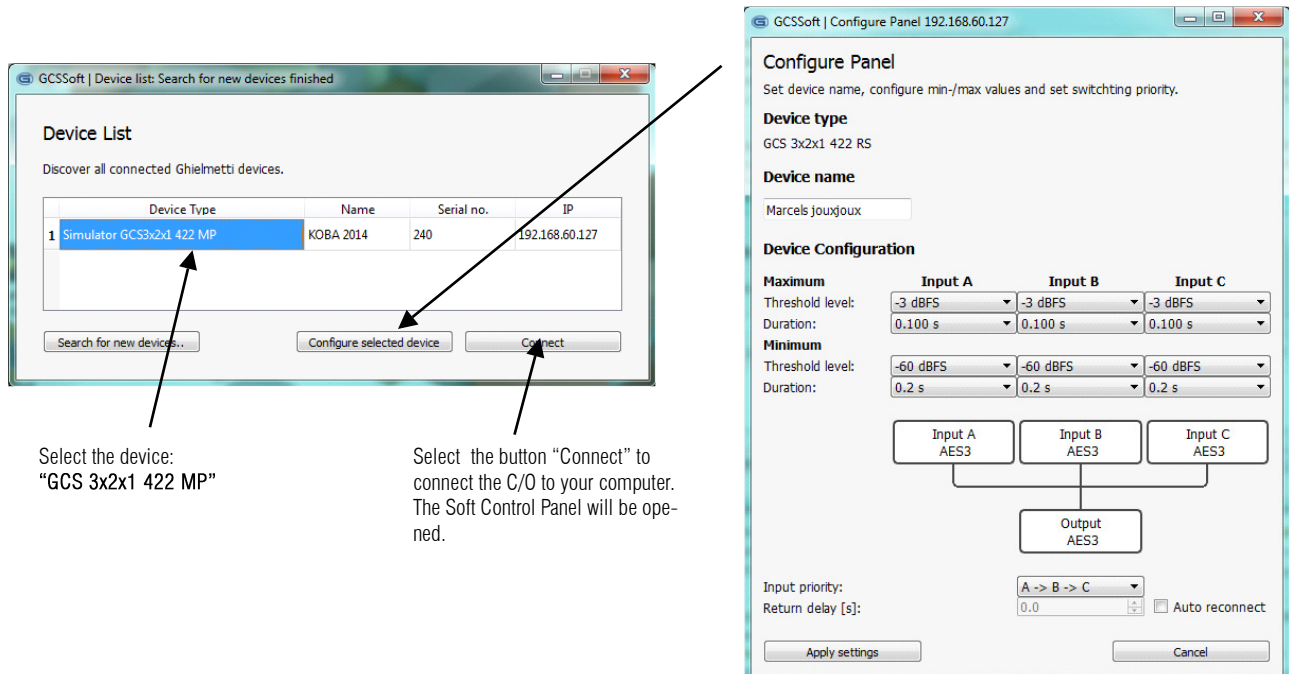


Output channel button lights: Output signal is switched to the analog monitor output.

## Configurations Software "GCSsoft"

### General

The parameters of the change-over functions can be set by the Ghielmetti Software **GCSsoft**. You have to download the **GCSsoft** onto your local PC which is connected to your TCP/IP LAN. The Change-Over has to be connected to the same LAN by the RJ45 port. Follow the installer after download **GCSsoft** from the Ghielmetti Web Site.



Select the device:  
"GCS 3x2x1 422 MP"

Select the button "Connect" to connect the C/O to your computer. The Soft Control Panel will be opened.

## Level and time values for automatic switching

The change-over switches automatically if the level of an input signal goes higher or lower as the fixed value. The relation of input level and response time may be set individually for minimum and maximum input levels.

Below minimum and maximum input levels and the corresponding response time can be programmed by the Control Software "GCSsoft".

### Minimum input levels

Level

-78 dBFS  
-75 dBFS  
-72 dBFS  
-69 dBFS  
-66 dBFS  
-63 dBFS  
-60 dBFS  
-57 dBFS  
-54 dBFS  
-51 dBFS  
-48 dBFS

Reaction time for automatic switchover

0.2 s  
to  
90.0 sec max.

### Maximum input levels

Level

-24 dBFS  
-21 dBFS  
-18 dBFS  
-15 dBFS  
-12 dBFS  
- 9 dBFS  
- 6 dBFS  
- 3 dBFS  
0 dBFS

