Audio-Visual Annunciator

The RYG03A Portable unit
The RYG11A Table Top unit
The RYG13A Flush Mount Unit
The RYG19A Flush Mount Unit
The RYG200A Unit with 2x2" LEDs
The RYG400A Unit with 4" Dia LEDs

This reference guide covers the various models of Red-Yellow-Green indicators. The units are available either with or without a beeper.

RYG11A Red-yellow-green annunciator in an ABS plastic enclosure.

Traditional RYG annunciators are visual indicators that use green, yellow, and red lights to show processes that are on time, running out of time, and over time, respectively.

Models

Model	Indicators	Style	Enclosure
RYG03A	5MM LEDs	Portable	Powder Coated Metal
RYG11ABK RYG11ABBK	1/2" Domes	Table Top	ABS Plastic
RYG13A RYG13AB	1/2" Domes	Flush Mount	Powder Coated Metal
RYG19A	1/2" Domes	Wall Mount	ABS Plastic
RYG200A RYG200AB	2"x2" Clusters	Wall Mount	Powder coated metal or Oak
RYG400A RYG472A RYG401A	4" round circles	Wall Mount	Powder coated metal or oak

Audio Alert Tones

Any audio indication in these units is usually implemented using a simple beeper.

The RYG03A, RYG19A, RYG200A and the RYG400A is available with a programmable tone generator with 38 uniquely programmable audio tone sequences whose rate, or tone length, can be programmed to one of 16 different settings. A volume control controls the loudness of the beeps. In addition to the internal speaker, the RYG03A, RYG19A, RYG200A and RYG400A has the ability to drive a remote speaker.

Beeper Options

Model	Optional Beeper	Programmable Beep tones
RYG03A	Single Tone Beeper	Standard
RYG11AB-BK	Single Tone Beeper	Not available
RYG13AB	Single Tone Beeper	Not available
RYG19A	None	Standard
RYG200AB	Dual loud beepers.	Optional
RYG400AB RYG472AB RYG401AB	Dual loud beepers.	Optional

RYG19A Red-yellow-green annunciator in an ABS plastic enclosure.

RYG200B Red-yellow-green annunciator in a powder coated metal enclosure.

