Serial Protocol

mark
Levinson.

FCC Notice

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.

- Increase the separation between the equipment and the receiver.

- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

- Consult the dealer or an experienced radio/TV technician for help.

Caution!

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Canada
This Class B digital apparatus complies with Canadian ICES-003.
Cet appareil numérique de la Classe B est conforme à la norme NMB-003 du Canada.

mark Levinson ®

For customer service and product shipment information, refer to the website: www.marklevinson.com

1 Documents

The following documents should also be used with this document to understand how this protocol can be used with the Nº502 Media Console.

070-18870   Nº502 Media Console Owner's Manual

1.1 Change List

No changes have been made.

2 Definitions, Acronyms, and Abbreviations

\r	represents the ASCII new line control character (0x0D)
:	External Protocol String Field Separator
,	External Protocol String Field Parameter Separator for multiple parameters
ACK	Acknowledge
AV	Audio Video System generated response
CMD	Command
CS	Control Source
EOP	End of Packet
HOST	The device initiating or receiving the serial communication packets to/from the Nº502.
ML	Mark Levinson
Nº502	The Mark Levinson product receiving or transmitting the serial communication packets to/from the HOST.
NAK/NACK	No Acknowledge
NTF	Notification
PARAM	Parameter
RM	Resource Manager
RQST	Request
RSP	Response
SOP	Start of Packet
SPLUT	Serial Protocol Lookup Table
SPG	Serial Protocol Guidelines
UI	User Interaction
User Parameter	A user changeable variable that stores a specific value that describes an operating condition for the Nº502.

3 General Description

An external host controller can use the external protocol to control and monitor the operation of the N⁰502 Media Console. The protocol consists of simple ASCII character set based commands, which are passed to the N⁰502 as command packets via either RS-232 port or the Ethernet port. The N⁰502 will reply to command packets with an acknowledgement to signify that the command has been recognized and acted upon.

The No502 External Control defaults to the Ethernet port. The RS232 port can be selected by using the system Setup menus of the N⁰502 – navigate to the Setup: User Options-Control Options-External Control menu and then select the desired control port.

```
┌──────────────┐   ┌─┐  RS232C cable  ┌─┐ ┌──────────────┐
│  EXTERNAL    │   │ │                │ │ │   N⁰502      │
│  HOST        │───┤ │                │ ├─│  Media Console│
│ (Controller) │   │ │ or Ethernet cable│ │              │
└──────────────┘   └─┘                └─┘ └──────────────┘
```
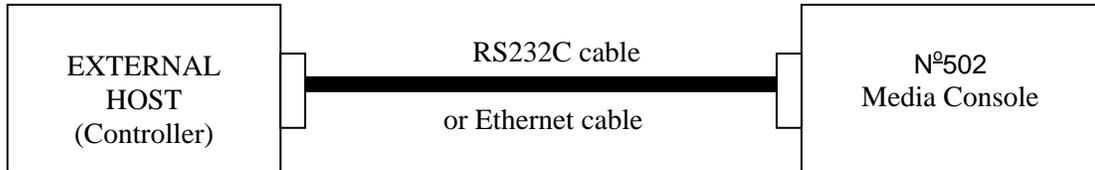
3.1 Serial Port and Cable Configuration

The RS-232 control is through an RJ-11 connector located on the rear panel of the N⁰502 Media Console. The pin-out of the RJ-11 connector is:

Pin 2 - Rx from the control device Data Receive

Pin 3 - Tx to the control device Data Transmit

Pin 5 - system ground

The N⁰502 Media Console receives control messages on pin 2 Data Receive and transmit status responses, notifications, and query data on pin 3 Data Transmit. The connection cable between the N⁰502 and the control device must be configured so that the receive signal on the N⁰502 is connected to the transmit signal of the control device.

3.2 Physical Connection Using a RJ-11 Cable

Host Controller   N⁰502 Media Console

```
┌────────────────────┐                              ┌────────────────────┐
│                    │                              │                    │
│  Receive Data    2 │──────────────────────────  3 │ Transmit Data      │
│                    │         RJ-11 Cable          │                    │
│  Transmit Data   3 │──────────────────────────  2 │ Receive Data       │
│                    │                              │                    │
│  Ground          5 │──────────────────────────  5 │ Ground             │
│                    │                              │                    │
└────────────────────┘                              └────────────────────┘
```

Bit Rate: 57600bps
Data Bits: 8bit
Parity: None
Stop bit: 1bit
Flow Control: None
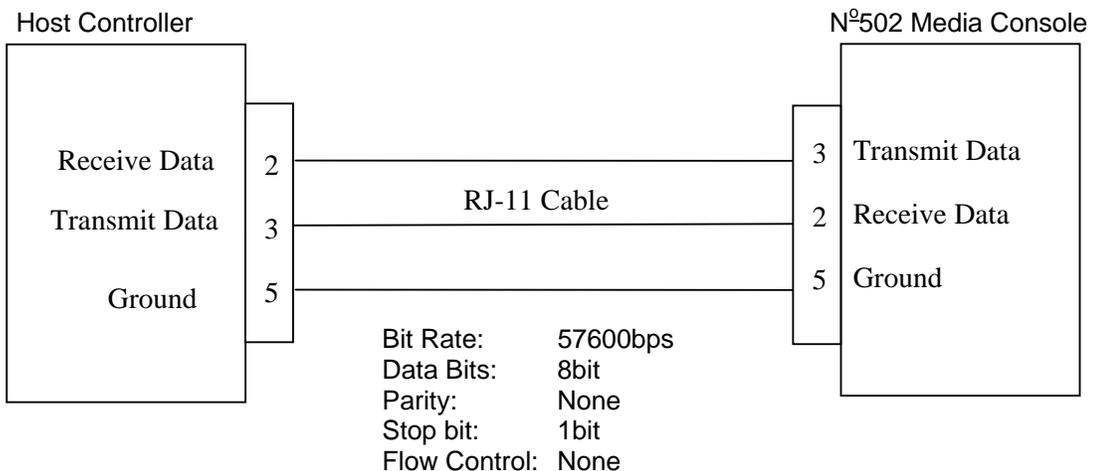
4 Ethernet Port & Cable Configuration

The Nº502 is capable of obtaining a dynamically allocated IP address when connected to a DHCP server and the Network User Options are configured to use the DHCP server (default behavior). The DHCP setting can be modified by using the system Setup menus of the Nº502 – navigate to the Setup: User Options-Control Options-Network Setup menu and then select the desired DHCP behavior. If DHCP is not selected in the Network User Options, the system assigns a default Static IP address, as listed below.

Connector Type: RJ-45
Protocol: TCP (Host Controller = Client, Nº502 = Server)
Default Static IP Address: 192.168.50.2
Subnet Mask: 255.255.0.0
TCP Port: 15003
Cable Type: CAT5 or CAT5E Ethernet Cable.

The Nº502 setup for Ethernet Control is defaulted to Auto-Negotiate and recommends the end point to also be configured for Auto-Negotiation. However, Nº502 is capable of:
- 10/100 BaseT
- Half/Full-duplex
- flow control
- Pause control

Note: These parameters are NOT user-adjustable.

4.1 Physical Connection using Ethernet Cables

If using a Direct-to-Ethernet capable Component, use a Crossover Ethernet Cable.
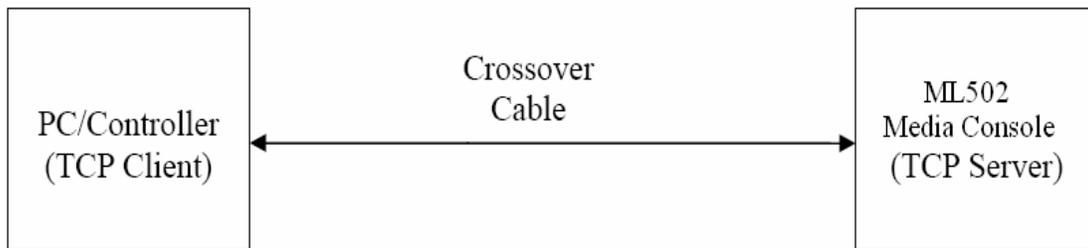
If using a router or switch, use a straight through Ethernet Cable.
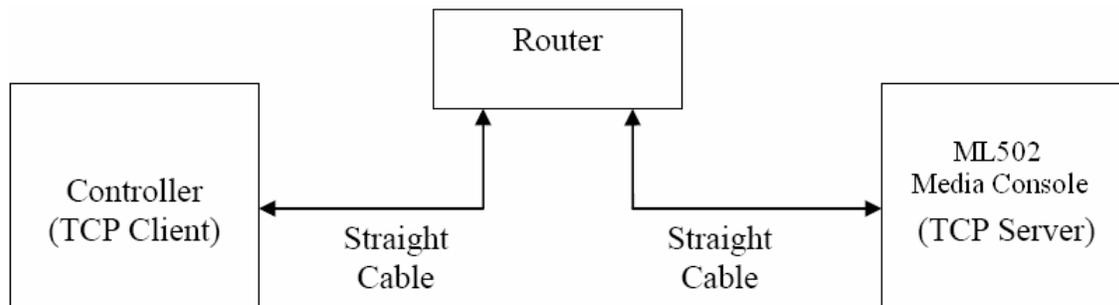
5 Message Formats and Examples
The external protocol consists of a structured format string with specific fields used to indicate:
- Message type
- Source of the command
- Command
- Status/Parameter

Messages can be transmitted to (incoming) and received from (outgoing) the N°502 to facilitate system control via RS-232 or Ethernet connection.

5.1 Format of the Message Fields
All incoming and outgoing messages must use the following format:

HDR:SRC:CMD:PARAM\r

where:

HDR   The Header field specifies the type of message:
RQST – incoming request
RSP – outgoing Response
NTF – outgoing Notification.

SRC   The Source field specifies the source of the message:
CS – message from a Control Source
UI – message from a User Interaction
AV – used by notifications to indicate and event was caused by the component without user interaction.

CMD   The Command field specifies the command selected from the External Protocol Commands table to invoke the desired functionality.

PARAM   The Parameter field specifies the selected parameter from the External Protocol Commands table to achieve the desired effect.

Fields are separated by a colon ":" and messages are terminated with a '\r' control character (0x0d).

All fields, commands and associated parameters are ***case sensitive*** and must be entered as listed in the External Protocol Commands table. Do not insert spaces in message sequences, unless they are indicated in the table.

Maximum message size is 1024 characters, including the line ending ASCII control character '\r' (0x0D).

When an incoming or outgoing message uses more than one parameter, the individual parameters must be separated by commas.

HDR:SRC:CMD:PARAM1,PARAM2,PARAM3,…\r

When an incoming command requires multiple parameters per request (RQST), ALL parameters for the given command must be entered AND in the order presented in the External Protocol Commands table, as the descriptors are not utilized in the parameter field of the command/response string. The response message also follows these guidelines.

5.2 Incoming Messages

The Header Field (1st field) of every external protocol string indicates the type of message contained within the transmitted string. All incoming messages to the Nº502 contain the string "RQST" in the header field. Any other string in the header field indicates an outgoing message. The control source that issued the Request (RQST) expects a reply within 500ms after receipt of the string to indicate that the message was received. This response can be an acknowledgement (ACK), the requested action if a data parameter was requested, or a WAIT to indicate the system has received the command but needs additional time to process the request.

NOTE: When an incoming request is received, the system acknowledges receipt of the string within 500ms of receiving the incoming message.

5.3 Outgoing Messages

Outgoing Messages are generated to acknowledge an incoming request, to provide requested information, or to inform of a system action occurring. As with an incoming message, the Header field is used to indicate the type of message contained within the string. Outgoing messages will be a response (RSP) to a request or a system generated notification (NTF) message.

5.3.1 RSP – Response to Command Request

An outgoing RSP will be generated as the result of an incoming RQST. In most cases the response is an acknowledgement (ACK) unless the request is a query "?". In the case of a query, the RSP contains the requested parameter, rather than an ACK.

5.3.2 NTF – Notification of System Action

An NTF is generated as the result of a system action occurring. When commands are issued to the system, they are placed in a queue in the order they are received. When the command is acted upon and the requested action has completed or occurred, a notification is generated within the system. If enabled, the notifications are sent if a user manually manipulates the front panel buttons or controls, presses IR keys on the remote control, issues an RQST via External Protocol to instruct the system to perform an action, or if a system fault is detected.

When a NTF event occurs, the source field indicates the source of the event:
      UI (user interaction)
      AV (component generated) fault

It's important to note that Notifications are only sent to the Controller if they are enabled. See the Notification Factory Defaults section of this document for the factory default settings. See the External Protocol Commands section in this document for more information.

Also, as commands are issued to change the state of a notification event (enable it or disable it), the external protocol notification database is updated to store this new state information, so that user configured notification states are automatically restored when the Nº502 is power cycled. However, the user configured states are reset to Factory Defaults at any time that the User Options: Restore Options is selected.

5.4 Example Request - RQST

RQST:CS:PWR:ON\r - incoming Request (RQST) from a Control Source (CS) commanding Power (PWR) ON.

RQST:CS:PWR:?\r - incoming Request (RQST) from a Control Source (CS) querying the Power (PWR) state.

RQST:CS:PWR:NTF?\r - incoming Request (RQST) from a Control Source (CS) querying the Power (PWR) Notification state.

RQST:CS:VOL:25.6\r - incoming Request (RQST) from a Control Source (CS) commanding Volume (VOL) to 25.6.

RQST:CS:ACT:MUSIC\r - incoming Request (RQST) from a Control Source (CS) commanding Activity (ACT) to switch to MUSIC.

5.5 Example Response - RSP

RSP:CS:PWR:ACK\r – outgoing Response (RSP) generated from a Control Source request, indicating the command (PWR) is valid and the parameter supplied during the request is within the expected range, acknowledging (ACK) the request is being processed.

RSP:CS:PWR:ON\r – outgoing Response (RSP) generated from a Control Source query request, indicating the command (PWR) current state is (ON).

RSP:CS:PWR:EN\r – outgoing Response (RSP) generated from a Control Source notification state query request, indicating the command (PWR) notification is enabled (EN).

5.6 Example Notification - NTF

NTF:UI:PWR:ON\r – outgoing Notification generated from a User Interaction (UI), indicating the command power (PWR) has turned ON.

