ILITCH ELECTRONICS

REVOLUTIONARY TONE

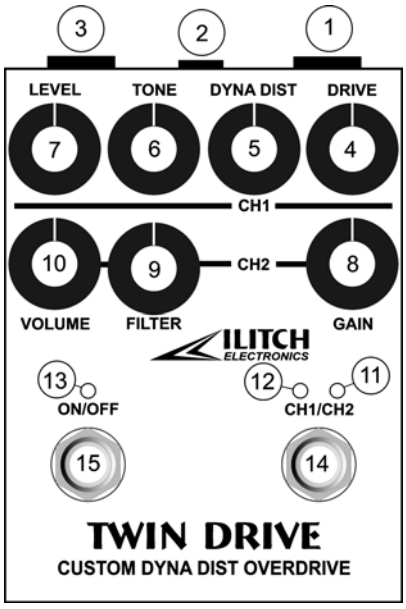

Fig. 1

Designed, assembled and tested in the USA.

User's Manual
TWIN DRIVE
CUSTOM DYNA DIST OVERDRIVE
CONNECTORS and CONTROLS (Fig 1):

1 INPUT - Female Jack to connect the output of your Guitar, or another effect. The Input Jack activates the internal 9V battery. NOTE: Leaving a cord plugged into the Input jack when not in use will drain the battery even if unit is off.
2 DC Jack - 2.1mm Center pin for external powering of the pedal (Turns off the battery when plugged in). IMPORTANT: Use only 9V Regulated DC Adapter with "+" on the Ring and "-" on the Center pin.
3 OUTPUT - Female Jack to connect the pedal with subsequent pedal in the signal chain, or the Amplifier.
4 DRIVE - Wide range gain control lets you adjust the overdrive and/or distortion level of CH1 from very light to red-hot overdrive and highly saturated distortion.
5 DYNA DIST - Mix control lets you adjust the amount of smooth, tube-type overdrive (full counter clock-wise DYNA MODE) with more aggressive, hard edged, harmonically rich distortion (full clock-wise - DIST MODE) and all in-between.
6 TONE - Passive, top end roll off control, lets you clean up your tone, when maxing out the DRIVE control. TONE at MAX (full clock-wise) has a wide band range so you don't lose any of your original tone. Decreasing the TONE will reduce the top-end, creating smoother tone, without getting muffled.
7 LEVEL - Smooth, logarithmic control lets you adjust the final output level of CH1(active when the Pedal and CH1 are "ON")
8 GAIN - Smooth, Gain control lets you adjust the amount of amplification of CH2.
9 FILTER - Passive, top end roll off control, lets you clean up your tone. At MAX (full clock-wise) it has a wide band range so you don't lose any of your original tone.
10 VOLUME - Smooth, logarithmic control lets you adjust the final output level of CH2(active when the Pedal and CH2 are "ON")
11 CH2 "ON" LED indicator – Green.
12 CH1 "ON" LED indicator – Red.
13 Effect "ON" LED indicator – Yellow.
14 CH1/CH2 - Channel selector footswitch.
15 ON/OFF - Entire effect true bypass footswitch.

TWIN DRIVE
CUSTOM DYNA DIST OVERDRIVE

This is the most versatile **Front Gain and Overdrive/Distortion** pedal ever.
The **TWIN DRIVE** Custom Dyna Dist Overdrive incorporates TWO entirely separate gain preamps with NO overlapping parts which makes the two channels 100% independent.
CH1 - **the DYNA DIST OVERDRIVE** is designed with super high internal gain so you can get a huge variety of dramatic overdriven/distorted tone combinations. Maxing out the LEVEL, DYNA DIST, and DRIVE controls will send your signal into a harmonically saturated, massively distorted, overdriven signal that may over-load your amplifier producing a constant feedback. Simply adjust your controls, reducing the LEVEL, DYNA DIST and DRIVE to achieve the best tone for your specific guitar and amplifier.
CH2 - **the FRONT GAIN Preamp Channel** is designed with very warm, chiming and lightly compressed gain so you can get a variety of dynamic and hot front stage tone enhancements. Combining the GAIN and VOLUME settings will cover all of the existing guitar pickups available from the pure Vintage single coil to the Hottest Humbucker ones.
To have better noise performance we recommend using a battery powering, when doing recordings.

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TWIN DRIVE
Technical Specifications:

1. 100% True Bypass Heavy Duty switching.
2. Bright LED indicators
3. 1/4" Input and Output female Jacks
4. Input Impedance - 500K Ohm CH1; 1Meg CH2
5. Output Impedance - Less than 10K Ohm.
6. Max. Gain CH1 – DRIVE, TONE, LEVEL @ Max.
   DYNA Mode (DYNA DIST @ MIN): >48 dB
   DIST Mode (DYNA DIST @ MAX): >58 dB
7. Max. Gain CH2: >15dB
   (GAIN, FILTER and VOLUME @ Max)
8. Unity gain Noise: < -110 dBu*
9. Max Input level: > -3 dBu
10. Max Output Signal: > +3 dBu
11. DC Power supply: Battery or Regulated Adaptor ("+" on Ring; " –" on Center): 9V +1/- 0.5 V
12. Current consumption @ 9V DC:
    Less than 8mA when "OFF"
    Less than 9mA when "ON"
    * 0 dBu = 775 mVrms

Serial Number:……

Sound test: Electrical test:
……..

