IP SPEAKER MODULE (POE)
› IPSM-2C20 / IPBX-2C20

The IPSM-2C20 and IPBX-2C20 speaker modules are equipped with 2x20w audio channels and an 8ohm loudspeaker output that can also be bridged to a single 40w/4ohm channel. While supporting PoE+ (power over ethernet), an external power adapter can also be provided to supply further power (24VDC). PoE+ offers a cost-effective solution for paging, audio challenges, intercom, and background music systems over a standard RJ45 ethernet connection by minimising the number of cables required.

With 3 control inputs for volume control and source selection by way of the RAC 5/8 controller, the single relay contact output can be programmed to communicate with other external devices. This enables the user to control and monitor your Penton IP speakers in real-time via your favourite web browser interface, making even complex tasks simpler than ever before. Internal scheduler and memory features allow the storage and triggering of the users desired messages and alerts.

TECHNICAL SPECIFICATIONS

ELECTRICAL

Power over Ethernet (POE+)	
DC power input:	21 ~ 27.5 VDC
Power consumption	
PoE	+25W max.
External power	50W max.
Stand-by	3W

AUDIO CHARACTERISTICS (AMPLIFIED OUTPUT)

Rated output power	20W x 2CH
Frequency response	20 Hz ~ 20 kHz (±3 dB) @ 0 dBu
THD+N @ full power	< 0.5% @1 kHz
SNR	85 dB

INTERCONNECTION

Female RJ45 socket, CAT5/6 cables	
Max. cable length	100m

SUPPORTED PROTOCOLS

SIP 2.0 (peer and proxy)
IETF SIP (RFC3261)
IETF IGMP version 2 (RFC2236)
IETF RTP(RFC1889)

CONTACT OUTPUT

Default status	OPEN (N.O.)
Maximum voltage	60V
Maximum current: 0.5A	

LED STATUS CONTROLLER

Output	3.3V@10 mA

AUDIO

Audio compression	G.711u, G.711a, G.722, PCM16K and MP3

NETWORK

10/100 Mbps Base TX Ethernet RJ45
Manual or Dynamic Host Configuration Protocol (DHCP) IP address setup
Time and date synchronization using NTP

MECHANICAL IPSM-2C20

Dimensions (W x H x D)	95 x 28 x 61 mm (3.7 x 1.1 x 2.4 inch)
Weight	127g (0.28 lbs)

MECHANICAL IPBX-2C20

Dimensions (W x H x D)	105 x 29 x 60 mm (4.1 x 1.1 x 2.4 inch)
Weight	231g (0.51 lbs)

ENVIRONMENTAL

Operating temperature	-5 ºC ~ +50 ºC (+ 23 ºF ~ +122 ºF)
Storage temperature	-40 ºC ~ +70 ºC (-40 ºF ~ +158 ºF)
Relative humidity	20% to 95%
Air pressure	600 to 1100 hPa
Heat dissipation	34 BTU/hr @ 20W x 2CH

FEATURES

- Standard RJ45 interface, PCB control and Class-D amp board (2 X 20w)
- Cost effective and simple installation with single cable deployment
- Easily configured, controlled, managed, and monitored via web browser
- Full DSP includes Ducker, AGC, PEQ, Hi/Low Pass, Compressor, Limiter, etc.
- IP based for music streaming, routing, paging and control over LAN/WAN

- VoIP call via SIP protocol
- Supports audio codecs G.711u, G.711a, G.722, PCM16K and MP3
- 3 control inputs, 1 contact output,
- Integrated scheduler for triggering of messages, music and alerts
- Internal storage (200mb) plus microSD card of up to 512GB available for message or music storage.
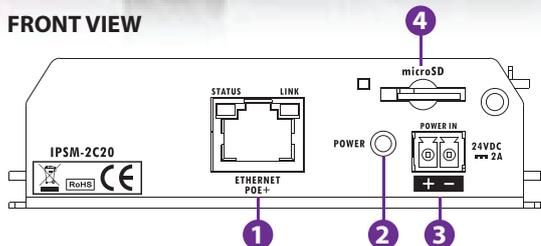
› IPSM-2C20
IP SPEAKER MODULE, 2 CHANNEL, 20W

