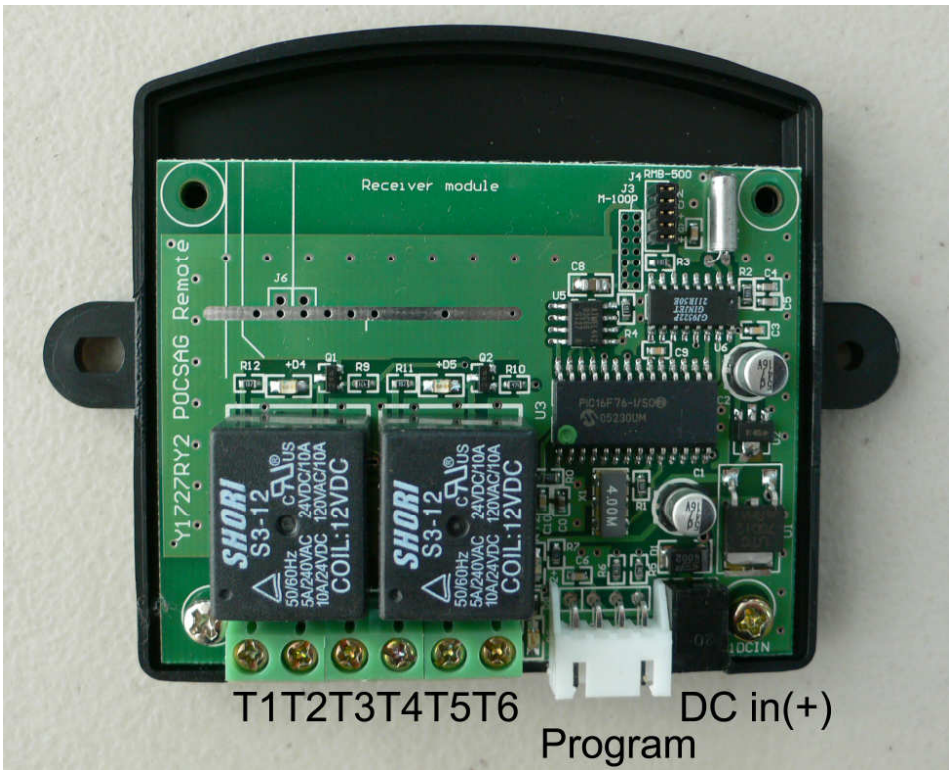
POCSAG Remote Controller & Messaging Receiver

Model No. Y1727RY2 rev 1.30 July 2012.

Operation Manual

Wireless Devices Inc. (Taiwan)

The Y1727RY2 series is the high performance VHF/UHF/900MHz paging telemetry controller, which is specially designed for electric power lines ON-OFF remote control, car alarm and security alarm applications etc. And the control concept is to utilize thru either the existed POCSAG paging infrastructure or on-premises paging transmitter to send out the various 46 message demands.

