

CZ-1 MINI

Portable 3-Voice Hybrid Phase Distortion Synthesizer with Analog Low-Pass Filter, 16-Step Sequencer and Arpeggiator

Table of Contents

EN

CZ-1 MINI Hook-up.....	12
------------------------	----

Phase Distortion Synthesis Explained	14
---	----

CZ-1 MINI Architecture.....	14
-----------------------------	----

Understanding the 8-Stage Envelope Generator	15
--	----

CZ-1 MINI Controls.....	20
-------------------------	----

Sound Generation	23
------------------------	----

DCO Controls	24
--------------------	----

DCW Controls	25
--------------------	----

DCA Controls	26
--------------------	----

Analog Filter.....	28
--------------------	----

Global Controls	29
-----------------------	----

Global Controls (Cont'd).....	30
----------------------------------	----

Using the Arpeggiator/ Sequencer.....	32
--	----

Additional Controls.....	34
--------------------------	----

CN

相位失真合成解释	38
----------------	----

CZ-1 MINI 架构.....	38
-------------------	----

理解 8 阶段包络发生器.....	39
-------------------	----

LV (电平).....	40
--------------	----

RA (率).....	40
-------------	----

编程包络.....	41
-----------	----

CZ-1 MINI 控制	42
--------------------	----

声音生成.....	45
-----------	----

DCO 控制.....	46
-------------	----

DCW 控制.....	47
-------------	----

DCA 控制.....	48
-------------	----

模拟滤波器.....	50
------------	----

全局控制	50
------------	----

全局控制 (续).....	51
---------------	----

使用琶音器/序列器.....	53
----------------	----

额外控制	54
------------	----

CZ-1 MINI - MIDI CC Table	57
------------------------------------	----

Specifications.....	60
---------------------	----

EN Safety Instructions

1. Please read and follow all instructions.
2. Keep the apparatus away from water, except for outdoor products.
3. Clean only with a dry cloth.
4. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
5. Do not install near any heat sources such as radiators, heat registers, stoves or other apparatus (including amplifiers) that produce heat.
6. Use only attachments/accessories specified by the manufacturer.



7. Use only specified carts, stands, tripods, brackets, or tables. Use caution to prevent tip-over when moving the cart/apparatus combination.
8. Avoid installing in confined spaces like bookcases.
9. Do not place near naked flame sources, such as lighted candles.

10. Operating temperature range 5° to 45°C (41° to 113°F).

LEGAL DISCLAIMER

Music Tribe accepts no liability for any loss which may be suffered by any person who relies either wholly or in part upon any description, photograph, or statement contained herein. Technical specifications, appearances and other information are subject to change without notice. All trademarks are the property of their respective owners. Midas, Klark Teknik, Lab Gruppen, Lake, Tannoy, Turbosound, TC Electronic, TC Helicon, Behringer, Bugera, Aston Microphones and Coolaudio are trademarks or registered trademarks of Music Tribe Global Brands Ltd. © Music Tribe Global Brands Ltd. 2025 All rights reserved.

LIMITED WARRANTY

For the applicable warranty terms and conditions and additional information regarding Music Tribe's

Limited Warranty, please see complete details online at community.musictribe.com/support.

ES Instrucciones de Seguridad

1. Por favor, lea y siga todas las instrucciones.
2. Mantenga el aparato alejado del agua, excepto para productos destinados al uso en exteriores.
3. Limpie solo con un paño seco.
4. No bloquee ninguna abertura de ventilación. Instale de acuerdo con las instrucciones del fabricante.
5. No instale cerca de fuentes de calor como radiadores, registros de calor, estufas u otros aparatos (incluyendo amplificadores) que generen calor.
6. Utilice solo accesorios especificados por el fabricante.



7. Use solo carros, soportes, trípodes, soportes o mesas especificados. Tenga precaución para evitar

el vuelco al mover la combinación carro/aparato.

8. Evite la instalación en espacios confinados como estanterías.

9. No colocar cerca de fuentes de llama desnuda, como velas encendidas.

10. Rango de temperatura de funcionamiento de 5° a 45°C (41° a 113° F).

NEGACIÓN LEGAL

Music Tribe no admite ningún tipo de responsabilidad por cualquier daño o pérdida que pudiera sufrir cualquier persona por confiar total o parcialmente en la descripciones, fotografías o afirmaciones contenidas en este documento. Las especificaciones técnicas, imágenes y otras informaciones contenidas en este documento están sujetas a modificaciones sin previo aviso. Todas las marcas comerciales que aparecen aquí son propiedad de sus respectivos dueños. Midas, Klark Teknik, Lab Gruppen, Lake, Tannoy, Turbosound, TC Electronic, TC Helicon, Behringer, Bugera, Aston Microphones y Coolaudio son marcas comerciales o

marcas registradas de Music Tribe Global Brands Ltd.

© Music Tribe Global Brands Ltd. 2025 Reservados todos los derechos.

GARANTÍA LIMITADA

Si quiere conocer los detalles y condiciones aplicables de la garantía así como información adicional sobre la Garantía limitada de Music Tribe, consulte online toda la información en la web community.musictribe.com/support.

(FR) Instructions de Sécurité

1. Veuillez lire et suivre toutes les instructions.
2. Gardez l'appareil éloigné de l'eau, sauf pour les produits destinés à une utilisation en extérieur.
3. Nettoyez uniquement avec un chiffon sec.
4. Ne bloquez aucune ouverture de ventilation. Installez conformément aux instructions du fabricant.
5. N'installez pas près de sources de chaleur telles que radiateurs, grilles de chaleur, cuisinières

ou autres appareils (y compris les amplificateurs) qui produisent de la chaleur.

6. Utilisez uniquement les accessoires spécifiés par le fabricant.



7. Utilisez uniquement des chariots, des supports,

des trépieds, des supports ou des tables spécifiés.

Faites attention pour éviter le renversement lors du déplacement de la combinaison chariot/appareil.

8. Évitez l'installation dans des espaces confinés comme les bibliothèques.

9. Ne pas placer près de sources de flamme nue, telles que des bougies allumées.

10. Plage de température de fonctionnement de 5° à 45°C (41° à 113° F).

DÉNI LÉGAL

Music Tribe ne peut être tenu pour responsable pour toute perte pouvant être subie par toute personne se fiant en partie ou en totalité à toute description, photographie ou affirmation contenue dans ce document.

Les caractéristiques, l'apparence et d'autres informations peuvent faire l'objet de modifications sans notification. Toutes les marques appartiennent à leurs propriétaires respectifs. Midas, Klark Teknik, Lab Gruppen, Lake, Tannoy, Turbosound, TC Electronic, TC Helicon, Behringer, Bugera, Aston Microphones et Coolaudio sont des marques ou marques déposées de Music Tribe Global Brands Ltd. © Music Tribe Global Brands Ltd. 2025 Tous droits réservés.

GARANTIE LIMITÉE

Pour connaître les termes et conditions de garantie applicables, ainsi que les informations supplémentaires et détaillées sur la Garantie Limitée de Music Tribe, consultez le site Internet community. musictribe.com/support.

Sicherheitsanweisungen

1. Bitte lesen Sie alle Anweisungen sorgfältig durch und befolgen Sie diese.

2. Halten Sie das Gerät von Wasser fern, außer für Produkte, die für den Außeneinsatz vorgesehen sind.

3. Reinigen Sie es nur mit einem trockenen Tuch.

4. Blockieren Sie keine Belüftungsöffnungen. Installieren Sie gemäß den Anweisungen des Herstellers.

5. Installieren Sie nicht in der Nähe von Wärmequellen wie Heizkörpern, Heizregistern, Öfen oder anderen Geräten (einschließlich Verstärkern), die Wärme erzeugen.

6. Verwenden Sie nur Zubehörteile, die vom Hersteller angegeben sind.



7. Verwenden Sie nur spezifizierte Wagen, Ständer, Stative, Halterungen oder Tische. Achten Sie darauf, beim Bewegen der Wagen-Geräte-Kombination ein Umkippen zu vermeiden.

8. Vermeiden Sie die Installation in beengten Räumen wie Bücherregalen.

9. Nicht in der Nähe von offenen Flammenquellen platzieren, wie brennende Kerzen.

10. Betriebstemperaturbereich von 5° bis 45°C (41° bis 113°F).

HAFTUNGSAUSSCHLUSS

Music Tribe übernimmt keine Haftung für Verluste, die Personen entstanden sind, die sich ganz oder teilweise auf hier enthaltene Beschreibungen, Fotos oder Aussagen verlassen haben. Technische Daten, Erscheinungsbild und andere Informationen können ohne vorherige Ankündigung geändert werden.

Alle Warenzeichen sind Eigentum der jeweiligen Inhaber. Midas, Klark Teknik, Lab Gruppen, Lake, Tannoy, Turbosound, TC Electronic, Behringer, Bugera, Aston Microphones und Coolaudio sind Warenzeichen oder eingetragene Warenzeichen der Music Tribe Global Brands Ltd. © Music Tribe Global Brands Ltd. 2025 Alle Rechte vorbehalten.

BESCHRÄNKTE GARANTIE

Die geltenden Garantiebedingungen und zusätzliche Informationen bezüglich der von Music Tribe gewährten beschränkten

ES

FR

DE

Garantie finden Sie online unter community.musictribe.com/support.

(PT) Instruções de Segurança importantes

1. Por favor, leia e siga todas as instruções.
2. Mantenha o aparelho longe da água, exceto para produtos destinados ao uso externo.
3. Limpe apenas com um pano seco.
4. Não bloqueie nenhuma abertura de ventilação. Instale de acordo com as instruções do fabricante.
5. Não instale próximo a fontes de calor, como radiadores, grelhas de calor, fogões ou outros aparelhos (incluindo amplificadores) que gerem calor.
6. Use apenas acessórios especificados pelo fabricante.



7. Use apenas carrinhos, suportes,

tripés, suportes ou mesas especificados. Tenha cuidado para evitar tombamentos ao mover a combinação carrinho/aparelho.

8. Evite instalar em espaços confinados, como estantes.

9. Não coloque perto de fontes de chama nua, como velas acesas.

10. Intervalo de temperatura de operação de 5° a 45°C (41° a 113° F).

LEGAL RENUNCIANTE

O Music Tribe não se responsabiliza por perda alguma que possa ser sofrida por qualquer pessoa que dependa, seja de maneira completa ou parcial, de qualquer descrição, fotografia, ou declaração aqui contidas. Dados técnicos, aparências e outras informações estão sujeitas a modificações sem aviso prévio. Todas as marcas são propriedade de seus respectivos donos. Midas, Klark Teknik, Lab Gruppen, Lake, Tannoy, Turbosound, TC Electronic, TC Helicon, Behringer, Bugera, Aston Microphones e Coolaudio são marcas ou marcas registradas do Music Tribe Global Brands Ltd. © Music Tribe Global Brands Ltd. 2025 Todos direitos reservados.

GARANTIA LIMITADA

Para obter os termos de garantia aplicáveis e condições e informações adicionais a respeito da garantia limitada do Music Tribe, favor verificar detalhes na íntegra através do website community.musictribe.com/support

(IT) Istruzioni di Sicurezza

1. Per favore, leggere e seguire tutte le istruzioni.
2. Mantenere l'apparecchio lontano dall'acqua, tranne per i prodotti destinati all'uso all'aperto.
3. Pulire solo con un panno asciutto.
4. Non ostruire alcuna apertura di ventilazione. Installare in conformità alle istruzioni del produttore.
5. Non installare vicino a fonti di calore come termosifoni, bocchette di calore, fornelli o altri apparecchi (compresi gli amplificatori) che producono calore.
6. Utilizzare solo accessori specificati dal produttore.



- 7.** Usare solo carrelli, supporti, treppiedi, staffe

o tavoli specificati.

Prestare attenzione per evitare il ribaltamento durante lo spostamento della combinazione carrello/apparecchio.

- 8.** Evitare l'installazione in spazi confinati come librerie.

- 9.** Non posizionare vicino a fonti di fiamma nude, come candele accese.

- 10.** Intervallo di temperatura di funzionamento da 5° a 45°C (41° a 113°F).

DISCLAIMER LEGALE

Music Tribe non si assume alcuna responsabilità per eventuali danni che possono essere subiti da chiunque si affidi in tutto o in parte a qualsiasi descrizione, fotografia o dichiarazione contenuta qui. Specifiche tecniche, aspetti e altre informazioni sono soggette a modifiche senza preavviso. Tutti i marchi sono di proprietà dei rispettivi titolari. Midas, Klark Teknik, Lab Gruppen, Lake, Tannoy, Turbosound, TC Electronic, TC Helicon, Behringer, Bugera, Aston Microphones

e Coolaudio sono marchi o marchi registrati di Music Tribe Global Brands Ltd. © Music Tribe Global Brands Ltd. 2025 Tutti i diritti riservati.

GARANZIA LIMITATA

Per i termini e le condizioni di garanzia applicabili e le informazioni aggiuntive relative alla garanzia limitata di Music Tribe, consultare online i dettagli completi su community.musictribe.com/support.

Veiligheidsinstructies

1. Lees alsjeblieft alle instructies en volg deze op.
2. Houd het apparaat uit de buurt van water, behalve voor producten die bedoeld zijn voor buitengebruik.
3. Reinig alleen met een droge doek.
4. Blokker geen ventilatieopeningen. Installeer volgens de instructies van de fabrikant.
5. Installeer niet in de buurt van warmtebronnen zoals radiatoren, warmte registers, fornuizen of andere apparaten

(inclusief versterkers) die warmte produceren.

- 6.** Gebruik alleen accessoires die door de fabrikant zijn gespecificeerd.



- 7.** Gebruik alleen gespecificeerde karren,

standaards, statieven, beugels of tafels.

Wees voorzichtig om kantelen te voorkomen bij het verplaatsen van de kar/apparaatcombinatie.

- 8.** Vermijd installatie in afgesloten ruimtes zoals boekenkasten.

- 9.** Plaats niet in de buurt van naakte vlambronnen, zoals brandende kaarsen.

- 10.** Bedrijfstemperatuurbereik van 5° tot 45°C (41° tot 113°F).

