VSX-84TXSi

RS232C Protocol

2006

For Custom Installation

Physical Cable Connection

Connector

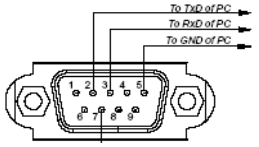
RS232C DB9 Male

Pioneer A/V Receivers use a "crossover" (aka/"null modem" or "twisted pair") cable.

Pin	AV Receiver	Pin	Computer/Controller
1	*1	1	*1
2	RXD	2	RXD
3	TXD	3	TXD
4	*1	4	*1
5	GND	5	GND
6	*1	6	*1
7	NC	7	NC
8	NC	8	NC
9	NC	9	NC

*PinS 1, 4, & 6 are shorted to each other.

RECEIVER PINOUTS



Communication

Communication Speed : 9600bps

Protocol Type : 8data bits,1stop bit,no parity

Notice1

To meet stringent power conservation measures Pioneer A/V receivers consume less
than 1 Watt when in the "Standby" or "Off" mode.
To achieve this the main CPU doesn't operate in Standby/Off.
For this reason the receiver may not understand the first command send to it's the RS-232C port
but the main CPU will "wake up" with the first command.
In other words, the receiver is using the first command as a trigger to wake up the main CPU
and may not respond correctly to it.
For the proper execution of the first command please send the command twice.

Also, please make sure to have at least a 100msec. interval between the first and second command.

Example1

PO<CR>
↓
100msec Wait
↓
PO<CR>

Notice2

It takes a brief amount of time for the receiver to respond to a command like "Surround Mode"
from your control system.
When the receiver receives a command it writes that information to the EEPROM.
Accordingly, you have to keep at least 100msec. before you do a "TIMEOUT" after sending the command to the receiver.

Example2
SR: The receiver's response to the command for PRO LOGIC II MUSIC.

Control System		Receiver
014SR<CR>	→	Receives the command and writes the info to the EEPROM.
		↓
		↓ 100msec
		↓
Confirmation	←	SR014<CR+LF>

Notice3

The interval between each response sent from the receiver is 20msec.
Therefore you have to wait at least 20msec. before a "TIMEOUT".

Example3
?F: Responding to a request for the current function (input).

Control System		Receiver
?F<CR>	→	Receives the command and processes a response.
		↓ 20msec
		F
		↓ 20msec
		N
		↓ 20msec
		0
		↓ 20msec
		4
		↓ 20msec
		CR
		↓ 20msec
Confirmation	←	LF

Automatic Feedback

When the input or function status is changed using buttons on the front panel or the remote control of the receiver, the receiver will send it's new status automatically. (VOLXX,PWRX,MUTX,FNXX,SRXXXX,LMXXX

(For example) The user changes a function on the front panel.
Receiver sends: FNXX<CR+LF>

