



Manufacturer: Linn
Model: DS Media Streamers
Device Type: Media Player

CONTACT SUPPORT:

Table with contact information: COMPANY NAME: Linn, SUPPORT CONTACT: N/A, EMAIL ADDRESS: helpline@linn.co.uk, PHONE: UK: 0800 001 5111, Int: +44 141 307 7777, ADDRESS: Glasgow Road, Waterfoot, Eaglesham, Glasgow, G76 0EQ, NOTES:

GENERAL INFORMATION

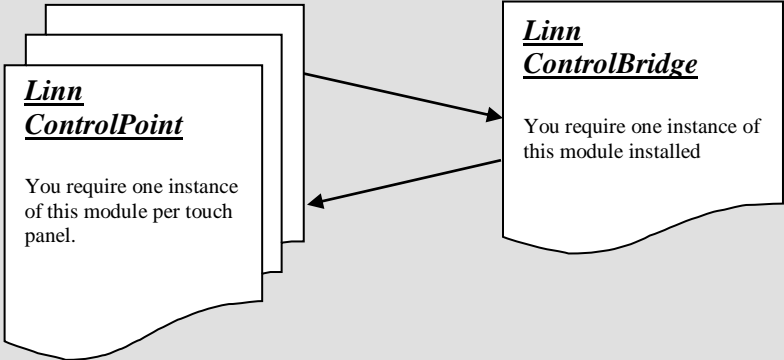
Table with general information: SIMPLWINDOWS NAME: Linn_DS_V4_1_36_Demo_MC3.smw, CATEGORY: Media Server, VERSION: 4.1.36, SUMMARY: This driver has been designed to provide two-way control of Linn DS, DSM and pre-amplifier products, via TCP/IP. At the time of writing, the following models are supported: Klimax DS, Klimax DSM, KlimaxKontrol, Akurate DS, Akurate DSM, AkurateKontrol, Majik DS, Majik DS, Majik DS-I, MajikKontrol, Majik-I, Sneaky Music DS, Sneaky Music DSM, Sekrit DSM, Sekrit DS-I, Kinoss, Kisto, RoomAmp2, Unidisk SC, Classik Movie, Classik Music. GENERAL NOTES: The package includes a demonstration file in smw format to aid with integration into a Crestron project. Additionally, touch panel designs have been created to mimic the Linn Kazoo application; these can be used for demonstration purposes, or directly integrated into your project. CRESTRON HARDWARE REQUIRED: A series 3 processor is required. SETUP OF CRESTRON HARDWARE: N/A. VENDOR FIRMWARE: This Crestron module will only work with Linn Kazoo server v4.7 and above. VENDOR SETUP: The Linn system should be installed and configured by a suitably qualified engineer, according to Linn documentation, prior to integration with this driver. Any

Manufacturer: Linn
 Model: DS Media Streamers
 Device Type: Media Player

subsequent changes to the configuration of the Linn system may require additional re-configuration of the Crestron modules. Note also that all authentication information required by online music services should be configured in the Linn system and tested to confirm their accuracy.

All devices should be connected to the same Subnet.

CABLE DIAGRAM:



The diagram shows a stack of three Linn ControlPoint modules on the left. Each module has a callout box that says "You require one instance of this module per touch panel." On the right is a single Linn ControlBridge module with a callout box that says "You require one instance of this module installed". Arrows point from the ControlPoint stack to the ControlBridge module.

CONTROL (ControlBridge Module):

The Control Bridge module handles the initial discovery of the Linn players and manages which player is controlled by which Control Point module. Only one instance of the Control Bridge module is required in your program and once the signals are connected, no further configuration is required. Note that the Control bridge module can handle a maximum of 50 Control Point modules, and discovery begins 30 seconds after the program has loaded.

[ControlPoint_1Tx] to [ControlPoint_50Tx]	S	Signal FROM Control Point module
---	---	----------------------------------

FEEDBACK (ControlBridge Module):

[ControlPoint_1Rx] to [ControlPoint_50Rx]	S	Signal TO Control Point module
---	---	--------------------------------

CONTROL (ControlPoint Module):

The Control point module handles all communication to and from the Linn players. One instance of the Control Point module is required for each Linn player in the system. As per the below example, each Control Point module must be linked with the Control Bridge module by connecting the ControlPoint_TX inputs in the Bridge module with the ControlPoint_TX output in each Control Point module. Additionally, the ControlPoint_RX outputs in the Bridge module must be linked to the ControlPoint_RX input in the Control Point modules.