WETTELIJKE ONTKENNING

Music Tribe aanvaardt geen aansprakelijkheid voor enig verlies dat kan worden geleden door een persoon die geheel of gedeeltelijk vertrouwt op enige beschrijving, foto of verklaring hierin. Technische specificaties, verschijningen en andere

DE

PT

IT

NL

informatie kunnen zonder voorafgaande kennisgeving worden gewijzigd.

Alle handelsmerken zijn eigendom van hun respectievelijke eigenaren. Midas, Klark Teknik, Lab Gruppen, Lake, Tannoy, Turbosound, TC Electronic, TC Helicon, Behringer, Bugera, Aston Microphones en Coolaudio zijn handelsmerken of gedeponeerde handelsmerken van Music Tribe Global Brands Ltd. © Music Tribe Global Brands Ltd. 2025 Alle rechten voorbehouden.

NL

BEPERKTE GARANTIE

Voor de toepasselijke garantievoorwaarden en aanvullende informatie met betrekking tot de beperkte garantie van Music Tribe, zie de volledige details online op community.musictribe.com/support.

SE

PL

JP

SE Säkerhetsinstruktioner

1. Vänligen läs och följ alla instruktioner noggrant.
2. Håll apparaten borta från vatten, förutom för utomhusprodukter.

3. Rengör endast med en torr trasa.

4. Blockera inte några ventilationsöppningar. Installera enligt tillverkarens anvisningar.

5. Installera inte nära några värmekällor som element, värmeregistrar, spisar eller andra apparater (inklusive förstärkare) som genererar värme.

6. Använd endast tillbehör som anges av tillverkaren.



7. Använd endast specificerade vagnar, ställ,

stativ, fästen eller bord.

Var försiktig för att undvika att vagnen/apparatkombinationen tippas när den flyttas.

8. Undvik installation i trånga utrymmen som bokhyllor.

9. Placera inte nära öppna låga, såsom tända ljus.

10. Driftstemperaturområde 5° till 45°C (41° till 113°F).

FRISKRIVNINGSKLAUSUL

Music Tribe tar inget ansvar för någon förlust som kan drabbas av någon person som helt eller delvis förlitar sig på

någon beskrivning, fotografi eller uttalande som finns här.

Tekniska specifikationer, utseenden och annan information kan ändras utan föregående meddelande.

Alla varumärken tillhör respektive ägare.

Midas, Klark Teknik, Lab Gruppen, Lake, Tannoy, Turbosound, TC Electronic, TC Helicon, Behringer, Bugera, Aston Microphones och Coolaudio är varumärken eller registrerade varumärken som tillhör Music Tribe Global Brands Ltd. © Music Tribe Global Brands Ltd. 2025 Alla Rättigheter reserverade.

BEGRÄNSAD GARANTI

För tillämpliga garantivillkor och ytterligare information om Music Tribes begränsade garanti, se fullständig information online på community.musictribe.com/support.

PL Instrukcje

Bezpieczeństwa

1. Proszę przeczytać i ściśle przestrzegać wszystkich instrukcji.
2. Trzymaj urządzenie z dala od wody, z wyjątkiem

produktów przeznaczonych do użytku na zewnątrz.

3. Czyść tylko suchą szmatką.

4. Nie blokuj żadnych otworów wentylacyjnych. Instaluj zgodnie z instrukcjami producenta.

5. Nie instaluj w pobliżu źródeł ciepła, takich jak grzejniki, rejestratory ciepła, kuchenki lub inne urządzenia (w tym wzmacniacze), które generują ciepło.

6. Używaj tylko akcesoriów określonych przez producenta.



7. Używaj tylko określonych wózków,

stojaków, statywów, uchwytów lub stołów. Uważaj, aby zapobiec przewróceniu się wózka/aparatu podczas przemieszczania.

8. Unikaj instalacji w ciasnych miejscach, takich jak regały na książki.

9. Nie umieszczaj w pobliżu źródeł otwartego ognia, takich jak zapalone świece.

10. Zakres temperatury pracy od 5° do 45°C (41° do 113°F).

ZASTRZEŻENIA PRAWNE

Music Tribe nie ponosi odpowiedzialności za jakiekolwiek straty, które mogą ponieść osoby, które polegają w całości lub w części na jakimkolwiek opisie, fotografii lub oświadczeniu zawartym w niniejszym dokumencie. Specyfikacje techniczne, wygląd i inne informacje mogą ulec zmianie bez powiadomienia. Wszystkie znaki towarowe są własnością ich odpowiednich właścicieli. Midas, Klark Teknik, Lab Gruppen, Lake, Tannoy, Turbosound, TC Electronic, TC Helicon, Behringer, Bugera, Aston Microphones i Coollaudio są znakami towarowymi lub zastrzeżonymi znakami towarowymi firmy Music Tribe Global Brands Ltd. © Music Tribe Global Brands Ltd. 2025 Wszystkie prawa zastrzeżone.

OGRANICZONA GWARANCJA

Aby zapoznać się z obowiązującymi warunkami gwarancji i dodatkowymi informacjami dotyczącymi ograniczonej gwarancji Music Tribe, zapoznaj się ze wszystkimi szczegółami w trybie online pod adresem

community.musictribe.com/support.

JP 安全指示

1. すべての指示を読んで、従ってください。
2. 屋外の製品を除き、機器を水から遠ざけてください。
3. 乾いた布でのみ清掃してください。
4. 通気口を塞がないでください。メーカーの指示に従ってインストールしてください。
5. 暖房器、ヒートレジスター、ストーブなどの発熱機器（アンプを含む）の近くには取り付けしないでください。
6. メーカーが指定したアタッチメント/アクセサリのみ使用してください。



7. 指定されたカート、スタンド、三脚、ブラケット、またはテーブルのみ使用してください。カート/機器の組み合わせを移動する際には、転倒を防ぐよう注意してください。

NL

SE

PL

JP

8. 書棚などの密閉された空間には設置しないでください。

9. 裸火のような火の元の近くに置かないでください。

10. 動作温度範囲は摂氏 5 度から 45 度 (華氏 41 度から 113 度) です。

法的放棄

ここに含まれる記述、写真、意見の全体または一部に依拠して、いかなる人が損害を生じさせた場合にも、Music Tribe は一切の賠償責任を負いません。技術仕様、外観およびその他の情報は予告なく変更になる場合があります。商標はすべて、それぞれの所有者に帰属します。Midas, Klark Teknik, Lab Gruppen, Lake, Tannoy, Turbosound, TC Electronic, TC Helicon, Behringer, Bugera, Aston Microphones および Coolaudio は Music Tribe Global Brands Ltd. の商標または登録商標です。© Music Tribe Global Brands Ltd. 2025 無断転用禁止。

オンライン上 community.musictribe.com/support にて詳細をご確認ください。

安全说明

1. 请阅读、保存、遵守所有的说明, 注意所有的警示。
2. 请勿在靠近水的地方使用本产品。
3. 请用干布清洁本产品。
4. 请只使用厂家指定的附属设备和配件。不要堵塞任何通风口。按照制造商的说明进行安装。



5. 请只使用厂家指定的或随货销售的手推车, 架子, 三角架, 支架和桌子等。若使用手推车来搬运设备, 请注意安全放置设备, 以避免手推车和设备倾倒而受伤。

6. 请勿安装在密闭空间, 如书柜或类似装置。
7. 请勿将本产品安装在热源附近, 如暖气片, 炉子或其它产生热量的设备 (包括功放器)。产品上不要放置裸露的火焰源, 如点燃的蜡烛。

8. 如果液体流入或异物落入设备内, 设备遭雨淋或受潮, 设备不能正常运

作或被摔坏等, 设备受损需进行维修时, 所有维修均须由合格的维修人员进行维修。

法律声明

对于任何因在此说明书提到的全部或部份描述、图片或声明而造成的损失, Music Tribe 不负任何责任。技术参数和外观若有更改, 恕不另行通知。所有的商标均为其各自所有者的财产。Midas, Klark Teknik, Lab Gruppen, Lake, Tannoy, Turbosound, TC Electronic, TC Helicon, Behringer, Bugera, Aston Microphones 和 Coolaudio 是 Music Tribe Global Brands Ltd. 公司的商标或注册商标。© Music Tribe Global Brands Ltd. 2025 版权所有。

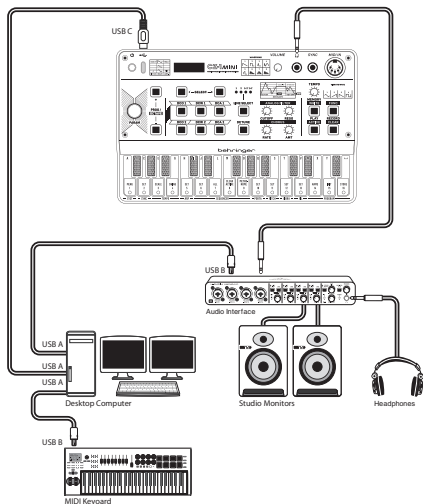
保修条款

有关音乐集团保修的适用条款及其它相关信息, 请登陆 community.musictribe.com/support 网站查看完整的详细信息。

限定保証

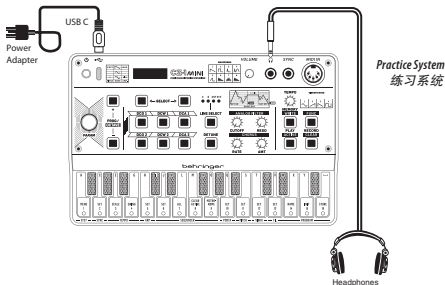
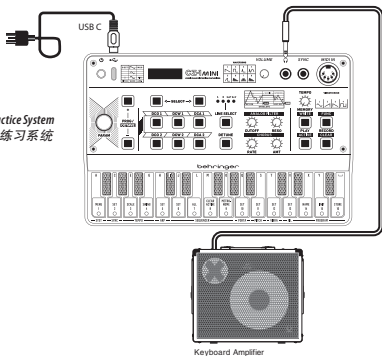
適用される保証条件と Music Tribe の限定保証に関する概要については、

CZ-1 MINI Hook-up



Studio System
工作室系统

Band / Practice System
乐队 / 练习系统



EN **Phase Distortion Synthesis Explained**

Initially introduced in 1984 with the Casio CZ line of synthesizers, Phase Distortion Synthesis is a unique method of tone generation. Though it follows the basic signal chain of most synthesizers, Phase Distortion's method of waveform generation, and tone generation, differ significantly.

With Phase Distortion (an entirely digital method of synthesis), it's possible to create varying waveforms by "distorting" the read phase angle of a sine wave, which results in the creation of additional harmonics and subharmonics. Thus, the name Phase Distortion Synthesis.

Since the phase of an oscillator is measured over time, Phase Distortion essentially employs a form of time-distortion, AKA "squeezing," to alter the shape of a waveform. As a result, unique changes in timbre can be generated, all while a note's relative pitch (frequency) is maintained.

CZ-1 MINI Architecture

Though both of the CZ-1 MINI's DCOs (Digitally Controlled Oscillators) output a basic sine wave,

standard waveforms can also be recalled from memory. The chosen oscillator determines the pattern used for the read phase angle distortion. The modulation depth or shape of the read phase angle distortion can then be altered by the envelope settings of the DCW (Digitally Controlled Wave). The DCW can also be referred to as the Digitally Controlled Waveshaper, which is perhaps a more helpful term to use, as its essential function involves waveshaping.

The DCW is in fact where the CZ-1 MINI's phase distortion process takes place. The DCW has a similar function to a Voltage Controlled Filter on analog synthesizers, as it affects the timbre of the sound. Note however that this comparison is useful only for theoretical purposes. In practice, the two are implemented in drastically different ways.

Whereas a traditional VCF has a variable cutoff point that is used to attenuate unwanted frequencies, the DCW does not. In place of the cutoff frequency setting of a VCF, the CZ-1 MINI's DCW employs the use of an LV (LEVEL) setting, which gradually introduces additional harmonics by distorting the waveshape and phase angle of the DCO's sine wave at higher settings.

With increasingly higher settings (greater levels of distortion), the more the wave's shape will be gradually transformed into the waveshape selected for DCO 1 or DCO 2. Thus, at an LV setting of 99, the DCW will output a fully distorted oscillator waveshape that corresponds to the one selected for the DCO. By contrast, reducing the DCW's LV setting will gradually reduce the harmonics produced by the DCO. At an LV setting of 0, the DCO will output the fundamental frequency of a note without any harmonics. In other words, a sine wave.

The generation of additional harmonics through increasing levels of Phase Distortion (LV settings) results in a perceptively brighter timbre. As harmonic content is reduced (Phase Distortion levels are reduced), the timbre produced will be darker.

Following the DCW, the DCA (Digitally Controlled Amplifier) sculpts the behavior of the sound over time (short or prolonged attack, long or short release times, etc.).

Taken as a whole, the DCO-DCW-DCA block configuration constitutes the basic architecture of the CZ-1 MINI. This configuration also makes up one line of the CZ-1 MINI's dual-line system. In terms of signal chain then, the CZ-1 MINI reflects that of traditional analog

synthesizers, which follow the pattern of VCO-VCF-VCA.

At each stage along the signal chain, a multi-stage envelope generator is applied to the pitch, tone/timbre, and duration of the sound. These correspond to the DCO (Digitally Controlled Oscillator), the DCW (Digitally Controlled Wave), and the DCA, respectively.

For additional sound design capabilities we've added an analog filter with its own ADSR envelope and LFO after the Phase Distortion engine. This addition makes the CZ-1 MINI a powerful hybrid synthesizer that combines digital synthesis with analog filtering. See callout items 19, 20 and 40 of this manual for more information on the analog filter and its controls.

Understanding the 8-Stage Envelope Generator

Understanding how the envelope generator is employed is integral in understanding the architecture of the CZ-1 MINI in terms of sculpting sounds, as it's a unique feature of the synth. We could take this a step further and say that it's perhaps the most detailed part of creating programs/patches on the CZ-1 MINI.

EN Each DCO, DCW, and DCA of the two separate lines has an independent envelope generator. This means that the CZ-1 MINI has 6 different 8-stage envelope generators that can be programmed. Since the steps, parameters, and essential functions of each is identical for both lines, the separately applied envelope generators will be treated as one.

