

Case Name:		Date:		Num:	
Case Num:		Version:		PAGE	1/33

UPS Communication Protocol

Author: Abner Date: 2025-07-26

Confirm: _____ Date: _____

Approve: _____ Date: _____

Case Name:		Date:		Num:	
Case Num:		Version:		PAGE	2/33

Modify Note

Num	Version	Modify content	Author	Date	Confirm	Date

Case Name:		Date:		Num:	
Case Num:		Version:		PAGE	3/33

CATALOGUE

1	DOCUMENT DESCRIPTION	7
1.1	GOALS	7
1.2	ORGANIZATION	7
1.3	REFERENCE DOCUMENT	7
1.4	GLOSSARY – ABBREVIATIONS – NOTATIONS	7
2	HARDWARE DESCRIPTION	7
3	COMMAND SUPPORTED BY SOFTWARE	8
4	INQUIRY COMMAND	8
4.1	QPI<CR>: PROTOCOL ID INQUIRY	8
4.2	QMD<CR>: MODEL INQUIRY	8
4.3	QGS<CR>: THE GENERAL STATUS PARAMETERS INQUIRY	9
4.4	QFS<CR>: FAULT STATUS INQUIRY	11
4.5	QWS<CR>: WARNING STATUS INQUIRY	13
4.6	QMOD<CR>: UPS MODE INQUIRY	14
4.7	QRI<CR>: UPS RATING INFORMATION INQUIRY	15
4.8	QBYV<CR>: THE BYPASS VOLTAGE RANGE INQUIRY	15
4.9	QBYF<CR>: THE BYPASS FREQUENCY RANGE INQUIRY	15
4.10	QPAR<CR>: UPS PARALLEL NUMBER INQUIRY	16
4.11	QFLAG<CR>: SETTING FLAG STATUS INQUIRY	16
4.12	QVFW<CR> : MAIN CPU FIRMWARE VERSION INQUIRY	17
4.13	QBV<CR>: THE P BATTERY INFORMATION INQUIRY	17
4.14	QHE<CR>: HIGH EFFICIENCY MODE VOLTAGE RANGE INQUIRY	17
4.15	QSK<N><CR>: OUTPUT SOCKET STATUS INQUIRY	18
4.16	QSKT<N><CR>: OUTPUT SOCKET RELEASE DELAY TIME INQUIRY IN BATTERY MODE	18
4.17	QVFW2<CR> :THE SECOND CPU FIRMWARE VERSION INQUIRY	18
4.18	QEPO<N><CR>: QUERY EPO LOGIC	18

Case Name:		Date:		Num:	
Case Num:		Version:		PAGE	4/33

4.19	QEBP<CR>: EXTERNAL BATTERY PACKS NUMBER INQUIRY	19
4.20	QHEF<CR>: THE ECO FREQUENCY INFORMATION INQUIRY(FOR SLC)	19
4.21	QVOP<CR>: THE OUTPUT VOLTAGE CALIBRATION INFORMATION INQUIRY(FOR SLC)	19
4.22	QCHGV<CR>: THE CHARGER VOLTAGE CALIBRATION INFORMATION INQUIRY(FOR SLC)	19
4.20	QVB<CR>: BATTERY SAMPLING VOLTAGE FINE-TURNING VALUE INQUIRY	19
4.21	QV<CR>: OUTPUT VOLTAGE SETTING VALUE INQUIRY	19
4.22	QVC<CR>: OUTPUT VOLTAGE FINE-TURNING VALUE INQUIRY	20
4.1	QMAXW<CR>: CURRENT MAXIMUM WATT INQUIRY	20
4.2	QBV2<CR>: THE BATTERY INFORMATION INQUIRY	20
5	CONTROL COMMAND	20
5.1	T<CR>: 10 SECONDS TEST	20
5.2	TL<CR>: TEST UNTIL BATTERY LOW	21
5.3	T<N><CR>: TEST FOR SPECIFIED TIME	21
5.4	S<N><CR>: SHUTDOWN	21
5.5	S<N>R<M><CR>: SHUTDOWN AND RESTORE	21
5.6	CS<CR>: CANCEL SHUTDOWN	22
5.7	CT<CR>: CANCEL TEST	22
5.8	SON<CR>: REMOTE TURN ON UPS	22
5.9	SOFF<CR>: REMOTE TURN OFF UPS	22
5.10	BZOFF<CR>: SILENCE BUZZER BEEP	22
5.11	BZON<CR>: BUZZER BEEP OPEN	22
5.12	SKON<N><CR>: REMOTE TURN ON UPS OUTPUT SOCKET	23
5.13	SKOFF<N><CR>: REMOTE TURN OFF UPS OUTPUT SOCKET	23
6	SETTING PARAMETERS COMMAND	23
6.1	PE<X>/PD<X><CR>: SETTING SOME STATUS ENABLE/DISABLE	23
6.2	PSK<N><M><CR>: SET OUTPUT SOCKET RELEASE DELAY TIME IN BATTERY MODE	24
6.3	PSF<M><CR>: SET BYPASS FREQUENCY LOW LOSS POINT	24