NTF:UI:VOL:25.6\r – outgoing Notification generated from a User Interaction (UI), indicating the command volume (VOL) is set to 25.6.

NOTE: Notifications for a specific command must be enabled for system generated messages. A User Interaction indicates that a system parameter has changed by a user manipulating the systems front panel controls, IR controls, or by changing a system parameter using the External Protocol.

6 RQST Error Responses and Examples

The External Protocol responds with the following message parameters when an unexpected Incoming Request string is detected. If these responses are received, please verify spelling, spacing and capitalization of all characters of the failing field.

The format of the response message string indicates where the error has been detected, as shown in the examples:

- **INVALID_SRC** – The entered Source is not a valid source and is not recognized by the system.
  Example: **RSP:INVALID_SRC\r** – received if sending RQST:Cs:VOL:100.1\r

- **INVALID_CMD** – The entered Command is not a valid command and is not recognized by the system. *Example:* **RSP:CS:INVALID_CMD\r** – received if sending RQST:CS:VoL:100.1\r

- **INVALID_PRM** – The entered Parameter is not a valid parameter for the given command, or is out of the acceptable range for the command.
  Example: **RSP:CS:VOL:INVALID_PRM\r** – received if sending RQST:CS:VOL:100.1\r

- **INVALID_STR** – The entered Request String is not formatted correctly and is not valid.
  Example: **RSP:CS:INVALID_STR\r** – received if sending QST:CS:VOL:50.0\r, or RQST:CSVOL:50.0\r

- **INVALID_NAME** – The requested User Configurable Setup Name is not entered into the system and is not recognized by the system.
  Example: **RSP:CS:ACT:INVALID_NAME\r** – received if sending RQST:CS:ACT:Tv\r

- **INVALID_MODE** – The requested Mode is currently not available.
  Example: **RSP:CS:SURRMODE:INVALID_MODE\r** – received if sending RQST:CS:SURRMODE:MultiChan\r while the system is decoding a 2-channel audio source

- **NACK** – The incoming request is Not Acknowledged, indicating the system is in Standby and the request is being ignored.
  Example: **RSP:CS:VOL:NACK\r** – received if sending RQST:CS:VOL:50.0\r while the system is in Standby

- **WAIT/ERROR** – If the system is unable to process a request (RQST) within 500mS, the external protocol automatically generates the WAIT response indicating the system needs additional time for processing. Up to 3 wait responses can occur before the system responds with ERROR, signifying it is unable to process the request. The typical response format is utilized, with the command field representing the name of the command that the system needs additional time to process.
  Example: **RSP:CS:VOL:WAIT\r**
                           RSP:CS:VOL:WAIT\r
                           RSP:CS:VOL:WAIT\r
                           RSP:CS:VOL:ERROR\r

7 Retention of External Command Changes

The Nº502 has two system configuration states – the configuration when the Nº502 is taken out of Standby and the configuration during the current operating mode. Some external protocol commands only effect the current operating mode and are not saved when the Nº502 is put into Standby mode or powered off; and some external protocol commands are persistent and remain in effect even after the Nº502 is power cycled. The following table identifies the persistent commands.

For example, if an Activity (ACT) is changed from TV to MUSIC and then the Nº502 is put into Standby. When the Nº502 is taken out of Standby, the Activity is set to MUSIC. However, if the Audio Profile (APROF) of the current Activity is changed from MOVIE to MUSIC and then the Nº502 is put into Standby, when the Nº502 is taken out of Standby, the Audio Profile for the current Activity is still MOVIE, because the Audio Profile remote command is not saved when the Nº502 is put into Standby or powered down.

Command	Changes Saved?	Command	Changes Saved?
ACT	**YES**	IRRPT	NO
APROF	NO	IRUP	NO
AVSYNC	**YES**	MENUBK	**YES**
BAL	**YES**	MONEN	**YES**
CAL DIST C	**YES**	MUTE	NO
CAL DIST LB	**YES**	NOP	NO
CAL DIST LF	**YES**	NTF	NO
CAL DIST LS	**YES**	OFFSETC	**YES**
CAL DIST LSUB1	**YES**	OFFSETF	**YES**
CAL DIST LSUB2	**YES**	OFFSETR	**YES**
CAL DIST RB	**YES**	OFFSETS	**YES**
CAL DIST RF	**YES**	OFFSETSUB1	**YES**
CAL DIST RS	**YES**	OFFSETSUB2	**YES**
CAL DIST RSUB1	**YES**	OSD	**YES**
CAL DIST RSUB2	**YES**	PWR	NO
CAL LVL C	**YES**	RECALL	NO
CAL LVL LB	**YES**	REQ_ACT_LIST	NO
CAL LVL LF	**YES**	REQ_APROF_LIST	NO
CAL LVL LS	**YES**	REQ_DISP_LIST	NO
CAL LVL LSUB1	**YES**	REQ_SPKR_LIST	NO
CAL LVL LSUB2	**YES**	REQ_SURR_LIST	NO
CAL LVL RB	**YES**	REQ_VPROF_LIST	NO
CAL LVL RF	**YES**	RESOLUTION	**YES**
CAL LVL RS	**YES**	ROOMEQON	**YES**
CAL LVL RSUB1	**YES**	ROOMEQ	**YES**
CAL LVL RSUB2	**YES**	SPKRCFG	NO
DISPCFG	NO	STATUS_MAIN	NO
ENCENTER	**YES**	STATUS_SYSTEM	NO
ENREAR	**YES**	STATUS_ZONE2	NO
ENSUB1	**YES**	SURRMODE	NO
ENSUB2	**YES**	TRIGGER [1-4]	NO
ENSURR	**YES**	*VOL	**YES**
FADER	**YES**	VPROF	NO
FPDISPINTENS	**YES**	XOVER CENTER	**YES**
FPDWNUP	NO	XOVER FRNT	**YES**
FPDWN	NO	XOVER REAR	**YES**
FPRPT	NO	XOVER SUB	**YES**
FPUP	NO	XOVER SURR	**YES**
FPACT_CTL	NO	Z2ACT	**YES**
FPVOL_CTL	NO	*Z2VOL	**YES**
IRDWNUP	NO	ZOOM	**YES**
IRDWN	NO		

The Volume (VOL) and Remote Zone Volume (Z2VOL) commands are only saved if the Power On Volume Audio Option is set to "Last Level" in the Setup menu (SETUP: User Options: Audio Options-Power On Volume - Last Level).

8 External Protocol Commands

The command examples under the field "Incoming Request" assumes the keywords RQST:CS: precedes the command parameter indicated in the table, i.e. RQST:CS:PWR:ON\r

The command examples under the field "Outgoing Response" must include the keyword RSP:CS: preceding the response indicated in the table, i.e. RSP:CS:PWR:ACK\r

8.1 ACT

Command	Parameter	Function	Incoming Request	Outgoing Response	Comment
ACT	"Name" of desired Activity	Selects Named Activity	ACT:"Name"\r	ACT:ACK\r	Do not use the quotes (" ") when entering the activity name. The ML502 contains pre-configured activities and their names can be edited to suit the end-user's needs.
	?	Request Current Active activity	ACT:?\r	ACT:XX\r	
	EN	Enables Notification of Activity Changes	ACT:EN\r	ACT:ACK\r	
	DIS	Disables Notification of Activity Changes	ACT:DIS\r	ACT:ACK\r	
	NTF?	Query Notification State	ACT:NTF?\r	ACT:EN\r	Notification is Enabled
			ACT:NTF?\r	ACT:DIS\r	Notification is Disabled
				ACT:NACK\r	System is in Standby Mode and command is ignored.
				ACT:INVALID_NAME	The case sensitive requested Activity name is not in the system database

8.2 APROF

Command	Parameter	Function	Incoming Request	Outgoing Response	Comment
APROF	"Name" of desired Audio Profile	Selects Named Audio Profile	APROF:"Name"\r	APROF:ACK\r	Do not use the quotes (" ") when entering the audio profile name. The ML502 contains pre-configured audio profiles and their names can be edited to suit the end-user's needs.
	?	Request Current Active Audio Profile	APROF:?\r	APROF:XX\r	
	EN	Enables Notification of Audio Profile Changes	APROF:EN\r	APROF:ACK\r	
	DIS	Disables Notification of Audio Profile Changes	APROF:DIS\r	APROF:ACK\r	
	NTF?	Query Notification State	APROF:NTF?\r	APROF:EN\r	Notification is Enabled
			APROF:NTF?\r	APROF:DIS\r	Notification is Disabled
				APROF:NACK\r	System is in Standby Mode and command is ignored.
				APROF:INVALID_NAME	The case sensitive requested Audio Profile name is not in the system database

8.3 AVSYNC

Command	Parameter	Function	Incoming Request	Outgoing Response	Comment
AVSYNC	0.0 - 500.0	Set desired AV Sync Delay	AVSYNC:45.2\r	AVSYNC:ACK\r	
	?	Request Current AVSync value	AVSYNC:?\r	AVSYNC:XXX.X\r	
	EN	Enables Notification of AVSync Changes	AVSYNC:EN\r	AVSYNC:ACK\r	
	DIS	Disables Notification of AVSync Changes	AVSYNC:DIS\r	AVSYNC:ACK\r	
	NTF?	Query Notification State	AVSYNC:NTF?\r	AVSYNC:EN\r	Notification is Enabled
			AVSYNC:NTF?\r	AVSYNC:DIS\r	Notification is Disabled
				AVSYNC:NACK\r	System is in Standby Mode and command is ignored.

8.4 BAL

Command	Parameter	Function	Incoming Request	Outgoing Response	Comment
BAL	ROFF	Set BAL to ROFF	BAL:ROFF\r	BAL:ACK\r	
	LOFF	Set BAL to LOFF	BAL:LOFF\r	BAL:ACK\r	
	-14.0 to 14.0	Set BAL to the desired level	BAL:-2.0\r	BAL:ACK\r	
	?	Request Current BAL Setting	BAL:?\r	BAL:ROFF\r	
			BAL:?\r	BAL:LOFF\r	
			BAL:?\r	BAL:-xx.x\r	No sign in response with positive value
	EN	Enable Notification of Balance changes	BAL:EN\r	BAL:ACK\r	
	DIS	Disable Notifications of Balance changes	BAL:DIS\r	BAL:ACK\r	
	NTF?	Query Notification State	BAL:NTF?\r	BAL:EN\r	Notification is Enabled
			BAL:NTF?\r	BAL:DIS\r	Notification is Disabled
				BAL:NACK\r	System is in Standby Mode and command is ignored.

8.5 CAL_DIST_LF

Command	Parameter	Function	Incoming Request	Outgoing Response	Comment
CAL_DIST_LF	0.0 to 40.0	Set CAL_DIST_LF to the desired distance.	CAL_DIST_LF:2.0\r	CAL_DIST_LF:ACK\r	NOTE: Regardless of system setting, this command will always report distance units in feet.
	?	Request Current CAL_DIST_LF setting	CAL_DIST_LF:?\r	CAL_DIST_LF:-xx.x\r	
				CAL_DIST_LF:NACK\r	System is in Standby Mode and command is ignored.

8.6 CAL_DIST_RF

Command	Parameter	Function	Incoming Request	Outgoing Response	Comment
CAL_DIST_RF	0.0 to 40.0	Set CAL_DIST_RF to the desired distance.	CAL_DIST_RF:2.0\r	CAL_DIST_RF:ACK\r	NOTE: Regardless of system setting, this command will always report distance units in feet.
	?	Request Current CAL_DIST_RF setting	CAL_DIST_RF:?\r	CAL_DIST_RF:-xx.x\r	
				CAL_DIST_RF:NACK\r	System is in Standby Mode and command is ignored.

8.7 CAL_DIST_C

Command	Parameter	Function	Incoming Request	Outgoing Response	Comment
CAL_DIST_C	0.0 to 40.0	Set CAL_DIST_C to the desired distance.	CAL_DIST_C:2.0\r	CAL_DIST_C:ACK\r	NOTE: Regardless of system setting, this command will always report distance units in feet.
	?	Request Current CAL_DIST_C setting	CAL_DIST_C:?\r	CAL_DIST_C:-xx.x\r	
				CAL_DIST_C:NACK\r	System is in Standby Mode and command is ignored.

8.8 CAL_DIST_LS

Command	Parameter	Function	Incoming Request	Outgoing Response	Comment
CAL_DIST_LS	0.0 to 40.0	Set CAL_DIST_LS to the desired distance.	CAL_DIST_LS:2.0\r	CAL_DIST_LS:ACK\r	NOTE: Regardless of system setting, this command will always report distance units in feet.
	?	Request Current CAL_DIST_LS setting	CAL_DIST_LS:?\r	CAL_DIST_LS:-xx.x\r	
				CAL_DIST_LS:NACK\r	System is in Standby Mode and command is ignored.

8.9 CAL_DIST_RS

Command	Parameter	Function	Incoming Request	Outgoing Response	Comment
CAL_DIST_RS	0.0 to 40.0	Set CAL_DIST_RS to the desired distance.	CAL_DIST_RS:2.0\r	CAL_DIST_RS:ACK\r	NOTE: Regardless of system setting, this command will always report distance units in feet.
	?	Request Current CAL_DIST_RS setting	CAL_DIST_RS:?\r	CAL_DIST_RS:-xx.x\r	
				CAL_DIST_RS:NACK\r	System is in Standby Mode and command is ignored.

8.10 CAL_DIST_LB

Command	Parameter	Function	Incoming Request	Outgoing Response	Comment
CAL_DIST_LB	0.0 to 40.0	Set CAL_DIST_LB to the desired distance.	CAL_DIST_LB:2.0\r	CAL_DIST_LB:ACK\r	NOTE: Regardless of system setting, this command will always report distance units in feet.
	?	Request Current CAL_DIST_LB setting	CAL_DIST_LB:?\r	CAL_DIST_LB:-xx.x\r	
				CAL_DIST_LB:NACK\r	System is in Standby Mode and command is ignored.

8.11 CAL_DIST_RB

Command	Parameter	Function	Incoming Request	Outgoing Response	Comment
CAL_DIST_RB	0.0 to 40.0	Set CAL_DIST_RB to the desired distance.	CAL_DIST_RB:2.0\r	CAL_DIST_RB:ACK\r	NOTE: Regardless of system setting, this command will always report distance units in feet.
	?	Request Current CAL_DIST_RB setting	CAL_DIST_RB:?\r	CAL_DIST_RB:-xx.x\r	
				CAL_DIST_RB:NACK\r	System is in Standby Mode and command is ignored.

