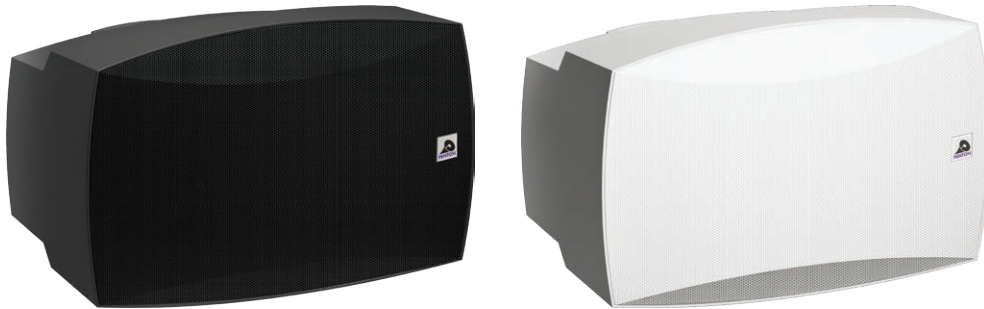




The FORMAT series, FORMAT 20 and FORMAT 40, is designed with very flat frequency response in mind. The coaxial cabinet loudspeaker can reproduce bright midrange, silk-like, high frequencies with an extended Q bass sound.

The FORMAT is designed not only for excellent audio quality in low-Z or 70v/100v line systems, but to sound equally good with streaming audio over IP. The IP version of the FORMAT features an IP amplifier module with 20w/40w output, a high sensitivity microphone, and can be used to stream music as well as intercom over SIP networks. The IP amplifier module can be powered from a PoE/PoE+ network switch or an external AC/DC power adaptor. The module features abundant audio DSP functions to further enhance the sound in the specific environment and functions over SIP and OnVIF for easy integration with Video CCTV system platforms.

The high sensitivity microphone with the RAPIDO™ AEC algorithm and Active Noise Reduction (ANR) enables hands-free long-distance intercom over IP. With the optional RAC 5/8 controller, using the 3 control inputs, users can select various audio sources from the network as well as adjust speaker volume.

With excellent audio quality, voice clarity, and quick and easy installation, FORMAT combines the functions of background music, intercom, and EVAC paging in one speaker. It is suitable for applications including shops, schools, restaurants, hotels, public houses, and offices.

