

uLTC

We could realized the
Ideal Triode Circuit
by Mos-FET under the name of
[ultra Linear Triode Circuit].

Newly developed unique invention,
<uLTC> (=ultra Linear Triode Circuit) was
realized by Strong & Continuous Passion of Audio
Enthusiast Mr. Fukushima who was dedicated
for Audio Technology & the Owner of Golden
Ears listening.
Japan Original Patented Circuit <uLTC> made
the Limit Free Quality of the Sound-Reproduction
without Over-All NFB(negative feed back) amplification
that can retrieve faint but important signal for
real music atmospheric acoustics.

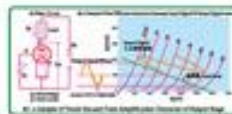
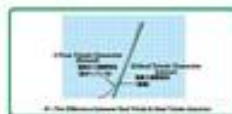


●We introduced the Patented Circuit Technology
<ultra Linear Triode Circuit> as the [First in the
World] for this New Stereo Amplifier
Ideal Amplifier is sometimes described as
[straight Wire with Gain], "No adding on
and No subtracting from the Original Music
Signal."

This Easy to say, but Difficult to achieve
proposition was realized by the "ultra Linear Triode
Circuit" on this New Stereo Power Amplifier
(LTC101035S).

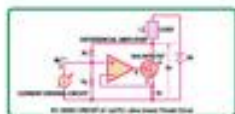
●Two 820ΩE Circuit has a Problem

Amplifier which has Triode Tubes Sounds
very sweet and musical. This is the reason
why Triodes Circuits were loved by many
music lovers. But real Triode character has
some Non-Linearity habit in the low level
amplification characteristics. (See below
diagram #1)

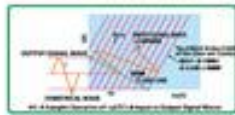


●ultra Linear Triode Circuit
How it works

This Amplifier which has MOS-FET
on the Output Stage with <uLTC>
works as shown on the #3 Diagram
& #4 shows the Voltage vs Current.



Regular Vacuum Tubes work on
Voltage Driven Circuit. But this
<uLTC> works on Current Driven
Differential Amplifier of this circuit
control to make the Voltage of
[Plus Input] & [Minus Input], even.
So, the Load Current [I] will be Ideal
Triode Character of Linear. [#4]



Thus, Load Current [I] vs Load Voltage [V]
of the Output is Ideally Constant about the
ANGLE & CLEARANCE [α]. So the Output
Signal will be Symmetry & Similar to the
Input Signal wave, so the Distortion will
be Eliminated, clearly.

●The Important Special Points of LTC101035S

1[VOLUME Controller] is equipped at the
Front Stage of the Amplifier, so it can be
connected to CD-Player without Pre-Amplifier.

2[Eliminating the <uLTC> Circuit, Over-All
Negative Feedback was eliminated.
So the Low Distortion Status will be kept
upto Very Large Output Signal.

3[From the Front stage upto final output
the Circuit is Direct Coupled without
any Capacitors.

4[Power Supply Circuits are stabilized with
Regulated Voltage Supply from the Front
Stage upto Final Stages.

5[Output Stages are designed with MOS-
FET PUSH-PULL LAMDA CURRENT Circuit.

6[High Grade Parts were selected & used
for High Quality Sound & High Reliability.

7[For Elimination of Mechanical Distortion,
All Mechanical Parts are made of Non-
Magnetic High Grade Aluminum.

●The Electrical Design Point of LTC101035S

The Electrical Construction is shown by
#5 Chart. Input Connectors : RCA & XLR
Connectors are parallel connection.
XLR connectors' No. 3 pin is for Hot.
Choose the RCA or XLR by the Cable's
connector types.



●High-Gain Power Amplifier with Volume Control

This Amplifier designed with "High Gain"
circuitry with Volume Control, so it is possible
to connect Direct to "Line Level" Components,
such as CD-Player, etc. without Pre-Amplifier

●<uLTC>-PROCESSOR

This Amplifier's Circuit makes Unbalanced
Input signal to Positive & Negative Balanced
Current Signals and also makes this Current
Signal into Voltage/Current Large Signals
with the <uLTC> Circuit which can drive
the Output Load Speakers. Upto 8Ω/8ohm,
the Circuit works as Class-A, and over 8Ω,
Class-AB upto 60W into 8-ohm Load.