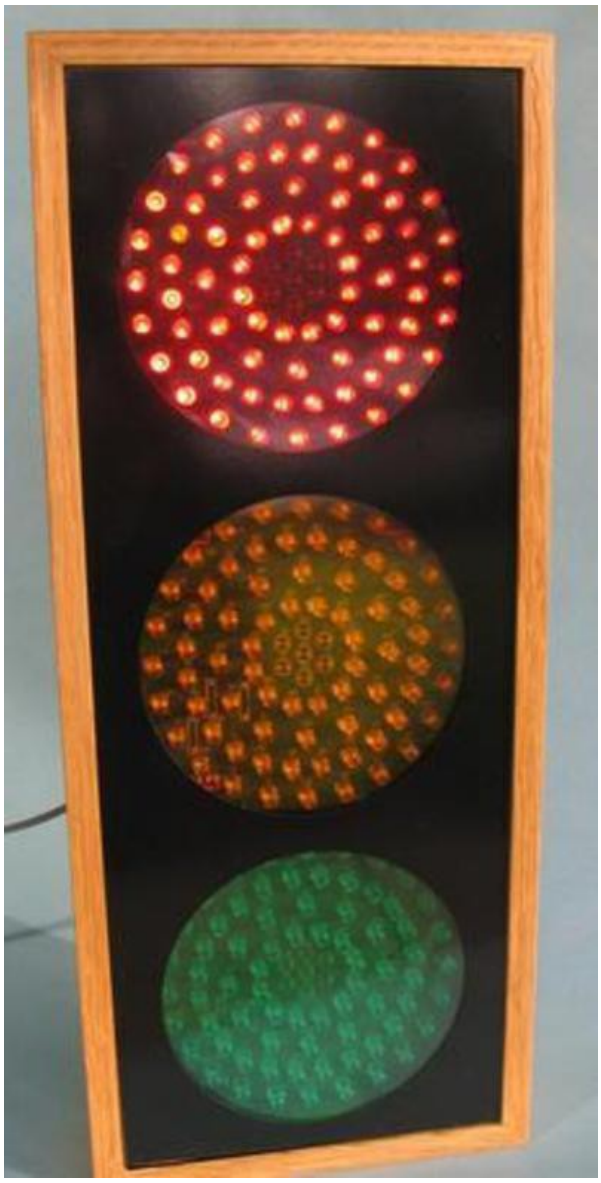
Flexible Connections

There are two ways to connect to the RYG units, through a modular four-conductor crossover telephone cord to an RJ-11 connector, or through CAT5 to an RX422 connector. The RJ-11 connector provides a standard way to connect between our counters and timers while the RX422 connector provides an optically isolated input to allow communicating with the unit over much longer distances.

In a system with multiple devices, only one of the devices needs to be powered even though most devices have their own power connector. Power and data go down the RJ11 or Cat-5 cable to power all devices in a system.

Connections

Model	RS422	RJ11	Power	REMOTE
RYG03A	None	Input/ Output	None	Manual RYG Control
RYG11A	Input	Input/ Output	AC/DC	None
RYG13A	Input	Input/ Output	None	None
RYG19A	Input	Input/ Output	AC/DC	None
RYG200A	Input	Input/ Output	AC/DC	Manual RYG Control
RYG400A RYG401A RYG472A	Input	Input/ Output	AC/DC	Manual RYG Control



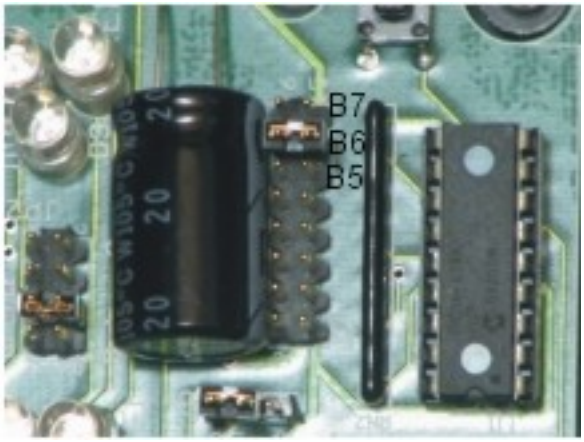
RYG400B Red-yellow-green annunciator in an oak enclosure.

User configuration options

The RYG03A, RYG19A, RYG200A or RYG400A have user configurable settings as described in the table below.

- The Beep tone sequence, Length of tone and Pitch of tone apply to models that have User programmable beep tones.
- The unit address applies to the RYG-3A, RYG19A, RYG200A or RYG400A models.
- The Operational Mode applies only to RYG03A, RYG19A, RYG200A or RYG400A models.

Setup Configuration	Display	Jumper
Beep tone sequence	S-00 to S-43	B7
Length of tone	R-00 to R-15	B6
Pitch of tone	T-00 to T-15	B5
Unit address	A-00 to A-31	B4
Operational Mode	M-00 to M-8	B7 and B6



An optional remote display may be connected to the TX output on the RYG units.

With the remote display connected, the various configuration parameters will appear in the display while making settings changes.

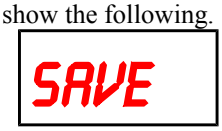
User Programmable Tone Sequences

The RYG03A, RYG19A, RYG200A and RYG400A can save 38 user programmable tone sequences. The tone sequences are made up of the Morse code letters A-Z, numbers 0-9 and 2 special characters.

Jumper = 1000xxxx

Momentary presses of the **Test** button will increment the value. If a remote display is connected to the TX port of the RYG unit, the display will show the following.

