Gemi 841 wireless system

Rev. v1_6

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I. General Information

Designed for hospitality and leisure industry, *Gemi 841* waiter call system is the best choice to improve customer services and staff efficiency. The wireless systems consists of Table Call Buttons, Pagers, Kitchen Stations and Repeaters. Through GemiLink device the system can be connected to PC.

Gemi 841 give a new perspective on staff to staff and customers relationship: keeping in touch is just a button press away. The time is a precious resource for all of us, which the system does not allow to waste needless.

Benefits		
Increase	**Decrease**	**Improve**
♦ sales ♦ customers loyalty and satisfaction ♦ speed of serving ♦ guest frequency ♦ waiters efficiency ♦ tips	♦ service time ♦ customer waiting ♦ costs of personnel ♦ turnover table time ♦ amount of displeased customers	♦ quality of serving ♦ productivity ♦ staff to staff and customers communication ♦ job management of serving

II. System description and devices

System – enclouse Table Call Buttons, Pagers, Kitchen Stations and Repeaters that are communicate each other through radio signals in 433 MHz frequency band.

Devices were designed according to ETSI EN 300 220 Electromagnetic compatibility and Radio spectrum Matters (ERM) for short range devices (SRD).

All devices are working on the same frequency. This is set to each device through a simple procedure described in the instructions manual. There are 4 channels available in 433 MHz band:

- channel 1: 433,1 MHz
- channel 2: 433,5 MHz
- channel 3: 433,9 MHz
- channel 4: 434,3 MHz

This feature of the *Gemi 841* provides a high immunity to interference. If there are some other devices working on these frequency in the same area, changing the channel is a useful choice. The Repeater has the ability to indicate channel interference with other devices.

Group – is a Table Call Buttons cluster served by one or more pagers. „Group No." is a parameter proper to all Table Call Buttons belongs to the same group. This parameter is set for each Table Call Button using a simple procedure explained in the instruction manual. The same parameter is set for Pager. In a restaurant for example, a Table Call Buttons „group" represent the tables for which one or more waiters are in charge of. The calls initiated from those tables alert the appropriate Pager.

Maximum number of groups in a *Gemi 841* system is 19.

II.1 Table Call Buttons – is the device that allows initiating calls to Pager. Locate on each table this device is on customer disposal to call the service staff with a simple button push.

Maximum number of Table Call Button in group is 19.

II.2 Pager – It is the mobile device for waiters, bartenders and housekeepers: vibrating, displays and stores incoming calls from customers or kitchen / bar / office.

Settable functions:

- vibration - 2 or 4 times - depending on user choice
- radio programming functional parameters - with GemiLink device
- standby - to save battery power during non-use periods (eg. at night)

Maximum number of Pagers in a *Gemi 841* system is 19.

II.3 Repeater – intermediate communication between *Gemi 841* devices: Call buttons, Pager and Kitchen Stations / bar / office. It receives, stores and forward incoming calls to the other Repeaters or Pagers. Owning to its antenna is a radio signal booster that increases the system coverage. It is an indispensable component of the System in Gemi 841.

Repeaters are communicating each other. This *Gemi 841* feature provide a great advantage: repeaters can be as many are necessary to cover entire interest area. Thanks to this feature, the system can be installed in hotels, restaurants or other resorts with multiple servicing areas. Pagers will receive calls regardless which Repeater cover that area.

Other important feature is the flexibility of the *Gemi 841* system: Call buttons can be relocated anywhere in the area covered by the system without being reprogrammed, no matter how many repeaters are installed. Initiated calls will be received by the nearest repeater and retransmitted to the others. Pagers will receive calls regardless of which Repeater is next to them.

In brief: a flexible system in terms of mobility across Repeaters coverage.

II.4 Kitchen Station – allows to call any Pager using its membrane switch interface. It is useful in restaurants kithen when the dinner or beverage is ready to be served.

Maximum number of Kitchen Stations in a *Gemi 841* system is 19.

II.5 GemiLink – with two interfaces embedded (radio and USB), the device is a link between *Gemi 841* devices and appropriate software applications. This feature add some benefits for *Gemi 841* functionality:

1. receive and display on the screen all interest calls (initiate by Table Call Buttons, Kitchen Stations)
2. send calls to Pagers from PC
3. staff management purpose, online calls dispaly, supervising waiters serving time

It is an optional *Gemi 841* device.

For software developers and integrators (restaurant management POS, retail POS, etc) we can provide GemiLink interface specifications (library functions, *.dll) so that *Gemi 841* system functionality can be included in appropriate applications.

III. Features

III.1 Table Call Button

Technical data

	CLASSIC Call Button – B1-103 	**MINI Cal Button – B2-103** 
Dimensions	110x30 mm (Diameter x H)	58 x 33 x 15mm
Weight	105g	25 g
Power supply	Alkaline battery - 2x1,5V, AAA	2x1,5V, LR44, alcaline
Battery life	~ 2 years	~ 6 month
Signaling	YES, the LED is blinking for: - call sent (when push the button) - parameter setting procedure	YES, the LED is blinking for: - call sent (when push the button) - parameter setting procedure
Automatic battery status control	YES – send „low battery" call to *GemiLink*	YES – send „low battery" call to *GemiLink*
Setting	YES – functional parameters – using its provided button. They are stored in a non volatile memory.	YES – functional parameters – using its provided button. They are stored in a non volatile memory.
Accessories	Holder - for table mounting	Holder - for mounting on main pole umbrella
Maximum number / group	19	19
Maximum number / Gemi 841 system	361 (19x19)	361 (19x19)
Part number (P/N)	B1-103	B2-103
Specifications		
According to	EN 300 220-3	EN 300 220-3
Architecture	Microcontroller, 433 MHz transceiver, non volatile memory	Microcontroller, 433 MHz transceiver, non volatile memory
Frequency band	433 MHz	433 MHz
Frequency channels	4	4
Channel spacing	400KHz	400KHz
Output power	<10mW	<10mW
Data rate	50Kbps	50Kbps
Modulation	GFSK	GFSK
Antenna	Internal	Internal
Power consumption	max. 0,05 mAh	max. 0,05 mAh
Coverage	max. 70m – open area	max 50m - open area

