

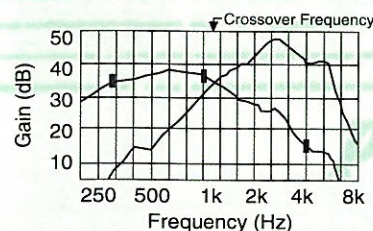
OnQue Potentiometer Adjustment Tips

Concern	Crossover Frequency <i>Rotate CW To Increase</i>	Low Band Compression Ratio <i>Rotate CW To Lower</i>	High Band Compression Ratio <i>Rotate CW To Lower</i>	Compression Threshold <i>Rotate CW To Raise</i>
Echo, Barrel Effect, Occlusion	Decrease	Lower	Raise	
Background Noises		Lower	Raise	Lower
Tinny, Sharp Sounds	Increase	Raise	Lower	Raise
Too Loud		Lower	Lower	Lower
Feedback		Raise	Lower	Raise
Weak		Raise	Raise	Lower
Circuit Noise		Raise	Lower	Raise
Muffled, Not Clear		Lower	Raise	Lower

Verification Of OnQue Crossover Frequency Setting

To compare the actual crossover frequency setting with the desired or target compression ratio:

1. Place the hearing instrument in a hearing aid analyzer (HA 1 2cc coupler) with the hearing aid controls at user settings.
2. Rotate the High Band Compression Ratio Control full clockwise and the Low Band Compression Ratio control (if present*) full counter clockwise. Obtain a gain curve with a 50 dB SPL input.
3. Rotate the High Band Compression Ratio Control full counter clockwise and the Low Band Compression Ratio control (if present) full clockwise. Obtain a gain curve with a 50 dB SPL input.
4. Overlay the two curves. The point where the curves intersect is the crossover frequency. Please see figure below for an example.

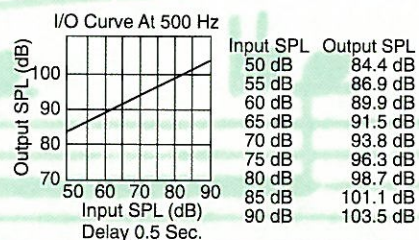


Verification Of OnQue Compression Ratio Setting

To Compare the actual compression ratio with the desired or target compression:

1. Place the hearing instrument in a hearing aid analyzer (HA 1 2cc coupler) with the hearing aid controls at user settings.
2. Obtain the input versus output SPL (I/O) function at 500 Hz for Low Band channel or 4000 Hz for the High Band.
3. Calculate the compression ratio by dividing the difference in input SPL (for example, between 60 and 90 dB input SPL) by the difference in output SPL. Please see the figure below for an example.

