9H5QB ESSB Setup

Audio Technica AT2035

The Audio-Technica AT2035 large-diaphragm condenser microphone gives you great performance at an amazingly low price! The cardioid AT2035 features a switchable 80Hz highpass filter, a 10dB pad. This mic gives you smooth, natural sound quality, and its ability to handle high sound pressure levels makes it useful on a range of sound sources. No doubt about it - the AT2035 is a tremendous value!

MIC2200 - Preamp

The least expensive decent mic preamp of quality that you can buy in the market. The preamp has other added features such as parametric EQ etc, but I purely use it for audio in and out. I use the left channel before plugging into the DEQ2496.

DEQ2496

The DEQ2496 is an amazing EQ processor! I use only the **Downward Expander LEFT (DYN)** and **Parametric EQ RIGHT (PEQ)**. *NO DEQ*. **GEQ** is also utilized on **LEFT** channel only. I followed WZ5Q [Voodoo Guru's](#) expert advice for this, whilst my good friend Tony IK1JUO was instrumental in setting up this fine piece of gear.
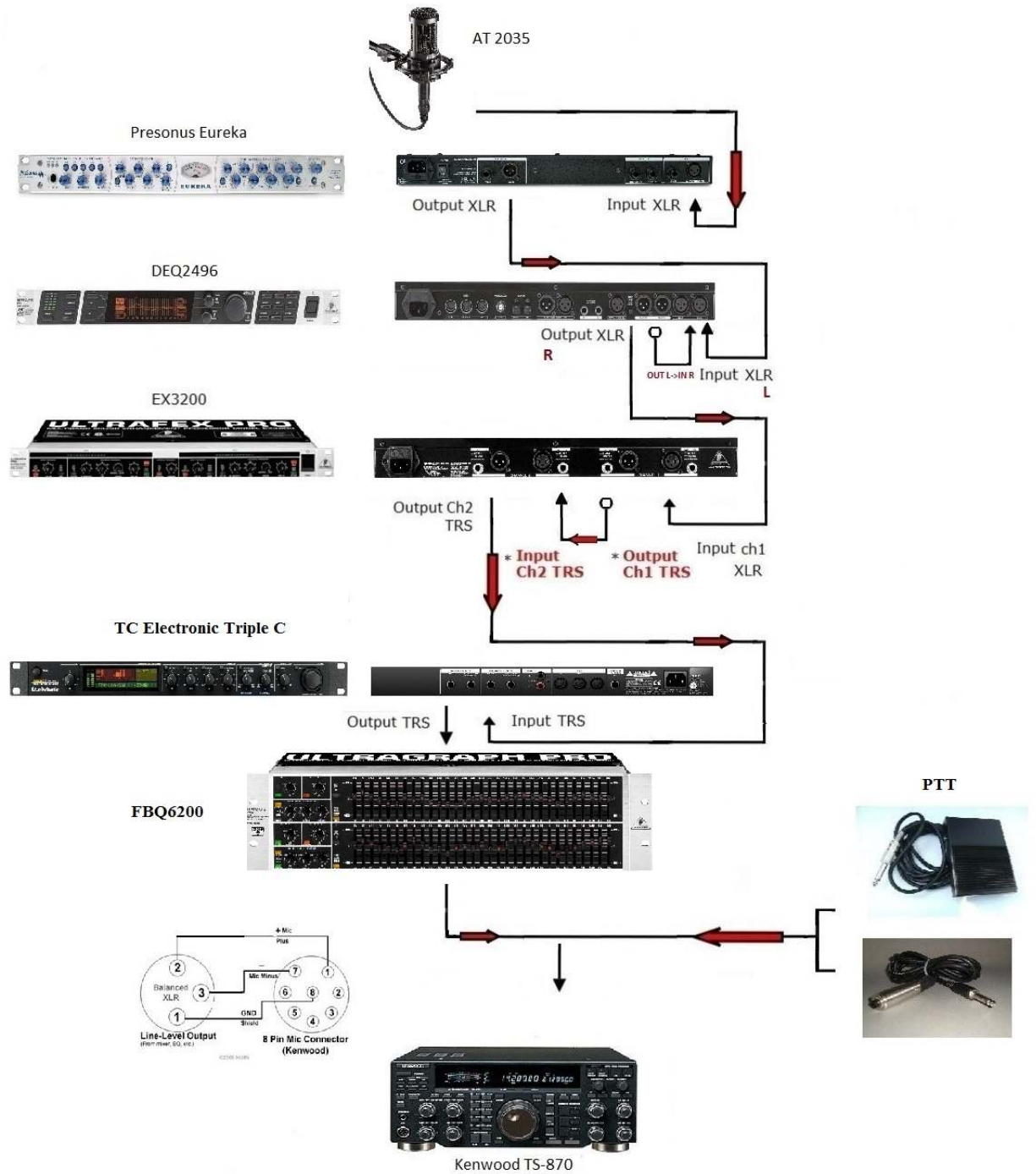
EX3200

