

X32 Effects Overview

The purpose of this document is to provide a brief overview of the effects on the X32, how they might be used, any limitations on where they can be placed and a link to an instructional video for each effect where available.

EFFECTS OVERVIEW

The X32 has 48 effects that simulate previous analogue effect units that used tubes, rectifiers and amplifiers. Effects are used in many ways and for many different reasons including solving a problem with the original captured sound, fitting the sound from different sources into a mix and/or creating a sound that is not possible without the use of special equipment. Examples of effect usage include:

- Fixing the 'thump' in a base drum
- Improving the quality of an inexpensive guitar
- Bringing a bass guitar into mix without overpowering the mix
- Improving the presence of an electronic piano with weak upper keys
- Improving the depth of the final mix
- Bringing a weak singer back into the mix
- Tailoring the mix to a room
- Simulating a concert that is outside, in a concert hall or even in a stadium
- Simulating a rotating speaker
- ...

A 2-hour webinar on the X32 effects can be viewed at: [Effects Webinar](#)

Effect Types

The Effects in the X32 can be divided into the following types:

- **Reverbs:**
These effects simulate the sound produced in a room of varying sizes by recreating the 'reverberations' present in those rooms. There are ten (10) dedicated reverb effects.
- **Delays:**
These effects repeat the input sound after a specified time and insert it back into the mix at a specified level creating an echo effect. The repeat is impacted by the tempo of the sound which is set by 'tapping'. There are three (3) dedicated delay effects.
- **Compressors:**
These effects compress (reduce) and/or increase the sound level at different frequencies ranges. Many of the compressors can be duplicated by channel equalization, but compressors are dynamic whereas equalizers always impact the sound in the same way regardless of the sound level. There are five (5) dedicated compressor effects.
- **Stereo Enhancers:**
These effects further separate the sound between the left and right channels in various ways. There are two (2) dedicated stereo enhancer effects.

- **Chorus Effects:**
These effects create a thicker sound simulating multiple inputs (singers or instruments) where only one is present. There are two (2) dedicated chorus effects.
- **Equalizers:**
These effects increase or decrease the level of specific frequencies within the sound processed. There are six (6) dedicated Equalizers.
- **Specialized Effects:**
These effects perform a specialized effect that fixes a specific problem or duplicates a specific piece of analogue equipment. Each one is unique and cannot be grouped into any of the above types. There are thirteen (13) specialized effects.
- **Combination Effects:**
These effects combine two effects into a single effect saving an effects rack and allowing the application of two effects to a single source without the requirement of using a mix bus. There are five (5) combination effects.

USING EFFECTS

Effects can be applied to sound in two ways:

1. **Side-Chain Effects:**
Side-Chain Effects process sound from a mix bus and send the result to 'effect stereo returns' for that effect. This allows a single effect to process sound from multiple input channels by sending the sound from those channels to the mix bus assigned to that effect.
2. **Insert Effects:**
Insert effects are assigned to a single input channel, mix bus, matrix bus or output bus. They process the sound on that channel or bus, and the result is the output from that channel or bus.

Effects can be combined in creative ways to apply multiple effects to the same sound path by having multiple channels assigned to the same input, multiple mix buses, matrix buses and output buses with different effects assigned or inserted on each in the sound path.

Effect Racks

Effects are placed in an effect rack so they can be used to process sound. The X32 has eight (8) effect 'racks'; the first four effect racks (FX1-FX4) can be 'side-chain' effects and the last four effect racks (FX5-FX8) are 'insert' effects only. The first four effect racks (FX1-FX4) can also be used as 'insert' effects. Some effects can only be placed in the first four (FX1-FX4) or the last four (4) effect racks (FX5-FX8). Many effects can be placed on any effect rack.

Side-Chain Effects

Side-chain effects are effects assigned to the first four (4) effect buses (FX1-FX4). Side-chain effects are assigned to a mix bus and the output of the effect is returned through effect stereo returns (2 channels) for each effect. Any channel where the effect is desired can be 'sent' to the effect's bus. The send to the effect bus should be set to post fader with the send level 'balanced' between the channels assigned to that bus. The fader of the effect bus controls the level of sound sent to the effect and is used to control

the 'level' or amount of the effect in the final mix. Dynamics (compression) and 6-band graphic equalization can be applied to the effect's bus to tailor the sound sent to the effect.