X:Argument:ASCⅡ code

Status Request Commands

Command	Command Name	Argument	operation	Answer
?V<CR>	VOLUME LEVEL STATUS REQUEST		Return the VOLUME LEVEL	VOLXX<CR+LF> *1
?P<CR>	POWER STATUS REQUEST		Return the POWER status	PWRX<CR+LF> *2
?M<CR>	MUTE STATUS REQUEST		Return the MUTE status	MUTX<CR+LF> *2
?F<CR>	FUNCTION MODE REQUEST		Return the FUNCTION MODE	FNXX<CR+LF> *3
?S<CR>	LISTENING MODE SETTING REQUEST		Return the L.M SETTING	SRXXXX<CR+LF> *4
?L<CR>	LISTENING MODE REQUEST		Return the L.M	LMXXX<CR+LF> *5
?TO<CR>	TONE STATUS REQUEST		Return the TONE status	TOX<CR+LF> *6
?BA<CR>	BASS STATUS REQUEST		Return the BASS Level	BAXX<CR+LF> *7
?TR<CR>	TREBLE STATUS REQUEST		Return the TREBLE Level	TRXX<CR+LF> *8
?PR<CR>	TUNER PRESET REQUEST		Return the PRESET number	PRXXX<CR+LF> *9
?FR<CR>	TUNER FREQ REQUEST		Return the FREQ number	FRXXXXX<CR+LF> *10
?AP<CR>	ZONE 2 POWER STATUS REQUEST		Return the POWER status	APRX<CR+LF> *2
?BP<CR>	ZONE 3 POWER STATUS REQUEST		Return the POWER status	BPRX<CR+LF> *2
?ZS<CR>	ZONE 2 FUNCTION STATUS REQUEST		Return the FUNCTION MODE	Z2FXX<CR+LF> *3
?ZT<CR>	ZONE 3 FUNCTION STATUS REQUEST		Return the FUNCTION MODE	Z3FXX<CR+LF> *3
?ZV<CR>	ZONE 2 VOLUME STATUS REQUEST		Return the VOLUME LEVEL	ZVXX<CR+LF> *1
?MC<CR>	MCACC POSITION REQUEST		Return the MCACC POSITION status	MCX<CR+LF> *15
?EX<CR>	SBch PROCESSING STATUS REQUEST		Return the SBch PROCESSING status	EXXX<CR+LF> *14
?XM<CR>	XM channel REQUEST	000-255	Return XM channel	XMXXX<CR+LF>
?IS<CR>	PHASE CONTROL STATUS REQUEST		Return PHASE CONTROL STATUS	ISX<CR+LF>

Operation Commands

Command	Command Name	Argument	Operation	Answer
VU<CR>	VOLUME UP		VOLUME UP	VOLXX<CR+LF> *1
VD<CR>	VOLUME DOWN		VOLUME DOWN	VOLXX<CR+LF> *1
XXVL<CR>	VOLUME SET	00-93 *1	Set the VOLUME level	VOLXX<CR+LF> *1
PO<CR>	POWER ON		POWER ON	PWRX<CR+LF> *2
PF<CR>	POWER OFF		POWER OFF	PWRX<CR+LF> *2
MO<CR>	MUTE ON		MUTE ON	MUTX<CR+LF> *2
MF<CR>	MUTE OFF		MUTE OFF	MUTX<CR+LF> *2
XXFN<CR>	FUNCTION MODE SET	*3	Set the FUNCTION MODE	FNXX<CR+LF> *3
FU<CR>	FUNCTION MODE UP		Change the FUNCTION MODE	FUNXX<CR+LF> *3
XXX(X)SR<CR>	LISTENING MODE SET	*4	Change the LISTENING MODE	SRXXX(X)<CR+LF> *4
TO<CR>	TONE ON/BYPASS		TONE ON or BYPASS	TOX<CR+LF>
BI<CR>	BASS INCREMENT		BASS INCREMENT	BAXX<CR+LF> *7
BD<CR>	BASS DECREMENT		BASS DECREMENT	BAXX<CR+LF> *7
TI<CR>	TREBLE INCREMENT		TREBLE INCREMENT	TRXX<CR+LF> *8
TD<CR>	TREBLE DECREMENT		TREBLE DECREMENT	TRXX<CR+LF> *8
TB<CR>	TUNER BAND		change the BAND (AM/FM)	FRXXXXX<CR+LF> *10
XTP<CR>	TUNER PRESET	0-9	change the TUNER PRESET	PRXXX<CR+LF> *9
TC<CR>	TUNER CLASS		change the TUNER CLASS	PRXXX<CR+LF> *9
TPI<CR>	TUNER PRESET INCREMENT		TUNER PRESET INCREMENT	PRXXX<CR+LF> *9
TPD<CR>	TUNER PRESET DECREMENT		TUNER PRESET DECREMENT	PRXXX<CR+LF> *9
TFI<CR>	TUNER FREQ INCREMENT		TUNER FREQ INCREMENT	FRXXXXX<CR+LF> *10
TFD<CR>	TUNER FREQ DECREMENT		TUNER FREQ DECREMENT	FRXXXXX<CR+LF> *10
XXZS<CR>	ZONE2 FUNCTION MODE SET	*3	Set the FUNCTION MODE	Z2FXX<CR+LF> *3
XXZT<CR>	ZONE3 FUNCTION MODE SET	*3	Set the FUNCTION MODE	Z3FXX<CR+LF> *3
ZU<CR>	ZONE2 VOLUME UP		VOLUME UP	ZVXX<CR+LF> *1
ZD<CR>	ZONE2 VOLUME DOWN		VOLUME DOWN	ZVXX<CR+LF> *1
XXZV<CR>	ZONE2 VOLUME SET	00-80	Set the VOLUME level	ZVXX<CR+LF> *1
APO<CR>	ZONE2 POWER ON		ZONE2 POWER ON	APRX<CR+LF> *2
APF<CR>	ZONE2 POWER OFF		ZONE2 POWER OFF	APRX<CR+LF> *2
BPO<CR>	ZONE3 POWER ON		ZONE3 POWER ON	BPRX<CR+LF> *2
BPF<CR>	ZONE3 POWER OFF		ZONE3 POWER OFF	BPRX<CR+LF> *2
XMC<CR>	MCACC POSITION	0,1,2,3,4,5,6	change the MCACC POSITION	MCX<CR+LF> *15
XXEX<CR>	SBch PROCESSING SET	0,1,2	Change EXTENDED MODE	EXXX<CR+LF> *14
STS<CR>	STATUS DISPLAY		to see OSD display	R
XIS<CR>	PHASE CONTROL	0,1	PHASE CONTROL ON/OFF	ISX<CR+LF>*16

