

Pioneer *seeing and hearing like never before*

VSX-01TX

RS-232C Protocol

June 2008

Version 0.01.00

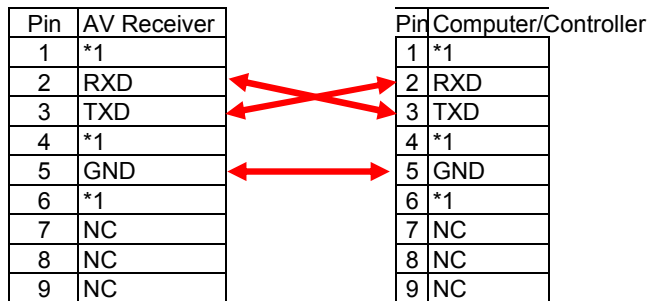
For Custom Installation

Physical Cable Connection

Connector

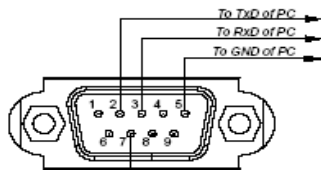
RS232C DB9 Male

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



*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).

```

sequenceDiagram
    participant CS as Control System
    participant R as Receiver
    CS->>R: ?F<CR>
    Note over R: Receives the command and processes a response.
    R-->>R: F 20msec
    R-->>R: N 20msec
    R-->>R: 0 20msec
    R-->>R: 4 20msec
    R-->>R: CR 20msec
    R-->>R: LF 20msec
    R->>CS: Confirmation

```

VSX-01TX RS-232C Commands List

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,FXXX,SRXXXX,LMXXX)

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

X:Argument:ASC code

All commands and requests must be followed by a Carriage Return <CR>

Status Request Command

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	TOXX<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	FRXXXX<CR+LF> *10
?AP<CR>	ZONE 2 POWER STATUS REQUEST		Return the POWER status	APRX<CR+LF> *2
?ZS<CR>	ZONE 2 FUNCTION STATUS REQUEST		Return the FUNCTION MODE	Z2FXX<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	MCXX<CR+LF> *15
?EX<CR>	SBCh PROCESSING STATUS REQUEST		Return the SBCh PROCESSING status	EXXX<CR+LF> *14
?XM<CR>	XM channel REQUEST (USA model)	000-255	Return XM channel	XMXXX<CR+LF> *16
?IS<CR>	PHASE CONTROL STATUS REQUEST		Return PHASE CONTROL STATUS	ISX<CR+LF> *16
?SI<CR>	Sirius channel REQUEST (USA model)	000-255	Return Sirius channel	SIXXX<CR+LF>

Operation command

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	FNXX<CR+LF> *3
XXX(X)SR<CR>	LISTENING MODE SET	*4	Change the LISTENING MODE	SRXXX(X)<CR+LF> *4
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)	FRXXXX<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	FRXXXX<CR+LF> *10
TFD<CR>	TUNER FREQ DECREMENT		TUNER FREQ DECREMENT	FRXXXX<CR+LF> *10
XXZS<CR>	ZONE2 FUNCTION MODE SET	*3	Set the FUNCTION MODE	Z2FXX<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
APU<CR>	ZONE2 POWER ON		ZONE2 POWER ON	APRX<CR+LF> *2
APF<CR>	ZONE2 POWER OFF		ZONE2 POWER OFF	APRX<CR+LF> *2
XMC<CR>	MCACC POSITION	0,1,2,3,4,5,6	change the MCACC POSITION	MCXX<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	0,1,2	PHASE CONTROL ON/OFF	ISX<CR+LF> *16
CUP<CR>	AMP CURSOR UP		AMP CURSOR UP	R
CDN<CR>	AMP CURSOR DOWN		AMP CURSOR DOWN	R
CRI<CR>	AMP CURSOR RIGHT		AMP CURSOR RIGHT	R
CLE<CR>	AMP CURSOR LEFT		AMP CURSOR LEFT	R
CEN<CR>	AMP CURSOR ENTER		AMP CURSOR ENTER	R
CRT<CR>	AMP RETURN		AMP RETURN	R
APA<CR>	AUDIO PARAMETER		AUDIO PARAMETER	R
VPA<CR>	VIDEO PARAMETER		VIDEO PARAMETER	R
KOF<CR>	KEY OFF (for USB, NETWORK)		KEY OFF	R

About the "KOF<CR>" command for USB/Network: After each command for USB and Network send the KOF command.

