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SPECIFICATIONS

Product Name: Network Signal Tower with Voice Annunciator

Model: NHV□-□□□□-□□□□□

PATLITE Corporation

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1. General Specifications

Model	5 tiers	NHV□-5□□□
	4 tiers	NHV□-4□□□
	3 tiers	NHV□-3□□□
	2 tiers	NHV□-2□□□
	1 tier	NHV□-1□□□
	0 tiers	NHV□-0□□□
Rated Voltage	DC Jack	24VDC
	PoE *1	48VDC Conforms to IEEE802.3at (PoE+) *2
	AC Adaptor *3	Input: 100 - 240VAC (50/60Hz) Output: 24VDC
Operating Voltage Range	DC Jack	21.6 - 26.4VDC
	PoE *1	42.5 - 57VDC
	AC Adaptor *3	90 - 264VAC
Rated Current Consumption	Main Unit *4	Standby: 120mA Maximum: 210mA (24VDC input) Standby: 115mA Maximum: 175mA (PoE 48VDC input)
	LED Unit	40mA (per Unit, 24VDC input) , 25mA (per Unit, PoE 48VDC input)
Rated Power Consumption	Main Unit *4	Standby: 3.5W Maximum: 6W (AC Adaptor, 100VAC input)
	LED Unit	1.0W (per Unit, AC Adaptor, 100VAC input)
Operating Ambient Temperature		0 - 40°C (No Dew or Condensation)
Operating Ambient Humidity		20%RH - 80%RH (No Dew or Condensation)
Storage Ambient Temperature		-10 - 60°C (No Dew or Condensation)
Storage Ambient Humidity		20%RH - 80%RH (No Dew or Condensation)
Mounting Location		Indoor Only
Mounting Direction		Upright
Protection Rating		IP 20
Insulation Resistance		More than 10Mohm at 500VDC between live part and non-current carrying metallic part
Withstand Voltage		1500VAC applied for 1min (10mA or less) between live part and non-current carrying metallic part without breaking insulation
Sound Pressure Level		88dB or more
Environmental Condition		Front direction from the center, at 1m, 1.8kHz sine wave played back at -6dB MP3 data of the content and use of the environment, the sound pressure level will change.
Audio Line Output		600Ω 0dBV (Unbalanced, Monaural Mini-Jack)
Mass [Tolerance ±10%]	NHV6	760g + (60g) x Signal Tower Tiers (AC Adaptor not included)
	NHV4	750g + (35g) x Signal Tower Tiers (AC Adaptor not included)
	NHV6-D	805g + (60g) x Signal Tower Tiers (AC Adaptor not included)
	NHV4-D	795g + (35g) x Signal Tower Tiers (AC Adaptor not included)
	NHV6-DP	850g + (60g) x Signal Tower Tiers
	NHV4-DP	840g + (35g) x Signal Tower Tiers
External Contact Output (Only D-type)		Non-voltage contact output
Number of Contacts		2
Contact Capacity		(30VDC@3A) inrush current 5A or less (5VDC@1mA, Minimum, Reference)
Wire Diameter		Solid Wire / Stranded Wire: φ0.41 - 0.81mm (AWG26 - 20)
Wiring Method		Screwless terminal block
External Contact Input (Only D-type)		Non-voltage contact input NPN Transistor
Number of Contacts		4
Contact Capacity		"ON" output current @ 6mA or less per channel Terminal OFF condition Voltage: 24VDC
Wire Diameter		Solid Wire / Stranded Wire: φ0.41 - 0.81mm (AWG26 - 20)
Wiring Method		Screwless terminal block