The side-chain's 'effect return channel' has a four-band equalizer but no channel dynamics or inserts. This allows the 'tailoring' of the effect result. Normally the return is then sent to the main outputs and combined with the other channels assigned to the main outputs. The level of the send to the main outputs is controlled by the effect return faders and the settings in the Main Sends of the 'effect return channel'.

The effect return can also be sent to any of the 16 mix buses on the X32. The level sent to the bus is controlled by the level of the send and the effect return fader if the send is set to post fader. This allows you to add the effect to other outputs (ex. monitor and/or remote speaker outputs). You can 'split' the return channels for an effect and send each channel (left and right) to different buses. You can also 'chain' effects by sending the return of one effect to the input bus for another effect, but I could not find an example of this being done. **WARNING:** You can also send the return for an effect to the input bus for that effect, creating an internal feedback loop in the mixer.

Instructional video: [Side-Chain](#)

Insert Effects

An 'insert' effect is inserted in a specified channel or bus and only impacts the sound in that channel or bus. The level of the impact is controlled by the 'mix' setting in the effect. This controls what percentage of the final sound is 'dry' (unaffected) and 'wet' (modified by the effect).

The effect can be inserted pre-equalization/dynamics and post-fader. The sequence of the equalizer and dynamics are variable by channel/bus and the insert always precedes both when that option is selected.

Instructional video: [Effect Insert](#)

Effect Versions

Many effects have two versions:

- **Stereo Effect:** The stereo version of an effect has two inputs and two outputs. It applies the same effect to both input channels and produces two outputs (left and right).
- **Dual Effect:** The dual effect version of an effect has two copies of the same effect with one input and one output channel for each copy.

EFFECT DESCRIPTIONS

The following are brief descriptions of each effect with examples of how they can be used:

Reverb Effects

Reverb effects simulate the sound produced in a room of varying sizes by recreating the 'echoes' present in those rooms. All reverb effects can only be placed in the first four effect racks (FX1-FX4).

AMBIENCE EFFECT

Ambience creates a customizable virtual acoustic space in which to place the elements of a mix. Use Ambience to add warmth and depth without coloring the direct sound.

HALL REVERB

Hall Reverb simulates the reverberation that occurs when sound is recorded in medium to large-sized concert halls. Use the Hall Reverb to give the mix a lush, three-dimensional quality that will make the performance sound larger than life.

RICH PLATE REVERB

Rich Plate Reverb was originally created by sending a signal through a transducer to create vibrations on a plate of sheet metal which were then picked up as an audio signal. The algorithm simulates that sound with high initial diffusion and a bright-colored sound.

ROOM REVERB

Room Reverb simulates the reverberation that occurs when sound is recorded in a small room. It adds a bit of warmth and just a touch of reverb. It can breathe life into close-miked guitar and drum tracks.

CHAMBER REVERB

Chamber Reverb simulates the reverberation found in medium sized spaces, somewhere between the intimacy of a small room, and the grandeur of a large hall.

PLATED REVERB

Plated Reverb is different version of the Rich Plate Reverb and was originally created by sending a signal through a transducer to create vibrations on a plate of sheet metal which were then picked up as an audio signal. The effect simulates that sound with high initial diffusion and a bright-colored sound. The Plated Reverb will give tracks the sound heard on countless hit records since the late 1950s.

VINTAGE REVERB

Based on the legendary EMT250; the Vintage Reverb delivers shimmering, bright reverb that won't drown out or overpower your live or recorded tracks. Use Vintage Reverb to sweeten vocals and snare drums without sacrificing clarity.

Instructional Video: [Vintage Reverb](#)

VINTAGE ROOM

Vintage Room simulates the reverberation that occurs when sound is recorded in a small room. This effect is close to the Room Reverb effect and will have a similar impact on the sound.

