

LPEC examples

Rev 2.50 – November 19th 2021

Davaar 50 on

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The LPEC commands are sent to the DS/DSI/DSM TELNET port.

You can have Linn Preamp set as a Proxy RS232 device; this will also allow you to control your Linn Preamp via Proxy control.

The command structure is listed in <http://docs.linn.co.uk/wiki/index.php/Developer:LPEC>

The commands and services available be found using [Intel Device Spy](#) or [Open-source](#)

Davaar50 (firmware released in Sept 2016), has some changes compared to previous Davaar versions.

- Input selection from the SourceIndex table, this has changed to dynamic table that will change numbers when future sources appear. The solution is to use the [SetSourceIndexByName](#)' or the new '[SetSourceBySystemName](#)' commands to select the inputs by SystemName (Analog1) to name given in Konfig "Sky-SAT"
- Version update on the Volume and Product services from 1 to 2
- Radio stations can now be selected number, using the [SetId](#) and number, the URI can be left blank
- Play/Stop/Pause, Shuffle/Repeat state (if applicable) have been added as a separate transport service. Select Play in the Playlist or Radio Service will jump to the respective source and Play. Select Play in the Transport service will only Play currently selected Source

A sample of some of the LPEC commands on the DS/DSI TELNET port:

For example

Subscribe to any service to get any realtime feedback (EVENT) (these services are case sensitive)

Tx: Subscribe Ds/Playlist

Rx: SUBSCRIBE 2346

Rx: EVENT 2346 0 TransportState "Stopped" Repeat "false" Shuffle "false" Id "43" IdArray "AAAAKwAAACwAAAAtAAAALgAAAC8=" TracksMax "1000" ProtocolInfo "http-get:*:audio/x-flac:* ,http-get:*:audio/wav:* ,http-get:*:audio/wave:* ,http-get:*:audio/x-wav:* ,http-get:*:audio/mpeg:* ,http-get:*:audio/x-mpeg:* ,http-get:*:audio/mp1:* ,http-get:*:audio/aiff:* ,http-get:*:audio/x-aiff:* ,http-get:*:audio/x-m4a:* ,http-get:*:audio/x-ms-wma:* ,rtsp-rtp-udp:*:audio/x-ms-wma:* ,http-get:*:audio/x-scpls:* ,http-get:*:audio/x-mpegurl:* ,http-get:*:audio/x-ms-asf:* ,http-get:*:audio/x-ms-wax:* ,http-get:*:audio/x-ms-wvx:* ,http-get:*:video/x-ms-asf:* ,http-get:*:video/x-ms-wax:* ,http-get:*:video/x-ms-wvx:* ,http-get:*:text/xml:* ,http-get:*:audio/aac:* ,http-get:*:audio/aacp:* ,http-get:*:audio/mp4:* ,http-get:*:audio/ogg:* ,http-get:*:audio/x-ogg:* ,http-get:*:application/ogg:*"

Tx: Action Ds/Playlist 1 Play

Rx: RESPONSE

Rx: EVENT 2346 1 TransportState "Buffering"

Rx: EVENT 2346 2 TransportState "Playing"

Tx: Action Ds/Playlist 1 Stop

Rx: RESPONSE

Rx: EVENT 2346 3 TransportState "Buffering"

Events are replies on the service that have been "Subscribe" to the Event number links to that Subscription.

Each event subscription is given a number; this number is given to each EVENT response to identify the subscription.

You can "Unsubscribe" to these events. As soon as the TELNET port is closed, all services are unsubscribed.

The above commands are for Davaar family DS/DSI products, in this case with RS232 preamp Konfigured.

Sample commands for Product details

LPEC command	Description
Subscribe Ds/Product	Subscribe to DSI and get and Product status with auto events "Unsubscribe Ds/Product" to stop getting events
Action Ds/Volkano 1 MacAddress	DS MAC address
Action Ds/Product 1 Product	Basic product information
Subscribe Ds/Info	This will give the information of the media playing on the Playlist, Radio and Songcast inputs. This removes the necessity of subscribing to the above services to get the details of the media playing

Sample commands for volume control

For Davaar 50 onwards the Version of this command has changed from 1 to 2 (marked in **RED**)

LPEC commands for internal volume control	
Subscribe Ds/Volume	Subscribe to Volume Events
Action Ds/Volume 2 SetVolume "45"	Will set volume to value 45 (variable from 0-100)
Action Ds/Volume 2 VolumeInc	Increment volume by 1 step
Action Ds/Volume 2 VolumeDec	Decrement volume by 1 step
Action Ds/Volume 2 SetMute "1"	"1" Put into Mute. "0" to bring out of Mute
LPEC commands for proxy preamp volume control	
Subscribe Preamp/Volume	Subscribe to Volume Events
Action Preamp/Volume 2 SetVolume "45"	Will set volume to value 45 (variable from 0-100)
Action Preamp/Volume 2 VolumeInc	Increment volume by 1 step
Action Preamp/Volume 2 VolumeDec	Decrement volume by 1 step
Action Preamp/Volume 2 SetMute "1"	"1" Put into Mute. "0" to bring out of Mute