VERSIONS

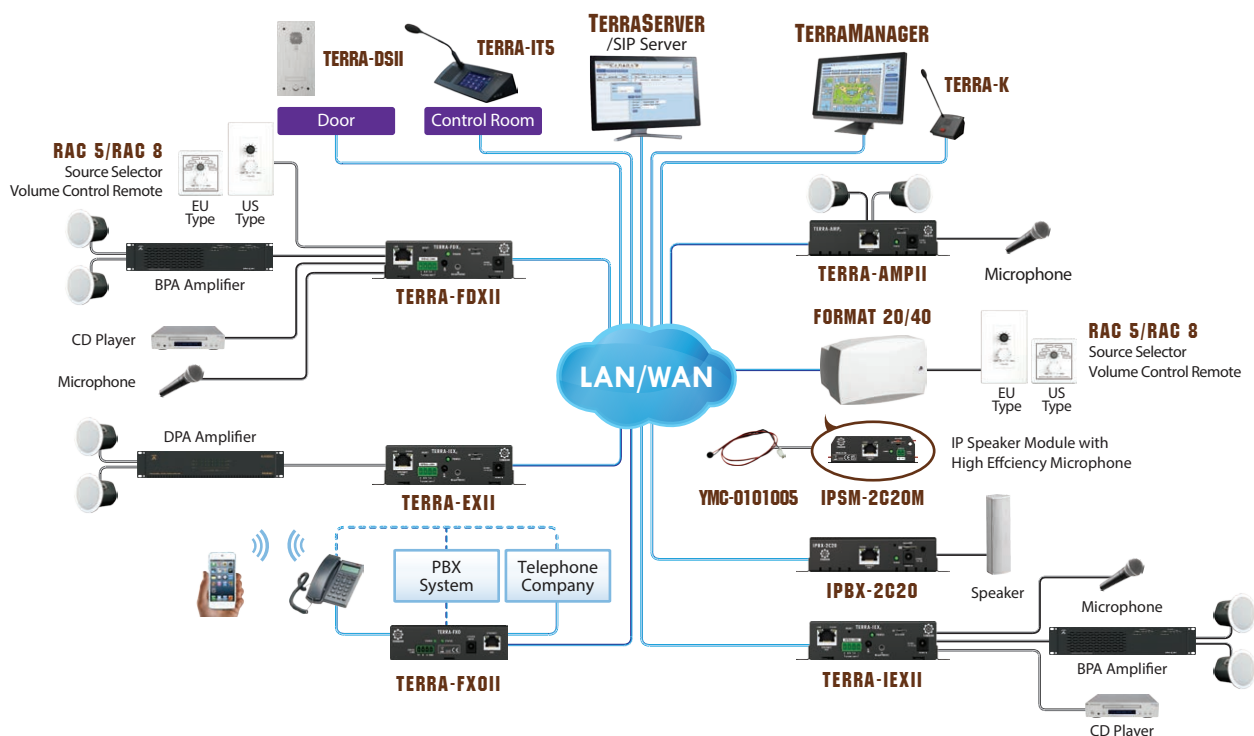
- Low-Z : Designed with very flat frequency response, can reproduce nature sound with an extended Q bass sound in 8 ohm drivers
- 70V/100V line: With low-z version audio quality, integrating 70V or 100V line transformers for high voltage PA/VA sound system
- IP over network: With low-z version audio quality, integrating a POE+ IP DSP amplifier module, can play audio from IP network
- 70V/100V line and IP over network: With low-z version audio quality, integrating 70V/100V line transformation and a PoE+ IP DSP amplifier module, can play audio from IP network or 70V/100V line PA/VA sound system with auto-detection and switch

FEATURES

- 70V/100V line transformer integrated for PA/VA sound system or Low-Z in 6 ohms
- 20W x 2 or 40W high efficiency Class-D audio amplifier built-in IP DSP amplifier module
- Music steaming, routing, paging and control over local area network or internet
- Optional high sensitivity microphone and input module for hand-free duplex intrecom
- Audio DSP includes AEC, ANR and AGC for intercom, also PEQ Hi/Lo pass filters, compressor/Limiter and matrix etc., to enhance audio preference
- Supports audio codecs G.711 ulaw, G.711 alaw, G.722, PCM16K, G.726-32, G.727-32, G.729, MP3
- Internal memory (200M) plus microSD card of up to 512 GB available for message or music files storage
- High Cyber security with AES 128/256 and TLS digitally encrypted over IP network
- 3 control inputs is designed for volume control and audio CCTV VMS platform and 3rd party control over IP network
- Supports SIP client for IP-PBX, Onvif for video CCTC VMS platform and 3rd party control over IP network
- Cost effective of easy installation with one CAT5/6 net cable. Convenient management, configure, control, BGM/Paging streaming and status monitoring via standard IP network
- Supports PoE/PoE+ power or powered from an optional external AC/DC with 24~ 27VDC power adaptor



SYSTEM DIAGRAM



TECHNICAL SPECIFICATIONS

ELECTRICAL

- Power handling
 - FORMAT 20: Rated 20W, max 35W
 - FORMAT 40: Rated 40W, max 60W
- Tappings 70 or 100 volt line
 - FORMAT 20: 20/10/5/2.5W
 - FORMAT 40: 40/20/10/5W
- Transformer impedance
 - FORMAT 20
 - 70V: 250/500/1k/2k ohms
 - 100V: 500/1k/2k/4k ohms
 - FORMAT 40
 - 70V: 125/250/500/1k ohms
 - 100V: 250/500/1k/2k ohms
- High/low driver impedance
 - FORMAT 20: 8 ohms/8 ohms
 - FORMAT 40: 8 ohms/8 ohms
- Effective frequency range (BSEN60268-5)
 - FORMAT 20: 76 Hz (fo) ~ 20k Hz
 - FORMAT 40: 55 Hz (fo) ~ 20k Hz
- S.P.L. @ 1m, 1watt, dB, test signal bandwidth 100 Hz ~ 10k Hz
 - FORMAT 20: 85 dB
 - FORMAT 40: 87 dB
- S.P.L. @ 1m, full power, test signal bandwidth 100 Hz ~ 10k Hz
 - FORMAT 20: 98 dB
 - FORMAT 40: 103 dB