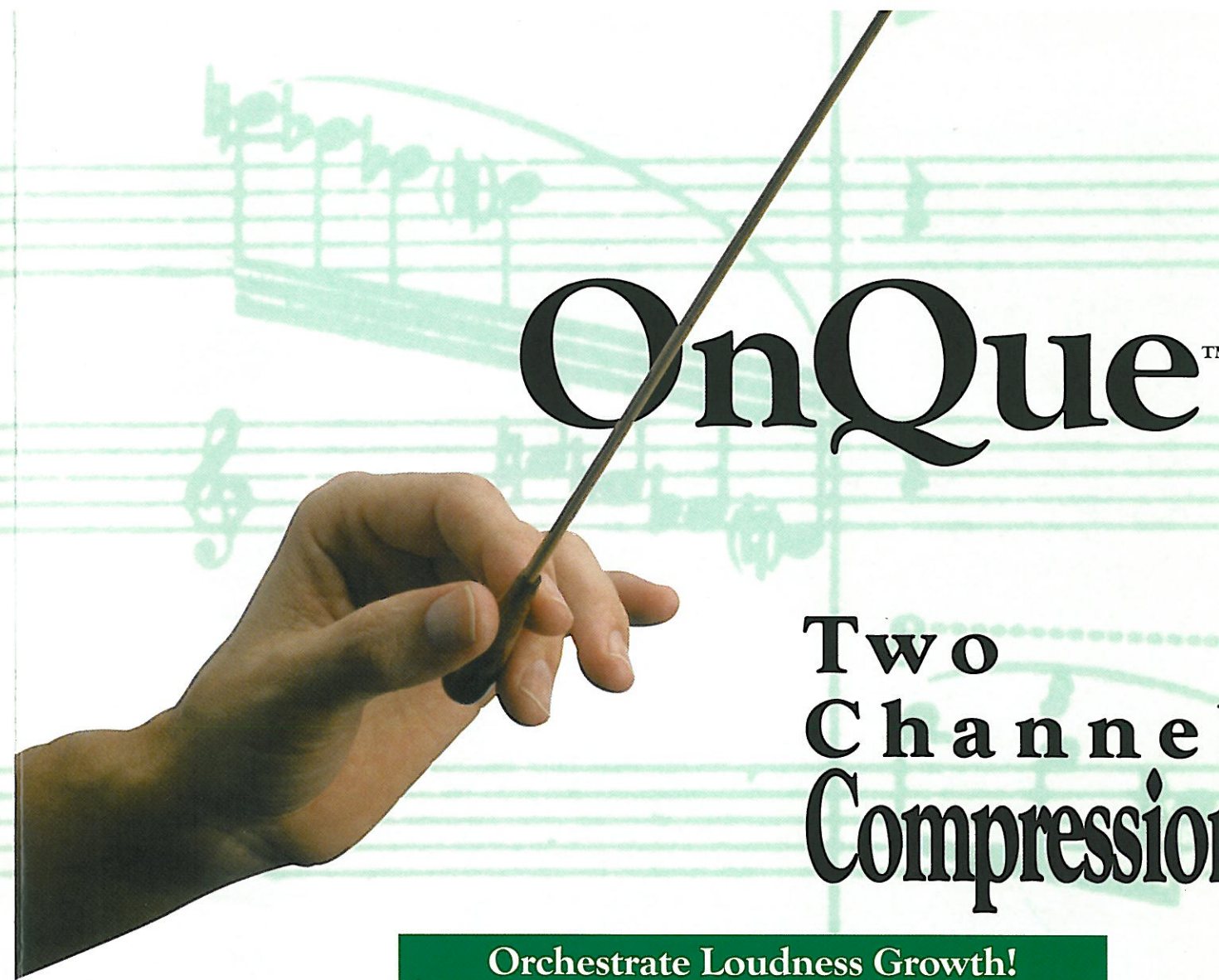
Input Level Change/Output Level Change = Compression Ratio
 $(90-60)/(103.5-89.9)=30/14.4=2.1$



Subjective Verification of Fitting

1. Present speech at a conversational level (65 dB SPL) to your patient while he or she is wearing the hearing instrument and its controls are at the use setting.
2. Adjust the volume control so the input is at a comfortable level.
3. Present soft speech (40 to 50 dB SPL). It should be audible, perceived soft.
4. Present high level speech (at about 80 to 90 dB SPL) and make sure it is not too loud.
5. If fine tuning is desired, please refer to the Potentiometer Adjustment Tip Chart inside.

* When the low band compression ratio control is not present, the cross-over frequency is located at the point where the two high band responses separate.



OnQue™

Two Channel Compression

Orchestrate Loudness Growth!

Argosy OnQue combines the tremendous flexibility of two-channel processing with a distinct compression configuration to help you address one of the most troublesome aspects of hearing loss—abnormal loudness growth.

Traditional compression provides adjustment parameters for loud sounds and *predetermines* gain for *quiet* sounds.

OnQue provides adjustment parameters for quiet sounds and predetermines SSPL90.