Case Name:		Date:		Num:	
Case Num:		Version:		PAGE	5/33

6.4	PGF<N><CR>: SET BYPASS FREQUENCY HIGH LOSS POINT	25
6.5	PLV<P><CR>: SET BYPASS VOLTAGE LOW LOSS POINT	25
6.6	PHV<Q><CR>: SET BYPASS VOLTAGE HIGH LOSS POINT	25
6.7	PF<CR>: SETTING CONTROL PARAMETER TO DEFAULT VALUE	25
6.8	HEH<NNN><CR>: SET HIGH EFFICIENCY MODE VOLTAGE HIGH LOSS POINT	27
6.9	HEL<NNN><CR>: SET HIGH EFFICIENCY MODE VOLTAGE LOW LOSS POINT	27
6.10	PEPO<N><CR>: SET EPO LOGIC	27
6.11	BATCAP<NNN><CR>:SET THE BATTERY CAPACITY	27
6.12	BATGN<NN><CR>:SETT THE BATTERY GROUP NUMBER	28
6.13	BATCOEF<NN><CR>:SET THE CALIBRATION FACTOR OF BATTERYBACK UP TIME	28
6.11	BUNU<NNN><CR>: SET BATTERY UNDER VOLTAGE (IT IS ONLY FOR LONGBACKUP MODEL)	28
6.14	MAXW<NNN><CR>: SETTING MAXIMUM WATT VALUE	28
6.15	MXVA<NNN><CR>: SETTING MAXIMUM VA VALUE	28
6.16	BATS<N><CR>: HIDE WARNING ABOUT BATTERY	29
6.17	PEBP<NN><CR>: SETTING THE EXTERNAL BATTERY PACKS NUMBER	29
6.18	CHGV<±NN><CR>: CALIBRATING CHARGER VOLTAGE (FOR SLC)	29
6.19	VOP±<NN> <CR>: FINE-TURNING OUTPUT R VOLTAGE	29
6.20	CHGCUR<NN> <CR>: SETTING CHARGE CURRENT.	29
6.21	CHGCURA±<NN> <CR>: FINE-TURNING CHARGE CURRENT	30
6.22	RESET<CR>: SETTING UPS OUTPUT VOLTAGE AND BUS VOLTAGE TO DEFAULT VALUE	30
6.23	V<N><CR>: SETTING OUTPUT RATING VOLTAGE	30
6.24	F50<CR>: SETTING UPS OUTPUT RATING FREQUENCY TO 50HZ	30
6.25	F60<CR>: SETTING UPS OUTPUT RATING FREQUENCY TO 60HZ	31
6.26	INTYPE<N><CR>:SET INPUT SOURCE TYPE.	31
6.27	SEM<N><CR>:SET EPO(EMERGENCY POWER OFF) AS MBP(MANUAL BYPASS).	31
6.28	SISOC<N><CR>:SET ISO NEGATIVE R COMPENSATION.	31
6.29	PWP103 <CR>: THE PASSWORD FOR SOME SETTING COMMAND ,SUCH AS BATNUM; BATFV;BATLW	

Case Name:		Date:		Num:	
Case Num:		Version:		PAGE	6/33

31

6.30	BATNUM <NN><CR>: SETTING BATTERY NUMBER	32
6.31	BATFV<NNN> <CR>: SETTING BATTERY FLOATING CHARGE VOLTAGE	32
6.32	BATLW<NNN><CR>: SETTING BATTERY LOW WARNING VOLTAGE	32
6.33	RN<N> <CR>: SET REDUNDANCY NUMBER	33
6.34	BATRP<CR>: INITIALIZE BATTERY CAPACITY FOR AUTONOMY TIME	33
6.35	BATSTY<CR>: UPS SELF-CALIBRATION BACKUP TIME	33

Case Name:		Date:		Num:	
Case Num:		Version:		PAGE	7/33

1 Document Description

1.1 Goals

This document specifies the RS232 communication protocol used in the UPS.

1.2 Organization

There are three parts in this manual:

1. Introducing the Inquiry Command. By sending the commands you can get the information of the UPS you need. In the part some signals and their inquiry command are listed too.
2. Introducing the control Command. By sending the control commands you can control the UPS.
3. Introducing the parameter setting Command. By sending the parameter setting Command you can set some parameter of the UPS.
4. Computer will control information exchange by a query followed by <cr>.
5. Computer and UPS respond both the "<cr>" as the end of a response.
6. UPS respond with "(" start, and with one space separate the data.
(exception: off-line Arista UPS)
7. In a UPS's response, if there is no data, with "-" instead of data, and the length of the "-" as long as data
8. In a UPS's response, if some data length is less than the definition, type enough "#" before the data.

1.3 Reference document

1.4 Glossary – Abbreviations – Notations

2 Hardware Description

BAUD RATE.....: 2400 bps

DATA LENGTH.....: 8 bits

STOP BIT.....: 1 bit

PARITY.....: NONE

Case Name:		Date:		Num:	
Case Num:		Version:		PAGE	8/33

Cabling:

COMPUTER

UPS

```
=====
RX (pin2)  <----->  TX
TX (pin3)  <----->  RX
GND (pin5) <----->  GND
(9 pins female D-type connector)
```

3 Command supported by Software

4 Inquiry Command

4.1 QPI<cr>: Protocol ID Inquiry

Computer: QPI<cr>

UPS: (PI <NN><cr>

N is an integer number ranging from 0 to 9.

Function : To request the UPS Protocol ID.

4.2 QMD<cr>: Model Inquiry

Computer: QMD<cr>

UPS: (TTTTTTTTTTTTTTTT WWWWWWW KK P/P MMM NNN RR BB.B <cr>

(a) UPS Model: TTTTTTTTTTTTTTTT

This whole length is 15bits, if the model value less than 15 bits, please enter “#” before the UPS model instead, for example: GALLEON2 1-1 6K Standard: #####G2-6K, GALLEON2 1-1 6K Long Backup: #####G2-6KL, GALLEON2 1-1 10K Standard: #####G2-10K, GALLEON2 1-1 10K Long Backup: #####G2-10KL.

(b) Output rated VA: WWWWWWW

W is an integer number ranging from 0 to 9. The unit is watt.

The whole length is 7 bits, if the VA value less than 7 bits, please enter “#” before the VA value instead, for example: ##10000.

(c) Output power factor: KK

K is an integer number ranging from 0 to 9.

KK is the percentage of power factor, for example: 70

Case Name:		Date:		Num:	
Case Num:		Version:		PAGE	9/33

(d) Input phase/Output phase: P/P

P is an integer number of 1 or 3.

(e) Nominal I/P Voltage: MMM

M is an integer number ranging from 0 to 9. The unit is volt.

(f) Nominal O/P Voltage: NNN

N is an integer number ranging from 0 to 9. The unit is volt.

(f) Battery Piece Number: RR

R is an integer number ranging from 0 to 9.

(g) Battery standard voltage per unit: BB.B

B is an integer number ranging from 0 to 9. The unit is volt.

For example:

Computer: QMD<cr>

UPS: (#####G10KS ##10000 70 1/1 220 220 20 12.0<cr>

4.3 QGS<cr>: The general status parameters inquiry

Computer: QGS<cr>

UPS: (MMM.M HH.H LLL.L NN.N QQQ.Q DDD KKK.K VVV.V SSS.S XXX.X TTT.T
b9b8b7b6b5b4b3b2b1b0a0a1<cr>

	Data	Description	Notes
a	(	Start byte	
b	MMM.M	Input voltage	M is an Integer number 0 to 9. The units is V.
c	HH.H	Input frequency	H is an Integer number 0 to 9. The units is Hz.
d	LLL.L	Output voltage	L is an Integer number 0 to 9. The units is V.
e	NN.N	Output frequency	N is an Integer number from 0 to 9. The units is Hz.
g	QQQ.Q	Output current	Q is an Integer number from 0 to 9. The units is A.
h	DDD	Output load percent	For Off-line UPS: DDD is a percent of maximum VA, not an absolute value. For On-line UPS: DDD is Maximum of W% or VA%. VA% is a percent of maximum VA. W% is a percent of maximum real power.
j	KKK.K	Positive BUS voltage	K is an Integer ranging from 0 to 9. The units is V.
k	VVV.V	Negative BUS voltage	V is an Integer ranging from 0 to 9. The units is V.
l	SSS.S	P Battery voltage	S is an Integer ranging from 0 to 9. The units is V.