Manufacturer: Linn
 Model: DS Media Streamers
 Device Type: Media Player

ControlPoint_Rx	S	Signal FROM Control Bridge module. Note: to force the Control Point on to a particular module you can send Gateway –connectTo <IP>:<PORT> to the 'ControlPoint_Rx' input. To discover the Linn gateway currently connected to Crestron, send Gateway –status to the 'ControlPoint_Rx' input.
RoomSelect	S	Selects a room to control by name. If the Room text is incorrect, or the module hasn't discovered the requested player, 'Notification_Subpage' will be pulsed with a notification message
RoomOff	D	Turns the current Linn device to Standby
RoomOn	D	Turns the current Linn device On
HouseOff	D	Turns all Linn devices to Standby
SourceSelect	S	Selects a source. If the source text is incorrect or the Linn device hasn't discovered the source, 'Notification_Subpage' will be pulsed with a notification message. If the selection fails, the module will remain on the previous source
SelectTidal	D	Selects Tidal to browse
SelectQuobus	D	Selects Quobus to browse
SelectTuneIn	D	Selects TuneIn to browse
SelectUpnp	D	Selects Upnp to browse
SelectUpnpFavourite	D	Selects Upnp Favourite to browse
SelectPlaylist	D	Selects a playlist to browse
SelectRadio	D	Selects Radio to browse
Select_UPnP_1_As_Favourite to Select_UPnP_50_As_Favourite	D	Save A UPnP item as a favorite index by 'UPnP_1_Name to UPnP_50_Name'
PlayPause	D	Toggle between play and (pause/stop), depending on the source
Play	D	Begin playback
Pause	D	Pause playback



Manufacturer: Linn
 Model: DS Media Streamers
 Device Type: Media Player

Stop	D	Stop playback
FastForward	D	Scan forwards
Rewind	D	Scan backwards
SkipForward	D	Skip forward to the next track
SkipBackward	D	Skip backward to the previous track
Favourite	D	Set current track to favourite (if the source allows this)
Shuffle	D	Randomise playback
Repeat	D	Repeat playback
GroupVolumeUp	D	Increases the group volume
GroupVolumeDown	D	Decreases the group volume
GroupMuteOn	D	Enables mute for the group
GroupMuteOff	D	Disables mute for the group
GroupMuteToggle	D	Enables or disables mute for the group
DeviceVolumeUp	D	Increases the device volume
DeviceVolumeDown	D	Decreases the device volume
DeviceMuteOn	D	Enables device volume mute
DeviceMuteOff	D	Disables device volume mute
DeviceMuteToggle	D	Enables or disables device volume mute
NowPlaying_SeekAbsoluteSet	A	Move to a position in the currently playing track (0-100)
AddToGroup	D	Adds the 'Select_AvailableList_Item_[]' high signals to the current group
RemoveFromGroup	D	Removes the GroupList_[]_Selected high signals from the current group



Manufacturer: Linn
 Model: DS Media Streamers
 Device Type: Media Player

Select_GroupList_Item_1 to Select_GroupList_Item_50	D	Selects devices for removal from the group (pulse to toggle between selected and deselected)
GroupList_1_MuteToggle to GroupList_50_MuteToggle	D	Enables or disables mute for a grouped device (pulse to select and deselect)
GroupList_1_VolumeUp to GroupList_50_VolumeUp	D	Increases the volume of a grouped device
GroupList_1_VolumeDown to GroupList_50_VolumeDown	D	Decreases the volume of a grouped device
Select_AvailableList_Item_1 to Select_AvailableList_Item_50	D	Select devices for addition to a group (pulse to toggle between selected and deselected)
Browse_Back	D	Request data for the previous browse level in the hierarchy
Browse_ToRoot	D	Request data for the top browse level in the hierarchy
Browse_Main_Actions	D	'Action_ShowSubpage' will be set to high and 'Select_Action_Item_[x]' will be populated with available actions for the current browse list
Select_Browse_Item_1 to Select_Browse_Item_50	D	Selects an item in the browse list and performs its default action. Default action is usually Browse next level down or Play now
Get_Action_For_Browse_Item_1 to Get_Action_For_Browse_Item_50	D	'Action_ShowSubpage' will be set to high and 'Select_Action_Item_[x]' will be populated with available actions for the selected browse item
Select_Browse_Pagination_Item_1 to Select_Browse_Pagination_Item_100	D	Request Browse items for that page.
PlayQueue_Main_Actions	D	'Action_ShowSubpage' will be set to high and 'Select_Action_Item_[x]' will be populated with the available actions for PlayQueue list
Select_PlayQueue_Item_1 to Select_PlayQueue_Item_50	D	Selects an item in the PlayQueue list and performs its default action. Default action is usually Play now
Get_Action_For_PlayQueue_Item_1 to Get_Action_For_PlayQueue_Item_50	D	'Action_ShowSubpage' will be set to high and 'Select_Action_Item_[x]' will be populated with available action for PlayQueue item
Select_PlayQueue_Pagination_Item_1 to Select_PlayQueue_Pagination_Item_20	D	Request browse items for that page.
ActionCancel	D	Sets Action_ShowSubpage signal low