For instance - the Cursor Up command (CUP<CR>) must be followed by the Key Off command (KOF<CR>) or the Menu will continue to scroll.

These commands can be operated only in STEREO MODE..

XM radio Operation (USA model only)

All commands and requests must be followed by a Carriage Return <CR>

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

(! when change channel)

Sirius Operation (USA model only)

All commands and requests must be followed by a Carriage Return <CR>

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

() when change channel

USB Operation

All commands and requests must be followed by a Carriage Return <CR>
Don't forget to use the Key Off command (KOF<CR>).

Command	Command Name	Argument	Operation	Answer
10US	PLAY	-	to see OSD display	R
11US	PAUSE	-	to see OSD display	R
12US	PREVIOUS ([< <])	-	to see OSD display	R
13US	NEXT ([> >])	-	to see OSD display	R
14US	REV (< <])	-	to see OSD display	R
15US	FWD ([> >])	-	to see OSD display	R
16US	REPEAT	-	to see OSD display	R
17US	RANDOM	-	to see OSD display	R
18US	DISPLAY	-	to see OSD display	R
19US	UP	-	to see OSD display	R
20US	DOWN	-	to see OSD display	R
21US	RIGHT	-	to see OSD display	R
22US	LEFT	-	to see OSD display	R
23US	ENTER	-	to see OSD display	R
24US	RETURN	-	to see OSD display	R
25US	TOP MENU	-	to see OSD display	R

Error message

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

Explanation of argument

*1 VOLUME LEVEL [2byte]

93	+12dB
81	0dB
01	-80dB
00	-- (same as mute)

Example1-1

Command ?V<CR>
Answer VOL93<CR+LF>

Request Volume Level.
Volume is set to +12dB.

*2 ON/OFF [1byte]

0	ON
1	OFF

Example2

Command ?M<CR>
Answer MUT0<CR+LF>

Request Mute Status.
Mute On.

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

01	CD
02	TUNER
03	CDR
04	DVD
05	TV
10	VIDEO or VIDEO1
15	DVR or DVR1
16	DVR2
18	XM
19	HDMI1
20	HDMI2
25	BDP
27	SIRIUS
30	USB (Atype)
31	HDMI (cyclic)

Example3

Command 04FN<CR>
Answer FN04<CR+LF>

Change to source 04(DVD).

Example4

Command in respect of "?F<CR>"
Answer FN04<CR+LF>

Request Current Source.
Source 04 is selected(DVD).

***7 BASS status [2byte]**

00	+6
02	+4
04	+2
06	0
08	-2
10	-4
12	-6

Example2

Command ?BA<CR>
Answer BA02<CR+LF>

Request BASS Level.
BASS is set to +4dB.

***8 TREBLE status [2byte]**

00	+6
02	+4
04	+2
06	0
08	-2
10	-4
12	-6

Example3

Command ?TR<CR>
Answer TR02<CR+LF>

Request TREBLE Level.
TREBLE is set to +4dB.

***9 PRESET number [3byte]**

*01	1
*02	2
*03	3
*04	4
*05	5
*06	6
*07	7
*08	8
*09	9
*10	0

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

Example4

Command ?PR<CR>
Answer PRA04<CR+LF>
PRC10<CR+LF>

Request PRESET number
PRESET number is set to class A4
PRESET number is set to class C0

***10 FREQ number [7byte]**

A0****	
F*****	

A is AM
F is FM
* is ASCII code 0 - 9

Example5

Command ?FR<CR>
Answer FRA00890<CR+LF>
FRF08010<CR+LF>

Request FREQ number
FREQ number is set to AM 890 kHz
FREQ number is set to FM 80.10 MHz

***14 SBch PROCESSING [1byte]**

0	OFF
1	ON
2	AUTO

***15 MCACC POSITION[1byte]**

0	MCACC OFF
1	MEMORY 1
2	MEMORY 2
3	MEMORY 3
4	MEMORY 4
5	MEMORY 5
6	MEMORY 6

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

0	OFF
1	PHASE CONTROL ON

*4 LISTENING MODE SETLISTENING MODE SETTING REQUEST[4byte]

When you set the "Listening Mode"with the product front panel keys and knobs,
you are operating the "LISTENING MODE SELECTOR" knob or the "LISTENING CH SELECT"button.
Depending on the source, there are some modes which are not available.
Automatic detection for 2ch, 5.1 ch, and 6.1ch is not always available.