iPod OPERATION

Command	Command Name	Argument	Operation	Answer
00IP<CR>	PLAY	-	to see OSD display	R
01IP<CR>	PAUSE	-	to see OSD display	R
02IP<CR>	STOP	-	to see OSD display	R
03IP<CR>	PREVIOUS (|<|<|)	-	to see OSD display	R
04IP<CR>	NEXT (|>|>|)	-	to see OSD display	R
05IP<CR>	REV (|>|>)	-	to see OSD display	R
06IP<CR>	FWD (<|<|)	-	to see OSD display	R
07IP<CR>	REPEAT	-	to see OSD display	R
08IP<CR>	SHUFFLE	-	to see OSD display	R
09IP<CR>	DISPLAY	-	to see OSD display	R
10IP<CR>	OSD ON/OFF	-	to see OSD display	R
11IP<CR>	VOL UP	-	to see OSD display	R
12IP<CR>	VOL DOWN	-	to see OSD display	R
13IP<CR>	Cursor UP	-	to see OSD display	R

14IP<CR>	Cursor DOWN	-	to see OSD display	R
15IP<CR>	Cursor RIGHT	-	to see OSD display	R
16IP<CR>	Cursor LEFT	-	to see OSD display	R
17IP<CR>	ENTER	-	to see OSD display	R
18IP<CR>	RETURN	-	to see OSD display	R
19IP<CR>	CATEGORY	-	to see OSD display	R

XM radio OPERATION (USA model only)

Command	Command Name	Argument	Operation	Answer
00XM<CR>	STATION 10	-	to see OSD display	XM***<CR+LF>
01XM<CR>	1	-	to see OSD display	XM***<CR+LF>
02XM<CR>	2	-	to see OSD display	XM***<CR+LF>
03XM<CR>	3	-	to see OSD display	XM***<CR+LF>
04XM<CR>	4	-	to see OSD display	XM***<CR+LF>
05XM<CR>	5	-	to see OSD display	XM***<CR+LF>
06XM<CR>	6	-	to see OSD display	XM***<CR+LF>
07XM<CR>	7	-	to see OSD display	XM***<CR+LF>
08XM<CR>	8	-	to see OSD display	XM***<CR+LF>
09XM<CR>	9	-	to see OSD display	XM***<CR+LF>
10XM<CR>	CH + / Cursol DOWN↓	-	to see OSD display	XM***<CR+LF>
11XM<CR>	CH - / Cursol UP↑	-	to see OSD display	XM***<CR+LF>
12XM<CR>	PRESET ST + (→)	-	to see OSD display	XM***<CR+LF>
13XM<CR>	PRESET ST - (←)	-	to see OSD display	XM***<CR+LF>
14XM<CR>	DISPLAY	-	to see OSD display	XM***<CR+LF>
15XM<CR>	PRESET	-	to see OSD display	XM***<CR+LF>
16XM<CR>	CLASS	-	to see OSD display	XM***<CR+LF>
17XM<CR>	DIRECT ACCESS(CH)	-	to see OSD display	XM***<CR+LF>
18XM<CR>	MEMORY (EDIT)	-	to see OSD display	XM***<CR+LF>
19XM<CR>	MENU	-	to see OSD display	XM***<CR+LF>
20XM<CR>	CLEAR	-	to see OSD display	XM***<CR+LF>
21XM<CR>	ENTER	-	to see OSD display	XM***<CR+LF>
22XM<CR>	RETURN	-	to see OSD display	XM***<CR+LF>
23XM<CR>	CATEGORY	-	to see OSD display	XM***<CR+LF>

