

**Playtrix Research Inc.**

**XTERA**

THE ART IN GAMING • THE ELECTRONICS STATE OF THE ART



**PLAYTRIX**

*SOLUTIONS FOR YOUR MARKET*

[www.playtrix.com](http://www.playtrix.com)





**F**or over 25 years the gaming industry has been designing different kinds of boards to fit specific applications. Many good designs were created but only a few standards.

**A**t the same time, the PC industry has been concentrating on power and standardization. The PC platform now delivers high computing powers at low costs.



Introducing the marriage of both industries: **X-TERA**, The reliability of a gaming board & the power of a PC.

## **X-TERA** The best of both worlds

### **P O W E R**

- Pentium® class processor 266Mhz or 300Mhz with MMX
- Accelerated SuperVGA graphics
- Up to 512Mbytes of SDRAM
- Program and graphics in Flash
- Downloadable program

### **F L E X I B I L I T Y**

- Video: VGA, RGB, or TFT (LCD)
- Audio: AC97' Rev 2.0
- Communications: 2xRS232 and 2xUSB with optional RS485, GSM cellular module, and Fast InfraRed
- Optional fast Ethernet

### **C O M P A T I B I L I T Y**

- Compatible with Windows® 9x, ME, NT, 2000, XP, XP embedded, CE, DOS, and Linux

### **R E L I A B I L I T Y**

- Designed specifically for the gaming, AWP and VLT industries
- Proven for years in real operation

### **C O N N E C T I O N**

- JAMMA Connection
- Tamper detection sensors using battery powered inputs (casinos & VLT versions)
- Expansion I/Os for up to 96 inputs and 96 power outputs
- cctalk/BACTA connectors (optional)

### **S E C U R I T Y**

- High Density Logic Device with customized encryption for each customer
- Other security features
- Huge battery backed-up RAM

**PLAYTRIX**  
Research Incorporated

[www.playtrix.com](http://www.playtrix.com)

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**Playtrix prohibits sale, re-sale, or the use of these products in Canada.**



