

ClearOne®

CONVERGE™ PRO 880/840T/TH20/8i Professional Conferencing Systems

SERIAL COMMAND GUIDE



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CONVERGE PRO 880/840T/TH20/8i SERIAL COMMAND GUIDE

CLEARONE PART NO. 800-151-882 (REVISION 1.0) September 2007

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SERIAL COMMAND GUIDE

TYPE AND DEVICE IDS

Converge Pro Device Types and Device IDs by model are as follows:

Model	Device Type	Device ID Range
880	1	0-7
TH20	2	0-F
840T	3	0-7
8i	A	0-7

CONVENTIONS

This guide uses the following typographic conventions to describe Converge Pro serial command syntax:

Convention	Description
<X>	Parameters enclosed in < > indicate a mandatory parameter
[X]	Parameters enclosed in [] indicate an optional parameter
1-8	Parameters separated by a '-' indicate a range of allowable values
4,7,9	Parameters separated by a ',' indicate a list of allowable values
EREF	Words in UPPERCASE bold indicate command text
Device	Indicates the device type and device number on the Expansion Bus. It is composed of a device type character and a device ID character.

COMMAND FORM DESCRIPTION

The structure of serial commands is as follows:

<Device Type> <Device ID> <Command> [Values] <Carriage Return>

indicates the start of a command line, the Carriage Return terminates a command.

NOTE: Converge Pro serial commands can be either UPPERCASE or lowercase. Return values are always in UPPERCASE. In order for a command to be recognized by the RS-232 serial port, the command must be terminated by a carriage return.

For example, a command to disable mute for Mic 2 (input channel 2) on Converge 880 device "0" would have the command line **#10 MUTE 2 M 0**.

In this command line, 1 = the **Device Type** for Converge 880, 0 = the **Device ID** for unit 0, **MUTE** = Converge Pro serial command, 2 = MUTE command **Value** to un-mute mic channel 2, M = MUTE command **Value** that specifies a microphone input channel, 0 = MUTE command **Value** specifying that mute is OFF.

If an asterisk (*) is placed in the **Device Type** or **Device ID** fields, the command will apply to all units or all devices respectively. For example, a command with a **Device Type** = 1 and a **Device ID** = * would apply the command to all Converge 880 units. A command with a **Device Type** = * and a **Device ID** = 6 would apply the command to all Converge Pro units with a Device ID of 6.

If a command specifies "(Null to query in text)" in its **Value** table, leave a blank in the command line to query the current state of that value. For example, the command **#10 MUTE 2 M <blank>** would return the current mute state of Mic 2 on an Converge Pro 880 with a Device ID of 0.

GROUPS AND CHANNELS

All Converge Pro serial commands use common alpha and numeric designators to reference channel group, channel types, and other command values. Also, different channel groups have different allowable channel ranges, as shown in the following table.

Group	Alpha	Number	Converge 880 Channel Range	Converge TH20 Channel Range	Converge 840T Channel Range	Converge 8i Channel Range
Unknown	?	0	N/A	N/A	N/A	N/A
Inputs	I	1	1-12	1-2	1-8	1-12
Outputs	O	2	1-12	1-2	1-9(9 is the power amp)	N/A
Mic Input	M	3	1-8	N/A	1-4	1-8
Gating Group	G	4	1-8	N/A	1-8	1-8
Processing	P	5	1-8	N/A	1-4	1-8
Expansion Bus Audio Channels	E	6	O-Z	O-Z	O-Z	O-Z
Line Inputs	L	7	9-12	1-2	5-8	9-12
Expansion Bus Reference Channels	A	8	1-4	1-4	1-4	1-4
Unit	U	9	0 1 = LOG 2 = Site Wide	0 1 = LOG 2 = Site Wide	0 1 = LOG 2 = Site Wide	0 1 = LOG 2 = Site Wide
GPIO	Y	10	0	0	0	0
Matrix	X	11	0	0	0	0
Fader	F	12	1-4	N/A	1-4	1-4
Presets	S	13	1-32	1-32	1-32	1-32
Macros	C	14	1-255	1-255	1-255	1-255
Transmit	T	16	N/A	1	1	N/A
Receive	R	17	N/A	1	1	N/A
Dictionary	D	18	0	0	0	0
Phonebook	V	19	N/A	0	0	N/A
Virtual Reference	B	20	1 – 4	N/A	1 – 4	1 – 4
Timed Events	Q	21	0	0	0	0
Web	W	22	0	0	0	0

METER TYPE DEFINITIONS TABLE

Alpha	Numeric	Level Position for Mics	Level Position for Line Inputs	Level position for Outputs and Telco Tx	Level Position for Faders	Level Position for Processors	Level Position for Telco Rx
I	1	Input level	Input level	Input level	N/A	Level into Compressor	Input Level
A	2	Level after gain adjustment, but before filter	Level after gain adjustment	Level after gain adjustment	Level after gain adjustment	Level after Compressor	Level after gain adjustment
N	3	Level after filter but before gate (non-gated level)	N/A	N/A	N/A	Level after Gain Stage	N/A
G	4	Level after gate (gated level)	N/A	N/A	N/A	N/A	N/A
R	5	Echo Return Loss	N/A	N/A	N/A	N/A	Telco Echo Return Loss
E	6	Echo Return Loss Enhancement	N/A	N/A	N/A	N/A	Telco Echo Return Loss Enhancement
T	7	ERL + ERLE	N/A	N/A	N/A	N/A	TERL + TERLE
C	9	AGC	AGC	N/A	N/A	N/A	N/A
Y	10	Pre AGC peak level meter	Pre AGC peak level meter	N/A	N/A	N/A	N/A
Z	11	Post AGC peak level meter	Post AGC peak level meter	N/A	N/A	N/A	N/A

SERIAL COMMAND INDEX

AA – Auto Answer Enable / Disable (840T & TH20 only)	8
AAMB – Adaptive Ambient Mode	8
AARINGS – Number of Rings to Auto Answer On (840T & TH20 only)	8
ACONN – Audible Connect / Disconnect Indication (840T & TH20 only)	8
ACONNLVL – Audible Connect / Disconnect Level (840T & TH20 only)	9
AD – Auto Disconnect Enable / Disable (840T & TH20 only)	9
ADCLIP – Audio Clipping	9
ADPRESENT – Audio Presence	10
AEC – Acoustic Echo Canceller Enable / Disable	10
AGC – Automatic Gain Control	10
AGCSET – Automatic Gain Control Adjust	11
AMBLVL – Ambient Level Adjust	11
AMXDUET – Use AMX Duet Discovery	11
AUDIOMASTER – Expansion Bus Audio Master Mode	11
BAUD – Baud Rate	11
CALLDUR – Call Duration (840T & TH20 only)	12
CALLERID – Reports Caller ID Information (840T & TH20 only)	12
CGROUP – Compressor Group Select	12
CHAIR0 – Chairman Override Mode	12
CLEARFFECT – Clear Effect Wide Band Telco Emulation (840T & TH20 only)	13
CLOCK – Clock Set	13
COMPRESS – Compressor Adjust	13
COMPSEL – Compression Select	14
COUNTRY – Country Selection (840T & TH20 Only)	14
CTRLMASTER – Control Master Mode	14
DECAY – Decay Adjust	14
DEFAULT – Default The Unit	15
DELAY – Delay Adjust	15
DELAYSEL – Delay Select	15
DEVICENAME – Argument Identification Label	15
DEVICESUBTYPE – Sets the Subtype of a Connected Device	15
DEVICETYPE – Sets the Type of a Connected Device	16
DFLTM – Default Meter	16
DIAL – DTMF Dialing (840T & TH20 only)	16
DID – Device ID	16
DSPVER – DSP Version	16
DTMFLVL – DTMF Tone Level (840T & TH20 only)	17
DTONELVL – Dial Tone Level	17
DUPDATE – Download Update	17
DVER – Command Dictionary Version	17

ENETADDR – Ethernet Port IP Address	17
ENETDHCP – Ethernet DHCP Selection	18
ENETDNS – Ethernet DNS Selection	18
ENETDNSA – Ethernet DNS Server Address	18
ENETDNSA2 – Ethernet DNS Server Address 2	18
ENETDOMAIN – Ethernet Domain Argument	18
ENETGATE – Ethernet Default Gateway Address	18
ENETSUBN – Ethernet Subnet Mask	19
EREF – Expansion Bus Reference	19
FILTER – Filter Adjust	19
FILTSEL – Filter Select	20
FLOW – Flow Control	20
FMP – First Mic Priority Mode	20
FPGAVER – FPGA Version	20
GAIN – Gain Adjustment	21
GATE – Gate Status	21
GHOLD – Gate Hold Time Adjust	21
GMODE – Gating Mode	21
GOVER – Gating Override	22
GPIOSTATUS – General Purpose Status	22
GRATIO – Gate Ratio Adjust	22
GREPORT – Gate Report	22
GRPSEL – Gating Group Select	23
HOOK – Hook Flash (840T & TH20 only)	23
HOOKD – Hook Flash Duration (840T & TH20 only)	23
LABEL – Label	23
LCDCONTRAST – LCD Contrast	23
LMO – Last Mic On Mode	24
LOCALNUM – Local Number	24
LOCBLDG – Location: Building	24
LOCCITY – Location: City	24
LOCCNTRY – Location: Country	24
LOCCOMP – Location: Company	25
LOCREGION – Location: Region	25
LOCROOM – Location: Room	25
LOCSITENAME – Location: Site Argument	25
LOCSTATE – Location: State	25
LOGMASK – Device Log Mask	26
LVL – Level	26
LVLREPORT – Level Report	26
LVLREPORTEN – Level Report Enable	26
MACRO – Macro Execution/Reporting	27

