DIGITAL ANNOUNCERS

EV-350R

EV-350P

DESCRIPTION

TOA's EV-350P and EV-350R Digital Announcers feature highly efficient digital compression technologies that record and play back public address announcements, signal tones, and background music. (The EV-350P is for playback only, while the EV-350R can be used for both recording and playback.)

The ATA flash memory card (Type II PCMCIA/JEIDA) is used for audio signal recording, and up to two cards can be simultaneously installed. This frees the Digital Announcer from tape wear caused by abrasion of the tape and recording head, which is often a problem for analog tape playback and recording devices, thus ensuring no loss of sound quality. In addition, because there are no rotating or driving sections, no maintenance of these parts is needed.

The Digital Announcer's operating voltage is 110 V–120 VAC or 220 V–240 VAC . Because both models are also equipped to operate on 24 VDC as well, they can be used even during power failures.

FEATURES

Recording

- Such sound sources as a microphone, cassette player or CD player can be connected and recorded.
- Recording can be done either manually, by pressing the recording key while the unit is in recording standby mode, or automatically when an input signal is detected while in recording standby mode.
- Eight recording methods are made available through combination of 2 sampling frequencies (32 kHz and 44.1 kHz) and 4 levels of recording quality (Long, Normal, High, and Extremely High). The most appropriate method can be selected depending on the type of sound source, recording time or the capacity of the memory card used.
- The maximum recording time is approximately 267 minutes when 2 TOA 64 MB flash memory cards (EV-F64M) are used.
- Up to 256 (or 1,024; selectable) separate sentences can be recorded when 2 memory cards are used.
- Each sentence can be individually recorded by selecting the most appropriate recording method from the 8 methods available.
- Silent areas that remain before and after the recorded content after recording can be erased in the range of 0-9.9 second (in 0.1-second units).
- Up to 256 programs can be created by combining recorded sentence segments.
- The title of up to 8 alphanumeric characters in length can be assigned to each recorded sentence or program.

Playback

- Messages are played back by designating the program and playback method. Continuous Program Playback, Single Program Playback, Repeat Playback, and Endless Playback can be selected.
- The playback method, output (Output 1 or 2 or both outputs), and output level can be individually set for each program.
- Two different programs can be simultaneously played back from Outputs 1 and 2. (Dual-Source Broadcast)
- Recorded emergency messages can be set to have priority over regular programs being played back in emergency situations.
- The Auto Level Adjustment function permits programs to be played back at uniformly the same volume level, even if the program is made up of sentence segments recorded at different volume levels.
- A microphone or other external equipment can be connected for broadcast.

Control, Settings, and Other Functions

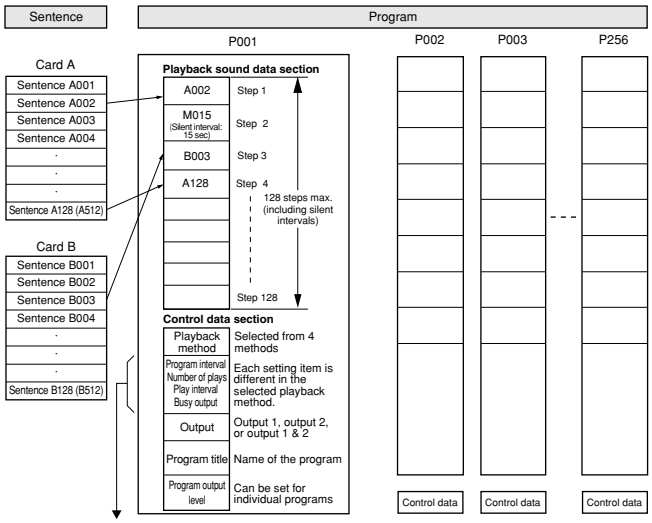
- The Control Input terminal permits, sentence recording/erasure and program playback/stop to be remotely controlled by connected external equipment. Sentences or programs are selected by closing the activation control input terminal. Direct Mode (8 selections) and Binary Mode (256 selections) selection methods are made available.
- Different activation modes can be individually set for Remote Recording, Remote Playback, and Remote Stop.
- Two Busy output terminals are provided for remote amplifier control or other uses. Busy signals are sent from the Busy output terminal corresponding to the output designated for each program.
- Busy signals can be output during program playback, sentence recording/erasure, microphone announcement and system setting. Both Busy Outputs 1 and 2 can be individually set for "Enable" or "Disable."
- The unit's LCD screen displays such information as recording/playback levels, program names, program information (playback time and sentence numbers), and setting menus. The LCD screen and Menu Selection dial facilitate function settings.
- The Key Lock function uses a password to disable all control keys other than the power switch to prevent mishandling and tampering.
- The Failure Output terminal opens to indicate the unit's irregular status when no memory card is loaded, when an incorrect type of memory card is loaded, when the SRAM memory card's battery voltage has dropped below a marginal level, when the unit's power is switched off, or when the unit malfunctions.
- The front cover prevents accidental removal of the memory card.