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Communication Method	Ethernet (Conforms to the IEEE 802.3) 10BASE-T / 100BASE-TX / 1000BASE-T (Auto MDI / MDI-X)		
IP Network	IPv4 / IPv6 dual stack		
Interface	USB2.0/1.1 Type-A 1ch		
Outer Dimensions	Refer to the Outer Dimension Drawing		
Accessories	AC Adaptor *3 , Adhesive sheet		
Compatible Unit (Optional)	NHV6	LED Unit	LR6-E-RZ, RY, RG, RB, C LR6-E-R, Y, G, B, MZ
		Wireless Data Acquisition System Transmitter	WDT-6LR-Z2
	NHV4	LED Unit	LR4-E-RZ, RY, RG, RB, C LR4-E-R, Y, G, B
		Wireless Data Acquisition System Transmitter	WDT-4LR-Z2
Optional Parts	Wall Mounting Bracket		NH-001
	Partition Mounting Bracket		NH-002
	AC Adaptor		ADP-001
Conformity Standards	UL 62368-1, CSA C22.2 No.62368-1 FCC Part 15 Subpart B(Class A), ICES-003(Class A) EN 55032(Class A), EN 55035, EN IEC 63000 (KS C 9610-6-4, KS C 9610-6-2) *5 (TR CU 020, TR EEU 037) *5		
Remark	*1 Only P-type *2 A PoE+ power supply HUB that complies with IEEE802.3at is required. USB cannot be used with PoE-powered HUBs that comply with IEEE802.3af. *3 Excludes N-type and P-type *4 Does not include USB current consumption *5 Only N-type and P-type - Conforms to the CE Requirements - Conforms to the UKCA Requirements - UL/cUL Listed		

2. Model

2.1. Model Number Configuration

N		H		V		□				-	□				□				□				□			
Signal Tower Type		Signal Tower Tiers		External I/O		Power Supply Method				Extension Function				LED Unit Color												
6	LR6(φ60)	0	0 tiers	Blank	I/O does not exist	Blank	AC Adaptor (included)	Blank	Standard	R	Red	Y	Amber	G	Green	B	Blue	C	White							
4	LR4(φ40)	1	1 tier	D	I/O exists	N	AC Adaptor (not included)	M	Mail Detection																	
		2	2 tiers			P	PoE or AC Adaptor (not included)																			
		3	3 tiers																							
		4	4 tiers																							
		5	5 tiers																							

From top to bottom

2.2. Model Number List

NHV4-0	NHV4-0N	NHV6-0	NHV6-0N
NHV4-1-R	NHV4-3N-RYG	NHV6-1-R	NHV6-3N-RYG
NHV4-1-Y	NHV4-0DN	NHV6-1-Y	NHV6-0DN
NHV4-1-G	NHV4-3DN-RYG	NHV6-1-G	NHV6-3DN-RYG
NHV4-2-RY	NHV4-0DP	NHV6-2-RY	NHV6-0DP
NHV4-2-RG	NHV4-3DP-RYG	NHV6-2-RG	NHV6-3DP-RYG
NHV4-3-RYG	NHV4-0M	NHV6-3-RYG	NHV6-0M
NHV4-4-RYGB	NHV4-3M-RYG	NHV6-4-RYGB	NHV6-3M-RYG
NHV4-5-RYGBC	NHV4-0MN	NHV6-5-RYGBC	NHV6-0MN
NHV4-0D	NHV4-3MN-RYG	NHV6-0D	NHV6-3MN-RYG
NHV4-1D-R		NHV6-1D-R	
NHV4-1D-Y		NHV6-1D-Y	
NHV4-1D-G		NHV6-1D-G	
NHV4-2D-RY		NHV6-2D-RY	
NHV4-2D-RG		NHV6-2D-RG	
NHV4-3D-RYG		NHV6-3D-RYG	
NHV4-4D-RYGB		NHV6-4D-RYGB	
NHV4-5D-RYGBC		NHV6-5D-RYGBC	