The CZ-1 MINI's 8-stage envelope generator is independently applied to the DCO to vary pitch, to the DCW to vary tone/timbre, and to the DCA to control amplitude over time. This lets you create more involved changes to a sound when compared to a standard ADSR. Nevertheless, if 8 stages are unnecessary for a program/patch, then it's also possible to limit the envelope to as many stages as are needed by setting the LV (LEVEL) to 0 for unwanted stages. Additionally, you can set the envelope's Sustain (SUS) and END points to only incorporate the desired stages.

Each of the individual stages-of the envelope generator has a corresponding LV (LEVEL) and RA (RATE) parameter. The function and use of each must be discussed in further to detail to get a better idea for how they are integrated, as their

essential meanings change depending on the destination parameter they're modifying.

LV (LEVEL)

Specifies the amplitude or destination level of a step. This can be thought of in terms of both amplitude and the level/degree of change that happens to a specific step.

LV values range from 0-99, the meaning of which depends on the parameter to which LV is applied.

LV amounts applied to the DCO will affect the DCO's pitch (frequency) behavior. In this case, a value of 0 directly corresponds to the pitch of the note pressed, which will remain stable for that stage. Higher LV amounts will, by comparison, cause the note to glide to progressively higher pitch values over time before returning to its original pitch (when sustained for long durations).

Note however that varying RA (RATE) and LV amounts will have a different effect than the one mentioned above. For instance, the above case assumes that RA is set to lower values (0-50). Since RATE affects how quickly the maximum value of a parameter is reached, an RA setting at maximum (99) means that the highest frequency

established by the LV setting will be reached instantaneously. Thus, with higher LV values, modulation will be noticeably reversed, with the note pitch starting at a higher frequency and falling to its corresponding pitch as played on the keyboard.

This demonstrates that though LV and RA parameters are strictly unipolar, since they can't apply negative modulation values, different combinations of the two in conjunction with each other can in fact achieve bipolar modulation effects.

For the DCW, LV (LEVEL) determines the amount of Phase Distortion applied to the DCO's waveshape. As noted above, the LV setting progressively introduces harmonics until fully distorting the waveshape to the one chosen for the DCO. This ranges from the DCO's basic sine wave at the low end (0) to a saw wave-the waveform type selected in the DCO section unaltered and with harmonics intact-at the high end (99). A middle position corresponds to a triangle wave, with values in between changing the DCW's distortion levels towards one waveshape or another (Sin-Tri; Tri-Saw).

For the DCA, LEVEL corresponds to the standard use of the term "level." LV settings thus control the volume/amplitude of stages 1-8 of the envelope generator. In this case, changing the LEVEL (LV) will affect a direct change in the overall volume of the different stages of the envelope generator.

RA (RATE)

Specifies the slope, or angle, of one or more stages of the envelope.

The absolute values provided range from 0-99, with higher values corresponding to an increase in slope, and lower values corresponding to a decrease in slope. In general terms, higher amounts (steeper inclines) lead to more instantaneous changes over time. By contrast, lower values (gentler inclines) lead to more gradual changes over time.

EN Programming Envelopes

To put the above into practice, let's create a 5-stage envelope for DCA 1 or DCA 2. Since we're only concerned with the first 5 stages of the envelope, we can ignore stages 6-8:

STEP	STEP 1	STEP 2	STEP 3	STEP 4	STEP 5
LV (LEVEL)	99	80	70	0	0
RA (RATE)	99	35	20	25	55
SUS, END	—	—	—	SUS	END

With the above settings, the sound will consist of a quick attack followed by a gradual attenuation in volume for as long as the note is held, up to around 6-7 seconds. When notes are released before the sound has been completely attenuated, the envelope will immediately jump to the END position, resulting in a rapid attenuation of the sound without a prolonged release stage.

To create an envelope that contains a longer release time, (the note continues after the key has been released and prior to being reduced to the state where sound is no longer being produced), adjust the RA level of the last step (step 5) to a value of roughly 40 or lower. Building on the table above, the following settings can be used to achieve this result:

STEP	STEP 1	STEP 2	STEP 3	STEP 4	STEP 5
LV (LEVEL)	99	80	70	0	0
RA (RATE)	99	35	20	25	40
SUS, END	—	—	—	SUS	END

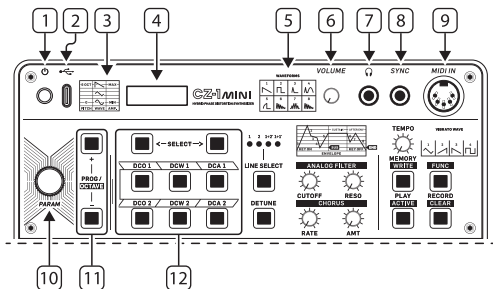
If you wanted the sound to swell up gradually before falling back down in volume, you would need to make a few adjustments to the LEVEL and RATE settings, especially at the initial stages of the envelope. It's worth noting that most synthesizers require the use of a four-stage envelope generator to accomplish this. With the CZ-1 MINI, this can be accomplished in as little as 3 stages.

To simplify things, let's program a 3-stage envelope to create the above effect. We'll use stages 3-5 of the above table as a rough guide, but we'll make a few minor adjustments:

STEP	STEP 1	STEP 2	STEP 3
LV (LEVEL)	66	0	0
RA (RATE)	33	25	55
SUS, END	—	SUS	END

To change the speed (rate) of the swell at the attack stage, raise RA 1 to a higher value to make the sound swell up in volume more quickly, or to a lower value to make it swell more slowly. The same principle can be applied to the DCW if you wanted a waveshape's harmonic content to swell up over time to the highest number of harmonics it can produce. In principle this would create a similar effect as applying longer attack times to the envelope of a voltage-controlled filter.

EN CZ-1 MINI Controls



1. **POWER** – On/Off. Hold the POWER button for three seconds to turn the CZ-1 MINI on or off.
2. **USB-C PORT** – Used to power the CZ-1 MINI and to connect to a computer for USB MIDI control.
3. **LV AMOUNT TABLE** – Displays the meanings of minimum and maximum LV (LEVEL) values for PITCH (DCO), WAVE (DCW), and AMP (DCA), from left to right:
 - i. **PITCH** – Minimum LV value (0) = note pitch as played on the keyboard. Maximum value (99) = a 6-octave modulation range
 - ii. **WAVE** – Minimum LV value (0) = a sine wave (DCO output is reduced to a sine wave). Maximum value (99) = a saw wave (DCO output corresponds to the waveshape chosen for the DCO)
 - iii. **AMP** – Minimum LV value (0) = no sound (level = 0). Maximum LV value (99) = maximum amplitude level
4. **LCD DISPLAY** – Displays the current preset, wavetable information, adjustable parameters, and other relevant information.

5. **WAVEFORM TABLE** – Though DCO 1 and DCO 2 technically only produce a sine wave, the CZ-1 MINI contains 8 basic coded waveforms for both DCO lines. Note however that up to 33 waveforms can be produced by combining different waveforms with each other.

The three resonant waveforms each have different emphasized harmonic content and are provided to mimic the resonant peaks achieved with traditional VCFs. With a resonant waveform chosen, increasing or decreasing the LEVEL setting of the DCW will boost the harmonics of the waveform above surrounding harmonics.

The displayed waveforms are as follows*:

- i. **SAWTOOTH**
- ii. **SQUARE**
- iii. **PULSE**
- iv. **DOUBLE SINE**
- v. **SAW-PULSE**
- vi. **RESONANCE I (SAW-TOOTH)**
- vii. **RESONANCE II (TRIANGLE)**
- viii. **RESONANCE III (TRAPEZOID)**

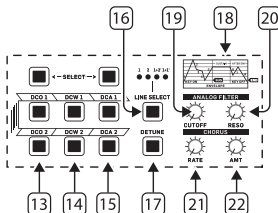
NOTE*: These essential waveforms will be produced intact (with all harmonics present) only if the DCW's LEVEL is

set to 99. Lowering the DCW's LEVEL setting will reduce the waveform's harmonic content away from its initial state (and thus into a different waveform). To be sure you are hearing the displayed chosen waveform with all its harmonics intact, you can use the DCW's envelope generator to set the DCW's SUS point to 1, with the LEVEL setting at 99.

- 6. **VOLUME** – Adjusts the output level of the CZ-1 MINI. Turning the VOLUME knob to the left will decrease the volume, whereas turning it to the right will increase the volume.
- 7. **HEADPHONES** – Connection for 3.5mm headphone jack. Turn the volume all the way down before putting headphones on and playing the CZ-1 MINI.
- 8. **SYNC IN** – 3.5 mm jack used for syncing the CZ-1 MINI to an external clock source or start/stop signal.
- 9. **MIDI IN** – 5-pin DIN MIDI input used to control the CZ-1 MINI with an external controller or sequencer.
- 10. **PARAM** – Encoder used for scrolling values and adjusting editable parameters via the LCD DISPLAY.

11. **±PROG/OCTAVE** – Used to change the currently selected program/patch and to raise/lower the octave of the current patch/program. As these two separate functions share the same button, information is provided below on how to access each of the two.
 - i. **PROG** – To change the program/patch, click on the upper (+) PROG button to go up one or more program numbers, or on the lower (-) PROG button to go down one or more program numbers. In the CZ-1 MINI's default state (program number and waveshape are displayed), the two program buttons will be lit red, signifying that pressing one or the other will have the effect of changing the current program
 - ii. **OCTAVE** – Changing the octave on the CZ-1 MINI will affect the synthesizer globally, meaning every patch will be played in the chosen octave (1-4). To change the octave, first press the FUNC (FUNCTION) button. Note that when the FUNC button has been pressed, many of the CZ-1 MINI's controls will blink red.
 When the ±PROG/OCTAVE buttons are blinking, this signifies that pressing one of the two will change the octave. At this point, you may press on the upper OCTAVE (+) button to go up an octave, or on the lower OCTAVE (-) button to go down an octave. Once you've selected the desired octave (1-4) press the FUNC button a second time to finalize your selection
12. **SELECT** – Used to move to the left or right between menu items on the DISPLAY.

Sound Generation



13. DCO (Digitally Controlled Oscillator) 1+2

The CZ-1 MINI's primary source of sound generation is its dual DCOs (Digitally Controlled Oscillator). The two DCOs can be programmed independently of one another, used in isolation, or stacked for greater effect.

Both DCOs consist of two separate waveform slots (WF1+WF2) that are used to select from the CZ-1 MINI's 8 different waveform types. DCOs 1 and 2 additionally contain a DCW knob, SUS (SUSTAIN) and END level parameters, and an 8-stage envelope for controlling pitch changes over time.

EN DCO Controls

Pressing the DCO 1 or DCO 2 button provides access to the following menu items:

Menu Item	Description	Range
WF1+WF2	Selects the waveforms used by the DCO	1=Saw 2=Square 3=Pulse 4=Double Sine 5=Saw-Pulse 6=Resonance I (Saw) 7=Resonance II (Triangle) 8=Resonance III (Trapezoid)
DCW	Adjusts the harmonic content produced by the DCO waveshape	0-99
SUS (SUSTAIN)	Sets the sustain point of the DCO's pitch envelope	0-7
END	Sets the end (release) stage of the DCO's pitch envelope	2-8
LV (LEVEL) 1-8	Adjusts the slope of one or more stages of the DCO's pitch envelope	0-99
RA (RATE) 1-8	Adjusts the rate of one or more stages of the DCO's pitch envelope	0-99

To return to the program visualizer on the LCD screen, press the PROG/OCTAVE + or – button once. This is also the case for the DCW, DCA, and DETUNE buttons.

14. DCW (Digitally Controlled Wave) 1+2

The CZ-1 MINI's DCW (Digitally Controlled Wave) is what controls a LINE's timbre/tone over time, much like the VCF of analog synthesizers. In the DCW's case, the CZ-1 MINI's 8-stage envelope generator determines the shape or depth used to determine this change in timbre via the LV (LEVEL), or destination level, and RA (RATE) settings.

DCW Controls

Pressing the DCW 1 or DCW 2 button provides access to the following menu items:

Menu Item	Description	Range
KFO (KEY FOLLOW)	Turns key follow on or off. With key follow on, the higher a note is played, the closer the waveform comes to a sine wave	0=On 1=Off
KFR (KEY FOLLOW RANGE)	Sets the range value of key follow messages. Higher range values correspond to greater changes to timbre in upper registers	0-99
SUS	Sets the sustain stage of the DCW's timbre envelope	0-7
END	Sets the end (release) stage of the DCW's timbre envelope	2-8
LV (LEVEL) 1-8	Adjusts the slope of the stages of the DCW's timbre envelope	0-99
RA (RATE) 1-8	Adjusts the rate of the stages of the DCW's timbre envelope	0-99

15. DCA (Digitally Controlled Amplifier) 1+2

The DCA (Digitally Controlled Amplifier) utilizes the CZ-1 MINI's 8-stage envelope to set and adjust the volume change that occurs over time to both LINE 1 and LINE 2. Note that the two lines can be adjusted independently from one another. This means that LINE 1 can have entirely different envelope settings than LINE 2, even when the two are used together.

EN DCA Controls

Pressing the DCA 1 or DCA 2 button provides access to the following menu items:

Menu Item	Description	Range
KFO (KEY FOLLOW)	Turns key follow on or off. With key follow on, the higher a note is played, the shorter its volume envelope will become	0=On 1=Off
KFR (KEY FOLLOW RANGE)	Sets the range value of key follow messages. Higher range values correspond to greater envelope time variances in upper registers	0-99
SUS	Sets the sustain stage of the DCA's volume envelope	0-7
END	Sets the end (release) stage of the DCA's volume envelope	2-8
LV (LEVEL) 1-8	Adjusts the slope of the stages of the DCA's volume envelope	0-99
RA (RATE) 1-8	Adjusts the rate of the stages of the DCA's volume envelope	0-99

16. LINE SELECT

When thought of in terms of a block configuration, the CZ-1 MINI consists of a dual line system, with LINE 1 encompassing DCO 1, DCW 1, and DCA 1 with their respective envelopes, and LINE 2 encompassing DCO 2, DCW 2, and DCA 2 with their respective envelopes.