Once the desired configuration is selected, press and hold the **Test** button to save the new configuration. The display will show the following.



To program the tone sequences:

1. Take off the RYG03A, RYG19A, RYG200A or RYG400A cover by removing the four Philips head screws from the back of the unit.
2. Locate **J3** (shown above), pull the two-pin jumper from its storage location, and place the jumper across the pins labeled **B7**.
3. **Momentarily press** the configuration button located near **J3**. Each press of the button will cycle the unit to the next tone sequence.
4. When the desired tone sequence is heard, **press and hold** the button until the lights on the unit flash, and the desired tone sequence is replayed. The tone sequence is now programmed into the unit.
5. Replace the two-pin jumper back in its storage location, so the unit can not be accidentally programmed.
6. Replace the cover.

Table of beep sequences

0	0	-----	22	F	••-•
1	1	•----	23	G	--•
2	2	••---	24	H	••••
3	3	•••--	25	I	••
4	4	••••-	26	J	•---
5	5	•••••	27	K	-•-
6	6	-••••	28	L	•-••
7	7	--•••	29	M	--
8	8	---••	30	N	-•
9	9	----•	31	O	---
10	:	---•••	32	P	•--•
11	;	-•-•-•	33	Q	--•-
12	period	•-•-•-	34	R	•-•
13	=	-•••-	35	S	•••
14	RT	-•--	36	T	-
15	?	••--••	37	U	••-
16	@	•--•-•	38	V	•••-
17	A	•-	39	W	•--
18	B	-•••	40	X	-••-
19	C	-•-•	41	Y	-•--
20	D	-••	42	Z	--••
21	E	•	43	RS	•-••••

Dot - Short tone Dash - Long tone

Table 1. Programmable Tone Sequences

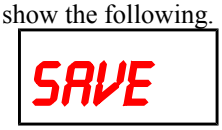
User Programmable Tone Lengths

The RYG03A, RYG19A, RYG200A or RYG400A can save 16 user programmable tone lengths. The tone lengths sequence from fast to slow.

Jumper = 0100xxxx

Momentary presses of the **Test** button will increment the value. If a remote display is connected to the TX port of the RYG unit, the display will show the following.

Once the desired configuration is selected, press and hold the **Test** button to save the new configuration. The display will show the following.



To program the tone length:

1. Take off the RYG03A, RYG19A, RYG200A or RYG400A cover by removing the four Philips head screws from the back of the unit.
2. Locate **J3** (shown above), pull the two-pin jumper from its storage location, and place the jumper across the pins labeled **B6**.
3. **Momentarily press** the configuration button located near **J3**. Each press of the button will cycle the unit to the next tone length.
4. When the desired tone length is heard, **press and hold** the button until the lights on the unit flash, and the desired tone length is replayed. The tone length is now programmed into the unit.
5. Replace the two-pin jumper back in its storage location, so the unit can not be accidentally programmed.
6. Replace the cover.

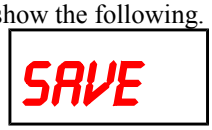
User Programmable Tone Pitch

The RYG03A, RYG19A, RYG200A or RYG400A can save 16 user programmable tone lengths. The tone lengths sequence from fast to slow.

Jumper = 0010xxxx

Momentary presses of the **Test** button will increment the value. If a remote display is connected to the TX port of the RYG unit, the display will show the following.

Once the desired configuration is selected, press and hold the **Test** button to save the new configuration. The display will show the following.



To program the tone pitch:

1. Take off the RYG03A, RYG19A, RYG200A or RYG400A cover by removing the four Philips head screws from the back of the unit.
2. Locate **J3** (shown above), pull the two-pin jumper from its storage location, and place the jumper across the pins labeled **B5**.
3. **Momentarily press** the configuration button located near **J3**. Each press of the button will cycle the unit to the next tone length.
4. When the desired tone pitch is heard, **press and hold** the button until the lights on the unit flash, and the desired tone pitch is replayed. The tone pitch is now programmed into the unit.
5. Replace the two-pin jumper back in its storage location, so the unit can not be accidentally programmed.
6. Replace the cover.

