

T45

PROGRAMMER'S GUIDE



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T45 Programmer's Guide

The Programmers Guide is to be used as a supplement to the User Manual and Spec Sheets, available on the Williams AV website. Please reference the User Manual for basic operation tasks and device specifications.

This guide will provide an overview of the control commands for the T45. These commands are web based commands meant to be sent via URL and read from a JSON file.

These commands are only available with T45's with network connections.

NOTE: These commands should only be used by someone familiar with audio technology.

If further advice is needed, please contact TechBlue at Williams AV by calling 1-800-328-6190.

Reading Data from the T45

Data can be read from the **status.json** file that is always available on a T45 with an active network connection.

The status.json file is accessed by entering the IP address of the T45 followed by the filename (<http://XXX.XXX.XXX.XXX/status.json>).

Readable Variables

The following variables are readable.

COMMAND	FUNCTION
model	The model set for the device.
description	The description of the device
lineVolume	The current audio gain value Values: 0-50
displayMode	Display frequency or channel number Values: 1=Channel, 2=Frequency
channelMode	8 or 17 channel mode Values: 1=17-Channel, 2=8-Channel
frequencyChannel	Current channel number See manual for which channels match which frequencies.
frequencyText	Array of potential frequencies Values: 72.1, 72.3, 72.6, 72.8, 74.7, 75.4, 75.7, 75.9, 72.5, 72.2, 72.4, 72.7, 72.9, 75.3, 75.6, 75.8, 75.5
hiPass	High Pass filter frequency Values: 1=31, 2=63, 3=80, 4=100, 5=125, 6=160, 7=200, 8=250, 9=315, 10=400, 11=500, 12=630
hiPasstext	Array of potential High Pass kHz Values: 31, 63, 80, 100, 125, 160, 200, 250, 315, 400, 500, 630
loPass	Low Pass filter frequency Values: 1=3.5, 2=4, 3=5, 4=6.3, 5=8, 5=10, 7=12.5, 8=16
loPasstext	Array of potential Low Pass kHz Values: 3.5, 4, 5, 6.3, 8, 10, 12.5, 16
audioSource	Current Source Assignment Values: 1=Analog Line In 2=Mic 3=Phantom Mic 4=AES 5=S/PDIF 6=400 Hz Test Tone
audioSourceText	Array of potential audio sources. Values: "LINE IN", "MIC", "MIC-PHN", "AESVEBU", "SVPDIF", "TONE", "UNDEF", "DANTE"
audioProgram	Audio application setting Values: 1=Voice, 2=Music, 3=Hearing Assistance, 4=Custom

COMMAND	FUNCTION
audioProgramText	Array of potential application settings Values: "VOICE", "MUSIC", "ASSIST", "CUSTOM"
RFTimeOut	Duration to wait before shutting RF off when audio is silent Values: 1=30 min, 2=4 hours, 3=Always On
RFLevel	RF Power Output Level Values: 1=Full, 2=Medium, 3=Low 4=Off
RFLevelText	Array of potential RF Level settings Values: "Full", "Medium", "Low", "Off Air"
customDisableFlag	If 1, sets certain functions to disabled
slope	Audio compression setting Values: 1=1:1, 2=1:5:1, 3=2:1
overloadStatus	If 1, then an audio overload event is occurring on unit.
sleepStatus	If 1, then sleepStatus is enabled.
IPType	Network Type Values: 0=static, 1=DHCP
spareVar	For use by Williams AV
session	For use by Williams AV
rdd	For use by Williams AV
ipaddr	The IP Address as an array of octets
subnet	The Subnet Address as an array of octets
definedPWStatus	If 1, the password is still the default password
panelLockStatus	Panel Lock Status
panelDescriptionStatus	If 1, show description on front panel
panelIPDisplayMode	If 1, show IP on front panel
danteDetected	If 1, this is a Dante capable unit
version	Array of version information, including the firmware and website versions For use by Williams AV.
danteSettings	Array of various Dante information. See Dante table.

The danteSettings array contains the following information: Most of this information is taken from the Dante system, and not adjustable from the T45.

