



POCSAG Wireless Data Receiver

Model No. Y1707RS/TTL

Operation Manual

Wireless Devices Inc. (Taiwan)



Multi-Function Radio Paging Data Receiver, Model No:Y1707RS/TTL

The Y1707 Series is the high performance VHF/UHF/900MHz paging data receiver which is an ideal product for providing remote control and one way telemetry utilizing either the existing POCSAG paging infrastructure or on-premises paging equipment. These units provide eight addressable TTL output lines as well as a RS-232 serial port output.



Application

- **Data Receiver**
- **Remote Controller**
- **Car Burglar Alarm**
- **Telemetry**
- **Data Monitor**
- **Advertisement Panel**
- **Taxicab Call message**
- **LED Display Panel**
- **Any remote application**

Main Function

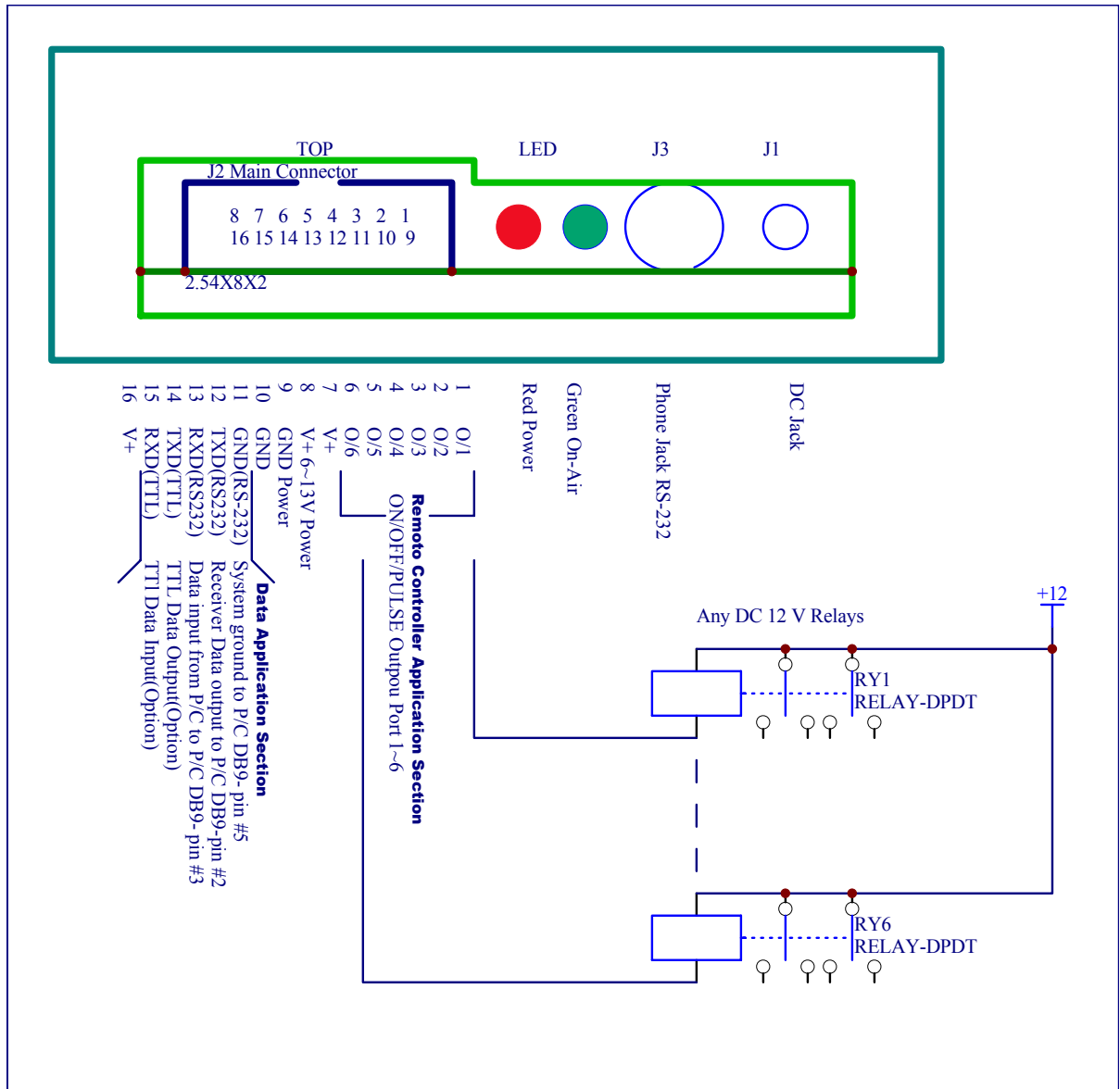
- 138MHz~174MHz, 430MHz~470MHz, 929MHz~933MHz
- POCSAG, Baud: 512bps/1200bps/2400bps
- Built-in RS-232 Driver
- Built-in 6 Ports On/Off Output to Driver Relays
- Data output TTL or RS-232 Output
- Numeric(4bit) / Alphanumeric (7bit) selectable
- Over the Air to Reprogramming Pager ID and Password
- Programming by RS-232 from P/C Windows
- Internal Antenna For Long distance

