

# **SR7005**

## ***RS-232C / Ethernet(IP) Control Specification***

**Category** : *AV Receiver*

**Document Version** : *1.00*

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*All specifications might be subject to change without notice.*

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**1. Introduction**

**1-1. Purpose**

This document was written as a reference specification of products that are controlled by the host controller.

**1-2. Scope**

This document would be using by software or hardware engineers for production of the product.

**1-3. Abbreviations**

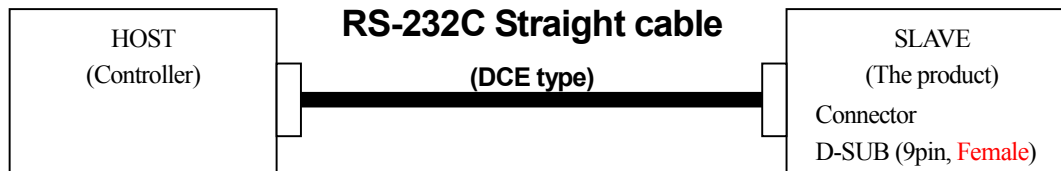
Abbreviation	Description

## 2. RS-232C Specification

### 2-1. Overview

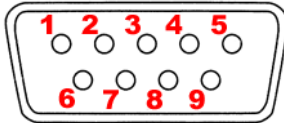
A Host controller can control or watch out the product as a Slave very easily via the communication cable.

### 2-2. Block Diagram for RS-232C connection



\* The product connector is using D-SUB 9pin female.

### 2-3. RS-232C pin assignment

uP Interface	Signal name	Connection device	D-Sub Pin	Connector
-	<b>GND</b>	-	<b>1</b>	A connector of the product RS-232C D-Sub 9pin, <b>Female</b> 
UART	<b>TxD (output)</b>	RS-232C Level shift driver	<b>2</b>	
	<b>RxD (input)</b>		<b>3</b>	
-	<b>N.C.</b>	-	<b>4</b>	
-	<b>GND</b>	Common GND	<b>5</b>	
-	<b>N.C.</b>	-	<b>6</b>	
-	<b>N.C.</b>	-	<b>7</b>	
-	<b>N.C.</b>	-	<b>8</b>	
-	<b>N.C.</b>	-	<b>9</b>	

**2-4. Communication format:**

Synchronous system	:	Tone step synchronization
Communication system	:	A half duplex
Communication speed	:	9600bps
Character length	:	8 bits
Parity control	:	None
Start bit	:	1 bit
Stop bit	:	1 bit
Communication procedure	:	Non procedural
Communication data length	:	135 bytes (maximum)

**2-5. Protocol specification**

The following three data forms are defined.

COMMAND	:	The message sent to a system(AVR) from a controller(Touch Panel etc.) A command to a system is given from a controller.
EVENT	:	The message sent to a controller (Touch Panel etc.) from a system (AVR) The result is sent, when a system is operated directly and a state changes. *The form of EVENT presupposes that it is the same as that of COMMAND. **Refer to the following table for the contents of COMMAND and EVENT.
RESPONSE	:	The message sent to a controller (Touch Panel etc.) from a system (AVR) if the 'request command' (COMMAND+? +CR (0x0D)) has come from a controller. The RESPONSE should be sent within 200ms of receiving the COMMAND. *The form of RESPONSE presupposes that it is the same as that of EVENT.

Basic specification: The command by ASCII CODE, parameter expression

\*ASCII CODE which can be used is from 0x20 to 0x7F: the alphabet and the number of 0-9, and space (0x20), some signs, AND carriage return (0x0D) --- It is used only as a pause sign.

Command structure: COMMAND + PARAMETER + CR (0x0D)

COMMAND: ASCII CODE of 2 characters

Example)	SI	:	Select Input source
	MS	:	Surround Mode setting
	MV	:	Master Volume setting
	PW	:	System Power setting

PARAMETER: ASCII CODE (up to 25 characters)

Example)	DVD	:	Function Name
	DTS-HD MA	:	Surround Mode Name
*Special Parameter:	?	:	For Request Command

Command Example \* <CR> is the meaning of 0x0D.