MANUFACTURER – Manufacturer Identification Label	27
MAX – Maximum Gain Setting	27
MIN – Minimum Gain Setting	28
MINMAX – Minimum and Maximum Gain Setting	28
MLINE – Mic / Line Coarse Gain Setting	28
MMAX – Maximum Number of Microphones	28
MODEL – Model Identification Label	27
MTRX – Matrix Routing	29
MTRX2 – Matrix 2	29
MTRXCLEAR – Clear Matrix	29
MTRXLVL – Matrix Attenuation Adjust	30
MUTE – Mute	30
NAME – Unit & NETBIOS Name	30
NCD – Noise Cancellation Depth Adjust	30
NCSEL – Noise Cancellation Select	31
NLP – Non Linear Processing Adjust	31
NOM – Number of Open Microphones Mode	31
NTPSRV – NTP Network Time Server Address	31
NULL – Null the Line (840T & TH20 only)	32
OFFA – Off Attenuation Mode	32
PAA – PA Adaptive Mode	32
PBDIAL – Dial a PB Entry by Argument (840T & TH20 only)	32
PHONEBOOKADD – Adds an Entry to the Phonebook (840T & TH20 only)	32
PHONEBOOKCNT – Counts Entries in the Phonebook (840T & TH20 only)	33
PHONEBOOKDEL – Deletes an Entry in the Phonebook (840T & TH20 only)	33
PHONEBOOKREAD – Queries the Phonebook by Index (840T & TH20 only)	33
PP – Phantom Power	33
PRESET – Preset Execution/Reporting	33
PRGSTRING – Program String	34
PTTHRESHOLD – Push to Talk Threshold	34
PUSHTOTALK – Push to Talk	34
RAMP – Ramp Gain Adjustment	34
REDIAL – Redial the Last Number (840T & TH20 only)	35
REFSEL – Reference Select for PA Adaptation & AEC (880, 840T, 8 Only)	35
REFSET – Reference Channel Set Up (880, 840T, 8 Only)	35
RESET – Reset	35
RING – Ring Indication (840T & TH20 only)	35
RINGEREN – Audible Ring Enable (840T & TH20 only)	36
RINGERLVL – Audible Ring Level (840T & TH20 only)	36
RINGERSEL – Audible Ring Melody Selection (840T & TH20 only)	36
RINGERTEST – Audible Ring Melody Test (840T & TH20 only)	36
RXBOOST – Receive Boost (840T & TH20 only)	36

RXBSTEN – Receive Boost Enable (840T & TH20 only)	37
SERECCHO – Serial Echo	37
SFTYMUTE – Safety Mute	37
SIGGEN – Signal Generator	37
SIGGENEN – Signal Generator Enable	38
SIGGENSWEEP – Signal Generator Sweep	38
SIGTOUT – Signal Generator Time Out	38
SLVL – Speech Level Control	38
SMTPSRV – SMTP Mail Server Address	39
SNMPMNGRIP – SNMP Manager Host IP Address	39
SNMPMNGRPORT – SNMP Manager Notification Port	39
SNMPREADCOMM – SNMP Read Community String	39
SNMPWRITECOMM – SNMP Write Community String	39
SPEEDDIAL – Speed Dial a Number (840T & TH20 only)	39
STRING – String Execution	40
SYSCHECKS – System Checks	40
SYSRESULT – System Check Result	41
TAMODE – Telco Adapt Mode	41
TE – Telco Enable (840T & TH20 only)	42
TELCOLVLCCTRL – Telco RX Level Control Enable / Disable (840T & TH20 only)	42
TIMELOCALE – Time Locale Settings	42
TOUT – Time Out Select	42
UCLOCK – Clock Set by UDT Coordinates	42
UID – Unit ID	43
VER - Version	43
WAITSTATE – Wait State	43

SERIAL COMMANDS

Converge Pro serial commands are shown in bold, followed by the command form and argument details.

AA – Auto Answer Enable / Disable (840T & TH20 only)

This command selects/reports the setting of auto answer.

Command Form: **DEVICE AA** <Channel> [Value]

Argument	Type	Size	Values	Units
Channel	Channel	1	See Groups and Channels	
Group	Group	1	17 (R)	
Value	Unsigned Integer	2	0 = Off 1 = On 2 = Toggle (Null to query in text)	

AAMB – Adaptive Ambient Mode

This command selects/reports the setting of adaptive ambient.

Command Form: **DEVICE AAMB** <Channel> [Value]

Argument	Type	Size	Values	Units
Channel	Channel	1	See Groups and Channels	
Group	Group	1	3 (M)	
Value	Unsigned Integer	2	0 = Off 1 = On 2 = toggle (Null to query in text)	

AARINGS – Number of Rings to Auto Answer On (840T & TH20 only)

This command selects/reports the setting of the number of rings to auto answer.

Command Form: **DEVICE AARINGS** <Channel> [Value]

Argument	Type	Size	Values	Units
Channel	Channel	1	See Groups and Channels	
Group	Group	1	17 (R)	
Value	Unsigned Integer	2	2 - 4 (Null to query in text)	

ACONN – Audible Connect / Disconnect Indication (840T & TH20 only)

This command selects/reports the status of the audible connect / disconnect indication.

Command Form: **DEVICE ACONN** <Channel> [Value].

Argument	Type	Size	Values	Units
Channel	Channel	1	See Groups and Channels	
Group	Group	1	17 (R)	
Value	Unsigned Integer	2	0 = Off 1 = On 2 = Toggle (Null to query in text)	

ACONNLVL – Audible Connect / Disconnect Level (840T & TH20 only)

This command selects/reports the audible connect / disconnect indicator's level.

Command Form: DEVICE **ACONNLVL** <Channel> [Value]

Argument	Type	Size	Values	Units
Channel	Channel	1	See Groups and Channels	
Group	Group	1	17 (R)	
Value	Signed Float	2	-12.00 – 12.00 (Null to query in text)	dB

AD – Auto Disconnect Enable / Disable (840T & TH20 only)

This command selects/reports the setting of auto disconnect.

Command Form: DEVICE **AD** <Channel> [Value]

Argument	Type	Size	Values	Units
Channel	Channel	1	See Groups and Channels	
Group	Group	1	17 (R)	
Value	Unsigned Integer	2	0 = Off 1 = Loop Drop 2 = Call Progress 3 = Loop Drop + Call Progress (Null to query in text)	

ADCLIP – Audio Clipping

This command reports the channels that are currently clipping their audio signals. **This command is read only.** This command is implemented only for inputs.

Command Form: DEVICE **ADCLIP** [Values]

Argument	Type	Size	Values
Value	Bit Map of Inputs	2	XXXX XXXX XXXX XXXX → Input 1 (lsb) to 12 (msb) → Reserved (Null to query in text)
	Bit Map of Outputs	2	XXXX XXXX XXXX XXXX → Output 1 (lsb) to 13 (msb) → Reserved
	Bit Map of Processors	2	XXXX XXXX XXXX XXXX → Processor A (lsb) to H (msb) ----- → Reserved
	Bit Map of Faders	1	XXXX XXXX ----- → Faders 1 (lsb) to 4 (msb) ----- → Reserved
	Bit Map of Telco	1	XXXX XXXX → Telco RX → Telco TX ----- → Reserved

ADPRESENT – Audio Presence

This command displays the channels that currently have valid audio signals present. **This command is read only.**

Command Form: **DEVICE ADPRESENT** [Values]

Argument	Type	Size	Values
Value	Bit Map of Inputs	2	XXXX XXXX XXXX XXXX → Input 1 (lsb) to 12 (msb) → Reserved (Null to query in text)
	Bit Map of Outputs	2	XXXX XXXX XXXX XXXX → Output 1 (lsb) to 13 (msb) ... → Reserved
	Bit Map of Processors	2	XXXX XXXX XXXX XXXX → Processor A (lsb) to H (msb) ----- → Reserved
	Bit Map of Faders	1	XXXX XXXX ----- → Faders 1 (lsb) to 4 (msb) ----- → Reserved
	Bit Map of Telco	1	XXXX XXXX → Telco RX → Telco TX ----- → Reserved

AEC – Acoustic Echo Canceller Enable / Disable

This command selects/reports the setting of Acoustic Echo Canceller.

Command Form: **DEVICE AEC** <Channel> [Value]

Argument	Type	Size	Values	Units
Channel	Channel	1	See Groups and Channels	
Group	Group	1	3 (M)	
Value	Unsigned Integer	2	0 = Off 1 = On 2 = Toggle (Null to query in text)	

AGC – Automatic Gain Control

This command selects/reports the setting of automatic gain control.

Command Form: **DEVICE AGC** <Channel> <Group> [Value]

Argument	Type	Size	Values	Units
Channel	Channel	1	See Groups and Channels	
Group	Group	1	1, 3, 7 (I, M, L)	
Value	Unsigned Integer	2	0 = Off 1 = On 2 = Toggle (Null to query in text)	

AGCSET – Automatic Gain Control Adjust

This command selects/reports the settings of the Automatic Gain Control.

Command Form: DEVICE **AGCSET** <Channel> <Group> [Threshold Target Attack Gain]

Argument	Type	Size	Values	Units
Channel	Channel	1	See Groups and Channels	
Group	Group	1	1, 3, 7 (I, M, L)	
Threshold	Signed Integer	1	-50 – 0 (Null to query in text)	dB
Target	Signed Integer	1	-30 – 20	dB
Response Time	Unsigned Float	2	0.10 – 10.00	S
Gain	Unsigned Float	2	0.00 – 18.00	dB

AMBLVL – Ambient Level Adjust

This command selects/reports the ambient level.

Command Form: DEVICE **AMBLVL** <Channel> [Value]

Argument	Type	Size	Values	Units
Channel	Channel	1	See Groups and Channels	
Group	Group	1	3 (M)	
Value	Signed Float	2	-80.00 – 0.00 (Null to query in text)	dB

AMXDUET – Use AMX Duet Discovery

This command sets and reports the status of AMX Duet Discovery.

Command Form: DEVICE **AMXDUET** [Value]

Argument	Type	Size	Values	Units
Value	Unsigned Integer	4	0 = Off 1 = On 2 = toggle (Null to query in text)	

AUDIOMASTER – Expansion Bus Audio Master Mode

This command reports the mode of the unit for control of the expansion bus audio.

Command Form: DEVICE **AUDIOMASTER** [Value]

Argument	Type	Size	Values	Units
Value	Unsigned Integer	4	1 = Master 2 = Slave (Null to query in text)	

BAUD – Baud Rate

This command selects/reports the baud rate of the serial port.