Sample commands for preamp opera

Linn DSI/DSM sample commands	
Action Ds/Product 2 SetStandby "0"	"0" Bring Sekrit DSM out of Standby "1" to put into Standby
Action Ds/Product 2 SetSourceIndex "0"	"0" Playlist input, Change "0" to select other sources Davaar50 has this changed this to a dynamic value. This value may change when sources are disabled.
Action Ds/Product 2 SourceIndex	What index source are you on? This can be used to find out the source names and display the source selection options.
Action Ds/Product 2 Source "0"	Will return the "SystemName", the type, the "Given input name" and if this source is visible. Change "0" for "1", "2" etc to find the details of each SourceIndex
Action Ds/Product 2 SetSourceBySystemName "UPnP AV"	This will select the DS/DSM Input by the "SystemName" (first name given by the Source command above or table on next page).
Action Ds/Product 2 SetSourceIndexByName "Sky1"	This will select the DS/DSM Input by the "Name" (last name given by the Source command above and name given by the User in Konfig

Source by SystemName Table

Bold italics show to current products

	All Linn DS without Exakt sockets	All Linn DS WITH Exakt sockets	Sekret DSM / Sneaky DSM / KIKO	Kiko	Majik DSM	Majik DSM/1 & /2	Majik DSM/3	Majik DSM/4 (2020 variant)	Akurate DSM /0 & /1	Akurate DSM/2 & /4	Akurate Exakt DSM & Akurate System Hub	Klimax DSM/0 & /1	Klimax DSM/2	Klimax DSM/3 (2020 variant)	Klimax Exakt DSM /0	Klimax Exakt DSM /1 & Klimax System Hub	Selekt DSM	Selekt DSM with HDMI card installed
"Playlist"	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
"Radio"	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
"UPnP AV"	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
"Songcast"	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
"Net Aux"	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
"Balanced"	✗	✗	✗	✗	✗	✗	✗	✗	✓	✓	✓	✓	✓	✓	✓	✓	✗	✗
"Analog"	✗	✗	✓	✓	✗	✗	✗	✓	✓	✓	✓	✗	✗	✗	✓	✓	✓	✓
"Phono (MM)"	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✓	✓
"Phono (MC)"	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✓	✓
"Analog1"	✗	✗	✗	✗	✓	✓	✓	✗	✗	✗	✗	✗	✗	✓	✗	✗	✗	✗
"Analog2"	✗	✗	✗	✗	✓	✓	✓	✗	✗	✗	✗	✗	✗	✓	✗	✗	✗	✗
"Analog3"	✗	✗	✗	✗	✓	✓	✓	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗
"Phono"	✗	✗	✗	✗	✓	✓	✓	✓	✓	✓	✓	✗	✗	✗	✗	✗	✗	✗
"Front Aux"	✗	✗	✗	✗	✓	✓	✓	✗	✓	✓	✗	✗	✗	✗	✗	✗	✗	✗
"SPDIF"	✗	✗	✓	✓	✗	✗	✗	✓	✗	✗	✗	✓	✓	✗	✓	✓	✗	✗
"SPDIF1"	✗	✗	✗	✗	✓	✓	✓	✗	✓	✓	✓	✗	✗	✓	✗	✗	✓	✓
"SPDIF2"	✗	✗	✗	✗	✓	✓	✓	✗	✓	✓	✓	✗	✗	✓	✗	✗	✓	✓
"SPDIF3"	✗	✗	✗	✗	✓	✓	✓	✗	✓	✓	✓	✗	✗	✗	✗	✗	✗	✗
"TOSLINK"	✗	✗	✓	✓	✗	✗	✗	✓	✗	✗	✗	✗	✗	✓	✗	✗	✗	✗
"TOSLINK1"	✗	✗	✗	✗	✓	✓	✓	✗	✓	✓	✓	✓	✓	✗	✓	✓	✓	✓
"TOSLINK2"	✗	✗	✗	✗	✓	✓	✓	✗	✓	✓	✓	✓	✓	✗	✓	✓	✓	✓
"TOSLINK3"	✗	✗	✗	✗	✓	✓	✓	✗	✓	✓	✓	✗	✗	✗	✗	✗	✗	✗
"HDMI1"	✗	✗	✓	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓
"HDMI2"	✗	✗	✓	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓
"HDMI3"	✗	✗	✓	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓
"HDMI4"	✗	✗	✗	✗	✗	✓	✓	✓	✓	✓	✓	✗	✗	✓	✗	✗	✗	✓
"HDMI ARC"	✗	✗	✗	✗	✗	✗	✓	✓	✗	✓	✓	✗	✓	✓	✗	✓	✓	✓
"USB"	✗	✗	✗	✗	✗	✗	✗	✓	✗	✗	✗	✗	✗	✓	✗	✗	✓	✓
"Spotify"	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
"Exakt1"	✗	✓	✗	✗	✗	✗	✓	✗	✗	✓	✓	✗	✓	✓	✓	✓	✓	✓
"Exakt2"	✗	✓	✗	✗	✗	✗	✓	✗	✗	✓	✓	✗	✓	✓	✓	✓	✓	✓
"Roon"	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
"Bluetooth"	✗	✗	✗	✗	✗	✗	✗	✓	✗	✗	✗	✗	✗	✓	✗	✗	✓	✓