8.12 CAL_DIST_LSUB1

Command	Parameter	Function	Incoming Request	Outgoing Response	Comment
CAL_DIST_LSUB1	0.0 to 40.0	Set CAL_DIST_LSUB1 to the desired distance.	CAL_DIST_LSUB1:2.0\r	CAL_DIST_LSUB1:ACK\r	NOTE: Regardless of system setting, this command will always report distance units in feet.
	?	Request Current CAL_DIST_LSUB1 setting	CAL_DIST_LSUB1:?\r	CAL_DIST_LSUB1:-xx.x\r	
				CAL_DIST_LSUB1:NACK\r	System is in Standby Mode and command is ignored.

8.13 CAL_DIST_RSUB1

Command	Parameter	Function	Incoming Request	Outgoing Response	Comment
CAL_DIST_RSUB1	0.0 to 40.0	Set CAL_DIST_RSUB1 to the desired distance.	CAL_DIST_RSUB1:2.0\r	CAL_DIST_RSUB1:ACK\r	NOTE: Regardless of system setting, this command will always report distance units in feet.
	?	Request Current CAL_DIST_RSUB1 setting	CAL_DIST_RSUB1:?\r	CAL_DIST_RSUB1:-xx.x\r	
				CAL_DIST_RSUB1:NACK\r	System is in Standby Mode and command is ignored.

8.14 CAL_DIST_LSUB2

Command	Parameter	Function	Incoming Request	Outgoing Response	Comment
CAL_DIST_LSUB2	0.0 to 40.0	Set CAL_DIST_LSUB2 to the desired distance.	CAL_DIST_LSUB2:2.0\r	CAL_DIST_LSUB2:ACK\r	NOTE: Regardless of system setting, this command will always report distance units in feet.
	?	Request Current CAL_DIST_LSUB2 setting	CAL_DIST_LSUB2:?\r	CAL_DIST_LSUB2:-xx.x\r	
				CAL_DIST_LSUB2:NACK\r	System is in Standby Mode and command is ignored.

8.15 CAL_DIST_RSUB2

Command	Parameter	Function	Incoming Request	Outgoing Response	Comment
CAL_DIST_RSUB2	0.0 to 40.0	Set CAL_DIST_RSUB2 to the desired distance.	CAL_DIST_RSUB2:2.0\r	CAL_DIST_RSUB2:ACK\r	NOTE: Regardless of system setting, this command will always report distance units in feet.
	?	Request Current CAL_DIST_RSUB2 setting	CAL_DIST_RSUB2:?\r	CAL_DIST_RSUB2:-xx.x\r	
				CAL_DIST_RSUB2:NACK\r	System is in Standby Mode and command is ignored.

8.16 CAL_LVL_LF

Command	Parameter	Function	Incoming Request	Outgoing Response	Comment
CAL_LVL_LF	-14.0 to 14.0	Set CAL_LVL_LF to the desired level.	CAL_LVL_LF:-02.0\r	CAL_LVL_LF:ACK\r	
	?	Request Current CAL_LVL_LF setting	CAL_LVL_LF:?\r	CAL_LVL_LF:-xx.x\r	No sign in response with positive value
				CAL_LVL_LF:NACK\r	System is in Standby Mode and command is ignored.

8.17 CAL_LVL_RF

Command	Parameter	Function	Incoming Request	Outgoing Response	Comment
CAL_LVL_RF	-14.0 to 14.0	Set CAL_LVL_RF to the desired level.	CAL_LVL_RF:-02.0\r	CAL_LVL_RF:ACK\r	
	?	Request Current CAL_LVL_RF setting	CAL_LVL_RF:?\r	CAL_LVL_RF:-xx.x\r	No sign in response with positive value
				CAL_LVL_RF:NACK\r	System is in Standby Mode and command is ignored.

8.18 CAL_LVL_C

Command	Parameter	Function	Incoming Request	Outgoing Response	Comment
CAL_LVL_C	-14.0 to 14.0	Set CAL_LVL_C to the desired level.	CAL_LVL_C:-02.0\r	CAL_LVL_C:ACK\r	
	?	Request Current CAL_LVL_C setting	CAL_LVL_C:?\r	CAL_LVL_C:-xx.x\r	No sign in response with positive value
				CAL_LVL_C:NACK\r	System is in Standby Mode and command is ignored.

8.19 CAL_LVL_LS

Command	Parameter	Function	Incoming Request	Outgoing Response	Comment
CAL_LVL_LS	-14.0 to 14.0	Set CAL_LVL_LS to the desired level.	CAL_LVL_LS:-02.0\r	CAL_LVL_LS:ACK\r	
	?	Request Current CAL_LVL_LS setting	CAL_LVL_LS:?\r	CAL_LVL_LS:-xx.x\r	No sign in response with positive value
				CAL_LVL_LS:NACK\r	System is in Standby Mode and command is ignored.

8.20 CAL_LVL_RS

Command	Parameter	Function	Incoming Request	Outgoing Response	Comment
CAL_LVL_RS	-14.0 to 14.0	Set CAL_LVL_RS to the desired level.	CAL_LVL_RS:-02.0\r	CAL_LVL_RS:ACK\r	
	?	Request Current CAL_LVL_RS setting	CAL_LVL_RS:?\r	CAL_LVL_RS:-xx.x\r	No sign in response with positive value
				CAL_LVL_RS:NACK\r	System is in Standby Mode and command is ignored.

8.21 CAL_LVL_LB

Command	Parameter	Function	Incoming Request	Outgoing Response	Comment
CAL_LVL_LB	-14.0 to 14.0	Set CAL_LVL_LB to the desired level.	CAL_LVL_LB:-02.0\r	CAL_LVL_LB:ACK\r	
	?	Request Current CAL_LVL_LB setting	CAL_LVL_LB:?\r	CAL_LVL_LB:-xx.x\r	No sign in response with positive value
				CAL_LVL_LB:NACK\r	System is in Standby Mode and command is ignored.

8.22 CAL_LVL_RB

Command	Parameter	Function	Incoming Request	Outgoing Response	Comment
CAL_LVL_RB	-14.0 to 14.0	Set CAL_LVL_RB to the desired level.	CAL_LVL_RB:-02.0\r	CAL_LVL_RB:ACK\r	
	?	Request Current CAL_LVL_RB setting	CAL_LVL_RB:?\r	CAL_LVL_RB:-xx.x\r	No sign in response with positive value
				CAL_LVL_RB:NACK\r	System is in Standby Mode and command is ignored.

8.23 CAL_LVL_LSUB1

Command	Parameter	Function	Incoming Request	Outgoing Response	Comment
CAL_LVL_LSUB1	-14.0 to 14.0	Set CAL_LVL_LSUB1 to the desired level.	CAL_LVL_LSUB1:-02.0\r	CAL_LVL_LSUB1:ACK\r	
	?	Request Current CAL_LVL_LSUB1 setting	CAL_LVL_LSUB1:?\r	CAL_LVL_LSUB1:-xx.x\r	No sign in response with positive value
				CAL_LVL_LSUB1:NACK\r	System is in Standby Mode and command is ignored.

8.24 CAL_LVL_RSUB1

Command	Parameter	Function	Incoming Request	Outgoing Response	Comment
CAL_LVL_RSUB1	-14.0 to 14.0	Set CAL_LVL_RSUB1 to the desired level.	CAL_LVL_RSUB1:-02.0\r	CAL_LVL_RSUB1:ACK\r	
	?	Request Current CAL_LVL_RSUB1 setting	CAL_LVL_RSUB1:?\r	CAL_LVL_RSUB1:-xx.x\r	No sign in response with positive value
				CAL_LVL_RSUB1:NACK\r	System is in Standby Mode and command is ignored.

8.25 CAL_LVL_LSUB2

Command	Parameter	Function	Incoming Request	Outgoing Response	Comment
CAL_LVL_LSUB2	-14.0 to 14.0	Set CAL_LVL_LSUB2 to the desired level.	CAL_LVL_LSUB2:-02.0\r	CAL_LVL_LSUB2:ACK\r	
	?	Request Current CAL_LVL_LSUB2 setting	CAL_LVL_LSUB2:?\r	CAL_LVL_LSUB2:-xx.x\r	No sign in response with positive value
				CAL_LVL_LSUB2:NACK\r	System is in Standby Mode and command is ignored.

8.26 CAL_LVL_RSUB2

Command	Parameter	Function	Incoming Request	Outgoing Response	Comment
CAL_LVL_RSUB2	-14.0 to 14.0	Set CAL_LVL_RSUB2 to the desired level.	CAL_LVL_RSUB2:-02.0\r	CAL_LVL_RSUB2:ACK\r	
	?	Request Current CAL_LVL_RSUB2 setting	CAL_LVL_RSUB2:?\r	CAL_LVL_RSUB2:-xx.x\r	No sign in response with positive value
				CAL_LVL_RSUB2:NACK\r	System is in Standby Mode and command is ignored.

8.27 DISPCFG

Command	Parameter	Function	Incoming Request	Outgoing Response	Comment
DISPCFG	"Name" of desired Display Configuration	Selects Named Display Configuration	DISPCFG:"Name"\r	DISPCFG:ACK\r	Do not use the quotes (" ") when entering the name. The ML502 contains pre-configured display configurations and their names can be edited to suit the end-user's needs.
	?	Request Current Active Display Configuration	DISPCFG:?\r	DISPCFG:XX\r	
	EN	Enables Notification of Display Configuration Changes	DISPCFG:EN\r	DISPCFG:ACK\r	
	DIS	Disables Notification of Display Configuration Changes	DISPCFG:DIS\r	DISPCFG:ACK\r	
	NTF?	Query Notification State	DISPCFG:NTF?\r	DISPCFG:EN\r	Notification is Enabled
			DISPCFG:NTF?\r	DISPCFG:DIS\r	Notification is Disabled
				DISPCFG:NACK\r	System is in Standby Mode and command is ignored.
				DISPCFG:INVALID_NAME	The case sensitive requested Display Configuration name is not in the system database

8.28 ENCENTER

Command	Parameter	Function	Incoming Request	Outgoing Response	Comment
ENCENTER	ON	Set ENCENTER ON	ENCENTER:ON\r	ENCENTER:ACK\r	Enables the Center Speaker
	OFF	Set ENCENTER OFF	ENCENTER:OFF\r	ENCENTER:ACK\r	
	?	Request Current ENCENTER setting	ENCENTER:?\r	ENCENTER:ON\r	
			ENCENTER:?\r	ENCENTER:OFF\r	
	EN	Enables Notification of ENCENTER Changes	ENCENTER:EN\r	ENCENTER:ACK\r	
	DIS	Disables Notification of ENCENTER Changes	ENCENTER:DIS\r	ENCENTER:ACK\r	
	NTF?	Query Notification State	ENCENTER:NTF?\r	ENCENTER:EN\r	Notification is Enabled
			ENCENTER:NTF?\r	ENCENTER:DIS\r	Notification is Disabled
				ENCENTER:NACK\r	System is in Standby Mode and command is ignored.

8.29 ENSURR

Command	Parameter	Function	Incoming Request	Outgoing Response	Comment
ENSURR	ON	Set ENSURR ON	ENSURR:ON\r	ENSURR:ACK\r	Enables the Surround Speakers
	OFF	Set ENSURR OFF	ENSURR:OFF\r	ENSURR:ACK\r	
	?	Request Current ENSURR setting	ENSURR:?\r	ENSURR:ON\r	
			ENSURR:?\r	ENSURR:OFF\r	
	EN	Enables Notification of ENSURR Changes	ENSURR:EN\r	ENSURR:ACK\r	
	DIS	Disables Notification of ENSURR Changes	ENSURR:DIS\r	ENSURR:ACK\r	
	NTF?	Query Notification State	ENSURR:NTF?\r	ENSURR:EN\r	Notification is Enabled
			ENSURR:NTF?\r	ENSURR:DIS\r	Notification is Disabled
				ENSURR:NACK\r	System is in Standby Mode and command is ignored.

8.30 ENREAR

Command	Parameter	Function	Incoming Request	Outgoing Response	Comment
ENREAR	ON	Set ENREAR ON	ENREAR:ON\r	ENREAR:ACK\r	Enables the Rear Speakers
	OFF	Set ENREAR OFF	ENREAR:OFF\r	ENREAR:ACK\r	
	?	Request Current ENREAR setting	ENREAR:?\r	ENREAR:ON\r	
			ENREAR:?\r	ENREAR:OFF\r	
	EN	Enables Notification of ENREAR Changes	ENREAR:EN\r	ENREAR:ACK\r	
	DIS	Disables Notification of ENREAR Changes	ENREAR:DIS\r	ENREAR:ACK\r	
	NTF?	Query Notification State	ENREAR:NTF?\r	ENREAR:EN\r	Notification is Enabled
			ENREAR:NTF?\r	ENREAR:DIS\r	Notification is Disabled
				ENREAR:NACK\r	System is in Standby Mode and command is ignored.

8.31 ENSUB1

Command	Parameter	Function	Incoming Request	Outgoing Response	Comment
ENSUB1	ON	Set ENSUB1 ON	ENSUB1:ON\r	ENSUB1:ACK\r	Enables the Subwoofer 1 speakers
	OFF	Set ENSUB1 OFF	ENSUB1:OFF\r	ENSUB1:ACK\r	
	?	Request Current ENSUB1setting	ENSUB1:?\r	ENSUB1:ON\r	
			ENSUB1:?\r	ENSUB1:OFF\r	
	EN	Enables Notification of ENSUB1Changes	ENSUB1:EN\r	ENSUB1:ACK\r	
	DIS	Disables Notification of ENSUB1Changes	ENSUB1:DIS\r	ENSUB1:ACK\r	
	NTF?	Query Notification State	ENSUB1:NTF?\r	ENSUB1:EN\r	Notification is Enabled
			ENSUB1:NTF?\r	ENSUB1:DIS\r	Notification is Disabled
				ENSUB1:NACK\r	System is in Standby Mode and command is ignored.

