JDS6600 host computer communication protocol

◆ summarize

The control command generally adopts the command line, the communication rate is 115200, which is sent by PC.

Out of the command, the machine parse the execution, then returns the result to the PC machine. The following commands are different Explain it.

The format of the sent data is as follows:

start bit	instruction character	Function Code	connector	data field	tailed
:	W r a b	0-99	=	See the explanation	new line <CR><LF>

Explain:

(1) The starting bit is the colon in the ASCII character table (:)。

(2) The operator is four lowercase characters in the ASCII character table, and "w" is written

The instruction is used to set various parameters, "r" is the read instruction used to return the parameters in the machine, "a".

The instruction is used to write the data of any wave, and the "b" instruction is used to read the data of any wave.

(3) The function number is the numeric value in the ASCII character table, and the difference of the value represents the different parameter settings.

(4) According to the field: the data field is equivalent to the operand of the command, with a number of 1 to 2048 Each data is distinguished by "," or ".".

For example: w23=25786,0. <CR><LF> this instruction operand is 2, the first operand is"25786", the set output frequency is 257.86, the second bit operand is "0" set frequency The unit of rate is Hz, in a word, this instruction sets the frequency of channel 1 to 257.86 Hz.

(5) Terminator: each instruction ends with a return character plus a newline.

<CR> represents the carriage return in the ASCII character table (the sixteen is represented as 0x0D).

<LF> is a newline of the ASCII character table (the sixteen is represented as 0x0a).

The following are the two ways to express the return line.

◆W instruct

Channel output status settings

E.g:
PC sends: w20=1,1.<CR><lF> means that channels 1 and 2 open the output at the same time;

PC sends: w20 = 0, 0. <CR> <lF> means that channels 1 and 2 close the output at the same time;

(1) Waveform setting

for instance: PC machine sends: w21=0.<CR><LF>

indicates that the waveform of channel 1 output

is a sine wave, and the machine returns to OK to

indicate that the setting is successful.

The PC machine sends: w21=101.<CR><LF> indicates

that the set channel output waveform is 01 of any

wave, and the machine returns to OK to indicate

that the setup is successful.

The PC machine sends w22=0.<CR><LF> to indicate that the waveform of the channel 2 output is a sine wave, and the machine returns to OK to indicate that the setting is successful.

The other waveforms are set as follows:

Channel 1	Wave form	Channel 2
:w21=0.<CR><LF>	sine wave	:w22=0.<CR><LF>
:w21=1.<CR><LF>	Square wave	:w22=1.<CR><LF>
:w21=2.<CR><LF>	Pulse wave	:w22=2.<CR><LF>
:w21=3.<CR><LF>	Triangular wave	The following analogy
:w21=4.<CR><LF>	Partial sine wave	
:w21=5.<CR><LF>	CMOS wave	
:w21=6.<CR><LF>	DC level	

:w21=7.<CR><LF>	Half wave	The following analogy
:w21=8.<CR><LF>	Full wave	
:w21=9.<CR><LF>	Positive step wave	
:w21=10.<CR><LF>	Back step wave	
:w21=11.<CR><LF>	Noise wave	
:w21=12.<CR><LF>	Index rise	
:w21=13.<CR><LF>	Exponential drop	
:w21=14.<CR><LF>	For sonic	
:w21=15.<CR><LF>	Sieck pulse	
:w21=16.<CR><LF>	Lorenz pulse	
When w21=101.<CR><LF> is an arbitrary wave 01,: w21=102.<CR><LF> represents an arbitrary wave 02, By analogy, until the maximum of 160 is an arbitrary wave 60。		

(2) The frequency is set as follows

PC machine sends: the output frequency of the w23=25786,1.<CR><LF> set channel 1 is

0.2586 units are KHz, and the machine returns to OK to indicate that the setting is successful.

PC machine sends: the output frequency of the w24=25786,3.<CR><LF> set channel 2 is 257.86 units are mHz, and the machine returns to OK to indicate that the setting is successful.

Channel 1	Channel 2
:w23=25786,0.<CR><LF>csetting257.86Hz	:w24=25786,0.<CR><LF>

:w23=5786,1.<CR><LF>setting0.5786KHz	:w24=25786,1.<CR><LF>
:w23=25786,2.<CR><LF>setting 0.00025786MHz	The following analogy
:w23=25786,3.<CR><LF>setting257.86mHz	
:w23=25786,4.<CR><LF>setting 257.86uHz	

(3) The range is set as follows

PC machine sends: w25=x.<CR><LF> when x=30 is set up the channel 1 output is 0.03V, and the machine returns to OK to indicate that the setting is successful.

PC machine sends: w26=x.<CR><LF> when x=30 is set up the channel 2 output is 0.03V, and the machine returns to OK to indicate that the setting is successful.

(4) The duty cycle is set as follows

PC machine sends: w29=x.<CR><LF> when x=500 is set up the channel 1 duty ratio output is 50%, the machine returns to OK to indicate that the setting is successful.

PC machine sends: w29=x.<CR><LF> when x=500 is set up the channel 2 duty ratio output is 50%, the machine returns to OK to indicate that the setting is successful.

(5) the setting of the bias is as follows

PC machine sends: the bias output of the w27=9999.<CR><LF> setting channel 1 is 9.99v,

The machine returns to OK to indicate that the setup is successful.

PC machine sends: the bias output of the w27=1000.<CR><LF> setting channel 1 is 0V,

The machine returns to OK to indicate that the setup is successful.

PC machine sends: w27=1.<CR><LF> setting channel 1 bias output is -9.99v, and the machine returns to OK to indicate that the setting is successful.

When setting the offset output of channel 2, just change W27 to: W28 can be changed. For example, PC machine sends: w28=1.<CR><LF> setting channel 2 bias output

-9.99v, the machine returns to OK to indicate that the setup is successful.

（6）相位设置如下

PC machine sends: w31=100.<CR><LF> indicates that the phase output is 10 degrees, and the machine returns

OK indicates that the setting is successful.

PC machine sends: w31=360.<CR><LF> indicates that the phase is 0 degrees, and the machine returns to OK

Set up a success.

(7) the following settings are set as follows

The PC machine sends: w54=x, x, x, x, x.<CR><LF> tracking settings, the number of operands (x value) is 1, or for 0,1, it means synchronization 0, which means asynchronism, and synchronization is operated by channel 1. The number of operands corresponds to w54= frequency, waveform and amplitude.

Bias, duty ratio.

PC sends: w54=1,0,0,0,0.<CR><LF> set frequency synchronization (waveform amplitude bias duty ratio asynchronous), machine back to OK to indicate that the setting is successful.

PC sends: w54=1,1,0,0,0.<CR><LF> sets frequency and waveform synchronization (amplitude bias duty ratio asynchronous), and the machine returns to OK to indicate that the setting is successful.

(8) extension function (writing of instructions)

For example, the PC machine sends the numeric value of the operands in w32=x, x, x, x.<CR><LF> (x

Value) only 1 or 0)