User Programmable Unit Address

The RYG03A, RYG19A, RYG200A or RYG400A can be set to one of 32 unit addresses.

Jumper = 0001xxxx

Momentary presses of the **Test** button will increment the value. If a remote display is connected to the TX port of the RYG unit, the display will show the following.

Once the desired configuration is selected, press and hold the **Test** button to save the new configuration. The display will show the following.

To program the unit address:

1. Take off the RYG03A, RYG19A, RYG200A or RYG400A cover by removing the four Philips head screws from the back of the unit.
2. Locate **J3** (shown above), pull the two-pin jumper from its storage location, and place the jumper across the pins labeled **B4**.
3. **Momentarily press** the configuration button located near **J3**. Each press of the button will cycle the unit to the next unit address.
4. When the desired unit address is heard, **press and hold** the button until the lights on the unit flash, and the desired tone length is replayed. The unit address is now programmed into the unit.
5. Replace the two-pin jumper back in its storage location, so the unit can not be accidentally programmed.
6. Replace the cover.

User Programmable Operational Mode

The RYG03A, RYG19A, RYG200A or RYG400A can be set to one of several operational modes.

When using the Manual Red-Yellow-Green and/or beeper control, the following operational modes apply.

Buttons connected to the **REM** inputs on the unit will either toggle the indicator or relay driver state or provide a momentary closure on the indicator or relay driver.

Sending serial commands in the form ”KPn will have the same effect as toggling the REM inputs.

Operational Modes

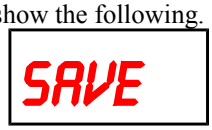
Setup Configuration	Serial Port Command	Display
Remote Inputs Toggle Lamp/Relay State	None	M-00
	None	M-01
Remote Inputs Closes Lamp/Relays Momentarily	None	M-02
	None	M-03

Setup Configuration	Serial Port Command	Display
Remote Inputs Toggle Lamp/Relay State	“KP0 - “KP3	M-04
	“KP4 - “KP7	M-05
Remote Inputs Closes Lamp/Relays Momentarily	“KP0 - “KP3	M-06
	“KP4 - “KP7	M-07
Manual RYG operation. Available on **RYG03A** only.	None	M-08
When manual RYG operation is enabled, the data **RLY@n** is output on the serial port once per second when ever one of the Green, Yellow or Red indicators are ON. In addition, pressing the **Setup/Beep** button generates a beep on the beeper and sends the **RLY01P1** command on the serial port to sound the beeper.		

Jumper = 1100xxxx

Momentary presses of the **Test** button will increment the value. If a remote display is connected to the TX port of the RYG unit, the display will show the following.

Once the desired configuration is selected, press and hold the **Test** button to save the new configuration. The display will show the following.



To program the operational mode:

1. Take off the RYG03A, RYG19A, RYG200A or RYG400A cover by removing the four Philips head screws from the back of the unit.
2. Locate **J3** (shown above), pull the two-pin jumpers from their storage location, and place the jumpers across the pins labeled **B7 and B6**.
3. **Momentarily press** the configuration button located near **J3**. Each press of the button will cycle the unit to the next operational mode.
4. When the desired tone length is heard, **press and hold** the button until the lights on the unit flash, and the desired operational mode is replayed. The operational mode is now programmed into the unit.
5. Replace the two-pin jumpers back in its storage location, so the unit can not be accidentally programmed.
6. Replace the cover.

Serial port commands sent while in the setup mode.

- **DSPA-00** Setup Unit address.
- **DSPT-00** Setup Beep Tone pitch.
- **DSPR-00** Setup Beep Tone Lengths.
- **DSPS-00** Setup Beep Tone Sequence.
- **DSPM-00** Setup Mode.