Manufacturer: Linn
 Model: DS Media Streamers
 Device Type: Media Player

Select_Action_Item_1 to Select_Action_Item_50	D	Perform action
TextEntry_String	S	Input String (MAX ENTRY of 255)
TextEntry_Ok	D	Performs action
TextEntry_Cancel	D	Sets signal 'TextEntry_Subpage' to low
Notification_Ok	D	Closes notification subpage

FEEDBACK (ControlPoint Module):

ControlPoint_Tx	S	Signal TO Control Bridge module
LinnDevices_IsAvailable	D	Value is 0 if no Linn devices are discovered
Current_Linn_Device	S	Name of currently selected Linn player
DeviceList_NumberOfItems	A	The number of Linn devices that have been discovered
DEVICE_NAME_1 to DEVICE_NAME_50	S	String Array[50] list of discovered names (Note that only names that fall into the range of 'DeviceList_NumberOfItems' are valid)
RoomsOn	D	Indicates if a Linn device is currently on
SourceList_NumberOfItems	A	The number of Linn sources found for the current Linn device
Sources_IsAvailable	D	Value is 0 if no sources are discovered
CurrentSource	S	Name of the currently selected source
SelectTidallsAvailable	D	Enable/disable the availability of Tidal
SelectQuobusIsAvailable	D	Enable/disable the availability of Quobus
SelectTuneInIsAvailable	D	Enable/disable the availability of TuneIn
SelectUpnpIsAvailable	D	Enable/disable the availability of Upnp



Manufacturer: Linn
 Model: DS Media Streamers
 Device Type: Media Player

SelectUpnpFavouriteIsAvailable	D	Enable/disable the availability of Upnp Favourite
SelectPlaylistIsAvailable	D	Enable/disable the availability of Playlist
SelectRadiolsAvailable	D	Enable/disable the availability of Radio
SourceName1 to SourceName50	S	String Array[50] list of available sources for the current Linn device (note that only names that fall into the range of 'SourceList_NumberOfItems' are valid)
Current_Favourite_UPnP	S	Currently selected Upnp favourite
UpnpList_IsAvailable	D	Value is 0 if no UPNP devices are discovered
UPnP_NumberOfItems	A	The number of My Music sources for currently selected device
UpnP_1_Name to UpnP_50_Name	S	String Array[50] list of available My Music Sources for currently selected device. Note that only Names that fall into the range of 'UpnP_NumberOfItems are valid.
PlayPause_state	A	Feedback indicating which button should be displayed in screen footer (0=play, 1=pause, 2=stop)
Buffering	D	Indicates if playback is buffering.
Waiting	D	Indicates if playback is busy.
Playing	D	Indicates if something is playing.
Paused	D	Indicates if playback is paused.
Stopped	D	Indicates if playback is stopped.
FavouriteSelected	D	Indicates the currently playing item is a favourite.
Shuffled	D	Indicates if playback is shuffled.
Repeating	D	Indicates if playback is set to repeat.
PlayPauselsAvailable	D	Indicates the availability of Play/Pause for the selected source
PlaysAvailable	D	Indicates the availability of Play for the selected source