SIDVD<CR>	:	Select Input source DVD
MSSTEREO<CR>	:	Surround Mode Set to STEREO
MVUP<CR>	:	Master Volume UP
PWON<CR>	:	System Power ON
PWSTANDBY<CR>	:	System Power STANDBY
SI?<CR>	:	Request command for now playing input source
	>>	Return RESPONSE 'SI***<CR>'

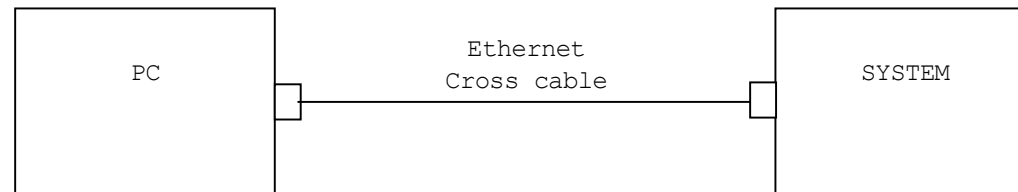
### 3. Ethernet (IP) Specification

#### 3-1. Connector type

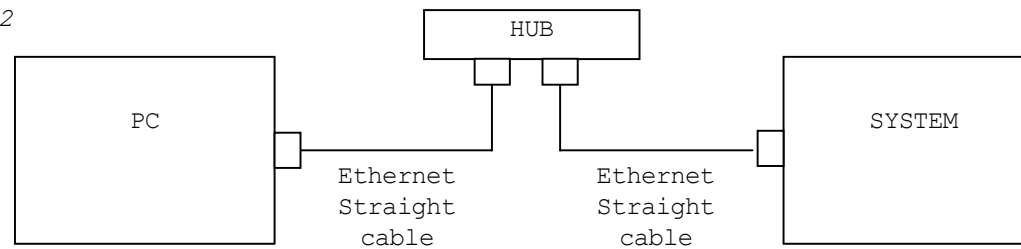
RJ-45(10BASE-T/100BASE-TX)

#### 3-2. Block Diagram for Ethernet (IP) connection

Example 1



Example 2



#### 3-3. Communication format:

Communication system	:	A half duplex
Communication speed	:	10Mbps/100Mbps
Communication port	:	TCP port 23 (telnet)
Communication data length	:	135bytes (maximum)

### 3-4. NETWORK SETUP of SR7005

#### 3-4-1. Procedure of Network Setup mode.

- (1) Press **MENU** button, then Menu appears on the front display and GUI menu on screen of a display.
- (2) Select "Manual Setup > Network Setting > Network Connecting > Detail".
- (3) Set parameters described below.
  - <DHCP> "ON" Use this setting when DHCP server is on the local network.  
"OFF" Use this setting when DHCP server is not on the local network.
  - <IP Address> When <DHCP> sets "OFF", please set IP address.  
When <DHCP> sets "ON", you can confirm the IP address that is set by server.
  - <Subnet Mask> When <DHCP> sets "OFF", please set Subnet Mask.  
When <DHCP> sets "ON", you can confirm the Subnet Mask that is set by server.
  - <Gateway> Set the address of Gateway when Gateway is on the local network.  
Do not set this parameter when Gateway is not on the local network.
  - <Primary DNS> Do not set this parameter.
  - <Second DNS> Do not set this parameter.
  - <Proxy> Set this parameter "OFF".

#### 3-4-2. Network Option: Network Standby Mode

- (1) Press MENU button, then Menu appears on the front display and GUI menu on screen of a display.
- (2) Select "Manual Setup > Network Setup > Other > Network Standby".
- (3) Set parameters described below.
  - "ON" Use this setting when using the SR7005 Connected in a network.
  - "OFF" Use this setting when not using the SR7005 connected in a network.  
This setting is reducing the power consumption in the standby mode.



### 3-5. Protocol specification

The following three data forms are defined.