**Thank you for using the X-tera board from Playtrix.**



### **X-tera 3.3: A computer in a jamma connection board.**

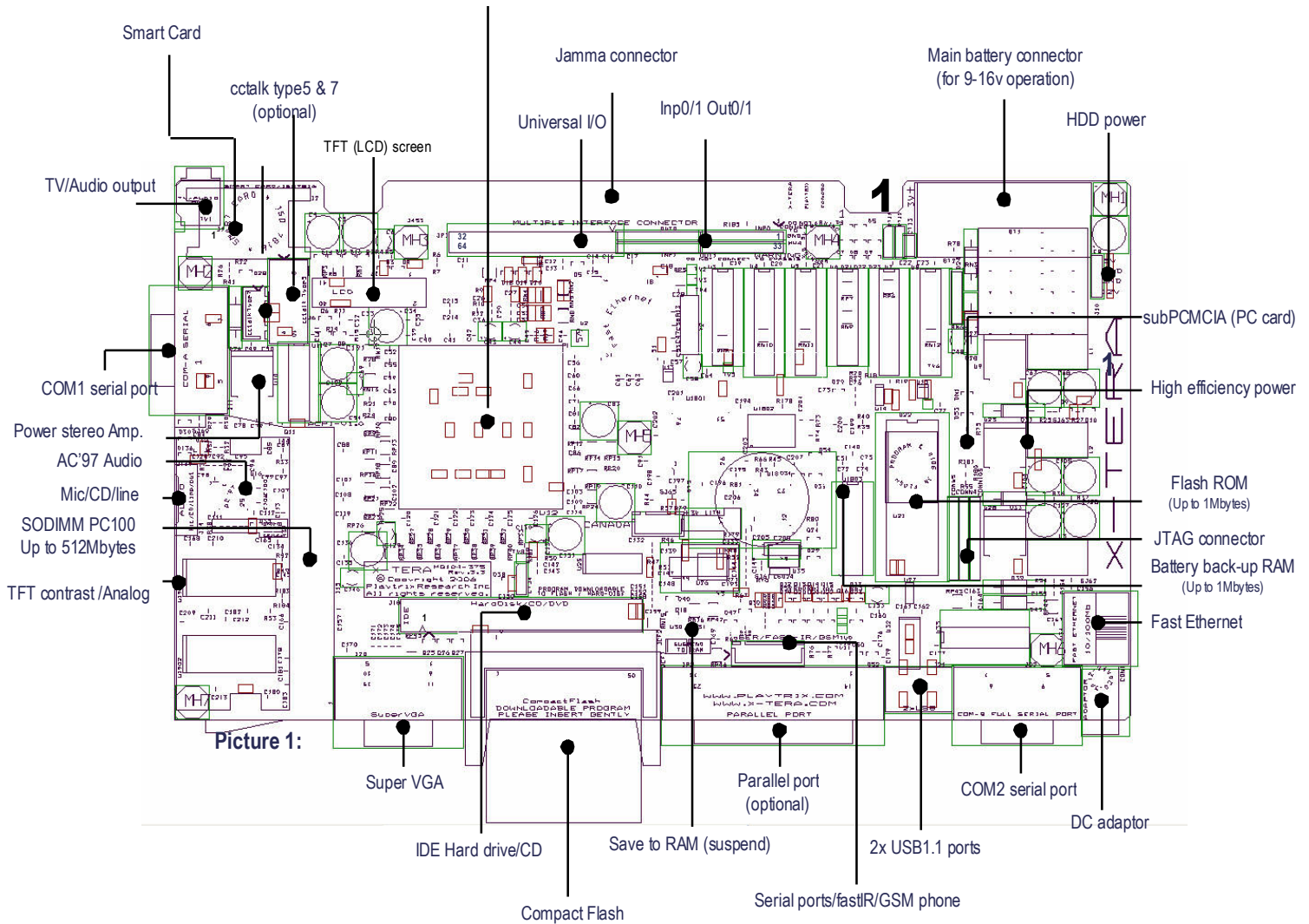
It's a computer, it's a game board, it's a PC, it's a JAMMA PC. Welcome to the year 2007. This is the era of easily available advanced technology. Pentium® class processor, accelerated superVGA graphics, up to 512Mb SDRAM, downloadable program and graphics in flash, limitless input and output configurations, high security features, and much, much more.

Includes Treasure Gem Factory 15 powerful games for use in your own cabinet. Touch screen or buttons. Reap the rewards of years of experience in gaming, use Treasure Gem Factory games.

# X-TERA<sup>®</sup>

Rev **3.3**

AMD/National Geode x86 266Mhz/300Mhz MMX



**X-TERA** with customizable high security features. \*may differ from picture

**Developer?** In an effort to make X-tera a standard for the gaming industry, Playtrix is offering to sell the original design of X-tera to select companies only. If you are a developer, please contact us for more details.

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## **X-TERA** Jamma Connector

Component side	Pin	Pin	Solder side
GND	1	29	GND
GND	2	30	GND
+5VDC	3	31	+5VDC
+5VDC	4	32	+5VDC
cctalk Voltage +12VDC or +24VDC	5	33	cctalk Voltage +12VDC or +24VDC
+12VDC	6	34	+12V DC
+5VDC	7	35	+12VDC or other, see note below ****
Output 2nd Hopper motor****	8	36	Output meter out
Output knock-off meter	9	37	Output meter in
Speaker R	10	38	GND
Switch Door open or coin pusher(s) empty (inp0p5)	11	39	Output spare 1 (jkip pulse)(out0p1)
Video red	12	40	Video green
Video blue	13	41	Video composite sync.
GND	14	42	Switch <b>statistics</b> (inp0p1). This has different functions: in the main menu, in each game, and in the statistics
Switch <b>setup</b> . This has different functions: in the main menu, in each game, and in the statistics. Also, setup can be pressed while power-up to reset the machine.	15	43	Switch door 1***
Input coin in	16	44	Input bill in
Input hopper switch (both hoppers)	17	45	Output hopper motor
Button 4	18	46	Lamp 4
Button 5	19	47	Lamp 5
Button 3	20	48	Lamp 3
Button 2	21	49	Lamp 2
Button 6	22	50	Lamp 6
Button 7	23	51	Lamp 7
Button 1	24	52	Lamp 1
cctalk data line	25	53	Input remote in
Switch <b>knock-off</b> or Attendant switch. Also called <b>remote</b> . This switch can clear "call attendant" errors.	26	54	Lamp tour light (top of the machine) not used
GND	27	55	GND
GND	28	56	GND

**Table 1:**

\* Please note pin1 is nearest to the battery. See the board layout on previous page.