TOA

EV-350R/EV-350P

Playback Sound Data Section and Control Data Section

Each of the programs (P001-P256) consists of the "**Playback sound data section**" and "**Control data section**," each of which is composed of input data.



[Setting items different in playback methods]

Playback method	Program interval (Interval Timer)	Number of plays	Play interval	Busy output
Continuous Program Playback	——		——	——
Single Program Playback	OFF (no relation) 10, 20, …50 sec 1, 2, …99 min	——	——	ON / OFF (At program interval)
Repeat Playback	——	1, 2, …128 repeats, Endless	0, 10, …50 sec 1, 2, …99 min	ON / OFF (At repeat interval)
Endless Playback	——		0, 1, 2, 3, 4, 5 sec	——

Recording Sound Quality

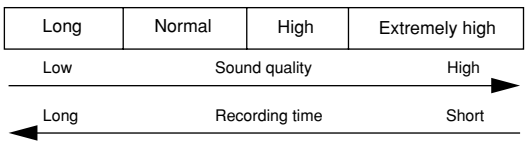
Eight different types of recording sound quality are made available to the unit, so that you can select the sound quality best suited to given situation depending on the type of recording sound source, recording time, and type of memory card to use.

Sampling frequency	Recordimg grade			
32 kHz	Long	Normal	High	Extremely high
44.1 kHz	Long	Normal	High	Extremely high

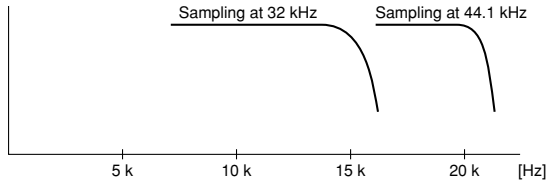
If the recording grade is selected, the unit begins to record audio signals compressed using the following bit rates:

Recording grade	Long	Normal	High	Extremely high
Bit rate	64 kbps	96 kbps	128 kbps	192 kbps

Recording grade and recording time



Sampling frequency vs. reproducing frequency range



Applications of the recording sound quality

The following table provides the guidelines on the selection of the sound quality.

Recording grade	Applications
Long	Recording of announcements or messages
Normal	BGM, chime or signal tones
High	Recording of music
Extremely High	Recording of music that requires higher sound quality that in High.

- For the sampling frequency, usually use 32 kHz. In this event, the frequency response is 20 Hz – 14 kHz.
- When requiring the frequency response of 20 Hz – 20 kHz, use the sampling frequency of 44.1 kHz.

Usable memory cards vs. maximum per-card recording time

(hour: minute: second)

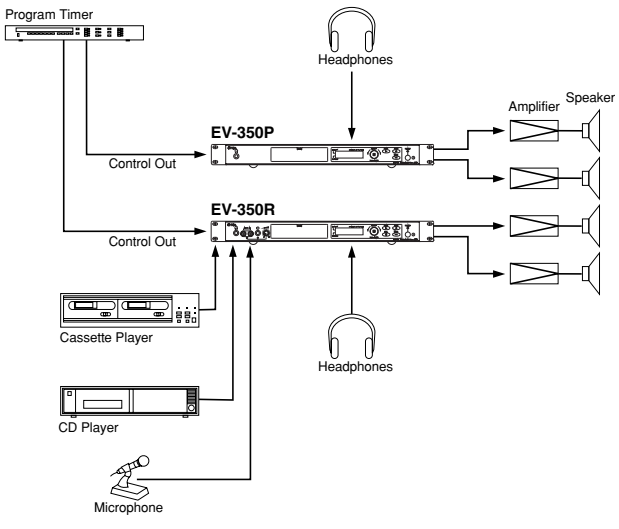
Model No.	Capacity (byte)	Card type	Long	Normal	High	Extremely high
TOA/EV-F64M	64M	ATA flash	2:13:14	1:28:49	1:06:37	0:44:24

