

ONKYO RS232 CONTROL SYSTEM

For DTR-5.2

CONFIDENTIAL

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1.	CONTROL INTERFACE OVERVIEW	3
1.1.	Hardware Overview.....	3
1.2.	Message Overview.....	3
	Receive Message Format	3
	Send Message Format	3
	Special Character	3
2.1.	Command Communication.....	4
2.2.	Question Communication.....	4
2.3.	Event Notice Communication.....	4
3.	COMMAND DESCRIPTIONS	5
3.1.	System Power Command "PWR".....	5
3.2.	Audio Muting Command "AMT".....	5
3.3.	Speaker A/B Command "SPA"/"SPB"	5
3.4.	Master Volume Command "MVL".....	5
3.5.	Input Selector Command "SLI".....	6
3.6.	Listening Mode Command "LMD".....	7
3.7.	Late Night Command "LTN".....	7
3.8.	Re-EQ Command "RAS".....	7
3.9.	Tuning Command "TUN".....	8
3.10.	Preset Command "PRS".....	8
3.11.	Display Mode Command "DIF".....	9
3.12.	Dimmer Level Command "DIM".....	9
3.13.	Setup Operation Command "OSD".....	9
3.14.	CD Player Operation Command ``CCD``	10
3.15.	TAPE1(A) Operation Command "CT1".....	11
3.16.	TAPE2(B) Operation Command "CT2".....	11
3.17.	Graphics Equalizer Operation Command "CEQ".....	11
3.18.	DAT Recorder Operation Command "CDT".....	12
3.19.	DVD Player Operation Command "CDV".....	12
3.20.	MD Recorder Operation Command "CMD".....	14
3.21.	CD-R Recorder Operation Command "CCR".....	15

1. CONTROL INTERFACE OVERVIEW

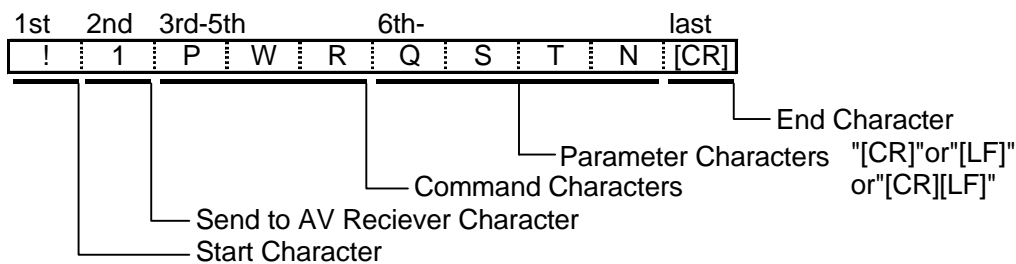
The manual for the DTR-5.2 should also be used with this document to understand how this protocol can be used the DTR-5.2.

1.1. Hardware Overview

- 3 wire RS-232C protocol
- 9 pin female D type connector
 - pin 2 = transmit, pin 3 = receive, pin 5 = signal ground
- Communication Parameters
 - 9600 baud ,8 data bits ,1 stop bit
 - no parity ,no xon/xoff

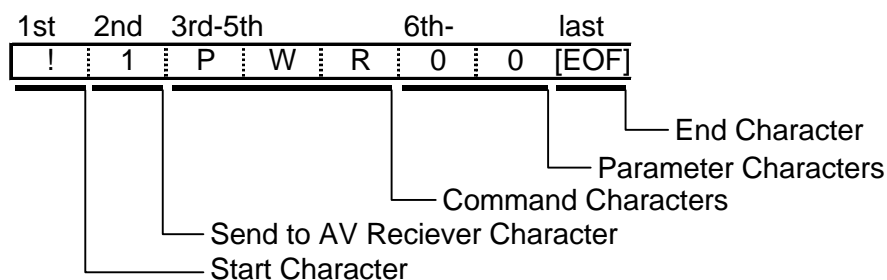
1.2. Message Overview

Receive Message Format



Note : The Interval Time Receiving the message need to take more than 50msec.