8.32 ENSUB2

Command	Parameter	Function	Incoming Request	Outgoing Response	Comment
ENSUB2	ON	Set ENSUB2 ON	ENSUB2:ON\r	ENSUB2:ACK\r	Enables the Subwoofer 2 speakers
	OFF	Set ENSUB2 OFF	ENSUB2:OFF\r	ENSUB2:ACK\r	
	?	Request Current ENSUB1setting	ENSUB2:?\r	ENSUB2:ON\r	
			ENSUB2:?\r	ENSUB1:OFF\r	
	EN	Enables Notification of ENSUB2Changes	ENSUB2:EN\r	ENSUB2:ACK\r	
	DIS	Disables Notification of ENSUB2Changes	ENSUB2:DIS\r	ENSUB2:ACK\r	
	NTF?	Query Notification State	ENSUB2:NTF?\r	ENSUB2:EN\r	Notification is Enabled
			ENSUB2:NTF?\r	ENSUB2:DIS\r	Notification is Disabled
				ENSUB1:NACK\r	System is in Standby Mode and command is ignored.

8.33 FADER

Command	Parameter	Function	Incoming Request	Outgoing Response	Comment
FADER	FOFF	Set FADER to FOFF	FADER:FOFF\r	FADER:ACK\r	
	BOFF	Set FADER to BOFF	FADER:BOFF\r	FADER:ACK\r	
	-14.0 to 14.0	Set FADER to the desired level	FADER:-02.0\r	FADER:ACK\r	
	?	Request Current FADER Setting	FADER:?\r	FADER:FOFF\r	
			FADER:?\r	FADER:BOFF\r	
			FADER:?\r	FADER:-xx.x\r	No sign in response with positive value
	EN	Enable Notification of Fader changes	FADER:EN\r	FADER:ACK\r	
	DIS	Disable Notifications of Fader changes	FADER:DIS\r	FADER:ACK\r	
	NTF?	Query Notification State	FADER:NTF?\r	FADER:EN\r	Notification is Enabled
			FADER:NTF?\r	FADER:DIS\r	Notification is Disabled
				FADER:NACK\r	System is in Standby Mode and command is ignored.

8.34 FAULT

Command	Parameter	Function	Incoming Request	Comment
FAULT	THERM	A critical system fault has occurred	Not Available	See the section "Critical Fault Notifications" in this doc for more details on this command notification
	PWR		Not Available	
	SIGNAL		Not Available	
	UNKNOWN		Not Available	

8.35 FPDISPINTENS

Command	Parameter	Function	Incoming Request	Outgoing Response	Comment
FPDISPINTENS	OFF	Set Front Panel Light & Display Intensity Off	FPDISPINTENS:OFF\r	FPDISPINTENS:ACK\r	
	LOW	Turn Front Panel Low	FPDISPINTENS:LOW\r	FPDISPINTENS:ACK\r	
	MED	Turn Front Panel Med	FPDISPINTENS:MED\r	FPDISPINTENS:ACK\r	
	HIGH	Turn Front Panel High	FPDISPINTENS:HIGH\r	FPDISPINTENS:ACK\r	
	?	Request Current FP setting	FPDISPINTENS:?\r	FPDISPINTENS:ON\r	
			FPDISPINTENS:?\r	FPDISPINTENS:OFF\r	
				FPDISPINTENS:NACK\r	System is in Standby Mode and command is ignored.

8.36 FPDWNUP

Command	Parameter	Function	Incoming Request	Outgoing Response	Comment
FPDWNUP	ZONE	Front Panel Button Pressed Down and Released	FPDWNUP:ZONE\r	FPDWNUP:ACK\r	The FPDWNUP command executes FPDWN then FPUP commands. Notifications do not exist for the FPDWNUP command.
	PREVIEW		FPDWNUP:PREVIEW\r	FPDWNUP:ACK\r	
	DISPLAY		FPDWNUP:DISPLAY\r	FPDWNUP:ACK\r	
	SETUP		FPDWNUP:SETUP\r	FPDWNUP:ACK\r	
	MENU		FPDWNUP:MENU\r	FPDWNUP:ACK\r	
	MUTE		FPDWNUP:MUTE\r	FPDWNUP:ACK\r	
	VIDEO_PROFILE		FPDWNUP:VIDEO_PROFILE\r	FPDWNUP:ACK\r	
	AUDIO_PROFILE		FPDWNUP:AUDIO_PROFILE\r	FPDWNUP:ACK\r	
	SURROUND		FPDWNUP:SURROUND\r	FPDWNUP:ACK\r	
	ENTER		FPDWNUP:ENTER\r	FPDWNUP:ACK\r	
	STANDBY		FPDWNUP:STANDBY\r	FPDWNUP:ACK\r	
				FPDWNUP:NACK\r	System is in Standby Mode and command is ignored, Exception is the FP STANDBY Key Command

8.37 FPDWN

Command	Parameter	Function	Incoming Request	Outgoing Response	Comment
FPDWN	ZONE	Front Panel Button Pressed Down	FPDWN:ZONE\r	FPDWN:ACK\r	It is expected that a FPUP command will be issued when the user has finished sending the desired FPDWN/FPRPT sequence.
	PREVIEW		FPDWN:PREVIEW\r	FPDWN:ACK\r	
	DISPLAY		FPDWN:DISPLAY\r	FPDWN:ACK\r	
	SETUP		FPDWN:SETUP\r	FPDWN:ACK\r	
	MENU		FPDWN:MENU\r	FPDWN:ACK\r	
	MUTE		FPDWN:MUTE\r	FPDWN:ACK\r	
	VIDEO_PROFILE		FPDWN:VIDEO_PROFILE\r	FPDWN:ACK\r	
	AUDIO_PROFILE		FPDWN:AUDIO_PROFILE\r	FPDWN:ACK\r	
	SURROUND		FPDWN:SURROUND\r	FPDWN:ACK\r	
	ENTER		FPDWN:ENTER\r	FPDWN:ACK\r	
	STANDBY		FPDWN:STANDBY\r	FPDWN:ACK\r	
	EN	Enables Notification	FPDWN:EN\r	FPDWN:ACK\r	
	DIS	Disables Notification	FPDWN:DIS\r	FPDWN:ACK\r	
	NTF?	Query Notification State	FPDWN:NTF?\r	FPDWN:EN\r	Notification is Enabled
			FPDWN:NTF?\r	FPDWN:DIS\r	Notification is Disabled
				FPDWN:NACK\r	System is in Standby Mode and command is ignored, Exception is the FP STANDBY Key Command

8.38 FPRPT

Command	Parameter	Function	Incoming Request	Outgoing Response	Comment
FPRPT	ZONE	Front Panel Button Held in the Down position	FPRPT:ZONE\r	FPRPT:ACK\r	The purpose of the FPRPT command is to simulate holding the selected key down.
	PREVIEW		FPRPT:PREVIEW\r	FPRPT:ACK\r	
	DISPLAY		FPRPT:DISPLAY\r	FPRPT:ACK\r	The FPPRT command is buffered to provide smooth UI operation. The amount of commands needed to repeat an operation will vary depending the System Resource under control.
	SETUP		FPRPT:SETUP\r	FPRPT:ACK\r	
	MENU		FPRPT:MENU\r	FPRPT:ACK\r	
	MUTE		FPRPT:MUTE\r	FPRPT:ACK\r	
	VIDEO_PROFILE		FPRPT:VIDEO_PROFILE\r	FPRPT:ACK\r	i.e. When in the Setup Window, 5:FPRPT's are required to repeat an initial action, after which only 3:FPRPT's are required to repeat the same action.
	AUDIO_PROFILE		FPRPT:AUDIO_PROFILE\r	FPRPT:ACK\r	
	SURROUND		FPRPT:SURROUND\r	FPRPT:ACK\r	
	ENTER		FPRPT:ENTER\r	FPRPT:ACK\r	
	STANDBY		FPRPT:STANDBY\r	FPRPT:ACK\r	
	EN	Enables Notification	FPRPT:EN\r	FPRPT:ACK\r	
	DIS	Disables Notification	FPRPT:DIS\r	FPRPT:ACK\r	
	NTF?	Query Notification State	FPRPT:NTF?\r	FPRPT:EN\r	Notification is Enabled
			FPRPT:NTF?\r	FPRPT:DIS\r	Notification is Disabled
				FPRPT:NACK\r	System is in Standby Mode and command is ignored, Exception is the FP STANDBY Key Command

8.39 FPUP

Command	Parameter	Function	Incoming Request	Outgoing Response	Comment
FPUP	ZONE	Front Panel Button Release or in the Up state	FPUP:ZONE\r	FPUP:ACK\r	It is expected that a FPUP command will be issued when the user has finished sending the desired FPDWN/FPRPT sequence.
	PREVIEW		FPUP:PREVIEW\r	FPUP:ACK\r	
	DISPLAY		FPUP:DISPLAY\r	FPUP:ACK\r	
	SETUP		FPUP:SETUP\r	FPUP:ACK\r	
	MENU		FPUP:MENU\r	FPUP:ACK\r	
	MUTE		FPUP:MUTE\r	FPUP:ACK\r	
	VIDEO_PROFILE		FPUP:VIDEO_PROFILE\r	FPUP:ACK\r	
	AUDIO_PROFILE		FPUP:AUDIO_PROFILE\r	FPUP:ACK\r	
	SURROUND		FPUP:SURROUND\r	FPUP:ACK\r	
	ENTER		FPUP:ENTER\r	FPUP:ACK\r	
	STANDBY		FPUP:STANDBY\r	FPUP:ACK\r	
	EN		FPUP:EN\r	FPUP:ACK\r	Enables Notification
	DIS		FPUP:DIS\r	FPUP:ACK\r	Disables Notification
	NTF?		FPUP:NTF?\r	FPUP:EN\r	Notification is Enabled
			FPUP:NTF?\r	FPUP:DIS\r	Notification is Disabled
				FPUP:NACK\r	System is in Standby Mode and command is ignored, Exception is the FP STANDBY Key Command

8.40 FPACT_CTL

Command	Parameter	Function	Incoming Request	Outgoing Response	Comment
FPACT_CTL	CW	The No502 Front Panel Activity Rotator Control is moved Clockwise	FPACT_CTL:CW\r	FPACT_CTL:ACK\r	
	CCW	The No502 Front Panel Activity Rotator Control is moved Counter Clockwise	FPACT_CTL:CCW\r	FPACT_CTL:ACK\r	
	EN	Enables Notification	FPACT_CTL:EN\r	FPACT_CTL:ACK\r	
	DIS	Disables Notification	FPACT_CTL:DIS\r	FPACT_CTL:ACK\r	
	NTF?	Query Notification State	FPACT_CTL:NTF?\r	FPACT_CTL:EN\r	Notification is Enabled
			FPACT_CTL:NTF?\r	FPACT_CTL:DIS\r	Notification is Disabled
				FPACT_CTL:NACK\r	System is in Standby Mode and command is ignored, Exception is the FP STANDBY Key Command

8.41 FPVOL_CTL

Command	Parameter	Function	Incoming Request	Outgoing Response	Comment
FPVOL_CTL	CW	The No502 Front Panel Volume Rotator Control is moved Clockwise	FPVOL _CTL:CW\r	FPVOL _CTL:ACK\r	
	CCW	The No502 Front Panel Volume Rotator Control is moved Counter Clockwise	FPVOL _CTL:CCW\r	FPVOL _CTL:ACK\r	
	CW_FAST	The Front Panel Volume Rotator Control is moved Clockwise simulating a faster movement	FPVOL _CTL:CW_FAST\r	FPVOL _CTL:ACK\r	
	CCW_FAST	The Front Panel Volume Rotator Control is moved Counter Clockwise simulating a faster movement	FPVOL _CTL:CCW_FAST\r	FPVOL _CTL:ACK\r	
	EN	Enables Notification	FPVOL _CTL:EN\r	FPVOL _CTL:ACK\r	
	DIS	Disables Notification	FPVOL _CTL:DIS\r	FPVOL _CTL:ACK\r	
	NTF?	Query Notification State	FPVOL _CTL:NTF?\r	FPVOL _CTL:EN\r	Notification is Enabled
			FPVOL _CTL:NTF?\r	FPVOL _CTL:DIS\r	Notification is Disabled
				FPVOL _CTL:NACK\r	System is in Standby Mode and command is ignored, Exception is the FP STANDBY Key Command

8.42 IRDWNUP

Command	Parameter	Function	Incoming Request	Outgoing Response	Comment
IRDWNUP	UP	IR Button Pressed Down and Released	IRDWNUP:UP\r	IRDWNUP:ACK\r	The IRDWNUP cmd executes IRDWN then IRUP commands.
	DOWN		IRDWNUP:DOWN\r	IRDWNUP:ACK\r	Notifications do not exist for the IRDWNUP command.
	LEFT		IRDWNUP:LEFT\r	IRDWNUP:ACK\r	
	RIGHT		IRDWNUP:RIGHT\r	IRDWNUP:ACK\r	
	ENTER		IRDWNUP:ENTER\r	IRDWNUP:ACK\r	
	MENU		IRDWNUP:MENU\r	IRDWNUP:ACK\r	
	SETUP		IRDWNUP:SETUP\r	IRDWNUP:ACK\r	
	ACTIVITY_UP		IRDWNUP:ACTIVITY_UP\r	IRDWNUP:ACK\r	
	ACTIVITY_DOWN		IRDWNUP:ACTIVITY_DOWN\r	IRDWNUP:ACK\r	
	SURROUND_UP		IRDWNUP:SURROUND_UP\r	IRDWNUP:ACK\r	
	SURROUND_DOWN		IRDWNUP:SURROUND_DOWN\r	IRDWNUP:ACK\r	
	VOLUME_UP		IRDWNUP:VOLUME_UP\r	IRDWNUP:ACK\r	
	VOLUME_DOWN		IRDWNUP:VOLUME_DOWN\r	IRDWNUP:ACK\r	
	VIDEO_PROFILE		IRDWNUP:VIDEO_PROFILE\r	IRDWNUP:ACK\r	
	AUDIO_PROFILE		IRDWNUP:AUDIO_PROFILE\r	IRDWNUP:ACK\r	
	PREVIEW		IRDWNUP:PREVIEW\r	IRDWNUP:ACK\r	
	MUTE		IRDWNUP:MUTE\r	IRDWNUP:ACK\r	
	F1		IRDWNUP:F1\r	IRDWNUP:ACK\r	
	F2		IRDWNUP:F2\r	IRDWNUP:ACK\r	
	F3		IRDWNUP:F3\r	IRDWNUP:ACK\r	
	ZONE		IRDWNUP:ZONE\r	IRDWNUP:ACK\r	
	STANDBY		IRDWNUP:STANDBY\r	IRDWNUP:ACK\r	
				IRDWNUP:NACK\r	System is in Standby Mode and command is ignored, Exception is the IR STANDBY Key Command

