ATARI®

G A M E S

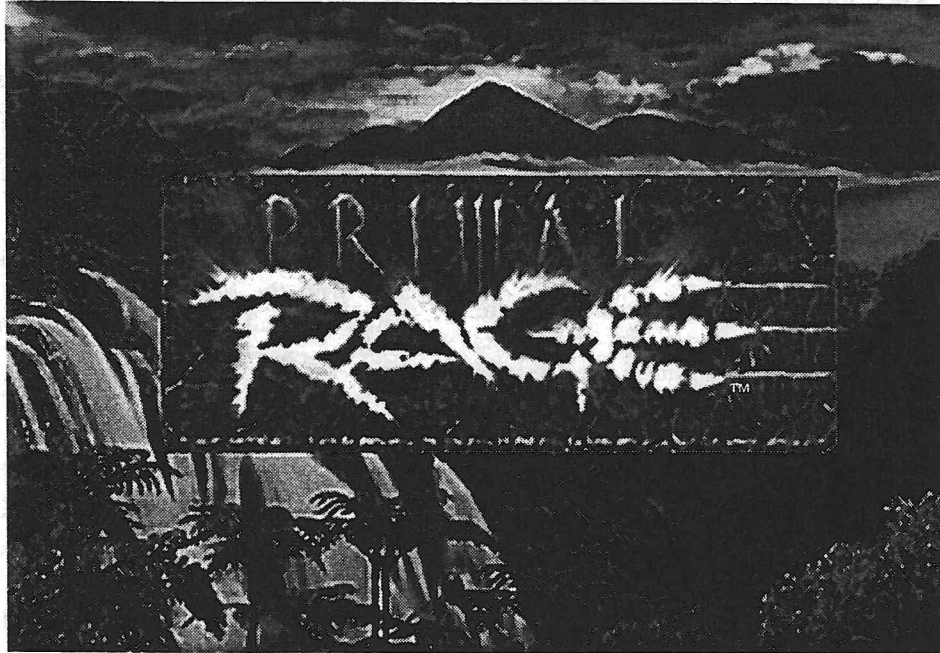## TIME WARNER INTERACTIVE

Audio Configurations for Installing the Primal Rage™ Kit

Supplement to the Primal Rage Universal Kit Installation Instructions (TM-397)

THE PRIMAL RAGE™ universal kit was designed to be installed in several audio configurations. If you plan to install a Primal Rage game kit into a cabinet with monaural sound, you should especially refer to the details on page 2 of this supplement. You can improve the sound in any cabinet if you follow these instructions. Adding the recommended subwoofer speaker and harness will produce dramatically improved sound with Primal Rage and any other game that uses the CAGE™ audio system. ❖ In addition, this supplement includes a corrected Figure 4-2, the Board Stack Assembly.

If you need technical assistance,
call your distributor or
Atari Games Customer Service at:

(408) 434-3950
Atari Games Corporation,
737 Sycamore Drive, Milpitas, CA 95035
(Monday–Friday, 7:30 a.m.– 4:00 p.m.
Pacific time)

Options for Connecting Audio

The CAGE™ audio board included with the Primal Rage™ kit is designed to drive a stereo speaker system with a subwoofer. If this configuration is available, it will offer the best sound possible for this game kit.

The next best configuration uses a pair of full-range stereo speakers. Primal Rage audio is stereo. In order to get full-range audio out of two speakers, you *must* connect the speakers correctly. If you simply ignore the subwoofer from Configuration 1, the system will be deficient in bass.

The least desirable configuration is monaural. There are two ways to wire the system for mono. The first is to sum the left and right high-pass signals. This results in very little bass. The second method sums one of the channels with the bass channel. While this provides a reasonable amount of bass, it results in the loss of one channel.

The JAMMA Harness

The CAGE audio board has its own speaker connection. This is labeled JSPK on the circuit board. For connection to the JAMMA harness, Atari Games provides a harness (part number A053925-01) which implements configurations 2 and 3 below. See Figure 4-2 on the next page for how this harness is installed. The AMOA specification for the JAMMA connector calls for stereo connections. The original JAMMA specification calls for mono. If you want to use an alternate configuration, it may be easier to bypass the JAMMA connector and connect directly to the CAGE board.

Pinouts of JSPK on the CAGE board:

1	Line output left +
2	Line output left − (ground)
3	Line output right +
4	Line output right − (ground)
5	Key
6	High speaker left + (powered)
7	High speaker left − (ground)
8	High speaker right + (ground)
9	High speaker right − (powered)
10	Subwoofer + (powered)
11	Subwoofer − (powered)

Configuration 1: Subwoofer

Pins 6 and 7 of JSPK connect to an 8-ohm full-range speaker + and −.

Pins 8 and 9 of JSPK connect to an 8-ohm full-range speaker + and −. (Note that while + is powered on the left, − is powered on the right.)

Pins 10 and 11 connect to a 4-ohm subwoofer.

Left and right drive about 5 watts each.

The subwoofer drives about 10 watts.

Configuration 2: Stereo

You will be summing the subwoofer output of the amp with the high-pass outputs at the speakers. The better the full-range speaker is with bass, the better your system will sound.

Connect Pin 6 of JSPK to + on a 4- or 8-ohm full-range speaker.

Connect pin 11 of JSPK to − on this speaker. This is LEFT.

Connect pin 10 of JSPK to + on a 4- or 8-ohm full-range speaker.

Connect pin 9 of JSPK to − on this speaker. This is RIGHT.