With the "SR" command, you can select whichever mode you wish.
Also, you can confirm your selection with the "SR" command by "7S" command.

*) When the LISTENING MODE is changed, the set will dispatch an ANSWER command to let the external controller know the current status automatically; even without receiving a LISTENING MODE SETTING REQUEST from the controller. (Automatic Feedback [1-3byte]:data for mode setting.
Below are the command combinations for the LISTENING MODE command.

Example

Command 0001SR<CR>	set STEREO mode.
Answer SR0001<CR+LF>	now become STEREO mode.
Answer LM130<CR+LF>	now 96kHz STEREO play.
Command 7S<CR>	now LISTENING mode?
Answer SR0031<CR+LF>	now ACTION mode.

All commands and requests must be followed by a Carriage Return <CR>

0XXXSR	Set Listening Mode	Group	Comment
001	STEREO (cyclic)	STEREO	
003	FRONT STAGE SURROUND ADVANCE FOCUS	STEREO	
004	FRONT STAGE SURROUND ADVANCE WIDE	STEREO	
005	AUTO SURROUND/STREAM DIRECT (same as key)	AUTO SURR	
006	AUTO SURROUND	AUTO SURR	
007	NORMAL DIRECT	AUTO SURR	
008	PURE DIRECT	AUTO SURR	
009	STEREO (direct command)	STEREO	
010	STANDARD SELECTION (same as key)	STANDARD	
012	PRO LOGIC	STANDARD	for 2ch Source
013	PRO LOGIC: MOVIE	STANDARD	for 2ch Source
014	PRO LOGIC: MUSIC	STANDARD	for 2ch Source
015	PRO LOGIC: GAME	STANDARD	for 2ch Source
016	Neo:6 CINEMA	STANDARD	for 2ch Source
017	Neo:6 MUSIC	STANDARD	for 2ch Source
018	PRO LOGIC: x MOVIE	STANDARD	for 2ch Source
019	PRO LOGIC: x MUSIC	STANDARD	for 2ch Source
020	PRO LOGIC: x GAME	STANDARD	for 2ch Source
021	Depending on Source (for Multi-ch)	STANDARD	for Multi-ch Source
022	(Multi-Channel Source) + EX	STANDARD	for Multi-ch Source
023	(Multi-Channel Source) + PRO LOGIC: MOVIE	STANDARD	for Multi-ch Source
024	(Multi-Channel Source) + PRO LOGIC: MUSIC	STANDARD	for Multi-ch Source
025	DTS + Neo:6	STANDARD	for Multi-ch Source
026	DTS-ES matrix6.1	STANDARD	for Multi-ch Source
027	DTS- ES discrete6.1	STANDARD	for Multi-ch Source
028	XM HD SURROUND	STANDARD	for 2ch Source
029	NEURAL THX	STANDARD	for Multi-ch Source
030	DTS- ES 8ch discrete	STANDARD	for Multi-ch Source
050	THX SELECTION (same as key)	HOME THX	
051	PRO LOGIC + THX CINEMA	HOME THX	for 2ch Source
052	PRO LOGIC: MOVIE + THX CINEMA	HOME THX	for 2ch Source
053	Neo:6 CINEMA + THX CINEMA	HOME THX	for 2ch Source
054	PRO LOGIC: MOVIE + THX CINEMA	HOME THX	for 2ch Source
055	THX GAMES MODE (THX SELECT2 GAMES)	HOME THX	for 2ch Source
056	THX CINEMA	HOME THX	for Multi-ch Source
057	THX SURROUND EX	HOME THX	for Multi-ch Source
058	PRO LOGIC: MOVIE + THX CINEMA	HOME THX	for Multi-ch Source
059	DTS + Neo:6 + THX CINEMA	HOME THX	for Multi-ch Source
060	DTS-ES MATRIX + THX CINEMA	HOME THX	for Multi-ch Source
061	DTS-ES DISCRETE6.1 + THX CINEMA	HOME THX	for Multi-ch Source
062	THX SELECT2 CINEMA	HOME THX	for Multi-ch Source
063	THX SELECT2 MUSIC	HOME THX	for Multi-ch Source
064	THX SELECT2 GAMES	HOME THX	for Multi-ch Source
067	DTS-ES 8ch DISCRETE + THX CINEMA	HOME THX	for Multi-ch Source
068	THX CINEMA	HOME THX	for 2ch Source
069	THX MUSIC	HOME THX	for 2ch Source
070	THX GAMES	HOME THX	for 2ch Source
071	PL2 MUSIC + THX MUSIC	HOME THX	for 2ch Source
072	PL2x MUSIC + THX MUSIC	HOME THX	for 2ch Source
073	Neo:6 MUSIC + THX MUSIC	HOME THX	for 2ch Source
074	PL2 GAME + THX GAMES	HOME THX	for 2ch Source
075	PL2x GAME + THX GAMES	HOME THX	for 2ch Source
080	THX MUSIC	HOME THX	for Multi-ch Source
081	THX GAMES	HOME THX	for Multi-ch Source
082	PL: MUSIC + THX MUSIC	HOME THX	for Multi-ch Source
083	EX + THX GAMES	HOME THX	for Multi-ch Source
084	Neo:6 + THX MUSIC	HOME THX	for Multi-ch Source
085	Neo:6 + THX GAMES	HOME THX	for Multi-ch Source
086	ES MATRIX + THX MUSIC	HOME THX	for Multi-ch Source
087	ES MATRIX + THX GAMES	HOME THX	for Multi-ch Source
088	ES DISCRETE + THX MUSIC	HOME THX	for Multi-ch Source
089	ES DISCRETE + THX GAMES	HOME THX	for Multi-ch Source
090	ES 8CH DISCRETE + THX MUSIC	HOME THX	for Multi-ch Source
091	ES 8CH DISCRETE + THX GAMES	HOME THX	for Multi-ch Source
100	ADVANCED SURROUND SELECTION (same as key)	ADV SURR	
101	ACTION	ADV SURR	
102	SCI-FI	ADV SURR	
103	DRAMA	ADV SURR	
104	ENTERTAINMENT SHOW (MUSICAL)	ADV SURR	
105	MONO FILM	ADV SURR	
106	EXPANDED THEATER (7-D THEATER)	ADV SURR	
107	CLASSICAL	ADV SURR	
109	UNPLUGGED (JAZZ)	ADV SURR	
110	ROCK/POP (ROCK)	ADV SURR	
112	EXTENDED STEREO (7CH-STEREO)	ADV SURR	
113	PHONES SURROUND	ADV SURR	
116	TV SURROUND	ADV SURR	
117	SPORTS	ADV SURR	
118	ADV.GAME	ADV SURR	
151	AUTO LEVEL CONTROL	STEREO	