(↑ when change channel)

Error message

Error Message	Error Name	Meaning
E04<CR+LF>	COMMAND ERROR	Inappropriate Command line detected
E06<CR+LF>	ARGUMENT ERROR	Inappropriate Factor

Explanation of arguments

*1 **VOLUME LEVEL** [2byte]

93VL<CR>	+12dB
81VL<CR>	0dB
01VL<CR>	-80dB
00VL<CR>	-- (same as mute)

Example1

Command ?V<CR> — Request Volume Level.

Answer VOL93<CR+LF> — Volume is set to +12dB.

*2 **ON/OFF** Status Reply [1byte]

0	ON
1	OFF

Example2

Command ?M<CR> — Request Mute Status.

Answer MUT0<CR+LF> — Mute is On.

*3 **FUNCTION MODE Command NO.** [2byte]

00FN<CR>	PHONO
01FN<CR>	CD
02FN<CR>	TUNER
03FN<CR>	CDR
04FN<CR>	DVD
05FN<CR>	TV
06FN<CR>	SAT
10FN<CR>	VIDEO or VIDEO1
11FN<CR>	i.LINK UNASSIGNED DEVICE
12FN<CR>	Multi CH
13FN<CR>	USB
14FN<CR>	VIDEO2
15FN<CR>	DVR or DVR1
16FN<CR>	DVR2
17FN<CR>	iPod
18FN<CR>	XM
19FN<CR>	HDMI1
20FN<CR>	HDMI2
21FN<CR>	**HDMI3**
22FN<CR>	**HDMI4**

Example3

Command 04FN<CR> — Change to source 04(DVD).

Answer FUN04<CR+LF>

Example4

Command in respect of "?F<CR>" — Request Current Source.

Answer FUN04<CR+LF> — Source 04 is selected(DVD).

*6 TONE STATUS Reply[1byte]

0	BYPASS
1	ON

Example1

Command ?TO<CR>	Request TONE Status.
Answer TO1<CR+LF>	Tone On.

*7 BASS STATUS Reply [2byte]

00	+6
01	+5
02	+4
03	+3
04	+2
05	+1
06	0
07	-1
08	-2
09	-3
10	-4
11	-5
12	-6

Example2

Command ?BA<CR>	Request BASS Level.
Answer BA02<CR+LF>	BASS is set to +4dB.

*8 TREBLE STATUS Reply [2byte]

00	+6
01	+5
02	+4
03	+3
04	+2
05	+1
06	0
07	-1
08	-2
09	-3
10	-4
11	-5
12	-6

Example3

Command ?TR<CR>	Request TREBLE Level.
Answer TR02<CR+LF>	TREBLE is set to +4dB.