Manufacturer: Linn
 Model: DS Media Streamers
 Device Type: Media Player

PauselsAvailable	D	Indicates the availability of Pause for the selected source
StopsAvailable	D	Indicates the availability of Stop for the selected source
SkipForwardIsAvailable	D	Indicates the availability of Skip Forward for the selected source
SkipBackwardsIsAvailable	D	Indicates the availability of Skip Backward for the selected source
SkipTrackForwardIsAvailable	D	Indicates the availability of Skip Track Forward for the selected source
SkipTrackBackwardsIsAvailable	D	Indicates the availability of Skip Track Backward for the selected source
ShuffleIsAvailable	D	Indicates the availability of Shuffle for the selected source
RepeatIsAvailable	D	Indicates the availability of Repeat for the selected source
GroupCurrentVolume	A	Reports the current group volume level (0-100)
GroupMuteIsOn	D	Indicates if the group volume mute is on
DeviceCurrentVolume	A	Reports the current device volume level (0-100)
DeviceMuteIsOn	D	Indicates if the device volume mute is on
NowPlaying_IsFavouriteAvailable	A	Indicates the availability of the Add to Favourites button
NowPlaying_CoverArtIsAvailable	A	Indicates the availability of cover art for the currently playing item
NowPlaying_GoTo	A	Suggested Page (go to now playing)
NowPlaying_CoverArt	S	Art Work for currently playing item
NowPlaying_MetaData1 to NowPlaying_MetaData6	S	The metadata fields for the currently playing item
NowPlaying_MetaText1 to NowPlaying_MetaText6	S	N/A
NowPlaying_CurrentProgress	D	Progress of the currently playing track (0-100)
NowPlaying_Time	D	Currently playing track total time



Manufacturer: Linn
 Model: DS Media Streamers
 Device Type: Media Player

NowPlaying_Duration	D	Currently playing track current time
AddToGroupsAvailable	D	Signal is high if any Select_AvailableList_Item_[] signals are currently high
RemoveFromGroupsAvailable	D	Signal is high if any GroupList_[]_Selected signals are currently high
GroupList_1_Selected to GroupList_50_Selected	D	Feedback indicating devices to remove
GroupList_NumberOfItems	A	The number of devices in the group
GroupList_1_Name to GroupList_50_Name	S	A string array, containing the names of the devices in the group (note that only names that fall into the range of 'GroupList_NumberOfItems' are valid)
GroupList_1_CurrentVolume to GroupList_50_CurrentVolume	A	The current volume level of a grouped device
AvailableList_1_Selected to AvailableList_50_Selected	D	Feedback indicating devices to add
AvailableRoomList_IsAvailable	D	Value is 0 if no rooms are available
AvailableList_NumberOfItems	A	The number of devices not currently grouped
AvailableList_1_Name to AvailableList_50_Name	S	A string array, containing the names of the devices available for grouping (note that only names that fall into the range of 'GroupList_NumberOfItems' are valid)
Browse_Back_IsAvailable	D	Signal is high when the current browse list is not the top level in the hierarchy
Browse_ToRoot_IsAvailable	D	Signal is high when the current browse list is one set from the top level in the hierarchy
Browse_Main_Actions_IsAvailable	D	Signal is high when there are actions available for the current browse list
Browse_GoToIndex	A	Controls list position
Source_Has_Browse	D	Signal is high when the currently selected source can be browsed
MediaList_Title	S	Text header of current browse level



Manufacturer: Linn
 Model: DS Media Streamers
 Device Type: Media Player

Browse_NumberOfItems	A	The number of items in the current browse list
Browse_Item_1Title to Browse_Item_200Title	S	Main text for browse entries (only Names that fall into the range of 'Browse_NumberOfItems are valid)
Browse_Item_1Subtitle to Browse_Item_50Subtitle	S	Main subtext for browse entries (only Names that fall into the range of 'Browse_NumberOfItems are valid)
Browse_Item_1CoverArt to Browse_Item_50CoverArt	S	Art work for browse entries (only Names that fall into the range of 'Browse_NumberOfItems are valid)
Browse_Item_1MoreActionIsAvailable to Browse_Item_50MoreActionIsAvailable	A	Signal is high when there are actions available for the current browse item
Browse_Item_1CoverArtsAvailable to Browse_Item_50CoverArtsAvailable	A	Signal is high when there is a cover art URL available for the current browse item
Browse_Pagination_IsAvailable	D	Signal is high when there are more than 50 entries for the current browse list
Browse_Pagination_NumberOfItems	A	The number of pages
Browse_Pagination_Item_Selected	A	The number of the selected page
Browse_Pagination_Item_1_Text to Browse_Pagination_Item_1000_Text	S	The page names
PlayQueue_GoToIndex	A	Controls list position
PlayQueue_NumberOfItems	A	Number of PlayQueue items on the current Page
Show_PlayQueue	D	Signal is high when there are one or more items in the PlayQueue
Queue_Main_Actions_IsAvailable	D	Signal is high when there are actions available for the PlayQueue
PlayQueue_Item_1_MetaText1 to PlayQueue_Item_50_MetaText1	S	Main Text for PlayQueue items (only Names that fall into the range of PlayQueue_NumberOfItems are valid)
PlayQueue_Item_1_MetaText2 to PlayQueue_Item_50_MetaText2	S	Main Subtext for PlayQueue items (only Names that fall into the range of PlayQueue_NumberOfItems are valid)
PlayQueue_Item_1_MetaText3 to PlayQueue_Item_50_MetaText3	S	Main Subtext for PlayQueue items (only Names that fall into the range of PlayQueue_NumberOfItems are valid)