The EX3200 uses Dynamic Frequency Correction, Phase Shifting with respect to Delay Times, and Harmonization to give the Audio a natural, lively brilliance in the Mids and Top End, and full, rich, deep Low End.

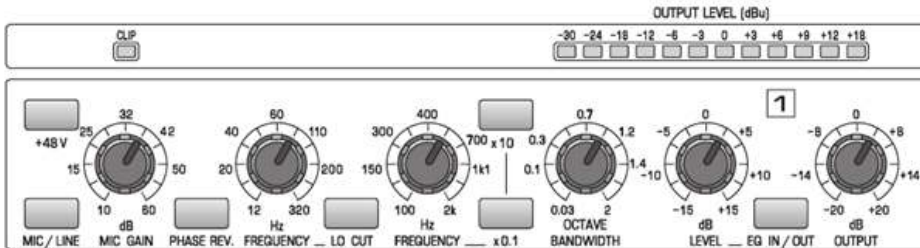**TC Electronics Triple-C Multi-band compressor**

The TC Electronic Triple-C Multi-band Compressor does a tremendous job in Dynamic Control and bringing out the frequency separation through spectral balancing. The frequency separation is just truly unreal.

AT 2035

Presonus Eureka

Output XLR   Input XLR

DEQ2496

Output XLR
R

OUT L->IN R Input XLR
L

EX3200

Output Ch2
TRS

* **Input
Ch2 TRS**   * **Output
Ch1 TRS**   Input ch1
XLR

TC Electronic Triple C

Output TRS   Input TRS

FBQ6200

PTT

+ Mic
Plus

2   1
                    — 7   1
Mic Minus
Balanced   3   6   8   2
XLR
1   5   4   3
GND
Shield

Line-Level Output   8 Pin Mic Connector
(From mixer, EQ, etc.)   (Kenwood)

Kenwood TS-870

* All connections are **Balanced EXCEPT** on the **Ch1 OUT to Ch2 IN this is UNBALANCED Line.**

SETTINGS for Behringer MIC2200

ULTRAGAIN PRO MIC2200

ULTRAGAIN PRO

OUTPUT LEVEL (dBu)

CLIP

-30 -24 -18 -12 -6 -3 0 +3 +6 +9 +12 +18

+48V : **ON** (for condenser microphones)(light on)

MIC/LINE: Set to **ON** (light on)

Mic Gain: **15 db**

PHASE REV.:Set to **OFF** (light off)

FREQUENCY: **60 Hz**

LO CUT: Set to **ON** (light on)

FREQUENCY: **400 Hz**

x10: **OFF** (light is **OFF**)

x0.1: **OFF** (light is **OFF**)