LM***

*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***

LMXXX	Listening Mode Name	Group	Comment
000	PRO LOGICII MOVIE	STANDARD	
001	PRO LOGICII MUSIC	STANDARD	
002	PRO LOGICII	STANDARD	
003	NEO6 CINEMA	STANDARD	
004	NEO6 MUSIC	STANDARD	
005	PRO LOGICII GAME	STANDARD	
008	96kHz PRO LOGIC	STANDARD	
009	96kHz PRO LOGICII MOVIE	STANDARD	
010	96kHz PRO LOGICII MUSIC	STANDARD	
011	96kHz PRO LOGICII GAME	STANDARD	
015	PCM 96KHz	STANDARD	
016	DOLBY DIGITAL	STANDARD	
017	DOLBY DIGITAL EX	STANDARD	
019	DTS	STANDARD	
022	DTS-ES DISC 6.1	STANDARD	
023	DTS-ES MTRX 6.1	STANDARD	
030	DTS 96/24	STANDARD	
031	PCM	STANDARD	
032	ACTION	ADV. SURR	
033	SCIFI	ADV. SURR	
034	DRAMA	ADV. SURR	
035	ENTERTAINMENT SHOW (MUSICAL)	ADV. SURR	
036	MONOFILM	ADV. SURR	
043	EXPANDED THEATER (7-D THEATER)	ADV. SURR	
050	PRO LOGICIIx MOVIE	STANDARD	
051	PRO LOGICIIx MUSIC	STANDARD	
052	NEO6 96K CINEMA	STANDARD	
053	NEO6 96K MUSIC	STANDARD	
054	NEO6 88K CINEMA	STANDARD	
055	NEO6 88K MUSIC	STANDARD	
056	PRO LOGICIIx GAME	STANDARD	
057	96kHz PRO LOGICIIx MOVIE	STANDARD	
058	96kHz PRO LOGICIIx MUSIC	STANDARD	
059	96kHz PRO LOGICIIx GAME	STANDARD	
080	THX CINEMA	THX	
081	THX SURROUND EX	THX	
082	THX ULTRA2 CINEMA	THX	
083	THX SELECT2 MUSIC	THX	
085	DTS + Neo6 + THX CINEMA	THX	
087	PRO LOGICIIx MOVIE + THX CINEMA	THX	
090	THX MUSIC	THX	
091	THX GAMES	THX	
096	CLASSICAL	ADV. SURR	
098	UNPLUGGED (JAZZ)	ADV. SURR	
099	ROCK/POP (ROCK)	ADV. SURR	
107	EXTENDED STEREO (7CH-STEREO)	ADV. SURR	
122	NEURAL THX	etc.	
123	XM HD SURROUND	etc.	
124	SACD DIRECT	etc.	
125	PCM DIRECT	etc.	
126	ANALOG DIRECT	etc.	
128	STEREO	STEREO	
130	96KHz STEREO	STEREO	
134	192kHz STEREO	STEREO	
135	FRONT STAGE SURROUND ADVANCE FOCUS	STEREO	
136	FRONT STAGE SURROUND ADVANCE WIDE	STEREO	
137	AUTO LEVEL CONTROL	STEREO	
140	PCM88.2kHz + PRO LOGIC	STANDARD	
141	PCM88.2kHz + PRO LOGICII MOVIE	STANDARD	
142	PCM88.2kHz + PRO LOGICII MUSIC	STANDARD	