To select the line or lines used, press the LINE SELECT button. Pressing LINE SELECT will move forward (to the right) between line combinations (1, 2, 1+2, 1+1). The red indicator light below each line selection option will glow red underneath the current selection. The CZ-1 MINI provides four line selection options:

- 1** – 3-voice polyphonic mode. Used for the creation of simple patches
- 2** – 3-voice polyphonic mode. Used to monitor LINE 2 when using LINE SELECT 1+2

iii. **1+2** – LINE 1 and LINE 2 are stacked. Used for creating complex patches and harmonics via the DETUNE menu

iv. **1+1** – LINE 1 is stacked on itself. Useful for creating ensemble and chorus type effects

17. **DETUNE** – Adjusts the detune amount of the patch.

By pressing the DETUNE button, a menu will appear that provides controls for creating variations in pitch between DCO 1 and DCO 2.

POL (POLARITY)

Changes the polarity of the detune amount settings.

When set to 0, the pitch of DCO 2 will be detuned progressively lower than that of DCO 1 as values are raised.

When set to 1, the pitch of DCO 2 will be detuned progressively higher than that of DCO 1 when values are raised.

To use the OCT setting as an example, if POL is set to 1, then a setting of 1 in the OCT menu item will set DCO 2's pitch one octave above DCO 1.

By contrast, if POL is set to 0, then the reverse will happen, and a setting of 1 for OCT will set DCO 2's pitch one octave below DCO 1.

OCT

Changes the detune amount of DCO 2 in octave units. The values given range from 0-3, with 0 corresponding to the same octave as DCO 1, and 1-3 corresponding to that number of octaves above or below DCO 1, depending on the polarity setting.

At higher values, the OCT setting can have the effect of turning LINE 2 into an LFO. In this case, the cutoff value of notes is modulated either more quickly or more slowly depending on the frequency of the note pressed. Lower notes, which have lower frequency ranges and slower rates of vibration, will modulate more slowly, whereas higher notes, which have much higher frequency ranges and quicker rates of vibration, will modulate more quickly.

NOT (NOTE)

Adjusts the coarse tuning of DCO 2 against that of DCO 1 in halftones/ semitones (100 cent units).

Given values range from 0-11, with 11 corresponding to one halftone/ semitone below one octave.

To achieve a detune amount of one octave (12 semitones) use the OCT setting.

FIN (FINE)

Adjusts the fine tuning of DCO 2 against that of DCO 1.

Given values range from 0-60, which corresponds to no tuning differences between DCO 2 and DCO 1 when set 0, and approximately 1.7 cents (a little over one half-tone/ semitone) when set to 66.

It's possible to create a detune range of ± 4 octaves using the menu items above. With an OCT setting of 3 and a NOT setting of 11, DCO 2 will be detuned against DCO 1 by one semitone shy of 3 octaves. To make up for this one half-tone/semitone difference, raise the FIN amount to sharpen the corresponding 11th semitone of the NOT setting.

18. 8-STAGE ENVELOPE GENERATOR

TABLE – Displays the 8-stage envelope generator and corresponding positions for KEY ON, KEY OFF, SUSTAIN (SUS), and END. The table provides an example of the versatility of the CZ-1 MINI's envelope generator and does not reflect its behavior globally.

In the example shown on the table, steps 1-4 appear as a 4-stage envelope (ADSR). This is then followed by a ramp back up

during the SUSTAIN stage (5-6), and a final attack after the key has been released, resulting in an AFTER ENV (ENVELOPE).

Analog Filter

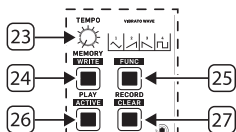
The CZ-1 MINI contains a 24 dB low-pass filter. Parameters of the Analog Filter's designated 4-stage envelope and LFO are covered in section 40 of this manual.

19. **CUTOFF** – Adjusts the filter cutoff frequency.
20. **RESO** – Adjusts the resonance (peak) amount.

CHORUS

21. **RATE** – Changes the rate/speed of the CHORUS effect. Turning the RATE knob to the left will decrease the rate of the CHORUS effect. Turning the RATE knob to the right will increase the rate of the CHORUS effect.
22. **AMT (AMOUNT)** – Adjusts the depth of the chorus effect. Turning the AMT knob to the right will increase the depth of the CHORUS effect's modulation, relative to the RATE knob.

Global Controls



23. **TEMPO** – Adjusts the speed of the arpeggiator/sequencer in BPM (beats per minute) when synced internally.

24. **MEMORY/WRITE** – To access MEMORY, press once. To access WRITE, first press FUNC (FUNCTION).

i. **MEMORY** – Recalls a sequence from internal memory

ii. **WRITE** – Writes (saves) a new sequence to internal memory

25. **FUNC** – Used to engage secondary functions. Once FUNC is pressed, the red indicators for all of the CZ-1 MINI's buttons that contain secondary functions will blink repeatedly.

26. **PLAY/ACTIVE** – To access PLAY, press once. To access ACTIVE, first press FUNC (FUNCTION). EN

i. **PLAY** – Plays the arpeggiated sequence or sequencer pattern

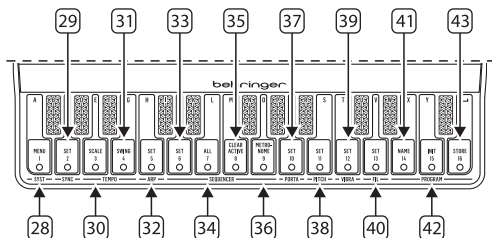
ii. **ACTIVE** – Lets you remove selected steps from the sequence. Active steps are indicated via the red indicator light

27. **RECORD/CLEAR** – To access RECORD, press once. To access CLEAR, first press FUNC.

i. **RECORD** – Lets you record a pattern or sequence

ii. **CLEAR** – Lets you clear steps of a pattern or sequence

EN Global Controls (Cont'd)



To access the menu items contained on the CZ-1 MINI's keyboard, first press FUNC. With FUNC pressed, the LCD screen will display "FUNCTION SELECT," and the keys of the keyboard will blink red. Note that once you press one of the keys with FUNC activated, you will no longer be able to play the synth via its keyboard. In this state, the keys are used to navigate through sub-menu items.

SYST

28. **MENU** – Repeated key presses make the following menus available:

- MODE SET (SEQ/ARP)** – Select either the sequencer or arpeggiator function
- FIL ENV TRIGGER** – Select either SINGLE or MULTI trigger

- SINGLE** – Triggers the envelope with the first note played. The envelope will not re-trigger until all notes are released
 - MULTI** – Re-triggers with each new note played
- iii. **PATTERN PROG LINK** – Select whether presets are linked to the current sequencer pattern or not
- ON** – The preset and currently used sequencer pattern will be automatically recalled together
 - OFF** – The preset and current sequencer pattern will not be linked.

When recalling the preset, only the currently selected pattern will be used

- iv. **MIDI TX** – Selects the MIDI channel(s) used for sending MIDI messages. Choose from channels 1–16, or OFF
- v. **MIDI RX** – Selects the MIDI channel(s) used for receiving MIDI messages. Choose from channels 1–16, or OFF
- vi. **MIDI VELOCITY** – Turns MIDI velocity sensitivity ON or OFF
- vii. **MIDI CC** – Selects whether MIDI continuous controller messages are ON (received) or OFF
- viii. **PROG BULK SYX SEND** – Outputs program memory contents as SysEx files via USB
- ix. **PROG SING SYX SEND** – Outputs the current program as a SysEx file via USB
- x. **PATT BULK SYX SEND** – Outputs sequencer memory contents as a SysEx file via USB
- xi. **PATT SING SYX SEND** – Outputs the current sequence as a SysEx file via USB
- xii. **SYSEX RECEIVE** – Lets the CZ-1 MINI receive SysEx data from an external source via USB

- xiii. **FACTORY RESET** – Resets all programs and sequences to their factory defaults and displays firmware version. Press the PROG/OCTAVE $\pm$ button to initiate reset

SYNC

- 29. **SET** – Repeated key presses make the following menu items available:
 - i. **SYNC SOURCE** – Selects the source used to determine the rate of the sequencer/arpeggiator
 - a. **INT (INTERNAL)** – The rate of sequencing/arpeggiation is determined by the CZ-1 MINI's internal clock, which is adjusted via the TEMPO knob
 - b. **MIDI** – The rate of sequencing/arpeggiation is determined by an external MIDI device
 - c. **USB** – The rate of sequencing/arpeggiation is determined by a USB-capable device
 - d. **TRIG (TRIGGER)** – The rate of sequencing/arpeggiation is determined by an external clock source via the SYNC port

- ii. **SYNC TYPE** – Sets the sync type in Pulses Per Quarter Note (PPQ) used to match the standards set by external devices: 1PPQ, 2PPQ, 4PPQ, 24PPQ, and 48PPQ. Consult the external device's manual to determine the appropriate PPQ setting

TEMPO

- 30. **SCALE** – Selects the rate used for the sequencer/arpeggiator via the PROG/OCTAVE $\pm$ buttons:
 - i. $\frac{1}{8}$ – Sequencer/Arpeggiator runs in $\frac{1}{8}^{\text{th}}$ notes
 - ii. $\frac{1}{8}\text{T}$ – Sequencer/Arpeggiator runs in $\frac{1}{8}^{\text{th}}$ note triplets
 - iii. $\frac{1}{16}$ – Sequencer/Arpeggiator runs in $\frac{1}{16}^{\text{th}}$ notes
 - iv. $\frac{1}{16}\text{T}$ – Sequencer/Arpeggiator runs in $\frac{1}{16}^{\text{th}}$ note triplets
 - v. $\frac{1}{32}$ – Sequencer/Arpeggiator runs in $\frac{1}{32}^{\text{nd}}$ notes
- 31. **SWING** – Select 50 (no swing), or increasing levels of swing (55, 60, 65, 70, 75) via the PROG/OCTAVE $\pm$ buttons.

Using the Arpeggiator/Sequencer

ARP (ARPEGGIATOR)

To use the arpeggiator, follow the steps listed below:

- 1) Press the FUNC button (25), then press the MENU button (28) above SYST and select ARP under MODE SET
- 2) Press the SET button (29) above SYNC to choose the desired sync source*
- 3) Press SET button (32) above ARP and use the PROG/OCTAVE buttons to select the arpeggiator's movement
- 4) Press the FUNC button again to return to normal use
- 5) Press PLAY (26)
- 6) Hold down the keys you want to use for the arpeggio

*Note: For the arpeggiator to work, you need to choose the appropriate sync source. If you want the arpeggiator to work based on the CZ-1 MINI's internal clock, then you need to select INT (INTERNAL) as the sync source using step 2 above and adjust the TEMPO knob as desired.

32. **SET** – Sets the mode of arpeggiation used:
- i. **UP** – Notes arpeggiate upwards from the lowest note pressed to the highest note pressed
 - ii. **DOWN** – Notes arpeggiate downwards from the highest note pressed
 - iii. **UP&DOWN** – Notes arpeggiate upwards from the lowest note pressed until they reach the highest note pressed, then back down to the lowest note pressed

SEQ (SEQUENCER)

To use the sequencer, follow the steps listed below:

- 1) Press the **FUNC** button (25), then press the **MENU** button (28) above **SYST** and select **SEQ** under **MODE SET**
- 2) Select **STEP FIXED** or **RECORD** using the **SET** button (33) above **SEQUENCER**
- 3) Switch the **METRONOME ON** or **OFF** via the **METRONOME** (36) button above **SEQUENCER**.
- 4) Press the **FUNC** (25) button again to exit **FUNCTION** mode
- 5) Press **PLAY** (26)

- 6) To select patterns from memory, press the **MEMORY** button (24) and use the keyboard to select a pattern (1-16)*

*Note: If **PATTERN PROG LINK** in the **SYST MENU** (28) is in the **ON** setting, you will lose the current program/patch when changing patterns. If you want to select a different pattern while maintaining the current program, set **PATTERN PROG LINK** to **OFF**.

Creating Sequencer Patterns

- 1) To create a sequencer pattern, press **RECORD** (27) and press the desired keys on the keyboard while the sequencer is active. Notes will be quantized according to the **TEMPO** (23) and **SEQ SCALE** settings
- 2) To remove notes from the sequence, press **FUNC** (25) followed by **CLEAR** (27). Repeatedly pressing **CLEAR** (27) will eventually clear all notes in the sequence. You can also use **FUNC** (25) followed by **CLEAR ALL** (34) above **SEQUENCER** to clear every note from the sequence

- 3) When you're happy with your sequence, press **FUNC** (25) and **WRITE** (24). Select the pattern number you wish to write the sequence to using the keyboard (1-16)
- 4) You can change to a different program while playing or recording the sequence by using the **PROG/OCTAVE±** buttons (11)
33. **SET** – Switch between **STEP FIXED** (note lengths are defined by steps) or **RECORD** (notes are played as recorded).
34. **CLEAR ALL** – Wipes all sequencer memories
35. **CLEAR ACTIVE** – Clears the selected active steps and makes all steps active
36. **METRONOME** – Switches the metronome in the **ON** or **OFF** position

Additional Controls

PORTA

37. **SET** – Sets Portamento (**PORTA**) **ON** or **OFF** and sets the glide **TIME** from 0.1 to 20.1 seconds.