Terms and Limited Warranty

RETURNS & EXCHANGES
Ilitch Electronics offers to the original purchaser the following terms of Limited Warranty:
1. Four weeks money back policy (excluding shipping and handling) for customers not satisfied with the purchase.
2. One year for all moving parts (i.e. - pot, switch, jack) of the product.
3. Two years for all non-moving parts (i. e. - capacitor, IC, transistor, etc.) of the product.
Ilitch Electronics reserves the right, based on visual observing and electrical measuring, to determine what has caused a defect. Damages caused by accident, abuse, alteration, or misuse are not covered by this warranty. Product appearance and normal "wear and tear" (worn paint, scratches, etc.) are not covered by this warranty.

Customer's Name:……

Date of purchasing:……..
Notes:
……

Congratulations on your purchase of
ILITCH ELECTRONICS
TWIN DRIVE
CUSTOM DYNA DIST OVERDRIVE

Why does MAMP design create superior overdrive and distortion?
Superior overdrive and distortion tones are the result of keeping the dynamics and components (harmonics, phase relations) of the original signal intact. The electric guitar signal is a very natural and complex signal. It contains many high order harmonic components, strongly related with the fundamental frequency. The signal also contains very complex natural phase shifting and relationship of all its components. In addition, the guitar signal has more than 80dB of dynamic range, which makes our task to overdrive/distort such signal even harder.

Using any of the popular methods of "direct" distorting such as Op. Amps, Germanium transistors, Diodes, Digital signal processing, etc., results in the loss of the natural and complex signal components, their time relations, phase shifting and dynamics. Some of these methods result in a loss of up to 90% of the original guitar signal, masking the original tone of your guitar. This is why some overdrive/distortion pedals sound "muddy", making a guitar with great tone sound like a guitar with completely damaged tone.

With the new MAMP design, all signal components are presented in the overdriven/distorted output. The result is an overdriven/distorted output signal that contains the original harmonic components from the instrument with their natural dynamics, time relation and phase shifting. You hear the tone of the guitar - not a distorted, generic tone. The overdrive responds dynamically to your input signal: pick softer and/or turn your guitar volume down and the tone will clean up; play more aggressive and/or increase guitar volume and the pedal will respond by distorting more.

Because the MAMP design also keeps all of the components of your original signal - harmonics, phase relations - in the distorted signal, your leads will stand out with more harmonic flavor, and your chords will have more character and clarity without getting muddy.

While MAMP can be used with any guitar, its value of retaining the original signal is most apparent when used with guitars with great tone. With MAMP design, the guitar's unique, natural tone can still be heard.

The all-analog MAMP design also means you get superior tone and consistent performance at all volume levels.

TWIN DRIVE
Technical Tips:

PLACEMENT OF PEDAL IN EFFECTS CHAIN:
It is best to have the **Twin Drive** Custom Dyna Dist Overdrive pedal connected directly to your guitar so that this pedal is first in your effects chain. The reason is that the dynamics of the pedal work with the dynamics of your guitar. If you place another pedal without true bypass in-between your guitar and the Twin Drive pedal, you will decrease this relationship and not get the full effect of the pedal design.

POWER SUPPLY:
The **Twin Drive** Custom Dyna Dist Overdrive pedal can be powered by a 9 volt battery, or by using 9 Volt DC Regulated wall wart power adapter. Use of any other type of power supply may cause the unit to malfunction and will void any and all warranties on the unit.

BATTERY INSTALLATION:
Remove the 4 screws located on back of the pedal using a Phillips screwdriver. Connect 9 volt battery to battery Clip making sure that the battery's positive terminal is connected to the positive terminal of the battery Clip. Slide battery into the battery holder. Replace the bottom chassis and 4 screws.

USAGE INSTRUCTIONS:
After connecting a power source and connecting the pedal in-line with your guitar and amp, you are ready to start experimenting with the pedal's controls. The CH1 of the **Twin Drive** Custom Dyna Dist Overdrive pedal is designed with wider range of controls than most pedals available. Because of the wide range and high gain, maxing out all of the controls of CH1 (LEVEL, TONE, DYNA DIST, DRIVE - all at full clock-wise position) will give you a massively distorted signal, generating the unit's maximum signal output level. While it is safe to play at this setting, you may find that it is too extreme. Simply adjust the levels to suit your specific tonal needs and dial in your exact tone.

GETTING STARTED:
To get an idea of how the controls work and how the pedal can dynamically respond to your playing - set ALL of the pedal controls to their center position – 12 o'clock. Turn "ON" the pedal.
Now turn "ON" CH1. Set TONE to full clock-wise and set DRIVE to adjust the front drive for your guitar signal, then set the LEVEL to the signal level you wish to enter into the next pedal or amplifier. Use DYNA DIST and TONE controls to refine your guitar tone.
Now turn "ON" CH2. Set FILTER to full clock-wise and set GAIN to adjust the front gain for your guitar signal, then set the VOLUME to the signal level you wish to enter into the next pedal or amplifier. Use the FILTER control to refine the character of your guitar tone.