Case Name:		Date:		Num:	
Case Num:		Version:		PAGE	10/33

m	XXX.X	N Battery voltage	X is an Integer ranging from 0 to 9. The units is V.
n	TTT.T	Max Temperature of the detecting pointers	T is an integer ranging from 0 to 9. The units is °C
o	b9b8b7b 6b5b4b3 b2b1b0 a0a1	Ups status	B9,b8: 00: standy; 01: line-interactive; 10: on-line. B7: Utility Fail b6: Battery Low b5: Bypass/Boost Active b4: UPS Failed b3: EPO b2: Test in Progress b1: Shutdown Active b0: bat silence a0: Bat test fail a1: Bat test OK

Example:

Computer: QGS<cr>

UPS: (220.2 50.0 220.0 50.0 027.0 100 345.8 344.9 241.0 241.5 045.0 100011000000<cr>

Means:

I/P voltage is 220.2V.

I/P frequency is 50.0Hz

O/P voltage is 220.0V

O/P frequency is 50.0Hz.

O/P current is 27.0A

O/P load 100%

Positive BUS voltage is 345.8V

Negative BUS voltage is 344.9V

P Battery voltage is 241.0V.

N Battery voltage is 241.5V.

Temperature is 45.0 degrees of centigrade.

On-line mode, Utility OK, Bypass Active, UPS failed.

Case Name:		Date:		Num:	
Case Num:		Version:		PAGE	11/33

4.4 QFS<cr>: Fault Status Inquiry

If there are no UPS fail occur:

computer: QFS<cr>

UPS: (OK<cr> (no fault)

If there are UPS fail occur:

Computer: QFS<cr>

UPS: (KK PPP.P FF.F OOO.O EE.E LLL CCC.C HHH.H NNN.N BBB.B TTT.T
<b7b6b5b4b3b2b1b0><cr>

Fault 类别	Fault 名称	Fault 代码	Fault 描述
Bus fault	Bus Soft fail	0x01	Bus start fail
	Bus volt over	0x02	Bus voltage is over the high limit value
	Bus volt under	0x03	Bus voltage is under the low limit value
	Bus volt unbalance	0x04	The difference between the positive and the negative bus voltage is over the limit value.
Inverter fault	Inverter soft fail	0x11	Inverter voltage can't reach the setting value in specified time.
	Inverter volt high	0x12	Inverter voltage is over the high limit value
	Inverter volt low	0x13	Inverter voltage is under the low limit value
	L1 inverter short	0x14	Inverter L1 output(line to neutral) short circuited
	L1 inverter negative power	0x1A	Inverter L1's negative power is exceed the limit
Electric link fault	Bat SCR fault	0x21	Battery SCR is short circuited
	Inverter relay short fault	0x24	Inverter relay is short circuited
Others	Over temperature	0x41	UPS is over temperature
	CPU communication fault	0x42	MCU&DSP communication failed
	Overload fault	0x43	The UPS is over load
	Charger Short	0x2a	Charger Short
	CAN communication	0x31	CAN communication fault

Case Name:		Date:		Num:	
Case Num:		Version:		PAGE	12/33

	fault			
	INV Over current	0x60	The UPS INV Over current	
	Bat Bus start fault	0x6A	Battery mode bus start fault	
	Battery mode PFC current fault	0x6B	Battery mode PFC current fault	
	Bus voltage vary fault	0x6C	The UPS bus voltage vary fault	
	Current detect fault	0x6D	Current detect fault	
	SPS voltage abnormal	0x6E	SPS voltage abnormal	
	ISO over temperature	0x77	ISO over temperature	

(a) Start byte: (

(b) Fault kind: KK

K is 2 bytes of ASCII code, define as following:

(c) I/P voltage before fault: PPP.P

P is an integer number ranging from 0 to 9. The unit is Volt.

(d) I/P frequency before fault: FF.F

F is an integer number ranging from 0 to 9. The unit is Hz.

(e) Inverter O/P voltage before fault: OOO.O

O is an integer number ranging from 0 to 9. The unit is Volt.

(f) Inverter O/P frequency before fault: EE.E

E is an integer number ranging from 0 to 9. The unit is Hz.

(g) O/P load before fault: LLL

LLL is the maximum of W% or VA%.

VA% is a percent of maximum VA.

W% is a percent of maximum real power.

(h) O/P current before fault: CCC.C

CCC is a percent of maximum current.

(i) Positive Bus voltage before fault: HHH.H

P is an integer number ranging from 0 to 9. The unit is volt.

(j) Negative Bus voltage before fault: NNN.N

N is an integer number ranging from 0 to 9. The unit is volt.

(k) Battery voltage before fault: BBB.B

B is an integer number ranging from 0 to 9. The unit is volt

(l) Temperature before fault: TTT.T

T is an integer number ranging from 0 to 9. The unit is degree of centigrade.

Case Name:		Date:		Num:	
Case Num:		Version:		PAGE	13/33

(m) UPS running status before fault: <b7b6b5b4b3b2b1b0>
<b7b6b5b4b3b2b1b0> is one byte of binary information.

Each bit is transferred into ASCII code. <bn> is a binary number “0” or “1”.

Bit	Remarks
7	1:DCTODC on
6	1:PFC on
5	1: INVERTER on
4	Reserved(always 0)
3	1:input relay on
2	1:O/P relay on
1	Reserved(always 0)
0	Reserved(always 0)

This fault data stream will be saved into EEPROM.

Example:

Computer: QFS<cr>

UPS: (01 208.3 41.0 160.2 50.0 102 027.0 160.0 190.0 041.0 069.0 01101100<cr>

Means: Bus start fault.

I/P voltage is 208.3V.

I/P frequency is 41.0HZ.

O/P voltage is 160.2V.

O/P frequency is 50.0HZ

Load is 102%

O/P current is 27.0A

Positive Bus voltage is 160.0V

Negative Bus voltage is 190.0V

Battery voltage is 41.0V.