e.g. Action Ds/Product 2 SetSourceBySystemName "Radio"

Sample commands for Proxy Pre-amplifier commands

(preamplifier connected by RS232 to the Linn DS)

Subscribe Preamp/Product	Subscribe to proxy preamplifier commands
Action Preamp/Product 2 SetSourceIndex "0"	Source number can depend on the preamplifier. On the Kisto/Kinos this is the number is the in the order that the Source was created. In other preamps this is in a normal order
Action Preamp/Product 2 SourceIndex	What index source are you on? This can be used to find out the source names and display the source selection options.
Action Preamp/Product 2 Source "0"	Will return the "SystemName", the type, the "Given input name" and if this source is visible. Change "0" for "1", "2" etc to find the details of each SourceIndex
Action Preamp/Product 2 SetSourceBySystemName "Analog 2"	This will select the Proxy Preamp Input by the "SystemName" (first name given by the Source command above) Always valid on Systemname no matter what sourcename is changed by Konfig app
Action Preamp/Product 2 SetSourceIndexByName "XBox"	This will select the Proxy Preamp Input by the "Name" (last name given by the Source command above and name given by the User in Konfig. If the user changes this input name then this source can no longer be selected.
Subscribe Preamp/Volume	Subscribe to Volume & Mute Events
Action Preamp/Volume 2 SetVolume "45"	Will set volume to value 45 (variable from 0-100)
Action Preamp/Volume 2 VolumeInc	Increment volume by 1 step
Action Preamp/Volume 2 VolumeDec	Decrement volume by 1 step
Action Preamp/Volume 2 SetMute "1"	"1" Put into Mute. "0" to bring out of Mute
Action Preamp/Product 2 SetStandby "0"	"0" Bring Proxy Preamp out of Standby "1" to put into Standby

Sample commands Standby and Radio navigation

<u>LPEC command</u>	<u>Description</u>
Subscribe Ds/Product	Subscribe to DSI and get and Product status with auto events "Unsubscribe Ds/Product" to stop getting events
Action Ds/Product 2 SetStandby "1"	Put DS into Standby
Action Ds/Product 2 SetStandby "0"	Take DS out of Standby, (any transport commands will automatically do this)
Action Ds/Product 2 Standby	What Standby state is the DS in. "false" – out of Standby "true" – in Standby
Subscribe Ds/Radio	Subscribe to Radio Events. The station array IDARRAY is Base64
Action Ds/Radio 1 Play	Play selected Radio station (also in Transport Service)
Action Ds/Radio 1 Stop	Stop selected Radio Station (also in Transport Service)
Action Ds/Radio 1 ReadList "1"	Read the Metadata & Uri for Preset Station1, extract for use in the Next SetChannel command Make sure that this is written in HTML format >, <, ", (&gt;, &lt; &quot; are rejected) Although & will be required on its own <res ...> Uri </res> <Metadata> Metadata </Metadata>
Action Ds/Radio 1 SetChannel http://opml.radiotime.com/Tune.ashx?id=s24968&formats=mp3,wma,aac,wmvideo,ogg&user name=yoda-1&partnerId=ah2rjr68&c=ebrowse ""	Select Radio by SetChannel Uri, Metadata
Action Ds/Radio 1 SetId "14" ""	From Davaar50 all you need to have is the station Id number, it will automatically select this station from the Radio favourites list.

