

StreamStor™ Partitions Feature

In order to provide customers with the most flexible system for recording and playback of high speed digital data, Conduant Corporation is continually evaluating and developing features to enhance the StreamStor product line. A partitioning function is being developed to provide the ability to segment the available disk space into multiple partitions that can each be used independently for recording and playback. The benefits of using partitions include the ability to have multiple “wrapped” or circular buffer recordings resident on the StreamStor recorder and the ability to overwrite recordings without effecting recordings in other partitions.

In order to eliminate any impact to existing application software utilizing the StreamStor API, the partitioning functionality will be implemented as a layer above all existing API commands. Existing API functions will still operate correctly whether or not the StreamStor system in use has been partitioned. If a system has been partitioned there will always be a current or selected partition that the non-partition related commands will operate on. By default a partitioned system will select the first partition when initially opened. Existing applications without partition functionality will simply see what appears to be a StreamStor system with reduced capacity. New commands will be provided in the API to implement partition management functions.

A partitioned system will always have one or more partitions and an “undefined” area that has not yet been utilized to create a partition. Each new partition is created by using some or all of the undefined space. Creation of a partition is performed by supplying the desired size of the partition (not exceeding available). The StreamStor software will adjust the size requested to fit constraints of the system and create the partition from the undefined space working from the outer diameters of the disks inward. In this way the user has complete control over the number and size of each partition. The partitions can all be of the same or varying sizes. There will be a finite limit on the number of partitions that can be created but it is an arbitrary number to be established with customer input. The minimum size of a partition will be around one megabyte.

Functions will be added to the StreamStor API to facilitate management of the partitions on the system. The proposed initial management functions include:

PartitionCreate – Create partition on un-partitioned system or create additional partition.

PartitionSelect – Select a partition to become active.

PartitionInfo – Report number of partitions, allocated capacity, free capacity, selected partition and information (size) about selected partition.

PartitionErase – Erase partitions and all data. Restores system to default mode.

Most existing API commands will operate completely within the selected partition with some exceptions. Some of the effects of using partitions are described below for each API command. If using bank mode(s) the partition commands only effect the current bank. Auto bank switch modes cannot be used with partitioned systems.

XLRRecord, XLRAppend, XLRRead – All recording and read or playback is done only to/from the partition. No data is effected on non-selected partitions.

XLRSetWriteProtect, XLRClearWriteProtect – Sets or clears write protect only for the selected partition.

XLRErase – Only erases data on selected partition. To erase entire device you must first run PartitionErase and then run XLRErase.

XLRGetDirectory, XLRGetLength, etc. – Supplies directory information for selected partition only.

XLRGetDriveInfo – Unaffected by partitioning.

XLRGetUserDirectory, XLRSetUserDirectory – All user directories are partition specific.

XLRSetLabel, XLRGetLabel – All labels are partition specific.

XLRSetMode, XLRSetFPDPMMode – Setup is card specific and apply to any selected partition.

XLRSelectBank – Any change in the selected bank including a change caused by the power on/off switch will force the selection of the default partition if the newly selected bank was previously partitioned.

XLRSetBankMode – Auto modes not supported with partitioned systems.

XLRGetDeviceInfo – Unchanged except that total capacity is now the partition capacity.