OCTAVE BANDWIDTH: Between **0.7- 1.2**

Level: **-2**

EQ IN/OUT: **IN**

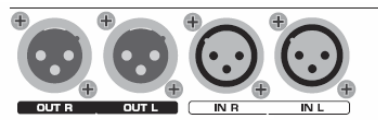OUTPUT: Set to **-2 db**

SETTINGS for Behringer DEQ2496

RIGHT Channel (using the **PEQ** for Parametric EQ) – NO DEQ

 LEFT Channel (using the **DYN** for Downward Expander) – NO DEQ
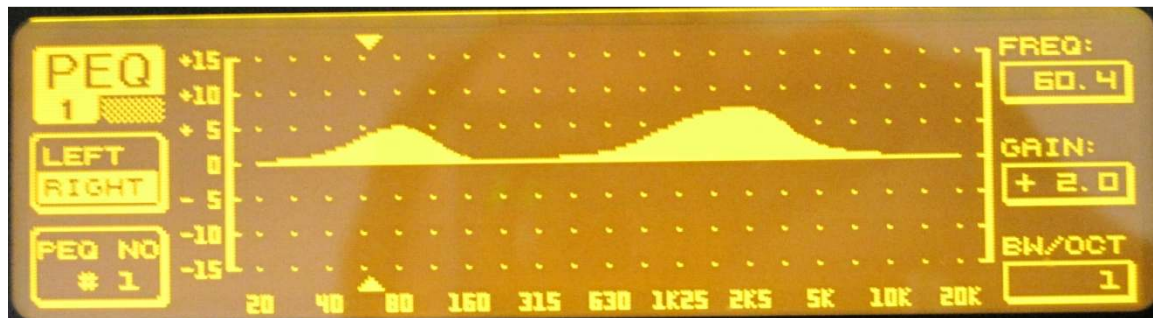
LEFT Channel (using the **GEQ** for Graphic Eq)

IN L(Downward Exp) -> OUT L(Parametric EQ) -> IN R -> OUT R->

PEQ Settings

RIGHT Channel (using **PEQ** for Parametric EQ) – NO DEQ

NO.	MODE	FREQ(Hz)	BW(OCT)	GAIN(dB)
# 1	PARAM	60.4	1	+ 2.0
# 2	PARAM	80.5	1	+ 2.5
# 3	PARAM	100	1	+ 2.0
# 4	PARAM	160	1	– 1.0
# 5	PARAM	1002	1	+ 1.0
# 6	PARAM	1261	1	+ 1.5
# 7	PARAM	1607	1	+ 2.0
# 8	PARAM	2000	1	+ 2.0
# 9	PARAM	2517	1	+ 2.5
#10	PARAM	3133	1	+ 3.0

Fig. 1

DYN Settings

LEFT Channel (using **DYN** for Downward Expansion) – NO DEQ
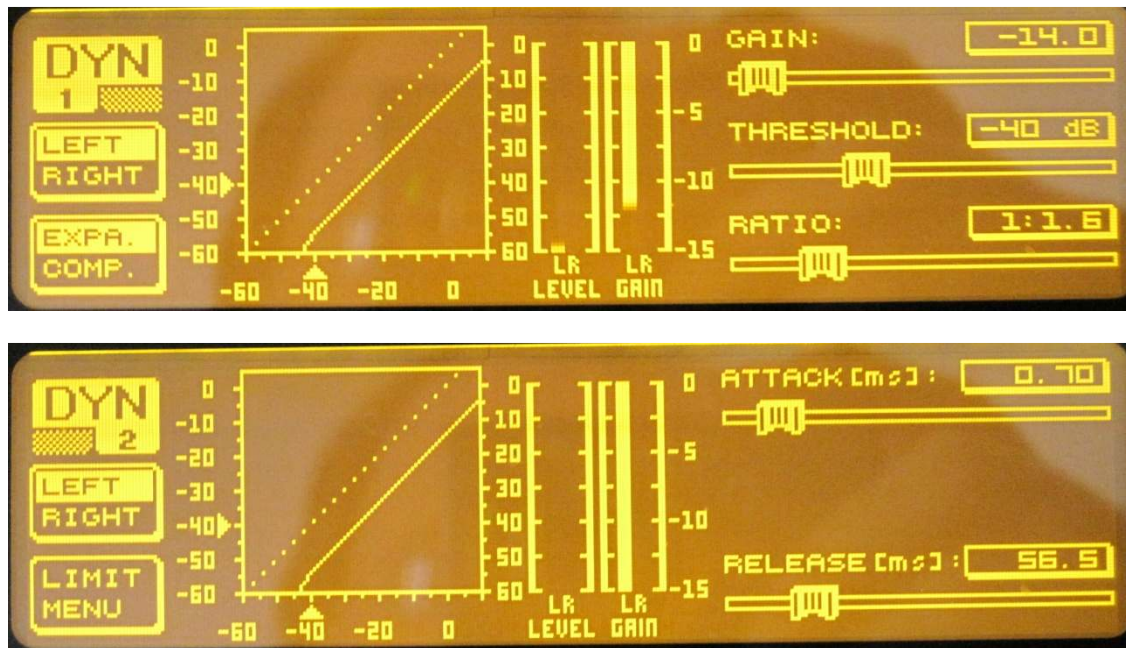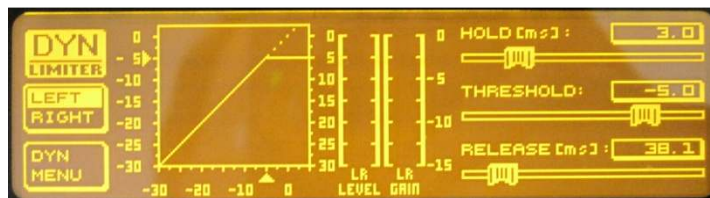