*9 PRESET Tuner Number Status Reply [3byte]

*00	10
*01	1
*02	2
*03	3
*04	4
*05	5
*06	6
*07	7
*08	8
*09	9

* = A : class A
* = B : class B
* = C : class C

Example4

Command ?PR<CR>	Request PRESET number
Answer PRA04<CR+LF>	PRESET number is set to class A 4
PRC00<CR+LF>	PRESET number is set to class C 10

*10 FREQENCY Number Status Reply [7byte]

A0****	
F*****	

A is AM
F is FM
* is ASC Ⅱ code 0 - 9

Example5

Command ?FR<CR>	Request FREQ number
Answer FRA00890<CR+LF>	FREQ number is set to AM 890 kHz
FRF08010<CR+LF>	FREQ number is set to FM 80.10 MHz

*14 **SURROUND BACK CHANNEL PROCESSING COMMAND** [1byte]

0EX<CR>	OFF
1EX<CR>	ON
2EX<CR>	AUTO

*15 **MCACC SETTING COMMAND** [1byte]

0MC<CR>	MCACC OFF
1MC<CR>	MEMORY 1
2MC<CR>	MEMORY 2

3MC<CR>	MEMORY 3
4MC<CR>	MEMORY 4
5MC<CR>	MEMORY 5
6MC<CR>	MEMORY 6

*16 **PHASE CONTROL COMMAND** [1byte]

0IS<CR>	OFF
1IS<CR>	ON

*4 **LISTENING MODE SET**,**LISTENING MODE SETTING REQUEST** [4byte]

When you set the "Listening Mode"with the receiver's front panel keys and knobs, you use the "LISTENING CH SELECT"button.
Depending on the source signal there are some modes which are not available. There is automatic detection for 2ch and 6.1ch, but that too is source dependent (flags)

With the "**SR**" command, you can select whichever mode you wish.
Also, you can confirm your selection with the "**SR**" command by using "**?S**" command query.

When a LISTENING MODE is changed, the receiver will dispatch an ANSWER to let the controller know the current set status automatically without receiving a LISTENING MODE SETTING REQUEST. (Automatic Feedback)

[2-4byte]:data for mode setting.
Below the are the commands for selecting a LISTENING MODE.

NEW version (from '05 model) [3byte]
[1-3byte]:data for mode setting.
Indicating below the combination of the modes selected by LISTENING MODE
Example

Command	001SR<CR>	set STEREO mode.
Answer	SR001<CR+LF>	current status STEREO mode.
Answer	LM130<CR+LF>	current status 96kHz STEREO play.
Command	?S<CR>	LISTENING mode current status?
Answer	SR031<CR+LF>	ACTION mode.

001SR<CR>	STEREO	

010SR<CR>	STANDARD SELECTION (same as key)	
012SR<CR>	PRO LOGIC	for 2ch Source
013SR<CR>	PRO LOGIC Ⅱ MOVIE	for 2ch Source
014SR<CR>	PRO LOGIC Ⅱ MUSIC	for 2ch Source
015SR<CR>	PRO LOGIC Ⅱ GAME	for 2ch Source
016SR<CR>	Neo:6 CINEMA	for 2ch Source
017SR<CR>	Neo:6 MUSIC	for 2ch Source
018SR<CR>	PRO LOGIC Ⅱx MOVIE	for 2ch Source
019SR<CR>	PRO LOGIC Ⅱx MUSIC	for 2ch Source
020SR<CR>	PRO LOGIC Ⅱx GAME	for 2ch Source
021SR<CR>	Depending on Source (for Multi-ch)	for Multi-ch Source
022SR<CR>	(Multi-Channel Source) + EX	for Multi-ch Source
023SR<CR>	(Multi-Channel Source) + PRO LOGIC Ⅱx MOVIE	for Multi-ch Source
024SR<CR>	(Multi-Channel Source) + PRO LOGIC Ⅱx MUSIC	for Multi-ch Source
025SR<CR>	DTS + Neo:6	for Multi-ch Source
026SR<CR>	DTS-ES matrix6.1	for Multi-ch Source
027SR<CR>	DTS- ES discrete6.1	for Multi-ch Source

100SR<CR>	ADVANCED SURROUND SELECTION (same as key)	
101SR<CR>	ACTION	
102SR<CR>	SCI-FI	
103SR<CR>	DRAMA	
104SR<CR>	MUSICAL	
105SR<CR>	MONO FILM	
106SR<CR>	7-D THEATER	
107SR<CR>	CLASSICAL	
108SR<CR>	CHAMBER	
109SR<CR>	JAZZ	
110SR<CR>	ROCK	
111SR<CR>	DANCE	
112SR<CR>	7CH STEREO	
113SR<CR>	PHONES SURROUND	
125SR<CR>	**Advanced Virtual Surround**	

