

# Schematic Diagram & Parts List

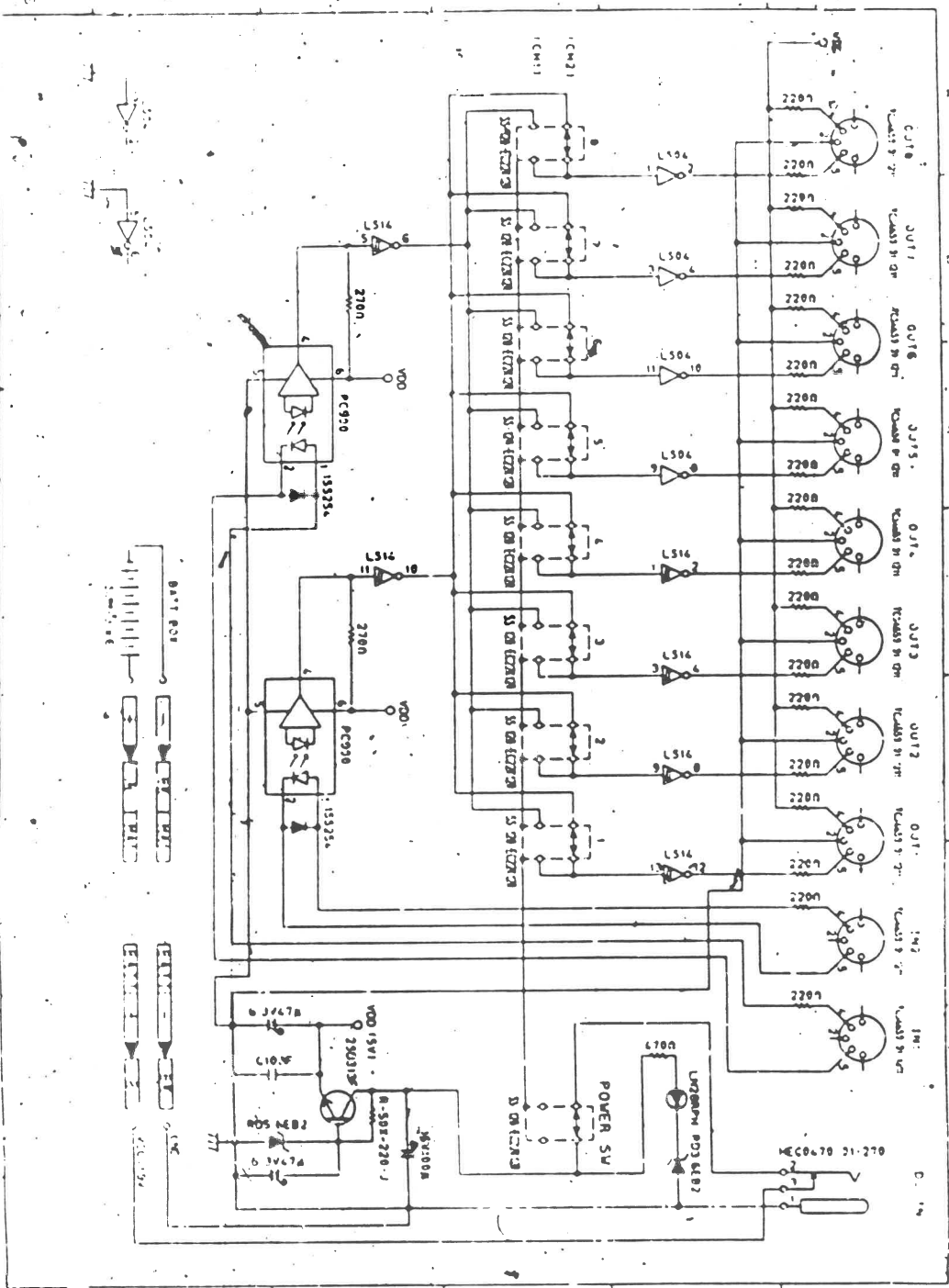
MIDI THRU BOX

TB-1

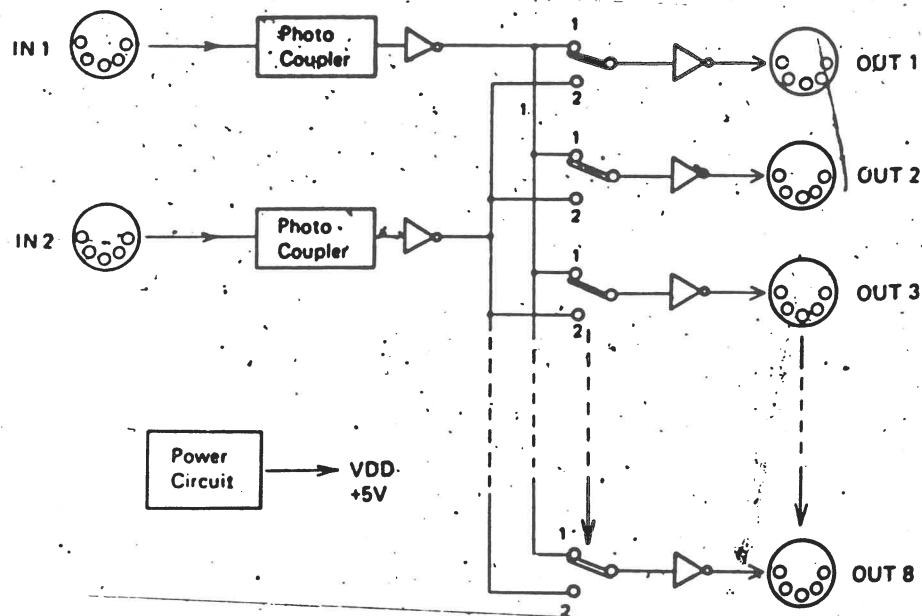
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CASIO