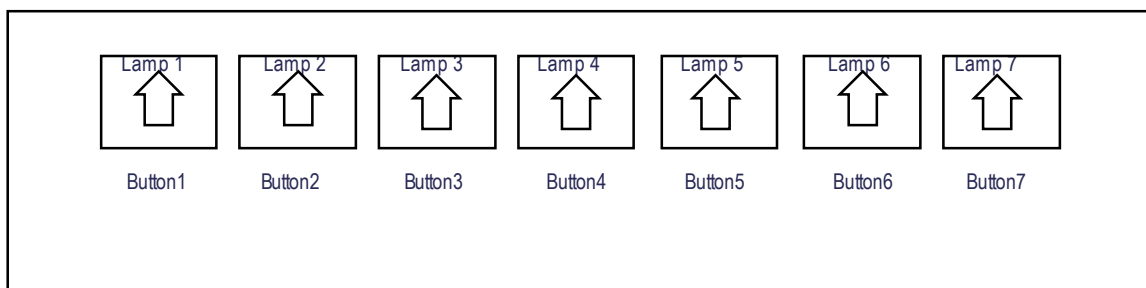
\*\*\* Switch door n : for monitoring door(s) inside the machine even when no power is applied. (Casino & VLT versions only).

\*\*\*\* All lamp and hopper outputs are designed for 12V operation. If a higher voltage is needed, for 24V hoppers for example, you should remove the 0 ohm resistor on R185 and connect pin 35 to that higher voltage. This is not required for cctalk hoppers.

NOTE: some monitors require a pull-up resistor on the vertical sync and horizontal sync signals; install a 1k resistor between each signal And the 5V supply. If you are using a VGA monitor and it still does not sync after adding these resistors, please remove the SMD resistor R5. This should fix the VGA sync problem, but the board will not work with standard RGB monitors after Removing R5.

Please note that the cctalk is available only in certain games versions.

## **X-TERA** recommended button layout



**Picture 2:**

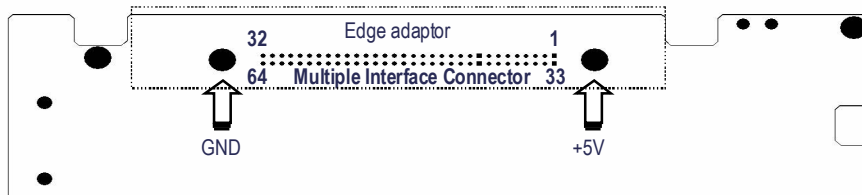
## **X-TERA Multiple Interface Connector Pin-outs and driver / buffer IC's**