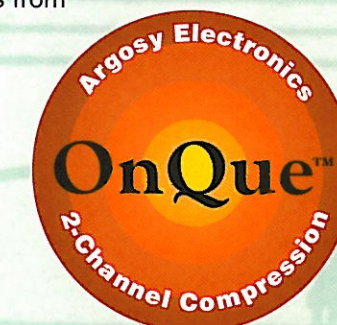
OnQue's distinct compression configuration allows the gain for quiet sounds to be adjusted to suit your client's unique needs and help reestablish normal loudness growth.

OnQue provides exceptional versatility and is easy to set to a wide variety of fitting algorithms. OnQue features

- **Separate Compression Ratio Controls For Each Channel** so amplification and compression can be composed to suit individual needs.
- **A Crossover Frequency Control** that is adjustable from 950 to 3000 Hz to provide extraordinary frequency response shaping.
- **Twin Average Level Detectors** for smoother transitions from soft to loud sounds.

Available in all models including CAMEO® CIC.

Argosy Electronics



Argosy Electronics, Inc.
 10300 West 70th Street, Eden Prairie, MN 55344 • P.O. Box 59072, Minneapolis, MN 55459
 800-328-6105 • 612-942-9232 • FAX 612-942-0503 • custsvc@argosyite.com

OnQue: Orchestrated To Your Unique Specifications

Matched To Your Targets

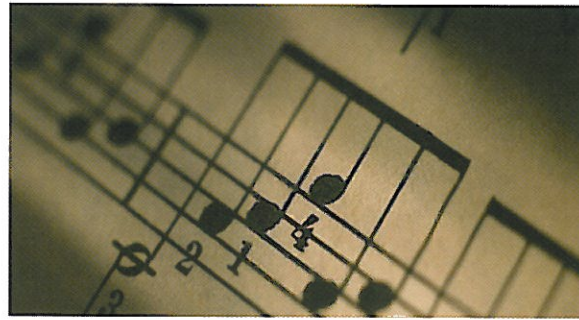
The extreme flexibility of the OnQue circuit makes it easy to preset based upon a wide variety of nonlinear fitting algorithms. Argosy presets the instruments prior to shipping. You can choose to provide Argosy with your own desired targets for each of the variable parameters (specified on the order form) or have the instruments set to an Argosy proprietary target.

Factory Presets and Fitting Rationale

When Instruments are set to an Argosy proprietary target, the first step is to set the peak SSPL90 by using UCL or LDL values. If neither of these pieces of information are provided, the UCL is predicted by using the standard formula of 25% of the HTL of 1000 Hz plus 100. The compression

threshold is defaulted to the lowest setting.

The compression ratio for the Low Band channel is determined by looking at the HTLs for the frequencies in the low channel to estimate the amount of amplification needed for soft sounds. This estimated gain relative to the previously determined SSPL90 value provides the target compression ratio. For example, if the SSPL90 is 110, or 20 dB of gain with a 90 dB input, and the estimated gain for quiet sounds (for example, 50 dB input) is 40 dB, then the compression ratio equals 2:1. (The change in input versus the change in output equals 40/20 which equals 4/2 which



equals 2:1) The compression ratio for the High Band channel is determined in the same manner.

The last parameter to be determined is the crossover frequency. The placement of the crossover frequency is based upon the severity and configuration of the hearing loss. The goal is to separate the low and high band channels to allow the independent processing in each channel to maximize comfortable listening for the patient.

OnQue (Non-Programmable) Nominal Specifications (Per ANSI S3.22-1987)

Models	CAMEO® CIC ¹	CCA-S™ Canal To PASSPORT® ITE
Maximum SSPL90* (dB SPL)	99	108
Frequency Range (Hz)	200-8000	200 - 7100
HFA SSPL90* (dB SPL)	97	104
HFA Full-On Gain (dB)	35	43
Reference Test Gain (dB)	35	43
Harmonic Distortion 500 Hz (%)	1	1
800 Hz (%)	1	1
1600 Hz (%)	1	1
Equivalent Input Noise (dB)	22	26
Battery Drain (mA)	0.68	0.85
Battery Type	10A	13 / 312
Typical Battery Life** (Hrs.)	100	270 / 153
Attack Time (S)	0.178	0.165
Release Time (S)	0.437	0.401

*Depends on receiver type.

