The following adapter was developed by Mr.M.Sawada
http://www.tsp.ne.jp/~sawada/mago/index.html

GKA-AT68 assembly instructions by scratcher Honpo (PCB) Ver1.1
Translated by Eidis/GameSX

1. What you will need

Needle-nose pliers, tweezers, micro nippers, soldering iron, solder, desoldering wire, wire stripper, cable tie, hot glue gun.

Bill of materials

Item	Quantity	Reference	Part
1	One	CN1	Mini-DIN 8P cable (male connector on one side, cut on other side)
2	One	CN2	Mini-DIN 6P female connector
3	One	C1	Multilayer ceramic capacitor 0.1uF (25V ~)
4	Two	C2, C3	Ceramic capacitor 30 pF (25V ~)
5	One	D1	LED
6	Two	Q1, Q2	2SC1815 transistor
7	Six	R1, R2, R3, R4, R5, R6	100Ω 1/4W resistor
8	Three	R7, R8, R9	4.7kΩ 1/4W resistor
9	One	R10	330 ~ 560Ω 1/4W resistor
10	Two	R11, R12	4.7k ~ 10kΩ 1/4W resistor
11	One	U1	PIC16F84 or PIC16F84A (faster than 10MHz)
12	One	Y1	9.8304MHz crystal oscillator
13	One	-	DIP18 IC socket (round pins recommended for PIC)

2. Assembling the circuit board

Assemble the adapter and wiring on a component PC board using schematics which can be found at the end of this document. Please solder firmly and pay attention to orientation of transistors and IC socket.

3. Connecting the cable

Strip the Mini-DIN 8P cable coating on one side. Tin the stripped wire lightly with solder. Each one of the eight pins should be color coded and then tested with multimeter for continuity. Make a note of examined pins for correspondence. While looking at the notes, make sure that they correspond with CN1 connectors pinouts. Do not connect the unused signal lines.

4. Check

When the board is assembled, please use multimeter to check pin 14 (VCC) of PIC for short circuit and make sure that you have connected GND to pin 5.
Check for solder bridges if short circuit has been found and please note that the Mini-DIN connector has narrow distance between pins. Take extra care to check the connection of CN2 pin 3 and 4 because they supply power. Please make sure that nothing is attached to the circuit board while testing. After the test, insert the PIC.

While inserting PIC and make sure that it is not inserted backwards. Please turn off the X68k when connecting the adapter. The adapter will not work if no power is received. In that case disconnect it immediately and check for faults. Once you have successfully started Human68k OS type ED.X in command line and see if you can type with the keyboard properly in the editor and check if the TV-Control is working. If it did not work, check for wiring mistakes, solder bridges and backwards inserted parts.

5. Finish

After confirming that everything is working properly, power down the X68000 and remove the adapter. Secure the cable to board with a cable tie. Since the fixed point is a little weak, those who are concerned about it can use hot glue gun to make the bond stronger. You can also put the adapter in a case. If you have successfully built the adapter, please send a thank you letter to GAF10051@nifty.ne.jp