Function	BIOS	IC	Pin	Pin	IC	BIOS	Function
Switch statistics (inp0p1)	Input9	U5	1	33	U3,U4	Output1	Lamp 1 (out1p1)
Switch setup	Input10	U5	2	34	U3,U4	Output2	Lamp 2
Input hopper switch (both hoppers)	Input11	U5	3	35	U3,U4	Output3	Lamp 3
Switch VGA/RGB (see SJ64 on solder side & jumper CTJ3)	Input12	U5	4	36	U3,U4	Output4	Lamp 4
Switch spare (pusher empty)	Input13	U5	5	37	U3,U4	Output5	Lamp 5
input remote in	Input14	U5	6	38	U3,U4	Output6	Lamp 6
input coin in	Input15	U5	7	39	U3,U4	Output7	Lamp 7
input bill in	Input16	U5	8	40	U3,U4	Output8	Lamp tour light (top of the machine) not used
Output spare 1 (jkip pulse)(out0p1)	Output9	U6,U7	9	41	U8	Input1	Button 1 (inp1p1)
Output coin/bill inhibit (out0p2)	Output10	U6,U7	10	42	U8	Input2	Button 2
Output hopper motor	Output11	U6,U7	11	43	U8	Input3	Button 3
Output 2nd hopper motor	Output12	U6,U7	12	44	U8	Input4	Button 4
Output knock-off meter	Output13	U6,U7	13	45	U8	Input5	Button 5
Output meter in	Output14	U6,U7	14	46	U8	Input6	Button 6
Output meter out	Output15	U6,U7	15	47	U8	Input7	Button 7
Output spare 2 (out0p8)	Output16	U6,U7	16	48	U8	Input8	Switch knock-off
Video red		video	17	49	video		Video green
Video blue		video	18	50	video		Video composite sync.
Speaker R		U11	19	51	power		GND
Power +5V DC		power	20	52	power		Power +12V DC
Power +5V DC		power	21	53	power		GND
GND		power	22	54	power		GND
Power +12V DC		power	23	55	power		Power +12V DC
Power +12V DC		power	24	56	power		GND
Power +5V DC		power	25	57	power		GND
GND		power	26	58	power		GND
Power +5V DC		power	27	59	power		Power +5V DC
Input SPARK (Static detection)		Passive	28	60	power		Power +5V DC
Speaker L		U10	29	61	Logic		96 I/O extension. Do not connect. MCU_SO2
Switch Door 1		BatLog	30	62	Logic		96 I/O extension. Do not connect. MCU_SK2
Switch Door 2		BatLog	31	63	Logic		96 I/O extension. Do not connect. MCU_S12
Switch Door 3		BatLog	32	64	Logic		96 I/O extension. Do not connect. MCU_CLK

**Table 2:**

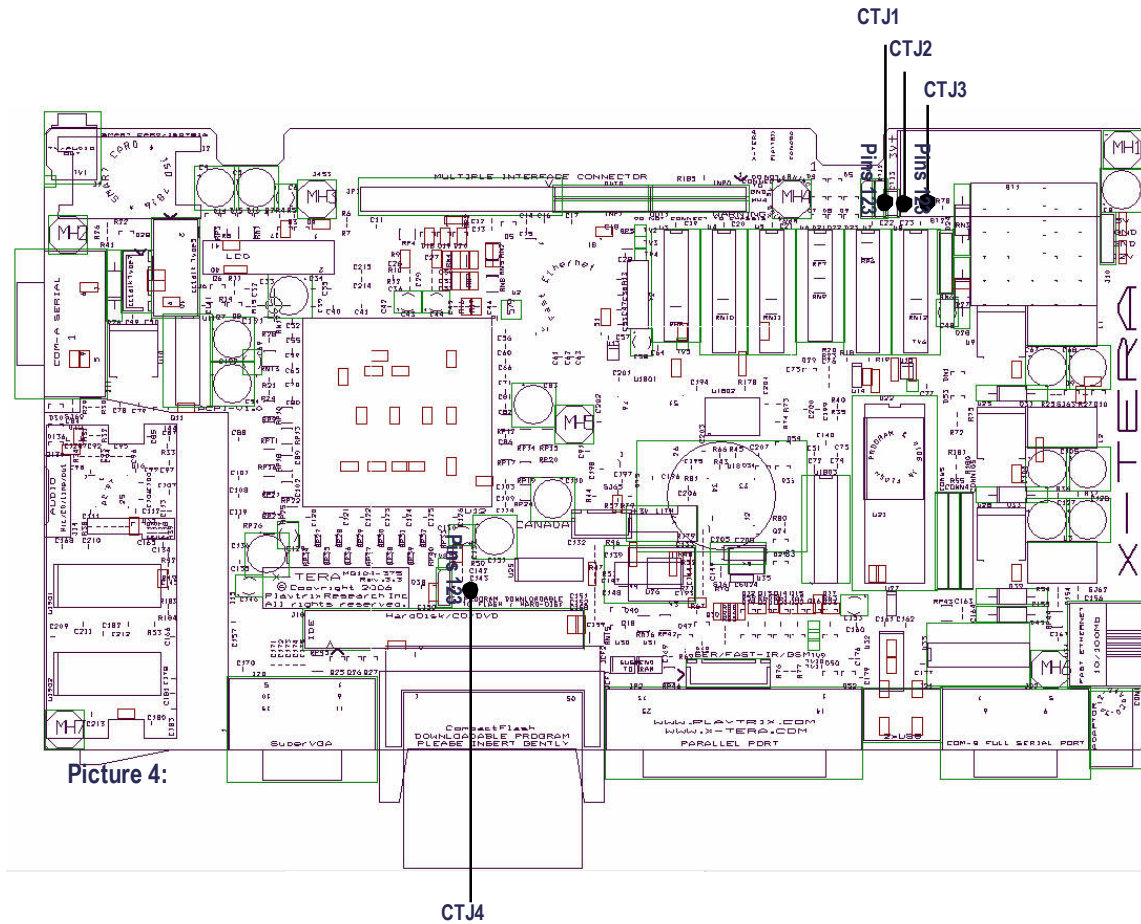
\*BatLog: battery backed-up logic circuits (optional).