Temperature is 69.0 °C

IC3525 off, PFC on, INVERTER on, input relay on, O/P relay on

4.5 QWS<cr>: Warning Status Inquiry

Computer: QWS<cr>

UPS: (a0a1.....a62a63<cr>

a0,...,a63 is the warning status. If the warning is happened, the relevant bit will set 1, else the

Case Name:		Date:		Num:	
Case Num:		Version:		PAGE	14/33

relevant bit will set 0. The following table is the warning code.

bit	Warning code	warning	note
a0	01	Battery open	Battery is unconnected
a6	07	Battery over charge	The battery is over charged
a7	08	Battery low	The battery voltage is low
a8	09	Overload warning	The UPS is over load.
a9	0A	Fan lock warning	The fan is failed
a10	0B	EPO active	The EPO function is enabled
a12	0D	Over temperature	The UPS is over temperature
a13	0E	Charger fail	The Charger is failed
a32	21	Line connect different	Line connect different
a33	22	Bypass connect different	Bypass connect different
a50	33	Overload lock	Overload lock
a57	3A	Cover of maintain switch is open	The cover of maintain switch is open
a60	3D	Bypass unstable	Bypass unstable
a61	3E	Bootload program empty	The FW bootload program empty
a64	41	Bypass out of range	Bypass out of range
a65	42	ISO over temperature	ISO over temperature
a67	44	Redundancy error	Redundancy error
a68	45	Redundancy overload	Redundancy overload
a69	46	Bat test fail	Battery test fail

4.6 QMOD<cr>: UPS Mode inquiry

Computer: QMOD<cr>

UPS: (M<cr>

Mode	Code(M)
Power on mode	P
Standby mode	S
Bypass mode	Y
Line mode	L
Battery mode	B
Battery test mode	T
Fault mode	F
HE/ECO mode	E

Case Name:		Date:		Num:	
Case Num:		Version:		PAGE	15/33

Converter mode	C
Shutdown mode	D

For example:

Computer: QMOD<cr>

UPS: (Y<cr>

means: the current UPS mode is bypass mode.

4.7 QRI<cr>: UPS Rating Information inquiry

Computer: QRI<cr>

UPS: (MMM.M QQQ SSS.S RR.R<cr>

This function makes the UPS answer the rating value of UPS. There should be a space character between every field for separation. The UPS's response contains the following information field:

- a. Rating Output Voltage : MMM.M
- b. Rating Output Current : QQQ
- c. Battery Voltage: SSS.S.
- d. Rating Output Frequency : RR.R

4.8 QBYV<cr>: The bypass voltage range inquiry

Computer: QBYV<cr>

UPS: (HHH LLL <cr>

	Data	Description	Notes
a	(	Start byte	
b	HHH	Voltage high loss point	H is an Integer number 0 to 9. The unit is V.
c	LLL	Voltage low loss point	L is an Integer number 0 to 9. The unit is V.

The bypass voltage rang from 176 to 264, default 176V, the precision is 1 volt.

4.9 QBYF<cr>: The bypass frequency range inquiry

Computer: QBYF<cr>

UPS: (HH.H LL.L <cr>

	Data	Description	Notes
a	(	Start byte	
b	HH.H	Freq high loss point	H is an Integer number 0 to 9. The unit is Hz.
c	LL.L	Freq low loss point	L is an Integer number 0 to 9. The unit is Hz.

The bypass frequency rang from 40.0 to 49.0, default 46.0Hz, the precision is 0.1Hz.

Case Name:		Date:		Num:	
Case Num:		Version:		PAGE	16/33

4.10 QPAR<cr>: UPS parallel number inquiry

Computer: QPAR<cr>

UPS: (nn<cr> nn=01.....99

nn is the parallel number.

4.11 QFLAG<cr>: Setting flag status inquiry

Computer: QFLAG<cr>

UPS: (ExxxDxxx <cr>

ExxxDxxx is the flag status. E means enable, D means disable

x	Control setting
a	Enable/disable audible alarm
b	Enable/disable battery mode audible warning
c	Enable/disable code start
d	Enable/disable battery open status check
e	Enable/disable high efficiency mode
f	Enable/disable bypass forbidding
g	Enable/disable energy saving
h	Enable/disable short restart 3 times
i	Enable/disable inverter short clear function
j	Enable/disable Output socket1 when the delay release time is over in battery mode .
k	Enable/disable Output socket2 when the delay release time is over in battery mode.
l	Enable/disable Site fault detect
m	Set hot standby master/slave, PEM means master, PDM means slave
n	Enable/disable deep high efficiency mode
o	Enable/disable bypass when UPS turn off.
p	Enable/disable bypass audible warning
q	Enable/disable Constant Phase Angle function
r	Enable/disable auto-Restart.
s	Enable/disable battery deep discharge protect
t	Enable/disable battery low protect (if disable, the battery will discharge to 6V)

Case Name:		Date:		Num:	
Case Num:		Version:		PAGE	17/33

u	Enable/disable Free run function
v	Enable/disable converter mode
w	Enable/disable limited runtime on battery mode (P2)
x	Enable/disable output parallel function in phase angle 0
y	Enable/disable phase auto adapt
z	Enable/disable period self test

4.12 QVFW<cr> : Main CPU Firmware version inquiry

Computer: QVFW<cr>

UPS: (VERFW: <NNNNN.NNNN><cr>

<n> is a HEX number from 0...9 or A...F.

Example:

Computer: QVFW<cr>

UPS: (VERFW: <00123.0102><cr>

00123: firmware series number; 01:version; 02: extra Version。

4.13 QBV<cr>: The P battery information inquiry

Computer: QBV<cr>

UPS: (RRR.R NN MM CCC TTT<cr>

	Data	Description	Notes
a	(	Start byte	
b	RRR.R	Battery voltage	R is an Integer number 0 to 9. The units is V.
c	NN	Battery piece number	NN is from 01 to 20.
d	MM	Battery group number	MM is an Integer number 01 to 99.
e	CCC	Battery capacity	CCC is an Integer number 000 to 100.
f	TTT	Battery remain time	T is an Integer number 0 to 9. The units is minutes.

4.14 QHE<cr>: High efficiency mode voltage range inquiry

Computer: QHE<cr>

UPS: (HHH LLL <cr>

	Data	Description	Notes
a	(	Start byte	

Case Name:		Date:		Num:	
Case Num:		Version:		PAGE	18/33

b	HHH	Voltage high loss point	H is an Integer number 0 to 9. The unit is voltage.
c	LLL	Voltage low loss point	L is an Integer number 0 to 9. The unit is voltage.