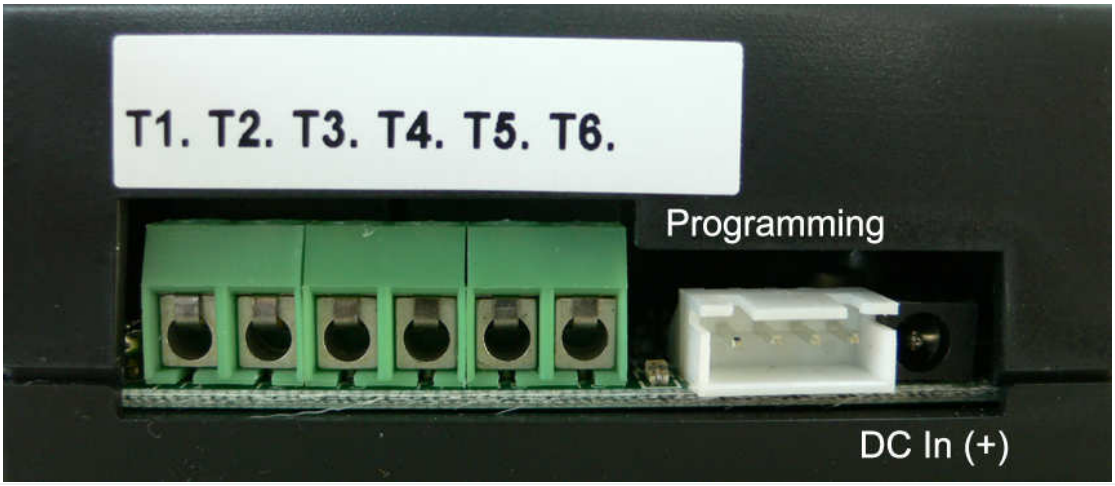


Specifications

General	
Size:	72mm X 60 mm X 18 mm (Module only without Housing) 76mm X 72mm X 33mm (with Housing)
Power supply requirements:	DC 12-24V Normal 13.8V
Power consumption:	Standby 20mA, Relays active maximum 80mA.
Weight	90gm(Module only) / 110gm (with housing)
Operation Temperature	-40˚C~85˚C
RF Performance	
Frequency bands:	138~174, 420~490, 929~933MHz by crystals Oscillator
Frequency stability:	+/- 10ppm standard, +/- 5ppm for option
Channel spacing	12.5kHz or 25kHz
Demodulation	FSK NRZ, POCSAG format 512, 1200 or 2400 Bps
Selectivity	55dB
Inter modulation rejection	60dB
Sensitivity	-106db/M (512bps),-105db/M (1200bps), -103db/M (2400bps)
Antenna	Built-in loop antenna or option SMA antenna jack
Programming Interfaces	
TTL level	RS-232 Protocol 0V-5V level
Programming I/O	Via serial port.
Power Relay Unit	
Contact Rating	120VAC 10A
Insulation Resistance	DC 500V 1000MΩ.
Contact Material	Ag Alloy
Approved	UL, CUL, and TUV

Model No: Y1727RY2

Pin and Connector Designation



A. <Relay output >

Terminal	Name	Description
T1	Relay 1 N/O	Dry contact of relay #1 normal open
T2	Relay 1 Com	Dry contact of relay #1 common Max 10A
T3	Relay 1 N/C	Dry contact of relay #1 normal close
T4	Relay 2 N/O	Dry contact of relay #2 normal open
T5	Relay 2 Com	Dry contact of relay #2 common max 10A
T6	Relay 2 N/c	Dry contact of relay #2 normal close

B. <TTL I/O for programming & message data output>

J2	Name	Description
1	GND	System Ground
2	V+12V	DC 12V from programmer kit
3	RX	Programming data or the message data receiving
4	TX	Programming data or message data transmission

C. <DC power input>

◎ Connect to DC power supply from 12V to 24V voltage source

Y1727RY2 [Version 1.3]
<<Remote Controller's Application Sections >>

A. How to issue the command to your paging remote controller

Please access a paging call attempt with the following messages.

PPPP A C C RRRRR

Preventing the incorrect key inputs [PPPP + ACC + RRRRR = 12 Digits **(must)**].

PPPP = Password (0001~9999)

A = Output Port Number.

A=1 = Relay #1.

A=2 = Relay #2.

A=0 = Relay #1 + Relay #2.

CC = Output Status (Remark: H=Relay Active, L=Off, T=Times, Z=Endless)

00 = Always L

01 = Always H

12 = H2S/1T

13 = H1S/L1S/3T

14 = H2S/L2S/4T

15 = H10S/L10S/Z

16 = H20S/L20S/Z

17 = H1S/ L1S/Z

18 = H0.5S/L0.5S/Z

19 = H6S/L1S/Z

21 = H0.25S/L10S/H0.5S/L10S/H1S/L10S/H2S/L10S/H.Z

22 = H0.5S/1T

23 = H3S/1T.

24 = H20S/1T.

25 = H3S/L3S/10T.

26 = H2S/L2S/20T.

27 = H1S/L1S/30T.

28 = H0.5S/L0.5H/30T.

29 = H30S/1T.