Command Form: DEVICE **BAUD** [Value]

Argument	Type	Size	Values	Units
Value	Unsigned Integer	4	9600, 19200, 38400, 57600, 115200 (Null to query in text)	

CALLDUR – Call Duration (840T & TH20 only)

This command indicates how long a call has lasted. If no call is in session, this will report 0. At the time of call termination, this command will automatically be sent out reporting the duration. **This command is read only.**

Command Form: DEVICE **CALLDUR** <Channel> <Duration>

Argument	Type	Size	Values	Units
Channel	Channel	1	See Groups and Channels	
Group	Group	1	17 (R)	
Reserved		2	0	
Duration	String	8	String of format HR:MN:SS	

CALLERID – Reports Caller ID Information (840T & TH20 only)

This command reports Caller Identification Information. **This command is reportable only. It cannot be queried or set.**

Command Form: DEVICE **CALLERID** <Channel> <Number> <Argument>

Argument	Type	Size	Values	Units
Channel	Channel	1	See Groups and Channels	
Group	Group	1	17 (R)	
Reserved	Unsigned Integer	2	0	
Number	String	16	1 – 16 chars	
Label	String	16	1 – 16 chars	

CGROUP – Compressor Group Select

This command selects/reports the setting of the compressor group.

Command Form: DEVICE **CGROUP** <Channel> [Value]

Argument	Type	Size	Values	Units
Channel	Channel	1	See Groups and Channels	
Group	Group	1	5 (P)	
Value	Unsigned Integer	2	0 = none 1 – 4 (Null to query in text)	Compressor Group

CHAIR0 – Chairman Override Mode

This command selects/reports the setting of chairman override.

Command Form: DEVICE **CHAIR0** <Channel> [Value]

Argument	Type	Size	Values	Units
Channel	Channel	1	See Groups and Channels	
Group	Group	1	3 (M)	
Value	Unsigned Integer	2	0 = Off 1 = On 2 = Toggle (Null to query in text)	

CLEAREFFECT – Clear Effect Wide Band Telco Emulation (840T & TH20 only)

This command enables / disables or reports the current status of the clear effect.

Command Form: DEVICE **CLEAREFFECT** <Channel> [Value]

Argument	Type	Size	Values	Units
Channel	Channel	1	See Groups and Channels	
Group	Group	1	17 (R)	
Value	Unsigned Integer	2	0 = Off 1 = On 2 = Toggle (Null to query in text)	

CLOCK – Clock Set

This command sets or reports the current time.

Command Form: DEVICE **CLOCK** [Date Month Year Hours Minutes Seconds Day]

Argument	Type	Size	Values	Units
Date	Unsigned Integer	1	1 – 31	
Month	Unsigned Integer	1	1 – 12	
Year	Unsigned Integer	2	2000 – 2099 (NULL to Query in Text)	
Hours	Unsigned Integer	1	00 – 23	
Minutes	Unsigned Integer	1	00 – 59	
Seconds	Unsigned Integer	1	00 – 59	
Day of Week	Unsigned Integer	1	1 = Sunday 2 = Monday 3 = Tuesday 4 = Wednesday 5 = Thursday 6 = Friday 7 = Saturday	

COMPRESS – Compressor Adjust

This command selects/reports the settings of the compressor.

Command Form: DEVICE **COMPRESS** <Channel> [Threshold Ratio Attack Release Gain]

Argument	Type	Size	Values	Units
Channel	Channel	1	See Groups and Channels	
Group	Group	1	5 (P)	
Threshold	Signed Integer	1	-60 – 20 (Null to query in text)	dB
Ratio	Unsigned Integer	1	1 – 20	
Attack	Unsigned Float	2	0.00 – 100.00	Ms
Release	Unsigned Integer	2	100 – 2000	Ms
Gain	Unsigned Float	4	0.00 – 20.00	dB

COMPSEL – Compression Select

This command selects/reports the compressor activation.

Command Form: DEVICE **COMPSEL** <Channel> [Value]

Argument	Type	Size	Values	Units
Channel	Channel	1	See Groups and Channels	
Group	Group	1	5 (P)	
Value	Unsigned Integer	2	0 = Off 1 = On 2 = Toggle (Null to query in text)	

COUNTRY – Country Selection (840T & TH20 Only)

This command sets / reports the country for compliance.

Command Form: DEVICE **COUNTRY** [Value]

Argument	Type	Size	Values	Units
Value	Unsigned Integer	4	1 = US / Canada 2 = Europe 3 = Mexico 4 = Australia 5 = South Africa 6 = Japan 7 = Brazil 8 = South Korea 9 = China 10 = Singapore 11 = Taiwan 12 = New Zealand 13 = India 14 = Hong Kong 15 = Malaysia 16 = Argentina (Null to query in text)	

CTRLMASTER – Control Master Mode

This command reports the mode of the unit for SNMP control.

Command Form: DEVICE **CTRLMASTER** [Value]

Argument	Type	Size	Values	Units
Value	Unsigned Integer	4	1 = Master 2 = Slave (Null to query in text)	

DECAY – Decay Adjust

This command selects/reports the setting of the decay rate.

Command Form: DEVICE **DECAY** <Channel> [Value]

Argument	Type	Size	Values	Units
Channel	Channel	1	See Groups and Channels	
Group	Group	1	3 (M)	
Value	Unsigned Integer	2	1 = Slow 2 = Medium 3 = Fast (Null to query in text)	

DEFAULT – Default The Unit

Sets the unit to factory defaults. **There is no query for this command.**

Command Form: **DEVICE DEFAULT**

No Arguments

DELAY – Delay Adjust

This command selects/reports the setting of delay time.

Command Form: **DEVICE DELAY** <Channel> [Value]

Argument	Type	Size	Values	Units
Channel	Channel	1	See Groups and Channels	
Group	Group	1	5 (P)	
Value	Unsigned Float	2	0.00 – 250.00 (Null to query in text)	Ms

DELAYSEL – Delay Select

This command selects/reports the delay activation of an assignable processing channel.

Command Form: **DEVICE DELAYSEL** <Channel> [Value]

Argument	Type	Size	Values	Units
Channel	Channel	1	See Groups and Channels	
Group	Group	1	5 (P)	
Value	Unsigned Integer	2	0 = Off 1 = On 2 = Toggle (Null to query in text)	

DEVICENAME – Argument Identification Label

This selects/reports the Device Argument identification label of the specific channel.

COMMAND FORM: **DEVICE DEVICENAME** <Channel> <Group> [Value]

Argument	Type	Size	Values	Units
Channel	Channel	1	See Groups and Channels	
Group	Group	1	1, 2, 3, 7 (I, O, M, L)	
Reserved	Unsigned Integer	2	0	
Label	String	12	1 – 12 characters CLEAR = clear the label (Null to query in text)	

DEVICESTYPE – Sets the Subtype of a Connected Device

This command enables/disables or reports the current type of device connected to an input or output.

Command Form: **DEVICE DEVICESTYPE** <Channel> <Group> [Value]

Argument	Type	Size	Values	Units
Channel	Channel	1	See Groups and Channels	
Group	Group	1	1, 2, 3, 7 (I, O, M, L)	
Value	Unsigned Integer	2	(NULL to query in text)	

DEVICETYPE – Sets the Type of a Connected Device

This command enables / disables or reports the current type of device connected to an input or output.

Command Form: DEVICE **DEVICETYPE** <Channel> <Group> [Value]

Argument	Type	Size	Values	Units
Channel	Channel	1	See Groups and Channels	
Group	Group	1	1, 2, 3, 7 (I, O, M, L)	
Value	Unsigned Integer	2	(NULL to query in text)	

DFLTM – Default Meter

This command selects/reports the setting of the default meter on the front panel.

Command Form: DEVICE **DFLTM** [Channel Group Position]

Argument	Type	Size	Values	Units
Channel	Channel	1	See Groups and Channels (Null to query in text)	
Group	Group	1	1, 2, 3, 7, 16, 17 (I, O, M, L, T, R)	
Position	Meter Type	2	1 – 4, as applicable for group See Meter Type Definitions	

DIAL – DTMF Dialing (840T & TH20 only)

This command dials a DTMF sequence or reports back the last sequence dialed.

Command Form: DEVICE **DIAL** <Channel> [Number]

Argument	Type	Size	Values	Units
Channel	Channel	1	See Groups and Channels	
Group	Group	1	17 (R)	
Reserved		2	0	
Number	String	40	1 – 40 Chars of '0' – '9', 'A' – 'D', '*', '#', ',' (Null to query last number dialed in text)	

DID – Device ID

This command reports the device id. **This command is read only except through the front panel.**

Command Form: DEVICE **DID** [Value]

Argument	Type	Size	Values	Units
Value	Unsigned Integer	4	See Type And Device IDs (Null sent in text, Value returned)	

DSPVER – DSP Version

This command reports the version of the DSP code in the unit. **This command is read only.**

Command Form: DEVICE **DSPVER** <Value> [Time/Date]

Argument	Type	Size	Values	Units
Value	Unsigned Integer	4	0 for Host 1 – 8 for Satellite 9 for Telco	
Time / Date	String	16	(Null to query in text)	

DTMFLVL – DTMF Tone Level (840T & TH20 only)

This command selects/reports the DTMF tone's level.

Command Form: **DEVICE DTMFLVL** <Channel> [Value]

Argument	Type	Size	Values	Units
Channel	Channel	1	See Groups and Channels	
Group	Group	1	17 (R)	
Value	Signed Float	2	-12.00 – 12.00 (Null to query in text)	dB

DTONELVL – Dial Tone Level

This command selects/reports the audible dial tone's level.

Command Form: **DEVICE DTONELVL** <Channel> [Value]

Argument	Type	Size	Values	Units
Channel	Channel	1	See Groups and Channels	
Group	Group	1	17 (R)	
Value	Signed Float	2	-12.00 – 12.00 (Null to query in text)	dB

DUPDATE – Download Update

This command reports the status of download updates.

Command Form: **DEVICE DUPDATE** [Channel Group Status Percent Done Message]

Argument	Type	Size	Values	Units
Channel	Unsigned Integer	1		
Group	Unsigned Integer	1		
Status	Unsigned Integer	1	(Null to query in text)	
Percent Done	Unsigned Integer	1		
Message	Char	60		

DVER – Command Dictionary Version

This command reports the version of the command dictionary being used by the unit. **This command is read only.**

Command Form: **DEVICE DVER** [Value]

Argument	Type	Size	Values	Units
Value	Unsigned Integer	4	(Sent with a Null in text)	

ENETADDR – Ethernet Port IP Address

This command selects/reports the IP address of the Ethernet port on the unit.

Command Form: **DEVICE ENETADDR** [Value]

Argument	Type	Size	Values	Units
Value	IP Address	4	(Null to query in text)	

ENETDHCP – Ethernet DHCP Selection

This command selects/reports the use of DHCP of the Ethernet port on the unit.

