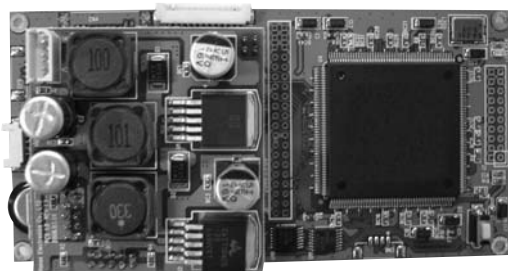# COLOR VIDEO MEMORY
## HMU-840N/P User's Manual

**Hanse** This specifications will be able to be changed for products quality and performance improvement without notice in advance.
Do not disassemble this product for unusual applications.

## SAFETY RULES

Please read the "Safety Rules" carefully before using this product. Following of the safety rules prevents users from any damage related with the misuse of this product.

It is very important that users follow these sefety rules. We state "Caution" and "Warning" to clarify any potential damage associated with misuse of the product.

⚠️ **WARNING**     **May cause bodily harm or even death if users ignore warnings in the safety rules.**

⚠️ **CAUTION**     **May cause bodily harm or even death if users ignore cautions in the safety rules.**

🚫 **"Do not"**        ❗ **"Follow directions carefully"**

# ⚠ WARNING

**Do not get product wet and operate with wet hands.**
(---This may cause electric shock.)

**Do not use in bathtub, Do not pull the plug with wet hands.**
(---This may cause electric shock.)

**Do not use unapproved power voltage.**
(---This may cause fire or electric shock.)

**Do not damage or bend electric cord. Do not place heavy objects on electric cord.**
(---This may cause fire from electric sparks.)

**Do not use damaged electric cord.**
(---This may cause fire and/or electric shock.)

**Do not put pins or needles into the product or electric cord of product.**
(---If it happens, stop the product operation immediately. Continuous use may cause fire. Electric shock and/or malfunction.)

**Do not place any containers with water or any small metal objects on top of the product or nearby it.**
(---Unpulg the product when water or metal comes in contact with the product.Continuous use may cause fire, electric shock and/or malfunction.)

**Stop using the product immediately when you drop it or damage the outside shell.**
(---Continuous use may cause fire, electric shock and/or malfunction.)

**Do not attempt to open, disassemble or repair the product by any person except and authorized service dealer.**
(---This may cause electric shock and/or malfunction. You should request an autohorized service dealer or any inspector and repair of the product.)

# ⚠ CAUTION

**Do not put the product in a place where sudden temperature increase .**

**Do not place the product where high temperature and/or the direct ray of the sun occurs.**
(---This may cause fire, electric shock and/or malfunction.)

**Do not put the product in an unstable place where the product may be exposed to shock and/or impact.**
(---The product may fall and be damaged.)

**Do not place electric cord near a heating product.**
(---The cord surface may melt and cause fire and/or electric shock.)

**Clean electric shock area often.**
(---Dust  in the area may cause fire.)

**Keep electric cord properly positioned.**
(---An improperly positioned electric cord may cause fire or electric shock when metal material is in contact with the power source.)

**Unplug the product and remove cords when moving.**
(---It may damage cords and cause fire and/or electric shock.)

**Do not pull the cord line when you unplug it.**
(---Damaged cords may cause fire and/or electric shock.)

**Unplug the product when you don᾿ t use it for a long period of time.**
(---Insulation may cause electric shock, electric leak and/or fire.)

**Unplug the product when you clean or care for it.**
(---Not unplugging product may cause electric shock.)

**When you transport the product, remove all cords and do not give any shock.**
(---This may cause a malfuction.)

**Do not place volatile materials such as insecticides on the product.**

**The product should not come in contact with rubber or vinyl for a long period of time.**
(---The surface of the product may change and paint may peel off.