4.15 QSK<n><cr>: Output socket status inquiry

Computer: QSK<n><cr>

<n> is “1”or “2”, “1”“is refer to output socket1, “2” is refer to output socket2.

UPS: (N<cr>.

The “N” is “0”or “1” , if “N” is “0”,the output socket status is OFF; if “N” is “1”,the output socket status is ON。

4.16 QSKT<n><cr>: Output socket release delay time inquiry in battery mode

Computer: QSKT<n><cr>

<n> is “1”or “2”, “1”“is refer to output socket1, “2” is refer to output socket2.

UPS: (NNN<cr>.

The “NNN” is from“000”to “999”,unit is minute.

4.17 QVFW2<cr> :the second CPU Firmware version inquiry

Computer: QVFW2<cr>

UPS: (VERFW2: <NNNNN.NNNN><cr>

<n> is a HEX number from 0...9 or A...F.

Example:

Computer: QVFW2<cr>

UPS: (VERFW: <00123.0102><cr>

00123: firmware series number; 01:version; 02: extra Version。

4.18 QEPO<n><cr>: Query EPO Logic

Computer: QEPO<cr>

UPS: (<n><cr> if UPS accepts this command, otherwise, responds (NAK<cr>

The value of <n> is as follows

0: Active Open without manual reset (Default), When Active Open is selected as EPO logic, it will activate EPO function with EPO connector in open status.

1: Active Close without manual reset, When Active Close is selected as EPO logic, it will activate EPO function with EPO connector in close status.

2: Active Open with manual reset, When Active Open is selected as EPO logic, it will activate EPO function with EPO connector in open status.

Case Name:		Date:		Num:	
Case Num:		Version:		PAGE	19/33

3: Active Close with manual reset, When Active Close is selected as EPO logic, it will activate EPO function with EPO connector in close status.

Note: Manual reset means the UPS must shut down completely (unplug the mains and waiting for the control power off).

4.19 QEBP<cr>: External battery packs number inquiry

Computer: QEBP<cr>

UPS: (NN<cr>

NN: The external battery packs number, the range is 00~07

4.20 QHEF<cr>: The ECO frequency information inquiry(for SLC)

Computer: QHEF<cr>

UPS: (AA.A BB.B <cr>

AA.A ECO frequency high loss point

BB.B ECO frequency low loss point

4.21 QVOP<cr>: The output voltage Calibration information inquiry(for SLC)

Computer: QVOP<cr>

UPS: (AAA +BB <cr>

AAA The current output voltage

+BB Already add BB by <VOP> command . unit is 0.1V

4.22 QCHGV<cr>: The charger voltage Calibration information inquiry(for SLC)

Computer: QCHGV<cr>

UPS: (+AA <cr>

+AA Already add AA by <CHGV> command . unit is 0.1V

4.20 QVB<cr>: Battery sampling voltage fine-turning value inquiry

Computer: QVB<cr>

UPS: (VBS+<n><cr> or VBS- <n><cr>

n is an integer number ranging from 00 to 19.

4.21 QV<cr>: Output voltage setting value inquiry

Computer: QV<cr>

UPS: (V208/220/230/240<cr>

Case Name:		Date:		Num:	
Case Num:		Version:		PAGE	20/33

4.22 QVC<cr>: Output voltage fine-turning value inquiry

Computer: QVC<cr>

UPS: (V±n<cr> n=0.....6

4.1 QMAXW<cr>: Current maximum watt inquiry

Computer: QMAXW<cr>

UPS: (AAA B<cr>

AAA is from 000 to 199

B is 0 or 1

4.2 QBV2<cr>: The battery information inquiry

Computer: QBV2<cr>

UPS: (AAA BBB CCC <cr> AAA float charger voltager

	Data	Description	Notes
a	(	Start byte	
b	AAA	float charger voltage	AAA is an Integer number 130 to 143. The units is 0.1 V.
c	BBB	battery low voltager	BBB is from 96 to 120. The units is 0.1 V.
d	CCC	Battery shutdown voltager	CCC is an Integer number 96 to 114. The units is 0.1 V.

5 Control Command

5.1 T<cr>: 10 seconds test

Computer: T<cr>

UPS: (ACK<cr> if UPS accepts this command, otherwise, responds (NAK<cr>

Means: Test for 10 seconds and then return to utility.

(1) If battery low occurs during testing, UPS will return to utility immediately.

(2) Only when UPS is in line mode, and the battery voltage is not less than 13V/pcs, the command is executed.

Case Name:		Date:		Num:	
Case Num:		Version:		PAGE	21/33

5.2 TL<cr>: Test until battery low

Computer: TL<cr>

UPS: (ACK<cr> if UPS accepts this command, otherwise, responds (NAK<cr>

Means: Test until battery low and then return to utility.

This command is used to let the user to discharge the battery by setting the time to test, that is to say that the user should discharge the battery by periods, with this command the ups will do it by itself.

5.3 T<n><cr>: Test for specified time

Computer: T<n><cr>

UPS: (ACK<cr> if UPS accepts this command, otherwise, responds (NAK<cr>

<n> is a number ranging from.2, .3, ..., 01, 02,..., to 99.

Means: Test for <n> minutes

5.4 S<n><cr>: Shutdown

Computer: S<n><cr>

UPS: (ACK<cr> if UPS accepts this command, otherwise, responds (NAK<cr>

Means: Shut UPS output off in <n> minutes.

The UPS output will be off in <n> minutes, even if the utility is present.

But if the battery under occur before <n> minutes, the output is turned off immediately.

After UPS shut down, the controller of UPS monitors the utility. If the utility is there, the UPS will wait for 10 seconds and connect the utility to output.

<n> is a number ranging from.2, .3, ..., 01, 02,..., to 10.

For example: S.3<cr> --- shut out put off in (.3) minutes

5.5 S<n>R<m><cr>: Shutdown and restore

Computer: S<n>R<m><cr>

UPS: (ACK<cr> if UPS accepts this command, otherwise, responds (NAK<cr>

Means: Cut UPS output off in <n> minutes and waiting for <m> minutes and then turn on UPS output again.

The shut down sequence is the same as the previous command. When the <m> minutes expired, the utility do not restore, the UPS will wait until utility restore.

If UPS is in waiting shutdown status, the “C” command can let the shut down command cancelled.

