

Bolling Design



DYNAX3 mk2

(June 2022)



“*Dynamic sound shaper*”

USER MANUAL

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All repairs are made in factory, packaging, shipping and insurances in charge of the machine owner.

Audio Tech may exchange new or rebuilt parts for defective parts. Please contact the factory for an RMA number prior to shipment. No product will be accepted for warranty service without a pre-issued RMA number.

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Bolling Design ROHS and CE Compliance

With respect to Article 2.1 and 3 of the RoHS Directive, the Dynax falls under category 9. Equipment in this category are completely exempt from requirements of the RoHS Directive. Nevertheless, the Dynax is compliant with the RoHS Directive.

The unit is compliant to CE rules. Power supply is compliant to CEI/EN 61558-2-6

IMPORTANT:

Operating the unit before the unit is totally warm may cause the Dynax not to work at its full potential.

Plug the unit in well ahead of the time you will need it. One hour is a good start.

Warming of the meter section can take one hour too. You may have to use a screwdriver to perform a more accurate metering calibration after warming time. The temperature rise is no cause for concern, but allowing for some airflow is always a benefit from a long-term reliability standpoint.

It is strongly recommended that the Dynax be left powered-on for fixed installations.

Front panel legend markings reflect approximate values, which may vary from unit to unit due to components tolerances, environmental conditions, normal aging, etc.

THIS UNIT CONTAINS NO USER-SERVICEABLE PARTS.

Warning : risk of electric shock if cover is removed.

Opening cover void your guaranty.

In the event of unit operational failure, contact Audio Tech service and technical support or your geographic authorized distributor. Please be prepared to describe in detail the exact problem that the unit is experiencing, including : failure conditions, system signal flow, exact failure manifestation, events and actions leading to the failure, etc. Also, be able to quickly provide contact information and the unit's serial number.

It is highly recommended that customers do not attempt to troubleshoot their own units or have them serviced at unauthorized repair centers. Opening the case of the unit will void the Audio Tech warranty. These measures also act to protect Audio Tech intellectual property so that Audio Tech may continue to design high-end professional audio peripherals.

In any case, always refer to this manual, or contact your authorized dealer.

List is available at : <https://bolling-design.myshopify.com/>

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Thanks for buying a Bolling Design analog audio machine.

Made in France.

History :

The **Dynax3** is the continuity of an old project, started in the 90's , prototypes released in 2003 at Plus XXX studios and tested during a lot of great mixing sessions(France, USA, Japan). Presented officially at 2006 Paris and San Francisco AES conventions, first machines were mono (Dynax).

Released in stereo (Dynax2) during 2007 New York AES convention.

Dynax2 was used for so different projects , from Prince concerts to Manny Marroquin mixes...

Dynax2 user comes from different areas and music environments.

Jazz, Classical, Pop, RnB ,studio, concert, mastering...



2010 Dynax2 (MK4)



2021 DYNAX3 (mk1)

What' s new in DYNAX3 ?

The original sound is preserved and we can say that the Dynax3 is a DYNAX2 with several new features .

Dynax3 could be ordered in 2 versions:

- Transfoless
- Transformer output stage (like in Dynax and Dynax2).

New features:

- Blend function, that permit to mix original and processed signal (stereo).
- Release is expended
- SORGIN (means Sorcer in Bask language): makes your machine a sort of compressor envelope follower.
- Side Chain has new circuitry, you can insert on the side chain path and listen it.

Some differences:

- Metering: only gain reduction (GR)
- Threshold sensitivity on front panel.
- ANTIDYNA extra gain is now selectable on front panel
- Stéréo adjust knob on front panel (was a trimmer previously).

Dynax3 , what for ?

You can find your own way using the DYNAX3.

Our customers use it for mastering (classical music to Rock), bus compression,concerts, drum tracking , sound design...

It owns different sweet spots, you will find yours!

Technical aspect:

Dynax3 is a dynamic processor, compressor /Limiter with a dry/processed mixer (Blender).