Notes
- This card can not be used for the EV-300.
- Up to two memory cards can be installed in the unit.

ATA Flash Memory Cards
EV-F64M

	EV-F64M
Type	TYPE II which complies with PCMCIA/JEIDA ATA flash memory card
Memory Capacity	64M byte
Dimensions	54 (W) x 85.6 (H) x 5 (D) mm
Weight	30g

System Diagram



FUNCTIONS OF TERMINALS

① **Output 1**
Sends out the same signal as output 1 (phone jack).

② **Output 2**
Sends out the same signal as output 2 (phone jack).

③ **Emergency playback control input**
Shorting this input plays back the emergency message.

④ **Activation control inputs 1-8**
Short these inputs when playing back programs or when recording or erasing sentences.

⑤ **Erasure/Clear control input**
Short this input when erasing recorded sentences.
Clears all stored activation inputs when the unit is set in the "Sequential storage and playback" mode.

⑥ **Stop control input**
Short this input when stopping recording or playback.

⑦ **Recording control input**
Short this input when recording sentences.

⑧ **Playback control input**
Short this terminal when playing back the program by means of binary control.

⑨ **Busy output 1**
Outputs a make contact signal during playback or recording of the program set for output 1.

⑩ **Busy output 2**
Outputs a make contact signal during playback or recording of the program set for output 2.

⑪ **24 VDC terminal**
Connects to the 24 VDC power supply. Note that the AC power supply and the 24 VDC power supply cannot be used simultaneously.
Make sure that the unit is operated on either power supply.

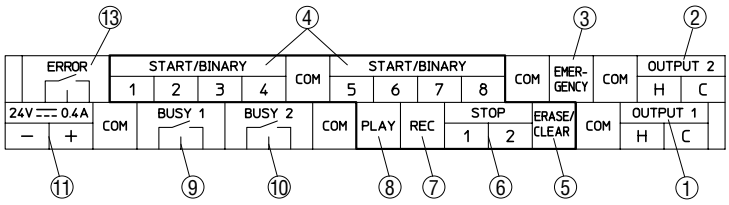
⑫ **Clear terminal**
Clears all stored activation inputs when the unit is set in the "Sequential storage and playback" mode.

⑬ **Error detection output terminal**
Normally closes.
It will open in such case as no memory card is mounted or the unit malfunctions.