3. Action Specification

3.1. Information (Main Unit)

Signal Tower	Lighting, Flashing pattern, and off lighting can be controlled for each LED.
Flashing pattern 1	ON(500ms), OFF(500ms) (repetition)
Flashing pattern 2	ON(80ms), OFF(170ms), ON(80ms), OFF(670ms) (repetition)
Flashing pattern 3	ON(250ms), OFF(250ms) (repetition)
Flashing pattern 4	ON(1000ms), OFF(1000ms) (repetition)
Sound	Up to 71 types of messages can be played on the main unit speaker and line output.
Number of messages	MP3 File : 60 kinds Preset : 11 kinds
MP3 Format	Bit Rate : 32kbit/s, 64kbit/s, 128kbit/s Constant Bit Rate (CBR) only
Preset	Buzzer Sound : 5 kinds Chime Sound : 3 kinds Voice Sound : 3 kinds
Playback Pattern	One-shot Playback, Repeat Playback, Endless Playback
One-shot Playback	It is played back once per playback event.
Repeat Playback	It is played back when set up to play a certain number of times per playback event. Number of playback times : 1 - 254
Endless Playback	It will play back repeatedly per playback event.
Playback Mode	Input Priority Playback, Memory Playback
Input Priority Playback	If a new playback event occurs, the channel being played back will be interrupted and a new channel will play.
Memory Playback	When playback is ended, the next available channel stored in memory will play.
Notification Sound	Up to 10 of Notification Sounds can be played in combination with other Sound.
Number of Notification Sounds	MP3 File : 5 kinds Preset : 5 kinds
MP3 Format	Bit Rate : 32kbit/s, 64kbit/s, 128kbit/s Constant Bit Rate (CBR) only
Preset	Chime Sound : 5 kinds
Buzzer	5 kinds of buzzer sounds
Buzzer pattern 1	ON(250ms), OFF(250ms) (repetition)
Buzzer pattern 2	ON(500ms), OFF(500ms) (repetition)
Buzzer pattern 3	ON(200ms), OFF(50ms), ON(200ms), OFF(550ms) (repetition)
Buzzer pattern 4	ON(continuity)
Buzzer pattern 5	ON(1000ms), OFF(1000ms) (repetition)

3.2. External Control

External Contact Output	External contact output can be controlled when an event occurs or outputting sound.	
Contact Function	Digital Output, BUSY Output	
Digital Output	The digital "A Contact" or "B Contact" output for an automatic OFF function of the digital output port can be set up.	
BUSY Output	It controls the relay contact output in conjunction with the signal output from the line-out.	

3.2. Information (Network)

Email Notification	When an event occurs, an e-mail message is transmitted	
Number of notifications	8	
Authentication protocol	SMTP certification(Password, OAuth2), POP authentication	
Security	SSL/TLS, STARTTLS, none	
SNMP Notification	When an event occurs, Trap or Inform is executed.	
Number of notifications	8	
Version	v1 / v2c / v3	
HTTP Notification	When an event occurs, HTTP command is executed.	
Number of notifications	8	
Protocol	HTTP, HTTPS	
Method	GET	
Authentication protocol	Basic Access Authentication, Digest Access Authentication, none	

4. Function Specification

4.1. Main Unit Control Function

RSH Command	Controllable with RSH Command
SSH Command	Controllable with SSH Command
HTTP Command	Controllable with HTTP Command
Socket Communication	Controllable with PNS Command and PHN Command
SNMP Command	Controllable with SNMP "set" Command
Version	v1 / v2c / v3
"Clear" Button	Clear operation is possible with "Clear" Button of the main unit

Command	Controllable Action						
	Signal Tower	Sound	Buzzer	Digi-Out	e-mail	SNMP	HTTP
RSH Command	✓	✓	✓	✓	✓*1	✓*1	-
SSH Command	✓	✓	✓	✓	✓*1	✓*1	-
HTTP Command	✓	✓*2	✓	✓	-	-	-
Socket	PNS	✓	✓	✓	-	-	-
	PHN	△*3	-	△*4	-	-	-
SNMP Command	✓	✓	✓	✓	-	-	-
"Clear" Button	✓	✓*5	✓*6	✓	✓	✓	✓

*1 It can be used when e-mail or SNMP is set to "Active" in the RSH/SSH Command Configuration.