PITCH

38. **SET** – Contains a range of settings for the global coarse and fine tuning of the CZ-1 MINI:
 - i. **MASTER TUNE** – Adjusts the global fine tuning of the CZ-1 MINI up to one hundred cents (one semitone) above or below the currently played note pitch
 - ii. **OCTAVE TRANSPOSE** – Adjusts the global octave range of the CZ-1 MINI up to 2 octaves above or below the note pitch played
 - iii. **-tone TRANSPOSE** - Adjusts the global coarse tuning of the CZ-1 MINI within a one octave range above or below the note pitch played

VIBRA

39. **SET** – Contains a range of settings for Vibrato:
 - i. **WAV** – Sets the waveform used for the vibrato effect.
1=Triangle, 2=Saw Ramp Up, 3=Saw Ramp Down, 4=Square
 - ii. **RATE** – Adjusts the rate of the vibrato effect. The rate of the vibrato effect will become progressively faster when scrolling the **PARAM** wheel from 0 on the low end to 99 on the high end

- iii. **DEPT (DEPTH)** – Adjusts the depth of the vibrato effect (the depth of the waveform's peaks and troughs). The depth of the vibrato effect will become progressively wider when scrolling the PARAM wheel from 0 on the low end to 99 on the high end
- iv. **DELAY** – Adjusts the delay that occurs before the vibrato takes effect, from 0-99. At 0, the vibrato effect will happen instantly, whereas higher amounts will create a progressively greater time delay before the vibrato effect kicks in. Note that at higher amounts you may need to adjust the DCA envelope levels, since the delay may last longer than the sound is produced

FIL (FILTER)

- 40. **SET** – Contains a range of settings for the ANALOG FILTER:
 - i. **ATT** – Adjusts the ATTACK time (the time it takes for the level to reach maximum volume) of the ANALOG FILTER's designated envelope
 - ii. **DEC** – Adjusts the DECAY time (the time it takes for the level to be reduced from the ATTACK stage to the SUSTAIN level) of the ANALOG FILTER's designated envelope
 - iii. **SUS** – Adjusts the SUSTAIN level (the level at which the sound is sustained) of the ANALOG FILTER's designated envelope
 - iv. **REL** – Adjusts the RELEASE time (the time it takes for the level to be completely attenuated after a note is released) of the ANALOG FILTER's designated envelope
 - v. **ENVELOPE AMOUNT** – Adjusts the strength (amount) of envelope applied to the filter

- vi. **LFOWV** – Selects the waveform used for the filter's designated LFO. Triangle (TRI), Square (SQU), Saw (SAW), Ramp (RMP), and Sample and Hold (S&H) are available
- vii. **RATE** – Adjusts the rate of the LFO's modulation of the filter, from 0-99
- viii. **DEPT** – Adjusts the depth of the LFO's modulation of the filter, from 0-99

PROGRAM

- 41. **NAME** – Allows the patch name to be set using the keyboard. Each key (1-16) has its own corresponding letter of the alphabet from A-Z, while 16 acts as a space bar.
- 42. **PROGRAM INIT** – Initializes the currently selected program.
- 43. **STORE** – Stores the currently selected program to memory.

相位失真合成解释

相位失真合成最初在 1984 年随卡西欧 CZ 系列合成器推出, 是一种独特的音色生成方法。尽管它遵循大多数合成器的基本信号链, 但相位失真的波形生成和音色生成方法有很大的不同。

通过相位失真 (一种完全数字化的合成方法), 可以通过“扭曲”正弦波的读取相位角来创建不同的波形, 从而产生额外的谐波和次谐波。因此, 此方法得名相位失真合成。

由于振荡器的相位是随时间测量的, 相位失真本质上采用了一种时间扭曲, 又称为“压缩”, 来改变波形的形状。因此, 可以在保持音符相对音高 (频率) 的同时, 生成独特的音色变化。

CZ-1 MINI 架构

尽管 CZ-1 MINI 的两个 DCO (数字控制振荡器) 输出基本的正弦波, 但也可以从内存中调用标准波形。选定的振荡器决定用于读取相位角失真的模式。然后可以通过 DCW (数字控制波形) 的包络设置来改变读取相位角失真的调制深度或形状。DCW 也可以称为数字控制波形整形器, 这可能是一个更有用的术语, 因为它的基本功能涉及波形整形。

事实上, CZ-1 MINI 的相位失真过程就在 DCW 中进行。DCW 的功能与模拟合成器上的电压控制滤波器类似, 因为它影响声音的音色。然而, 这种比较仅适用于理论目的。实际上, 两者的实现方式有很大的不同。

传统的 VCF 具有可变的截止点, 用于衰减不需要的频率, 而 DCW 则没有。在 VCF 的截止频率设置之外, CZ-1 MINI 的 DCW 采用 LV (水平) 设置, 通过扭曲 DCO 的正弦波的波形和相位角, 在较高设置下逐渐引入额外的谐波。

随着设置的不断提高 (更高水平的失真), 波的形状将逐渐转变为为 DCO 1 或 DCO 2 选择的波形。因此, 在 LV 设置为 99 时, DCW 将输出与为 DCO 选择的波形相对应的完全失真的振荡器波形。相反, 降低 DCW 的 LV 设置将逐渐减少由 DCO 产生的谐波。在 LV 设置为 0 时, DCO 将输出一个没有任何谐波的音符的基本频率, 换句话说, 就是一个正弦波。

通过增加相位失真 (LV 设置) 的水平来生成额外的谐波, 从而产生感知上更明亮的音色。随着谐波含量的减少 (相位失真水平的降低), 产生的音色将会更暗。

在 DCW 之后, DCA (数字控制放大器) 塑造声音随时间的行为 (短或长的攻击时间, 长或短的释放时间等)。

作为一个整体, DCO-DCW-DCA 块配置构成了 CZ-1 MINI 的基本架构。这种配置也构成了 CZ-1 MINI 双线系统的一条线。就信号链而言, CZ-1 MINI 反映了传统模拟合成器的模式, 遵循 VCO-VCF-VCA 的模式。

在信号链的每个阶段, 都会应用一个多阶段包络发生器, 分别对应 DCO (数字控制振荡器)、DCW (数字控制波形) 和 DCA 的音高、音色/音色和声音持续时间。

为了获得额外的声音设计功能, 我们在 Phase Distortion 引擎之后添加了一个模拟滤波器, 该滤波器具有自己的 ADSR 包络和 LFO。这一功能使 CZ-1 MINI 成为一款功能强大的混合合成器, 将数字合成与模拟滤波相结合。有关模拟滤波器及其控件的更多信息, 请参阅本手册的标注项 19、20 和 40。

理解 8 阶段包络发生器

理解如何使用包络发生器是理解 CZ-1 MINI 架构的重要部分, 特别是在塑造声音方面, 因为这是合成器的独特功能。我们可以进一步说, 这可能是在 CZ-1 MINI 上创建程序/补丁的最详细部分。

CZ-1 MINI 的两条线路中的每个 DCO、DCW 和 DCA 都有一个独立的包络发生器。这意味着 CZ-1 MINI 有 6 个不同的 8 阶段包络发生器可以编程。由于每个阶段的步骤、参数和基本功能对两条线都是相同的, 所以分别应用的包络发生器将被视为一个。

CZ-1 MINI 的 8 阶段包络发生器独立应用于 DCO 以改变音高, 应用于 DCW 以改变音色/音色, 以及应用于 DCA 以控制时间上的振幅。这使你能够在与标准 ADSR 相比时, 对声音进行更复杂的改变。然而, 如果程序/补丁不需要 8 个阶段, 那么也可以通过将 LV (水平) 设置为 0 来限制包络到所需的阶段数。此外, 你还可以设置包络的 Sustain (SUS) 和 END 点, 仅包括所需的阶段。

包络发生器的每个独立阶段或步骤都有相应的 LV (水平) 和 RA (率) 参数。必须进一步讨论每个的功能和用途, 以更好地了解它们是如何整合的, 因为它们的基本含义根据它们修改的目标参数而改变。

LV (电平)

指定步骤的幅度或目标电平。这可以从幅度和对特定步骤发生的变化的程度/水平两个方面来考虑。

LV 的值范围是 0-99, 具体含义取决于 LV 应用的参数。

应用于 DCO 的 LV 数值会影响 DCO 的音高 (频率) 行为。在这种情况下, 值 0 直接对应于按下的音符的音高, 该音高在该阶段将保持稳定。相比之下, 较高的 LV 数值会使音符随时间逐渐滑向更高的音高值, 然后在长时间持续时返回到其原始音高。

但是请注意, 变化的 RA (速率) 和 LV 数值将产生与上述不同的效果。例如, 上述情况假设 RA 设置为较低的值 (0-50)。由于 RATE 影响达到参数的最大值的速度, RA 设置为最大值 (99) 意味着由 LV 设置建立的最高频率将瞬间达到。因此, 使用较高的 LV 值, 调制将明显反转, 音符音高将从较高频率开始, 并随着在键盘上的演奏而降至相应的音高。

这表明, 尽管 LV 和 RA 参数严格为单极性, 因为它们不能应用负调制值, 但两者结合使用的不同组合实际上可以实现双极性调制效果。

对于 DCW, LV (水平) 决定了应用于 DCO 波形的相位失真量。如上所述, LV 设置逐渐引入谐波, 直到完全扭曲波形为 DCO 选择的波形。这从 DCO 的基本正弦波 (低端为 0) 范围到锯齿波——DCO 部分选择的波形类型未更改且谐波完整——在高端为 99。中间位置对应三角波, 其间的值改变 DCW 的失真级别, 朝一个或另一个波形变化 (正弦-三角; 三角-锯齿)。

对于 DCA, LEVEL 对应于“水平”一词的标准用法。因此, LV 设置控制包络发生器第 1-8 阶段的音量/振幅。在这种情况下, 更改 LEVEL (LV) 将直接影响包络发生器各阶段的总体音量。

RA (率)

指定一个或多个阶段的包络的斜率或角度。

提供的绝对值范围是 0-99, 较高的值对应于斜率增加, 较低的值对应于斜率减少。一般而言, 较高的数额 (更陡的上升) 导致随时间更瞬间的变化。相比之下, 较低的值 (更平缓的上升) 导致随时间更渐进的变化。

编程包络

为了将上述内容付诸实践, 让我们为 DCA 1 或 DCA 2 创建一个 5 阶段的包络。由于我们只关心包络的前 5 个阶段, 可以忽略第 6–8 阶段:

步骤	步骤 1	步骤 2	步骤 3	步骤 4	步骤 5
LV (水平)	99	80	70	0	0
RA (率)	99	35	20	25	55
SUS, END	—	—	—	SUS	END

根据上述设置, 声音将由快速攻击开始, 随着音符持续按住, 音量逐渐减弱, 大约持续 6–7 秒。当音符在声音完全衰减之前释放时, 包络将立即跳转到 END 位置, 导致声音迅速衰减, 没有延长的释放阶段。

要创建一个包含较长释放时间的包络 (音符在键释放后继续, 然后减少到不再产生声音的状态), 调整最后一个步骤 (步骤 5) 的 RA 水平到大约 40 或更低。基于上表, 以下设置可用于实现此结果:

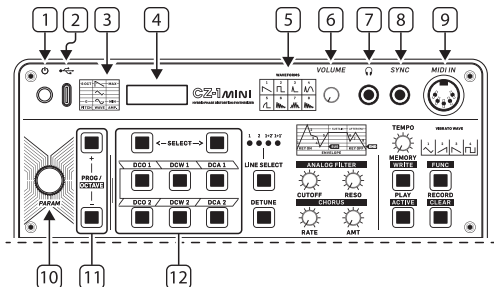
如果你希望声音逐渐增强然后再逐渐降低音量, 你需要对 LEVEL 和 RATE 的设置进行一些调整, 特别是在包络的初始阶段。值得注意的是, 大多数合成器需要使用四阶段包络发生器来实现这一点。使用 CZ-1 MINI, 这可以在短短3个阶段内完成。

为了简化, 让我们编程一个 3 阶段的包络来创建上述效果。我们将使用上表的第 3–5 阶段作为大致指南, 但我们会进行一些小的调整:

步骤	步骤 1	步骤 2	步骤 3
LV (LEVEL)	66	0	0
RA (RATE)	33	25	55
SUS, END	—	SUS	END

要改变攻击阶段膨胀的速度(速率), 将 RA 1 提高到更高的值, 使声音更快地膨胀增大, 或降低值, 使其膨胀更慢。同样的原理可以应用于 DCW, 如果你希望一个波形的谐波内容随时间膨胀至其能产生的最高谐波数。原则上, 这将产生类似于在电压控制滤波器的包络上应用较长攻击时间的效果。

CZ-1 MINI 控制



1. **POWER** – 开/关。按住 POWER 按钮三秒钟以开启或关闭 CZ-1 MINI。
2. **USB-C PORT** – 用于为 CZ-1 MINI 供电以及连接计算机进行 USB MIDI 控制。
3. **LV AMOUNT TABLE** – 从左至右显示 PITCH (DCO)、WAVE (DCW)、和 AMP (DCA) 的最小和最大 LV (LEVEL) 值的含义：
 - i. **PITCH** – 最小 LV 值 (0) = 键盘上演奏的音符音高。最大值 (99) = 6 个八度的调制范围
 - ii. **WAVE** – 最小 LV 值 (0) = 正弦波 (DCO 输出减少到正弦波)。最大值 (99) = 锯齿波 (DCO 输出对应于为 DCO 选择的波形)

iii. **AMP** – 最小 LV 值 (0) = 无声 (水平 = 0)。最大 LV 值 (99) = 最大振幅水平

4. **LCD DISPLAY** – 显示当前预设、波表信息、可调参数和其他相关信息。

5. **WAVEFORM TABLE** – 虽然 DCO 1 和 DCO 2 技术上只产生正弦波, 但 CZ-1 MINI 包含两个 DCO 线路的 8 种基本编码波形。然而, 请注意, 通过将不同波形相结合, 最多可以产生 33 种波形。

其中三种共振波形各有不同的强调谐波内容, 用于模仿传统 VCFs 达到的共振峰值。选择了共振波形后, 增加或减少 DCW 的 LEVEL 设置将提升波形上的谐波高于周围谐波。

显示的波形如下*:

i. **SAWTOOTH**

ii. **SQUARE**

iii. **PULSE**

iv. **DOUBLE SINE**

v. **SAW-PULSE**

vi. **RESONANCE I (SAW-TOOTH)**

vii. **RESONANCE II (TRIANGLE)**

viii. **RESONANCE III (TRAPEZOID)**

注意*: 这些基本波形只有在 DCW 的 LEVEL 设置为 99 时才会完整地产生 (所有谐波都在)。降低 DCW 的 LEVEL 设置将减少波形的谐波内容, 远离其初始状态 (从而变为另一种波形)。要确保您听到的是显示的选定波形及其完整的谐波, 您可以使用 DCW 的包络发生器将 DCW 的 SUS 点设置为 1, LEVEL 设置为 99。

6. **VOLUME** – 调整 CZ-1 MINI 的输出水平。将 VOLUME 旋钮向左转将降低音量, 向右转将增加音量。

7. **HEADPHONES** – 3.55 mm 耳机插孔的连接。在戴耳机并播放 CZ-1 MINI 之前, 请将音量调至最低。

8. **SYNC IN** – 3.5 mm 插孔, 用于将 CZ-1 MINI 与外部时钟源或启动/停止信号同步。

9. **MIDI IN** – 5 针 DIN MIDI 输入, 用于用外部控制器或序列器控制 CZ-1 MINI。

10. **PARAM** – 编码器, 用于通过 **LCD DISPLAY** 滚动值和调整可编辑参数。

11. **±PROG/OCTAVE** – 用于更改当前选择的程序/补丁, 并提高/降低当前补丁/程序的八度。由于这两个不同的功能共用同一个按钮, 下面提供了如何访问这两个功能的信息。