MECHANICAL

- Dimensions (W x H x D)
 - FORMAT 20: 265 x 175 x 160 mm
 - FORMAT 40: 365 x 240 x 210 mm
- Weight
 - FORMAT 20: 2.4 kgs
 - FORMAT 40: 3.4 kgs
- Colour (unless specified): White/Black
- Materials: High impact moduled ABS housing with UV inhibitor
- Mounting: Die-cast aluminum swivel arm and fiber PP plastic

ENVIRONMENTAL

- Min/max amb temp: -25 °C ~ +70 °C (+ 23 °F ~ +122 °F)
- Relative humidity: ≤ 95%

IP SPEAKER MODULE

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

AUDIO CHARACTERISTICS (MIC INPUT)

- Phantom power: 2.5V
- Frequency response: 20 Hz ~ 20 kHz (±1 dB) @ 0 dBu
- Input impedance (balanced): 50k ohm
- EIN (Equivalent Input Noise): < -90 dBra @ 0 dB gain
- THD+N: 0.1%

AUDIO CHARACTERISTICS (YMC0101-005 MIC CAPSULE)

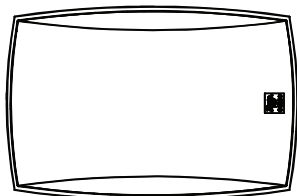
- Directional characteristic: Omni-directional
- Sensitivity: -42 (±2) dBu @ 1 kHz (0 dBu=1Vpa)
- Impedance: 2.2k (max.)
- S/N ratio (A-weighted): 60 dB
- Maximum SPL: 110 dB
- Frequency response: 50 Hz ~ 20 kHz (±3 dB) @ 0 dBu

SUPPORTED PROTOCOLS

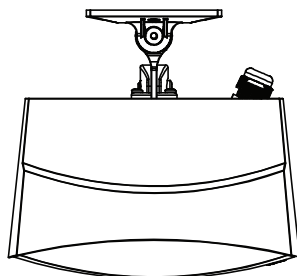
- SIP 2.0 (peer and proxy)
- IETF SIP (RFC3261)
- IETF IGMP version 2 (RFC2236)
- IETF RTP (RFC1889)
- Switch requirements (minimum request)
 - Transmission rate: 10/100M bps
 - Communication mode: full-duplex
 - IP protocols: IPv4, TCP/IP
- Manual or Dynamic Host Configuration Protocol (DHCP) IP address setup
- Time and date synchronization using NTP
- VMS of ONVIF protocol
 - Happytime
 - DSS Express
 - MileStone Xprotect
 - NX Witness