8.43 IRDWN

Command	Parameter	Function	Incoming Request	Outgoing Response	Comment
IRDWN	UP	IR Button Pressed Down	IRDWN:UP\r	IRDWN:ACK\r	It is expected that an IRUP command will be issued
	DOWN		IRDWN:DOWN\r	IRDWN:ACK\r	when the user has finished sending the desired
	LEFT		IRDWN:LEFT\r	IRDWN:ACK\r	IRDWN/IRRPT sequence.
	RIGHT		IRDWN:RIGHT\r	IRDWN:ACK\r	
	ENTER		IRDWN:ENTER\r	IRDWN:ACK\r	
	MENU		IRDWN:MENU\r	IRDWN:ACK\r	
	SETUP		IRDWN:SETUP\r	IRDWN:ACK\r	
	ACTIVITY_UP		IRDWN:ACTIVITY_UP\r	IRDWN:ACK\r	
	ACTIVITY_DOWN		IRDWN:ACTIVITY_DOWN\r	IRDWN:ACK\r	
	SURROUND_UP		IRDWN:SURROUND_UP\r	IRDWN:ACK\r	
	SURROUND_DOWN		IRDWN:SURROUND_DOWN\r	IRDWN:ACK\r	
	VOLUME_UP		IRDWN:VOLUME_UP\r	IRDWN:ACK\r	
	VOLUME_DOWN		IRDWN:VOLUME_DOWN\r	IRDWN:ACK\r	
	VIDEO_PROFILE		IRDWN:VIDEO_PROFILE\r	IRDWN:ACK\r	
	AUDIO_PROFILE		IRDWN:AUDIO_PROFILE\r	IRDWN:ACK\r	
	PREVIEW		IRDWN:PREVIEW\r	IRDWN:ACK\r	
	MUTE		IRDWN:MUTE\r	IRDWN:ACK\r	
	F1		IRDWN:F1\r	IRDWN:ACK\r	
	F2		IRDWN:F2\r	IRDWN:ACK\r	
	F3		IRDWN:F3\r	IRDWN:ACK\r	
	ZONE		IRDWN:ZONE\r	IRDWN:ACK\r	
	STANDBY		IRDWN:STANDBY\r	IRDWN:ACK\r	
	EN	Enables Notification	IRDWN:EN\r	IRDWN:ACK\r	
	DIS	Disables Notification	IRDWN:DIS\r	IRDWN:ACK\r	
	NTF?	Query Notification State	IRDWN:NTF?\r	IRDWN:EN\r	Notification is Enabled
			IRDWN:NTF?\r	IRDWN:DIS\r	Notification is Disabled
				IRDWN:NACK\r	System is in Standby Mode and command is ignored, Exception is the IR STANDBY Key Command

8.44 IRRPT

Command	Parameter	Function	Incoming Request	Outgoing Response	Comment
IRRPT	UP	IR Value is Repeated	IRRPT:UP\r	IRRPT:ACK\r	The purpose of the IRRPT command is to simulate holding the selected key down.
	DOWN		IRRPT:DOWN\r	IRRPT:ACK\r	
	LEFT		IRRPT:LEFT\r	IRRPT:ACK\r	The IRPRT command is buffered to provide smooth UI operation. The amount of commands needed to Repeat an operation will vary depending the System Resource under control.
	RIGHT		IRRPT:RIGHT\r	IRRPT:ACK\r	
	ENTER		IRRPT:ENTER\r	IRRPT:ACK\r	
	MENU		IRRPT:MENU\r	IRRPT:ACK\r	
	SETUP		IRRPT:SETUP\r	IRRPT:ACK\r	
	ACTIVITY_UP		IRRPT:ACTIVITY_UP\r	IRRPT:ACK\r	i.e. When in the Setup Window, 5:IRRPT's are required to repeat an initial action, after which only 3:IRRPT's are required to repeat the same action.
	ACTIVITY_DOWN		IRRPT:ACTIVITY_DOWN\r	IRRPT:ACK\r	
	SURROUND_UP		IRRPT:SURROUND_UP\r	IRRPT:ACK\r	
	SURROUND_DOWN		IRRPT:SURROUND_DOWN\r	IRRPT:ACK\r	
	VOLUME_UP		IRRPT:VOLUME_UP\r	IRRPT:ACK\r	
	VOLUME_DOWN		IRRPT:VOLUME_DOWN\r	IRRPT:ACK\r	
	VIDEO_PROFILE		IRRPT:VIDEO_PROFILE\r	IRRPT:ACK\r	
	AUDIO_PROFILE		IRRPT:AUDIO_PROFILE\r	IRRPT:ACK\r	
	PREVIEW		IRRPT:PREVIEW\r	IRRPT:ACK\r	
	MUTE		IRRPT:MUTE\r	IRRPT:ACK\r	
	F1		IRRPT:F1\r	IRRPT:ACK\r	
	F2		IRRPT:F2\r	IRRPT:ACK\r	
	F3		IRRPT:F3\r	IRRPT:ACK\r	
	ZONE		IRRPT:ZONE\r	IRRPT:ACK\r	
	STANDBY		IRRPT:STANDBY\r	IRRPT:ACK\r	
	EN	Enables Notification	IRRPT:EN\r	IRRPT:ACK\r	
	DIS	Disables Notification	IRRPT:DIS\r	IRRPT:ACK\r	
	NTF?	Query Notification State	IRRPT:NTF?\r	IRRPT:EN\r	Notification is Enabled
			IRRPT:NTF?\r	IRRPT:DIS\r	Notification is Disabled
				IRRPT:NACK\r	System is in Standby Mode and command is ignored, Exception is the IR STANDBY Key Command

8.45 IRUP

Command	Parameter	Function	Incoming Request	Outgoing Response	Comment
IRUP	UP	IR Button Release or in the Up state	IRUP:UP\r	IRUP:ACK\r	It is expected that an IRUP command will be issued when the user has finished sending the desired IRDWN/IRRPT sequence.
	DOWN		IRUP:DOWN\r	IRUP:ACK\r	
	LEFT		IRUP:LEFT\r	IRUP:ACK\r	
	RIGHT		IRUP:RIGHT\r	IRUP:ACK\r	
	ENTER		IRUP:ENTER\r	IRUP:ACK\r	
	MENU		IRUP:MENU\r	IRUP:ACK\r	
	SETUP		IRUP:SETUP\r	IRUP:ACK\r	
	ACTIVITY_UP		IRUP:ACTIVITY_UP\r	IRUP:ACK\r	
	ACTIVITY_DOWN		IRUP:ACTIVITY_DOWN\r	IRUP:ACK\r	
	SURROUND_UP		IRUP:SURROUND_UP\r	IRUP:ACK\r	
	SURROUND_DOWN		IRUP:SURROUND_DOWN\r	IRUP:ACK\r	
	VOLUME_UP		IRUP:VOLUME_UP\r	IRUP:ACK\r	
	VOLUME_DOWN		IRUP:VOLUME_DOWN\r	IRUP:ACK\r	
	VIDEO_PROFILE		IRUP:VIDEO_PROFILE\r	IRUP:ACK\r	
	AUDIO_PROFILE		IRUP:AUDIO_PROFILE\r	IRUP:ACK\r	
	PREVIEW		IRUP:PREVIEW\r	IRUP:ACK\r	
	MUTE		IRUP:MUTE\r	IRUP:ACK\r	
	F1		IRUP:F1\r	IRUP:ACK\r	
	F2		IRUP:F2\r	IRUP:ACK\r	
	F3		IRUP:F3\r	IRUP:ACK\r	
	ZONE		IRUP:ZONE\r	IRUP:ACK\r	
	STANDBY		IRUP:STANDBY\r	IRUP:ACK\r	
	EN	Enables Notification	IRUP:EN\r	IRUP:ACK\r	
	DIS	Disables Notification	IRUP:DIS\r	IRUP:ACK\r	
	NTF?	Query Notification State	IRUP:NTF?\r	IRUP:EN\r	Notification is Enabled
			IRUP:NTF?\r	IRUP:DIS\r	Notification is Disabled
				IRUP:NACK\r	System is in Standby Mode and command is ignored, Exception is the IR STANDBY Key Command

8.46 MENUBK

Command	Parameter	Function	Incoming Request	Outgoing Response	Comment
MENUBK	ON	Set Menu Backlight ON	MENUBK:ON\r	MENUBK:ACK\r	
	OFF	Set Menu Backlight OFF	MENUBK:OFF\r	MENUBK:ACK\r	
	?	Request Current Menu BK setting	MENUBK:?\r	MENUBK:ON\r	
			MENUBK:?\r	MENUBK:OFF\r	
				MENUBK:NACK\r	System is in Standby Mode and command is ignored.

8.47 MONEN

Command	Parameter	Function	Incoming Request	Outgoing Response	Comment
MONEN	ON	Monitor Output is set to On	MONEN:ON\r	MONEN:ACK\r	
	OFF	Monitor Output is set to Off	MONEN:OFF\r	MONEN:ACK\r	
	?	Request Current Monitor Output state	MONEN:?\r	MONEN:ON\r	Monitor Output is ON
	?		MONEN:?\r	MONEN:OFF\r	Monitor Output is OFF
				MONEN:NACK\r	System is in Standby Mode and command is ignored.

8.48 MUTE

Command	Parameter	Function	Incoming Request	Outgoing Response	Comment
MUTE	ON	Mute is set ON	MUTE:ON\r	MUTE:ACK\r	
	OFF	Mute is set OFF	MUTE:OFF\r	MUTE:ACK\r	
	?	Request Current MUTE state	MUTE:?\r	MUTE:ON\r	Mute State - ON
			MUTE:?\r	MUTE:OFF\r	Mute State - OFF
	EN	Enables Notification of MUTE State Changes	MUTE:EN\r	MUTE:ACK\r	
	DIS	Disables Notification of MUTE State Changes	MUTE:DIS\r	MUTE:ACK\r	
	NTF?	Query Notification State	MUTE:NTF?\r	MUTE:EN\r	Notification is Enabled
			MUTE:NTF?\r	MUTE:DIS\r	Notification is Disabled
				MUTE:NACK\r	System is in Standby Mode and command is ignored.

8.49 NOP

Command	Parameter	Function	Incoming Request	Outgoing Response	Comment
NOP	NOP	No operation is performed	NOP:NOP\r	NOP:ACK\r	Used for testing communication

8.50 NTF

Command	Parameter	Function	Incoming Request	Outgoing Response	Comment
NTF	DIS_ALL_TEMP	Temporarily Disable ALL Notifications until a Power State Change	NTF:DIS_ALL_TEMP\r	NTF:ACK\r	ALL system notifications are "temporarily" disabled for the session. Note: While this command is in effect, it is possible to enable command notifications as required, however, these changes will not be saved and last saved notification settings will be restored when the system is taken out of Standby, Power Cycled or issued an NTF Restore parameter
	DIS_ALL_PERSIST	Temporarily Disable All Notifications even after Power State Changes	NTF:DIS_ALL_PERSIST\r	NTF:ACK\r	ALL system notifications are "temporarily" disabled for the session AND during Power Cycle events. User must select an NTF Restore Parameter to remove persistency and restore last saved or default notification settings. Note: While this command is in effect, it is possible to enable command notifications as required, however, these changes will not be saved and will be cleared when coming out of Standby or during a Power Cycle event.
	DIS_ALL_PERM	Sets all notification states to DIS (disabled) AND erases and sets the database to the new state	NTF:DIS_ALL_PERM\r	NTF:ACK\r	**This command irrevocably erases the External Protocol Notification database**, giving the user a means to start fresh, setting notifications as desired. There is NO Recovery from this command, except to issue the RESTORE_DEFAULT parameter to restore the notification states to factory defaults (see section NOTIFICATION FACTORY DEFAULTS in this doc).

Command	Parameter	Function	Incoming Request	Outgoing Response	Comment
NTF (continued)	RESTORE_DEFAULT	Restores All Notifications to their factory default setting	NTF:RESTORE_DEFAULT\r	NTF:ACK\r	See section NOTIFICATION FACTORY DEFAULTS in this doc. for default settings. **This command ONLY restores the External Protocol Notification database to factory defaults and does not perform the complete system database restoration the "RESTORE OPTIONS" feature of the USER OPTIONS Interface of the HMI performs. However, the mentioned "RESTORE OPTIONS" feature ALSO restores the External Protocol Notification states to factory default settings.**
	RESTORE_LASTSAVED	Restores All Notifications to their last saved state	NTF:RESTORE_LAST_SAVED\r	NTF:ACK\r	As notification states are modified (Enabled/Disabled), except when invoking the parameters described above, the system database is automatically updated with state changes and this command can be used to restore notifications to the last saved state in use prior to issuing the DIS_ALL_TEMP or DIS_ALL_PERSIST parameters of this command. NOTE: the DIS_ALL_PERM command ERASES the last saved notification data from the database and it cannot be recovered.
				NTF:NACK\r	System is in Standby Mode and command is ignored

8.51 OFFSETF

Command	Parameter	Function	Incoming Request	Outgoing Response	Comment
OFFSETF	OFF	Set OFFSETF to OFF	OFFSETF:OFF\r	OFFSETF:ACK\r	
	-14.0 to 14.0	Set OFFSETF to the desired level	OFFSETF:-02.0\r	OFFSETF:ACK\r	
	?	Request Current OFFSETF Setting	OFFSETF:?\r	OFFSETF:OFF\r	
			OFFSETF:?\r	OFFSETF:-xx.x\r	No sign in response with positive value
	EN	Enable Notification of Offset Changes	OFFSETF:EN\r	OFFSETF:ACK\r	
	DIS	Disable Notification of Offset Changes	OFFSETF:DIS\r	OFFSETF:ACK\r	
	NTF?	Query Notification State	OFFSETF:NTF?\r	OFFSETF:EN\r	Notification is Enabled
			OFFSETF:NTF?\r	OFFSETF:DIS\r	Notification is Disabled
				OFFSETF:NACK\r	System is in Standby Mode and command is ignored.