143	PCM88.2kHz + PRO LOGICII GAME	STANDARD	
144	PCM88.2kHz + PRO LOGICIIx MOVIE (for 2ch)	STANDARD	
145	PCM88.2kHz + PRO LOGICIIx MUSIC (for 2ch)	STANDARD	
146	PCM88.2kHz + PRO LOGICIIx GAME	STANDARD	
154	DOLBY DIGITAL + PRO LOGICIIx MOVIE	STANDARD	
155	DOLBY DIGITAL + PRO LOGICIIx MUSIC	STANDARD	
156	DTS + PROLOGICIIx MOVIE	STANDARD	
157	DTS + PROLOGICIIx MUSIC	STANDARD	
162	PCM88.2kHz + PRO LOGICIIx MOVIE (for multichannel)	STANDARD	
163	PCM88.2kHz + PRO LOGICIIx MUSIC (for multichannel)	STANDARD	
164	PCM96kHz + PRO LOGICIIx MOVIE (for multichannel)	STANDARD	
165	PCM96kHz + PRO LOGICIIx MUSIC (for multichannel)	STANDARD	
166	DTS Express	STANDARD	
167	DTS-HD HIGH RESOLUTION	STANDARD	
168	DTS-HD MASTER AUDIO	STANDARD	
169	DOLBY DIGITAL PLUS	STANDARD	
170	DOLBY DIGITAL PLUS EX	STANDARD	
171	DOLBY DIGITAL PLUS +PRO LOGICIIx MOVIE	STANDARD	
172	DOLBY DIGITAL PLUS +PRO LOGICIIx MUSIC	STANDARD	
173	DOLBY DIGITAL PLUS +PRO LOGICIIx MOVIE +THX CINEMA	THX	
174	DOLBY trueHD	STANDARD	
175	DOLBY TrueHD EX	STANDARD	
176	DOLBY TrueHD +PRO LOGICIIx MOVIE	STANDARD	
177	DOLBY TrueHD +PRO LOGICIIx MUSIC	STANDARD	
178	DOLBY TrueHD +PRO LOGICIIx MOVIE +THX CINEMA	THX	
179	DTS-(HD)ES 8ch Discrete	STANDARD	
181	TV SURROUND	ADV. SURR	
182	SPORTS	ADV. SURR	
183	GAME	ADV. SURR	
185	PHONES SURROUND	ADV. SURR	
200	6CH IN	STANDARD	
202	6CH IN + EX	STANDARD	
204	7CH IN	STANDARD	
206	8CH IN	STANDARD	
208	6CH IN + PRO LOGICIIx MOVIE	STANDARD	
209	6CH IN + PRO LOGICIIx MUSIC	STANDARD	
210	6CH IN + PRO LOGICIIx MOVIE +THX CINEMA	THX	
213	MULTI-CH IN	STANDARD	
214	PRO LOGICIIx GAME + THX GAMES	THX	
215	THX ULTRA2 GAMES	THX	
216	PRO LOGICII GAME + THX GAMES	THX	
219	HDMI THROUGH	etc.	
220	PRO LOGIC + THX CINEMA	THX	
221	PRO LOGICII MOVIE + THX CINEMA	THX	
222	Neo-6 CINEMA + THX CINEMA	THX	
225	PRO LOGICII MUSIC + THX MUSIC	THX	
226	PRO LOGICIIx MUSIC + THX MUSIC	THX	