## Midi Thru Box TB-1



**BLOCK DIAGRAM** Midi Thru Box TB-1



# PARTS LIST

## TB-1 Midi Thru Box

1. Price Codes Subject to change without notice.

Ref. No. MPL-051

2. Refer to current Technical News Bulletins for price code values.

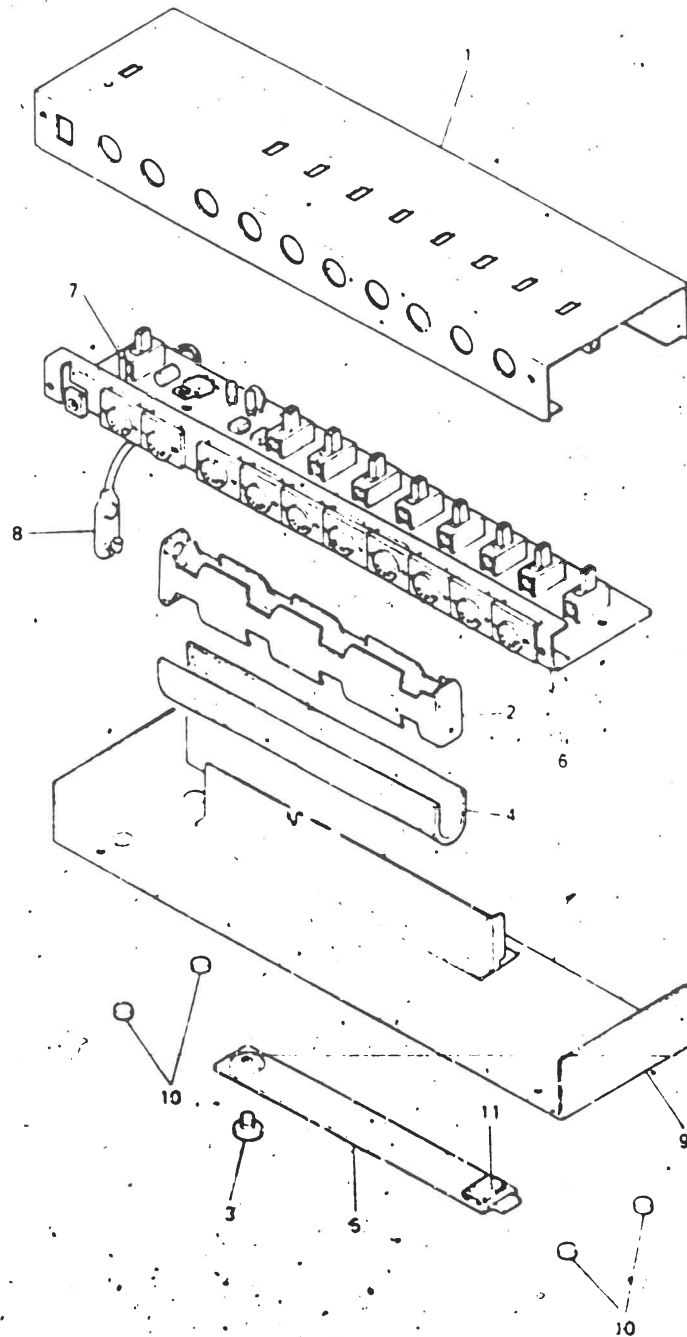
Item	Code No.	Parts Name	Standard Name	Qty	Price Code	Rank
		M198-MA1M Ass'y				
	2110 3756	Bipolar IC	SN74LS04N	1	AF	A
	2111 2143	Bipolar IC	SN74LS14N	1	AN	A
	22303023	Transistor	2SD313F	1	AD	A
	2300 2086	Diode	1SS-54	2	AA	C
	23102862	Zener Diode	RD 6E	1	AA	A
	23103273	Zener Diode	RD5 6E	1	AA	A
	2320 9748	LED	LN28RPH	1	AB	C
	2400 5062	Photo Coupler	PC900	2	AR	A
	0002 8724	Carbon Film Resistor	R-20 220 J	18	N/A	X
	2617.0591	Carbon Film Resistor	R-20 270 J	2		
	2617 0805	Carbon Film Resistor	R-20-470 J	1		
	2620 3317	Carbon Film Resistor	R 50X 220 J	1		
	2804 5981	Electrolytic Capacitor	63RE2-47	2		
	2804 6029	Electrolytic Capacitor	16RE2-100	1		
	2818 2040	Ceramic Capacitor	HF70SJYF103Z	3		
	3420 0041	Slide Switch	SS-126-EC22K12R	9	AE	B