There is a mounting hole on each side of this connector which allows for an edge adaptor to be installed as a sub-board. Furthermore, the mounting hole on the left is connected to GND, the one on the right is connected to +5V. this can be used to enforce power transfer from the sub-board.



**Picture 3: Location of the X-TERA Multiple Interface Connector**

# X-TERA Component side Jumpers



## Description of the jumpers

Jumper name	Short 1 & 2 (default*)	Short 2 & 3
CTJ1	Main hopper motor active <b>low</b> (0V = motor on)	Main hopper motor active <b>high</b> (5V = motor on)
CTJ2	2 <sup>nd</sup> hopper motor active <b>low</b> (0V = motor on)	2 <sup>nd</sup> hopper motor active <b>high</b> (5V = motor on)
CTJ4	IDE: Compact flash is master.**	IDE: compact flash is slave.

Table 3:

\* pins 1 & 2 of these jumpers could be shorted on the solder side. Cut the trace between these pins (solder side) before making changes.

\*\* Use compact flash as master only when it is the only IDE device connected.

Jumper name	Short	Open (default)
CTJ3	RGB monitor (15.7Khz sync).*	VGA monitor (31Khz sync).*

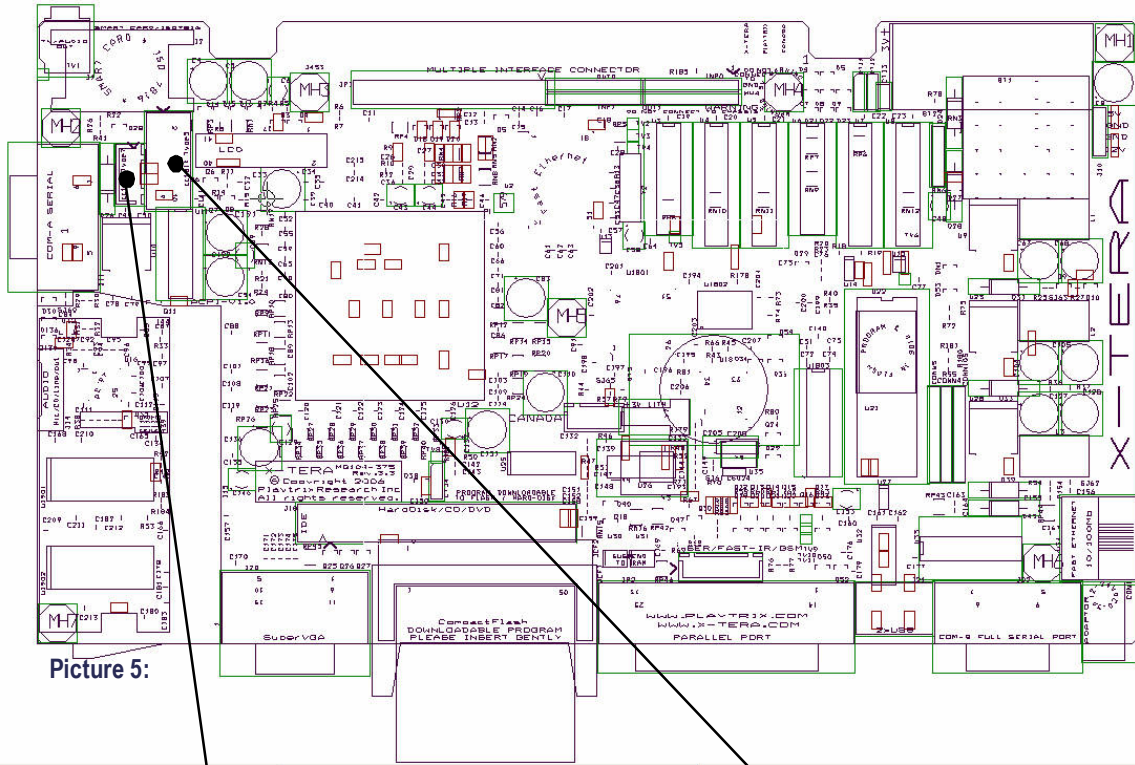
Table 4:

\* **WARNING:** setting the wrong frequency could damage the monitor.

\* This feature is supported from the software. It is not based on a physical 31Khz to 15Khz converter.



# X-TERA cctalk connections



Picture 5:

## cctalk type 7 connector

Pin	Description
1	12Vdc
2	NC*
3	GND
4	Data

\* Shorting the solder jumper NJ12 would supply 12Vdc on pin 2

Table 5:

## cctalk type 5 connector

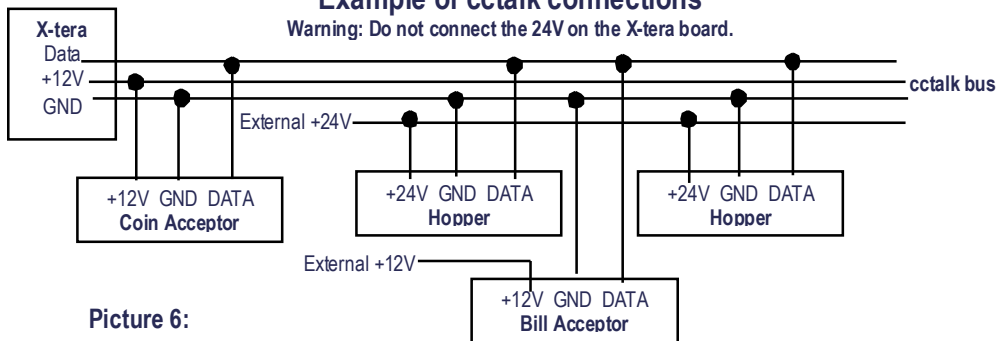
Description	Pin	Pin	Description
Data	1	2	GND
NC*	3	4	GND
NC*	5	6	NC*
12Vdc	7	8	GND
GND	9	10	NC*

\* Some NC pins could be connected to optional features.  
\* Shorting the solder jumper NJ12 would supply 12Vdc on pin 10

Table 6:

## Example of cctalk connections

Warning: Do not connect the 24V on the X-tera board.



Picture 6:

# X-tera R3.3

This document explains the changes in the new X-tera revision. It should be attached to the X-tera user's manual.

## **ROHS information. We care for our environment:**

Playtrix Research Inc. cares for the environment and is moving towards **ROHS** 2002/95/EC (Restriction Of Hazardous Substances) compliance. As such, the solder used on recently manufactured boards is **lead-free**. This solder can sometimes appear to be dull, or not so shiny compared to the leaded solder. It can also be more difficult to melt. These are known issues that do not affect the reliability of our products and, we think, are a small price to pay to avoid damaging the environment. We want to assure our customers that we are using the best lead-free solder available on the market from world renowned manufacturers who guarantee their products' reliability to the fullest.

## **Battery life:**

Due to the new much larger memory, extended security features, and constant door monitoring, the **regular fully charged battery does not last more than one month without power**. When the battery is empty all the statistics and settings in the games are lost. Other battery options are available and can last up to 10 years without power.