III.2 Pager

Technical data

	Watch Pager – P3-103	**Standard, Extended – P1-103,P2-103**
		
Dimensions	52 x 32 x 15 mm	Standard - 96x47x24 mm (L x W x H) Extended – 151x47x24mm (L x W x H)
Weight	30g	Standard – 63g Extended – 70g
Power supply	Rechargeable - 2x1,2V, type B40H, Ni-Mh, 40mAh	Rechargeable battery - 2x1,2V, AAA, Ni-Mh,1000mAh
Recharge	3 days	15 days
Acoustic signaling	-	YES – 2 modes available
Optic signaling	1x7 segment led display interface-display Table nr, Kitchen Station nr, battery status	14 LEDs bright interface – display Table nr, Kitchen Station nr, battery status
Vibration alert	Yes	YES
Standby feature	YES - for power saving purpose when is not in use (eg. during night)	YES - for power saving purpose when is not in use (eg. during night)
Stored calls	YES	YES
Number of stored calls	max. 10. The waiter acknowledge each call by pressing the Pager button. Next calls will erase older calls if the user don't acknowledge them.	max. 10. The waiter acknowledge each call by pressing the Pager button. Next calls will erase older calls if the user don't acknowledge them.
Call storage time	5 min each call	5 min each call
Call acknowledge	YES – pressing the button the calls are displayed in receive order	YES – pressing the button the calls are displayed in receive order
Setting	YES – functional parameters, alert modes. Functional parameters are saved in nonvolatile memory.	YES – functional parameters,alert modes. Functional parameters are saved in nonvolatile memory.
Automatic battery status control	YES – two signaling levels	YES – two signaling levels
Accessories	-	Pager holder - wall mounting
Part number (P/N)	P3-103	Standard- P1-103 Extended – P2-103
Specifications		
According to	EN 300 220-3	EN 300 220-3
Architecture	Microcontroller, 433 MHz transceiver, non volatile memory	Microcontroller, 433 MHz transceiver, non volatile memory
Frequency band	433 MHz	433 MHz
Frequency channels	4	4
Channel spacing	400KHz	400KHz
Output power	<10mW	<10mW

Data rate	50Kbps	50Kbps
Modulation	GFSK	GFSK
Antenna	Internal	Standard- internal Extended - external
Power consumption	2mAh	2,7mAh

III.3 Repeater

Technical data

Dimensions	151x47x24mm (L x W x H)
Weight	100g (with adapter)
Power supply	Adapter 5,5V, supply ~220V
Signaling	YES – the LED is blinking for: - parameter setting procedure - sending/receive data - interference with other devices
Setting	YES – functional parameters – using its provided button. They are stored in a non volatile memory.
Stored calls	YES
Number of stored calls	max. 95 – 5 for each Pager (group). Next calls will erase older calls.
Call storage time	5 min each call
Accessories	Repeater holder - wall mounting
Part number (P/N)	R1-103
Specifications	
According to	EN 300 220-3
Architecture	Microcontroller, 433 MHz transceiver, non volatile memory
Frequency band	433 MHz
Frequency channels	4
Channel spacing	400KHz
Output power	<10mW
Data rate	50Kbps
Modulation	GFSK
Antenna	Externa
Power consumption	max. 0,5W
Coverage	max. 100m – open area

III.4 Kitchen Station

Technical data

Dimensions	195x63x31mm (L x W x H)
Weight	160g
Power supply	Alkaline battery - 2x1,5V, AA
Battery life	~ 2 years
Keyboard	YES - membrane switch with 10 keys
Signaling	YES – the LED is blinking for - call sent (when push the button) - parameter setting procedure
Setting	YES – functional parameters. They are saved in nonvolatile memory.
Accessories	Kitchen Station holder - wall mounting
Part number (P/N)	SB1-103
Specifications	
According to	EN 300 220-3
Architecture	Microcontroller, 433 MHz transceiver, non volatile memory
Frequency band	433 MHz
Frequency channels	4
Channel spacing	400KHz
Output power	<10mW
Data rate	50Kbps
Modulation	GFSK
Antenna	External
Power consumption	max. 0,05 mAh
Coverage	max. 100m – open area

III.5 GemiLink

Technical data

Dimensions	58x20x10mm (L x W x H)
Weight	20 g
Power supply	USB port
Setting	YES – functional parameters, using *GemiLink Manager* software
Part number (P/N)	GL1-103
Specifications	
According to	EN 300 220-3
Architecture	Microcontroller, 433 MHz transceiver, non volatile memory
Frequency band	433 MHz
Frequency channels	4
Channel spacing	400KHz
Output power	<10mW
Data rate	50Kbps
Modulation	GFSK
Antenna	Internal
Power consumption	max. 0,1 W
Coverage	max. 50m – open area

IV Schematic - system with several Repeaters