Input stage is an op amp DC servo circuit.

VCA components are based on selected and paired Opto Cells.

Output amp is available in 2 versions:

- Solid State plus Sowter (made in UK) transformers
- Op amp based balanced output stage

PSU can run on 110 or 230 V AC mains by switching an internal switch.

! DANGER : lethal voltages inside.Never open covers when machine plugged to the mains!

Opto cells were selected as VCAs in order to minimize distortion.

This feature permits 2 different features:

- Limiting with very low artefacts
- Limiting strongly in order to create new sounds , based on dynamic more than on harmonic distortion.

Controls:

DYNAX3 is a DIRECT FEED compressor /limiter.

That means that the input is fed directly to the gain control element (VCA).

You don't need to control an input knob in order to control the threshold.

This is more like a unit gain unit, with a threshold control that send a part of the input to the VCA and an output gain in order to compensate the level loss due to compression (make up).

Input and output are balanced.

*The unique sound of the Dynax3 is due to premium selected components and **unique design**.*

- **Audio Path :**



- . By Pas is a true hardware by pass (in By Pass, no electronic s is engaged in the audio circuitry).
- . IN means that DYNAX3 is on operation
- . SC Listen means that DYNAX3 outputs are fed by the Side Chain signal. You can ear the Bass Drive filter and everything you have inserted (only in external SC mode).

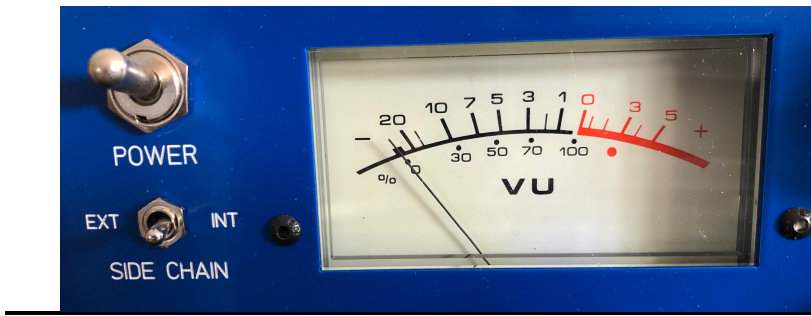


- . DYN LEVEL is the compresseur/limiteur gain (make up)
- . +12 dB A/D only is an extra gain (in AntiDyna, you can make gain reduction like 40 dB, this extra gain could be usefull in order to have a coherent level on output.
- .Stereo adjust modify on channel level in order to perform a regular stereo level.



- .Blend is a stereo mixer.WET means that you are 100% on the compresseur /limiter audio path, Dry means that you are on the buffered input audio path.
- At 6 , you are 50/50 .
- Note that the wet level is affected by the Dynamic Level control.

- **Control Path :**



.POWER : Turns ON the machine

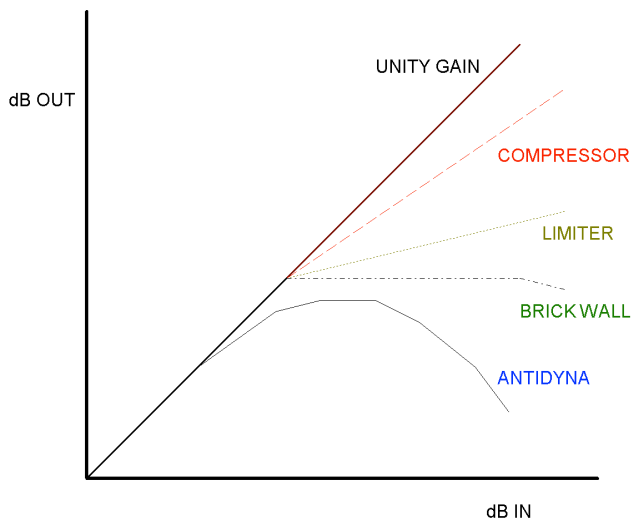
.METER reflects Gain Reduction

Please , note that meter light is dimmed when machine is in By Pass mode and that light turns red when close to peak...