050SR<CR>	THX SELECTION (same as key)	
051SR<CR>	PRO LOGIC + THX	for 2ch Source
052SR<CR>	PRO LOGIC Ⅱ MOVIE + THX	for 2ch Source
053SR<CR>	Neo:6 CINEMA + THX	for 2ch Source
054SR<CR>	PRO LOGIC Ⅱx MOVIE + THX	for 2ch Source
055SR<CR>	THX GAMES MODE	for 2ch Source
056SR<CR>	THX Depending on Source (for Multi-ch)	for Multi-ch Source
057SR<CR>	THX SURROUND EX	for Multi-ch Source
058SR<CR>	PRO LOGIC Ⅱx MOVIE + THX	for Multi-ch Source
059SR<CR>	DTS + Neo:6 + THX	for Multi-ch Source
060SR<CR>	DTS-ES MATRIX + THX	for Multi-ch Source
061SR<CR>	DTS-ES DISCRETE6.1 + THX	for Multi-ch Source
062SR<CR>	THX SELECT2	for Multi-ch Source
063SR<CR>	THX MUSICMODE SELECT	for Multi-ch Source

064SR<CR>	THX GAMES MODE (for multi-ch)	for Multi-ch Source

005SR<CR>	AUTO SURROUND/STREAM DIRECT (same as key)	
006SR<CR>	AUTO SURROUND	
007SR<CR>	NORMAL DIRECT	
008SR<CR>	PURE DIRECT	

150SR<CR>	MULTI CH IN	for only Answer

*5 **LISTENING (DECODE) MODE REQUEST** [3byte]

Below is the list Indicating the combination of the LISTENING MODE selected by "SR" command and the LISTENING MODE determined by the input source signal.

When the LISTENING MODE is set and the format for the source signal is confirmed, the receiver will send an ANSWER COMMAND to the controller to let it know the LISTENING MODE status. It replies automatically and does not need to receive a LISTENING MODE REQUEST.
(Automatic Feedback)
LISTENING MODE shows the current signal format the receiver is detecting or the surround mode which has been added to the original signal
LM***

STEREO

LM128	STEREO
LM130	96KHz STEREO
LM132	88KHz STEREO

LM304	PCM 88.2KHz STEREO
LM305	PCM 96KHz STEREO
LM306	PCM 176.4KHz STEREO
LM307	PCM 192KHz STEREO

LM322	DTS 96/24 STEREO

LM356	DVD-AUDIO STEREO
LM358	DVD-AUDIO 88.2KHz STEREO
LM360	DVD-AUDIO 96KHz STEREO
LM362	DVD-AUDIO 176KHz STEREO
LM363	DVD-AUDIO 192KHz STEREO

LM342	SACD STEREO

STANDARD

LM002	PRO LOGIC
LM000	PRO LOGIC Ⅱ MOVIE
LM001	PRO LOGIC Ⅱ MUSIC
LM005	PRO LOGIC Ⅱ GAME
LM003	Neo:6 CINEMA
LM004	Neo:6 MUSIC
LM050	PRO LOGIC Ⅱx MOVIE
LM051	PRO LOGIC Ⅱx MUSIC
LM056	PRO LOGIC Ⅱx GAME

LM054	Neo:6 88K CINEMA
LM055	Neo:6 88K MUSIC
LM052	Neo:6 96K CINEMA
LM053	Neo:6 96K MUSIC

LM008	96kHz PRO LOGIC
LM009	96kHz PRO LOGIC Ⅱ MOVIE
LM010	96kHz PRO LOGIC Ⅱ MUSIC
LM011	96kHz PRO LOGIC Ⅱ GAME
LM057	96kHz PRO LOGIC Ⅱx MOVIE
LM058	96kHz PRO LOGIC Ⅱx MUSIC
LM059	96kHz PRO LOGIC Ⅱx GAME