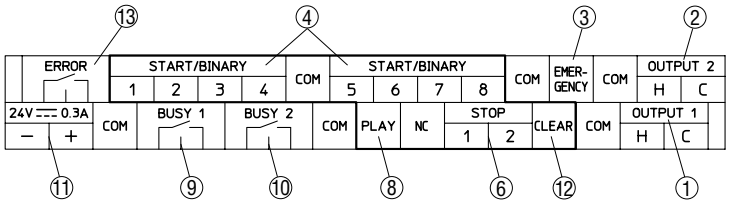
: EV-350R only

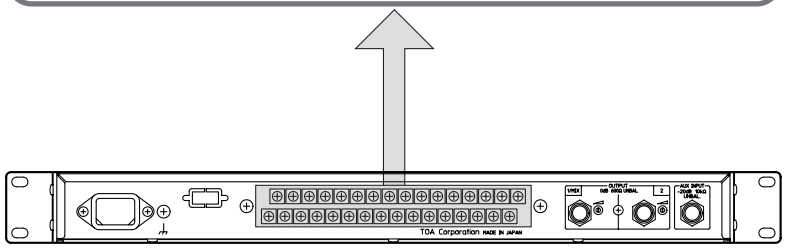
TERMINAL NAMES

EV-350R



EV-350P

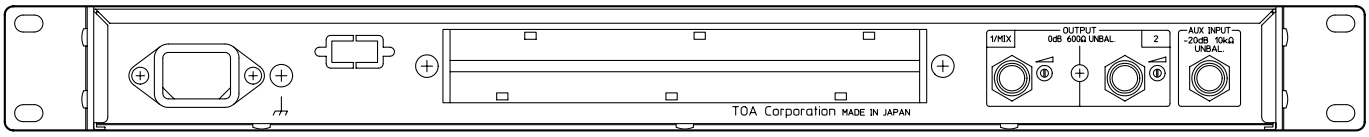




Rear panel without a terminal block cover

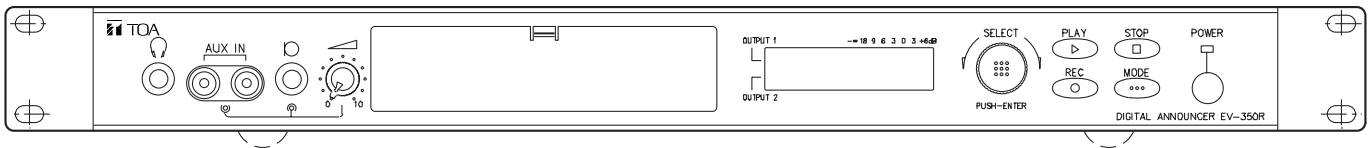
REAR PANEL

EV-350R/EV-350P

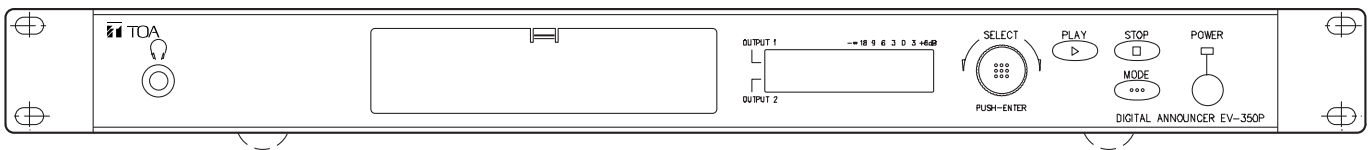


FRONT PANELS

EV-350R



EV-350P



SPECIFICATIONS

	EV-350R	EV-350P
Power Requirement	220 – 240 V AC or 110 – 120 V AC, 50/60 Hz or 24 V DC, 0.4 A	220 – 240 V AC or 110 – 120 V AC, 50/60 Hz or 24 V DC, 0.3 A
Power Consumption	12 W	9 W
Output	Output 1, 2: 0dB*, 600 ohms, unbalanced, phone jack, M3.5 screw terminal distance between barriers; 8.2 mm Headphone Output: 0dB*, 100 ohms, unbalanced, phone jack	
Input	Microphone: –55 dB*, 600 ohms, unbalanced, phone jack AUX: –20 dB*, 10k ohms, unbalanced, phone jack /RCA pin jack	AUX: –20 dB*, 10k ohms, unbalanced, phone jack
Frequency Response	20 – 20,000Hz ±3dB (44.1kHz sampling) 20 – 14,000Hz ±3dB (32kHz sampling) 50 – 20,000Hz ±3dB (44.1kHz sampling, IT-450 mounted) 50 – 14,000Hz ±3dB (32kHz sampling, IT-450 mounted)	
Distortion	Under 0.3% (44.1kHz, recording method: Extremely High)	
No. of Mountable Memory Card	2 (Ports A—B) (option)	
No. of Recording Sentence	When 1 card is installed: 128 or 512 (changeable) When 2 cards are installed: 256 or 1024 (changeable) 1 emergency sentence, other than the above sentences, can be recorded. When recorded by a control input: 8 (direct mode) or 256 (binary mode) (changeable)	—
Recording Sound Quality	Sampling Frequency: 32kHz, 44.1kHz Recording grade: Long (bit rate: 64kbps), Normal (bit rate: 96kbps), High (bit rate: 128kbps), Extremely High (bit rate: 192kbps)	—
Recording Time (When recording 128 sentences)	M-A60M: Long: 2 hr 13 min 14 sec, Normal: 1 hr 28 min 49 sec, High: 1 hr 6 min 37 sec, Extremely High: 44 min 24 sec	—
Playback Mode	Single- and dual-source playback (changeable)	