Command Form: **DEVICE ENETDHCP** [Value]

Argument	Type	Size	Values	Units
Value	Unsigned Integer	4	0 = On 1 = Off 2 = Toggle (Null to query in text)	

ENETDNS – Ethernet DNS Selection

This command selects/reports the use of DNS of the Ethernet port on the unit.

Command Form: **DEVICE ENETDNS** [Value]

Argument	Type	Size	Values	Units
Value	Unsigned Integer	4	0 = On 1 = Off 2 = Toggle (Null to query in text)	

ENETDNSA – Ethernet DNS Server Address

This command selects/reports the DNS server IP address of the Ethernet port on the unit.

Command Form: **DEVICE ENETDNSA** [Value]

Argument	Type	Size	Values	Units
Value	IP Address	4	(Null to query in text)	

ENETDNSA2 – Ethernet DNS Server Address 2

This command selects/reports the alternate DNS server IP address of the Ethernet port on the unit.

Command Form: **DEVICE ENETDNSA2** [Value]

Argument	Type	Size	Values	Units
Value	IP Address	4	(Null to query in text)	

ENETDOMAIN – Ethernet Domain Argument

This command selects/reports the Domain Argument of the Ethernet port on the unit.

Command Form: **DEVICE ENETDOMAIN** [Value]

Argument	Type	Size	Values	Units
Value	String	64	(Null to query in text)	

ENETGATE – Ethernet Default Gateway Address

This command selects/reports the default gateway of the Ethernet port on the unit.

Command Form: **DEVICE ENETGATE** [Value]

Argument	Type	Size	Values	Units
Value	IP Address	4	(Null to query in text)	

ENETSUBN – Ethernet Subnet Mask

This command selects/reports the Subnet mask of the Ethernet port on the unit.

Command Form: DEVICE **ENETSUBN** [Value]

Argument	Type	Size	Values	Units
Value	IP Address	4	(Null to query in text)	

EREF – Expansion Bus Reference

This command selects an output or reports which output is the expansion bus reference.

Command Form: DEVICE **EREF** <Channel> [Value Channel Value Group]

Argument	Type	Size	Values	Units
Channel	Channel	1	See Reference Channels in Groups and Channels	
Group	Group	1	8 (A)	
Value	Channel	1	0 = none See 2, 20 (O, B) in Groups and Channels (Null to query in text)	
Value	Group	1	0 for none or 2, 20 (N for none or O, B)	

FILTER – Filter Adjust

This command selects/reports the settings of a filter.

Command Form: DEVICE **FILTER** <Channel> <Group> <Node> [Type Frequency Gain/Slope Bandwidth/Subtype]

Argument	Type	Size	Values	Units
Channel	Channel	1	See Groups and Channels	
Group	Group	1	3, 5 (M, P)	
Node	Unsigned Integer	1	Group 3 1 – 4 Group 5 1 – 15	
Type	Unsigned Integer	1	0 = None 1 = All Pass 2 = Low Pass 3 = High Pass 4 = Low Shelving 5 = High Shelving 6 = Parametric Equalizer 7 = CD Horn 8 = Bessel Crossover 9 = Butterworth Crossover 10 = Linkwitz-Riley Crossover 11 = Notch (Null to query in text)	
Frequency	Unsigned Float	4	Type 0 0 (Null in text) Type 1 – 6, 8 – 11 20.00 – 20000.00 Type 7 500.00 – 5000.00	Hz
Gain/Slope	Signed Float	2	Type 0 – 3, 7, 11 0 (Null in text) Type 4 – 6 -15.00 – 15.00 Type 8 – 9 12, 18, 24 Type 10 12, 24	dB / dB per Octave
Bandwidth/Subtype	Unsigned Float	2	Type 0 – 5, 7 0 (Null in text) Type 6, 11 0.05 – 5.00 Type 8 – 10 2 = Low Pass 3 = High Pass	Octaves / Type

FILTSEL – Filter Select

This command turns on and off the filters.

Command Form: DEVICE **FILTSEL** <Channel> <Group> <Node> [Value]

Argument	Type	Size	Values	Units
Channel	Channel	1	See Groups and Channels	
Group	Group	1	3, 5 (M, P)	
Node	Unsigned Integer	1	Group 3 Group 5	1 – 4 0xFF for all (* text) 1 – 15 0xFF for all (* text)
Value	Unsigned Integer	1	0 = Off 1 = On 2 = Toggle (Null to query in text)	

FLOW – Flow Control

This command selects/reports the flow control of the serial port on the unit. Hardware flow control is implemented using DTR and DSR.

Command Form: DEVICE **FLOW** [Value]

Argument	Type	Size	Values	Units
Value	Unsigned Integer	4	0 = Off 1 = On 2 = Toggle (Null to query in text)	

FMP – First Mic Priority Mode

This command selects/reports first Mic priority mode.

Command Form: DEVICE **FMP** <Channel> [Value]

Argument	Type	Size	Values	Units
Channel	Channel	1	See Groups and Channels	
Group	Group	1	4 (G)	
Value	Unsigned Integer	2	0 = Off 1 = On 2 = Toggle (Null to query in text)	

FPGAVER – FPGA Version

This command reports the version of the FPGA code in the unit. **This command is read only.**

Command Form: DEVICE **FPGAVER** [Value]

Argument	Type	Size	Values	Units
Value	String	12	(Sent with a Null in text)	

GAIN – Gain Adjustment

This command changes or reports back the gain for a channel.

Command Form: **DEVICE GAIN** <Channel> <Group> [Value] [Absol/Rel]

Argument	Type	Size	Values	Units
Channel	Channel	1	See Groups and Channels	
Group	Group	1	1, 2, 3, 5, 7, 12, 16, 17 (I, O, M, P, L, F, T, R)	
Value	Signed Float	2	-99.90 – 99.90 ** (Null to query in text)	dB
Absol / Rel		0	A = Absolute R = Relative Null = Relative	

NOTE: Values indicate entry range only. Actual internal range of the gain stage is from –65 to 20. Absolute values will be limited to the internal gain range.

GATE – Gate Status

This command reports the gate status of Mics. **This command is read only.**

Command Form: **DEVICE GATE** [Value]

Argument	Type	Size	Values	Units
Value	Hexadecimal	4	Bits 0 – 7 represent gate status on Mics 1 – 8 (Null sent in text, Value returned)	

GHOLD – Gate Hold Time Adjust

This command selects/reports the setting of hold time.

Command Form: **DEVICE GHOLD** <Channel> [Value]

Argument	Type	Size	Values	Units
Channel	Channel	1	See Groups and Channels	
Group	Group	1	3 (M)	
Value	Unsigned Float	2	0.10 – 8.00 (Null to query in text)	S

GMODE – Gating Mode

This command selects/reports the setting of gating mode.

Command Form: **DEVICE GMODE** <Channel> [Value]

Argument	Type	Size	Values	Units
Channel	Channel	1	See Groups and Channels	
Group	Group	1	3 (M)	
Value	Unsigned Integer	2	1 = Auto 2 = Manual On 3 = Manual Off (Null to query in text)	

GOVER – Gating Override

This command selects/reports the setting of gating override.

Command Form: **DEVICE GOVER** <Channel> [Value]

Argument	Type	Size	Values	Units
Channel	Channel	1	See Groups and Channels	
Group	Group	1	3 (M)	
Value	Unsigned Integer	2	0 = Off 1 = On 2 = Toggle (Null to query in text)	

GPIOSTATUS – General Purpose Status

This command sets the state of a General Purpose Status Pin.

Command Form: **DEVICE GPIOSTATUS** Pin Port [Value]

Argument	Type	Size	Values	Units
Pin	Unsigned Integer	1	1 – 24 (Only user definable status pins.)	
Port	Unsigned Integer	1	1 – 2	
Value	Unsigned Integer	2	0 = High 1 = Low 2 = Toggle (NULL to query in text)	

GRATIO – Gate Ratio Adjust

This command selects/reports the setting of the gate ratio.

Command Form: **DEVICE GRATIO** <Channel> [Value]

Argument	Type	Size	Values	Units
Channel	Channel	1	See Groups and Channels	
Group	Group	1	3 (M)	
Value	Unsigned Integer	2	0 – 50 (Null to query in text)	dB

GREPORT – Gate Report

This command selects/reports the mode of gate and audio presence status reporting.

Command Form: **DEVICE GREPORT** [Value]

Argument	Type	Size	Values	Units
Value	Unsigned Integer	4	0 = Off 1 = On 2 = Toggle (Null to query in text)	

GRPSEL – Gating Group Select

This command selects/reports which Gating Group a microphone input is assigned.

Command Form: DEVICE **GRPSEL** <Channel> [Value]

Argument	Type	Size	Values	Units
Channel	Channel	1	See Groups and Channels	
Group	Group	1	3 (M)	
Value	Channel	2	See 4 (G) in Groups and Channels (Null to query in text)	

HOOK – Hook Flash (840T & TH20 only)

This command sends a hook flash. **There is no query for this command.**

Command Form: DEVICE **HOOK** <Channel>

Argument	Type	Size	Values	Units
Channel	Channel	1	See Groups and Channels	
Group	Group	1	17 (R)	
Reserved		2	0	

HOOKD – Hook Flash Duration (840T & TH20 only)

This command selects/reports the hook flash duration.

Command Form: DEVICE **HOOKD** <Channel> [Value]

Argument	Type	Size	Values	Units
Channel	Channel	1	See Groups and Channels	
Group	Group	1	17 (R)	
Value	Unsigned Integer	2	50 – 2000 (Multiples of 10 Ms only) (Null to query in text)	Ms

LABEL – Label

This selects/reports the label of the specific channel or the unit.

Command Form: DEVICE **LABEL** <Channel> <Group> [In/Out] [Value]

Argument	Type	Size	Values	Units
Channel	Channel	1	See Groups and Channels	
Group	Group	1	1, 2, 3, 4, 5, 6, 7, 8, 12, 13, 14, 16, 17, 20 (I, O, M, G, P, E, L, A, F, S, C, T, R, B)	
Input / Output to Matrix	Unsigned Integer	2	Groups all but 6 Groups 6	0 0 = output 1 = input
Label	String	20	1 – 20 characters CLEAR = clear the label (Null to query in text)	

LCDCONTRAST – LCD Contrast

This command selects/reports the LCD Contrast Setting.