**If you find any strange occurrences or malfunction in the product or any foreign substance gets into the product, please contact the authorized retailer where you purchased the product.**
· Do not use the product in the follwing locations.
  This may cause malfunction.
  -In direct rays of the sun and near heating products.
  -High in humidity and with bad ventilation
  -Dusty or oily locations
  -Low temperatures
  -Unstable environment

## Contents

## 1. Product Operating

### (1) Key

| KEY | Description |
|---|---|
| SETUP | - Menu POP up on screen |
| | - Exit from Menu or Sub-Menu |
| Capture | - Save some Images manually |
| Search | - Display the List of Images captured in Flash Memory |
| FREEZE | - Freeze function with On/Off |
| ZOOM | - Zoom function with On/Off |
| Backup | - Save some Images into USB Memory Stick(Option) |
| Enter | - In Setup Mode, Move into the sub-menu |
| Up | - Move to Tab position or Zoom area to upper side |
| Down | - Move to Tab position or Zoom area to lower side |
| Left | - In Setup Mode, Changing the value (Decrease direction) |
| | - Move Zoom area to left side |
| Right | - In Setup Mode, Changing the value (Increase direction) |
| | - Move Zoom area to right side |

### (2) LED

- **POWER :** Indicate the status of Power
- **Memory :** The LED blink, whenever saving some Image by detecting Motion or Manually.

### (3) SETUP



- When you press the SETUP Key, you can see Setup Mode Menu.
- Choose the tab position by pressing UP/DOWN Key.

#### 1) System Setup



. **Video Format :** NTSC / PAL

| Input Signal | KEY |
|---|---|
| NTSC | Select by pressing Left / Right Key |
| PAL | |

· **Overwrite :** On / Off

| Overwrite | Description | KEY |
|---|---|---|
| Off | MCU stop capturing images when the memory is fulled | Select by pressing Left / Right Key |
| On | MCU overwrite images from the first position when the memory is fulled | |

· **Flash Format :** Format / Resolution / Image Quality

```
CONFIRM
Flash Format  : No
Resolution    : 720
Image Quality : 128 kbyte




SETUP ↑ ↓ ← →
```

| Tab position | | KEY |
|---|---|---|
| Flash Format | Yes / No | Selecting the value by pressing Left/Right Key |
| Resolution | 360 / 720 | Moving the Tab position by pressing Up/Down Key |
| Image Quality | 16 / 32 / 64 / 128 (Kbytes) | Moving into the upper Menu by pressing Setup Key |

## 2) Capture Setup

| Tab Position | | | KEY | |
|---|---|---|---|---|
| Capture Speed | NTSC | 1/2/3/5/10/15/30 (fps) | Left/ | Selecting the value |
| | PAL | 1/2/3/5/10/12/25 (fps) | Right | |
| Capture Count | 1 ~ 30 (unit) | | UP/ | Moving the |
| Capture Type | Off | Disable | DOWN | Tab position |
| | Motion | Saving some Images automatically, when the Motion is occurred | SETUP | Moving into the upper Menu |
| | Manual | When you press the Capture Key, saving images | | |

```
Capture setup

Capture Speed : 30fps
Capture Count : 001
Capture Type  : Off



SETUP ↑ ↓ ← →
```

### 3) Time/Date Setup

Tab Position

| Type | YY - MM - DD | ASIA | Left / Right | Change the value |
|---|---|---|---|---|
| | MM - DD - YY | USA | | |
| | DD - MM - YY | EUROPE | | |
| Date | Year / Month / Day | | Left / Right | Change the value |
| Time | Hour / Minute / Second | | Up / Down | Move the Tab position |
| Display | On | Appear | SETUP | Move the upper Menu |
| | Off | Disappear | | |

```
Time/Date setup

Type  : YY - MM - DD
Date  : 2005/08/08
Time  : 09:56:33
Display :   On


SETUP ↑ ↓ ← →
```