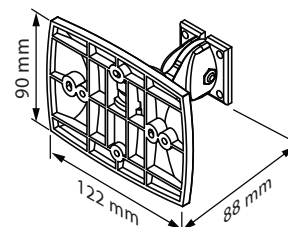
FRONT PANEL



TOP PANEL

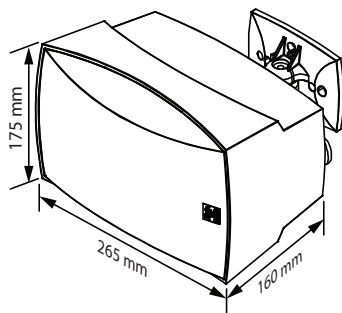


MOUNTING BRACKET

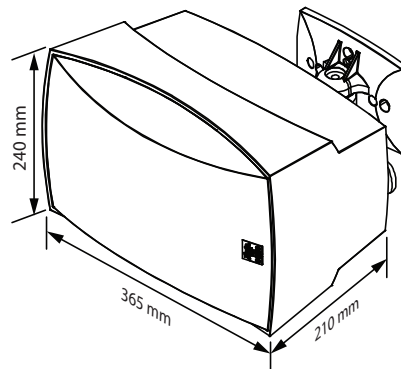


SIDE VIEW

FORMAT 20

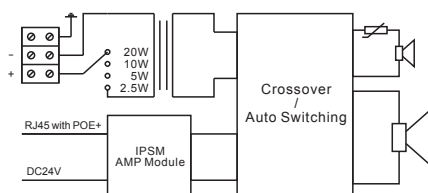


FORMAT 40

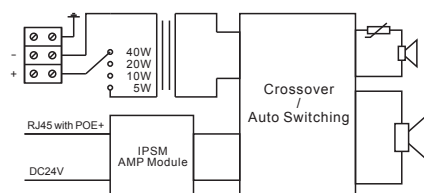


CIRCUIT DIAGRAM

FORMAT20/TB(W)-IPM



FORMAT40/TB(W)-IPM



Disclaimer: We reserve the right of changes and errors.



WITH TRANSFORMER

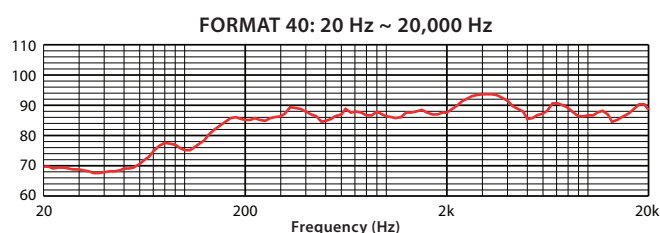
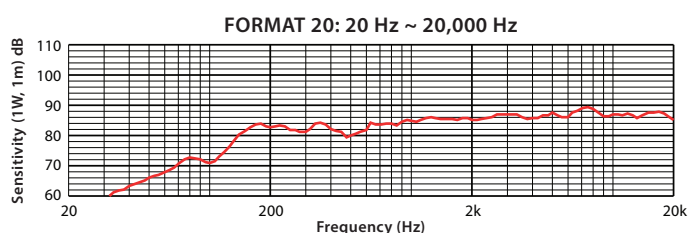
70V line

FORMAT 20				
70V	10W	5W	2.5W	1.25W
IMP.(Ω)	500	1K	2K	4K
FORMAT 40				
70V	20W	10W	5W	2.5W
IMP.(Ω)	250	500	1K	2K

100V line

FORMAT 20				
100V	20W	10W	5W	2.5W
IMP.(Ω)	500	1K	2K	4K
FORMAT 40				
100V	40W	20W	10W	5W
IMP.(Ω)	250	500	1K	2K

EFFECTIVE FREQUENCY RANGE



Disclaimer: We reserve the right of changes and errors.

ORDERING INFORMATION

L	T	T7	Model No.	Step 1	Step 2	Step 3	Step 4	Step 5	Description of Model
			FORMAT	Driver Handling	Line Transformer	Color	-	IP Speaker Module	Music Cabinet Co-Speaker
Driver Handling									
☐	☐	☐	☐	20					Driver Handling 20W
☐	☐	☐	☐	40					Driver Handling 40W
Line Transformer									
N/A	N/A	N/A	N/A						IP Speaker Module Only
N/A	N/A	N/A	N/A		L				Low Impedance Only
N/A	N/A	N/A	N/A		T				100V Line
N/A	N/A	N/A	N/A		T7				70V Line
Color									
☐	☐	☐	☐			B			Black
☐	☐	☐	☐			W			White
IP Speaker Module									
☒	☐	☐	☐						None
☐	☒	☐	☐				IP		IP Speaker Module
Microphone									
☐	☐	☐	☐						None
☐	☒	☐	☐					M	Mic Input Module & Built-in Capsule
☐	☒	☐	☐					E	Mic Input Module & External Capsule