Command Form: DEVICE **LCDCONTRAST** [Value]

Argument	Type	Size	Values	Units
Value	Unsigned Integer	4	0 (lightest) – 63 (darkest) (Null to query in text)	

LMO – Last Mic On Mode

This command selects/reports last Mic on mode.

Command Form: DEVICE **LMO** <Channel> [Value]

Argument	Type	Size	Values	Units
Channel	Channel	1	See Groups and Channels	
Group	Group	1	4 (G)	
Value	Unsigned Integer	2	0 = Off 1 - 8 = Mic 1 - 8 to be the last mic 0xFF (* in text) = Last Mic to stay on (Null to query in text)	

LOCALNUM – Local Number

This command sets or reports back the current value of the local number.

Command Form: DEVICE **LOCALNUM** <Channel> [Number]

Argument	Type	Size	Values	Units
Channel	Channel	1	See Groups and Channels	
Group	Group	1	17 (R)	
Reserved		2	0	
Number	String	16	1 - 16 Chars of '0' - '9', 'A' - 'D', '*', '#', ',' (Null to query in text)	

LOCBLDG – Location: Building

This command sets/reports the location of the unit: Building string.

Command Form: DEVICE **LOCBLDG** [Value]

Argument	Type	Size	Values	Units
Value	String	80	CLEAR = Clear current value 1 - 63 Characters (Null to query in text)	

LOCCITY – Location: City

This command sets/reports the location of the unit: City string.

Command Form: DEVICE **LOCCITY** [Value]

Argument	Type	Size	Values	Units
Value	String	80	CLEAR = Clear current value 1 - 63 Characters (Null to query in text)	

LOCCNTRY – Location: Country

This command sets/reports the location of the unit: Country string.

Command Form: DEVICE **LOCCNTRY** [Value]

Argument	Type	Size	Values	Units
Value	String	80	CLEAR = Clear current value 1 - 63 Characters (Null to query in text)	

LOCCOMP – Location: Company

This command sets/reports the location of the unit: Company string.

Command Form: **DEVICE LOCCOMP** [Value]

Argument	Type	Size	Values	Units
Value	String	80	CLEAR = Clear current value 1 – 63 Characters (Null to query in text)	

LOCREGION – Location: Region

This command sets/reports the location of the unit: Region string.

Command Form: **DEVICE LOCREGION** [Value]

Argument	Type	Size	Values	Units
Value	String	80	CLEAR = Clear current value 1 – 63 Characters (Null to query in text)	

LOCROOM – Location: Room

This command sets/reports the location of the unit: Room string.

Command Form: **DEVICE LOCROOM** [Value]

Argument	Type	Size	Values	Units
Value	String	80	CLEAR = Clear current value 1 – 63 Characters (Null to query in text)	

LOCSITENAME – Location: Site Argument

This command sets/reports the location of the unit Site name.

Command Form: **DEVICE LOCSITENAME** [Value]

Argument	Type	Size	Values	Units
Value	String	80	CLEAR = Clear current value 1 – 64 Characters (Null to query in text)	

LOCSTATE – Location: State

This command sets/reports the location of the unit: State/Prefecture string.

Command Form: **DEVICE LOCSTATE** [Value]

Argument	Type	Size	Values	Units
Value	String	80	CLEAR = Clear current value 1 – 63 Characters (Null to query in text)	

LOGMASK – Device Log Mask

This command sets or reports the device event log mask.

Command Form: DEVICE LOGMASK [Value]

Argument	Type	Size	Values	Units
Value	Hexadecimal	4	X X X X X X X X X X X X X X → Reset → Errors → Password Access → Telco On/Off → Dial → Call Duration → System Checks → (reserved) → (reserved) → Default (Null to query in text)	

LVL – Level

This command reports the level of a channel. **This command is read only.**

Command Form: DEVICE LVL <Channel> <Group> <Position> [Value]

Argument	Type	Size	Values	Units
Channel	Channel	1	See Groups and Channels	
Group	Group	1	1, 2, 3, 5, 7, 12, 16, 17, 20 (I, O, M, P, L, F, T, R, B)	
Position	Meter Type	2	See Meter Type Definitions	
Value	Signed Float	4	-99.99 – 99.99 (Sent with Null in text, Value returned)	dB

LVLREPORT – Level Report

This command selects/reports the status of level reporting for the specified channel.

Command Form: DEVICE LVLREPORT <Channel> <Group> <Position> [Value]

Argument	Type	Size	Values	Units
Channel	Channel	1	See Groups and Channels	
Group	Group	1	1, 2, 3, 5, 7, 12, 16, 17 (I, O, M, P, L, F, T, R)	
Position	Meter Type	2	See Meter Type Definitions	
Value	Unsigned Integer	4	0 = Off (Delete from list being reported) 1 = On (Add to list being reported) 2 = Toggle (Null to query in text)	

LVLREPORTEN – Level Report Enable

Enables level reporting for the unit.

Command Form: DEVICE LVLREPORTEN [Value]

Argument	Type	Size	Values	Units
Value	Unsigned Integer	4	0 = Turn off reporting but leave current list 1 = Turn on reporting 2 = Turn off reporting and clear the list (Null to query in text)	

MACRO – Macro Execution/Reporting

This command executes a specified macro or reports the last macro executed.

Command Form: **DEVICE MACRO** [Value]

Argument	Type	Size	Values	Units
Value	Channel	4	See 14 (C) in Groups and Channels (Null to query last macro ran in text)	

NOTE: The response will indicate successful execution of the macro, but it does not guarantee that each command in the macro was executed.

MANUFACTURER – Manufacturer Identification Label

This command selects/reports the model identification label of the specified channel.

Command Form: **DEVICE MANUFACTURER** <Channel> <Group> <Reserved> [Value]

Argument	Type	Size	Values	Units
Channel	Channel	1	See Groups and Channels	
Group	Group	1	1, 2, 3, 7 (I, O, M, L)	
Reserved	Unsigned Integer	2	0	
Label	String	16	1-16 characters CLEAR = clear the label (Null to query in text)	dB

MODEL – Model Identification Label

This command selects/reports the model identification label of the specified channel.

Command Form: **DEVICE MODEL** <Channel> <Group> <Reserved> [Value]

Argument	Type	Size	Values	Units
Channel	Channel	1	See Groups and Channels	
Group	Group	1	1, 2, 3, 7 (I, O, M, L)	
Reserved	Unsigned Integer	2	0	
Label	String	16	1-16 characters CLEAR = clear the label (Null to query in text)	dB

MAX – Maximum Gain Setting

This command changes or reports back the maximum gain setting for an input, output or assignable processing block.

Command Form: **DEVICE MAX** <Channel> <Group> [Value]

Argument	Type	Size	Values	Units
Channel	Channel	1	See Groups and Channels	
Group	Group	1	1, 2, 3, 5, 7, 12, 16, 17 (I, O, M, P, L, F, T, R)	
Value	Signed Float	2	-65.00 – 20.00 (Null to query in text)	dB

MIN – Minimum Gain Setting

This command changes or reports back the minimum gain setting for a channel.

Command Form: DEVICE **MIN** <Channel> <Group> [Value]

Argument	Type	Size	Values	Units
Channel	Channel	1	See Groups and Channels	
Group	Group	1	1, 2, 3, 5, 7, 12, 16, 17 (I, O, M, P, L, F, T, R)	
Value	Signed Float	2	-65.00 – 20.00 (Null to query in text)	dB

MINMAX – Minimum and Maximum Gain Setting

This command changes or reports back the minimum and maximum gain setting for a channel.

Command Form: DEVICE **MINMAX** <Channel> <Group> [Min Max]

Argument	Type	Size	Values	Units
Channel	Channel	1	See Groups and Channels	
Group	Group	1	1, 2, 3, 5, 7, 12, 16, 17 (I, O, M, P, L, F, T, R)	
Min	Signed Float	2	-65.00 – 20.00 (Null to query in text)	dB
Max	Signed Float	4	-65.00 – 20.00	dB

MLINE – Mic / Line Coarse Gain Setting

This command selects/reports the setting of coarse gain.

Command Form: DEVICE **MLINE** <Channel> [Value]

Argument	Type	Size	Values	Units
Channel	Channel	1	See Groups and Channels	
Group	Group	1	3 (M)	
Value	Unsigned Integer	2	0 = 0 dB 7 = 7 dB 14 = 14 dB 21 = 21 dB 28 = 28 dB 35 = 35 dB 41 = 41 dB 50 = 50 dB 56 = 56 dB (Null to query in text) (No other values are valid and accepted)	

MMAX – Maximum Number of Microphones

This command selects/reports the maximum number of microphones for a Gating Group.

Command Form: DEVICE **MMAX** <Channel> [Value]

Argument	Type	Size	Values	Units
Channel	Channel	1	See Groups and Channels	
Group	Group	1	4 (G)	
Value	Unsigned Integer	2	0 = Unlimited 1 - 8 = Maximum # of Mics (Null to query in text)	

MTRX – Matrix Routing

This command selects/reports the matrix routing of an input to an output.

Command Form: **DEVICE MTRX** <Src. Ch.> <Src. Gp.> <Dest. Ch.> <Dest. Gp.> [Value]

Argument	Type	Size	Values	Units
Source Channel	Channel	1	See Groups and Channels	
Source Group	Group	1	1, 3, 5, 6, 7, 12, 17 (I, M, P, E, L, F, R)	
Destination Channel	Channel	1	See Groups and Channels	
Destination Group	Group	1	2, 5, 6, 12, 16, 20 (O, P, E, F, T, B)	
Value	Unsigned Integer	4	0 = Cross point off 1 = Cross point on (Not Valid for Mic Sources) 2 = Toggle (Not Valid for Mic Sources) 3 = Non Gated (Mic Sources Only) 4 = Gated (Mic Sources Only) 5 = Pre-AEC (Mic Sources Only) 6 = Routing Prohibited (Cross point is off and may not be turned on) (Null to query in text)	

MTRX2 – Matrix 2

This command sets the cross points for an entire input.