Fig. 2a

Fig. 2b

GEQ Settings

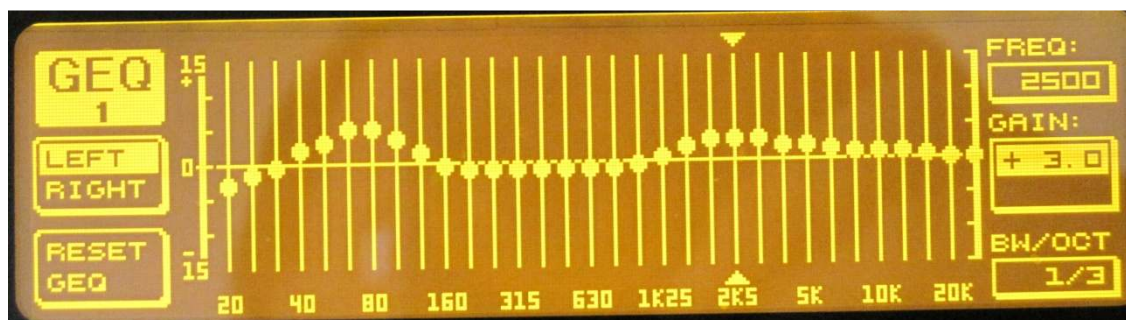**LEFT** Channel (using the **GEQ** for Graphic Eq)

Fig. 3

PEQ – Basic Settings

As a starting point, be sure that none of the *INPUT* meter peaks are over **-3db** in *INPUT* gain, especially into the DEQ2496. Set the EQ into **PEQ (***RIGHT Channel***)** mode (Fig. 1), these are settings for a basic starting point, it will require tweaking for optimum sound. This is almost impossible to do without actually monitoring it 'on air' and possibly using headphones.

Give these a try and see how it sounds.   If you have a real bassy voice then you might have to reduce **Param 1**(Fig.1) freq and perhaps reduce a bit of the gain.

If you have a lot of MIDS in your voice, then you might have to reduce **Param 3 & 4**(Fig. 1) filters. The HIGHS will be the hardest to set. You want to push enough to get some brilliance and clarity, but without having a Compressor, you won't be able to push a lot of them without causing 'tearing' and 'sibilance' in your signal. The secret here is to keep the bandwidth narrow, and just adjust the gains. The frequencies listed in (Fig. 1) should be perfect on the Highs.

Param 7(Fig. 1**)** filter is for 'brittleness' reduction. It should be good if set as shown.

**Param 2** filter is for boominess and boxiness. It should also be good as shown, however if your voice fundamentals are from 100Hz to 200Hz, try reducing the gain another -5db to a total of -20db.

Lastly, keep an eye on **Param 6** filter. If it sounds too 'nasal', then reduce this filter gain to 0 and see if it goes away.....if it helps then reduce it further.