Specifications

General	
Size:	70mm X 50 mm X 18 mm (Module only without Housing) 76mm X 72mm X 33mm (with Housing)
Power supply requirements:	6-13V DC. 50mA maximum current consumption.
Weight	30gm(Module only) / 60gm (with housing)
Operation Temperature	-40°C~85°C
RF Performance	
Frequency bands:	138~174MHz,(synthesizer), 430~470/929~932MHz by crystals Oscillator
No-tune bandwidth:	10Mhz VHF, 20MHz UHF.
Frequency stability:	+/- 2.5ppm standard
Channel spacing	12.5kHz or 25kHz
Demodulation	FSK NRZ, POCSAG format 512, 1200 or 2400 Bps
Selectivity	55dB
Inter modulation rejection	60dB
PLL step size	12.5K/25K
Sensitivity	-106db/M (512bps),-105db/M (1200bps), -103db/M (2400bps)
User Interfaces	
Serial	RS-232 -2400 Bps
Parallel	8 discrete outputs, TTL levels.
Programming	Via serial port or Over the Air Reprogramming.
Antenna	Built-in loop antenna
Output port	ULN-2003 Low for active

Model No: Y1707RS/TTL

Pin and Connector Designation



- ◎J1 DC Jack for DC Power 6~13 V Input.
- ◎J3 (Phone Jack) RS-232 Connect with Computer for POCSAG Data receiver Use Only.
- ◎Green color, LED for Paging network signal Indicate.
- ◎Red color, LED for Power ON Indicate.
- ◎J2 Main connector for multi input/output and power connect with Computer or Relays, also
to Connect with computer to programming.
- J2-1 O/1 for Port #1 output to drive to relays.
- J2-2 O/2 for Port #2 output to drive to relays.
- J2-3 O/3 for Port #3 output to drive to relays.
- J2-4 O/4 for Port #4 output to drive to relays.
- J2-5 O/5 for Port #5 output to drive to relays.
- J2-6 O/6 for Port #6 output to drive to relays.
- J2-7, 8,16 for DC power Input DC 6~13 V+.
- J2-9, 10 System ground for power V-.
- J2-11 Ground for RS-232. (Connect with Computer Pin 5 of RS-232 DB9).
- J2-12 TXD for data output. (Connect with Computer Pin 2 of RS-232 DB9).
- J2-13 RXD, for data input. (Connect with Computer Pin 3 of RS-232 DB9).
- J2-14 TXD (TTL level output)(for option).
- J2-15 RXD (TTL level input)(for option).

Y1707RS/TTL [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

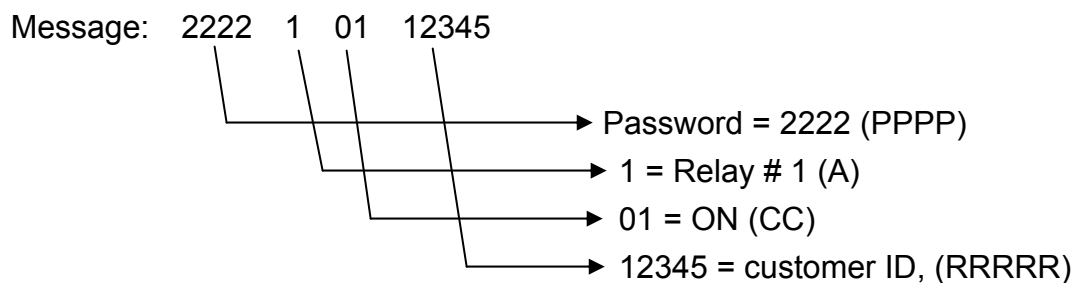
36 = H10sec/1T

- 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:



B. How to Change the Password

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

PPPP NNNN PPPP

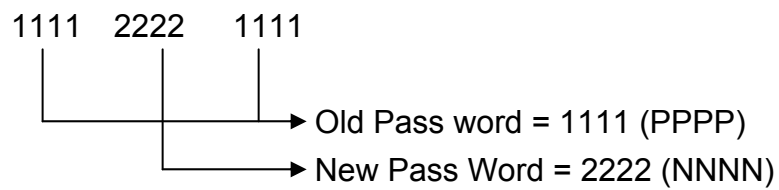
PPPP = Old Password (0001~9999)

NNNN = New Password

PPPP = Old Password (0001~9999)

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

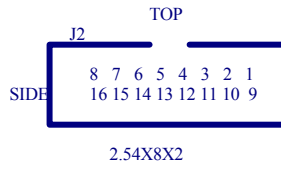
Example for changing the password:



The several types for Y1707 Module Connectors to meet with difference application



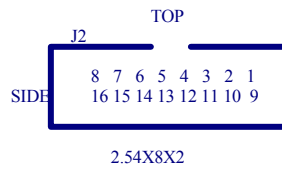
Type S



- 1 O/1
- 2 O/2
- 3 O/3
- 4 O/4
- 5 O/5
- 6 O/6
- 7 V+ 6-24V
- 8 V+ 6-24V
- 9 GND Power
- 10 GND Power
- 11 GND(RS-232)DB9-5
- 12 TXD(RS232)DB9-2
- 13 RXD(RS232)DB9-3
- 14 TXD(TTL for option)
- 15 RXD(TTL for option)
- 16 V+ 6-24V



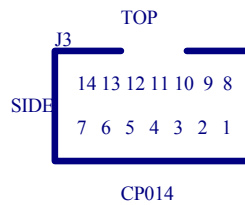
Type 1



- 1 O/1
- 2 O/2
- 3 O/3
- 4 O/4
- 5 O/5
- 6 O/6
- 7 V+ 6-24V
- 8 V+ 6-24V
- 9 GND Power
- 10 GND Power
- 11 GND(RS-232)DB9-5
- 12 TXD(RS232)DB9-2
- 13 RXD(RS232)DB9-3
- 14 TXD(TTL for option)
- 15 RXD(TTL for option)
- 16 V+ 6-24V



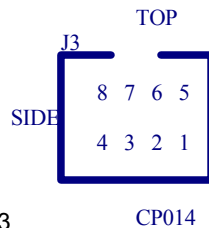
Type 2



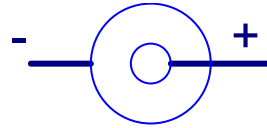
- 1 NC
- 2 NC
- 3 GND Power
- 4 LOOP WITH #11
- 5 RS232 RX from PC
- 6 ON-Air LED Indica
- 7 V+ 6-24V
- 8 NC
- 9 NC
- 10 GND RS-232
- 11 loop with #4
- 12 RS232 TX to PC
- 13 NC
- 14 GND



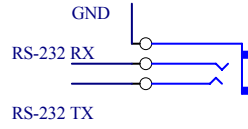
Type 3



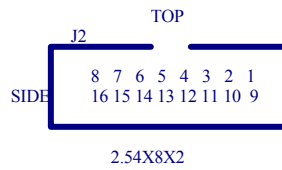
- 1 LOOP WITH #5
- 2 RS232 RX from PC
- 3 ON-Air LED Indica
- 4 V+ 6-24V
- 5 loop with #1
- 6 RS232 TX to PC
- 7 NC
- 8 GND