## **Reactivation of a game after a dead battery:**

It can happen that the board does not start after a long shut down or when the battery is empty, in that case, power the board ON and connect a 100 Ohm resistor, for about 1 second, between the GND (0V) and pin 1 (the square pin) of CONN4 which is the middle 8pin connector near the power regulators. This should force it to start. Leave the board ON for a few hours to recharge.

## **No need for compact-flash card:**

The game and data are stored onboard, the compact flash is optional. Still, if you insert a compact-flash, the game onboard will be ignored and the one on the inserted flash will be run.

## **Game compatibility:**

This new version contains many enhancements and is not 100% compatible with the old version. The games that were made for the previous version of the X-tera do not run on this one without modifications from the factory. Also please note that the **VGA jumper** on the new version is different from the old version, it has to be **open for VGA** and **shorted for RGB** (CGA).

## Treasure Gem Factory: 15 powerful games.



### Treasure Gem Factory : Fifteen Powerful games.

The Treasure series games are proven for many years and in many countries around the world. They are highly adjustable and offer many options. This is the latest one in the series. Works with touch-screen, buttons, printers, hoppers, keys, bills, coins, remote, etc. Available in the MiiNii cabinet or on the X-tera board: build your own upright or countertop cabinet. Reap the rewards of years of experience in gaming, use Treasure Gem Factory games.



## Specific features in each game



### Fever Poker :

Flush Fever: Fever starts when you win a flush and for the next 7 hands, every card that has the same suit as that flush wins. 7&9 random bonus: any pair of 7's or 9's wins a random bonus that is a multiple of bet. Random Raise: At various times, especially when you have a winning hand, it offers you to raise your bet in the middle of the game. Third hand: can be set ON/OFF.



### Hot Stars :

Five winning lines. Great action. Fast stopping. Scatters: any 2x scatters symbols anywhere lights 2 stars on the top of the reels, any 3x scatters symbols, lights 3 stars. Accumulate the stars because the number of the stars lit determines the multiplication of the winnings. 5 stars lit means all winnings are x 5!!!



## Seven On Fire :

Five winning lines. Fast action. Fast stopping.

Fire Bonus: Every symbol '7' on any winning line lights a '7' on fire. Accumulate 5 of these to go into a special bonus round of 7 free hands that win BIG.



## Cherry 8 :

Eight winning lines. With hold. Fast stopping.

All the features of the world famous 8-lines game with completely renewed graphics and the added features of hold up to 2 lines and melon bonus. This, like most of the games, features a double-up that can be set ON/OFF for each game. Double higher or lower, change the card, collect half, or just collect.



### **Double Trouble :**

Double Trouble is you win a lot! and the joker doubles those winnings! Play cards with fruits. Easy for any player to understand: deal the first hand, hold the symbols that win the most, and deal again. See what you win in the table. A joker in the hand doubles all the winnings!



### **Magic Bar :**

Magic Bar is a slot machine where the slot spins at the beginning of every hand and determines the multiplier: up to x5! Treasure Bonus: watch out for that Treasure chest that opens every now and then and makes you win big.





## **Fever Fruit :**

Play cards with fruits. Magic: Player chooses the magic symbol that doubles the winnings. Fruit Fever: Fever starts when you have a winning combination of 4 or 5 identical symbols. 4 symbols give fever for the next 4 hands, 5 symbols give fever for the next 7 hands. During fever hands every card with that symbol wins.



## **Bonus Blackjack :**

Play up to 3 blackjack hands at the same time. With bonus: a blackjack with a Jack pays 7 to 1, with a Queen pays 5 to 1, with a King pays 3 to 1, and with a 10 pays 1 to 1.



## Progressive Blackjack :

Our famous 5 player blackjack game is available in the Treasure Gem Factory. Play up to 3 hands at the same time. Progressive Bonus : A small part of the bet accumulates in this progressive bonus at no cost to the player. It keeps climbing until you win it by getting 3x sevens.



## Magic Card :

Player chooses the magic card that doubles the winnings. Any winning hand with that magic card doubles the winnings, 2 magic cards multiply the winnings x 4, 3 magic cards x8...Random Raise: At various times, especially when you have a winning hand, it offers you to raise your bet in the middle of the game. Third hand: can be set ON/OFF.