*2 It is possible to play back received text data by performing speech synthesis in real time. Notification Sounds can be played in combination with before or after a synthesis sound.

*3 Signal Tower "Red", "Amber" and "Green", and Flashing pattern 1

*4 Buzzer pattern1 and Buzzer pattern2

*5 In memory playback mode, you can proceed to the next message

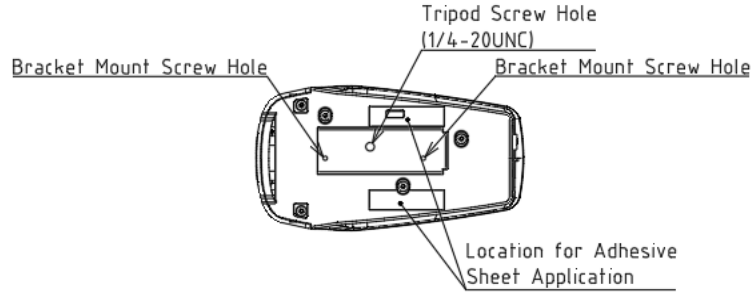
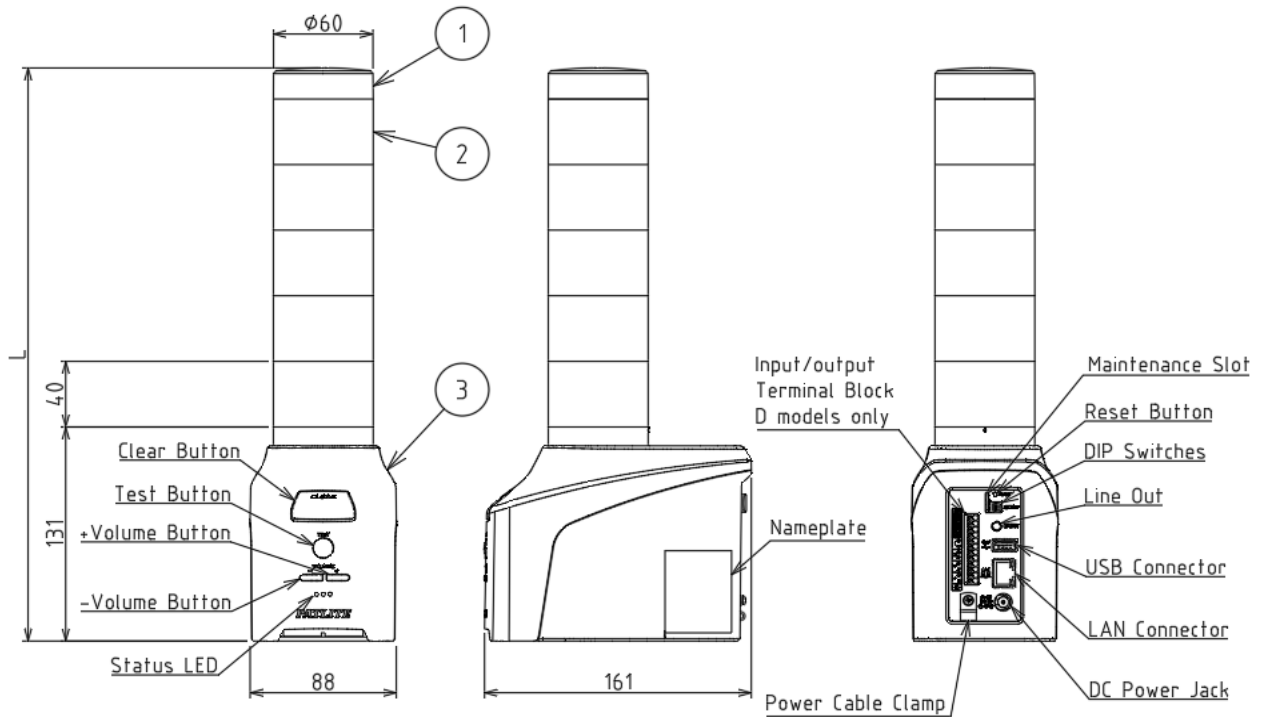
*6 It is possible to stop only the buzzer while maintaining the state of Signal Tower.

