

THAT Corporation

Applications Notebook Volume 1 - Errata

In *DN100, A Fully Adjustable Noise Gate*

Page 3: In the schematic, the IC labeled U1C, 4301P should read U3B, LF353.

In *DN101, Peak Detection with the THAT 4301*

Page 4: In the schematic, move the end of R3 tied to R6 to the other side of R6.

In *DN102, Adjustable Ducker using the THAT4301*

Page 6: The equation $I_{in_{0dB}} = \sqrt{9.6 \times 10^{-6} \times I_t} \approx 8.5\mu A$ should be replaced by " $I_{in_{0dB}} = 1.13 \times I_t$ "

In *DN105, Low Voltage Compressor/Limiter*

Page 10: In the schematic U6A should be labeled U1A

Page 11: In the first paragraph, the text "to keep U1's substrate properly biased." Should read "to keep U4's substrate properly biased."

In *DN106, What to Look for When the Distortion in 2180s Doesn't Match the Specs . . .*

Page 14: In the last paragraph, "recommend using a small series resistor shunted by a large (read LARGE) capacitor..." should read "recommend that the output of the buffer be shunted with a 51 Ohm resistor in series with a 2.2 nF capacitor..."

Page 15: In 2nd paragraph, "they can't go wrong" should read "you can't go wrong".

In *DN107/111, A Simple, Effective Soft-Knee Compressor/Limiter*

Page 16: In the second paragraph, in two places, "ripple" should be "ripple asymmetry"

"The timing current, I_t , recommended value of 7.5mA" should be " $7.5\mu A$ ".

" $I_{BIAS} = 2mA$ " should be " $I_{BIAS} = 24\mu A$ ".

Page 18: R5 should be connected between the anode of D1 and the wiper of VR3, as it is on page 17.

In *DN108, Single Chip Automatic Gain Control*

Page 20: The equation $I_{in_{0dB}} = \sqrt{9.6 \times 10^{-6} \times I_t} \approx 8.5\mu A$ should be replaced by " $I_{in_{0dB}} = 1.13 \times I_t$ "

Page 21: In U1B, 4301P, the label "CT" should read "OUT" and "OUT" should read "CT".

In *DN109, Microphone Preamp using a THAT 120 Transistor Array*

Page 22: The second equation, $A_{OL} = \frac{2.67k\Omega}{10\Omega + 30\Omega} \approx 66$, should be $A_{OL} = \frac{2.67k\Omega}{5\Omega + 30\Omega} \approx 76$

In *DN110, Improving VCA Performance II & III*

Page 25: In the schematic R3 should change from 150R to 51R and C1 should change from 10u to 2n2. Note: we use the convention that 'R' following the resistor value represents Ohms, for values under 1000 Ohms.

In *DN113, THAT 4301 Gain Reduction Indicator*

Page 28: In the schematic, move the end of R3 tied to R6 to the other side of R6.

In *DN114, Adaptive Attack and Release Rates using THAT Corporation RMS Detectors*

Page 30: In fine tuning tip 1, in two places, "R8" should read "R9".

In the schematic, C3 should change from 10u to 1u, C5 should change from 220n to 100n, and C6 should change from 47n to 10n.

Page 31: At the end of the text, add the sentence "For a more detailed explanation of the non-linear capacitor, see THAT Corporation application note AN103, page 7, [Extra Credit: The NonLinear Capacitor.](#)"

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In DN115, Fully Adjustable Compressor/Limiter

Page 33: On the threshold control, VR6, the position of the labels 10dBu and -30dBu should be reversed. The value of R22 should change from 576k to 590k Ohms.

In DN116, Techniques for Stereo Volume Control

Page 34: In the lower schematic, the volume control VR1, labeled +20dB should be +25dB.

Page 35: In Figure 3, the Y axis of the graph should be labeled "U1A Output" and the polarity of the markings should be reversed such that +600mV is at the bottom and -200mV is at the top.

In the paragraph after Figure 3, insert the phrase "a 12.1 k Ω resistor for R1" in between the text "we use" and "in the divider equation".

In the first equation 3.0 k Ω should be 3.01 k Ω .

Page 36: In the first paragraph, the text "a problem in systems with non-RMS detectors." should read "a problem in stereo systems with 2 detectors."

In Figure 5, Resistor R6 should connect directly between pins 1 and 4 of U1.

In the last paragraph, replace "R13" with "R7" and "R16" with "R11".

Page 37: Change the value of R9 and R10 from 5k to 5k1.

Change U1 from 218xx to 2181B.

Change the value of R4 from 150 k to 240 k.

Change D3 and D4 from the generic "DIODE" to 1N4148.

In DN117, Input Limiter for ADCs

Page 40: In the schematic, delete C8 and add a 5.1k Ohm resistor, R19, between U4 pin 5 and V-

In DN118, High Performance Stereo AGC based on the THAT 4301

Page 43: In the schematic, R8 and R9 should change from 28k8 to 40k2 Ohms. R17 should change from 28k8 to 28k7 Ohms.

In DN119, Wide Ranging dB Meter

Page 44: In figure 1, "Zero dB reference level (LM)" should read "Zero dB reference level (RL)". The equation at the bottom of page 44 should be labeled "(eqn. 3)"

Page 48, In paragraph 2, "the results of eqn. 6," should read "the results of the equation above," Also in paragraph 2, replace the text "at -20dBu its own input," with "at -20dBu at the RMS,"

In DN120, VCAs in a Pan Potentiometer Application

Page 50: In the last paragraph, "given in the following figure..." should read "given in Figure 2..."

Page 51, Below the schematic, the text "The following graph shows the deviation..." should read "Figure 3 shows the deviation..."