

Part 1

328XD Snapshot and Dynamic Automation

The 328XD is capable of both Snapshot Automation and Dynamic Automation. Snapshot Automation can be carried out either by the recall of Snapshots against Timecode or by transmitting appropriate MIDI Program Change messages to the console. Dynamic Automation allows adjustments of any automatable 328XD parameter to be recorded and played back from any MIDI sequencer.

Snapshot Automation

RECALLING SNAPSHOTS AGAINST TIMECODE

Each Snapshot can be allocated a Timecode Address. For details on the different ways in which this can be done, see **Section 3J Part 2**. When the 328XD is configured to receive incoming Timecode or is generating timecode internally, the console can be set to recall Snapshots with an assigned Timecode Address. When the Timecode Display passes through the relevant frame the Snapshot will be recalled. In this way, the console can be automated without the need for a MIDI sequencer.

To set SNAP TO TIME globally for subsequently stored Snapshots refer to **Section 3J Part 5.15**. Alternatively, if you have already created Snapshots to which you wish to allocate Timecode Addresses refer to **Section 3J Part 2**. To view the list of stored Snapshots by assigned Timecode Address refer to **Section 3J Part 5.15**.

Once you have configured stored Snapshots with Timecode Addresses, set up the console to receive incoming SMPTE or MIDI Timecode from your Tape Machine (see **Section 3J Part 5.13**). Press Play on the 328XD Transport Controls or on the remote Tape Machine to run the 328XD Timecode Display. When a frame to which a Snapshot is assigned is passed, the console will automatically recall the Snapshot.

RECALLING SNAPSHOTS WITH MIDI PROGRAM CHANGE MESSAGES

Snapshot locations 1-100 and User Setup locations 1-26 are configured with predefined MIDI Program Change messages. In the same way that a MIDI keyboard patch can be remotely recalled from a MIDI sequencer, a 328XD Snapshot or User Setup can be recalled.

NOTE: Snapshot recall via MIDI Program Changes does not require MIDI Dynauto to be switched On (see **Section 3J Part 5.16**).

The MIDI Program Changes against which Snapshots and User Setups are recalled are defined as follows:

Snapshot / User Setup	MIDI Program Change
Snapshot #1	0 (00H)
Snapshot #2	1 (01H)
...	...
Snapshot #99	98 (62H)
Snapshot #100	99 (63H)
User Setup #1	100 (64H)
User Setup #2	101 (65H)
...	...
User Setup #25	124 (7CH)
User Setup #26	125 (7DH)

The MIDI Channel on which Program Changes must be received is specified on the MIDI Channel page of the User Options menu (see **Section 3J Part 5.2**). If OMNI mode is set to ON, any MIDI Program Change received at the 328XD MIDI In port will instruct the console to recall the corresponding Snapshot or User Setup, regardless of the MIDI Channel on which it was transmitted.

In practice, Snapshot automation with MIDI Program Change messages can be carried out in one of two ways. Either MIDI Program Changes can be written into the sequencer or manually recalled Snapshots can be recorded into the sequencer on the fly as the sequence is played back.

In both instances, prepare and store Snapshots that are appropriate to specific points of a MIDI sequence. To insert MIDI Program Changes manually into the sequence, consult your sequencer documentation and the table above. For example, if you wished to recall stored Snapshot #5, firstly ensure that MIDI Recall is set to ON for that Snapshot (see **Section 3J Part 2**). Next insert MIDI Program Change 4 (04H) into a 328XD MIDI track at the point at which you wish the Snapshot to be recalled. As the sequence plays through that point, the MIDI Program Change will be transmitted to the 328XD, which will recall Snapshot #5.

NOTE: Some sequencers can be set to refer to MIDI Program Changes 0-127 as 1-128. If your sequencer is capable of this, it can be helpful when programming MIDI Program Changes into the sequencer for recall of 328XD Snapshots and User Setups. Consult your sequencer documentation for more information.

The second method of Snapshot automation makes use of the MIDI Program Change transmitted from the 328XD MIDI Out port when the corresponding Snapshot is recalled manually from the console surface. In the same way as a MIDI keyboard is used to input notes into the sequencer, so can the 328XD be used to input relevant MIDI Program Change information. Connect the 328XD MIDI Out to the MIDI In of the sequencer, set a 328XD MIDI track to record and manually recall the Snapshots as the track passes. On replay of the track, the MIDI Program Changes will be retransmitted to the 328XD, remotely recalling the Snapshots.