Send Message Format



Special Character

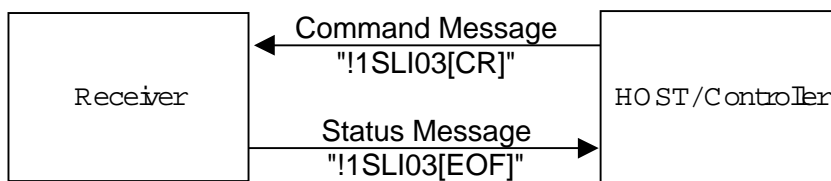
[CR]	Carridge Return	Ascii Code 0x0D
[LF]	Line Feed	Ascii Code 0x0A
[EOF]	End Of File	Ascii Code 0x1A

2.COMMUNICATION FLOW DESCRIPTION

The DTR-5.2 uses Question, Command and Notification messages to have to communicate with a given HOST. This protocol is designed for point to point communication between a HOST and the DTR-5.2.

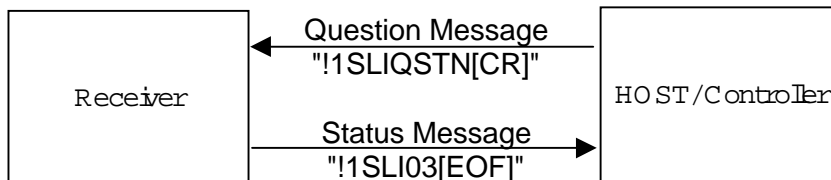
2.1.Command Communication

Send a "Command Message" to the DTR-5.2 from the HOST to change the system status. The DTR-5.2 will respond with a status message within 50msec. If DTR-5.2 does not respond within 50msec, the communication has failed.



2.2.Question Communication

Send a "Question Message" to the DTR-5.2 from the HOST to get the current system status. The DTR-5.2 will respond with a status message.



2.3.Event Notice Communication

If user change the system status, the DTR-5.2 will notify the HOST by sending the new current status.



3.COMMAND DESCRIPTIONS

3.1.System Power Command "PWR"

Commands to set or get the system-power status.

Parameter List (Characters/Meanings) :

"00"	sets System Standby
"01"	sets System On
"QSTN"	gets the System Power State

3.2.Audio Muting Command "AMT"

Commands to set or get the audio-muting status.

Parameter List (Characters/Meanings) :

"00"	sets Audio Muting Off
"01"	sets Audio Muting On
"QSTN"	gets the Audio Muting State

3.3.Speaker A/B Command "SPA"/"SPB"

Commands to set or get the speaker out status.

Parameter List (Characters/Meanings) :

"00"	sets Speaker Off
"01"	sets Speaker On
"UP"	sets Speaker Switch Wrap-Around Up
"QSTN"	gets the Speaker State

3.4.Master Volume Command "MVL"

Commands to set or get the master volume status.

Parameter List (Characters/Meanings) :

"00"- "50"	sets Volume Level 0 - 80 (In hexadecimal representation)
"UP"	sets Volume Level Up
"DOWN"	sets Volume Level Down
"QSTN"	gets the Volume Level

3.5.Input Selector Command "SLI"

Commands to set or get the Input selector status.

Parameter List (Characters/Meanings) :

"00"	sets VIDEO1
"01"	sets VIDEO2
"02"	sets VIDEO3
"10"	sets DVD
"20"	sets TAPE1
"22"	sets PHONO
"23"	sets CD
"24"	sets FM
"25"	sets AM
"UP"	sets Selector Position Wrap-Around Up
"DOWN"	sets Selector Position Wrap-Around Down
"QSTN"	gets The Selector Position

3.6. Listening Mode Command "LMD"

Commands to set or get the listening mode status.

Parameter List (Characters/Meanings) :

"00"	sets STEREO
"01"	sets DIRECT
"02"	sets SURROUND
"08"	sets ORCHESTRA
"09"	sets UNPLUGGED
"0A"	sets STUDIO-MIX
"0B"	sets TV LOGIC
"0C"	sets ALL CH STEREO
"UP"	sets Listening Mode Wrap-Around Up
"DOWN"	sets Listening Mode Wrap-Around Down
"QSTN"	gets The Listening Mode

3.7. Late Night Command "LTN"

Commands to set or get the late night with the parameter in this message.