.EXT / IN SIDE CHAIN: select side chain source (from 1/4" jack in EXT).



.RATIOS: Dynax3 is a soft knee compressor, offering 4 ratios.



**ALSO DYNAX2
RATIOS**



.THRESHOLD: this is the control for the level where the compressors acts
.Threshold Range: due to the fact that you can use it for heavy levels (mastering) or normal levels (tracking), you can select on front panel the range.



.Time constant: Attack and Release.
 Please, note that those settings have a non usual range.
 In the DYNAX3 design, we decided to permits the user to access to non common values of Attack and release.As the detector acts on peak levels, if attack is slow and release is fast, you can misunderstand and estimate that attack and release acts like threshold. This is due to the so small amount of peak and due also to the analog circuit behaviour. Fastest releases are very usefull in ANTIDYNA mode.
.SORGIN: this a special mod.It comes from a simple idea... The time constant are made with capacitors...we suppressed the capacitors in order to have a sort of envelop follower compressor...



.BASS DRIVE is a high pass filter.
 Full means that no filtering is applied.

100, 200 and 300 are not frequency indications in Hz but percentage of the original filter, used on the 2003 prototype... The higher the indication is , the higher the cut frequency is.

- **Calibration access :**



Please, do not twick those calibration potentiometers.This is for professional trained authorized technician.This is a reason for warranty void.

Full calibration shall be performed by an autoriser technician.

Please, do not open your machine (warranty void) , no user serviceable part inside.

Lethal voltage inside, danger !!!



.LIM is the “0” position in Kompessor, Limiter, Stop Wall mode when no reduction.

.A/D is the “0” position in A/D mode.

To perform: machine should be ON from at least 1 hour.

No signal at input.

Set Ratios at LIMITER. Perform the LIM Vu cal for needle at 0 position.

Set Ratios at ANTIDYNA. Perform the A/D Vu cal for needle at 0 position.

The switch on rear panel is for ground lift.

Please, try both position in order to minimize ground noise.

Engaged is for EARTH LIFT (10R // 1 uF).

Fuse: Fuse is localized in the mains connector socket.

Use T 315mA for 230 V operation, T 630 mA for 110V operation.

Note that TEMPORISED /Delaid fuses are used.

The unit MUST be GROUNDED.

SIDE CHAIN insert ¼” jack: Tip is return , Ring is Send.