Command Form:

DEVICE MTRX2 <Src. Ch.> <Src. Gp.> [<Cross Point 1 H><Cross Point 1 L><Cross Point 2 H><Cross Point 2 L><Cross Point 3 H><Cross Point 3 L>]

Argument	Type	Size	Values	Units
Source Channel	Channel	1	See Groups and Channels	
Source Group	Group	1	1, 3, 5, 6, 7, 12, 17, 20 (I, M, P, E, L, F, R, B)	
Reserved		2	0	
Cross point 1 High (Gated Mics & all other inputs)	Hexadecimal	4	Bit mask of columns 31 - max	
Cross point 1 Low (Gated Mics & all other inputs)	Hexadecimal	4	Bit mask of columns 0 – 31	
Cross point 2 High (Non Gated Mics)	Hexadecimal	4	Bit mask of columns 31 - max	
Cross point 2 Low (Non Gated Mics)	Hexadecimal	4	Bit mask of columns 0 – 31	
Cross point 3 High (Pre-AEC Mics)	Hexadecimal	4	Bit mask of columns 31 - max	
Cross point 3 Low (Pre-AEC Mics)	Hexadecimal	4	Bit mask of columns 0 – 31	

NOTE: A microphone cannot be routed in more than one way to the same output.

MTRXCLEAR – Clear Matrix

Clears the ENTIRE matrix for the unit. **There is no query for this command.**

Command Form: **DEVICE MTRXCLEAR**

No Arguments

MTRXLVL – Matrix Attenuation Adjust

This command selects/reports the matrix level at the cross point.

Command Form:

DEVICE MTRXLVL <Src. Ch.> <Src. Gp.> <Dest. Ch.> <Dest. Gp.> [Value] [A/R]

Argument	Type	Size	Values	Units
Source Channel	Channel	1	See Groups and Channels	
Source Group	Group	1	1, 3, 5, 6, 7, 12, 17 (I, M, P, E, L, F, R)	
Destination Channel	Channel	1	See Groups and Channels	
Destination Group	Group	1	2, 5, 6, 12, 16, (O, P, E, F, T)	
Value	Signed Float	4	-99.00 – 99.00 ** (Null to query in text)	dB
Absol / Rel		0	A = Absolute R = Relative Null = Relative	

NOTE: Values indicate entry range only. Actual internal range of the matrix attenuation is from -60 to +12dB, and absolute values are limited to the internal gain range.

MUTE – Mute

This command selects/reports the setting of mute on a channel.

Command Form: **DEVICE MUTE** <Channel> <Group> [Value]

Argument	Type	Size	Values	Units
Channel	Channel	1	See Groups and Channels	
Group	Group	1	1, 2, 3, 5, 7, 12, 16, 17 (I, O, M, P, L, F, T, R)	
Value	Unsigned Integer	2	0 = Off 1 = On 2 = Toggle (Null to query in text)	

NAME – Unit & NETBIOS Name

This command sets/reports the name of the unit which is also used for its NETBIOS name.

Command Form: **DEVICE NAME** [Value]

Argument	Type	Size	Values	Units
Value	String	16	1 – 15 Characters (Null to query in text)	

NCD – Noise Cancellation Depth Adjust

This command selects/reports the setting of the Noise Cancellation.

Command Form: **DEVICE NCD** <Channel> <Group> [Value]

Argument	Type	Size	Values	Units
Channel	Channel	1	See Groups and Channels	
Group	Group	1	3, 17 (M, R)	
Value	Unsigned Integer	2	6 – 15 (Null to query in text)	dB

NCESEL – Noise Cancellation Select

This command selects/reports the setting of the Noise Cancellation for each microphone channel.

Command Form: **DEVICE NCESEL** <Channel> <Group> [Value]

Argument	Type	Size	Values	Units
Channel	Channel	1	See Groups and Channels	
Group	Group	1	3, 17 (M, R)	
Value	Unsigned Integer	2	0 = Off 1 = On 2 = Toggle (Null to query in text)	

NLP – Non Linear Processing Adjust

This command selects/reports the setting of the Non-linear processing for each microphone channel.

Command Form: **DEVICE NLP** <Channel> [Value]

Argument	Type	Size	Values	Units
Channel	Channel	1	See Groups and Channels	
Group	Group	1	3 (M)	
Value	Unsigned Integer	2	0 = Off 1 = Soft 2 = Medium 3 = Aggressive (Null to query in text)	

NOM – Number of Open Microphones Mode

This command selects/reports the setting of Number of Open Microphones (NOM) on output channels.

Command Form: **DEVICE NOM** <Channel> <Group> [Value]

Argument	Type	Size	Values	Units
Channel	Channel	1	See Groups and Channels	
Group	Group	1	2, 16 (O, T)	
Value	Unsigned Integer	2	0 = Off 1 = On 2 = Toggle (Null to query in text)	

NTPSRV – NTP Network Time Server Address

This command selects/reports the IP addresses of the NTP Time Server the unit's NTP client requests time status from.

Command Form: **DEVICE NTPSRV** [Value 1 Value 2]

Argument	Type	Size	Values	Units
Value 1	IP Address	4	(Null to query in text)	
Value 2	IP Address	4		

NULL – Null the Line (840T & TH20 only)

This command nulls the line. **There is no query for this command.**

Command Form: DEVICE NULL <Channel>

Argument	Type	Size	Values	Units
Channel	Channel	1	See Groups and Channels	
Group	Group	1	17 (R)	
Reserved		2	0	

OFFA – Off Attenuation Mode

This command selects/reports the off attenuation value of a Mic channel.

Command Form: DEVICE OFFA <Channel> [Value]

Argument	Type	Size	Values	Units
Channel	Channel	1	See Groups and Channels	
Group	Group	1	3 (M)	
Value	Unsigned Float	2	0.00 – 60.00 (Null to query in text)	

PAA – PA Adaptive Mode

This command selects/reports PA adaptive mode for the specified Mic.

Command Form: DEVICE PAA <Channel> [Value]

Argument	Type	Size	Values	Units
Channel	Channel	1	See Groups and Channels	
Group	Group	1	3 (M)	
Value	Unsigned Integer	2	0 = Off 1 = On 2 = Toggle (Null to query in text)	

PBDIAL – Dial a PB Entry by Argument (840T & TH20 only)

This command dials a speed dial number by name. **There is no query for this command.**

Command Form: DEVICE PBDIAL <Channel> <Label>

Argument	Type	Size	Values	Units
Channel	Channel	1	See Groups and Channels	
Group	Group	1	17 (R)	
Reserved	Unsigned Integer	2	0	
Label	String	16	1 – 16 chars	

PHONEBOOKADD – Adds an Entry to the Phonebook (840T & TH20 only)

This command saves an entry in the phonebook. **There is no query for this command.** No two entries can share the same label. An argument error will be returned if an entry already has the name. To change an entry, you must first delete it and then add it again. If label is blank, the first 20 characters of the number will be used as the label. The **Number** argument must not be blank. If an entry already exists with the assigned speed dial it will be overwritten. The entries are alphabetized based on Label.

Command Form: DEVICE PHONEBOOKADD <ID Number Label>

Argument	Type	Size	Values	Units
Speed Dial	Unsigned Integer	4	0 for not assigned to a speed dial 1 – 20	
Number	String	44	1 – 44 chars '0' – '9', 'A' – 'D', '*', '#'	
Label	String	16	1 – 16 chars	

PHONEBOOKCNT – Counts Entries in the Phonebook (840T & TH20 only)

This command queries the number of entries in the phonebook. **This command is query only.**

Command Form: DEVICE **PHONEBOOKCNT** <Value>

Argument	Type	Size	Values	Units
Value	Unsigned Integer	4	0 – 20	

PHONEBOOKDEL – Deletes an Entry in the Phonebook (840T & TH20 only)

This command deletes an entry in the phonebook. **There is no query for this command.**

Command Form: DEVICE **PHONEBOOKDEL** <Label>

Argument	Type	Size	Values	Units
Label	String	16	1 – 16 chars	

PHONEBOOKREAD – Queries the Phonebook by Index (840T & TH20 only)

This command queries an entry in the phonebook. **This command is query only.**

Command Form: DEVICE **PHONEBOOKREAD** <Index> [Speed Number Label]

Argument	Type	Size	Values	Units
Index	Unsigned Integer	2	0 – 19 (Must be less than the Number of Phone Book Entries)	
Speed Dial	Unsigned Integer	2	0 for not assigned to a speed dial 1 – 20 (NULL to query in text)	
Number	String	44	1 – 44 chars '0' – '9', 'A' – 'D', '*', '#'	
Label	String	16	1 – 16 chars	

PP – Phantom Power

This command selects/reports the setting of phantom power.

Command Form: DEVICE **PP** <Channel> [Value]

Argument	Type	Size	Values	Units
Channel	Channel	1	See Groups and Channels	
Group	Group	1	3 (M)	
Value	Unsigned Integer	2	0 = Off 1 = On 2 = Toggle (Null to query in text)	

PRESET – Preset Execution/Reporting

This command selects/reports the state of a preset.

Command Form: DEVICE **PRESET** <Channel> [Value]

Argument	Type	Size	Values	Units
Channel	Channel	1	0 (Binary)/Null (Text) = Query Last Preset Ran See Groups and Channels	
Group	Group	1	13 (S)	
Value	Unsigned Integer	2	0 = Set preset state to off 1 = Set state to on and execute if not already on 2 = Execute and return state to off (Null to query current state in text)	

PRGSTRING – Program String

This command sets/reports a programmed string.

COMMAND FORM: *DEVICE PRGSTRING* <ID> [Value]

Argument	Type	Size	Values	Units
ID	Unsigned Integer	4	0 – 7	
Value	String	80	CLEAR = Clear current value 1 – 80 Chars (Null to query in text) Special Characters: \a = alert \b = backspace \f = form feed \n = new line \r = carriage return \t = horizontal tab \v = vertical tab \ = backslash	

PTTTHRESHOLD – Push to Talk Threshold

This command selects/reports the setting of the push to talk threshold for a microphone.

Command Form: *DEVICE PTTTHRESHOLD* <Channel> [Value]

Argument	Type	Size	Values	Units
Channel	Channel	1	See Groups and Channels	
Group	Group	1	3 (M)	
Value	Float	2	-100 to 0 (Null to query in text)	dB

PUSHTOTALK – Push to Talk

This command selects/reports the setting of push-to-talk for a microphone.