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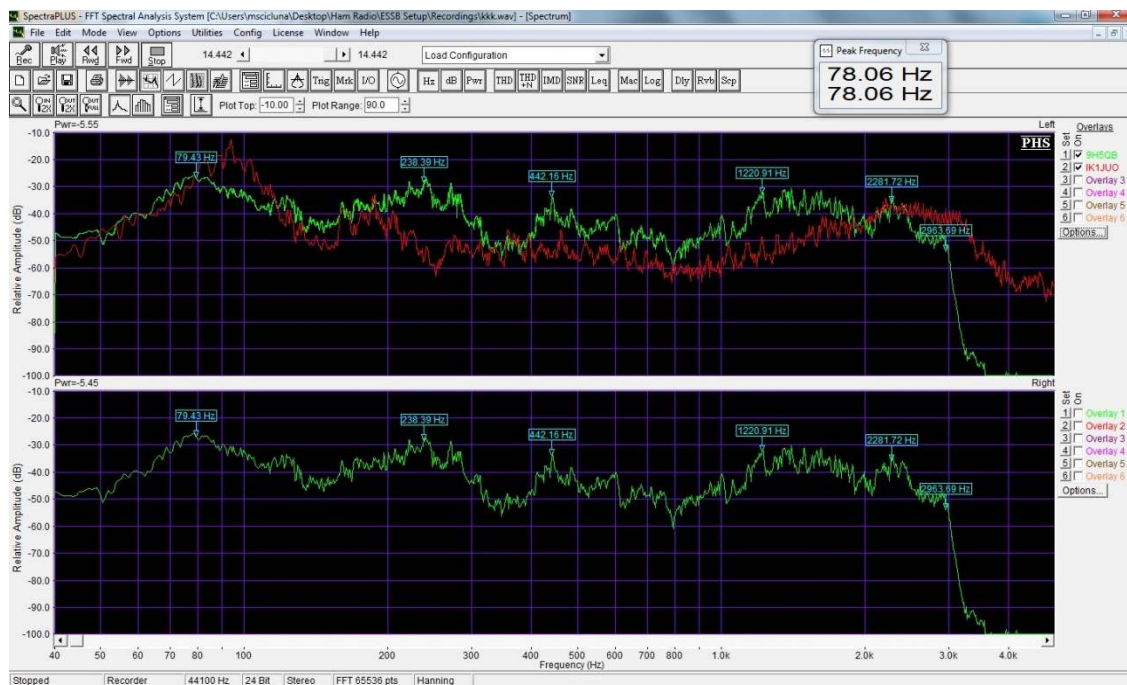
SETTINGS for Behringer EX3200
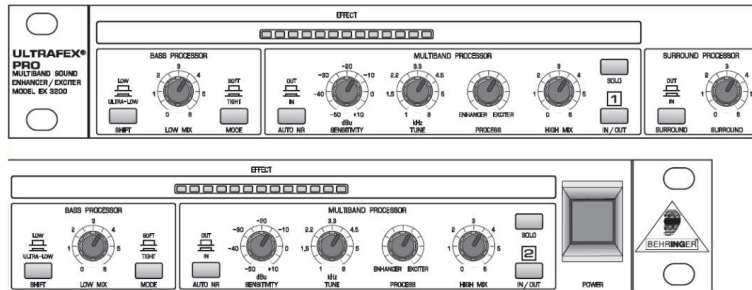
Channel 1:

SHIFT	= Set to **Ultra Low**
LOW MIX	= Set to **1**
MODE	= Set to **SOFT**
AUTO NR	= Set to **IN**
SENSITIVITY	= Set to **1 dBu**
TUNE	= Set to **3.3kHz**
PROCESS	= Set to **Exciter**
HIGH MIX	= Set to **1**
SOLO	= Set to **OFF**
IN/OUT	= Set to **ON**
SURROUND	= Set to **IN**
SURROUND	= Set to **3**

Channel 2:

SHIFT	= Set to **LOW**
LOW MIX	= Set to **3.5**
MODE	= Set to **SOFT**
AUTO NR	= Set to **IN**
SENSITIVITY	= Set to **1 dBu**
TUNE	= Set to **4.5 kHz**
PROCESS	= Set to **Enhancer**
HIGH MIX	= Set to **1**
SOLO	= Set to **OFF**
IN/OUT	= Set to **ON**

Note: You might have to reduce the boost on the low end with the EQ and use the Bass Processor Controls on the EX3200 to increase the Harmonic content of the Low End.