If UPS is in restore waiting status, the “C” command can let the UPS output turned on, but UPS

Case Name:		Date:		Num:	
Case Num:		Version:		PAGE	22/33

must be hold off at least 10 seconds. (if utility is present)

<n> is a number ranging from .2, .3, ..., 01, 02, ..., to 99.

<m> is a number ranging from 0001 to 9999.

5.6 CS<cr>: Cancel shutdown

Computer: CS<cr>

UPS: (ACK<cr> if UPS accepts this command, otherwise, responds (NAK<cr>

Means: Cancel the S<n><cr> and S<n>R<m><cr> **and SON** command.

If UPS is in waiting shutdown state, the shut down command is cancelled.

If UPS is in waiting restore state, the UPS output is turned on, but UPS must be hold off at least 10 seconds. (If utility is present)

5.7 CT<cr>: Cancel test

Computer: CT<cr>

UPS: (ACK<cr> if UPS accepts this command, otherwise, responds (NAK<cr>

Means: Cancel all test activity and connect the utility to output immediately.

5.8 SON<cr>: Remote turn on UPS

Computer: SON<cr>

UPS: (ACK<cr> if UPS accepts this command, otherwise, responds (NAK<cr>

Means: Remote turn on UPS.

5.9 SOFF<cr>: Remote turn off UPS

Computer: SOFF<cr>

UPS: (ACK<cr> if UPS accepts this command, otherwise, responds (NAK<cr>

Means: Remote turn off UPS.

5.10 BZOFF<cr>: Silence buzzer beep

Computer: BZOFF <cr>

UPS: (ACK<cr> if UPS accepts this command, otherwise, responds (NAK<cr>

Means: The buzzer beep silence .

5.11 BZON<cr>: buzzer beep open

Computer: BZON <cr>

UPS: (ACK<cr> if UPS accepts this command, otherwise, responds (NAK<cr>

Case Name:		Date:		Num:	
Case Num:		Version:		PAGE	23/33

Means: The buzzer beep open

5.12 SKON<n><cr>: Remote turn on UPS output socket

Computer: SKON<n><cr>

UPS: (ACK<cr> if UPS accepts this command, otherwise, responds (NAK<cr>

Means: Remote turn on UPS output socket.

<n> is “1”or “2”, “1”“is refer to output socket1, “2” is refer to output socket2,

5.13 SKOFF<n><cr>: Remote turn off UPS output socket

Computer: SKOFF<n><cr>

UPS: (ACK<cr> if UPS accepts this command, otherwise, responds (NAK<cr>

Means: Remote turn off UPS output socket.

<n> is “1”or “2”, “1”“is refer to output socket1, “2” is refer to output socket2,

=====UPS Inner Command=====

6 Setting parameters Command

6.1 PE<X>/PD<X><cr>: setting some status enable/disable

Computer: PE<X>/PD<X><cr>

UPS: (ACK<cr> if UPS accepts this command, otherwise, responds (NAK<cr>

X	Control setting
A	Enable/disable audible alarm
B	Enable/disable battery mode audible warning
C	Enable/disable code start
D	Enable/disable battery open status check
E	Enable/disable high efficiency mode
F	Enable/disable bypass forbidding
G	Enable/disable energy saving
H	Enable/disable short restart 3 times
I	Enable/disable inverter short clear function
J	Enable/disable “Output socket1 when the delay release time is over in battery mode” .

Case Name:		Date:		Num:	
Case Num:		Version:		PAGE	24/33

K	Enable/disable “Output socket2 when the delay release time is over in battery mode”.
L	Enable/disable Site fault detect
M	Set hot standby master/slave, PEM means master, PDM means slave
N	Enable/disable deep high efficiency mode
O	Enable/disable bypass when UPS turn off.
P	Enable/disable bypass audible warning
Q	Enable/disable Constant Phase Angle function
R	Enable/disable auto-reboot.
S	Enable/disable battery deep discharge protect
T	Enable/disable battery low protect (if disable, the battery will discharge to 6V)
U	Enable/disable Free run function
V	Enable/disable converter mode
W	Enable/disable limited runtime on battery mode
X	Enable/disable output parallel function in phase angle 0
Y	Enable/disable phase auto adapt
Z	Enable/disable period self test

6.2 PSK<n><m><cr>: Set output socket release delay time in battery mode

Computer: PSK<n><m><cr>

UPS: (ACK<cr> if UPS accepts this command, otherwise, responds (NAK<cr>

<n> is “1”or “2”, “1”“is refer to output socket1, “2” is refer to output socket2,.

<m> is the output socket release delay time in battery mode, it’s from“000”to “999”,unit is minute.

6.3 PSF<m><cr>: Set bypass frequency low loss point

Computer: PSF<m><cr>

UPS: (ACK<cr> if UPS accepts this command, otherwise, responds (NAK<cr>

In 50Hz system, <m> is a number ranging from 40.0 to 49.0, default 46.0Hz; in 60Hz system, <m> is a number ranging from 50.0 to 59.0, default 56.0Hz; the precision is 0.1Hz;

Computer: PSF42.1<cr>

UPS: (ACK<cr>

Case Name:		Date:		Num:	
Case Num:		Version:		PAGE	25/33

Means: The bypass frequency low loss point has been set to 42.1Hz

6.4 PGF<n><cr>: Set bypass frequency high loss point

Computer: PGF<n><cr>

UPS: (ACK<cr> if UPS accepts this command, otherwise, responds (NAK<cr>

In 50Hz system, <n> is a number ranging from 51.0 to 60.0, default 54.0Hz; in 60Hz system, <n> is a number ranging from 61.0 to 70.0; the precision is 0.1Hz.

Computer: PGF54.6<cr>

UPS: (ACK<cr>

Means: The bypass frequency high loss point has been set to 54.6Hz.

6.5 PLV<p><cr>: Set bypass voltage low loss point

Computer: PLV<p><cr>

UPS: (ACK<cr> if UPS accepts this command, otherwise, responds (NAK<cr>

<p> is a number ranging from 176 to 264, default 176V. The precision is 1 volt.

For example:

Computer: PLV<p><cr>

UPS: (ACK<cr>

Means: Set the bypass voltage low loss point to 185V.

6.6 PHV<q><cr>: Set bypass voltage high loss point

Computer: PHV<q><cr>

UPS: (ACK<cr> if UPS accepts this command, otherwise, responds (NAK<cr>

<q> is a number ranging from 176 to 276, default 276V. The precision is 1 volt.