- COMMAND : The message sent to a system(AVR) from a controller(Touch Panel etc.)  
A command to a system is given from a controller.
- EVENT : The message sent to a controller (Touch Panel etc.) from a system (AVR)  
The result is sent, when a system is operated directly and a state changes.  
\*The form of EVENT presupposes that it is the same as that of COMMAND.  
\*\*Refer to the following table for the contents of COMMAND and EVENT.
- RESPONSE : The message sent to a controller (Touch Panel etc.) from a system (AVR)  
if the 'request command' (COMMAND+?+CR(0x0D)) has come from a controller.  
The RESPONSE should be sent within 200ms of receiving the COMMAND.  
\*The form of RESPONSE presupposes that it is the same as that of EVENT.

Basic specification: The command by ASCII CODE, parameter expression

\*ASCII CODE which can be used is from 0x20 to 0x7F: the alphabet and the number of 0-9, and space (0x20), some signs, AND carriage return (0x0D) — It is used only as a pause sign.

### 3-6. Command structure: COMMAND + PARAMETER + CR (0x0D)

- COMMAND : ASCII CODE of 2 characters
- Example) SI : Select Input source  
MS : Surround Mode Setting  
MV : Master Volume Setting  
PW : System Power Setting

PARAMETER : ASCII CODE ( up to 25 characters)

- Example) DVD : Function Name  
DTS-HD MA : Surround Mode Name

\*Special Parameter— ? : for request command

The example of a command

\* <CR> is the meaning of 0x0D.

SIDVD<CR>	:	Select Input source DVD
MSSTEREO<CR>	:	surround Mode Set to STEREO
MVUP<CR>	:	Master Volume UP
PWON<CR>	:	system PoWer ON
PWSTANDBY<CR>	:	system PoWer STANDBY
SI?<CR>	:	Request command for now playing input source
	>>	Return RESPONSE 'SI***<CR>'

### 3-7. Others

- A) COMMAND is receivable also during transmission of EVENT.
- B) Since CHANNEL VOLUME changes simultaneously when the SURROUND MODE changes, the value of the channel volume of all channels returns as EVENT.
- C) CHANNEL VOLUME returns the data of ALL channels by the present SURROUND MODE also including an intact channel. In this case, the data of an intact channel is set to "50".
- D) Since SURROUND MODE changes simultaneously when the INPUT source changes, the SURROUND MODE (and also the value of the channel volume of all channels , It described in B) ) returns as EVENT.
- E) When SURROUND MODE is the same in between INPUT source change before and after, EVENT of SURROUND MODE and CHANNEL VOLUME does NOT return.
- F) Although EVENT of SURROUND MODE returns when the present SURROUND MODE is set up again, CHANNEL VOLUME does NOT return.
- G) When SURROUND MODE is changed, before returning SURROUND MODE after change as EVENT, the present SURROUND MODE is returned.
- H) The RESPONSE should be sent as opposed to the request command by all the commands with which an EVENT exists , not need to the another request commands(ex. SV command).
- I) The PARAMETER (with COMMAND and RESPONSE, EVENT) of minimum level of MASTER VOLUME defines "99".

J) If the MASTER VOLUME & CHANNEL VOLUME set with 0.5dB step, the PARAMETER (with COMMAND and RESPONSE, EVENT) defines three ASCII characters as bellows.

Example) MASTER VOLUME =

+1.0dB	:	MV81<CR>
+0.5dB	:	MV805<CR>
0.0dB	:	MV80<CR>
-0.5dB	:	MV795<CR>
-1.0dB	:	MV79<CR>
-79.5dB	:	MV005<CR>
-80.0dB	:	MV00<CR>
-80.5dB	:	MXV995<CR>
--	:	MV99<CR>

\* At the \*\*.0dB step, only uses two ASCII characters as PARAMETER, same as usual.

K) Four seconds later, please transmit the next COMMAND after transmitting a power on COMMAND (PWON) .

### 3-8. References

- Host I/F Command Definition Host Controller Interface Specification ver. 0.3

### 3-9. Assumptions and Dependencies

#### 4. Definitions of Command, Status and Layer

This section is told how to define “Command”, “Status” and “Layer” of this product.

##### 4-1. Commands

This chapter will show the commands of this product.

##### 4-1-1. Normal Command, Status command and answer list

Please refer the attached “Marantz\_NEW\_RS232C\_Command\_List-Receiver\_All.xls”.

#### 5. Revision history

Rev.	Date	Owner	Change description
1.00	09/3/2010	Marantz America, LLC.	First issue