31 = H0.5sec/1T

32 = H1sec/1T

33 = H3sec/1T

34 = H5sec/1T

35 = H8sec/1T

36 = H10sec/1T

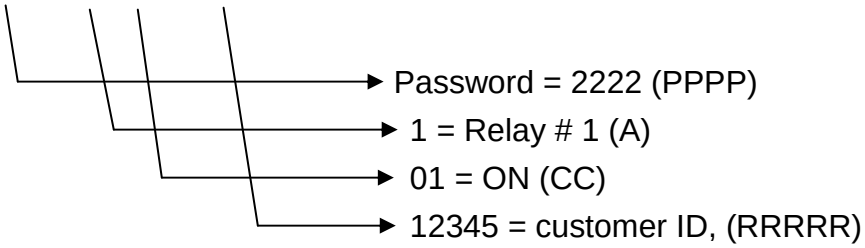
37 = H12sec/1T
38 = H30sec/1T
39 = H50sec/1T
41 = H1min/1T
42 = H3min/1T
43 = H5min/1T
44 = H8min/1T
45 = H10min/1T
46 = H15min/1T
47 = H20min/1T
48 = H30min/1T
49 = H45min/1T
51 = H1hr/1T
52 = H2hr/1T
53 = H3hr/1T
54 = H4hr/1T
55 = H6hr/1T
56 = H8hr/1T
57 = H12hr/1T
58 = H13hr/1T
59 = H24hr/1T

If A C C = 0 0 0 = All Relays Off.

RRRRR = Customer ID. These 5 digital ID are to secure the correct message commands, which must only be set by via the P/C programming.

Example for making the command:

Message: 2222 1 01 12345



B. How to Change the Password

Please make a paging call attempt with the messages as below.

PPPP NNNN PPPP

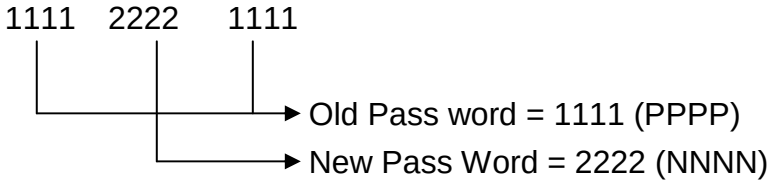
PPPP = Old Password (0001~9999)

NNNN = New Password

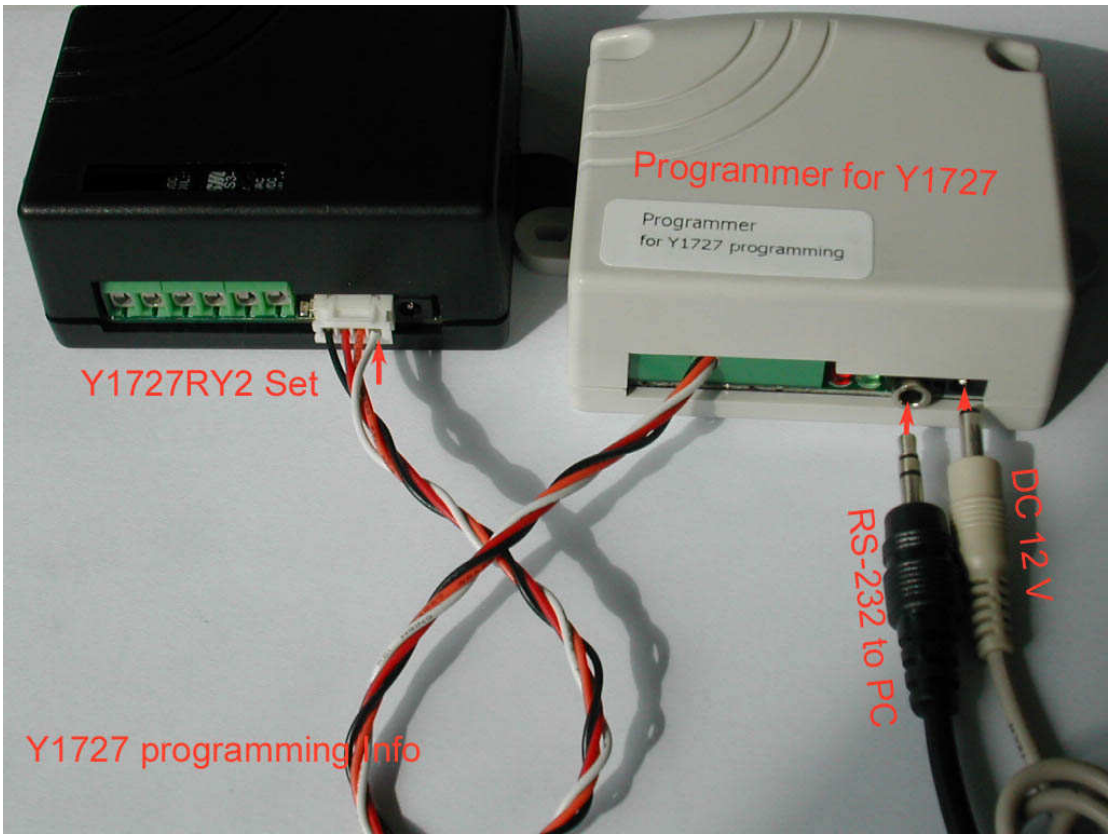
PPPP = Old Password (0001~9999)

Preventing the incorrect key inputs [PPPP + ACC + RRRRR = 12 Digits **(must)**].