Parameter List (Characters/Meanings) :

"00"	sets Late Night Off
"01"	sets Late Night Low
"02"	sets Late Night High
"UP"	sets Late Night State Wrap-Around Up
"QSTN"	gets The Late Night Level

3.8. Re-EQ Command "RAS"

Commands to set or get the Re-EQ status.

Parameter List (Characters/Meanings) :

"00"	sets Re-EQ Off
"01"	sets Re-EQ On
"UP"	sets Re-EQ State Wrap-Around Up
"QSTN"	gets The Re-EQ State

3.9.Tuning Command "TUN"

Commands to set or get the tuner frequency status.

Parameter List (Characters/Meanings) :

"nnnnn"	sets Directly Tuning Frequency (FM nnn.nn MHz / AM nnnnn kHz)
"UP"	sets Tuning Frequency Wrap-Around Up
"DOWN"	sets Tuning Frequency Wrap-Around Down
"QSTN"	gets The Tuning Frequency

3.10.Preset Command "PRS"

Commands to set or get the tuner preset status.

Parameter List (Characters/Meanings) :

"01"-"1E"	sets Preset No. 1 - 30 (In hexadecimal representation)
"UP"	sets Preset No. Wrap-Around Up
"DOWN"	sets Preset No. Wrap-Around Down
"QSTN"	gets The Preset No.

3.11. Display Mode Command "DIF"

Commands to set the display mode.

Parameter List (Characters/Means) :

"00"	sets Selector + Volume Display Mode
"01"	sets Selector + Listening Mode Display Mode
"UP"	sets Display Mode Wrap-Around Up
"QSTN"	gets The Display Mode

3.12. Dimmer Level Command "DIM"

Commands to set or get the dimmer level with the parameter In this message.

Parameter List (Characters/Means) :

"00"	sets Dimmer Level "Bright"
"01"	sets Dimmer Level "Dim"
"02"	sets Dimmer Level "Dark"
"DIM"	sets Dimmer Level Wrap-Around Up
"QSTN"	gets The Dimmer Level

3.13. Setup Operation Command "OSD"

Commands to operate the SETUP.

Parameter List (Characters/Means) :

"MENU"	Menu Key
"UP"	Up Key
"DOWN"	Down Key
"RIGHT"	Right Key
"LEFT"	Left Key
"ENTER"	Enter Key
"EXIT"	Exit Key

3.14.CD Player Operation Command “CCD”

Commands to operate ONKYO CD players via the ONKYO RI System.

Parameter List (Characters/Meanings) :

"POWER"	POWER ON/OFF
"TRACK"	TRACK+
"PLAY"	PLAY
"STOP"	STOP
"PAUSE"	PAUSE
"SKIP.F"	>>
"SKIP.R"	<<
"MEMORY"	MEMORY
"CLEAR"	CLEAR
"REPEAT"	REPEAT
"RANDOM"	RANDOM
"DISP"	DISPLAY
"D.MODE"	D.MODE
"FF"	FF >>
"REW"	REW <<
"OP/CL"	OPEN/CLOSE
"1"	1
"2"	2
"3"	3
"4"	4
"5"	5
"6"	6
"7"	7
"8"	8
"9"	9
"0"	0
"10"	10
"DISC.F"	DISC +
"DISC.R"	DISC -
"DISC1"	DISC1
"DISC2"	DISC2
"DISC3"	DISC3

"DISC4"	DISC4
"DISC5"	DISC5
"DISC6"	DISC6

3.15.TAPE1(A) Operation Command "CT1"

Commands to operate ONKYO TAPE decks via the ONKYO RI System.

Parameter List (Characters/Meanings) :

"PLAY.F"	PLAY >
"PLAY.R"	PLAY <
"STOP"	STOP
"RC/PAU"	REC/PAUSE
"FF"	FF >>
"REW"	REW <<

3.16.TAPE2(B) Operation Command "CT2"

Commands to operate ONKYO TAPE decks via the ONKYO RI System.