	3512 3245	Power Jack	EHCD470 01-270	1	AC	B
	3612 0541	GIN Jack	TCS4650 01-1211	10	AE	B
		Others				
10	6905 0450	Upper Case	M1757-1	1	-	X
20	3901 0704	Battery Case	362	1	AG	
30	6902 2481	Screw	M41152A-2	1	-	
40	6905 1721	Sponge 198	M42446A-1	1	-	
50	6905 0460	Battery Cover	M31824-1	1	AG	
110	6905 1000	Sponge 25X15	M42110-2	1	-	
60	6905 0440	Reinforcement Metal	M21123-1	1	-	X
70	6905 0510	Bakelite Tube	M42422-1	1	-	X
80	6920 2330	Battery Snap	Type I, L300	1	AC	
	6905 0472	Rating Plate	M41575B-7	1	-	
90	6905 0501	Lower Case	M2122A-1	1	-	
10	6905 1270	Rubber Foot	M42455-1	4	-	

Note: \* - Parts newly employed  
Qty - Quantity used per unit

Rank: A - Essential  
B - Stock recommended  
C - Others  
X - No stock recommended

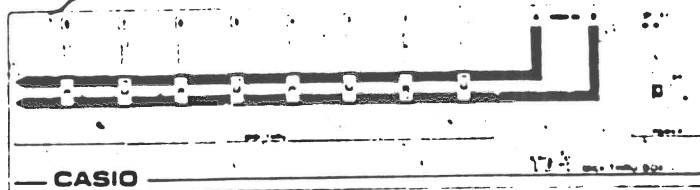
Midi Thru Box TB 1

EXPLODED VIEW



# TB-1

## MIDI THRU BOX



CASIO

The CASIO TB-1 is a MIDI thru box designed to build an electronic music system that includes such components as a MIDI standard keyboard, sequencer and drum machine.