No. of Playback Program	Direct control: 8 programs or Binary control: 256 programs 1 emergency message takes precedence over the above programs and is played back	
Control Input	Activation 1—8, playback, pause 1, pause 2, emergency, recording, erasure/clear: No-voltage make contact input, puluse make length: over 50 ms, open voltage: 30V DC, short circuit current: 10mA, M3.5 screw terminal, distance between barriers: 8.2mm RS-232C Terminal: D-sub connector (9 pins, male)	Activation 1—8, playback, pause 1, pause 2, emergency, clear: No-voltage make contact input, puluse make length: over 50 ms, open voltage: 30V DC, short circuit current: 10mA, M3.5 screw terminal, distance between barriers: 8.2mm RS-232C Terminal: D-sub connector (9 pins, male)
Control Output	Shorting outputs 1, 2, Error: M3.5 screw terminal, distance between barriers: 8.2mm, contact capacity: 30 V DC, 0.5 A	
Operating Display	LCD with backlight (16 characters x 2)	
Operating Temperature	0°C to +50°C	
Operating Humidity	Under 90% (must be free from dew condensation)	
Finish	Panel: Aluminum, black, 30% gloss, paint Case: Surface treated steel plate, black, 30% gloss	
Dimensions	482 (W) x 44 (H) x 315 (D) mm	
Weight	4 kg	
Accessory	Power cord...1, Unbalanced-phone plug cord (2m)...2, Rubber foot...4, Rack mounting screw...4, Rack mounting washer...4, Rack mounting bracket (pre-fixed to the unit)...2	
Option	Flash memory card: EV-F64M, Input transformer: IT-450	

* 0 dB = 1 V

NOTE

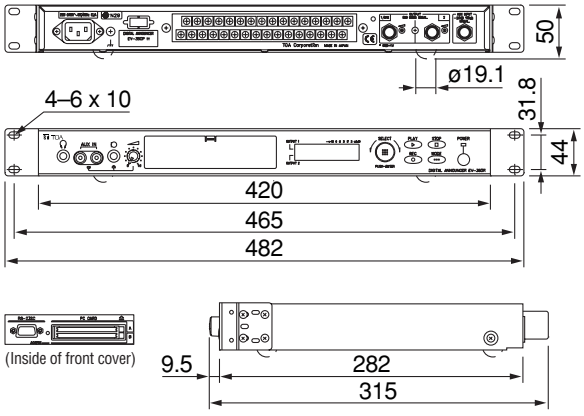
1. The sentence refers to recording data for one recording unit.
   Programs are created by combining the sentences and are played back (EV-350R).
2. Phone jack outputs 1 and 2 can be converted to balanced type using an optional IT-450 transformer.

Option

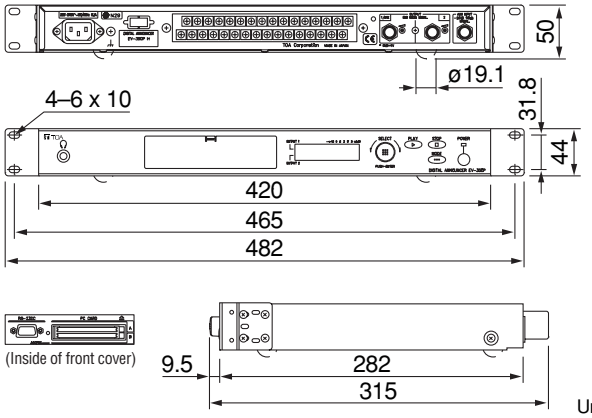
IT-450
Input Transformer
Impedance: 600Ω ±10%
Frequency Response: 200 – 10,000Hz

DIMENSIONAL DIAGRAMS

EV-350R



EV-350P



Unit: mm

TOA Corporation

URL : www.toa.jp/

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