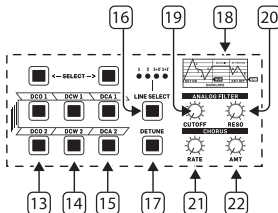
- i. **PROG** – 要更改程序/补丁, 请点击上面的 (+) PROG 按钮以向上更改一个或多个程序号, 或点击下面的 (-) PROG 按钮以向下更改一个或多个程序号。在 CZ-1 MINI 的默认状态下 (显示程序号和波形), 两个程序按钮将亮起红色, 表明按下任一按钮将更改当前程序

- ii. **OCTAVE** – 在 CZ-1 MINI 上更改八度将全局影响合成器 这意味着每个补丁都将在选择的八度 (1-4) 中播放。要更改八度, 请首先按 FUNC (功能) 按钮。请注意, 当按下 FUNC 按钮时, CZ-1 MINI 的许多控件将闪烁红色。

当 **±PROG/OCTAVE** 按钮闪烁时, 这表明按下其中一个将更改八度。此时, 您可以按上面的 OCTAVE (+) 按钮上调一个八度, 或按下面的 OCTAVE (-) 按钮下调一个八度。选择所需的八度 (1-4) 后, 再次按 FUNC 按钮以完成选择

12. **SELECT** – 用于在 DISPLAY 上的菜单项之间向左或向右移动。

声音生成



13. DCO (Digitally Controlled Oscillator) 1+2

CZ-1 MINI 的主要声音生成来源是其双 DCO (Digitally Controlled Oscillator)。两个 DCO 可以独立编程, 单独使用, 或叠加以产生更大的效果。

两个 DCO 由两个独立的波形槽 (WF1+WF2) 组成, 用于从 CZ-1 MINI 的 8 种不同波形类型中选择。DCO 1 和 2 还包含一个 DCW 旋钮、SUS (SUSTAIN) 和 END 级别参数, 以及一个 8 阶段包络, 用于控制随时间变化的音高。

DCO 控制

按下 DCO 1 或 DCO 2 按钮将访问以下菜单项:

CN	菜单项	描述	范围
	WF1+WF2	选择 DCO 使用的波形	1=Saw 2=Square 3=Pulse 4=Double Sine 5=Saw-Pulse 6=Resonance I (Saw) 7=Resonance II (Triangle) 8=Resonance III (Trapezoid)
	DCW	调整 DCO 波形产生的谐波内容	0-99
	SUS (SUSTAIN)	设置 DCO 音高包络的维持点	0-7
	END	设置 DCO 音高包络的结束(释放)阶段	2-8
	LV (LEVEL) 1-8	调整一个或多个阶段的 DCO 音高包络的斜率	0-99
	RA (RATE) 1-8	调整一个或多个阶段的 DCO 音高包络的速率	0-99

要返回 LCD 屏幕上的程序可视化器, 请按一次 PROG/OCTAVE + 或 - 按钮。DCW、DCA 和 DETUNE 按钮也是如此。

14. DCW (Digitally Controlled Wave) 1+2

CZ-1 MINI 的 DCW (Digitally Controlled Wave) 控制一条 LINE 的音色/音调随时间的变化, 非常类似于模拟合成器的 VCF。在 DCW 的情况下, CZ-1 MINI 的 8 阶段包络发生器确定用于通过 LV (LEVEL) 或目标水平和 RA (RATE) 设置确定音色变化的形状或深度。

DCW 控制

按下 DCW 1 或 DCW 2 按钮将提供以下菜单项的访问权限:

菜单项	描述	范围	CN
KFO (KEY FOLLOW)	开启或关闭键盘跟随。键盘跟随开启时, 演奏的音符越高, 波形越接近正弦波	0=0n 1=0ff	
KFR (KEY FOLLOW RANGE)	设置键盘跟随消息的范围值。较高的范围值对应于上层音色的较大变化	0-99	
SUS	设置 DCW 音色包络的维持阶段	0-7	
END	设置 DCW 音色包络的结束 (释放) 阶段	2-8	
LV (LEVEL) 1-8	调整 DCW 音色包络阶段的斜率	0-99	
RA (RATE) 1-8	调整 DCW 音色包络阶段的速率	0-99	

15. DCA (Digitally Controlled Amplifier) 1+2

DCA (Digitally Controlled Amplifier) 利用 CZ-1 MINI 的 8 阶段包络来设置和调整 LINE 1 和 LINE 2 随时间发生的音量变化。请注意, 两条线可以独立于彼此进行调整。这意味着即使两者一起使用, LINE 1 的包络设置也可以与 LINE 2 完全不同。

DCA 控制

按下 DCA 1 或 DCA 2 按钮可访问以下菜单项:

CN	菜单项	描述	范围
	KFO (KEY FOLLOW)	开启或关闭键盘跟随。键盘跟随开启时, 演奏的音符越高, 其音量包络将变得越短	0=On 1=Off
	KFR (KEY FOLLOW RANGE)	设置键盘跟随消息的范围值。较高的范围值对应于上层的较大包络时间变化	0-99
	SUS	设置 DCA 音量包络的维持阶段	0-7
	END	设置 DCA 音量包络的结束 (释放) 阶段	2-8
	LV (LEVEL) 1-8	调整 DCA 音量包络阶段的斜率	0-99
	RA (RATE) 1-8	调整 DCA 音量包络阶段的速率	0-99

16. LINE SELECT

从块配置的角度考虑, CZ-1 MINI 由双线系统组成, LINE 1 包括 DCO 1、DCW 1 和 DCA 1 及其各自的包络, LINE 2 包括 DCO 2、DCW 2 和 DCA 2 及其各自的包络。

要选择使用的线路, 请按 LINE SELECT 按钮。按 LINE SELECT 将在线路组合之间向前 (向右) 移动 (1、2、1+2、1+1)。每个线路选择选项下的红色指示灯将在当前选择下发红光。CZ-1 MINI 提供四种线路选择选项:

- 1 – 3 声部复音模式。用于创建简单的补丁
- 2 – 3 声部复音模式。在使用 LINE SELECT 1+2 时用于监视 LINE 2
- 1+2 – LINE 1 和 LINE 2 叠加。用于通过 DETUNE 菜单创建复杂的补丁和谐波
- 1+1 – LINE 1 叠加在自身上。用于创建合奏和合唱类型的效果

17. DETUNE – 调整补丁的失谐量。

按下 DETUNE 按钮后, 将出现一个菜单, 提供控制 DC0 1 和 DC0 2 之间音高变化的控件。

POL (POLARITY)

改变失谐量设置的极性。

当设置为 0 时, 随着数值的提高, DC0 2 的音高将逐渐低于 DC0 1。当设置为 1 时, 随着数值的提高, DC0 2 的音高将逐渐高于 DC0 1。

以 OCT 设置为例, 如果 POL 设置为 1, 则 OCT 菜单项中的设置 1 将使 DC0 2 的音高比 DC0 1 高一个八度。相反, 如果 POL 设置为 0, 则情况将反过来, OCT 的设置 1 将使 DC0 2 的音高比 DC0 1 低一个八度。

OCT

以八度单位改变 **DC0 2** 的失谐量。给定的值范围从 0-3, 其中 0 对应于与 DC0 1 相同的八度, 而 1-3 对应于根据极性设置在 DC0 1 上方或下方的那个八度数。

在较高的值下, OCT 设置可以将 LINE 2 变成一个 LFO。在这种情况下, 音符的截止值将根据按下的音符的频率更快或更慢地调制。较低的音符, 其频率范围较低且振动速率较慢, 将更慢地调制, 而较高的音符, 其频率范围较高且振动速率较快, 将更快地调制。

NOT (NOTE)

以百分之一音 (100 cents 单位) 调整 DC0 2 相对于 DC0 1 的粗调。

给定的值范围从 0-11, 其中 11 对应于低于一个八度的一个半音/全音。要实现一个八度 (12 个半音) 的失谐量, 请使用 OCT 设置。

FIN (FINE)

调整 DC0 2 相对于 DC0 1 的微调。

给定的值范围从 0 到 60, 其中设置为 0 时, DC0 2 与 DC0 1 之间没有调音差异, 设置为 66 时, 约为 1.7 cents (略超过一个半音/全音)。

使用上述菜单项, 可以创建 ± 4 八度的失谐范围。当 OCT 设置为 3 且 NOT 设置为 11 时, DC0 2 将比 DC0 1 低一个半音不到 3 个八度。为了弥补这一个半音/全音的差异, 提高 FIN 量以使 NOT 设置的第 11 个半音更尖锐。

18. 8-STAGE ENVELOPE GENERATOR

TABLE – 显示 8 阶段包络发生器及其对应的 KEY ON、KEY OFF、SUSTAIN (SUS) 和 END 的位置。该表提供了 CZ-1 MINI 包络发生器的多功能性示例, 并不反映其全局行为。

在表格中显示的示例中, 步骤 1-4 呈现为 4 阶段包络

(ADSR)。这之后是在 SUSTAIN 阶段 (5-6) 的回升, 以及在释放键后的最终攻击, 导致一个 AFTER ENV (ENVELOPE)。

CN

模拟滤波器

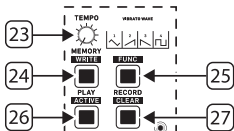
CZ-1 MINI 包含一个 24 dB 低通滤波器。模拟滤波器指定的 4 阶段包络和 LFO 的参数在本手册的第 40 节中有所覆盖。

19. **CUTOFF** – 调整滤波器截止频率。
20. **RESO** – 调整共振 (峰值) 量。

合唱效果

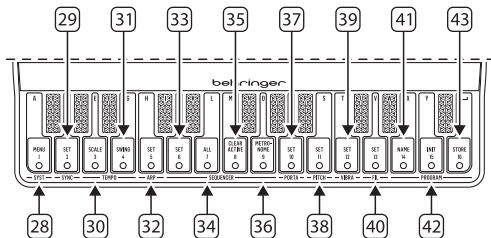
21. **RATE** – 改变合唱效果的速率/速度。向左转 RATE 旋钮将降低合唱效果的速率。向右转 RATE 旋钮将增加合唱效果的速率。
22. **AMT (AMOUNT)** – 调整合唱效果的深度。向右转 AMT 旋钮将增加合唱效果调制的深度, 相对于 RATE 旋钮。

全局控制



23. **TEMPO** – 在内部同步时, 调整琶音器/序列器的速度, 以 BPM (每分钟节拍) 为单位。
24. **MEMORY/WRITE** – 要访问 MEMORY, 按一次。要访问 WRITE, 首先按 FUNC (FUNCTION)。
 - i. **MEMORY** – 从内部内存回调序列
 - ii. **WRITE** – 将新序列写入 (保存) 到内部内存
25. **FUNC** – 用于激活次要功能。一旦按下 FUNC, 所有 CZ-1 MINI 按钮上带有次要功能的红色指示灯将重复闪烁。
26. **PLAY/ACTIVE** – 要访问 PLAY, 按一次。要访问 ACTIVE, 首先按 FUNC (FUNCTION)。
 - i. **PLAY** – 播放琶音序列或序列器模式
 - ii. **ACTIVE** – 让你移除序列中选定的步骤。活动步骤通过红色指示灯显示
27. **RECORD/CLEAR** – 要访问 RECORD, 按一次。要访问 CLEAR, 首先按 FUNC。
 - i. **RECORD** – 让你录制模式或序列
 - ii. **CLEAR** – 让你清除模式或序列的步骤

全局控制 (续)



要访问 CZ-1 MINI 键盘上包含的菜单项，首先按 FUNC。按下 FUNC 后，LCD 屏幕将显示“FUNCTION SELECT”，键盘上的键将红色闪烁。请注意，一旦你在 FUNC 激活状态下按下键，你将无法通过其键盘播放合成器。在这种状态下，键用于浏览子菜单项。

SYST

28. **MENU** – 重复按键将使以下菜单可用：

- MODE SET (SEQ/ARP)** – 选择序列器或琶音器功能
- FIL ENV TRIGGER** – 选择 SINGLE 或 MULTI 触发
 - SINGLE** – 用第一个演奏的音符触发

包络。在所有音符释放之前，包络不会重新触发

- MULTI** – 每演奏一个新音符就重新触发
- iii. **PATTERN PROG LINK** – 选择预设是否与当前序列器模式链接
- ON** – 预设和当前使用的序列器模式将自动一起回调
 - OFF** – 预设和当前序列器模式不会链接。在回调预设时，只会使用当前选定的模式
- iv. **MIDI TX** – 选择用于发送 MIDI 消息的 MIDI 频道。从 1-16 频道中选择，或 OFF

- v. **MIDI RX** – 选择用于接收 MIDI 消息的 MIDI 频道。从 1-16 频道中选择, 或 OFF
- vi. **MIDI VELOCITY** – 将 MIDI 速度灵敏度打开或关闭
- vii. **MIDI CC** – 选择 MIDI 连续控制器消息是否开启 (接收) 或关闭。
- viii. **PROG BULK SYX SEND** – 通过 USB 输出程序内存内容为 SysEx 文件
- ix. **PROG SING SYX SEND** – 通过 USB 输出当前程序为 SysEx 文件
- x. **PATT BULK SYX SEND** – 通过 USB 输出序列器内存内容为 SysEx 文件
- xi. **PATT SING SYX SEND** – 通过 USB 输出当前序列为 SysEx 文件
- xii. **SYSEX RECEIVE** – 允许 CZ-1 MINI 通过 USB 从外部源接收 SysEx 数据
- xiii. **FACTORY RESET** – 将所有程序和序列重置为出厂默认设置并显示固件版本。按 PROG/OCTAVE $\pm$ 按钮开始重置

SYNC

29. **SET** – 重复按键可使以下菜单项可用:

- i. **SYNC SOURCE** – 选择用于确定序列器/琶音器速率的来源
 - a. **INT (INTERNAL)** – 序列/琶音速率由 CZ-1 MINI 内部时钟决定, 通过 TEMPO 旋钮调整
 - b. **MIDI** – 序列/琶音速率由外部 MIDI 设备决定
 - c. **USB** – 序列/琶音速率由 USB 设备决定
 - d. **TRIG (TRIGGER)** – 序列/琶音速率由 SYNC 端口的外部时钟源决定
- ii. **SYNC TYPE** – 设置用于与外部设备标准匹配的每四分音符脉冲数 (PPQ): 1PPQ、2PPQ、4PPQ、24PPQ 和 48PPQ。咨询外部设备的手册以确定适当的 PPQ 设置

TEMPO

30. **SCALE** – 通过 PROG/OCTAVE $\pm$ 按钮选择序列器/琶音器的速率:

- i. $\frac{1}{8}$ – 序列器/琶音器以 $\frac{1}{8}$ 音符运行
- ii. $\frac{1}{8}T$ – 序列器/琶音器以 $\frac{1}{8}$ 音符三连音运行
- iii. $\frac{1}{16}$ – 序列器/琶音器以 $\frac{1}{16}$ 音符运行
- iv. $\frac{1}{16}T$ – 序列器/琶音器以 $\frac{1}{16}$ 音符三连音运行
- v. $\frac{1}{32}$ – 序列器/琶音器以 $\frac{1}{32}$ 音符运行

31. **SWING** – 通过 PROG/OCTAVE $\pm$ 按钮选择摇摆程度: 50 (无摇摆), 或增加摇摆水平 (55, 60, 65, 70, 75)。

使用琶音器/序列器

ARP (ARPEGGIATOR)

要使用琶音器, 请按照下列步骤操作:

- 1) 按 FUNC 按钮 (25), 然后按 MENU 按钮 (28) 在 SYST 下选择 ARP 在 MODE SET 下
- 2) 按 SET 按钮 (29) 在 SYNC 上选择所需的同步源*

3) 按 SET 按钮 (32) 在 ARP 上使用 PROG/OCTAVE 按钮选择琶音器的运动

4) 再次按 FUNC 按钮返回正常使用

5) 按 PLAY (26)

6) 按住你想用于琶音的键

*注意: 为了使琶音器工作, 你需要选择合适的同步源。如果你希望琶音器基于 CZ-1 MINI 的内部时钟工作, 那么你需要使用第 2 步选择 INT (INTERNAL) 作为同步源, 并根据需要调整 TEMPO 旋钮。

31. **SET** – 设置使用的琶音模式:

- i. **UP** – 音符从按下的最低音符向上琶音到最高音符
- ii. **DOWN** – 音符从按下的最高音符向下琶音
- iii. **UP&DOWN** – 音符从按下的最低音符向上琶音到最高音符, 然后回到最低音符

SEQ (SEQUENCER)

要使用序列器, 请按照下列步骤操作:

- 1) 按 FUNC 按钮 (25), 然后按 MENU 按钮 (28) 在 SYST 下选择 SEQ 在 MODE SET 下

CN

- 2) 使用 SET 按钮 (33) 在 SEQUENCER 上选择 STEP FIXED 或 RECORD
- 3) 通过 SEQUENCER 上的 METRONOME (36) 按钮开启或关闭节拍器。
- 4) 再次按 FUNC (25) 按钮退出 FUNCTION 模式
- 5) 按 PLAY (26)
- 6) 要从内存中选择模式, 按 MEMORY 按钮 (24) 并使用键盘选择模式 (1-16)*

*注意: 如果 SYST MENU (28) 中的 PATTERN PROG LINK 设置为 ON, 更改模式时你将丢失当前程序/补丁。如果你想在保持当前程序的同时选择不同的模式, 请将 PATTERN PROG LINK 设置为 OFF。

创建序列器模式

- 1) 要创建一个序列器模式, 按 RECORD (27), 在序列器激活时按下键盘上所需的键。音符将根据 TEMPO (23) 和 SEQ SCALE 设置进行量化
- 2) 要从序列中删除音符, 按 FUNC (25) 然后按 CLEAR (27)。重复按 CLEAR (27) 最终会清除序列中的所有音符。你也可以

使用 FUNC (25) 然后按 SEQUENCER 上方的 CLEAR ALL (34) 从序列中清除每个音符

- 3) 当你对你的序列满意时, 按 FUNC (25) 和 WRITE (24)。使用键盘选择你希望写入序列的模式编号 (1-16)
- 4) 你可以在播放或录制序列时使用 PROG/OCTAVE± 按钮 (11) 更改到不同的程序

33. **SET** – 在 STEP FIXED (音符长度由步骤定义) 和 RECORD (按记录的音符播放) 之间切换。
34. **CLEAR ALL** – 清除所有序列器记忆
35. **CLEAR ACTIVE** – 清除选定的活动步骤并使所有步骤活动
36. **METRONOME** – 将节拍器开关至 ON 或 OFF 位置

额外控制

PORTA

37. **SET** – 设置 Portamento (PORTA) 为 ON 或 OFF, 并设置滑行时间从 0.1 秒到 20.1 秒。

PITCH

38. **SET** – 包含一系列设置，用于CZ-1 MINI 的全局粗调和微调：

- i. **MASTER TUNE** – 调整 CZ-1 MINI 的全局微调，最高可以上调或下调一百分（一个半音）。
- ii. **OCTAVE TRANSPOSE** – 调整 CZ-1 MINI 的全局八度范围，最高可以上调或下调两个八度。
- iii. **tone TRANSPOSE** – 调整 CZ-1 MINI 的全局粗调，在演奏音高的上方或下方一个八度范围内。

VIBRA

39. **SET** – 包含一系列振动效果的设置：

- i. **WAV** – 设置用于振动效果的波形。1=三角波，2=锯齿波上升，3=锯齿波下降，4=方波
- ii. **RATE** – 调整振动效果的速率。当从低端 0 滚动 PARAM 轮到高端 99 时，振动效果的速率将逐渐加快

iii. **DEPT (DEPTH)** – 调整振动效果的深度（波形峰和谷的深度）。当从低端 0 滚动 PARAM 轮到高端 99 时，振动效果的深度将逐渐增加

iv. **DELAY** – 调整振动生效前的延迟，从 0–99。在 0 时，振动效果将立即发生，而较高的数值将在振动效果开始前创建逐渐增长的时间延迟。注意在较高的数值下，你可能需要调整 DCA 包络水平，因为延迟可能比声音持续的时间更长

FIL (FILTER)

40. **SET** – 包含模拟滤波器的一系列设置：

- i. **ATT** – 调整模拟滤波器指定包络的 ATTACK 时间（达到最大音量的时间）
- ii. **DEC** – 调整模拟滤波器指定包络的 DECAY 时间（从 ATTACK 阶段降到 SUSTAIN 水平的时间）
- iii. **SUS** – 调整模拟滤波器指定包络的 SUSTAIN 水平（声音维持的水平）
- iv. **REL** – 调整模拟滤波器指定包络的 RELEASE 时间（释放一个音符后水平完全衰减的时间）

CN

- v. **ENVELOPE AMOUNT** – 调整应用于滤波器的包络的强度 (数量)
- vi. **LF0WV** – 选择用于滤波器指定 LF0 的波形。可用的波形有三角波 (TRI)、方波 (SQU)、锯齿波 (SAW)、斜坡 (RMP) 和样本保持 (S&H)
- vii. **RATE** – 调整 LF0 对滤波器调制的速率, 从 0–99
- viii. **DEPT** – 调整 LF0 对滤波器调制的深度, 从 0–99

PROGRAM

- 41. **NAME** – 允许使用键盘设置补丁名称。每个键 (1–16) 都对应字母表中的一个字母从 A–Z, 而 16 充当空格键。
- 42. **PROGRAM INIT** – 初始化当前选择的程序。
- 43. **STORE** – 将当前选择的程序存储到内存中。

CZ-1 MINI - MIDI CC Table

CC NUM	PARAMETERS	VALUES
0	Bank Select	0=LINE 1; 1=LINE 2
1	Mod Wheel	—
2	Param Vibrato Wave	—
3	Param Vibrato Rate	—
4	Param Vibrato Sync	—
5	Param Vibrato Sync Rate	—
6	Param Vibrato Depth	—
7	Param Vibrato Delay	—
8	Param Line Select	—
9	Param DETUNE Polarity	—
10	Param DETUNE OCT	—
11	Param DETUNE Note	—
12	Param DETUNE Fine	—

CC NUM	PARAMETERS	VALUES
13	Param DCO 1 WF1	—
14	Param DCO WF2	—
15	Param DCO 1 DCW	—
16	Param DCO 1 WF1 lineOffset	—
17	Param DCO 1 WF2 lineOffset	—
18	Param DCO 1 DCW lineOffset	—
19	Param DCO1 DCW keyfollow	—
20	Param DCO1 DCW keyfollow range	—
21	Param DCO1 DCA keyfollow	—
22	Param DCO1 DCA keyfollow range	—

EN	CC NUM	PARAMETERS	VALUES
	23	Param DC01 DCW keyfollow lineOffset	—
	24	Param DC01 DCW keyfollow range lineOffset	—
	25	Param DC01 DCA keyfollow lineOffset	—
	26	Param DC01 DCA keyfollow range lineOffset	—
	27	DCA_Sustain Point	—
	28	DCA_End Point	—
	29	DCA_Level 0	—
	30	DCA_Level 1	—
	31	DCA_Level 2	—
	32	DCA_Level 3	—
	33	DCA_Level 4	—
	34	DCA_Level 5	—
	35	DCA_Level 6	—
	36	DCA_Level 7	—

CC NUM	PARAMETERS	VALUES
37	DCA_Rate 0	—
38	DCA_Rate 1	—
39	DCA_Rate 2	—
40	DCA_Rate 3	—
41	DCA_Rate 4	—
42	DCA_Rate 5	—
43	DCA_Rate 6	—
44	DCA_Rate 7	—
45	PITCH_ Sustain Point	—
46	PITCH_End Point	—
47	PITCH_Level 0	—
48	PITCH_Level 1	—
49	PITCH_Level 2	—
50	PITCH_Level 3	—
51	PITCH_Level 4	—
52	PITCH_Level 5	—
53	PITCH_ Level 6	—
54	PITCH_Level 7	—
55	PITCH_Rate 0	—
56	PITCH_Rate 1	—
57	PITCH_Rate 2	—

CC NUM	PARAMETERS	VALUES
58	PITCH_Rate 3	—
59	PITCH_Rate 4	—
60	PITCH_Rate 5	—
61	PITCH_Rate 6	—
62	PITCH_Rate 7	—
63	DCW_Sustain Point	—
64	DCW_End Point	—
65	DCW_Level 0	—
66	DCW_Level 1	—
67	DCW_Level 2	—
68	DCW_Level 3	—
69	DCW_Level 4	—
70	DCW_Level 5	—
71	DCW_Level 6	—
72	DCW_Level 7	—
73	DCW_Rate 0	—
74	DCW_Rate 1	—
75	DCW_Rate 2	—
76	DCW_Rate 3	—
77	DCW_Rate 4	—
78	DCW_Rate 5	—

CC NUM	PARAMETERS	VALUES
79	DCW_Rate 6	—
80	DCW_Rate 7	—
81	LF01_Wave	—
82	LF01_ Amount	—
83	LF01_Rate	—
84	FILTER_ Attack	—
85	FILTER_Decay	—
86	FILTER_ Sustain	—
87	FILTER_ Release	—
88	FILTER_Env Amount	—
89	FILTER_Cutoff	—
90	FILTER_ Resonance	—
91	CHORUS_Rate	—
92	CHORUS_ Depth	—
93	Param Modulation Source	—

EN Specifications

Synthesizer Architecture

Number of voices	3 Voice
Type	Hybrid architecture
Oscillators	12 Phase distortion
LFO	2
VCF	Analog Low-Pass Filter
Envelopes	6

Connectivity

Power switch	Push button on/off
MIDI In	5-pin DIN / 16 channels
USB (MIDI)	USB-C
Headphones	3.5 mm TRS, stereo, max. 5 mW 32 Ω
Sync	Input

USB

Type	USB-C
Supported Operating Systems	Windows 10 and above Mac OS 13 and above

Volume

Control	Volume: 0 to 10
---------	-----------------

Control Section

Switches	Prog $\pm$ / octave $\pm$
----------	---------------------------

Arpeggiator

Capacity	3 patterns
Switch	Func

Chorus Section

Controls	Rate Depth
----------	---------------

Sequencer Section

Capacity	16 steps, 16 patterns
Control	Tempo
Switches	Memory write Function Play/active Record/erase

Analog Filter Section

Controls	Cutoff Resonance
----------	---------------------

Keyboard and Controls

Keyboard	27, capacitive touch
----------	----------------------

Power Requirements

Mains connector	Micro USB
-----------------	-----------

Indicator	Power LED
-----------	-----------

Physical

Standard operating temperature range	5°C – 45°C (41°F – 113°F)
--------------------------------------	---------------------------

Dimensions (H x W x D)	42 x 193 x 124 mm (1.7 x 7.6 x 4.9")
------------------------	--------------------------------------

Weight	0.36 kg (0.79 lbs)
--------	--------------------

技术参数

合成器架构

语音数量	3 语音
类型	混合架构
振荡器	12 相位失真
低频振荡器	2
VCF	模拟低通滤波器
信封	6

连通性

开关; 电源开关	按钮开/关
MIDI 输入	5 针 DIN / 16 通道
USB (MIDI)	USB 微型
耳机	3.5 mm TRS, 立体声, 最大 5 mW 32 Ω
同步	输入

USB

类型	符合类标准的 USB Micro
支持的操作系统	Windows 10 及以上 MacOS 13 及以上

体积

控制	音量: 0 到 10
----	------------

控制部分

开关	Prog $\pm$ // 倍频程 $\pm$
----	-------------------------

琶音器

容量	3 种模式
转变	功能

合唱部分

控件	速度 深度
----	----------

音序器部分

容量	16 步骤, 16 个模式
控制	速度
开关	内存写入 功能 播放/活动 记录/擦除

模拟滤波器部分

控件	隔断 谐振
----	----------

键盘和控件

键盘	27, 电容触控
----	----------

电源要求

电源连接器	微型 USB
指标	电源指示灯

身体的

标准工作温度范围	5°C – 45°C (41°F – 113°F)
尺寸 (H x W x D)	42 x 193 x 124 mm (1.7 x 7.6 x 4.9")
重量	0.36 kg (0.79 lbs)

EN Other important information

EN Important information

ES

1. Register online.

Please register your new Music Tribe equipment right after you purchase it by visiting musictribe.com. Registering your purchase using our simple online form helps us to process your repair claims more quickly and efficiently. Also, read the terms and conditions of our warranty, if applicable.