8.52 OFFSETC

Command	Parameter	Function	Incoming Request	Outgoing Response	Comment
OFFSETC	OFF	Set OFFSETC to OFF	OFFSETC:OFF\r	OFFSETC:ACK\r	
	-14.0 to 14.0	Set OFFSETC to the desired level	OFFSETC:-02.0\r	OFFSETC:ACK\r	
	?	Request Current OFFSETC Setting	OFFSETC:?\r	OFFSETC:OFF\r	
			OFFSETC:?\r	OFFSETC:-xx.x\r	No sign in response with positive value
	EN	Enable Notification of Offset Changes	OFFSETC:EN\r	OFFSETC:ACK\r	
	DIS	Disable Notification of Offset Changes	OFFSETC:DIS\r	OFFSETC:ACK\r	
	NTF?	Query Notification State	OFFSETC:NTF?\r	OFFSETC:EN\r	Notification is Enabled
			OFFSETC:NTF?\r	OFFSETC:DIS\r	Notification is Disabled
				OFFSETC:NACK\r	System is in Standby Mode and command is ignored.

8.53 OFFSETS

Command	Parameter	Function	Incoming Request	Outgoing Response	Comment
OFFSETS	OFF	Set OFFSETS to OFF	OFFSETS:OFF\r	OFFSETS:ACK\r	
	-14.0 to 14.0	Set OFFSETS to the desired level	OFFSETS:-02.0\r	OFFSETS:ACK\r	
	?	Request Current OFFSETS Setting	OFFSETS:?\r	OFFSETS:OFF\r	
			OFFSETS:?\r	OFFSETS:-xx.x\r	No sign in response with positive value
	EN	Enable Notification of Offset Changes	OFFSETS:EN\r	OFFSETS:ACK\r	
	DIS	Disable Notification of Offset Changes	OFFSETS:DIS\r	OFFSETS:ACK\r	
	NTF?	Query Notification State	OFFSETS:NTF?\r	OFFSETS:EN\r	Notification is Enabled
			OFFSETS:NTF?\r	OFFSETS:DIS\r	Notification is Disabled
				OFFSETS:NACK\r	System is in Standby Mode and command is ignored.

8.54 OFFSETR

Command	Parameter	Function	Incoming Request	Outgoing Response	Comment
OFFSETR	OFF	Set OFFSETR to OFF	OFFSETR:OFF\r	OFFSETR:ACK\r	
	-14.0 to 14.0	Set OFFSETR to the desired level	OFFSETR:-02.0\r	OFFSETR:ACK\r	
	?	Request Current OFFSETR Setting	OFFSETR:?\r	OFFSETR:OFF\r	
			OFFSETR:?\r	OFFSETR:-xx.x\r	No sign in response with positive value
	EN	Enable Notification of Offset Changes	OFFSETR:EN\r	OFFSETR:ACK\r	
	DIS	Disable Notification of Offset Changes	OFFSETR:DIS\r	OFFSETR:ACK\r	
	NTF?	Query Notification State	OFFSETR:NTF?\r	OFFSETR:EN\r	Notification is Enabled
			OFFSETR:NTF?\r	OFFSETR:DIS\r	Notification is Disabled
				OFFSETR:NACK\r	System is in Standby Mode and command is ignored.

8.55 OFFSETSUB1

Command	Parameter	Function	Incoming Request	Outgoing Response	Comment
OFFSETSUB1	OFF	Set OFFSETSUB1 to OFF	OFFSETSUB1:OFF\r	OFFSETSUB1:ACK\r	
	-14.0 to 14.0	Set OFFSETSUB1 to the desired level	OFFSETSUB1:-02.0\r	OFFSETSUB1:ACK\r	
	?	Request Current OFFSETSUB1 Setting	OFFSETSUB1:?\r	OFFSETSUB1:OFF\r	
			OFFSETSUB1:?\r	OFFSETSUB1:-xx.x\r	No sign in response with positive value
	EN	Enable Notification of Offset Changes	OFFSETSUB1:EN\r	OFFSETSUB1:ACK\r	
	DIS	Disable Notification of Offset Changes	OFFSETSUB1:DIS\r	OFFSETSUB1:ACK\r	
	NTF?	Query Notification State	OFFSETSUB1:NTF?\r	OFFSETSUB1:EN\r	Notification is Enabled
			OFFSETSUB1:NTF?\r	OFFSETSUB1:DIS\r	Notification is Disabled
				OFFSETSUB1:NACK\r	System is in Standby Mode and command is ignored.

8.56 OFFSETSUB2

Command	Parameter	Function	Incoming Request	Outgoing Response	Comment
OFFSETSUB2	OFF	Set OFFSETSUB2 to OFF	OFFSETSUB2:OFF\r	OFFSETSUB2:ACK\r	
	-14.0 to 14.0	Set OFFSETSUB2 to the desired level	OFFSETSUB2:-02.0\r	OFFSETSUB2:ACK\r	
	?	Request Current OFFSETSUB2 Setting	OFFSETSUB2:?\r	OFFSETSUB2:OFF\r	
			OFFSETSUB2:?\r	OFFSETSUB2:-xx.x\r	No sign in response with positive value
	EN	Enable Notification of Offset Changes	OFFSETSUB2:EN\r	OFFSETSUB2:ACK\r	
	DIS	Disable Notification of Offset Changes	OFFSETSUB2:DIS\r	OFFSETSUB2:ACK\r	
	NTF?	Query Notification State	OFFSETSUB2:NTF?\r	OFFSETSUB2:EN\r	Notification is Enabled
			OFFSETSUB2:NTF?\r	OFFSETSUB2:DIS\r	Notification is Disabled
				OFFSETSUB2:NACK\r	System is in Standby Mode and command is ignored.

8.57 OSD

Command	Parameter	Function	Incoming Request	Outgoing Response	Comment
OSD	ON	On Screen Display messages ON	OSD:ON\r	OSD:ACK\r	This command only affects the output monitor. The front panel display is not affected by this command.
	OFF	On Screen Display messages OFF	OSD:OFF\r	OSD:ACK\r	
	?	Request Current OSD State	OSD:?\r	OSD:ON\r	On Screen Display messages ON
			OSD:?\r	OSD:OFF\r	On Screen Display messages OFF
	EN	Enables Notification	OSD:EN\r	OSD:ACK\r	
	DIS	Disables Notification	OSD:DIS\r	OSD:ACK\r	
	NTF?	Query Notification State	OSD:NTF?\r	OSD:EN\r	Notification is Enabled
			OSD:NTF?\r	OSD:DIS\r	Notification is Disabled

40

8.58 PWR

Command	Parameter	Function	Incoming Request	Outgoing Response	Comment
PWR	ON	System Powered ON from Standby	PWR:ON\r	PWR:ACK\r	
	STANDBY	Place System into Standby Mode	PWR:STANDBY\r	PWR:ACK\r	
	?	Request Current PWR State	PWR:?\r	PWR:ON\r	System Powered ON
			PWR:?\r	PWR:STANDBY\r	System in Standby
	EN	Enables Notification	PWR:EN\r	PWR:ACK\r	
	DIS	Disables Notification	PWR:DIS\r	PWR:ACK\r	
	NTF?	Query Notification State	PWR:NTF?\r	PWR:EN\r	Notification is Enabled
			PWR:NTF?\r	PWR:DIS\r	Notification is Disabled

8.59 RECALL

Command	Parameter	Function	Incoming Request	Outgoing Response	Comment
RECALL	AUDIOADJ	Restores Audio Adjustment parameters to their Nominal Value	RECALL:AUDIOADJ\r	RECALL:ACK\r	
				RECALL:NACK\r	System is in Standby Mode and command is ignored.

8.60 REQ_ACT_LIST

Command	Parameter	Function	Incoming Request	Outgoing Response	Comment
REQ_ACT_LIST	?	Request the Current list of Activities	REQ_ACT_LIST:?\r	REQ_ACT_LIST:NAME1,NAME2,…\r	The "NAME" of each activity in the database will be separated by a comma in the parameter field
				REQ_ACT_LIST:NACK\r	System is in Standby Mode and command is ignored.

8.61 REQ_APROF_LIST

Command	Parameter	Function	Incoming Request	Outgoing Response	Comment
REQ_APROF_LIST	?	Request the Current list of Audio Profiles	REQ_APROF_LIST:?\r	REQ_APROF_LIST:NAME1,NAME2,…\r	The "NAME" of each audio profile in the database will be separated by a comma in the parameter field
				REQ_APROF_LIST:NACK\r	System is in Standby Mode and command is ignored.

8.62 REQ_DISP_LIST

Command	Parameter	Function	Incoming Request	Outgoing Response	Comment
REQ_DISP_LIST	?	Request the Current list of Display Configurations	REQ_DISP_LIST:?\r	REQ_DISP_LIST:NAME1,NAME2,…\r	The "NAME" of each display setup in the database will be separated by a comma in the parameter field
				REQ_DISP_LIST:NACK\r	System is in Standby Mode and command is ignored.

8.63 REQ_SPKR_LIST

Command	Parameter	Function	Incoming Request	Outgoing Response	Comment
REQ_SPKR_LIST	?	Request the Current list of Speaker Configurations	REQ_ SPKR _LIST:?\r	REQ_SPKR_LIST:NAME1,NAME2,…\r	The "NAME" of each speaker setup in the database will be separated by a comma in the parameter field
				REQ_ SPKR _LIST:NACK\r	System is in Standby Mode and command is ignored.

8.64 REQ_SURR_LIST

Command	Parameter	Function	Incoming Request	Outgoing Response	Comment
REQ_SURR_LIST	?	Request Available Surround Modes	REQ_ SURR_LIST:?\r	REQ_SURR_LIST:NAME1,NAME2,…\r	The "NAME" of each currently available surround mode in the database will be separated by a comma in the parameter field
				REQ_ SURR_LIST:NACK\r	System is in Standby Mode and command is ignored.

8.65 REQ_VPROF_LIST

Command	Parameter	Function	Incoming Request	Outgoing Response	Comment
REQ_VPROF_LIST	?	Request the Current list of Video Profiles	REQ_VPROF_LIST:?\r	REQ_VPROF_LIST:NAME1,NAME2,…\r	The "NAME" of each video profile in the database will be separated by a comma in the parameter field
				REQ_VPROF_LIST:NACK\r	System is in Standby Mode and command is ignored.

8.66 RESOLUTION

Command	Parameter	Function	Incoming Request	Outgoing Response	Comment
RESOLUTION	SD	Set RESOLUTION to specified video format	RESOLUTION:SD\r	RESOLUTION:ACK\r	
	ED		RESOLUTION:ED\r	RESOLUTION:ACK\r	
	HD720P		RESOLUTION:HD720P\r	RESOLUTION:ACK\r	
	HD1080I		RESOLUTION:HD1080I\r	RESOLUTION:ACK\r	
	HD1080P		RESOLUTION:HD1080P\r	RESOLUTION:ACK\r	
	?	Request Current RESOLUTION setting	RESOLUTION:?\r	RESOLUTION:SD\r	
			RESOLUTION:?\r	RESOLUTION:ED\r	
			RESOLUTION:?\r	RESOLUTION:HD720P\r	
			RESOLUTION:?\r	RESOLUTION:HD1080I\r	
			RESOLUTION:?\r	RESOLUTION:HD1080P\r	
	EN	Enables Notification of Resolution Changes	RESOLUTION:EN\r	RESOLUTION:ACK\r	
	DIS	Disables Notification of Resolution Changes	RESOLUTION:DIS\r	RESOLUTION:ACK\r	
	NTF?	Query Notification State	RESOLUTION:NTF?\r	RESOLUTION:EN\r	Notification is Enabled
			RESOLUTION:NTF?\r	RESOLUTION:DIS\r	Notification is Disabled
				RESOLUTION:NACK\r	System is in Standby Mode and command is ignored.

8.67 ROOMEQON

Command	Parameter	Function	Incoming Request	Outgoing Response	Comment
ROOMEQON	ON	Room EQ is set ON	ROOMEQON:ON\r	ROOMEQON:ACK\r	
	OFF	Room EQ is set OFF	ROOMEQON:OFF\r	ROOMEQON:ACK\r	
	?	Request Current Room EQ state	ROOMEQON:?\r	ROOMEQON:ON\r	
			ROOMEQON:?\r	ROOMEQON:OFF\r	
	EN	Enable Notification of RoomEQOn State Changes	ROOMEQON:EN\r	ROOMEQON:ACK\r	
	DIS	Disable Notification of RoomEQOn State Changes	ROOMEQON:DIS\r	ROOMEQON:ACK\r	
	NTF?	Query Notification State	ROOMEQON:NTF?\r	ROOMEQON:EN\r	Notification is Enabled
			ROOMEQON:NTF?\r	ROOMEQON:DIS\r	Notification is Disabled
				ROOMEQON:NACK\r	System is in Standby Mode and command is ignored.

8.68 ROOMEQ

Command	Parameter	Function	Incoming Request	Outgoing Response	Comment
ROOMEQ	1 - 5	Select the desired RoomEQ setting	ROOMEQ:2\r	ROOMEQ:ACK\r	
	?	Request Current RoomEQ Setting	ROOMEQ:?\r	ROOMEQ:OFF\r	
			ROOMEQ:?\r	ROOMEQ:X\r	
	EN	Enable Notification of RoomEQ Config Changes	ROOMEQ:EN\r	ROOMEQ:ACK\r	
	DIS	Disable Notification of RoomEQ Config Changes	ROOMEQ:DIS\r	ROOMEQ:ACK\r	
	NTF?	Query Notification State	ROOMEQ:NTF?\r	ROOMEQ:EN\r	Notification is Enabled
			ROOMEQ:NTF?\r	ROOMEQ:DIS\r	Notification is Disabled
				ROOMEQ:NACK\r	System is in Standby Mode and command is ignored.