Example for changing the password:



C.How to programming the Y1727RY2



1).Connected with DC plug and RS-232 plug into Y1727-Programmer

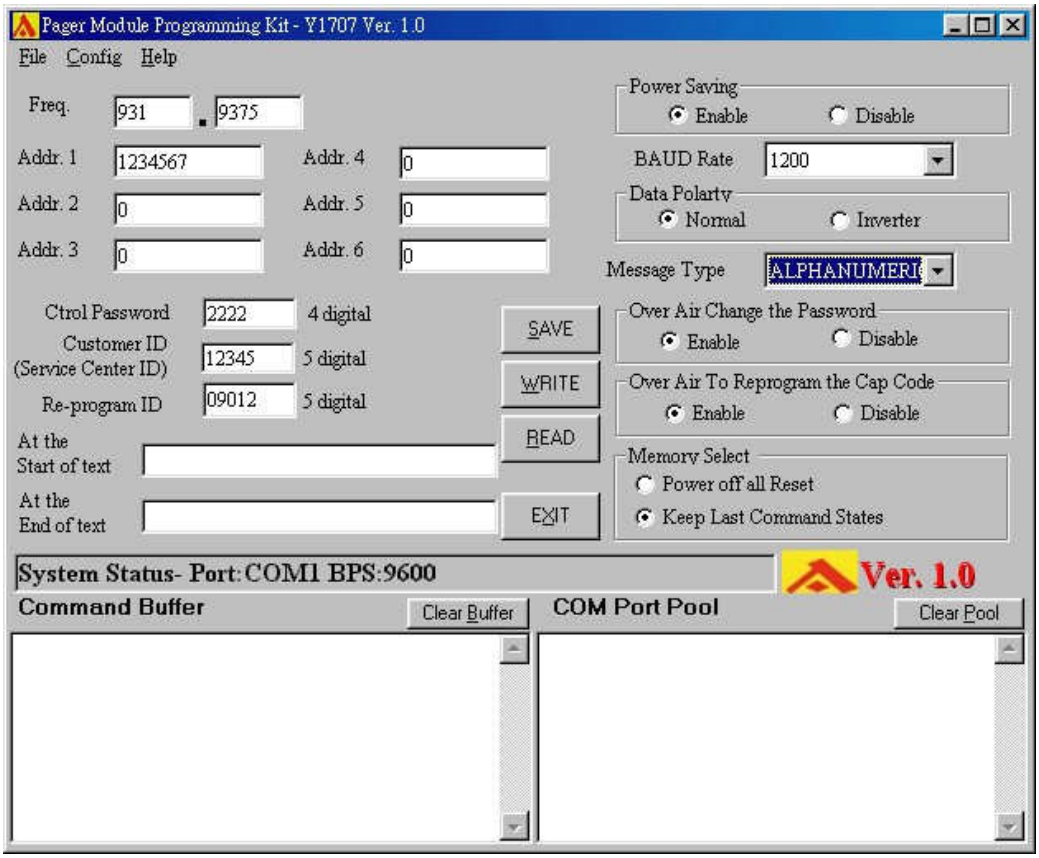
2). Into data wire to Y1727RY2 Set

3).Connected RS-232 cable to P/C or N/B

4). Install programming CD on your P/C or N/B

5) Click [Pager Module programming Kit-y1707V1] to set-up your Y1727RY2..

Programming with Y1727RY2 (Same As Y1707 A/P)



1. Frequency**:**

   This set-up is used for the reference information only: It does not affect any Technical features contained in the Y1727RY2 unit.

2. Y1727RY2 Address (Cap Code) Set-Up**:**

   There are total 6 addresses in this unit with each address range from**:**

- Addr 1**:** set from 0000008 to 2097151. And it must key in 0 digit if disable.
- Addr 2**:** set from 0000008 to 2097151. And it must key in 0 digit if disable.
- Addr 3**:** set from 0000008 to 2097151. And it must key in 0 digit if disable.
- Addr 4**:** set from 0000008 to 2097151. And it must key in 0 digit if disable.
- Addr 5**:** set from 0000008 to 2097151. And it must key in 0 digit if disable.
- Addr 6**:** set from 0000008 to 2097151. And it must key in 0 digit if disable.