GATED REVERB

This effect was originally achieved by combining a reverb with a noise gate. The gated reverb creates the same impression by a special shaping of the reverb tail. Gated Reverb is especially effective for creating a 1980's-style snare sound, or to enlarge the presence of a kick drum.

REVERSE REVERB

Reverse Reverb takes the trail of a reverb, turns it around, and places it in front of the sound source. Use the swelling crescendo of the Reverse Reverb to add an ethereal quality to vocal and snare drum tracks.

Delay Effects

Delay effects repeat the input sound after a specified time and insert it back into the mix at a specified level creating an echo effect. The repeat is impacted by the tempo of the sound which is set by 'tapping'. All delay effects can only be placed in the first four effect racks (FX1-FX4). Only Stereo versions of these effects are available.

STEREO DELAY

Stereo Delay provides independent control of left and right delay (echo) times, and features high- and low-pass filters for enhanced tone-shaping of the delayed signals. Use the Stereo Delay to give mono signals a wide presence in the stereo field. This effect can also be used to create a musical repeat of a word or phrase in a song.

Instructional Video: [Stereo Delay](#)

TRIPLE DELAY

Sometimes called a 3-Tap Delay, the Triple Delay provides three delay stages with independent frequency, gain and pan controls. Create time-based echo effects with the triple delay to increase the sense of stereo separation.

RHYTHM DELAY

The Rhythm Delay, or 4-Tap Delay, provides four delay stages with independent frequency, gain and pan controls. Create time-based echo effects with the quadruple delay to increase the sense of stereo separation.

Compressors

Most compressors can be placed in the first four (4) and the last four (4) effect racks (exceptions noted).

EXCITER

Exciters increase presence and intelligibility in live sound applications, and are indispensable for adding clarity, air and harmonic overtones in the recording studio. This effect is particularly useful for filling out the sound in difficult rooms and for producing a more natural live/recorded sound. Stereo and Dual versions are available.

COMBINATOR

The Combinator is a five-band compressor that emulates famous broadcasting and mastering compressors. A highly complex processor, the Combinator utilizes automatic parameter control that produces stunning and "inaudible" results. It can be used to create a specific sound curve to match the

requirements of a specific room or ‘fix’ sound inputs. Stereo and Dual versions are available. It can only be used on the first four (4) effect racks (FX1-FX4).

Combinator instructional videos: [Combinator Part 1](#) [Combinator Part 2](#)

Other Combinator instructional videos: [Combinator Part 1](#) [Combinator Part 2](#)

FAIR COMPRESSOR

This compressor delivers some of the finest colorations in compressor history. Two small trim VRs preset the control side chain action, a six-step switch determines the timing, and the two-large input and Threshold knobs adjust the levels. This effect is available in three (3) versions; stereo, dual and M/S.

Fair Compressor instructional videos: [Fair Compressor Part 1](#) [Fair Compressor Part 2](#)

LEISURE COMPRESSOR

A very popular compressor because of its ease of use, it is especially effective with vocals by allowing you to ‘squash’ the vocals and still have them sound natural. Stereo and Dual versions are available.

Instructional Video: [Leisure Compressor](#)

ULTIMO COMPRESSOR

Famous for its fast attack and release; this is a fantastic compressor to use on drum overheads for adding a bit of liveliness, using on bass guitar for getting some compression and grit at the same time, and is also a great compressor to use on other instruments like the snare or guitar. Stereo and Dual versions are available.

Link: [Ultimo Compressor](#)

Stereo Enhancers

These effects further separate the sound between the left and right channels in various ways. They can be placed in any Effect Rack (FX1-FX8). These effects are not available in Dual versions.

STEREO IMAGER

This effect is typically used to control the placement of a signal within the stereo field during mixdown or mastering. It will lend a professional quality to both live and recorded performances. Stereo and Dual versions are available.

EDISON EX1

The Edison EX1 is an unbelievably powerful psycho-acoustic processor, which allows you to completely manipulate all spatial parameters of the stereo image — such as width and depth. It can widen or narrow the stereo spread, bring instruments to the front or move them to the background, and make corrections to the stereo image — even on a finished master. Stereo and Dual versions are available.