For example:

Computer: PHV<q><cr>

UPS: (ACK<cr>

Means: Set the bypass voltage low loss point to 260V

6.7 PF<cr>: Setting control parameter to default value

Computer: PF<cr>

UPS: (ACK<cr> if UPS accepts this command, otherwise, responds (NAK<cr>

All UPS parameters set to default value.

(a) Setting bypass frequency low loss point to 46.0Hz.

Case Name:		Date:		Num:	
Case Num:		Version:		PAGE	26/33

(b) Setting bypass frequency high loss point to 54.0Hz.

(c) Setting bypass voltage low loss point to 110V.

(d) Setting bypass voltage high loss point to 264V.

X	Control setting
a	Enable/disable audible alarm
b	Enable/disable battery mode audible warning
c	Enable/disable code start
d	Enable/disable battery open status check
e	Enable/disable high efficiency mode
f	Enable/disable bypass forbidding
g	Enable/disable energy saving
h	Enable/disable short restart 3 times
i	Enable/disable inverter short clear function
j	Enable/disable “Output socket1 when the delay release time is over in battery mode” .
k	Enable/disable “Output socket2 when the delay release time is over in battery mode”.
l	Enable/disable Site fault detect
m	Set hot standby master/slave, PEM means master, PDM means slave
n	Enable/disable deep high efficiency mode
o	Enable/disable bypass when UPS turn off.
p	Enable/disable bypass audible warning
q	Enable/disable Constant Phase Angle function
r	Enable/disable auto-reboot.
s	Enable/disable battery deep discharge protect
t	Enable/disable battery low protect (if disable, the battery will discharge to 6V)
u	Enable/disable Free run function
v	Enable/disable converter mode
w	Enable/disable limited runtime on battery mode
x	Enable/disable output parallel function in phase angle 0
y	Enable/disable phase auto adapt
z	Enable/disable period self test

Case Name:		Date:		Num:	
Case Num:		Version:		PAGE	27/33

0	Enable/disable Battery Warning
----------	---------------------------------------

Notes: 1 is enable, 0 is disable.

6.8 HEH<nnn><cr>: Set high efficiency mode voltage high loss point

Computer: HEH <nnn><cr>

UPS: (ACK<cr> if UPS accepts this command, otherwise, responds (NAK<cr>
nnn is form 001 to 300. The units is V.

6.9 HEL<nnn><cr>: Set high efficiency mode voltage low loss point

Computer: HEL<nnn><cr>

UPS: (ACK<cr> if UPS accepts this command, otherwise, responds (NAK<cr>
nnn is form 001 to 300. The units is V.

6.10 PEPO<n><cr>: Set EPO Logic

Computer: SEPO<n><cr>

UPS: (ACK<cr> if UPS accepts this command, otherwise, responds (NAK<cr>

The value of <n> is as follows

0: Active Open without manual reset (Default), When Active Open is selected as EPO logic, it will activate EPO function with EPO connector in open status.

1: Active Close without manual reset, When Active Close is selected as EPO logic, it will activate EPO function with EPO connector in close status.

2: Active Open with manual reset, When Active Open is selected as EPO logic, it will activate EPO function with EPO connector in open status.

3: Active Close with manual reset, When Active Close is selected as EPO logic, it will activate EPO function with EPO connector in close status.

Note: Manual reset means the UPS must shut down completely (unplug the mains and waiting for the control power off).

6.11 BATCAP<nnn><cr>:Set the battery capacity

Computer: BATCAP<nnn><cr>

UPS: (ACK<cr> if UPS accepts this command, otherwise, responds (NAK<cr>

nnn is from 0 to 200.the unit is AH

Note: Galleon 3/1,the value of nnn is one of(7,9,10,12,17,26,40,65,100)

Case Name:		Date:		Num:	
Case Num:		Version:		PAGE	28/33

6.12 BATGN<nn><cr>:Sett the battery Group number

Computer: BATG<nn><cr>

UPS: (ACK<cr> if UPS accepts this command, otherwise, responds (NAK<cr>
nn is from 0 to 99.

6.13 BATCOEF<nn><cr>:Set the calibration factor of Batteryback up time

Computer: BATCOEF<nn><cr>

UPS: (ACK<cr> if UPS accepts this command, otherwise, responds (NAK<cr>
nnn is from 5 to 20.

For example:20 means that the discharger remaining time is twice the original calculate backup time.

6.11 BUNU<nnn><cr>: Set battery under voltage (It is only for longBackup Model)

Computer: BUNU<nnn><cr>

Device: (ACK<cr> if device accepts this command, otherwise, responds (NAK<cr>

Set the battery under voltage(nnn) for each piece, when the voltage reached, the UPS will shutdown in battery/battery test mode. nnn is form 096 to 114.

Example:

Computer: BUNU 105<cr>

UPS: (ACK<cr>

It means setting the battery under voltage to 10.5V/pcs

6.14 MAXW<nnn><cr>: Setting maximum watt value

Computer: MAXW<nnn><cr>

UPS: (ACK<cr> if UPS accepts this command, otherwise, responds (NAK<cr>
nnn is form 001 to 100.

This command is to change the full load parameter. The parameter is bigger, that is to say the system can load more line load. The default value is 70, and the default PF is 0.7.

6.15 MXVA<nnn><cr>: Setting maximum VA value

Computer: MXVA<nnn><cr>

UPS: (ACK<cr> if UPS accepts this command, otherwise, responds (NAK<cr>

Case Name:		Date:		Num:	
Case Num:		Version:		PAGE	29/33

nnn is form 001 to 100.

This command is to change the full load parameter. The parameter is bigger, that is to say the system can load more nonlinear load. The default value is 100.

6.16 BATS<n><cr>: Hide warning about battery

Computer: BATS<n><cr>

UPS: (ACK<cr> if UPS accepts this command, otherwise, responds (NAK<cr>

<n> is a number of 0 and 1.

1 means to hide all warning information about Battery while 0 means to show warning information about Battery.

6.17 PEBP<nn><cr>: Setting the external battery packs number

Computer: PEBP<nn><cr> nn = 00~07

UPS: (ACK<cr> if UPS accepts this command, otherwise, responds (NAK<cr>

Example:

Computer: PEBP05<cr>

UPS: (ACK<cr>

Means: The external battery packs are 5.