Sample commands for Playlist navigation

Subscribe Ds/Playlist	Subscribe to Playlist events
Action Ds/Playlist 1 Play	Switch to Playlist source and Play Playlist
Action Ds/Transport1 Play	Play Playlist
Action Ds/Playlist 1 Pause	Pause Playlist (also in Transport Service)
Action Ds/Playlist 1 Stop	Stop Playlist (also in Transport Service)
Action Ds/Playlist 1 Next	Next track (also in Transport Service)
Action Ds/Playlist 1 Previous	Previous Track (also in Transport Service)
Action Ds/Playlist 1 SetShuffle "1"	"1" Shuffle/Randomise. "0" un-random play (also in Transport Service)
Action Ds/Playlist 1 SetRepeat "1"	"1" Repeat ON "0" Repeat OFF (also in Transport Service)
Action Ds/Playlist 1 Id	Return track number playing/selected
Action Ds/Playlist 1 ReadList "xyz"	Returns the track metadata, Artist, Album etc of tracks iD (reported above)
Action Ds/Playlist 1 TransportState	Return Playlist Play mode (also in Transport Service)
Action Ds/Playlist 1 Insert "id" "url" "metadata"	Insert track from "iDd" with "URL" and "metadata" ensure to use @quot;
Subscribe Ds/Time	Get present playtime in seconds
Unsubscribe Ds/Time	To STOP get time events

Note: ALL commands are CASE – SENSITIVE

Sample commands for Transport

Subscribe Ds/Transport	Get present playtime in seconds
Action Ds/Transport 1 Play	Play Playlist
Action Ds/Transport 1 Pause	Pause Playlist
Action Ds/Transport 1 Stop	Stop Playlist
Action Ds/Transport 1 SkipNext	Next track
Action Ds/Transport 1 SkipPrevious	Previous Track
Action Ds/Transport 1 TransportState	Return Linn DS Play mode
Action Ds/Transport 1 Modes	Return Services using Transport service
Action Ds/Transport 1 ModelInfo	Return Skip/repeat/shuffle options in current source
Action Ds/Transport 1 SetRepeat "1"	"1" Repeat ON "0" Repeat OFF
Action Ds/Transport 1 Repeat	Return REPEAT state
Action Ds/Transport 1 SetShuffle "1"	"1" Shuffle/Randomise. "0" un-random play
Action Ds/Transport 1 Shuffle	Return Shuffle state

Note: ALL commands are CASE – SENSITIVE

Sample commands for PIN uses

Subscribe Ds/Pins	Subscribe to PIN events
Action Ds/Pins 1 InvokeId "1"	Select PIN in idArray location 1
Action Ds/Pins 1 ReadList "[1]"	Read PIN in idArray location 1 actions
Action Ds/Pins 1 GetIdArray	Read PIN order (if any changes have been made the pin order may change after reboot back to [1,2,3,4...])

Note: ALL commands are CASE – SENSITIVE

Sample commands for Songcast commands for Songcast

Subscribe Ds/Receiver	Subscribe to any songcast changes
Action Ds/Sender 1 Metadata	Get the OHZ address of the Songcast Sender DS. i.e. the DS sending the audio. This is located in XML data <res protocolInfo="ohz:*:*:u">
Action Ds/Receiver 1 TransportState	Get play mode
Action Ds/Receiver 1 Sender	Find present Sender Uri
Action Ds/Receiver 1 Play	Play selected Sender
Action Ds/Receiver 1 Stop	Stop selected Sender
Action Ds/Receiver 1 SetSender "ohz://239.255.255.250:51972/0050-c221-7fa1" ""	On the listening DS select Sender using the ohz address found above in the Senders "Action...1 Metadata" response This does not add the Metadata to DS as this is a long string. You will require the PLAY command after this command.
Action Ds/Receiver 1 SetSender "ohz://239.255.255.250:51972/0026-0f21-a105" "<DIDL-Lite xmlns="urn:schemas-upnp-org:metadata-1-0/DIDL-Lite/"><item id="" parentID="" restricted="True"><dc:title xmlns:dc="http://purl.org/dc/elements/1.1/"><in:Akurate DS</dc:title><res protocolInfo="ohz:*:*:m">ohz://239.255.255.250:51972/0026-0f21-94a5</res><upnp:albumArtURI xmlns:upnp="urn:schemas-upnp-org:metadata-1-0/upnp/">http://10.2.11.210/images/icon.png</upnp:albumArtURI><upnp:class xmlns:upnp="urn:schemas-upnp-org:metadata-1-0/upnp/">object.item.audioItem</upnp:class></item></DIDL-Lite>"	As above but with Full Metadata enquired from the Sender DS

Sample commands for system commands

Action Ds/Volkano 1 Reboot	Reboot the Linn DS/DSM
Action Ds/Config 1 GetKeys	Get Configuration keys
Action Ds/Config 1 SetValue "Analogue.Exakt.Dual.Fronts" "1"	Enable dual Analogue/Exakt stereo outputs.
Action Ds/Config 1 GetValue "Analogue.Exakt.Dual.Fronts"	Get DSM setting for in dual Analogue/Exakt stereo outputs.