

AF 20I



IP 20-Watt Amplifier AF 20I

Their compact design makes the 20 Watt amplifiers ideal for a decentralised, cable saving installation next to PA loudspeakers and Intercom terminals.

The range of application environments is suitably flexible as well, serving the public address needs in areas from

public service facilities (e.g. railway stations) to auditoriums or waiting rooms, and covering the Intercom requirements of noisy industrial facilities, garages, tunnels or office buildings.

AF 20I

20 watt IP amplifier with polycarbonate housing for connection to an Intercom Server. Output power 1 x 20 watt at 4 ohm loudspeaker or 2 x 10 watt at 8 ohm loudspeakers.

Technical Data – Benefits

TECHNICAL DATA

IP rating:	IP 20
Operating temperature range:	-25° C to +55° C (-13° F to 131° F)
Storage temperature range:	-25° C to +70° C (-13° F to 158° F)
Relative Humidity:	up to 95%
Plug:	<ul style="list-style-type: none"> - RJ 45 modular jacks with LEDs for connection to the Intercom Server (IP Uplink/Downlink) - Pluggable screw terminals (0,08 mm² - 1,5mm²): power supply, outputs, microphone, inputs, line-output - Pluggable screw terminals (0,08 mm² - 2,5mm²): loudspeaker - Expansion plug for e.g. EB2E2A
Cabling:	min. Cat. 5
Power supply:	20 - 26 VDC (max. 1.2A at 4 Ω / 20W or max. 0.6A at 8 Ω / 10W) Power supply e.g.: PA70W24V or PoE
If power supply over Intercom Server is used, an attenuation of up to 9 dB is possible, this is equal to an output power of 6 watt.	
PoE (Power over Ethernet):	IEEE 802.3af standard Power consumption of the terminal device: Class 0 (0.44 W to 12.95 W)
Output power:	20 watt (RMS)
Audio output:	low resistance, minimum impedance 4 Ω
Microphone input:	nominal level 14 mV at 3.3 k Ω (MIC supply voltage 2.5V)
Line output:	nominal level 0 dB and 0.775V
Inputs:	2 input for floating contacts (detection of 5 input states)
Control input:	0 - 10V, for remote volume control
Output:	relay output (changeover contact) 30V / 1A 100 000 switch cycles
Protocol:	IoIP-Protocol based on UDP/IP
Frequency response:	50 Hz to 15 kHz (-3 dB)
Transmission bandwidth:	16 kHz
Measurements:	159 x 49 x 78 mm (6.26 x 1.93 x 3.07 inch)
Weight including package:	240 g (0.53 lbs)

EXTENT OF SUPPLY

AF 201

- Amplifier incl. Short Reference
- Wallmount Kit

Note: Power supply not in extent of supply.

BENEFITS

- 20 W output power
- Class-D amplifier, optimised for high efficiency at low operating temperatures
- Short-circuit and overrange protected
- Line monitoring between amplifier and Intercom Server
- Easy integration in existing Intercom Systems
- 16 kHz audio quality
- Support of Terminal features (e.g.: connection monitoring, function monitoring, DSP- tone)
- Suitable for decentralised on-site use
- Rugged enclosure made from polycarbonate

LINE LENGTH

Intercom Server - Amplifier

The maximum line length of Cat. 5 cabling in a LAN is 100 m (328 ft) – e.g. from switch to Intercom station.

Amplifier - Loudspeaker

It is recommended to select the line length between amplifier and loudspeaker as short as possible.

cable diameter	line length at loudspeaker impedance	
	4 Ω	8 Ω
ø 0,5 mm (AWG: 24)	10 m (32.8 ft)	20 m (65.6 ft)
ø 0,6 mm (AWG: 22)	14 m (45.9 ft)	28 m (91.9 ft)
ø 0,8 mm (AWG: 20)	24 m (78,7 ft)	48 m (157.5 ft)
ø 1,0 mm (AWG: 18)	37 m (121.4 ft)	73 m (239.5 ft)
ø 1,4 mm (AWG: 15)	73 m (239.5 ft)	146 m (479 ft)
ø 1,8 mm (AWG: 13)	122 m (400 ft)	244 m (800 ft)

The specified line length correspond to a halving of the performance of the speaker or - 3dB voltage drop.



System/Network Requirements

SYSTEM REQUIREMENTS

MINIMUM REQUIREMENTS

GE 800 / GE 300 / GE 700-UPG:

- Intercom Server Software min. PRO 800 1.3 build 9
- Configuration software min. CCT 800 1.3 build 935
- IP-subscriber card G8-IP / G3-IP min. firmware 4.2
- NET firmware min. 5.4 build 2

Backward Compatibility to GE 700 / GE 200:

- GE 700 (min. PRO 6.0) with G7-DSP-IP
- GE 200 (min. PRO 6.0) with G2-DSP-IP
- Detected as ET 908 – therefore they can only be used with the feature scope of an ET 908.
- *Firmware download only possible with GE700-UPG or via IPStationCongfig!*

REQUIREMENTS TO THE NETWORK

IP-Addresses and Ports

- For the AF 201 the DHCP functionality is available.
If DHCP is not used, the AF 201 must have a fixed IP-address.
- In case of a changing public IP-address, dynamic registration of an AF 201 is possible.
- Communication from the program IPStationConfig is done via Port 16399 (can not be configured).
- Communication from the AF 201 to the Intercom Server (UDP protocol) is done via port 16400 (configurable).