Parameter List (Characters/Meanings) :

"PLAY.F"	PLAY >
"PLAY.R"	PLAY <
"STOP"	STOP
"RC/PAU"	REC/PAUSE
"FF"	FF >>
"REW"	REW <<
"OP/CL"	OPEN/CLOSE
"SKIP.F"	>>I
"SKIP.R"	I<<

3.17.Graphics Equalizer Operation Command "CEQ"

Commands to operate ONKYO Graphics Equalizer via the ONKYO RI System.

Parameter List (Characters/Meanings) :

"POWER"	POWER ON/OFF
"PRESET"	PRESET

3.18.DAT Recorder Operation Command "CDT"

Commands to operate ONKYO DAT recorders via the ONKYO RI System.

Parameter List (Characters/Meanings) :

"PLAY"	PLAY
"RC/PAU"	REC/PAUSE
"STOP"	STOP
"SKIP.F"	>>I
"SKIP.R"	I<<
"FF"	FF >>
"REW"	REW <<

3.19.DVD Player Operation Command "CDV"

Commands to operate ONKYO DVD players via the ONKYO RI System.

Parameter List (Characters/Meanings) :

"POWER"	POWER ON/OFF
"PWRON"	POWER ON
"PWROFF"	POWER OFF
"PLAY"	PLAY
"STOP"	STOP
"SKIP.F"	>>I
"SKIP.R"	I<<
"FF"	FF >>
"REW"	REW <<
"PAUSE"	PAUSE
"LASTPLAY"	LAST PLAY
"SUBTON/OFF"	SUBTITLE ON/OFF
"SUBTITLE"	SUBTITLE
"SETUP"	SETUP
"TOPMENU"	TOPMENU
"MENU"	MENU
"UP"	UP
"DOWN"	DOWN
"LEFT"	LEFT
"RIGHT"	RIGHT

"ENTER"	ENTER
"RETURN"	RETURN
"DISC.F"	DISC +
"DISC.R"	DISC -
"AUDIO"	AUDIO
"RANDOM"	RANDOM
"OP/CL"	OPEN/CLOSE
"ANGLE"	ANGLE
"1"	1
"2"	2
"3"	3
"4"	4
"5"	5
"6"	6
"7"	7
"8"	8
"9"	9
"10"	10
"0"	0
"SEARCH"	SEARCH
"DISP"	DISPLAY
"REPEAT"	REPEAT
"MEMORY"	MEMORY
"CLEAR"	CLEAR

3.20.MD Recorder Operation Command "CMD"

Commands to operate ONKYO MD recorders via the ONKYO RI System.

Parameter List (Characters/Meanings) :

"POWER"	POWER ON/OFF
"PLAY"	PLAY
"STOP"	STOP
"FF"	FF >>
"REW"	REW <<
"P.MODE"	PLAY MODE
"SKIP.F"	>>I
"SKIP.R"	I<<
"PAUSE"	PAUSE
"REC"	REC
"MEMORY"	MEMORY
"DISP"	DISPLAY
"SCROLL"	SCROLL
"M.SCAN"	MUSIC SCAN
"CLEAR"	CLEAR
"RANDOM"	RANDOM
"REPEAT"	REPEAT
"ENTER"	ENTER
"EJECT"	EJECT
"1"	1
"2"	2
"3"	3
"4"	4
"5"	5
"6"	6
"7"	7
"8"	8
"9"	9
"10/0"	10/0
"nn/nnn"	--/--

3.21.CD-R Recorder Operation Command "CCR"

Commands to operate ONKYO CD-R recorders via the ONKYO RI System.

Parameter List (Characters/Meanings) :

"POWER"	POWER ON/OFF
"P.MODE"	PLAY MODE
"PLAY"	PLAY
"STOP"	STOP
"SKIP.F"	>>
"SKIP.R"	<<
"PAUSE"	PAUSE
"REC"	REC
"CLEAR"	CLEAR
"REPEAT"	REPEAT
"1"	1
"2"	2
"3"	3
"4"	4
"5"	5
"6"	6
"7"	7
"8"	8
"9"	9
"10/0"	10/0
"nn/nnn"	--/---
"SCROLL"	SCROLL
"OP/CL"	OPEN/CLOSE
"DISP"	DISPLAY
"RANDOM"	RANDOM
"MEMORY"	MEMORY