NOTE: The appropriate MIDI Program Change message is always transmitted from the 328XD MIDI Out port when a Snapshot is recalled, regardless of the MIDI Recall On/Off state.

Dynamic Automation

The 328XD's automatable parameters are listed in Appendix 1. By referring to the table, you will see that each parameter is assigned a specific, predefined MIDI Continuous Controller on a specific MIDI channel. Due to the large number of automatable parameters, all available 16 MIDI Channels are employed. If a Write mode is selected in the Automation Setup menu (see **Section 3J Part 5.16**), adjusting an automatable parameter will transmit the appropriate values of the corresponding MIDI Continuous Controller from the MIDI Out port. This enables any automation movements to be recorded into a MIDI sequencer. When a Read mode is selected in the Automation Setup menu, reception of relevant Continuous Controller values at the MIDI In port will instruct the 328XD to automate the corresponding parameter accordingly.

Refer also to **Section 3J Part 5.16** for more information on the automation modes.

READ/WRITE AUTOMATION MODE

In practice, READ/WRITE mode allows bi-directional communication with the host sequencer. Automation data is transmitted from the MIDI Out port while data received at the MIDI In port is interpreted by the console. For simple dynamic automation, READ/WRITE mode can be used without the need to change modes.

READ ONLY AUTOMATION MODE

To read previously recorded automation data from the sequencer without transmitting data, READ ONLY mode should be selected. It is advisable to put the console into this mode when you have data recorded but wish to work on other sections of your MIDI sequence. This practice will prevent MIDI data from being transmitted from the console 'thru' the sequencer to a connected synthesiser, for example. Employing standard MIDI Continuous Controller messages means that other connected MIDI equipment may be altered by adjusting a 328XD parameter, which can result in unintended patch editing! Putting the console into READ ONLY automation mode will avoid this.

WRITE ONLY AUTOMATION MODE

You may wish to record a number of automation passes over the same section of a track, so that you can audition each individually and decide upon the best take. If possible, put the sequencer into a looped record mode, during which it will create an additional track each time the loop is begun. WRITE ONLY mode prevents the previously recorded passes from interfering with the next looped pass. Once a number of passes have been made, the console should be put into a Read mode to audition each pass in turn.

UPDATE AUTOMATION MODE

The fourth automation mode allows previously recorded automation data to be adjusted without the need to delve into the sequencer's editing pages to adjust Continuous Controller values. UPDATE mode acts as READ ONLY mode until an automatable parameter is adjusted on the console. The adjusted parameter(s) will then immediately enter WRITE ONLY mode until READ ONLY or READ/WRITE is reselected. The remainder of the console's automatable parameters will remain in READ ONLY mode until adjusted.

To use UPDATE mode, isolate the region of the automation track which requires updating and create a new 328XD MIDI track. Arm this track and put the sequencer into record. Make any adjustments as required. Due to the motorised nature of the 328XD faders, if you need to adjust fader automation, the E-Strip encoders should be used in Level mode.

Once the automation update has been made, you must delete the section of previously recorded data which has been replaced. When set to UPDATE mode, the 328XD merges the incoming data with the outgoing data. The new pass will therefore contain both the old data and the new replaced data. To avoid transmitting conflicting automation data, only the new pass should be played back to the console.

FURTHER AUTOMATION TIPS

You must ensure that MIDI Thru is disabled for at least the 328XD MIDI port within your sequencer. Unlike MIDI synthesisers, the console cannot be put into a Local Off mode due to the way in which the motorized faders adjust the audio levels directly within the console.

Manually record a Snapshot recall or program into the sequencer the appropriate MIDI Program Change at the beginning of the MIDI sequence so that the console is synchronized at the start of the track. Alternatively the Automation MIDI dump can be used to transmit Continuous Controller values for all automatable parameters.

Set the sequencer to follow or 'chase' Continuous Controller values. In this way, picking up from the middle of an automation track will transmit the last recorded value for any automated parameters, synchronizing the console with the track.

The editing features of many sequencers allow Continuous Controller data to be edited or drawn. For a smooth fade, for example, you can consult the table in Appendix 1 and draw the required Continuous Controller into the sequencer. Playback of this data will then automate the required 328XD parameter.

Ensure that the sequencer is set not to transmit a Continuous Controller reset message on Stop - this will prevent unwanted messages being transmitted to the console which would otherwise respond to the zero value received.

Pressing the ◀ and ▶ FUNCTION keys simultaneously while the LCD is in VALUE mode will switch automation mode between READ ONLY and READ/WRITE.

Note that while Compressor/limiter and gate BYPASS switches are automatable, other dynamics parameters are not.