### 4) Event Setup

| Tab position | | KEY | |
|---|---|---|---|
| Motion Enable | On / Off | Left / Right | Change the value |
| Sensitivity | Very Low / Low / Normal / High / Very High | Up / Down | Move the Tab position |
| Motion Area | | SETUP | Move the upper Menu |
| | | ENTER | Move to setting up Area in motion area |

```
Event setup

Motion Enable : On
Sensitivity : Very High
Motion Area




ENTER SET ↑ ↓ ← → EXIT
```

---

| color of Motion Icon(each area) | | KEY | |
|---|---|---|---|
| White | Off | Left / Right | Move toward left/right |
| | | Up / Down | Move toward up/down |
| Blue | On | ENTER | On / Off |
| | | SETUP | Move into the upper Menu |
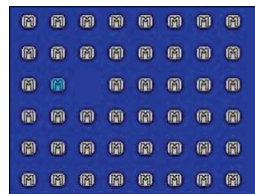
### 5) Backup Setup

· When Memory Stick is inserted,    · When Memory Stick is not inserted,

```
Backup setup




USB TOTAL SIZE: 241 MByte
USEFUL SIZE   : 217 MByte
SAVE FIELD    : 04  Field


SETUP ← →
```

```
Backup setup




USB TOTAL SIZE: NO DETECT
USEFUL SIZE   : NO DETECT
SAVE FIELD    : 04  Field


SETUP ← →
```

| Tab position | | KEY | |
|---|---|---|---|
| Save Field | 1~60(Field) | Left / Right | Change the value |
| | | SETUP | Move into the upper Menu |

## 2. Memory Capacity (Flash Memory)

· **Basic Capacity :** 128M Bits
· **Memory Expansion :** Up to 2G Bits ( Option )

| Size per Image Capacity | 16KBytes | 32KBytes | 64KBytes | 128KBytes |
|---|---|---|---|---|
| 128MBits | 864 Image | 432 Image | 216 Image | 108 Image |
| 256MBits | 1888 Images | 944 Image | 472 Image | 236 Image |
| 512MBits | 3936 Image | 1968 Image | 984 Image | 492 Image |
| 1GBits | Not Support | Not Support | Not Support | 1004 Image |
| 2GBits | Not Support | Not Support | Not Support | 2028 Image |

## 3. How to Capture

**Method 1)** Set capture type as Manual
In System Setup, setup Resolution and Image Quality
Set up Capture Speed, Capture Count and Capture Type as Manual
Exit Setup mode
Press the Capture KEY

**Method 2)** Set capture type as Motion sensing
In System Setup, set up Resolution and Image Quality
Set up Capture Speed, Capture Count and Capture Type as Motion
Set up Motion Enable as On type
Select Sensitivity
Select the area to be detected
Exit Setup mode by Setup Key

**Notice)** In Motion capture mode, you have to set up Capture Type, Motion Enable and Motion Area
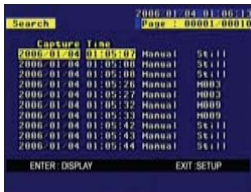
## 4. How to Replay

· **Press the Search KEY.**
Move into a list you want to replay by pressing the Up/Down KEY.
You can see a captured image pressing the ENTER KEY.
You can see the forward or backward Page with the Left/Right KEY.
(the order list of 10 captured image on one page)

· **Exit Menu with Set up Key.**



**Manual :** Image captured manually
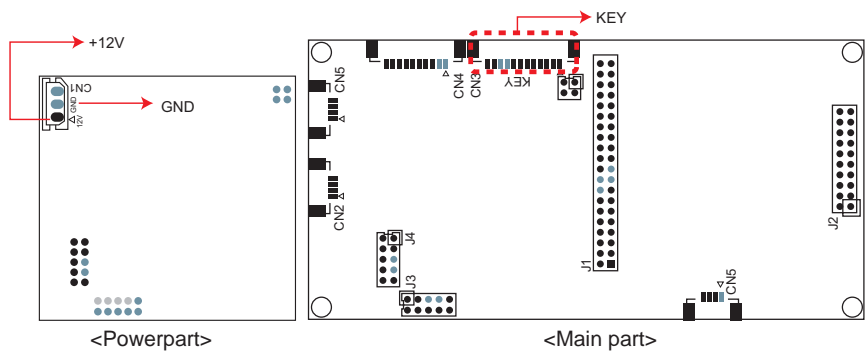**MXXX :** Images that have the number of xxx
**Still :** Image contains just one image
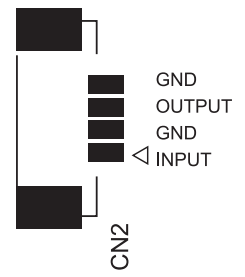**Motion :** Image captured when Motion is occurred