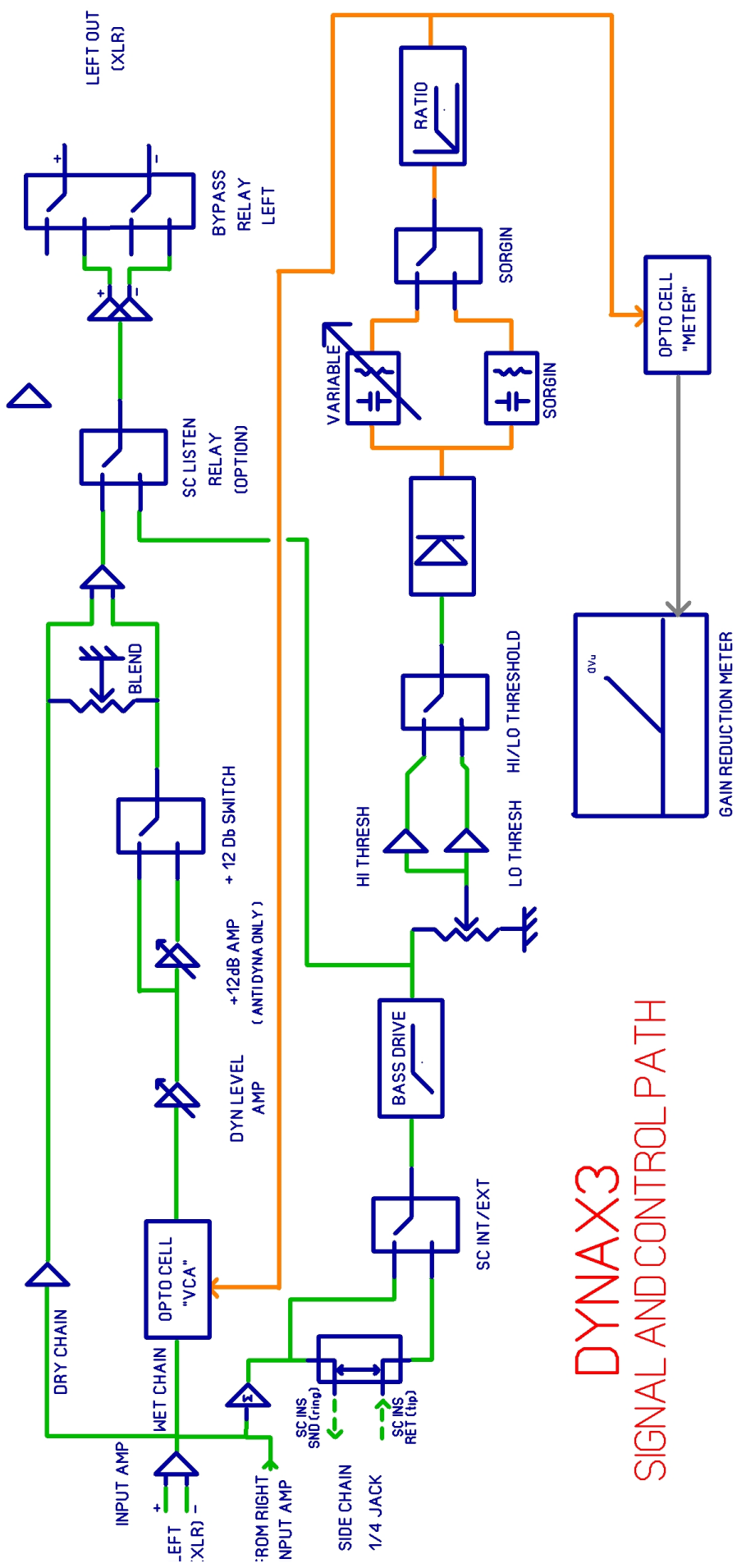
A dedicated cable can be used in order to insert an EQ into the side chain path (deessing, etc...).

An unbalanced cable could be used to inject a signal in order to key the compressor.

Basics settings:

- **Mastering: Compressor or Limiter mode, Bass Drive at 200, Attack: 5, release: 6, turn Compression knob in order to achieve 2/3 dB .**
- **Electric bass: Stop Wall mode, Bass drive at 200 or 300, attack : 4, Release: 2 or 7**
- **Snare (usual): Limiter mode, Bass drive : Full, attack : 3; Release: 5 Compression in order to achieve 3 to 10 dB.**
- **Snare (fast mode) Stop Wall mode, Bass drive : Full, Attack: Fully Counter Clock Wise (CCW), Release: 2. Perform an at least 12 dB reduction (and try harder, change carefully release and attack!).**
- **Antidyna: start with compression at maximum, attack and release fastest. Change Compression in order to have the good pumping effect . Try other time constants settings...`Note Antidyna could be performed only if you provide high levels.**

Of course you can use any settings you want. Music is the only way..



DYNAX3 SIGNAL AND CONTROL PATH



Technical specifications

Sometimes (we can say generally), there is a lot of difference between what brands claims and what we can measure at the office.

In addition, we say that we are creating musical instruments and that the relationship between measurement and listening is not so crystal clear !

So, the only way to know if a machine suits your taste and make the job you want is to test it by yourself.

For sure DYNAX technical specifications are the good ones, regarding distortion ,noise , dynamic range and bandwidth !



Please, listen, use your ears.
Music is the only way.

www.audiotechpro.fr