Chorus Effects

These effects create a thicker sound simulating multiple inputs (vocals or instruments) where only one is present. These effects are only available of the first four (4) effect racks (FX1-FX4).

STEREO CHORUS

Stereo Chorus samples the input, slightly detunes it and mixes it with the original signal to produce a somewhat thicker, shimmering sound. Use it to thicken up background vocals, or to double the sound of brass and woodwind instruments. Only a stereo version is available.

DIMENSION-CHORUS

A simpler effect than the Stereo Chorus, it produces the same effect with less control over the result. Only a stereo version is available.

Equalizers

These effects increase or decrease the level of specific frequencies within the sound processed.

XTEC EQ1

This effect provides gain, boost and attenuation in selectable low and high frequency bands. The XTEC EQ1 is a useful effect when trying to create a more vintage sounding mix, however, similar results can be achieved when using the standard EQ built into the board. Usually combined with an EQ5 to provide equalization in a recording studio. Stereo and Dual versions are available.

Instructional Video: [Xtec EQ1](#)

XTEC EQ5

The MEQ-5 gives two boost bands and one cut band of EQ ranging from 200Hz-7kHz. The XTEC EQ5 is a useful effect when trying to create a more vintage sounding mix, however, similar results can be achieved when using the standard EQ built into the board. Usually combined with an EQ1 to provide equalization in a recording studio. Stereo and Dual versions are available.

Instructional Video: [Xtec EQ5](#)

ENHANCER

The Enhancer is a so called 'Psycho EQ'. It can enhance the signal spectrum in bass, midrange and high frequencies, but it differs from traditional EQs. When you need to generate maximum punch, clarity and detail, without turning up the overall volume, the enhancer is the solution. Stereo and Dual versions are available. The stereo version also has a stereo spread effect.

Instructional Video: [Enhancer](#)

GRAPHIC EQUALIZER

This effects provide 31 bands of up or down adjustment of up to 15 dB from 20Hz to 20kHz. Stereo and Dual versions are available. The effect is only available on the last four (4) effect racks (FX5-FX8).

TRUEQ GRAPHIC EQUALIZER

This effect includes the same capabilities as the Graphic Equalizer and incorporates an algorithm to compensate for adjustment overlapping. Stereo and Dual versions are available. The effect is only available on the last four (4) effect racks (FX5-FX8).

Specialized Effects

These effects perform apply a specialized effect that duplicates a specific situation or piece of analogue equipment. Each one is unique and effect the sound in different ways.

STEREO FLANGER

The Flanger emulates the phase-shifting sound (comb-filtering) originally created by applying pressure against the flange of the reel on a tape recorder. This effect creates a unique 'wobbly' sound that is quite dramatic when used on vocals and instruments. A Dual version is not available. It is only available on the first four (4) effect racks (FX1-FX4).

STEREO PHASER

A Stereo Phaser, or phase shaper, applies multiple STAGES of modulated filters to the input signal to create a 'notch' in the frequency response, and then applies a MIX with the original for a swirling' effect. Use the Stereo Phaser to add a 'spaced-out' sound to vocal or instrumental tracks. A Dual version is not available. It is available on all effect racks (FX1-FX8).

MOOD FILTER

The Mood Filter uses an LFO generator and an auto-envelope generator to control a VCF (voltage-control filter), as well as a side-chain function, where the channel B signal controls the envelope of channel A. When applied to electronic instruments, the Mood Filter can be used to emulate the natural sound of acoustic instruments. A Dual version is not available. It is available on all effect racks (FX1-FX8).

ROTARY SPEAKER

Rotary Speaker emulates the sound of a Leslie rotating speaker. The Rotary Speaker provides more flexibility than its electro-mechanical counterpart, and can be used with a variety of instruments, and even vocals, to create a whirling, psychedelic effect. A Dual version is not available. It is only available on the first four (4) effect racks (FX1-FX4).