   Be sure to enter the “0” digit if the “disable” feature is required. Please Do not leave it blank. Since this will cause the unit malfunction.

3. Command Password Control Set-Up**:**

   There are total in 4 digits’ numeric command password from 0000 to 9999. And this programming and alternation can be set either by computer or through the air paging messaging from the applied operator network.

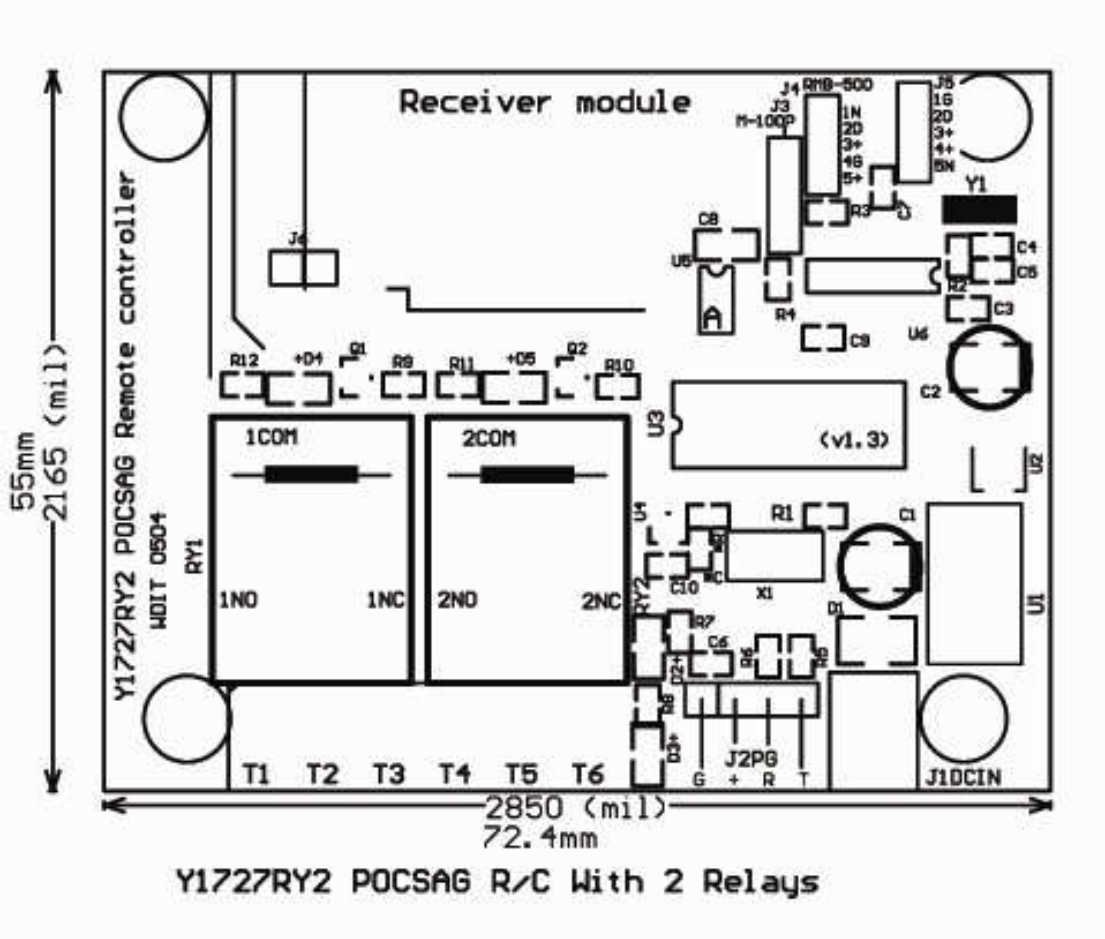
4. Customer ID Set-Up**:**

   Also, the customer ID contains 4 numeric digits from 0000 to 9999. And this

ID only can be set vis the PC computer from your local authorized dealer. The Air paging messages can not have any changes of this set-up.