- The TB-1 is equipped with two MIDI IN terminals and eight MIDI THRU terminals. This allows up to eight MIDI devices to be controlled by one or two other MIDI devices.
- The two types of data input through MIDI IN can be processed through the THRU OUT terminals as required.
- Multiple MIDI devices are connected in parallel. This means that malfunctions and timing can be eliminated when devices with MIDI THRU terminals are connected in series.

## PRECAUTIONS

- Do not use or store the unit for extended periods in direct sunlight, near a heater or air conditioner, or in any other area where it might be overexposed to temperature extremes.
- Severe impacts can result in malfunction. Always handle the unit gently during transport.
- Do not allow foreign matter to enter into the unit or allow the unit to get wet.
- Clean the unit with a soft cloth dampened with a mild neutral detergent. Never use such chemical agents as thinner, alcohol or benzine.

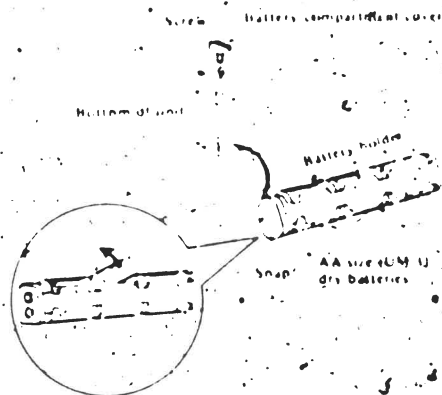
## POWER SUPPLY

The TB-1 can be powered by batteries or standard AC household current (mains).

### BATTERIES

Six AA size (UM-3) dry batteries can be used to power the unit. To replace batteries, remove the battery compartment cover located on the bottom of the unit as illustrated. Remove the battery holder from the compartment.

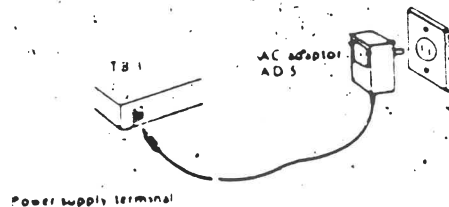
- Do not remove the snap. Replace the old batteries with six new AA size dry batteries and replace the holder into the battery compartment.
- Battery life is approximately 20 hours (continuous use, when two IN terminals and 4 MIDI THRU terminals are employed). Actual battery life will vary depending upon the number of input and output terminals employed and the type of MIDI signals being passed.



### AC

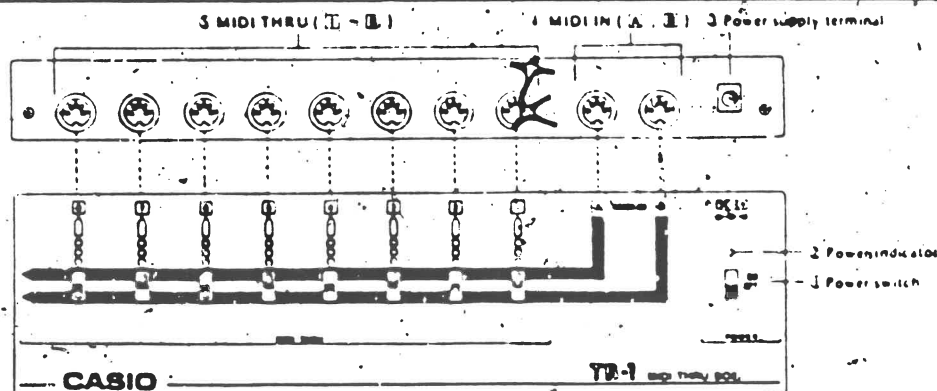
An optional AC adaptor (AD-5) is required when using household current. Connect the adaptor to the power supply terminal (DC 9V) on the rear panel of the unit.