- **EXCITER** — adds artificially generated overtones to the original signal, increasing presence and perceived loudness without significant increase in signal level
- **ENHANCER** — a dynamic equalizer which brings more clarity and a better stereo locating to your sound, similar to the effect of an exciter

SETTINGS for TC Electronic Triple C
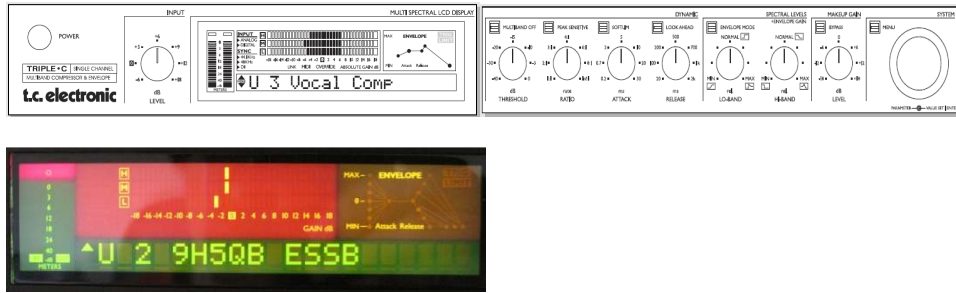
I/O Menu:

Press the "Menu" pushbutton – "Select" is displayed
Turn the "Value Set/Enter" knob to select the "I/O' Menu" option
Push the "Value Set/Enter" knob to enter the Menu – You are in the I/O Menu

SET THESE PARAMETERS AS FOLLOWS
Turn the outer "Parameter" knob to change Parameters in menu
Turn the inner "Value Set/Enter" knob to change the settings of the parameters
Push the inner "Value Set/Enter" knob to select the changed setting

INPUT	-	ANALOG
CLOCK	-	48kHz
OUT RANGE	-	14dBU
OUT LEVEL	-	0db
DIG INGAIN	-	0db
DITHER	-	off
STATUSBITS	-	S/PDIF
MIDI CHAN	-	1
MIDI CC	-	On
PRG BANK	-	Factory
BULK DUMP	-	<ENTER>
SYSEX ID	-	0
LINK	-	off
EXPANDER	-	On
VIEW ANGLE	-	32

A few words about the Front Panel Controls for the Multi-Band Compressor.

The Threshold, Ratio, Attack, and Release Controls on the front of the unit only control the MID Band values. The Triple-C slaves the LO and HI Bands to the MID Band front controls. This is the reason a lot of people don't like this unit. What they failed to realize was that there are more settings in the "Edit Menu" to individually control the Threshold values of the LO, MID, and HI Band Compressors. This in conjunction with the Front Panel Controls (especially the LO-BAND and HI-BAND RELEASE Controls) gives enough of a combination to make unbelievable results. It just takes a lot of "Tweakin"…Ha Ha!

PROGRAM SETUP:

Press the "Menu" pushbutton – "Select" is displayed
Turn the inner "Value Set/Enter" knob to select the "Recall" option
Push the inner "Value Set/Enter" knob to enter the Menu – You are in the Preset Menu
Turn the inner "Value Set/Enter" knob to select "F1 Triple-C Comp" option
Push the inner "Value Set/Enter" knob to select this option
You are now in the Triple-C Comp Program.

We will change the Parameters and save this as your own program in the User Presets Memory.

Change the Parameters as follows:

FRONT PANEL CONTROLS:

From the left of the unit to the right. These will of course be adjusted later for correct levels.

KNOBS:

(Upon adjusting the knobs, there is an "OVERIDE" indicator on the display that will blink. You must move the control and wait for the blinking to stop before it will allow you to change the parameter.)

INPUT LEVEL -   -3 db

THRESHOLD   -   -15db

RATIO   -   2.0-1 rate

ATTACK   -   .7ms

RELEASE   -   200ms

LO-BAND OUTPUT -   14db

HI-BAND OUTPUT -   8.5db

MAKEUP LEVEL   -   -2 db

<u>PUSHBUTTONS:</u>

MULTIBAND OFF   -   Disengaged, Light is not lit

PEAK SENSITIVE   -   Disengaged, Light is not lit

SOFTLIM   -   Engaged, Light is lit

LOOK AHEAD   -   Engaged, Light is lit

ENVELOPE MODE -   Disengaged, Light is not lit

BYPASS   -   Disengaged, Light is not lit

MENU   -   Disengaged, Light is not lit

Now we will save this Program to the User Preset Memory.