LM140	PCM88.2kHz + PRO LOGIC
LM141	PCM88.2kHz + PRO LOGIC Ⅱ MOVIE
LM142	PCM88.2kHz + PRO LOGIC Ⅱ MUSIC
LM143	PCM88.2kHz + PRO LOGIC Ⅱ GAME
LM144	PCM88.2kHz + PRO LOGIC Ⅱx MOVIE (for 2ch)
LM145	PCM88.2kHz + PRO LOGIC Ⅱx MUSIC (for 2ch)
LM146	PCM88.2kHz + PRO LOGIC Ⅱx GAME
LM147	PCM96kHz + PRO LOGIC
LM148	PCM96kHz + PRO LOGIC Ⅱ MOVIE
LM149	PCM96kHz + PRO LOGIC Ⅱ MUSIC
LM150	PCM96kHz + PRO LOGIC Ⅱ GAME
LM151	PCM96kHz + PRO LOGIC Ⅱx MOVIE (for 2ch)
LM152	PCM96kHz + PRO LOGIC Ⅱx MUSIC (for 2ch)
LM153	PCM96kHz + PRO LOGIC Ⅱx GAME
LM162	PCM88.2kHz + PRO LOGIC Ⅱx MOVIE (for multichannel)
LM163	PCM88.2kHz + PRO LOGIC Ⅱx MUSIC (for multichannel)
LM164	PCM96kHz + PRO LOGIC Ⅱx MOVIE (for multichannel)
LM165	PCM96kHz + PRO LOGIC Ⅱx MUSIC (for multichannel)
LM031	PCM
LM300	PCM 88.2KHz
LM015	PCM 96KHz
LM302	PCM 176.4KHz
LM303	PCM 192KHz

LM333	PCM + PRO LOGIC Ⅱx MOVIE (for multichannel)
LM334	PCM + PRO LOGIC Ⅱx MUSIC (for multichannel)

LM016	DOLBY DIGITAL
LM017	DOLBY DIGITAL EX
LM154	DOLBY DIGITAL + PRO LOGIC Ⅱx MOVIE
LM155	DOLBY DIGITAL + PRO LOGIC Ⅱx MUSIC

LM019	DTS
LM022	DTS-ES DISC 6.1
LM023	DTS-ES MTRX 6.1
LM030	DTS 96/24
LM324	DTS + Neo:6
LM156	DTS + PROLIGIC Ⅱx MOVIE
LM157	DTS + PROLIGIC Ⅱx MUSIC