- Be sure to use only the specified genuine CASIO adaptor. Use of another type of adaptor can damage the unit.



Always be sure that the power switch of the unit is set to OFF before connecting external equipment. Always switch on the power of the TB-1 BEFORE switching on the power of connected equipment. Failure to do so can cause misoperation of the system's features.

## GENERAL GUIDE



① Power switch

Switches power of the TB-1 ON and OFF.

② Power indicator

Lights when power is ON.

③ Power supply terminal (9V DC)

For connection of AC adaptor (AD-5, optional) to allow use of AC power.

④ MIDI IN (A, B)

For input of data from a MIDI keyboard or MIDI sequencer. Different data can be input to terminals A and B.

⑤ MIDI THRU (1 ~ 8)

For simultaneous output of data input through MIDI IN to as many as eight MIDI devices. Each terminal has its own switch making it possible to individually select whether A or B input data will be output.

Example:

When the switches are set as shown in the illustration, A data is output to the devices connected to terminals 1, 3, 5 and 7, while B data is output to the devices connected to terminals 2, 4, 6 and 8.

## CONNECTION EXAMPLES

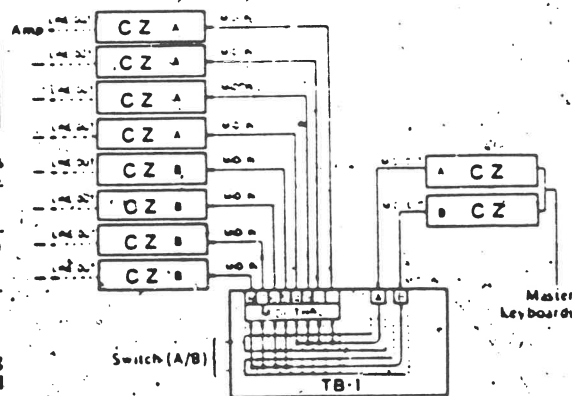
### NOTE

When the TB-1 is connected to other equipment, always switch the power of the TB-1 on BEFORE switching on the power of the other equipment.



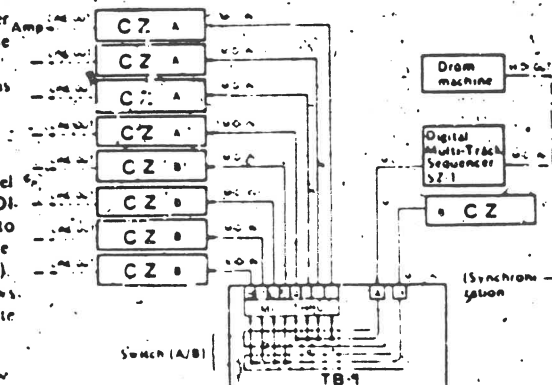
Playing up to eight MIDI keyboards controlled by another MIDI keyboard. (Two masters can also be employed.)

- Send MIDI channel and receive MIDI channel are all set to the same channel.
- Be sure to only switch between A and B before beginning play. Switching during play will interrupt the MIDI signal and result in misoperation.



Using a CZ-5000 8-track sequencer for automatic play of multiple MIDI keyboards. (CZ-5000 sequencer can be used as master and CZ-1000 as sub.)