6.18 CHGV< $\pm$ nn><cr>: Calibrating charger voltage (for SLC)

Computer: CHGV<+nn><cr>

UPS: (ACK<cr> if UPS accepts this command, otherwise, responds (NAK<cr>

nn is form 01 to 99. Unit is 0.1V

6.19 VOP $\pm$ <nn> <cr>: Fine-turning output R voltage

Computer: VOP+<nn> <cr> nn= 00, 01....., 99

Computer: VOP-<nn> <cr> nn= 00, 01....., 99

UPS: (ACK<cr> if UPS accepts this command, otherwise, responds (NAK<cr>

Example:

Computer: VOP+56<cr>

UPS: (ACK<cr>

Means: Output R voltage will increase about 5.6 Volt.

6.20 CHGCUR<nn> <cr>: Setting charge current.

Computer: CHGCUR <nn><cr>

UPS: (ACK<cr> if UPS accepts this command, otherwise, responds (NAK<cr>

Case Name:		Date:		Num:	
Case Num:		Version:		PAGE	30/33

nn is form 01 to 04.

Example:

Computer: CHGCUR01 <cr>

UPS: (ACK<cr>

Means: Charge current is 1A.

6.21 CHGCURA±<nn> <cr>: Fine-turning charge current

Computer: CHGCURA +<nn> <cr> nn= 00, 01....., 09

Computer: CHGCURA -<nn> <cr> nn= 00, 01.....,09

UPS: (ACK<cr> if UPS accepts this command, otherwise, responds (NAK<cr>

Example:

Computer: CHGCURA -02<cr>

UPS: (ACK<cr>

Means: Charge current will decrease about 0.2A.

6.22 RESET<cr>: Setting UPS output voltage and BUS voltage to default value

Computer: RESET <cr>

UPS: (ACK<cr> if UPS accepts this command, otherwise, responds (NAK<cr>

The UPS will be set default output.

For example: Output voltage will be set 220V, and the BUS voltage will be set 345V.

6.23 V<n><cr>: Setting output rating voltage

Computer: V<n><cr>

UPS: (ACK<cr> if UPS accepts this command, otherwise, responds (NAK<cr>

Output Voltage: <n>. n is 208,220,230,240.

Default status: Output nominal voltage 220V. (It can be set only in bypass mode)

For example:

Computer: V230<cr>

UPS: (ACK<cr>

Means: set output nominal voltage to 230V.

6.24 F50<cr>: Setting UPS output rating frequency to 50Hz

Computer: F50<cr>

Case Name:		Date:		Num:	
Case Num:		Version:		PAGE	31/33

UPS: (ACK<cr> if UPS accepts this command, otherwise, responds (NAK<cr>
Set UPS output rating frequency to 50Hz. (Only in bypass mode)

6.25 F60<cr>: Setting UPS output rating frequency to 60Hz

Computer: F60<cr>

UPS: (ACK<cr> if UPS accepts this command, otherwise, responds (NAK<cr>
Set UPS output nominal frequency to 60Hz. (Only in bypass mode)

6.26 INTYPE<n><cr>:Set input source type.

Computer: INTYPE<n><cr>

UPS: (ACK<cr> if UPS accepts this command, otherwise, responds (NAK<cr>
<n> is a number which ranging from 0, 1. 0 means high resistance source, 1 means utility.

6.27 SEM<n><cr>:Set EPO(emergency power off) as MBP(manual bypass).

Computer: SEM<n><cr>

UPS: (ACK<cr> if UPS accepts this command, otherwise, responds (NAK<cr>
<n> is a number which ranging from 0, 1.
1 means active this function and 0 means not.

6.28 SISOC<n><cr>:Set ISO negative R compensation.

Computer: SISOC<n><cr>

UPS: (ACK<cr> if UPS accepts this command, otherwise, responds (NAK<cr>
<n> is a number which ranging from 000 to 999.
01 ans 0.01 Ω .

6.29 PWP103 <cr>: The password for some setting command ,such as BATNUM; BATFV;BATLW

Computer: PWP103<cr>

UPS: (ACK<cr> if UPS accepts this command, otherwise, responds (NAK<cr>

Case Name:		Date:		Num:	
Case Num:		Version:		PAGE	32/33

6.30 BATNUM <nn><cr>: Setting battery number

Computer: BATNUM<nn><cr>

Device: (ACK<cr> if UPS accepts this command, otherwise, responds (NAK<cr>

nn is from 16 to20, unit: PCS

Example:

Computer: BATNUM20 <cr>

UPS: (ACK<cr>

Means: battery number is 20 PCS.

Before set this parameter ,must send PWP103 command;

6.31 BATFV<nnn> <cr>: Setting battery floating charge voltage

Computer: BATFV<nnn> <cr> nnn= 120,....., 144

UPS: (ACK<cr> if UPS accepts this command, otherwise, responds (NAK<cr>

Example:

Computer: BATFV140<cr>

UPS: (ACK<cr>

Means: every PCS battery floating charge voltage is 14.0V. 20PCS is 280V

<nnn>is from 130 to 143.

Before set this parameter ,must send PWP103 command;

6.32 BATLW<nnn><cr>: Setting battery low warning voltage

Computer: BATLW<nnn><cr>

UPS: (ACK<cr> if UPS accepts this command, otherwise, responds (NAK<cr>

Example:

Computer: BATLW 114<cr>

UPS: (ACK<cr>

Means: every PCSattery low warning voltage is 11.4V.

nnn is form 096 to 120.

Before set this parameter ,must send PWP103 command;

Case Name:		Date:		Num:	
Case Num:		Version:		PAGE	33/33

6.33 RN<n> <cr>: Set redundancy number

Computer: RN<n> <cr> n= 0,1,2

UPS: (ACK<cr> if UPS accepts this command, otherwise, responds (NAK<cr>

Example:

Computer: RN1<cr>

UPS: (ACK<cr>

Means: 1 unit is for redundancy functions in parallel system

6.34 BATRP<cr>: initialize battery capacity for autonomy time

Computer: BATRP <cr>

UPS: (ACK<cr> if UPS accepts this command, otherwise, responds (NAK<cr>

Example:

Computer: BATRP <cr>

UPS: (ACK<cr>

After replace the Battery ,this Command should be send.

6.35 BATSTY<cr>: UPS self-calibration backup time.

Computer: BATSTY <cr>

UPS: (ACK<cr> if UPS accepts this command, otherwise, responds (NAK<cr>

Example:

Computer: BATSTY <c r>

UPS: (ACK<cr>

If warn to calibrate backup time , this Command should be send with greater than 25% load.