## Red Seven :

A simple fast action game for the player who loves the originals. It features very quick stopping possibility.



## Mini Roulette :

12 number roulette: Player can use the touch-screen or buttons to bet on any of the numbers, columns, 1st 6, 2nd 6, odd, even, red, or black.





## Keno :

Select anywhere from 1 to 12 numbers, see the winning list according to the numbers selected, and start drawing balls. It features an automatic number shuffle and a very fast action if the player so chooses.



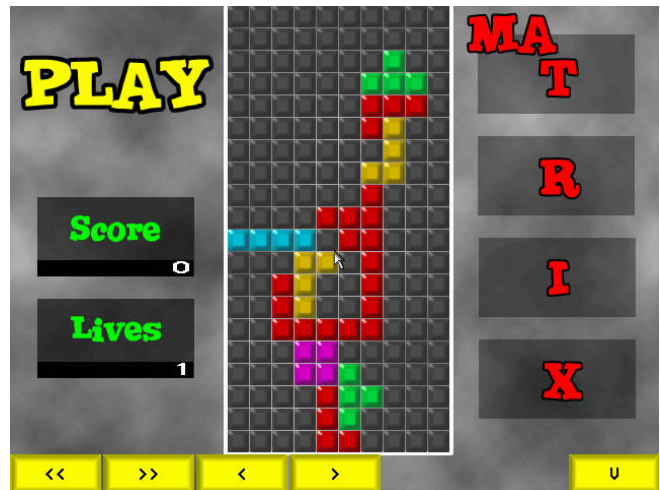
## Poker :

Playtrix recognizes the power of the original games. No joker! just a simple draw poker for those players who prefer the originals.



## Blackjack :

Playtrix recognizes the power of the original games. Player can play up to 3 hands at a time of this original blackjack game. No bonuses, no flashing lights, just a game of pure blackjack.



## PLAY MATRIX:

Do you have children under 18? This game can act as a front. It is playable and can be set to come up on power-up, when credits are zero, or every time a player exits a game. If you have this feature, you can exit it by pressing the following buttons (one after the other): 12121341234. 1 being the left button, 2 being the next one, etc... You can change the combination later in the setup menu.

# Statistics and settings

## **Statistics :**

Treasure Gem Factory contains many pages of setup and statistics. There are pages of statistics for the whole machine which can be accessed when the 'STATISTICS' key is switched while the game is in the menu (where the player selects the games). There are also pages of statistics for each game accessed by switching the 'STATISTICS' key while in a game. Most of these are pretty self explanatory. If you need any additional information, please communicate with us.

## **Setup:**

Same as the statistics, there are pages of setup for the whole machine which can be accessed when the 'SETUP' key is switched while the game is in the menu (where the player selects the games). There are also setup pages for each game accessed by switching the 'SETUP' key while in a game. Some of these are pretty self explanatory while the others are pretty complex and we recommend that you do not change these. We prefer that you tell us what you need to do and we tell you how to set them. If you need any additional information, please communicate with us.



## The 3 most important key switches in the game

### Owner's key

This is the 'SETUP' switch.

Use this key to access the setup of the machine and to clear the statistics.

Its use depends on where you are in the game. If you are in the main menu (where the player chooses the games) and you switch this key, you enter in the general setup (for the whole machine). If you are inside a game and switch this key, you enter the setup menu of that game.

If you are in the "statistics" page and switch this key, you can clear the temporary statistics; switch it again to clear the permanent.

Switching this key while the game is starting allows you to reset the whole game, and restart with the factory settings.

### Operator's key

This is the "STATISTICS" switch.

Use this key to add or remove credits, and to see the statistics.

Its use depends on where you are in the game. If you are in the main menu (where the player chooses the games) and you switch this key, buttons on the screen change and allow you to add credits, clear credits, and view the general statistics. If you are inside a game and you switch this key, you get the statistics of that game.

Switching this key while inside the statistics or while the game is starting allows you to calibrate the touch-screen, if connected.

### Attendant key

This is the knock-off switch.

Use this key to clear the credits (if knock-off is enabled in the setup).

Use this key to exit from "call attendant" errors.

In some program version, this key can also be used to refill the hoppers.

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