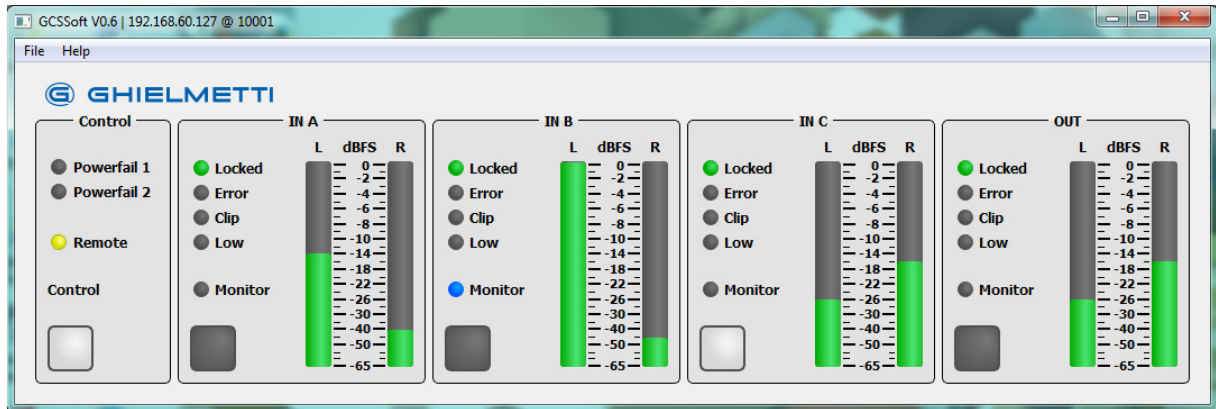
Reaction time for automatic switchover

0.025 s  
0.050 s  
0.1 s  
0.2 s  
0.5 s

## Control Software "GCSsoft"

### General

The Change-over may be controlled by Software over TCP/IP. The same features as with the control panel are available. You have to download the GCSsoft onto your local PC which is connected to your TCP/IP LAN. The Change-Over has to be connected to the same LAN by the RJ45 port. Follow the installer after download GCSsoft from the Ghielemetti Web Site.



### Pinout of D-Sub 9-pole connectors of the GCS 3x2x1 422MP



AES IN A,B,C  
D-Sub 9-pole  
female

- 1 TE/A
- 2 b
- 3 NC
- 4 NC
- 5 NC
- 6 a
- 7 TE/A
- 8 NC
- 9 NC

AES OUT  
D-Sub 9-pole  
male

- 1 TE/A
- 2 b
- 3 NC
- 4 NC
- 5 NC
- 6 a
- 7 TE/A
- 8 NC
- 9 NC

Monitor OUT  
D-Sub 9-pole  
male

- 1 TEa
- 2 b right
- 3 TEA
- 4 b left
- 5 TEA
- 6 a right
- 7 TEA
- 8 TEA
- 9 a left

RS422 (Control Panel - Change-over)  
D-Sub 9-pole  
female

- 1 Shield
- 2 NC
- 3 NC
- 4 Tx+
- 5 Rx+
- 6 NC
- 7 NC
- 8 Tx-
- 9 Rx-

## Change-over

## GCS 3x2x1 422MP

### AES Inputs

No. of inputs:	3, D-Sub 9-pole, female
Sample rate:	32 kS/s ... 192 kS/s
Input voltage:	0.3 Vpp ... 7 Vpp
Impedance:	110 $\Omega$ , symmetrical

### AES Output

No. of outputs:	1, D-Sub 9-pole, male
Output signal:	symmetrical AES-EBU signal
Output voltage:	reshaped to 3 Vpp
Impedance:	110 $\Omega$ , symmetrical, transformer coupled

### Analog Output

No. of analog outputs:	1, stereo, D-Sub 9-pole, male
Output impedance:	60 $\Omega$ at 1 kHz
Output level:	max. 15 dBu

### Status indicators:

LED: for Locked, Error, Clip and Low

**Selected Input-Output Indicator:** LED lits when the selected input is connected to the output

### Control elements

Push buttons:	4 for monitor selection
Control button:	1 input selection to the output manually.

### Remote Control Interface:

1, RS422 (Interface to Remote Control Panel GBP 3x2x1 422MP), D-Sub 9-pole, female

### Control Interface:

1, RJ45 (SNMP configuration software, controlled over TCP/IP)

To set switching characteristics of input level and corresponding response time)

### Power supply

No. of power supplies:	2 (redundant)
Power indication LED:	1 for each power supply
Power supply voltage range:	85 VAC ... 264 VAC
Frequency range:	47 Hz ... 63 Hz
Power consumption:	approx. 20 VA

### Dimension

Width:	19" (482.6 mm)
Height:	1 U (44.1 mm)
Depth:	150 mm
Weight:	1.5 kg

## Remote Control Panel

## GBP 3x2x1 422MP

### Control Interface

1, RS422, D-Sub 9-pole, female

### Level indication

Indication for level:	28 segments LED bar graph per channel
Indication range:	0 dBFS ... -65 dBFS

### Status indicators:

LED: for Locked, Error, Clip and Low

**Selected Input-Output Indicator:** LED lits when the selected input is connected to the output

### Control elements

Push buttons:	4 for monitor selection
Control button:	1 input selection to the output manually.

### Power supply

Power supply voltage range:	85 VAC ... 264 VAC
Frequency range:	47 Hz ... 63 Hz
Power consumption:	approx. 20 VA

### Dimension

Width:	19" (482.6 mm)
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#### **Heynen Leistung für Neuerer**

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