8.69 SPKRCFG

Command	Parameter	Function	Incoming Request	Outgoing Response	Comment
SPKRCFG	"Name" of desired Speaker Configuration	Selects Named Speaker Configuration	SPKRCFG:"Name"\r	SPKRCFG:ACK\r	Do not use the quotes (" ") when entering the Speaker Configuration name. The ML502 contains pre-configured speaker configurations and their names can be edited to suit the end-user's needs.
	?	Request Current Active Speaker Configuration	SPKRCFG:?\r	SPKRCFG:XX\r	
	EN	Enables Notification of Speaker Configuration Changes	SPKRCFG:EN\r	SPKRCFG:ACK\r	
	DIS	Disables Notification of Speaker Configuration Changes	SPKRCFG:DIS\r	SPKRCFG:ACK\r	
	NTF?	Query Notification State	SPKRCFG:NTF?\r	SPKRCFG:EN\r	Notification is Enabled
			SPKRCFG:NTF?\r	SPKRCFG:DIS\r	Notification is Disabled
				SPKRCFG:NACK\r	System is in Standby Mode and command is ignored.
				SPKRCFG:INVALID_NAME	The case sensitive requested Speaker Configuration name is not in the system database

8.70 STATUS_MAIN

Command	Parameter	Function	Incoming Request	Outgoing Response	Comment
STATUS_MAIN	?	Obtain Status on the Main Zone	STATUS_MAIN:?\r	STATUS_MAIN: VIDEO INPUT RESOLUTION, OUTPUT FRAME RATE,…SURROUND MIX LEVEL, WORD LENGTH\r ***See the note below for all possible parameters.**	The STATUS_MAIN command provides information not available from another command. NOTE: To minimize string length, the outgoing response string WILL NOT contain the actual "names" listed in the adjacent column, however, the data associated with that named parameter will be provided in the specific order listed. ***See the note below for the exact sequence for each parameter.**
	EN	Enables Notification of Status Changes	STATUS_MAIN:EN\r	STATUS_MAIN:ACK\r	When Notification events are enabled for this command, if any parameter changes a notification message will be generated and the entire list of parameters will be provided.
	DIS	Disables Notification of Status Changes	STATUS_MAIN:DIS\r	STATUS_MAIN:ACK\r	
	NTF?	Query Notification State	STATUS_MAIN:NTF?\r	STATUS_MAIN:EN\r	Notification is Enabled
			STATUS_MAIN:NTF?\r	STATUS_MAIN:DIS\r	Notification is Disabled
				STATUS_MAIN:NACK\r	System is in Standby Mode and command is ignored.

NOTE: Each parameter reports the following outgoing response:

VIDEO INPUT RESOLUTION   {SD,ED,HD720P,HD1080I,HD1080P,UNDEFINED}

OUTPUT FRAME RATE   {24Hz,50Hz,60Hz}

COLOR SPACE   {YCbCr 444,YCbCr 422,RGB Normal,RGB Expanded, Undefined, Unknown}

HDCP Status   {Active,Inactive}

AUDIO IN   {HDMI 1…6,Coax 1…6,Optical 1…2,AES 1…2,XLR 1…2,Analog 1…4,Analog 5.1,Analog 7.1,Analog Mics,None}

SIGNAL   {Dolby Digital,Dolby Digital EX,DTS,DTS ES Matrix,DTS ES Discrete,DTS 96/24,AAC,PCM,Analog,Unknown}

SAMPLE RATE   {32KHz,44.1KHz,48KHz,88.2KHz,96KHz,176.4KHz,192KHz,Unknown}

INPUT CHANNELS   {3/4.1,3/4.0,3/3.1,3/3.0,3/2.1,3/2.0,3/1.1,3/1.0,3/0.1,3/0.0, 2/4.1,2/4.0,2/3.1,2/3.0,2/2.1,2/2.0,2/1.1,2/1.0,2/0.1,2/0.0,1/0.1,1/0.0}

BIT RATE   {System Provided Float Value}

EX ENCODED   {EX,None}

2.0 ENCODING   {Dolby Digital Matrix,None}

ES ENCODING   {DTS ES Matrix,DTS ES Discrete,Off}

DIALOG OFFSET   {Offset value in integers}

MIX ROOM   {Large,Small,Unknown}

CENTER MIX LEVEL   {-3.0dB,-4.5dB,-6.0dB,Unknown}

SURROUND MIX LEVEL   {0.0db,-3.0dB,-6.0dB,Unknown }

WORD LENGTH   {16,20,24,Unknown }

8.71 STATUS_SYSTEM

Command	Parameter	Function	Incoming Request	Outgoing Response	Comment
STATUS_SYSTEM	?	Obtain System Status	STATUS_SYSTEM:?\r	STATUS_SYSTEM:MODEL, SW VERSION, TIME SINCE POWER UP\r	The STATUS_SYSTEM command provides information not available from another command. NOTE: To minimize string length, the outgoing response string WILL NOT contain the actual "names" listed in the adjacent column, however, the data associated with that named parameter will be provided in the specific order listed. {ML No 502} {Max 20 Char String} {xx:xx:xx} hrs:mins:sec
				STATUS_SYSTEM:NACK\r	System is in Standby Mode and command is ignored.

8.72 STATUS_ZONE2

Command	Parameter	Function	Incoming Request	Outgoing Response	Comment
STATUS_ZONE2	?	Obtain Status of Zone2	STATUS_ZONE2:?\r	STATUS_ZONE2:SIGNAL\r	The STATUS_ZONE2 command provides information not available from another command. NOTE: To minimize string length, the outgoing response string WILL NOT contain the actual "name(s)" listed in the adjacent column, however, the data associated with that named parameter will be provided in the specific order listed. {Dolby Digital,Dolby Digital EX,DTS,DTS ES Matrix,DTS ES Discrete,DTS 96/24,AAC,PCM,Analog,Unknown}
	EN	Enables Notification of Status Changes	STATUS_ZONE2:EN\r	STATUS_ZONE2:ACK\r	When Notification events are enabled for this command, if any parameter changes a notification message will be generated and the entire list of parameters will be provided.
	DIS	Disables Notification of Status Changes	STATUS_ZONE2:DIS\r	STATUS_ZONE2:ACK\r	
	NTF?	Query Notification State	STATUS_ZONE2:NTF?\r	STATUS_ZONE2:EN\r	Notification is Enabled
			STATUS_ZONE2:NTF?\r	STATUS_ZONE2:DIS\r	Notification is Disabled
				STATUS_ZONE2:NACK\r	System is in Standby Mode and command is ignored.

8.73 SURRMODE

Command	Parameter	Function	Incoming Request	Outgoing Response	Comment
SURRMODE	L7Film	Selects desired Surround Mode, if available, based on system configuration	SURRMODE:L7Film\r	SURRMODE:ACK\r	Available Surround Modes are dependent on system settings and decoded audio streams.
	L7TV		SURRMODE:L7TV\r	SURRMODE:ACK\r	
	L7Music		SURRMODE:L7Music\r	SURRMODE:ACK\r	
	L7MusicSurr		SURRMODE:L7MusicSurr\r	SURRMODE:ACK\r	
	PLIIxMovie		SURRMODE:PLIIxMovie\r	SURRMODE:ACK\r	
	PLIIxMusic		SURRMODE:PLIIxMusic\r	SURRMODE:ACK\r	
	PLIIMovie		SURRMODE:PLIIMovie\r	SURRMODE:ACK\r	
	PLIIMusic		SURRMODE:PLIIMusic\r	SURRMODE:ACK\r	
	ProLogic		SURRMODE:ProLogic\r	SURRMODE:ACK\r	
	dtsNEO6Cinema		SURRMODE:dtsNEO6Cinema\r	SURRMODE:ACK\r	
	dtsNEO6Music		SURRMODE:dtsNEO6Music\r	SURRMODE:ACK\r	
	MultiChan		SURRMODE:MultiChan\r	SURRMODE:ACK\r	
	StereoSurr		SURRMODE:StereoSurr\r	SURRMODE:ACK\r	
	Downmix		SURRMODE:Downmix\r	SURRMODE:ACK\r	
	Stereo		SURRMODE:Stereo\r	SURRMODE:ACK\r	
	MonoLogic		SURRMODE:MonoLogic\r	SURRMODE:ACK\r	
	MonoSurr		SURRMODE:MonoSurr\r	SURRMODE:ACK\r	
	Mono		SURRMODE:Mono\r	SURRMODE:ACK\r	
	?	Request Current Surround Mode			
	EN	Enables Notification of Surround Mode Configuration Changes	SURRMODE:EN\r	SURRMODE:ACK\r	
	DIS	Disables Notification of Surround Mode Configuration Changes	SURRMODE:DIS\r	SURRMODE:ACK\r	
	NTF?	Query Notification State	SURRMODE:NTF?\r	SURRMODE:EN\r	Notification is Enabled
			SURRMODE:NTF?\r	SURRMODE:DIS\r	Notification is Disabled
				SURRMODE:INVALID_MODE\r	The requested Surround Mode is currently not available.
				SURRMODE:NACK\r	System is in Standby Mode and command is ignored.

8.74 TRIGGER_1

Command	Parameter	Function	Incoming Request	Outgoing Response	Comment
TRIGGER_1	ON	Set TRIGGER_1 ON	TRIGGER_1:ON\r	TRIGGER_1:ACK\r	NOTE: Trigger State SET via this command will not be reflected in the UI
	OFF	Set TRIGGER_1 OFF	TRIGGER_1:OFF\r	TRIGGER_1:ACK\r	
	?	Request Current TRIGGER_1 setting	TRIGGER_1:?\r	TRIGGER_1:ON\r	
			TRIGGER_1:?\r	TRIGGER_1:OFF\r	
				TRIGGER_1:NACK\r	System is in Standby Mode and command is ignored.

8.75 TRIGGER_2

Command	Parameter	Function	Incoming Request	Outgoing Response	Comment
TRIGGER_2	ON	Set TRIGGER_2 ON	TRIGGER_2:ON\r	TRIGGER_2:ACK\r	NOTE: Trigger State SET via this command will not be reflected in the UI
	OFF	Set TRIGGER_2 OFF	TRIGGER_2:OFF\r	TRIGGER_2:ACK\r	
	?	Request Current TRIGGER_2 setting	TRIGGER_2:?\r	TRIGGER_2:ON\r	
			TRIGGER_2:?\r	TRIGGER_2:OFF\r	
				TRIGGER_2:NACK\r	System is in Standby Mode and command is ignored.

8.76 TRIGGER_3

Command	Parameter	Function	Incoming Request	Outgoing Response	Comment
TRIGGER_3	ON	Set TRIGGER_3 ON	TRIGGER_3:ON\r	TRIGGER_3:ACK\r	NOTE: Trigger State SET via this command will not be reflected in the UI
	OFF	Set TRIGGER_3 OFF	TRIGGER_3:OFF\r	TRIGGER_3:ACK\r	
	?	Request Current TRIGGER_3 setting	TRIGGER_3:?\r	TRIGGER_3:ON\r	
			TRIGGER_3:?\r	TRIGGER_3:OFF\r	
				TRIGGER_3:NACK\r	System is in Standby Mode and command is ignored.

8.77 TRIGGER_4

Command	Parameter	Function	Incoming Request	Outgoing Response	Comment
TRIGGER_4	ON	Set TRIGGER_4 ON	TRIGGER_4:ON\r	TRIGGER_4:ACK\r	NOTE: Trigger State SET via this command will not be reflected in the UI
	OFF	Set TRIGGER_4 OFF	TRIGGER_4:OFF\r	TRIGGER_4:ACK\r	
	?	Request Current TRIGGER_4 setting	TRIGGER_4:?\r	TRIGGER_4:ON\r	
			TRIGGER_4:?\r	TRIGGER_4:OFF\r	
				TRIGGER_4:NACK\r	System is in Standby Mode and command is ignored.

8.78 VOL

Command	Parameter	Function	Incoming Request	Outgoing Response	Comment
VOL	0.0 - 100.0	Sets Volume to 0.0 - 100.0	VOL:85.4\r	VOL:ACK\r	Set Volume to 85.4
	?	Request Current Volume	VOL:?\r	VOL:XXX.X\r	NOTE: Setting Volume with this command will NOT pop-up the volume status window of the UI
	EN	Enables Notification of Volume Changes	VOL:EN\r	VOL:ACK\r	
	DIS	Disables Notification of Volume Changes	VOL:DIS\r	VOL:ACK\r	
	NTF?	Query Notification State	VOL:NTF?\r	VOL:EN\r	Notification is Enabled
			VOL:NTF?\r	VOL:DIS\r	Notification is Disabled
				VOL:NACK\r	System is in Standby Mode and command is ignored.

8.79 VPROF

Command	Parameter	Function	Incoming Request	Outgoing Response	Comment
VPROF	"Name" of desired Video Profile	Selects Named Video Profile	VPROF:"Name"\r	VPROF:ACK\r	Do not use the quotes (" ") when entering the video profile name. The ML502 contains pre-configured video profiles and their names can be edited to suit the end-user's needs.
	?	Request Current Active Video Profile	VPROF:?\r	VPROF:XX\r	
	EN	Enables Notification of Video Profile Changes	VPROF:EN\r	VPROF:ACK\r	
	DIS	Disables Notification of Video Profile Changes	VPROF:DIS\r	VPROF:ACK\r	
	NTF?	Query Notification State	VPROF:NTF?\r	VPROF:EN\r	Notification is Enabled
			VPROF:NTF?\r	VPROF:DIS\r	Notification is Disabled
				VPROF:NACK\r	System is in Standby Mode and command is ignored.
				VPROF:INVALID_NAME	The case sensitive requested Video Profile name is not in the system database

8.80 WAIT_TEST – For TEST Purposes ONLY

Command	Parameter	Function	Incoming Request	Outgoing Response	Comment
WAIT_TEST	?	Method to test the Wait/Error message requirement of the Protocol	WAIT_TEST:?\r	WAIT_TEST:WAIT\r WAIT_TEST:WAIT\r WAIT_TEST:WAIT\r WAIT_TEST:ERROR\r	This command is provided as a means to test the wait response mechanism of the protocol, when the system is unable to provide the expected response within 500mS. 3 fully formatted WAIT responses, ending with a fully formatted ERROR response should occur
				WAIT_TEST:NACK\r	System is in Standby Mode and command is ignored.