TREMOLO/PANNER

Tremolo/Panner creates an up and down volume change at a constant and even tempo just like the guitar amps of yesteryear. Use the effect to add a unique 'surf-music' texture to a vocal or instrumental track. A Dual version is not available. It is available on all effect racks (FX1-FX8).

SUBOCTAVER

The Suboctaver Effect combines the input signal with a digitally synthesized sound one or two octaves below the original signal. This can be used to thicken up guitar sounds, or to add extra 'punch' to kick drums. A Dual version is not available. It is available on all effect racks (FX1-FX8).

DEESSER

De-essing is an audio effect designed to reduce the amount of excessive sibilance in an audio signal, usually when dealing with the human voice pronouncing a word that ends in 's'. The DeEsser accurately and seamlessly removes sibilance from audio tracks. Available in Stereo and Dual versions. It is available on all effect racks (FX1-FX8).

Instructional Video: [DeEsser](#)

WAVE DESIGNER

Wave Designer is a powerful tool for adjusting signal transients and dynamics such as attack and sustain. Use it to make a snare drum really crack in the mix, or level out volume inconsistencies of slap bass tracks. Only available in the Dual Version. It is available on all effect racks (FX1-FX8).

Instructional Video: [Wave Designer](#)

STEREO PRECISION LIMITER

This Stereo Precision Limiter allows you to set a precise volume limit, ensuring distortion-free, optimal signal integrity. Use the X32's Stereo Precision Limiter to boost quiet signals or prevent clipping while preserving the level of 'hot' signals. A Dual version is not available. It is available on all effect racks (FX1-FX8).

SOUND MAXER

The Sound Maxer restores natural brilliance and clarity to any audio signal by adjusting the phase and amplitude integrity to reveal more of the natural texture of the sound, which is often hidden when using some effects and equalizers. Not available in the Dual version. It is available on all effect racks (FX1-FX8).

Instructional Video: [Sound Maxer](#)

GUITAR AMP

Modelled after the Tech 21 SansAmp, the Guitar Amp simulates the sound of plugging into a real guitar amp. From shimmering cleans to saturated crunch, the Guitar Amp allows an electric guitar player to recreate the sound of a guitar amp without using an amp on stage. Available in Stereo and Dual versions. It is available on all effect racks (FX1-FX8).

TUBE STAGE

Tube Stage / Overdrive is a versatile effect capable of emulating a variety of modern and classic tube amps. Use Tube Stage to dial in warm and fuzzy sounds from subtle to fully-saturated. Available in stereo and dual versions. It is available on all effect racks (FX1-FX8).

PITCH SHIFTER

Pitch shifting is often used in two different ways; one is to set the MIX control to a low level and only use the CENT control to make a small offset in pitch between the wet and dry tones. This results in a 'voice doubling' effect that thickens the overall sound in a subtle way. The extreme use of this effect is to turn the MIX control fully-clockwise so that the full sound is affected. This way, the signal can be shifted into other keys up to an octave above or below the original key. When used on a voice, it results in a 'chipmunk' sound or a low, 'Darth Vader' effect. Available in stereo and dual versions. It is only available on the first four (4) effect racks (FX1-FX4).

Combination Effects:

These effects combine two effects into a single effect saving an effects rack and allowing the application of two effects to a single source without the requirement of using a mix bus. Combination effects are only available in the Stereo version and on the first four (4) effect racks (FX1-FX4).

DELAY + CHAMBER

Combines the Delay and Chamber reverb effects, so that a single device can supply a variety of delay settings, plus adjust the right amount of reverb to the selected signal.

CHORUS + CHAMBER

Combines the shimmer and doubling characteristics of a studio-grade chorus with the sweet sound of a traditional chamber reverb.

FLANGER + CHAMBER

Combines the filter-sweeping effect of a Flanger with the elegant sweetening of a traditional chamber reverb.

DELAY + CHORUS

Merges a user-definable delay (echo) with a studio-quality chorus to fatten up skinny tracks.

DELAY + FLANGER

Blends the 'whoosh' of soaring jet planes with a classic delay, and can be adjusted from mild to wild.