Manufacturer: Linn
 Model: DS Media Streamers
 Device Type: Media Player

PlayQueue_Item_1_CoverArt to PlayQueue_Item_50_CoverArt	S	Art Work for PlayQueue items
PlayQueue_Item_1_CoverArtIsAvailable to PlayQueue_Item_50_CoverArtIsAvailable	D	Signal is high when there is a cover art URL available for the current PlayQueue item
PlayQueue_Item_1_Selected to PlayQueue_Item_50_Selected	A	Signal is high when a PlayQueue item is playing or waiting to be played
PlayQueue_Item_1_MoreActionsAvailable to PlayQueue_Item_50_MoreActionsAvailable	D	Signal is high when there are actions for the current PlayQueue item
Queue_Pagination_IsAvailable	D	Signal is high when there are more than 50 entries for the current PlayQueue
PlayQueue_Pagination_NumberOfItems	A	The number of pages
PlayQueue_Pagination_Item_Selected	A	The number of the selected page
PlayQueue_Pagination_Item_1_Text to PlayQueue_Pagination_Item_20_Text	S	The page names
Action_ShowSubpage	D	High subpage appears, low subpage disappears
Actions_NumberOfItems	A	Number of available actions
Select_Action_Item_1 to Select_Action_Item_50	S	Action names
TextEntry_Title	S	Selected action name
TextEntry_Text	S	"n/a"
TextEntry_Button	S	Text of action (Search, Save or Ok)
TextEntry_Subpage	D	High subpage appears, low subpage disappears
Notification_Title	S	Title of notification
Notification_Text	S	Text of notification
Notification_Subpage	D	High subpage appears, low subpage disappears
Loading_ShowSubpage	D	Signal is high when driver is loading entries



Manufacturer: Linn
 Model: DS Media Streamers
 Device Type: Media Player

PARAMETERS: (ControlPoint Module):

GATEWAY IP	S	The IP address of the device
GATEWAY PORT	S	The port number used to communicate with the device
LINN DEVICE	S	The name of the device
LOCALE	S	The preferred language for the device

ACTIONS: (ControlPoint Module):

Play Now	D	Play current item
Play Next	D	Add current item to the top of the PlayQueue
Play Later	D	Add current item to the bottom of the PlayQueue
Clear then Play Now	S	Clear PlayQueue and add current item
Favourite	S	Set current item as Favourite
Unfavourite	S	Unset current item as Favourite
Save playlist	S	'TextEntry_Subpage' will be set to high and 'TextEntry_Button' will be set to Save Enter a Playlist name into 'TextEntry_String' 'TextEntry_Ok ' will save the current item with the name 'TextEntry_String' then 'TextEntry_Subpage' will be set to low 'TextEntry_Cancel ' will set 'TextEntry_Subpage' to low
Add to playlist	S	Actions list is populated with all available Playlists
Remove from playlist	S	Remove the current item from the Playlist
Clear playlist	S	Clears all tracks from the Playlist



Manufacturer: Linn
 Model: DS Media Streamers
 Device Type: Media Player

Delete playlist	S	Remove Playlist
Move tracks to start of playlist	S	Move tracks to the top of the current item's Playlist
Move tracks to end of playlist	S	Move tracks to the bottom of the current item's Playlist
Move tracks in playlist	S	'Select_Browse_Item_[]' or Select_PlayQueue_Item_[] to move track in the Playlist
Search Albums	S	'TextEntry_Subpage' will be set to high and
Search Artists	S	'TextEntry_Button' will be set to Search
Search Classical	S	Enter a search string into 'TextEntry_String'
Search Tracks	S	'TextEntry_Ok ' will search 'TextEntry_String' in the selected item and display the results in the browse list,
Search Playlist	S	then 'TextEntry_Subpage' signal will be set to low 'TextEntry_Cancel ' will set 'TextEntry_Subpage' signal to low

TESTING:

OPS USED FOR TESTING:	1.502.3151.19579
SIMPL WINDOWS USED FOR TESTING:	4.09.04
DEVICE DB USED FOR TESTING:	91.00.002.00
CRES DB USED FOR TESTING:	66.00.002.00
SYMBOL LIBRARY USED FOR TESTING:	1053
SAMPLE PROGRAM:	LINN_DS_[version]_Demo_MC3
REVISION HISTORY:	4.1.36