8.81 XOVER_FRNT

Command	Parameter	Function	Incoming Request	Outgoing Response	Comment
XOVER_FRNT	FULLSUB	Set XOVER_FRNT to FULLSUB	XOVER_FRNT:FULLSUB\r	XOVER_FRNT:ACK\r	
	FULL	Set XOVER_FRNT to FULL	XOVER_FRNT:FULL\r	XOVER_FRNT:ACK\r	
	30 to 120	Set XOVER_FRNT to the desired frequency range	XOVER_FRNT:90\r	XOVER_FRNT:ACK\r	**Must be set in 10Hz increments, or command returns INVALID_PRM**
	?	Request Current XOVER_FRNT setting	XOVER_FRNT:?\r	XOVER_FRNT:FULLSUB\r	
			XOVER_FRNT:?\r	XOVER_FRNT:FULL\r	
			XOVER_FRNT:?\r	XOVER_FRNT:XXX\r	
	EN	Enables Notification of XOver Changes	XOVER_FRNT:EN\r	XOVER_FRNT:ACK\r	
	DIS	Disables Notification of XOver Changes	XOVER_FRNT:DIS\r	XOVER_FRNT:ACK\r	
	NTF?	Query Notification State	XOVER_FRNT:NTF?\r	XOVER_FRNT:EN\r	Notification is Enabled
			XOVER_FRNT:NTF?\r	XOVER_FRNT:DIS\r	Notification is Disabled
				XOVER_FRNT:NACK\r	System is in Standby Mode and command is ignored.

8.82 XOVER_CENTER

Command	Parameter	Function	Incoming Request	Outgoing Response	Comment
XOVER_CENTER	FULLSUB	Set XOVER_CENTER to FULLSUB	XOVER_CENTER:FULLSUB\r	XOVER_CENTER:ACK\r	
	FULL	Set XOVER_CENTER to FULL	XOVER_CENTER:FULL\r	XOVER_CENTER:ACK\r	
	30 to 120	Set XOVER_CENTER to the desired frequency range	XOVER_CENTER:90\r	XOVER_CENTER:ACK\r	**Must be set in 10Hz increments, or command returns INVALID_PRM**
	?	Request Current XOVER_CENTER setting	XOVER_CENTER:?\r	XOVER_CENTER:FULLSUB\r	
			XOVER_CENTER:?\r	XOVER_CENTER:FULL\r	
			XOVER_CENTER:?\r	XOVER_CENTER:XXX\r	
	EN	Enables Notification of XOver Changes	XOVER_CENTER:EN\r	XOVER_CENTER:ACK\r	
	DIS	Disables Notification of XOver Changes	XOVER_CENTER:DIS\r	XOVER_CENTER:ACK\r	
	NTF?	Query Notification State	XOVER_CENTER:NTF?\r	XOVER_CENTER:EN\r	Notification is Enabled
			XOVER_CENTER:NTF?\r	XOVER_CENTER:DIS\r	Notification is Disabled
				XOVER_CENTER:NACK\r	System is in Standby Mode and command is ignored.

8.83 XOVER_SURR

Command	Parameter	Function	Incoming Request	Outgoing Response	Comment
XOVER_SURR	FULLSUB	Set XOVER_SURR to FULLSUB	XOVER_SURR:FULLSUB\r	XOVER_SURR:ACK\r	
	FULL	Set XOVER_SURR to FULL	XOVER_SURR:FULL\r	XOVER_SURR:ACK\r	
	30 to 120	Set XOVER_SURR to the desired frequency range	XOVER_SURR:90\r	XOVER_SURR:ACK\r	**Must be set in 10Hz increments, or command returns INVALID_PRM**
	?	Request Current XOVER_SURR setting	XOVER_SURR:?\r	XOVER_SURR:FULLSUB\r	
			XOVER_SURR:?\r	XOVER_SURR:FULL\r	
			XOVER_SURR:?\r	XOVER_SURR:XXX\r	
	EN	Enables Notification of XOver Changes	XOVER_SURR:EN\r	XOVER_SURR:ACK\r	
	DIS	Disables Notification of XOver Changes	XOVER_SURR:DIS\r	XOVER_SURR:ACK\r	
	NTF?	Query Notification State	XOVER_SURR:NTF?\r	XOVER_SURR:EN\r	Notification is Enabled
			XOVER_SURR:NTF?\r	XOVER_SURR:DIS\r	Notification is Disabled
				XOVER_SURR:NACK\r	System is in Standby Mode and command is ignored.

8.84 XOVER_REAR

Command	Parameter	Function	Incoming Request	Outgoing Response	Comment
XOVER_REAR	FULLSUB	Set XOVER_REAR to FULLSUB	XOVER_REAR:FULLSUB\r	XOVER_REAR:ACK\r	
	FULL	Set XOVER_REAR to FULL	XOVER_REAR:FULL\r	XOVER_REAR:ACK\r	
	30 to 120	Set XOVER_REAR to the desired frequency range	XOVER_REAR:90\r	XOVER_REAR:ACK\r	**Must be set in 10Hz increments, or command returns INVALID_PRM**
	?	Request Current XOVER_REAR setting	XOVER_REAR:?\r	XOVER_REAR:FULLSUB\r	
			XOVER_REAR:?\r	XOVER_REAR:FULL\r	
			XOVER_REAR:?\r	XOVER_REAR:XXX\r	
	EN	Enables Notification of XOver Changes	XOVER_REAR:EN\r	XOVER_REAR:ACK\r	
	DIS	Disables Notification of XOver Changes	XOVER_REAR:DIS\r	XOVER_REAR:ACK\r	
	NTF?	Query Notification State	XOVER_REAR:NTF?\r	XOVER_REAR:EN\r	Notification is Enabled
			XOVER_REAR:NTF?\r	XOVER_REAR:DIS\r	Notification is Disabled
				XOVER_REAR:NACK\r	System is in Standby Mode and command is ignored.

8.85 XOVER_SUB

Command	Parameter	Function	Incoming Request	Outgoing Response	Comment
XOVER_SUB	FULL	Set XOVER_SUB to FULL	XOVER_SUB:FULL\r	XOVER_SUB:ACK\r	The XOVER_SUB command maps to the Subwoofer LPF parameter in the User Interface.
	COMP	Set XOVER_SUB to COMP	XOVER_SUB:COMP\r	XOVER_SUB:ACK\r	
	?	Request Current XOVER_SUB setting	XOVER_SUB:?\r	XOVER_SUB:FULL\r	
			XOVER_SUB:?\r	XOVER_SUB:COMP\r	
	EN	Enables Notification of XOVER_SUB Changes	XOVER_SUB:EN\r	XOVER_SUB:ACK\r	
	DIS	Disables Notification of XOVER_SUB Changes	XOVER_SUB:DIS\r	XOVER_SUB:ACK\r	
	NTF?	Query Notification State	XOVER_SUB:NTF?\r	XOVER_SUB:EN\r	Notification is Enabled
			XOVER_SUB:NTF?\r	XOVER_SUB:DIS\r	Notification is Disabled
				XOVER_SUB:NACK\r	System is in Standby Mode and command is ignored.

8.86 Z2ACT

Command	Parameter	Function	Incoming Request	Outgoing Response	Comment
Z2ACT	"Name" of desired Zone 2 Activity	Selects Named Activity	Z2ACT:"Name"\r	Z2ACT:ACK\r	Do not use the quotes (" ") when entering the Zone 2 activity name. The ML502 contains pre-configured activities and their names can be edited to suit the end-user's needs.
	OFF	Sets Zone 2 Audio to OFF	Z2ACT:OFF\r	Z2ACT:ACK\r	
	?	Request Current Active Zone 2 activity	Z2ACT:?\r	Z2ACT:XX\r	
	EN	Enables Notification of Zone 2 Activity Changes	Z2ACT:EN\r	Z2ACT:ACK\r	
	DIS	Disables Notification of Zone 2 Activity Changes	Z2ACT:DIS\r	Z2ACT:ACK\r	
	NTF?	Query Notification State	Z2ACT:NTF?\r	Z2ACT:EN\r	Notification is Enabled
			Z2ACT:NTF?\r	Z2ACT:DIS\r	Notification is Disabled
				Z2ACT:NACK\r	System is in Standby Mode and command is ignored.
				Z2ACT:INVALID_NAME	The case sensitive requested Activity name is not in the system database

8.87 Z2VOL

Command	Parameter	Function	Incoming Request	Outgoing Response	Comment
Z2VOL	0.0 -100.0		Z2VOL:45.2\r	Z2VOL:ACK\r	
	?	Request Current Zone 2 Volume	Z2VOL:?\r	Z2VOL:XXX.X\r	
	EN	Enables Notification of Zone2 Volume Changes	Z2VOL:EN\r	Z2VOL:ACK\r	
	DIS	Disables Notification of Zone2 Volume Changes	Z2VOL:DIS\r	Z2VOL:ACK\r	
	NTF?	Query Notification State	Z2VOL:NTF?\r	Z2VOL:EN\r	Notification is Enabled
			Z2VOL:NTF?\r	Z2VOL:DIS\r	Notification is Disabled
				Z2VOL:NACK\r	System is in Standby Mode and command is ignored.

8.88 ZOOM

Command	Parameter	Function	Incoming Request	Outgoing Response	Comment
ZOOM	NORM	Set ZOOM to specified scaled mode	ZOOM:NORM\r	ZOOM:ACK\r	
	WIDE		ZOOM:WIDE\r	ZOOM:ACK\r	
	FILL		ZOOM:FILL\r	ZOOM:ACK\r	
	FW		ZOOM:FW\r	ZOOM:ACK\r	
	?	Request Current ZOOM setting	ZOOM:?\r	ZOOM:NORM\r	
			ZOOM:?\r	ZOOM:WIDE\r	
			ZOOM:?\r	ZOOM:FILL\r	
			ZOOM:?\r	ZOOM:FW\r	
	EN	Enables Notification of Zoom Changes	ZOOM:EN\r	ZOOM:ACK\r	
	DIS	Disables Notification of Zoom Changes	ZOOM:DIS\r	ZOOM:ACK\r	
	NTF?	Query Notification State	ZOOM:NTF?\r	ZOOM:EN\r	Notification is Enabled
			ZOOM:NTF?\r	ZOOM:DIS\r	Notification is Disabled
				ZOOM:NACK\r	System is in Standby Mode and command is ignored.

9 Critical Fault Notifications

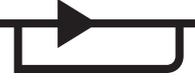| System Error	Fault	Message
Over Temp (Internal)	Internal Fan failed and system overheated.	NTF:AV:FAULT:THERM\r
Power Fail Condition	Power fail	NTF:AV:FAULT:PWR\r
Signal Fault	Indicates to Controller that the Component has had a General Signal Fault with ML Net or Link2 attached devices	NTF:AV:FAULT:SIGNAL\r
System Software	A System Software fault occurred – see System Front Panel for more information.	NTF:AV:FAULT:UNKNOWN\r

.

10 Notification Factory Defaults

Command	Factory Default Setting	Notes
ACT	**YES**	
APROF	**YES**	
AVSYNC	NO	
BAL	NO	
CAL DIST C	N/A	Notification not available for this command
CAL DIST LB	N/A	Notification not available for this command
CAL DIST LF	N/A	Notification not available for this command
CAL DIST LS	N/A	Notification not available for this command
CAL DIST LSUB1	N/A	Notification not available for this command
CAL DIST LSUB2	N/A	Notification not available for this command
CAL DIST RB	N/A	Notification not available for this command
CAL DIST RF	N/A	Notification not available for this command
CAL DIST RS	N/A	Notification not available for this command
CAL DIST RSUB1	N/A	Notification not available for this command
CAL DIST RSUB2	N/A	Notification not available for this command
CAL LVL C	N/A	Notification not available for this command
CAL LVL LB	N/A	Notification not available for this command
CAL LVL LF	N/A	Notification not available for this command
CAL LVL LS	N/A	Notification not available for this command
CAL LVL LSUB1	N/A	Notification not available for this command
CAL LVL LSUB2	N/A	Notification not available for this command
CAL LVL RB	N/A	Notification not available for this command
CAL LVL RF	N/A	Notification not available for this command
CAL LVL RS	N/A	Notification not available for this command
CAL LVL RSUB1	N/A	Notification not available for this command
CAL LVL RSUB2	N/A	Notification not available for this command
DISPCFG	**YES**	
ENCENTER	NO	
ENREAR	NO	

Command	Factory Default Setting	Notes
ENSUB1	NO	
ENSUB2	NO	
ENSURR	NO	
FADER	NO	
FPDISPINTENS	N/A	Notification not available for this command
FPDWNUP	N/A	Notification not available for this command
FPDWN	NO	
FPRPT	NO	
FPUP	NO	
FPACT_CTL	NO	
FPVOL_CTL	NO	
IRDWNUP	N/A	Notification not available for this command
IRDWN	NO	
IRRPT	NO	
IRUP	NO	
MENUBK	N/A	Notification not available for this command
MONEN	N/A	Notification not available for this command
MUTE	**YES**	
NOP	N/A	Notification not available for this command
NTF	N/A	Notification not available for this command
OFFSETC	NO	
OFFSETF	NO	
OFFSETR	NO	
OFFSETS	NO	
OFFSETSUB1	NO	
OFFSETSUB2	NO	
OSD	NO	
PWR	**YES**	
RECALL	NO	
REQ_ACT_LIST	N/A	Notification not available for this command
REQ_APROF_LIST	N/A	Notification not available for this command
REQ_DISP_LIST	N/A	Notification not available for this command
REQ_SPKR_LIST	N/A	Notification not available for this command
REQ_SURR_LIST	N/A	Notification not available for this command

Command	Factory Default Setting	Notes
REQ_VPROF_LIST	N/A	Notification not available for this command
RESOLUTION	NO	
ROOMEQON	NO	
ROOMEQ	NO	
SPKRCFG	NO	
STATUS_MAIN	NO	
STATUS_SYSTEM	N/A	Notification not available for this command
STATUS_ZONE2	NO	
SURRMODE	**YES**	
TRIGGER [1-4]	NO	
VOL	**YES**	
VPROF	**YES**	
XOVER CENTER	NO	
XOVER FRNT	NO	
XOVER REAR	NO	
XOVER SUB	NO	
XOVER SURR	NO	
Z2ACT	NO	
Z2VOL	NO	
ZOOM	NO	