**Based on ANSI drain current above and zinc air battery.

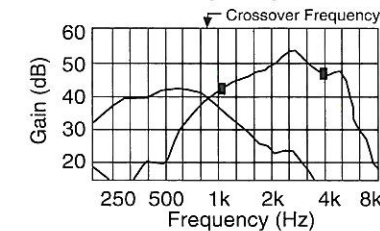
¹Precaution: Proper fitting of CAMEO CIC hearing instruments require the taking of a deep-canal impression. Hearing health professionals should not attempt this type of fitting unless they have developed the necessary skills to take this type of impression safely.

Standard Potentiometers

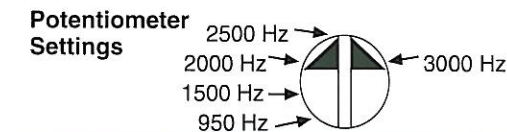
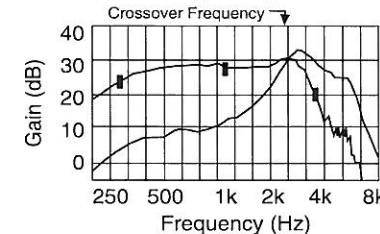
Crossover Frequency Control (CF)

The Crossover Frequency control is preset at the factory to match Argosy's target or the target you provide. It is continuously variable between 950 and 3000 Hz. Rotation of this potentiometer clockwise increases the frequency which separates the low and high frequency sounds.

Crossover Frequency at 950 Hz

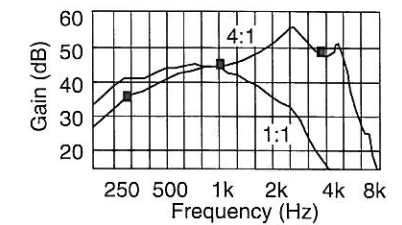


Crossover Frequency at 3000 Hz

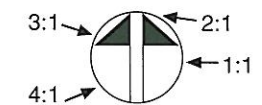


High Band Compression Ratio Control (H)

The High Band Compression Ratio control is preset at the factory to match Argosy's compression ratio target or the target you provide. It is continuously variable between 4:1 to 1:1. Rotation of this potentiometer clockwise lowers the compression ratio and decreases the gain for soft high frequency sounds.



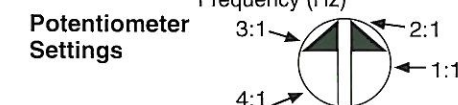
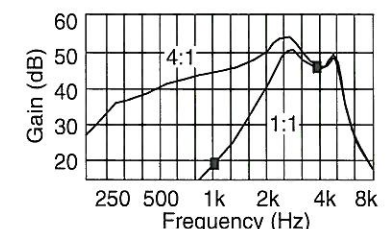
Potentiometer Settings



Optional Potentiometers

Low Band Compression Ratio Control (L)

The Low Band Compression Ratio control is preset at the factory to match Argosy's compression ratio target or the target you provide. This control is variable continuously between 4:1 and 1:1. Rotation of the potentiometer clockwise lowers the compression ratio and decreases the gain for soft low band sounds. If this optional potentiometer is not ordered, the low band compression ratio will be preset internally.



Compression Threshold Control (K)

The Compression Threshold control is preset at the factory to 50 dB SPL or the target you provide. It is continuously variable between 40 to 60 dB SPL. Clockwise rotation of this potentiometer raises the compression threshold and decreases the gain for soft sounds. If this optional potentiometer is not ordered, the compression threshold will be preset internally.