227	Neo:6 MUSIC + THX MUSIC	THX	
230	DOLBY DIGITAL + PRO LOGIC: MOVIE + THX CINEMA	THX	
231	DTS + PRO LOGIC: MOVIE + THX CINEMA	THX	
232	DTS-ES MATRIX6.1 + THX CINEMA	THX	
233	DTS-ES DISCRETE6.1 + THX CINEMA	THX	
235	WMA 9 Pro + PRO LOGIC: MOVIE + THX CINEMA	THX	
238	PCM + PRO LOGIC: MOVIE + THX CINEMA	THX	
239	DTS-(HD)ES 8ch Discrete +THX CINEMA	THX	
240	DTS-(HD)ES Discrete +THX CINEMA	THX	
241	DTS-(HD)ES Matrix +THX CINEMA	THX	
242	PCM + PRO LOGIC: MUSIC + THX MUSIC	THX	
243	PCM + DOLBY EX + THX GAMES	THX	
244	DOLBY DIGITAL + PRO LOGIC: MUSIC + THX MUSIC	THX	
245	DOLBY DIGITAL EX + THX GAMES	THX	
246	DTS + PRO LOGIC: MUSIC + THX MUSIC	THX	
248	DTS-(HD)ES Matrix	STANDARD	
249	DTS-(HD)ES Discrete	STANDARD	
250	DVD-AUDIO + PRO LOGIC	STANDARD	
251	DVD-AUDIO + PRO LOGIC: MOVIE	STANDARD	
252	DVD-AUDIO + PRO LOGIC: MUSIC	STANDARD	
253	DVD-AUDIO + PRO LOGIC: GAME	STANDARD	
254	DVD-AUDIO + PRO LOGIC: MOVIE (for 2ch)	STANDARD	
255	DVD-AUDIO + PRO LOGIC: MUSIC (for 2ch)	STANDARD	
256	DVD-AUDIO + PRO LOGIC: GAME	STANDARD	
257	DVD-AUDIO + PRO LOGIC: MOVIE (for multichannel)	STANDARD	
258	DVD-AUDIO + PRO LOGIC: MUSIC (for multichannel)	STANDARD	
260	DVD-AUDIO 88.2k + PRO LOGIC	STANDARD	
270	DVD-AUDIO 96k + PRO LOGIC	STANDARD	
280	SACD + PRO LOGIC	STANDARD	
281	SACD + PRO LOGIC: MOVIE	STANDARD	
282	SACD + PRO LOGIC: MUSIC	STANDARD	
283	SACD + PRO LOGIC: GAME	STANDARD	
284	SACD + PRO LOGIC: MOVIE (for 2ch)	STANDARD	
285	SACD + PRO LOGIC: MUSIC (for 2ch)	STANDARD	
286	SACD + PRO LOGIC: GAME	STANDARD	
287	SACD + PRO LOGIC: MOVIE (for multichannel)	STANDARD	
288	SACD + PRO LOGIC: MUSIC (for multichannel)	STANDARD	
300	PCM 88.2KHz	STANDARD	
302	PCM 176.4KHz	STANDARD	
303	PCM 192KHz	STANDARD	
304	PCM 88.2KHz STEREO	STEREO	
305	PCM 96KHz STEREO	STEREO	
306	PCM 176.4KHz STEREO	STEREO	
307	PCM 192KHz STEREO	STEREO	
322	DTS 96/24 STEREO	STEREO	