   Press the "Menu" pushbutton – "Select" is displayed
   Turn the inner "Value Set/Enter" knob to select the "Store" option
   Push the inner "Value Set/Enter" knob to enter the Menu – You are in the STORE Menu
   The Next Empty User Preset will be displayed and Flash on and off
   Turn the inner "Value Set/Enter" knob to select which User Memory you would like to
Store
   Push the inner "Value Set/Enter" knob to select this location
   The "U#" will now Flash and the caption "Triple-C Comp" will be displayed with a
flashing underscore underneath the "T" of "Triple-C"
   Turn the inner "Value Set/Enter" knob to change the letter over the flashing underscore.
   Turn the outer "Parameter" knob to change which letter the flashing underscore is under
   Continue to change the caption to your liking.
   Push the inner "Value Set/Enter" knob TWICE to save the program

Now we will change the parameters in the "**Edit Menu**".

Press the "Menu" pushbutton – "Select" is displayed
Turn the inner "Value Set/Enter" knob to select the "EDIT MENU" option
Push the inner "Value Set/Enter" knob to enter the Menu – You are in the EDIT Menu

"COMP STYLE" will be displayed.
Turn the inner "Value Set/Enter" knob to select the "FLAT" option
Turn the outer "Parameter" knob to change to the next menu Caption

"LO-THR" will be displayed
Turn the inner "Value Set/Enter" knob to select "–3db"
Turn the outer "Parameter" knob to change to the next menu Caption

"MID-THR" will be displayed
Turn the inner "Value Set/Enter" knob to select "–3db"
Turn the outer "Parameter" knob to change to the next menu Caption

"HI-THR" will be displayed
Turn the inner "Value Set/Enter" knob to select "–12db"
Turn the outer "Parameter" knob to change to the next menu Caption

"DRG" will be displayed
Turn the inner "Value Set/Enter" knob to select "0"
Turn the outer "Parameter" knob to change to the next menu Caption

"HI X-OVER" will be displayed
Turn the inner "Value Set/Enter" knob to select "2.00 kHz"
Turn the outer "Parameter" knob to change to the next menu Caption

"LO X-OVER" will be displayed
Turn the inner "Value Set/Enter" knob to select "125 Hz"
Turn the outer "Parameter" knob to change to the next menu Caption

"EXT SIDE" will be displayed
Turn the inner "Value Set/Enter" knob to select "off"

NOW DON'T TOUCH ANYTHING!

Now we will save these changes to the User Preset Memory. It must be performed in this order or you will loose the Edit Menu Setting changes.

> Press the "Menu" pushbutton – your Preset name is shown on the display
> Press the "Menu" pushbutton again – "Select" is displayed
> Turn the inner "Value Set/Enter" knob to select the "Store" option
> Push the inner "Value Set/Enter" knob to enter the Menu – You are in the STORE Menu
> Your User Preset Name and Number will be displayed and Flash on and off
> Push the inner "Value Set/Enter" knob TWICE to save the program
> The display will indicate "Preset Stored"

Go back into the "EDIT MENU" to verify that your changes were saved.

Exit by pressing the "**Menu**" pushbutton.

 Hint! If you ever change ANY settings on the Triple-C, you will have to save/store them in the memory to make them permanent. I have readjusted the front controls several times and forgot to store them. The next time I went to the User Preset and Reloaded it, of course all my new settings were gone because of my failure to Save/Store them.

FINAL ADJUSTMENTS:

Well, you are all set to do the final adjustments now.

With all the other units in the rack set up the way you prefer, including all the Gain Levels, The first thing to set is the "Input Level". Set this control for an indication of –3 to –6db with occasional peaks of 0db.

Depending on your voice characteristics, how many harmonics you are introducing into the mix, and other rack equipment settings will determine how you set the THRESHOLD, LO-BAND, and HI-BAND controls. Also the LO, MID, and HI THRESHOLD settings in the "EDIT MENU".

You will have to use yours ears, but you should notice a remarkable improvement immediately.

The last thing to set is the "Makeup Output Level". Set this control for an indication of –3 to –6db with occasional peaks of 0db.

Don't forget to Save/Store the changes in the Memory. I usually make another User Preset to store my in process changes and leave the first one as a baseline.