COMMAND	FUNCTION
linkSpeed	Networking speed of the Dante system
audioSampleRate	Sample rate of the audio
ip[0-3]	Octets of IP Address
gw[0-3]	Octets of gateway address
sn[0-3]	Octets of subnet address
macAddr	MAC Address
devName	Device name
defaultName	Default device name
useNameAsT45Desc	Boolean to use the Device name as the T45 description

Commands to The T45

All commands sent to the T45 via the Web Interface are done through a simple form submission URL.

When the form is submitted, it accesses a URL with a string of variables appended to the page URL. Setting up an actual form is not necessary.

For Example:

When increasing the volume, the Target URL looks like this:

<http://XXX.XXX.XXX.XXX/admin/submit.htm?resetRFTimeOutTimer=1&lvol=1&cache=1386692811507>

URL SECTION	MEANING
http://XXX.XXX.XXX.XXX	This is the IP of the T45 device.
/admin/submit.htm	This is the path to the submit.htm file. This file is where the commands are looked for by the internal code of the unit.
?	This is used to identify the beginning of the variable string and so it is not treated as a file path.
resetRFTimeOutTimer=1	This command resets the Timeout Timer.
&	This is a special character used to separate the commands.
lvol=1	This stands for Line Volume . The "1" indicates the value should go "Down". "0" is up.
Cache=XXXXXXXXXX	This is ignored by the T45 but prevents the URL from being cached by the browser so it does a complete refresh. Without it, subsequent submits wouldn't actually submit the form.

Writable Variables

The following variables are writable.

Dante info cannot be written to, please adjust your Dante settings from your Dante system.

COMMAND	FUNCTION
resetRFTimeOutTimer	Resets the Timeout Timer.
lvol	Adjusts the line volume in increments of 1. Send 0 to increase the volume and 1 to decrease.
audIn	Set Audio Source Values: 1=Analog Line In 2=Mic 3=Phantom Mic 4=AES 5=S/PDIF 6=400 Hz Test Tone, 8= Dante (7 is not an option)
app	Set Application Use Values: 1=VOICE, 2=MUSIC, 3=ASSIST, 4=CUSTOM
compSlope	Set Compression Values: 1=1:1, 2=1:5:1, 3=2:1
lineVolume	Update the volume level
loPass	Set the low pass filter value Values: 1=3.5, 2=4, 3=5, 4=6.3, 5=8, 6=10, 7=12.5, 8=16
hiPass	Set the high pass filter value Values: 1=31, 2=63, 3=80, 4=100, 5=125, 6=160, 7=200, 8=250, 9=315, 10=400, 11=500, 12=630
frequency	Set the frequency Values: 1-17 see channel to frequency table in manual Note: If in 8 channel mode, the channel cannot be set above channel 8.

COMMAND	FUNCTION
RFLevel	Set the RF Power output level Values: 1=Full, 2=Medium, 3=Low 4=Off
RFTimeOut	Set how long to wait before shutting RF off when audio is silent Values: 1=30 min, 2=4 hours, 3=Always On
displayMode	Set whether display shows frequency or channel number Values: 1=Channel, 2=Frequency
channelMode	Set whether 8 or 17 channel mode Values: 1=17-Channel, 2=8-Channel
setUseNameAsT45Desc	Sets boolean to use the Device name as the T45 description. This setting is only effective if Dante is in use.
desc	The description of the device. Note: Characters A-Z, space, a-z and 0-9 are allowed, using other characters may cause system issues. The maximum length is 20.
ipType	Set the type of IP address configuration Values: 0=DHCP, 1=Static
ip[0-3]	Set Octets of IP Address. Each Octet must be submitted individually.
sn[0-3]	Set Octets of subnet Address. Each Octet must be submitted individually.
setPass	Change the password
setPassVer	Verify the password
plSet	Boolean for locking or unlocking the Panel Lock
plPSet	Boolean for displaying or hiding the IP address on the device front panel.
limRestoreDflts	Boolean will restore everything to defaults except network and password settings when set to 1.
T45reset	Boolean will reboot the device when set to 1.