5. Re-Program ID Set-Up**:**
   There are 5 digits re-program ID reserved for the authorized dealer to alternate the unit address from the air paging. Please must make sure These programmed digits before the air paging alternations.
6. At the Start of the Text**:**
   This is to distinguish each receiving messages by adding the programmed Characters at The start of the text.
7. At the End of The Text**:**
   This is to distinguish each receiving messages by adding the programmed Characters at the end of the text.
8. Power Saving Set-Up**:**
   "Enable" stands for the power ON-Off-ON-Off. And the "disable" means The power output always ON.
   Remark**:** This feature is reserved for the PDA operation only.
9. Baud Rate Set-Up**:** 512/1200/2400 bps for Paging data speed.
10. Data Polarity Set-Up**:** Can be set by normal data or invert data polarity.
11. Message Type Set-Up**:**
    For numeric (4 bit) or Alphanumeric (7 bit) or Auto (not active yet) set-up.
12. Password Change Over The Air Set-Up**:**
    This feature is to allow users changing their current password through The service provider's air messages paging.
13. Address (Cap Code) Alternation Over The Air Set-Up**:**
    This feature is to alternate the Y1727RY2 unit's 7 address digits changes through The service provider's air messages paging.
14. Memory Select Set-Up**:**
    If set at the "power off all reset", the relay's received commands will all be cleared out once the power off and on again. And the "keep last command status" is to recall the last commands after the power on again.
15. SAVE Function**:** To save the programmed data into the computer.
16. WRITE Function**:** To write the programmed data into the Y1727RY2.
17. READ Function**:** Read the programmed data out from Y1727RY2 unit.
18. EXIT Function**:** To exit this programming software.
19. Command Buffer Set-Up**:** For engineer use only.
20. Com Port Pool**:**
    The Y1727RY2's receiving data can be monitored in this screen. And The other way to view these data is to activate the Hyper terminal screen under the MS windows operational software.

Part No. and location on PCB.



		Y1727RY2 V1.3	
item no.		Part list	**BOM688113201457**
	Part No.	Description	Remark
1	U1	GS7812D	Regulator for dc 12V
2	U2	HT-7530-1	Regulator for dc 3V
3	U3	PIC16F76-04/SO1707v1.3	Micro controller unit (MCU)
4	U4	NC	not used for v1.3 only
5	U5	93C66	EE Prom
6	U6	CS9522P SOP	POCSAG Decoder unit (PDU)
7	Q1	2N3904	NPN Transistor
8	Q2	2N3904	NPN Transistor
9	D1	1N4403	3A Diode for DC source protect
10	D2	LED Red color	Power on indicate
11	D3	LED Green color	RX link indicate

12	D4	LED Red color	Relay 1 active indicate
13	D5	LED Red color	Relay 2 active indicate
14	R1	10M ohm	0603 SMD
15	R2	10M ohm	0603 SMD
16	R3	10K ohm	0603 SMD
17	R4	10K ohm	0603 SMD
18	R5	2.2 ohm	0603 SMD
19	R6	2.2 ohm	0603 SMD
20	R7	1K ohm	0603 SMD
21	R8	430 ohm	0603 SMD
22	R9	430 ohm	0603 SMD
23	R10	430 ohm	0603 SMD
24	R11	1K ohm	0603 SMD
25	R12	1K ohm	0603 SMD
26	*R	4.7K ohm	0603 SMD
27	C1	10u/16V E/C 6x5mm SMD	
28	C2	10u/16V E/C 6x5mm SMD	
29	C3	102 Y5V CM/C 0603	
30	C4	16P NP0 CM/C 0603	
31	C5	16P NP0 CM/C 0603	
32	C6	102 Y5V CM/C 0603	
33	C7	102 Y5V CM/C 0603	
34	C8	105 Y5V CM/C 0805	
35	C9	102 Y5V CM/C 0603	
36	C10	102 Y5V CM/C 0603	
37	*C	105 Y5V CM/C 0603	
38	X1	4.0MHz Resonator	
39	Y1	Quartz crystal 76.8KHz 3x9mm	
40	J1	DC jack DC-022	DC power jack
41	J2	2.54mm x4HU	for TTL operation & programming
42	J3	1.27mm x7 x2	for Receiver module RMB-100
43	J4	1.27mm x5 x1	for Receiver module RMB-500

44	J5	1.27mm x5 x1	for Receiver module G-505
45	J6	2.54mm x 2	for receiver ground pin
46	RY1	10A relay coil=12V DC	
47	RY2	10A relay coil=12V DC	
48	PCB1	Y1727dwit0503 1.0mm 2L	
49	T1~T6	5.0mm Terminal block	Relay output