324	DTS + Neo:6	STANDARD	
330	PCM +EX	STANDARD	
331	PCM 88.2 +EX	STANDARD	
332	PCM 96 +EX	STANDARD	
333	PCM + PRO LOGIC: MOVIE (for multichannel)	STANDARD	
334	PCM + PRO LOGIC: MUSIC (for multichannel)	STANDARD	
340	SACD	STANDARD	
342	SACD STEREO	STEREO	
344	SACD +EX	STANDARD	
350	DVD-AUDIO	STANDARD	
351	DVD-AUDIO 88.2KHz	STANDARD	
352	DVD-AUDIO 96KHz	STANDARD	
356	DVD-AUDIO STEREO	STEREO	
358	DVD-AUDIO 88.2KHz STEREO	STEREO	
360	DVD-AUDIO 96KHz STEREO	STEREO	
362	DVD-AUDIO 176KHz STEREO	STEREO	
363	DVD-AUDIO 192KHz STEREO	STEREO	
366	DVD AUDIO +EX	STANDARD	
367	DVD-AUDIO 88.2KHz +EX	STANDARD	
368	DVD-AUDIO 96KHz +EX	STANDARD	
371	DTS 96/24 + Neo:6	STANDARD	
372	DTS 96/24 ES MATRIX	STANDARD	
373	DVD-AUDIO 176KHz	STANDARD	
374	DVD-AUDIO 192KHz	STANDARD	
380	WMA 9 PRO	STANDARD	
382	WMA 9 PRO + EX	STANDARD	
384	WMA 9 Pro + PRO LOGIC: MOVIE	STANDARD	
385	WMA 9 Pro + PRO LOGIC: MUSIC	STANDARD	
390	DTS + Neo:6 + THX MUSIC	THX	
391	DTS + Neo:6 + THX GAMES	THX	
392	DTS-ES MATRIX6.1 + THX MUSIC	THX	
393	DTS-ES MATRIX6.1 + THX GAMES	THX	
394	DTS-ES DISCRETE6.1 + THX MUSIC	THX	
395	DTS-ES DISCRETE6.1 + THX GAMES	THX	
396	DTS-(HD)ES 8ch Discrete +THX MUSIC	THX	
397	DTS-(HD)ES 8ch Discrete +THX GAMES	THX	
398	DTS-(HD)ES Discrete +THX MUSIC	THX	
399	DTS-(HD)ES Discrete +THX GAMES	THX	
400	DTS-(HD)ES Matrix +THX MUSIC	THX	
401	DTS-(HD)ES Matrix +THX GAMES	THX	
402	MPEG-2 AAC + PRO LOGIC: MUSIC + THX MUSIC	THX	
403	MPEG-2 AAC + DOLBY EX + THX GAMES	THX	
404	WMA 9 Pro + PRO LOGIC: MUSIC + THX MUSIC	THX	
405	WMA 9 Pro + DOLBY EX + THX GAMES	THX	
408	DOLBY DIGITAL PLUS +PRO LOGIC: MUSIC +THX MUSIC	THX	
409	DOLBY DIGITAL PLUS + DOLBY EX + THX GAMES	THX	
410	DOLBY True HD +PRO LOGIC: MUSIC +THX MUSIC	THX	
411	DOLBY True HD + DOLBY EX + THX GAMES	THX	

Example8

Command ?L<CR>

Answer LM001<CR>+LF>

now PRO LOGIC: MUSIC playing.