QoS Requirements

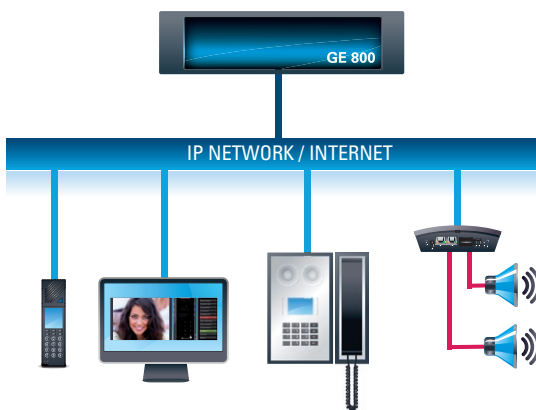
- Maximum One-Way-Delay 100 ms
- Delay-Jitter not above 50 ms
- 0% packet loss for perfect audio quality

Bandwidth

- Required Bandwidth incl. protocol overhead per AF 201, for upload/download each: speech and data 96 kBit/s
- Speech is compressed according to G.722 standard

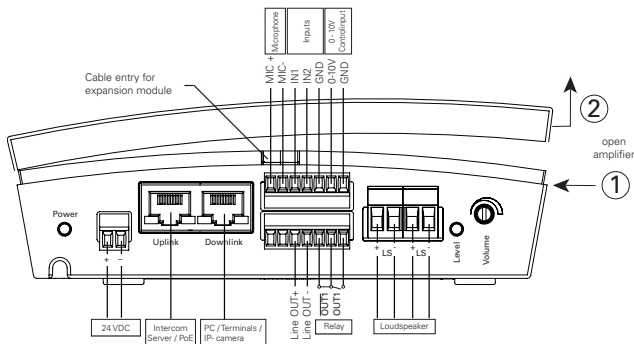
SYSTEM OVERVIEW

The following diagram shows an example of connection of Intercom terminals via an IP-network.

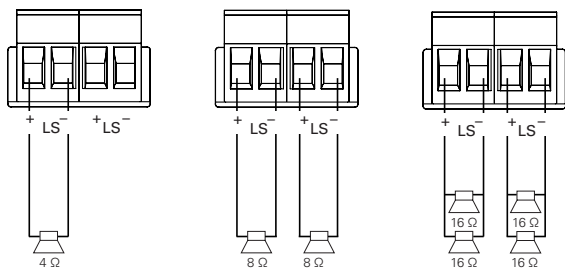


Installation

CONNECTION



Connection loudspeaker:



SETTINGS

The volume control is carried out via the potentiometer "Volume" and via CCT 800 at Subscriber > Audio - Features

LED STATUS INDICATION

LED „Power“

- Permanent green: power supply existent
- Green blinking: Power supply over PoE
- Permanent red: short-circuit at the loudspeaker

LED „Level“

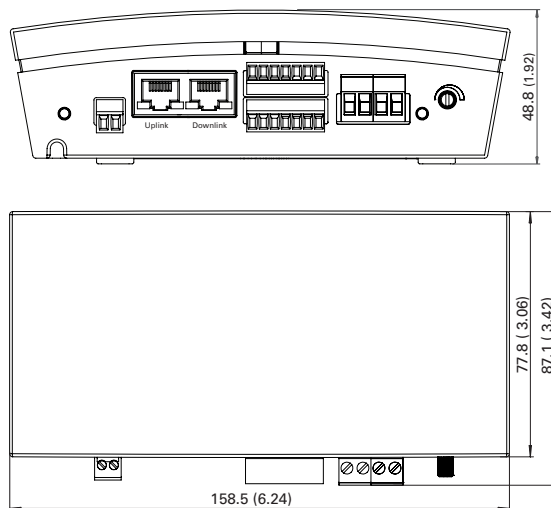
- LED red: too much amplification (Clipping)
- LED green / orange: amplification ok

PRECAUTIONS

- Observe the precautions for handling of electrostatic sensitive devices!
- The amplifier may only be installed by authorised service engineers.

MEASUREMENTS

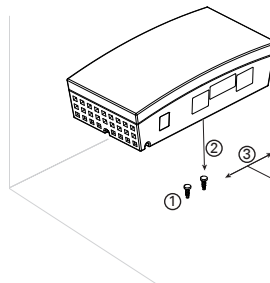
Measurements in mm (inch), not scale!



MOUNTING

It is possible to mount the amplifier in two different ways:

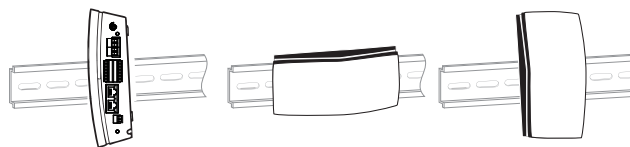
Wallmount Kit (in extent of supply)



- 1 Install screws and dowels
- 2 Break out the mounting opening on the back side of the housing and hook onto the screws
- 3 Fix wireless module by moving to the left, right or down

Top Rail Clamp ET 901-HSH35 (not in extent of supply)

With this rail clamp, the housing of the amplifier box can be installed upright or flat to the rail in a vertical or horizontal position.



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A STRONG WORLDWIDE NETWORK

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