Command Form: *DEVICE PUSHTOTALK* <Channel> [Value]

Argument	Type	Size	Values	Units
Channel	Channel	1	See Groups and Channels	
Group	Group	1	3 (M)	
Value	Unsigned Integer	2	0 = Off 1 = On 2 = Toggle (Null to query in text)	

RAMP – Ramp Gain Adjustment

This command starts / stops the gain ramp for an input, output or assignable processing block. **There is no query associated with this command.**

Command Form: *DEVICE RAMP* <Channel> <Group> <Rate> [Target]

Argument	Type	Size	Values	Units
Channel	Channel	1	See Groups and Channels	
Group	Group	1	1, 2, 3, 5, 7, 12, 16, 17 (I, O, M, P, L, F, T, R)	
Rate	Signed Integer	1	-50 – 50 If value=0, the ramp will stop. If value< 0, the gain will ramp down. If value>0, the gain will ramp up.	dB / s
Target	Signed Integer	1	-65 – 20 If NULL in text or 0x80 in binary, the ramp will use the channel's maximum and minimum for a target.	dB

REDIAL – Redial the Last Number (840T & TH20 only)

This command redials the last number. **There is no query for this command.**

Command Form: DEVICE REDIAL <Channel>

Argument	Type	Size	Values	Units
Channel	Channel	1	See Groups and Channels	
Group	Group	1	17 (R)	
Reserved		2	0	

REFSEL – Reference Select for PA Adaptation & AEC (880, 840T, 8i Only)

This command selects/reports which output or expansion bus reference is used for a Mic input as a reference for power amp adaptation mode and acoustic echo cancellation where applicable.

Command Form: DEVICE REFSEL <Channel> [Ref. Group Ref. Channel]

Argument	Type	Size	Values	Units
Channel	Channel	1	See 3 (M) in Groups and Channels	
Group	Group	1	3 (M)	
Reference Group	Group	1	2, 8, 20 (O, A, B)	
Reference Channel	Channel	1	See Groups and Channels (Null to query in text)	

REFSET – Reference Channel Set Up (880, 840T, 8i Only)

This command selects/reports the output the reference channel tracks.

Command Form: DEVICE REFSET <Channel> [Reference Output]

Argument	Type	Size	Values	Units
Channel	Channel	1	See Groups and Channels	
Group	Group	1	20 (B)	
Value	Reference Output	2	0 = none See 2 (O) in Groups and Channels (Null to query in text)	

RESET – Reset

Resets the unit. **There is no query for this command.**

Command Form: DEVICE RESET

No Arguments

RING – Ring Indication (840T & TH20 only)

This command indicates a ringing line. **This command is reportable only. It cannot be queried or set.**

Command Form: DEVICE RING <Channel> <Value>

Argument	Type	Size	Values	Units
Channel	Channel	1	See Groups and Channels	
Group	Group	1	17 (R)	
Value	Unsigned Integer	2	0 = Ring Cycle Ended 1 = Ring Cycle Started	

RINGEREN – Audible Ring Enable (840T & TH20 only)

This command sends/reports the use of an audible ring.

Command Form: DEVICE RINGEREN <Channel> [Value]

Argument	Type	Size	Values	Units
Channel	Channel	1	See Groups and Channels	
Group	Group	1	17 (R)	
Value	Unsigned Integer	2	0 = Off 1 = On 2 = Toggle (Null to query in text)	

RINGERLVL – Audible Ring Level (840T & TH20 only)

This command selects/reports the audible ring's level.

Command Form: DEVICE RINGERLVL <Channel> [Value]

Argument	Type	Size	Values	Units
Channel	Channel	1	See Groups and Channels	
Group	Group	1	17 (R)	
Value	Signed Float	2	-12.00 – 12.00 (dB) (Null to query in text)	

RINGERSEL – Audible Ring Melody Selection (840T & TH20 only)

This command sends/reports the audible ring melody.

Command Form: DEVICE RINGERSEL <Channel> [Value]

Argument	Type	Size	Values	Units
Channel	Channel	1	See Groups and Channels	
Group	Group	1	17 (R)	
Value	Unsigned Integer	2	1 – 3 (Null to query in text)	

RINGERTEST – Audible Ring Melody Test (840T & TH20 only)

This command plays the current audible ringer melody. **This command is executable only. There is no query.**

Command Form: DEVICE RINGERTEST <Channel>

Argument	Type	Size	Values	Units
Channel	Channel	1	See Groups and Channels	
Group	Group	1	17 (R)	
Reserved	Unsigned Integer	2	0	

RXBOOST – Receive Boost (840T & TH20 only)

This command selects/reports the receive boost status.

Command Form: DEVICE RXBOOST <Channel> [Value]

Argument	Type	Size	Values	Units
Channel	Channel	1	See Groups and Channels	
Group	Group	1	17 (R)	
Value	Unsigned Integer	2	0, 3, 6, 9, or 12 (Null to query in text)	dB

RXBSTEN – Receive Boost Enable (840T & TH20 only)

This command selects/reports the receive boost status.

Command Form: DEVICE **RXBSTEN** <Channel> [Value]

Argument	Type	Size	Values	Units
Channel	Channel	1	See Groups and Channels	
Group	Group	1	17 (R)	
Value	Unsigned Integer	2	0 = Off 1 = On 2 = Toggle (Null to query in text)	

SERECHO – Serial Echo

This command selects/reports the serial echo of the RS-232 port.

Command Form: DEVICE **SERECHO** [Value]

Argument	Type	Size	Values	Units
Value	Unsigned Integer	4	0 = Off 1 = On 2 = Toggle (Null to query in text)	

NOTE: The unit will return the updated state of the last selection in the same form as the command.

SFTYMUTE – Safety Mute

This command selects/reports the state of the safety mute. Safety mute holds all outputs in a muted state. It used for syncing to a site document to avoid feedback or blown speakers until the unit is in a settled state.

Command Form: DEVICE **SFTYMUTE** [Value]

Argument	Type	Size	Values	Units
Value	Channel	4	0 = off 1 = on 2 = toggle (Null to query in text)	

SIGGEN – Signal Generator

This command selects/reports of the signal generator activation.

Command Form: DEVICE **SIGGEN** [Channel Group Type Amplitude Frequency]

Argument	Type	Size	Values	Units
Channel	Channel	1	See Groups and Channels (Null to query in text)	
Group	Group	1	1, 3, 7 (I, M, L)	
Type	Unsigned Integer	2	1 = Pink Noise 2 = White Noise 3 = Tone	
Amplitude	Signed Float	4	-60.00 – 20.00	dB
Frequency	Unsigned Float	4	Type 1 – 2 0 (Null in text) Type 3 20.00 – 20000.00	Hz

SIGGENEN – Signal Generator Enable

This command selects/reports of the signal generator activation.

Command Form: **DEVICE SIGGENEN** [Value]

Argument	Type	Size	Values	Units
Value	Unsigned Integer	4	0 = Off 1 = On 2 = Toggle (Null to query in text)	

SIGGENSWEEP – Signal Generator Sweep

This command starts the signal generator with a tone and does a sweep. If **Repeat** is 0, the signal generator will turn off after the sweep. If **Repeat** is 1, the signal generator will turn off after signal generator timeout. To stop the sweep, send a SIGGENEN command with a 0. During the sweep, the box will send out updated SIGGEN commands.

Command Form:

DEVICE SIGGENSWEEP <Channel> <Group> <Amplitude> <Start Frequency> <End Frequency>
<Increment Frequency> <Rate> <Repeat>

Argument	Type	Size	Values	Units
Channel	Channel	1	See Groups and Channels	
Group	Group	1	1, 3, 7 (I, M, L)	
Amplitude	Signed Float	2	-60.00 – 20.00	dB
Start Frequency	Unsigned Float	4	20.00 – 20000.00	Hz
End Frequency	Unsigned Float	4	20.00 – 20000.00 (must be greater than the start)	Hz
Increment Frequency	Unsigned Float	4	1.00 – 20000.00	Hz
Rate	Unsigned Integer	2	10 – 2000 ms	Hz
Repeat	Unsigned Integer	2	0 = repeat off 1 = repeat on	

SIGTOUT – Signal Generator Time Out

Sets the signal generator time out for the unit.

Command Form: **DEVICE SIGTOUT** [Value]

Argument	Type	Size	Values	Units
Value	Unsigned Integer	4	0 = Disable 1 – 30 (Null to query in text)	Min

SLVL – Speech Level Control

This command selects/reports the setting of Speech Level Control.

Command Form: **DEVICE SLVL** <Channel> [Value]

Argument	Type	Size	Values	Units
Channel	Channel	1	See Groups and Channels	
Group	Group	1	3 (M)	
Value	Unsigned Integer	2	0 = Off 1 = On 2 = Toggle (Null to query in text)	

SMTPSRV – SMTP Mail Server Address

This command selects/reports the IP address of the SMTP Mail server, and the Email Address the unit's SMTP client sends messages to.

Command Form: DEVICE **SMTPSRV** [Value Address]

Argument	Type	Size	Values	Units
Value	IP Address	4	(Null to query in text) (0.0.0.0 Clears IP and String)	
Address	String	40	1 – 40 characters (Null to query in text)	

SNMPMNGRIP – SNMP Manager Host IP Address

This command selects/reports the IP address of the SNMP Manager.

Command Form: DEVICE **SNMPMNGRIP** [Value]

Argument	Type	Size	Values	Units
Value	IP Address	4	IP Address of SNMP Manager to send Traps to (Null to query in text)	

SNMPMNGRPORT – SNMP Manager Notification Port

This command selects/reports the SNMP Trap port for SNMP Manager.

Command Form: DEVICE **SNMPMNGRPORT** [Value]

Argument	Type	Size	Values	Units
Value	Unsigned Integer	4	1-255 (Null to query in text)	

SNMPREADCOMM – SNMP Read Community String

This command selects/reports the SNMP read community string.

Command Form: DEVICE **SNMPREADCOMM** [Value]

Argument	Type	Size	Values	Units
Value	String	30	Read Community validation string (GET data) (Null to query in text: defaults to "public")	

SNMPWRITECOMM – SNMP Write Community String

This command selects/reports the SNMP Write Community String.

Command Form: DEVICE **SNMPWRITECOMM** [Value]

Argument	Type	Size	Values	Units
Value	String	30	Write Community validation string (SET data) (Null to query in text: Default = "private")	

SPEEDDIAL – Speed Dial a Number (840T & TH20 only)

This command dials a speed dial number.

Command Form: DEVICE **SPEEDDIAL** <Channel> [Value]

Argument	Type	Size	Values	Units
Channel	Channel	1	See Groups and Channels	
Group	Group	1	17 (R)	
Value	Unsigned Integer	2	1 – 20 (Null to query in text)	

STRING – String Execution

This command sends the specified string out the serial port.