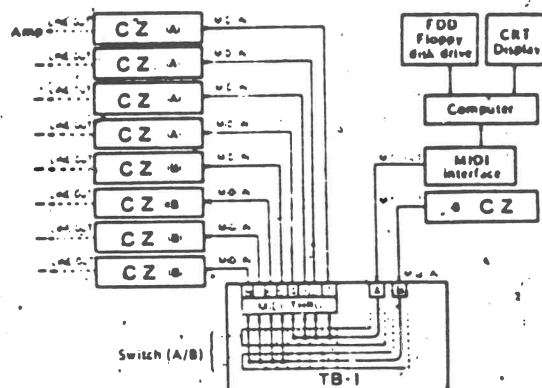
Each keyboard is equivalent to one channel of the CZ-5000 Sequencer. Set the MIDI channel of each respective keyboard to match that of the sequencer channel (i.e. keyboard 1 = CH1, keyboard 2 = CH2, etc.). Setting the switch of the TB-1 to B allows the sub CZ-1000 to be used for remote play.





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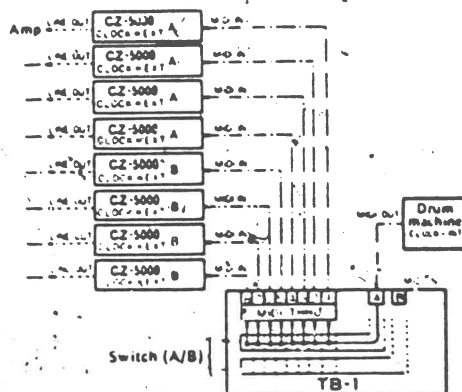
Automatic play of eight CZ-5000's synchronized with a drum machine (64 track maximum multichannel playback.)



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Play of multiple MIDI keyboards by a MIDI equipped personal computer.

- CZ-5000's all set to sequencer mode and clock set to EXTERNAL.
- Drum machine clock set to INTERNAL.



## SPECIFICATIONS

Model:	JB-1 MIDI THRU BOX
Input:	MIDI IN x 2
Output:	MIDI THRU x 2
Power supply:	9V DC (Batteries or AC household current) <ul style="list-style-type: none"> <li>• Six AA-size (UM-3) dry batteries</li> <li>• (Battery life: Approx. 20 hours continuous use; IN x 2/MIDI THRU x 4)</li> <li>• AC (Optional AD-5 AC adaptor)</li> </ul>
Dimensions:	330(W) x 40(H) x 94(D)mm
Weight:	1 kg (including batteries)
Accessories:	Six AA size dry batteries

Specifications are subject to change without notice.

**GUIDELINES LAID DOWN BY FCC RULES FOR USE OF THE UNIT IN THE U.S.A. (not applicable to other areas).**

- This equipment generates and uses radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio and television reception. It has been type tested and found to comply with the limits for a Class B computing device in accordance with the specifications in Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause 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 the receiving antenna
- ... relocate the equipment with respect to the receiver
- ... move the equipment away from the receiver
- ... plug the equipment into a different outlet so that equipment and receiver are on different branch circuits.

If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions. The user may find the following booklet prepared by the Federal Communications Commission helpful: "How to Identify and Resolve Radio-TV Interference Problems". This booklet is available from the US Government Printing Office, Washington, D.C., 20402, Stock No. 004-00345-4.

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El TB-1 de CASIO es una caja pasante MIDI diseñada para conformar un sistema de música electrónica que incluya componentes tales como un teclado estándar MIDI, secuenciador y máquina de tambor.

- El TB-1 está equipado con dos terminales MIDI IN (entrada de MIDI) y ocho terminales MIDI THRU (pasante de MIDI). Esto permite controlar hasta ocho dispositivos MIDI por medio de otros, uno o dos, dispositivos MIDI.
  - Pueden proporcionarse dos tipos de entrada de datos a través de MIDI IN, entre los terminales THRU OUT (pasante de MIDI), como sea requerido.
  - Múltiples dispositivos MIDI son conectados en paralelo. Esto significa que errores o tiempo de retardo pueden ser eliminados cuando los dispositivos con terminales MIDI THRU son conectados en series.
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