› IPSM-2C20M
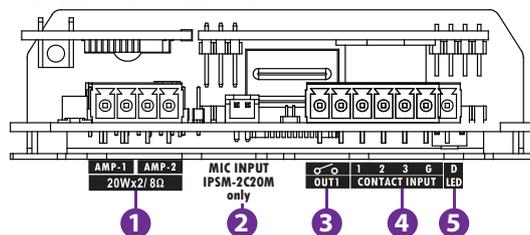## IP SPEAKER MODULE, 2 CHANNEL, 20W WITH MICROPHONE INPUT
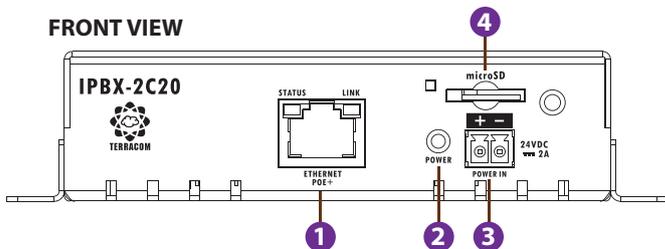
FRONT VIEW

① Ethernet port with PoE+ (25W) power

② Power LED indicator

③ Optional external power input (24 ~ 27 VDC), PSU65-27 (65W) and PTR-2415 (36W) recommend
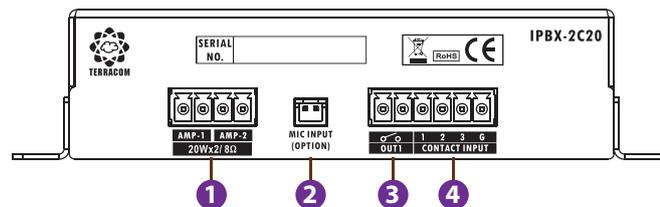
④ Micro SD Card interface

REAR VIEW

① 20W x 2 Channels amp output (8 ohm load speaker) or bridged 40W x 1 Channel amp output (4 ohm load speaker)

② Optional mic input with models IPSM-2C20M/IPBX-2C20M. Recommended optional microphone capsule model YMC0101-005.

③ 1 relay contact output can be programmed to control an external device

④ 3 programmable contact inputs are controlled by external remotes such as source selector and volume control

⑤ LED interface (3.3V@10 mA): for safety and emergency alerting

FRONT VIEW

REAR VIEW

ORDERING INFORMATION

IPSM-2C20	IP Speaker Module/ 2 channel/ 20W
IPSM-2C20M	IP Speaker Module/ 2 channel/ 20W w/mic input
IPBX-2C20	IP Speaker Box/ 2 channel/ 20W
IPBX-2C20M	IP Speaker Module/ 2 channel/ 20W w/ mic input

• YMC0101-005: Mic Capsule w/40cm lead & connector for IPSM-2C20M.

* Note: IPSM-2C20M is not shipped with the mic capsule, please order YMC0101-005 mic capsule if necessary.

NOTICE (MICROPHONE CAPSULE)
We recommend using a temperature controlled soldering iron (360 degree) with a soldering time of less than 3 seconds. Keep contact between the iron and microphone capsule as brief as possible.

NOTICE (EXTERNAL POWER ADAPTER)
The IPSM-2C20 and IPBX-2C20 are shipped without power adapters. For details on the relevant PSU, please contact Penton UK.

OPTIONAL EXTRAS
AUDIO CHARACTERISTICS (MIC INPUT)

Frequency response	20 Hz ~ 20 kHz (±1 dB) @ 0 dBu
Input impedance (balanced)	50k ohm
EIN (Equivalent Input Noise)	< -90 dBa @ 0 dB gain
THD+N	0.1%

AUDIO CHARACTERISTICS (YMC0101-005 MIC CAPSULE)

Directional characteristic	Omni-directional
Sensitivity	-42 (±2) dBu @ 1 kHz (0 dBu=1VPa)
Impedance	2.2k Ω (max.)
S/N ratio (A-weighted)	60 dB
Maximum SPL	110 dB
Frequency response	50 Hz ~ 20 kHz (±3 dB) @ 0 dBu