Power V+ 6-24V

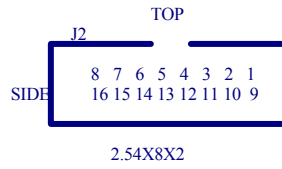


Type 4



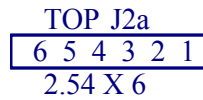
Type 5

- 1 O/1
- 2 O/2
- 3 O/3
- 4 O/4
- 5 O/5
- 6 O/6
- 7 V+ 6-24V
- 8 V+ 6-24V
- 9 GND Power
- 10 GND Power
- 11 GND(RS-232)DB9-5
- 12 TXD(RS232)DB9-2
- 13 RXD(RS232)DB9-3
- 14 TXD(TTL for option)
- 15 RXD(TTL for option)
- 16 V+ 6-24V



Type 6

- 1 O/1
- 2 O/2
- 3 O/3
- 4 O/4
- 5 O/5
- 6 O/6
- 7 V+ 6-24V
- 8 V+ 6-24V
- 9 GND Power
- 10 GND Power
- 11 GND(RS-232)DB9-5
- 12 TXD(RS232)DB9-2
- 13 RXD(RS232)DB9-3
- 14 TXD(TTL for option)
- 15 RXD(TTL for option)
- 16 V+ 6-24V



Type 7

- 1 GND(RS-232)DB9-5
- 2 TXD(RS232)DB9-2
- 3 RXD(RS232)DB9-3
- 4 TXD(TTL for option)
- 5 RXD(TTL for option)
- 6 V+ 6~24V Power



Type 8

TOP J2a

6 5 4 3 2 1
2.54 X 6

- 1 GND(RS-232)DB9-5
- 2 TXD(RS232)DB9-2
- 3 RXD(RS232)DB9-3
- 4 TXD(TTL for option)
- 5 RXD(TTL for option)
- 6 V+ 6~24V Power



Type 9

TOP J2a

6 5 4 3 2 1
2.54 X 6

- 1 GND(RS-232)DB9-5
- 2 TXD(RS232)DB9-2
- 3 RXD(RS232)DB9-3
- 4 TXD(TTL for option)
- 5 RXD(TTL for option)
- 6 V+ 6~24V Power



Type 10

TOP J2a

6 5 4 3 2 1
2.54 X 6

- 1 GND(RS-232)DB9-5
- 2 TXD(RS232)DB9-2
- 3 RXD(RS232)DB9-3
- 4 TXD(TTL for option)
- 5 RXD(TTL for option)
- 6 V+ 6~24V Power



You can select from with housing or without housing.

C. How to programming the Y1707RS/TTL

- 1).Connect the DC plug and RS-232 plug into Y1707 (or Y1707 Programmer)
- 2).Connected the RS-232 cable from Y1707 to P/C or N/B
- 3).Install programming CD software into your P/C or N/B
- 4) Click [Pager Module programming Kit-y1707V1] to run the Y1707 data programming process.



Programming Manual of Y1707

A screenshot of the 'Pager Module Programming Kit - Y1707 Ver. 1.0' software interface. The window title is 'Pager Module Programming Kit - Y1707 Ver. 1.0'. The menu bar includes 'File', 'Config', and 'Help'. The interface is divided into several sections:

- Frequency:** Freq. [931] [9375]
- Addresses:** Addr. 1 [1234567], Addr. 2 [0], Addr. 3 [0], Addr. 4 [0], Addr. 5 [0], Addr. 6 [0]
- Control:** Ctrl Password [2222] 4 digital, Customer ID [12345] 5 digital, Re-program ID [09012] 5 digital
- Buttons:** SAVE, WRITE, READ, EXIT
- Power Saving:** Enable, Disable
- BAUD Rate:** [1200]
- Data Polarity:** Normal, Inverter
- Message Type:** [ALPHANUMERIC]
- Over Air Change the Password:** Enable, Disable
- Over Air To Reprogram the Cap Code:** Enable, Disable
- Memory Select:** Power off all Reset, Keep Last Command States

At the bottom, there is a 'System Status- Port: COM1 BPS:9600' indicator, a 'Ver. 1.0' logo, and two text areas: 'Command Buffer' and 'COM Port Pool', each with a 'Clear' button.

1. Frequency:

This set-up is used for the reference information only: It does not affect any Technical features contained in the Y1707 unit.

2. Y1707 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 via 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 Y1707 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 Y1707.
17. READ Function: Read the programmed data out from Y1707 unit.
18. EXIT Function: To exit this programming software.
19. Command Buffer Set-Up: For engineer use only.
20. Com Port Pool:
The Y1707'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.



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