4.5. Cloud Function

Supported Cloud Platform		Microsoft Azure *1
		Amazon Web Services (AWS) *2
Azure	Connection Settings	Azure IoT Central/DPS, Azure IoT Hub (IoT Plug and Play)
	Built-in features	Device Twin, Direct Method, Device-to-cloud Message, Cloud-to-device Message
AWS	Connection Settings	AWS IoT Core
	Built-in features	Device Shadow, MQTT client
Main Unit Control		Signal Tower, Sound *3, Buzzer, Digital Output
Main Unit Status Acquisition		Signal Tower, Sound, Buzzer, Digital Output
Main Unit Status Transmission		Signal Tower, Sound, Buzzer, "Clear" button, Digital Output, Digital Input
<p>*1 Microsoft Azure is registered trademark of Microsoft Corporation in the United States and other countries.</p> <p>*2 Amazon Web Services, the "Powered by AWS" logo, and any other AWS trademarks used in such materials are trademarks of Amazon.com, Inc. or its affiliates in the United States and other countries.</p> <p>*3 It is possible to play back received text data by performing speech synthesis in real time. Notification Sounds can be played in combination with before or after a synthesis sound.</p>		

NHV6

(Unit: mm)

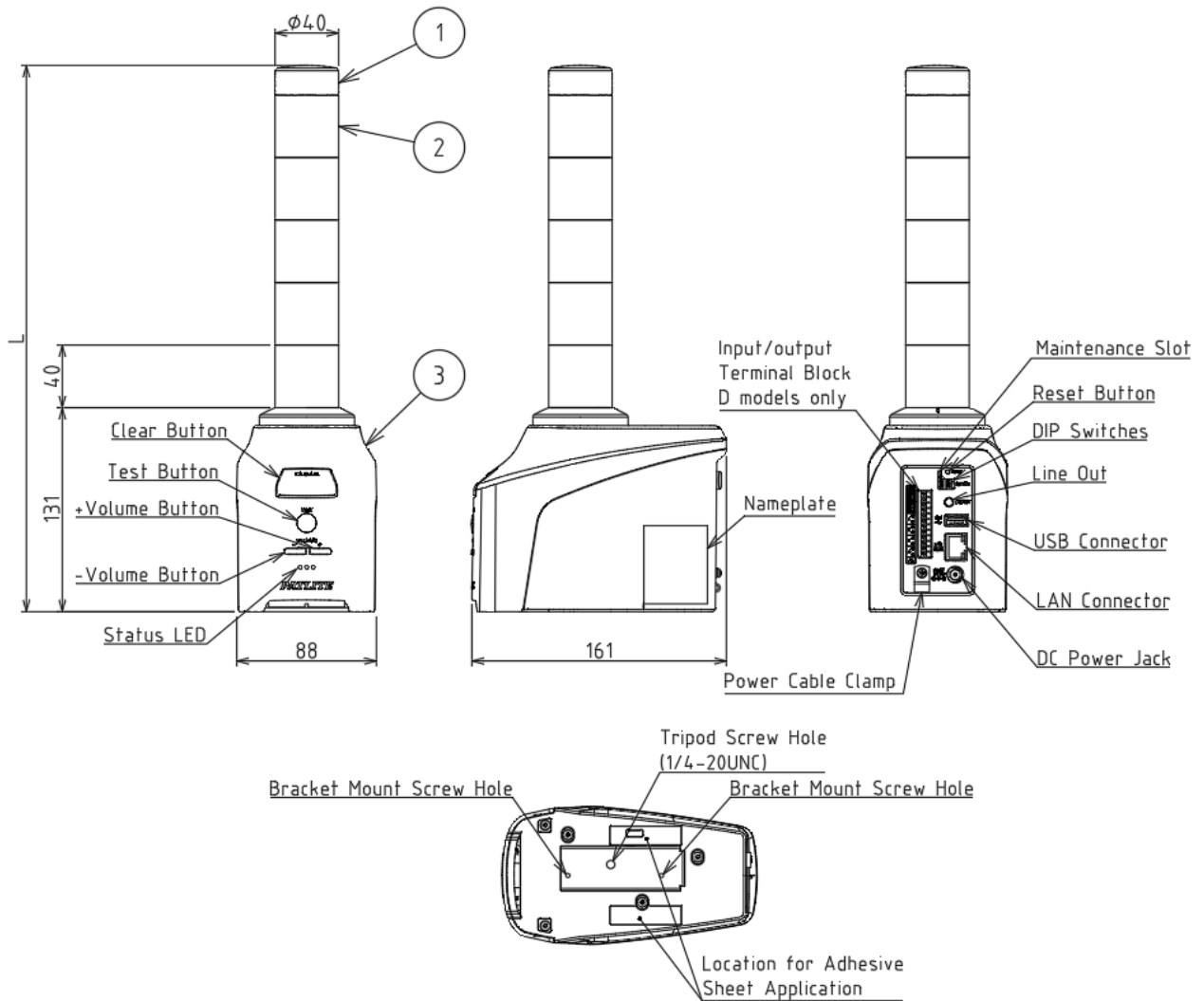


No.	Parts name	Material	Color
1	Head Cover	PC	Off-white
2	LED Unit	PC	Clear
3	Main Body	ABS	Off-white/Medium Gray

Number of LED	L
0 tiers	150
1 tier	190
2 tiers	230
3 tiers	270
4 tiers	310
5 tiers	350

NHV4

(Unit: mm)

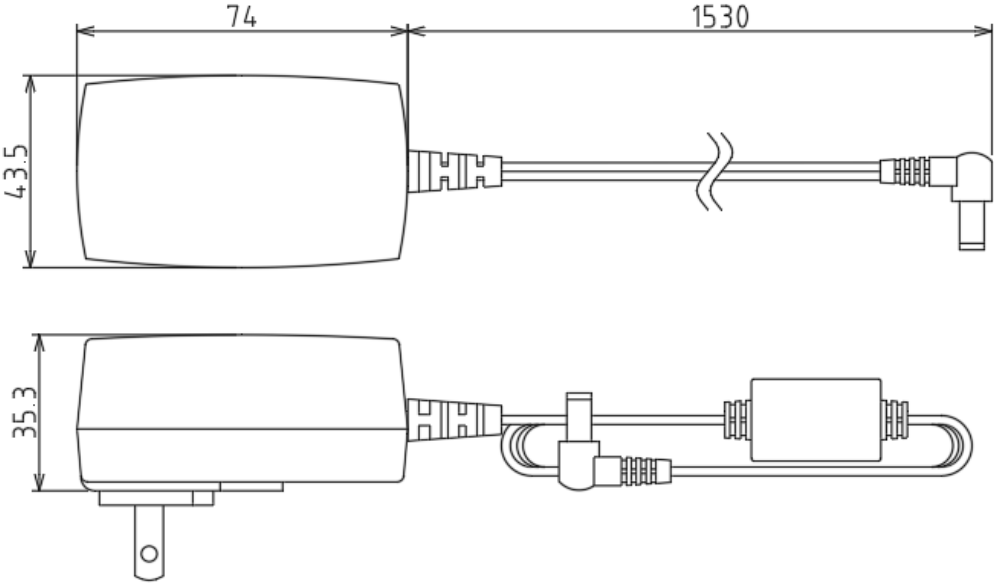


No.	Parts name	Material	Color
1	Head Cover	PC	Off-white
2	LED Unit	PC	Clear
3	Main Body	ABS	Off-white/Medium Gray

Number of LED	L
0 tiers	150
1 tier	190
2 tiers	230
3 tiers	270
4 tiers	310
5 tiers	350

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(Unit: mm)



AC Adaptor Dimensional drawing