●ALL STAGE Direct-Coupled

This Amplifier Circuit is Directly Coupled
without Coupling Capacitor, to eliminate
the Coloration by the Capacitor Character.
To realize this Direct-Coupling, proper Slew
Control is obtained which can reject the
DC leakage from the Output & that is also
withholding Un-Expected DC Offset, when
it happens, Shut-Down the Output.

●ALL STAGE Regulated Power Supply

This Amplifier's Power Supply is fully Voltage
Regulated, so, if the wall outlet's Voltage became
Unstable (±10%), the Amplifier Circuit can
work properly. At the Power Supply Circuit
for Output Stage, High-Sound Quality Large
Capacitors(47,000µF X4 pcs/Ch.) which
are connected with High-Sound Quality
Polypropylene 4.7µF Capacitors Parallely.

●OUTPUT STAGE: Designed with even then
to A Plus Current Capacity Mos-FET X4 pcs.
This Luxurious MOS-FETs operate for
Extremely Enjoyable Power-Full Sound.

●Specially Selected High Quality Audio Parts

Every Audio Parts were Carefully Selected by
Golden Ear Listeners of Audio Experts including
Inner Wiring & Input/Output Connectors.

●Realized The [Non-Over-All NFB] Concept

Basic Concept of this Amplifier, [Non-Over-All
Negative Feedback] was Realized by Pat's
Taking Long "Trial & Error" of Mr. Fukushima's
Passion for Audio Sound Improvement.

●Why The Name of [Non-Over-All NFB]

① The Patented Circuit of <uLTC> has very low
Distortion Character upto Very High Output Level,
so the Circuit can be Eliminated the regular Over-
All Negative Feed Back.

② The Output Impedance of this <uLTC> Circuit
is able to set the Output Impedance Very Low, so
it is no need to use regular NFB to realize the Low
Impedance. Generally, Solid-state Amplifiers cannot
be made the Output Impedance Low enough
without NFB Circuit.

③ Normal Power Amplifier's Output Music Signal
will delay about 100-nano-seconds compare with
Input Signal. Over-All NFB Technology uses this
Inevitable Delayed Signals to Compensate the
Over-All Distortions. But this method can work
when the Input Signal is Very Simple, such as
Sine Wave, but Real Music Signals are more
Complicated. For Very Fast Rising Signals, the
NFB's Delay will make the Output Signal very
High Distorted Sound Signal, which is easily
noticeable, not only by Ear but also by Measure
Instruments.

In the Old Era of 1970, Distortion was measured
by Simple Signals, such as Sine Wave, so, NFB
technology was ideal way, but, after Dr. Marty
Chala pointed out the Bad Effect of NFB, some
engineers started to try the Elimination of such
Distortion without Over-All NFB. Mr. Fukushima
also noticed the Bad Effect of Over-All NFB, from
his Experience of making Vacuum Tube Amplifier
without Over-All NFB.

In the Era of 1980, some Engineer pointed out the
Over NFB makes the Over Current SATURATION
and the Amplifier will be STUN status, for a split
second, thus the Original Music Signal will be
LACED in some part.

This Transformation was named TIM(Transient
Inter Modulation) Distortion.
Summetize above Mentioned :

<uLTC> can make Amplifier Distortion Very Small
upto Large Output Signal without Over-All NFB.
Also the Output Impedance can be properly
Low enough. Over-All NFB has very Bad Effect at
the Transient Signal Input, which can be detected
not only Human Ear, but also, Measuring Instru-
ments.

●Now NFB on Major Loop Amplification
like at Audio Set, Over-All Non NFB Circuit is
called [Non NFB Circuit], so this Amplifier can
be called So. But we utilize Small Minor Loop
NFB technology on the <uLTC> Circuit, etc.
So, it can be said

"This Amplifier is [Non-NFB Amp for Major Loop]
or [Over-All Non-NFB Amp]."

Thus, "talking about the Sound" which is "Most
Important Point for Listeners" became "Careless
& Filled with Openness feel & Highest Resolution
ever made which can reproduce the Microscopic
Detail, and the Airy Disappearing Reverberation
of the Room Acoustic.

Also, Powerful & Rich Base of Pipe-Organ or
Contrabass & Big Drum Strong Sound can be
retrieved "naturally", which do not contain any un-
natural artificialness.

●Photos of this Catalog show 100% Success.