LM027	MPEG-2 AAC
LM028	MPEG-2 AAC EX
LM158	MPEG-2 AAC + PROLIGIC Ⅱx MOVIE
LM159	MPEG-2 AAC + PROLIGIC Ⅱx MUSIC

LM380	WMA 9 PRO
LM382	WMA 9 PRO + EX
LM384	WMA 9 Pro + PRO LOGIC Ⅱx MOVIE
LM385	WMA 9 Pro + PRO LOGIC Ⅱx MUSIC

LM350	DVD-AUDIO
LM351	DVD-AUDIO 88.2KHz
LM352	DVD-AUDIO 96KHz
LM366	DVD AUDIO +EX
LM367	DVD-AUDIO 88.2KHz +EX
LM368	DVD-AUDIO 96KHz +EX
LM250	DVD-AUDIO + PRO LOGIC
LM251	DVD-AUDIO + PRO LOGIC Ⅱ MOVIE
LM252	DVD-AUDIO + PRO LOGIC Ⅱ MUSIC
LM253	DVD-AUDIO + PRO LOGIC Ⅱ GAME
LM254	DVD-AUDIO + PRO LOGIC Ⅱx MOVIE (for 2ch)
LM255	DVD-AUDIO + PRO LOGIC Ⅱx MUSIC (for 2ch)
LM256	DVD-AUDIO + PRO LOGIC Ⅱx GAME
LM257	DVD-AUDIO + PRO LOGIC Ⅱx MOVIE (for multichannel)
LM258	DVD-AUDIO + PRO LOGIC Ⅱx MUSIC (for multichannel)
LM260	DVD-AUDIO 88.2k + PRO LOGIC
LM261	DVD-AUDIO 88.2k + PRO LOGIC Ⅱ MOVIE
LM262	DVD-AUDIO 88.2k + PRO LOGIC Ⅱ MUSIC
LM263	DVD-AUDIO 88.2k + PRO LOGIC Ⅱ GAME
LM264	DVD-AUDIO 88.2k + PRO LOGIC Ⅱx MOVIE (for 2ch)
LM265	DVD-AUDIO 88.2k + PRO LOGIC Ⅱx MUSIC (for 2ch)
LM266	DVD-AUDIO 88.2k + PRO LOGIC Ⅱx GAME
LM267	DVD-AUDIO 88.2k + PRO LOGIC Ⅱx MOVIE (for multichannel)
LM268	DVD-AUDIO 88.2k + PRO LOGIC Ⅱx MUSIC (for multichannel)
LM270	DVD-AUDIO 96k + PRO LOGIC
LM271	DVD-AUDIO 96k + PRO LOGIC Ⅱ MOVIE
LM272	DVD-AUDIO 96k + PRO LOGIC Ⅱ MUSIC
LM273	DVD-AUDIO 96k + PRO LOGIC Ⅱ GAME
LM274	DVD-AUDIO 96k + PRO LOGIC Ⅱx MOVIE (for 2ch)
LM275	DVD-AUDIO 96k + PRO LOGIC Ⅱx MUSIC (for 2ch)
LM276	DVD-AUDIO 96k + PRO LOGIC Ⅱx GAME
LM277	DVD-AUDIO 96k + PRO LOGIC Ⅱx MOVIE (for multichannel)
LM278	DVD-AUDIO 96k + PRO LOGIC Ⅱx MUSIC (for multichannel)

LM340	SACD
LM344	SACD +EX
LM280	SACD + PRO LOGIC
LM281	SACD + PRO LOGIC Ⅱ MOVIE
LM282	SACD + PRO LOGIC Ⅱ MUSIC
LM283	SACD + PRO LOGIC Ⅱ GAME
LM284	SACD + PRO LOGIC Ⅱx MOVIE (for 2ch)
LM285	SACD + PRO LOGIC Ⅱx MUSIC (for 2ch)
LM286	SACD + PRO LOGIC Ⅱx GAME
LM287	SACD + PRO LOGIC Ⅱx MOVIE (for multichannel)
LM288	SACD + PRO LOGIC Ⅱx MUSIC (for multichannel)

ADVANCED CINEMA

LM032	ACTION
LM033	SCIFI
LM034	DRAMA
LM035	MUSICAL
LM036	MONOFILM
LM043	7D-THEATER
LM185	PHONES SURROUND

ADVANCED CONCERT

LM096	CLASSICAL
LM097	CHAMBER
LM098	JAZZ
LM099	ROCK
LM100	DANCE
LM107	7CH-STEREO

THX

LM220	PRO LOGIC + THX
LM221	PRO LOGICⅡ MOVIE + THX
LM222	Neo:6 CINEMA + THX
LM087	PRO LOGICⅡx MOVIE + THX
LM223	THX GAMES MODE (for 2ch)

LM080	THX CINEMA
LM081	THX SURROUND EX
LM230	DOLBY DIGITAL + PRO LOGICⅡx MOVIE + THX
LM231	DTS + PRO LOGICⅡx MOVIE + THX
LM234	MPEG-2 AAC + PRO LOGICⅡx MOVIE + THX
LM235	WMA 9 Pro + PRO LOGICⅡx MOVIE + THX
LM085	DTS + Neo6 + THX
LM236	THX SELECT2 CINEMA
LM083	THX MUSIC MODE
LM237	THX GAMES MODE (for multichannel)
LM232	DTS-ES MATRIX6.1 + THX
LM233	DTS-ES DISCRETE6.1 + THX

MULTI-CH / USB

LM200	6CH IN

STREAM DIRECT

LM124	SACD DIRECT
LM125	PCM DIRECT
LM126	ANALOG DIRECT

ETC.

LM219	HDMI THROUGH

Example8

Command ?L<CR>

Answer LM001<CR+LF> now PRO LOCICⅡ MUSIC playing.