Configuration 3: Mono, No Bass

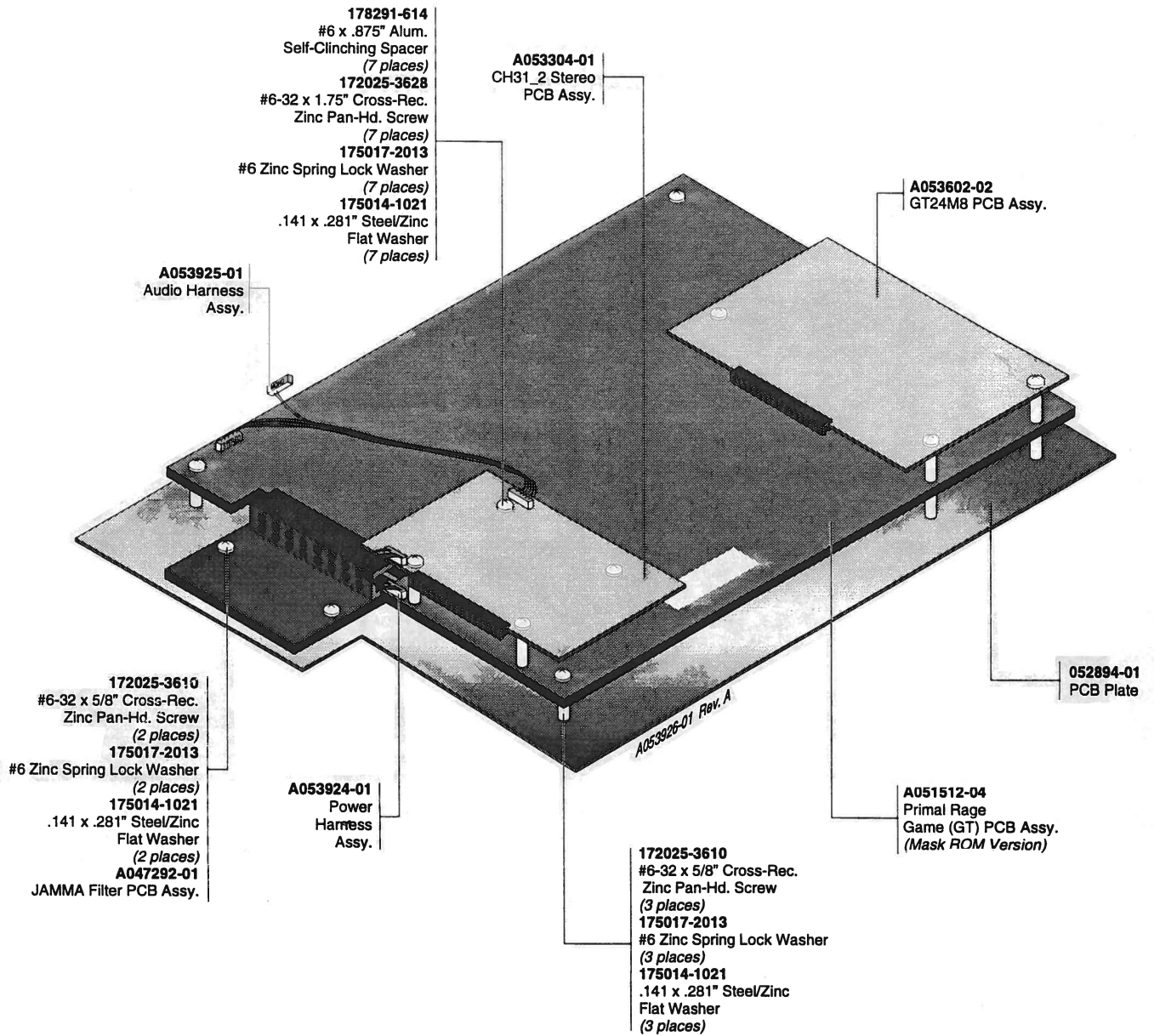Connect pin 6 of JSPK to + and pin 9 to − on a full-range 4- or 8-ohm speaker. The signal is filtered through a 150-Hz high-pass filter, and as a result has very little bass content.

Configuration 4: Mono, One Channel

Connect pin 6 of JSPK to + and pin 11 to − on a full-range 4- or 8-ohm speaker. The right channel will not be heard, but bass response will be better.

Total Immersion Audio

178291-614
#6 x .875" Alum.
Self-Clinching Spacer
(7 places)
172025-3628
#6-32 x 1.75" Cross-Rec.
Zinc Pan-Hd. Screw
(7 places)
175017-2013
#6 Zinc Spring Lock Washer
(7 places)
175014-1021
.141 x .281" Steel/Zinc
Flat Washer
(7 places)

A053304-01
CH31_2 Stereo
PCB Assy.

A053602-02
GT24M8 PCB Assy.

A053925-01
Audio Harness
Assy.

172025-3610
#6-32 x 5/8" Cross-Rec.
Zinc Pan-Hd. Screw
(2 places)
175017-2013
#6 Zinc Spring Lock Washer
(2 places)
175014-1021
.141 x .281" Steel/Zinc
Flat Washer
(2 places)
A047292-01
JAMMA Filter PCB Assy.

A053924-01
Power
Harness
Assy.

172025-3610
#6-32 x 5/8" Cross-Rec.
Zinc Pan-Hd. Screw
(3 places)
175017-2013
#6 Zinc Spring Lock Washer
(3 places)
175014-1021
.141 x .281" Steel/Zinc
Flat Washer
(3 places)

A051512-04
Primal Rage
Game (GT) PCB Assy.
(Mask ROM Version)

052894-01
PCB Plate

A053926-01 Rev. A

Figure 4-2 Board Stack Assembly (corrected)

A053926-01 Rev. A

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