FR

DE

PT

IT

2. Malfunction. Should your Music Tribe Authorized Reseller not be located in your vicinity, you may contact the Music Tribe Authorized Fulfiller for your country listed under "Support" at musictribe.com. Should your country not be listed, please check if your problem can be dealt with by our "Online Support" which may also be found under "Support" at musictribe.com. Alternatively, please submit an online warranty claim at musictribe.com BEFORE returning the product.

3. Power Connections

Before plugging the unit into a power socket, please make sure you are using the correct mains voltage for your particular model. Faulty fuses must be replaced with fuses of the same type and rating without exception.

ES Aspectos importantes

1. Registro online.

Le recomendamos que registre su nuevo aparato Music Tribe justo después de su compra accediendo a la página web musictribe.com. El registro de su compra a través de nuestro sencillo sistema online nos ayudará a resolver cualquier incidencia que se presente a la mayor brevedad posible. Además, aproveche para leer los términos y condiciones de nuestra garantía, si es aplicable en su caso.

2. Averías. En el caso de que no exista un distribuidor Music Tribe en las inmediaciones, puede ponerse en contacto con el distribuidor Music Tribe de su país, que encontrará dentro del apartado "Support" de nuestra página web musictribe.com. En caso de que su país no aparezca en ese listado, acceda a la sección "Online Support" (que también encontrará dentro del apartado "Support" de nuestra página web) y compruebe si su problema aparece descrito y solucionado allí. De forma alternativa, envíenos a través de la página web una solicitud online de soporte en periodo de garantía ANTES de devolvernos el aparato.

3. Conexiones de corriente.

Antes de enchufar este aparato a una salida de corriente, asegúrese de que dicha salida sea del voltaje adecuado para su modelo concreto. En caso de que deba sustituir un fusible quemado, deberá hacerlo por otro de idénticas especificaciones, sin excepción.

FR Informations importantes

1. Enregistrez-vous en ligne.

Prenez le temps d'enregistrer votre produit Music Tribe aussi vite que possible sur le site Internet musictribe.com. Le fait d'enregistrer le produit en ligne nous permet de gérer les réparations plus rapidement et plus efficacement. Prenez également le temps de lire les termes et conditions de notre garantie.

2. Dysfonctionnement. Si vous n'avez pas de revendeur Music Tribe près de chez vous, contactez le distributeur Music Tribe de votre pays : consultez la liste des distributeurs de votre pays dans la page "Support" de notre site Internet musictribe.com. Si votre pays n'est pas dans la liste, essayez de résoudre votre problème avec notre "aide en ligne" que vous trouverez également dans la section "Support" du site musictribe.com. Vous pouvez également nous faire parvenir directement votre demande de réparation sous garantie par Internet sur le site musictribe.com AVANT de nous renvoyer le produit.

3. Raccordement au secteur.

Avant de relier cet équipement au secteur, assurez-vous que la tension secteur de votre région soit compatible avec l'appareil. Veuillez remplacer les fusibles uniquement par des modèles exactement de même taille et de même valeur électrique — sans aucune exception.

DE Weitere wichtige Informationen**1. Online registrieren.**

Bitte registrieren Sie Ihr neues Music Tribe-Gerät direkt nach dem Kauf auf der Website musictribe.com. Wenn Sie Ihren Kauf mit unserem einfachen online Formular registrieren, können wir Ihre Reparaturansprüche schneller und effizienter bearbeiten. Lesen Sie bitte auch unsere Garantiebedingungen, falls zutreffend.

2. Funktionsfehler. Sollte sich

kein Music Tribe Händler in Ihrer Nähe befinden, können Sie den Music Tribe Vertrieb Ihres Landes kontaktieren, der auf musictribe.com unter „Support“ aufgeführt ist. Sollte Ihr Land nicht aufgelistet sein, prüfen Sie bitte, ob Ihr Problem von unserem „Online Support“ gelöst werden kann, den Sie ebenfalls auf musictribe.com unter „Support“ finden. Alternativ reichen Sie bitte Ihren Garantieanspruch online auf musictribe.com ein, BEVOR Sie das Produkt zurücksenden.

3. Stromanschluss. Bevor Sie das Gerät an eine Netzsteckdose anschließen, prüfen Sie bitte, ob Sie die korrekte Netzspannung für Ihr spezielles Modell verwenden. Fehlerhafte Sicherungen müssen ausnahmslos durch Sicherungen des gleichen Typs und Nennwerts ersetzt werden.

PT Outras Informações importantes**1. Registre-se online.** Por favor,

registre seu novo equipamento Music Tribe logo após a compra visitando o site musictribe.com. Registrar sua compra usando nosso simples formulário online nos ajuda a processar seus pedidos de reparos com maior rapidez e eficiência. Além disso, leia nossos termos e condições de garantia, caso seja necessário.

2. Funcionamento

Defeituoso. Caso seu fornecedor Music Tribe não esteja localizado nas proximidades, você pode contatar um distribuidor Music Tribe para o seu país listado abaixo de “Suporte” em musictribe.com. Se seu país não estiver na lista, favor checar se seu problema pode ser resolvido com o nosso “Suporte Online” que também pode ser achado abaixo de “Suporte” em musictribe.com. Alternativamente, favor enviar uma solicitação de garantia online em musictribe.com ANTES da devolução do produto.

3. Ligações. Antes de ligar a unidade à tomada, assegure-se de que está a utilizar a voltagem correcta para o modelo em questão. Os fusíveis com defeito terão de ser substituídos, sem qualquer excepção, por fusíveis do mesmo tipo e corrente nominal.

IT Informazioni importanti**1. Registratevi online.** Vi

invitiamo a registrare il nuovo apparecchio Music Tribe subito dopo averlo acquistato visitando musictribe.com. La registrazione dell'acquisto tramite il nostro semplice modulo online ci consente di elaborare le richieste di riparazione in modo più rapido ed efficiente. Leggete anche i termini e le condizioni della nostra garanzia, qualora applicabile.

2. Malfunzionamento. Nel caso in cui il rivenditore autorizzato Music Tribe non si trovi nelle vostre vicinanze, potete contattare il Music Tribe Authorized Fulfiller per il vostro paese, elencato in “Support” @ musictribe.com. Se la vostra nazione non è elencata, controllate se il problema può essere risolto tramite il nostro “Online Support” che può anche essere trovato sotto “Support” @ musictribe.com. In alternativa, inviate una richiesta di garanzia online su musictribe.com PRIMA di restituire il prodotto.

3. Collegamento all'alimentazione. Prima di collegare l'unità a una presa di corrente, assicuratevi di utilizzare la tensione di rete corretta per il modello specifico. I fusibili guasti devono essere sostituiti, senza eccezioni, con fusibili dello stesso tipo e valore nominale.

EN

ES

FR

DE

PT

IT

NL Belangrijke informatie

1. Registreer online. Registreer uw nieuwe Music Tribe-apparatuur direct nadat u deze hebt gekocht door naar musictribe.com te gaan. Door uw aankoop te registreren via ons eenvoudige online formulier, kunnen wij uw reparatieclaims sneller en efficiënter verwerken. Lees ook de voorwaarden van onze garantie, indien van toepassing.

2. Storing. Mocht uw door Music Tribe geautoriseerde wederverkoper niet bij u in de buurt zijn gevestigd, dan kunt u contact opnemen met de door Music Tribe Authorized Fulfiller voor uw land vermeld onder "Support" op musictribe.com. Als uw land niet in de lijst staat, controleer dan of uw probleem kan worden opgelost door onze "Online Support", die u ook kunt vinden onder "Support" op musictribe.com. U kunt ook een online garantieclaim indienen op musictribe.com VOORDAT u het product retourneert.

3. Stroomaansluitingen. Voordat u het apparaat op een stopcontact aansluit, moet u ervoor zorgen dat u de juiste netspanning voor uw specifieke model gebruikt. Defecte zekeringen moeten zonder uitzondering worden vervangen door zekeringen van hetzelfde type en dezelfde waarde.

SE Viktig information

1. Registrera online. Registrera din nya Music Tribe-utrustning direkt efter att du köpt den genom att besöka musictribe.com. Att registrera ditt köp med vårt enkla onlineformulär hjälper oss att behandla dina reparationsanspråk snabbare och mer effektivt. Läs också villkoren i vår garanti, om tillämpligt.

2. Fel. Om din Music Tribe-auktoriserade återförsäljare inte finns i din närhet kan du kontakta Music Tribe Authorized Fulfiller för ditt land listat under "Support" på musictribe.com. Om ditt land inte är listat, kontrollera om ditt problem kan hanteras av vår "Onlinesupport" som också finns under "Support" på musictribe.com. Alternativt kan du skicka in ett online-garantianspråk på musictribe.com INNAN du returnerar produkten.

3. Strömanslutningar. Innan du ansluter enheten till ett eluttag, se till att du använder rätt nätspänning för just din modell. Felaktiga säkringar måste bytas ut mot säkringar av samma typ och märkning utan undantag.

PL Ważna informacja

1. Zarejestrować online. Zarejestruj swój nowy sprzęt Music Tribe zaraz po zakupie na stronie musictribe.com. Zarejestrowanie zakupu za pomocą naszego prostego formularza online pomaga nam szybciej i efektywniej rozpatrywać roszczenia dotyczące naprawy. Przeczytaj również warunki naszej gwarancji, jeśli dotyczy.

2. Awaria. Jeśli Twój autoryzowany sprzedawca Music Tribe nie znajduje się w pobliżu, możesz skontaktować się z autoryzowanym dostawcą Music Tribe dla swojego kraju, wymienionym w sekcji „Wsparcie” na stronie musictribe.com. Jeśli Twojego kraju nie ma na liście, sprawdź, czy Twój problem może zostać rozwiązany przez nasze „Wsparcie online”, które można również znaleźć w sekcji „Wsparcie” na stronie musictribe.com. Alternatywnie, prześlij zgłoszenie gwarancyjne online na musictribe.com PRZED zwrotem produktu.

3. Połączenia zasilania. Przed podłączeniem urządzenia do gniazdka sieciowego upewnij się, że używasz odpowiedniego napięcia sieciowego dla danego modelu. Wadliwe bezpieczniki należy bez wyjątku wymienić na bezpieczniki tego samego typu i wartości.

NL

SE

PL

JP

CN

JP その他の重要な情報

1. 登録。新しい MusicTribe 機器をご購入後、すぐに musictribe.com にアクセスしてオンライン登録を行ってください。シンプルなオンラインフォームでの登録は、修理請求の処理をより迅速かつ効率的に行うために役立ちます。また、適用される場合は、保証の利用規約をお読みください。

2. 故障。お近くに MusicTribe 認定販売店がない場合は、musictribe.com の "サポート" セクションに記載されている国別の MusicTribe 認定代理店にお問い合わせください。お住まいの国がリストにならない場合は、"オンラインサポート" から問題が解決できるか確認してください。こちらも "サポート" セクションにございます。あるいは、製品を返品する前に、musictribe.com でオンライン保証請求を提出してください。

3. 電源接続。ユニットを電源コンセントに差し込む前に、モデルに適した正しい電圧を使用していることを確認してください。ヒューズが故障した場合は、必ず同じ種類と定格のヒューズに交換してください。

CN 其他的重要信息

1. 在线注册。购买后, 请访问我们的网站立即注册新的 MusicTribe 设备。使用我们简单的在线表格注册您的购买信息有助于我们更快, 更有效地处理您的维修索赔。另外, 请阅读我们保修的条款和条件 (如适用)。

2. 无法正常工作。如果您所在地区没有 MusicTribe 授权的经销商, 您可以联系您所在国家/地区的 MusicTribe 授权履行者, 其联系方式在 musictribe.com 的 "支持" 部分列出。如果您的国家/地区未列出, 请检查您的问题是否可以通过我们的 "在线支持" 解决, 该选项也可以在 musictribe.com 的 "支持" 部分找到。或者, 您也可以在退回产品之前在 musictribe.com 提交在线保修索赔。

3. 电源连接。将本设备连接电源前, 请确保使用的电压正确。保险丝需要更换时, 必须使用相同型号及定额的保险丝。

NL

SE

PL

JP

CN

FEDERAL COMMUNICATIONS COMMISSION COMPLIANCE INFORMATION

Behringer CZ-1 MINI

Responsible Party Name:

Music Tribe Commercial NV Inc.

Address:

**122 E. 42nd St.1, 8th Floor NY, NY
10168, United States**

Email Address:

legal@musictribe.com

CZ-1 MINI

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This equipment complies with Part 15 of the FCC rules. Operation is subject to the following two conditions:

- (1) this device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

Important information:

Changes or modifications to the equipment not expressly approved by Music Tribe can void the user's authority to use the equipment.



Hereby, Music Tribe declares that this product is in compliance with General Product Safety Regulation (EU) 2023/988, Directive 2014/30/EU, Directive 2011/65/EU and Amendment 2015/863/EU, Directive 2012/19/EU, Regulation 519/2012 REACH SVHC and Directive 1907/2006/EC.

Full text of EU DoC is available at <https://community.musictribe.com/>

EU Representative: Empower Tribe Innovations DE GmbH

Address: Otto-Brenner-Strasse 4a,
47877 Willich, Germany

UK Representative: Empower Tribe Innovations UK Ltd.

Address: 5 Brindley Road Old Trafford,
Manchester, United Kingdom, M16 9UN



Correct disposal of this product: This symbol indicates that this product must not be disposed of with household waste, according to the WEEE Directive (2012/19/EU) and

your national law. This product should be taken to a collection center licensed for the recycling of waste electrical and electronic equipment (EEE). The mishandling of this type of waste could have a possible negative impact on the environment and human health due to potentially hazardous substances that are generally associated with EEE. At the same time, your cooperation in the correct disposal of this product will contribute to the efficient use of natural resources. For more information about where you can take your waste equipment for recycling, please contact your local city office, or your household waste collection service.

We Hear You