Command Form: **DEVICE STRING** [ID]

Argument	Type	Size	Values	Units
ID	Unsigned Integer	4	0 – 7 (Null to query last string in text)	

SYSCHECKS – System Checks

Initiates the system checks. **There is no query for this command.**

The **System Check** integer bits determine which tests are run. Each bit set generates a separate SYSRESULT response.

COMMAND FORM: **DEVICE SYSCHECKS** <System Check>

Argument	Type	Size	Values
System Check	Hexadecimal Integer	4	15 14 13 12 11 10 09 08 07 06 05 04 03 02 01 00 All other bits reserved

SYSRESULT – System Check Result

This command reports the results of the system check. **This command is reportable only. It cannot be queried or set.** The **System Check** integer bits determine which test result will be reported. Each test results in a separate SYSRESULT message.

Argument	Type	Size	Values
System Check	Hexadecimal Integer	4	<div style="display: flex; justify-content: space-between;"> 15 14 13 12 11 10 09 08 07 06 05 04 03 02 01 00 </div> <p>All other bits reserved</p>
Status	Unsigned Integer	2	0 = Fail 1 = Pass 2 = NULL <Not Tested or Test Disabled in SYSCONFIG>
Message	String	40	For the telephone on hook: the message will report the line voltage, the line current, other results, and if dial tone is detected. For the telephone off hook: the message will report the line current, other results, and if dial tone is detected. The bit mask for the other results is x x x x x x x x --> set if switched from CTR21 to FCC because of low current --> set if used DIAL bit while dialing --> set if switch from Low Voltage to Japan because of current --> set if switch from Low Voltage to FCC because of current --> DAA OVL status --> DAA DOD status --> DAA OPD status --> Not used For the network check: the box will report if no IP address is set. If it is set, the box will ping the gateway. The message will say the ping failed if it is not returned in 5 s. Otherwise, the message will report how many seconds it took to return the ping.

TAMODE – Telco Adapt Mode

This command selects/reports the Telco adapt mode.

Command Form: DEVICE TAMODE <Channel> [Value]

Argument	Type	Size	Values	Units
Channel	Channel	1	See Groups and Channels	
Group	Group	1	17 (R)	
Value	Unsigned Integer	2	0 = Auto 1 = Burst (Null to query in text)	

TE – Telco Enable (840T & TH20 only)

This command selects/reports the hook status.

Command Form: DEVICE **TE** <Channel> [Value]

Argument	Type	Size	Values	Units
Channel	Channel	1	See Groups and Channels	
Group	Group	1	17 (R)	
Value	Unsigned Integer	2	0 = Off 1 = On 2 = Toggle (Null to query in text)	

TELCOLVLCtrl – Telco RX Level Control Enable / Disable (840T & TH20 only)

This command selects/reports the setting of Telco Rx level control.

Command Form: DEVICE **TELCOLVLCtrl** <Channel> [Value]

Argument	Type	Size	Values	Units
Channel	Channel	1	See Groups and Channels	
Group	Group	1	17 (T)	
Value	Unsigned Integer	2	0 = Off 1 = On 2 = Toggle (Null to query in text)	

TIMELocale – Time Locale Settings

This command sets or reports the time locale settings.

Command Form: DEVICE **TIMELocale** [DaylightSavings TimeZone TimeZoneName]

Argument	Type	Size	Values	Units
Daylight Savings	Unsigned Integer	4	0 = Do not use Daylight Savings 1 = Use Daylight Savings (NULL to Query in Text)	
Time Zone	Unsigned Integer	4	The number of seconds from UDT. (-86400 – 86400)	
Time Zone Argument	String	32	Description of time zone	

TOUOut – Time Out Select

This command selects/reports the inactivity time out before returning to the unit title screen on the front panel.

Command Form: DEVICE **TOUOut** [Value]

Argument	Type	Size	Values	Units
Value	Unsigned Integer	4	0 = No Time Out 1 – 15 (Null to query in text)	Min

UCLOCK – Clock Set by UDT Coordinates

This command sets or reports the current time.

Command Form: DEVICE **UCLOCK** [UDT time]

Argument	Type	Size	Values	Units
UDT time	Unsigned Integer	4		

UID – Unit ID

This command reports the unit id. **This command is read only.**

Command Form: `DEVICE UID` [Value]

Argument	Type	Size	Values	Units
Value	Hexadecimal	4	(Sent with a Null, value returned in text)	

VER - Version

This command reports the version of the unit. **This command is read only.**

Command Form: `DEVICE VER` [Value]

Argument	Type	Size	Values	Units
Value	String	8	Version of format MM.mm.rr (Sent with a Null in text, value returned)	

WAITSTATE – Wait State

This command defines a delay within macros and presets in ½ second increments from ½ second to 5 seconds. **This command can only be included in a macro. It will be ignored from other sources.**

Command Form: `DEVICE WAITSTATE` <Value>

Argument	Type	Size	Values	Units
Value	Unsigned Float	1	0.50 – 5.00	S

Serial Command Support Table

The following table shows serial command support by Converge Pro device type.

Command Name	Converge Pro 880	Converge Pro 840T	Converge Pro TH20	Converge Pro 8i
AA		X	X	
AAMB	X	X		X
AARINGS		X	X	
ACONN		X	X	
ACONNLVL		X	X	
AD		X	X	
ADCLIP	X	X	X	X
ADPRESENT	X	X	X	X
AEC	X	X		X
AGC	X	X	X	X
AGCSET	X	X	X	X
AMBLVL	X	X		X
AMXDUET	X	X	X	X
AUDIOMASTER	X	X	X	X
BAUD	X	X	X	X
CALLDUR		X	X	
CALLERID		X	X	
CGROUP	X	X		X
CHAIRO	X	X		X
CLEAREFFECT		X	X	
CLOCK	X	X	X	X
COMPRESS	X	X		X
COMPSEL	X	X		X
COUNTRY	X	X	X	X
CTRLMASTER	X	X	X	X
DECAY	X	X		X
DEFAULT	X	X	X	X
DELAY	X	X		X
DELAYSEL	X	X		X
DEVICENAME	X	X	X	X
DEVICESUBTYPE	X	X	X	X
DEVICETYPE	X	X	X	X
DFLTM	X	X	X	X
DIAL		X	X	
DID	X	X	X	X
DSPVER	X	X	X	X
DTMFLVL		X	X	
DTONELVL		X	X	
DUPDATE	X	X	X	X
DVER	X	X	X	X

Command Name	Converge Pro 880	Converge Pro 840T	Converge Pro TH20	Converge Pro 8i
ENETADDR	X	X	X	X
ENETDHCP	X	X	X	X
ENETDNS	X	X	X	X
ENETDNSA	X	X	X	X
ENETDNSA2	X	X	X	X
ENETDOMAIN	X	X	X	X
ENETGATE	X	X	X	X
ENETSUBN	X	X	X	X
EREF	X	X	X	
FILTER	X	X		X
FILTSEL	X	X		X
FLOW	X	X	X	X
FMP	X	X		X
FPGAVER	X	X	X	X
GAIN	X	X	X	X
GATE	X	X		X
GHOLD	X	X		X
GMODE	X	X		X
GOVER	X	X		X
GPIOSTATUS	X	X	X	X
GRATIO	X	X		X
GREPORT	X	X	X	X
GRPSEL	X	X		X
HOOK		X	X	
HOOKD		X	X	
LABEL	X	X	X	X
LCDCONTRAST	X	X	X	X
LMO	X	X		X
LOCALNUM		X	X	
LOCBLDG	X	X	X	X
LOCCITY	X	X	X	X
LOCCNTRY	X	X	X	X
LOCCOMP	X	X	X	X
LOCREGION	X	X	X	X
LOCROOM	X	X	X	X
LOCSITENAME	X	X	X	X
LOCSTATE	X	X	X	X
LOGMASK	X	X	X	X
LVL	X	X	X	X
LVLREPORT	X	X	X	X
LVLREPORTEN	X	X	X	X
MACRO	X	X	X	X
MANUFACTURER	X	X	X	X

Command Name	Converge Pro 880	Converge Pro 840T	Converge Pro TH20	Converge Pro 81
MAX	X	X	X	X
MIN	X	X	X	X
MINMAX	X	X	X	X
MLINE	X	X		X
MMAX	X	X		X
MTRX	X	X	X	X
MTRX2	X	X	X	X
MTRXCLEAR	X	X	X	X
MTRXLVL	X	X	X	X
MUTE	X	X	X	X
NAME	X	X	X	X
NCD	X	X	X	X
NCSEL	X	X	X	X
NLP	X	X		X
NOM	X	X	X	
NTPSRV	X	X	X	X
NULL		X	X	
OFFA	X	X		X
PAA	X	X		X
PBDIAL		X	X	
PHONEBOOKADD		X	X	
PHONEBOOKCNT		X	X	
PHONEBOOKDEL		X	X	
PHONEBOOKREAD		X	X	
PP	X	X		X
PRESET	X	X	X	X
PRGSTRING	X	X	X	X
PTTHRESHOLD	X	X		X
PUSHTOTALK	X	X		X
RAMP	X	X	X	X
REDIAL		X	X	
REFSEL	X	X		X
REFSET	X	X		
RESET	X	X	X	X
RING		X	X	
RINGEREN		X	X	
RINGERLVL		X	X	
RINGERSEL		X	X	
RINGERTST		X	X	
RXBOOST		X	X	
RXBSTEN		X	X	
SERECHO	X	X	X	X
SFTYMUTE	X	X	X	X

Command Name	Converge Pro 880	Converge Pro 840T	Converge Pro TH20	Converge Pro 8i
SIGGEN	X	X	X	X
SIGGENEN	X	X	X	X
SIGGENSWEEP	X	X	X	X
SIGTOUT	X	X	X	X
SLVL	X	X		X
SMTPSRV	X	X	X	X
SNMPMNGRIP	X	X	X	X
SNMPMNGRPORT	X	X	X	X
SNMPREADCOMM	X	X	X	X
SNMPWRITECOMM	X	X	X	X
SPEEDDIAL		X	X	
STRING	X	X	X	X
SYSCHECKS	X	X	X	X
SYSRESULT	X	X	X	X
TAMODE		X	X	
TE		X	X	
TELCOLVCTRL		X	X	
TIMELOCALE	X	X	X	X
TOUT	X	X	X	X
UCLOCK	X	X	X	X
UID	X	X	X	X
VER	X	X	X	X
WAITSTATE	X	X	X	X