

Parts list for converting a Namco Time Crisis II type arcade recoil gun to an Ultimarc AimTrak light gun

---

### Ultimarc Parts

---

AimTrak	<a href="http://www.ultimarc.com/aimtrak_module.html">http://www.ultimarc.com/aimtrak_module.html</a>
AimTrak Firmware Update	Provides recoil drive output function (v8.12)

---

### Namco Parts

---

Gun plastics (pink):

Namco Left Gun Half, Pink	Happ #PB09-0343-0
Namco Right Gun Half, Pink	Happ #PB09-0343-1
Namco Left Gun Slide Half, Pink	Happ #PB09-0342-6
Namco Right Gun Slide Half, Pink	Happ #PB09-0342-7
Trigger Pink Namco Time Crisis II and III gun	Happ #PB90-04836-00

Gun plastics (blue):

Namco Left Gun Half, Blue	Happ #PB09-0343-2
Namco Right Gun Half, Blue	Happ #PB09-0343-3
Namco Left Gun Slide Half, Blue	Happ #PB09-0342-8
Namco Right Gun Slide Half, Blue	Happ #PB09-0342-9
Trigger Blue Namco Time Crisis II and III gun	Happ #VG90-04931-00

Gun Trigger Spring:

Could not find a Happ part number.	McMaster# 9657K299
------------------------------------	--------------------

Gun Trigger switch:

Small Micro-switch w/Roller Arm use #180-5119-02 Common use by DE pinball as ball gate SW

Gun Solenoid w/connector and integrated diode:

Go for eBay as Happ #96-0452-00 <--- WAY WAY WAY TOO EXPENSIVE

Gun Hose mount bracket:

eBay - Buy an old busted up gun with hose attached or just the hose, unfortunately this part is not

available as a stand-alone part, Happ only sells complete hose assembly (#96-0546-00), which is way over priced and not needed for this

#### Gun Hardware:

Happ #PB21-04904-00 if you need the nuts and bolts to hold the gun together.

All other gun components (sensor pcb, harness, lens etc...) are not needed as it is Namco optical gun technology specific.

---

#### Connectors

---

AimTrak P2 connector (not really needed as it is supplied with OAM module by Ultimarc)

Crimp socket connector w/300mm cable (Multicomp) 10PK Newark #19P0514, MultiComp #HCA-A0118-004B-LF

Wire-board receptacle 5Pos 1.25mm (Multicomp) Newark #02N0747, MultiComp #MC34559

USB header to be added to AimTrak PCB

5pos male header, through hole 2.0 mm (Hirose) Mouser #798-DF3A-5P-2DSA

5pos female plug housing 2.0 mm (Hirose) Mouser #798-DF3-5S-2C

24VDC Power Connector:

2pos male recept. housing 2.0 mm (Hirose) Mouser #798-DF3-2EP-2C

2pos female plug housing 2.0 mm (Hirose) Mouser #798-DF3-2S-2C

TIP-102 Connector:

3pos male recept. housing 2.0 mm (Hirose) Mouser #798-DF3-3EP-2C

3pos female plug housing 2.0 mm (Hirose) Mouser #798-DF3-3S-2C

Camera Connector to be added to AimTrak PCB: (not necessary, you can just solder the ribbon cable directly to the PCB. This step requires modification to the PCB)

8pos PCB receptacle, through hole 2.0 mm (Hirose) Mouser #798-DF11-8DS-2DSA05

8pos male plug housing 2.0 mm (Hirose) Mouser #798-DF11-8DEP-2C

30 female crimp contacts (Hirose) Mouser #798-DF3-22SC

30 male crimp contacts (Hirose) Mouser #798-DF3-EP2428C

Solenoid connector:

2 Pos Male Mini-Universal Mate-N-Lok connector (Amp/TE)	Mouser #571-1723361
2 Female Socket crimp connectors (Amp/TE)	Mouser #571-770986-1

Quick Disconnect (for trigger switch, qty 2): .110x.020	Mouser #538-19002-0013
--	------------------------

---

### Discrete Components

---

TIP-102 NPN Darlington transistor	Mouser #511-TIP102
Resistor 1kOhm 1/4W	Mouser #291-1K-RC

---

### Mechanical

---

Gun Hose: (whatever works for you... original may not work well because its designed for Time Crisis type cabinet and has limited volume for USB cable, this Heyco stuff is really great and is a perfect fit!)

Heyco-Flex II Liquid Tight Tubing 1/4" Trade Size, (Heyco #8449)

eBay if possible this comes in 100' reels minimum and you may only need 5-6 feet at most, I may still have some left \$1.00/foot shipped

Heyco-Flex Liquid Tight 1/4" conduit fitting 8398, (Heyco #8398)

Mouser #836-8398

Nylon flanged sleeve washer 1/2" (perfect for the Heyco fitting)

McMaster #90097A250 (I may have some of these too!, \$1.00 ea shipped)

---

### Miscellaneous

---

Ribbon cable, 10" 6 cond	Mouser #517-3302/10FT (14 conductor... split apart for 6)
--------------------------	---

22 AWG wire (black,violet,orange,green.. or whatever color you like)

4" Misc heat shrink tubing (1", 1/8", 1/4")

6' USB cable (you can use the one that came with AimTrak or make your own)

24VDC 4A power supply for 2 guns... each gun will need about 2A... this is consistent with the Namco design. (Go to eBay for this one... around \$25-40)