## 5. Specification

| Internal Storage Device | Built-In Flash Memory : 128 MB( Up to 2 GB ) |
|---|---|
| Extensive Storage Device & Data Backup | USB Memory Stick ( Option ) |
| Image Quality | 16 / 32 / 64 / 128 kbyte |
| Image In/Out | Single Channel Input/Output |
| Resolution | 720 x 240 / 360 x 240 |
| Recording Speed | Max 30 field ( NTSC 720 x 240 ) |
| | Max 25 field ( PAL 720 x 288 ) |
| Recording | Motion / Manual |
| Motion Detection | Digital Image Processing |
| Monitoring | 60-fps @720x240 / 50-fps @720x576 |
| Zoom | Digital 2x Zoom, Zoom Area movable |
| Freeze | Freeze |
| Date Type | ASIA / US / EUROPE |
| Operating Voltage | DC 12V |
| Power consumption | DC 12V / 420mA |
| Operating Temperature | 0 ℃ ~ 50 ℃ |
| | Humidity : under 80% |
| Dimension( W x H x D ) | 105 mm x 52 mm x 20.1mm |

## 6. How to connect product



+12V

GND

CN1

KEY

CN5

CN4 CN3 KEY

J1

J2

CN2

J4

J3

CN5

&lt;Powerpart&gt;

&lt;Main part&gt;

**1) Camera Signal
(Video Signal)**

GND
OUTPUT
GND
INPUT

CN2

**2) Usb Connector
(Option)**
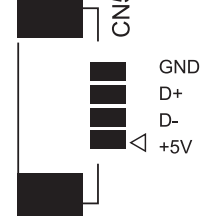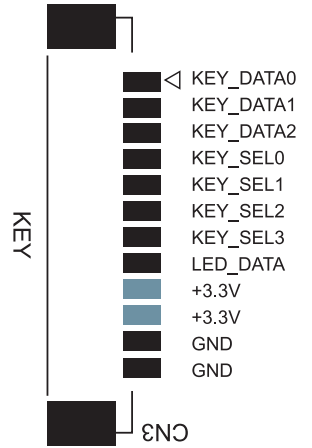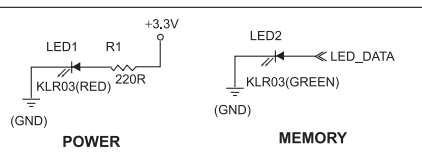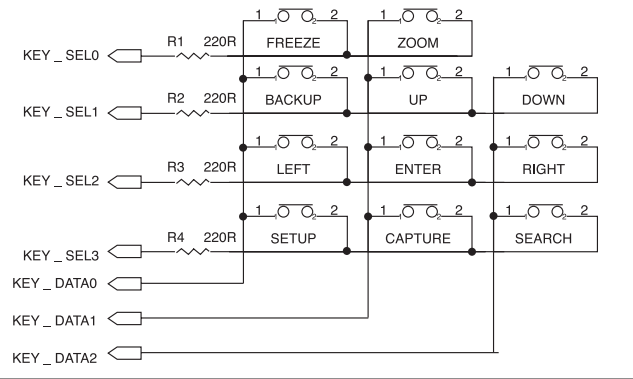
CN5

GND
D+
D-
+5V

**3) Key Connector**

KEY_DATA0
KEY_DATA1
KEY_DATA2
KEY_SEL0
KEY_SEL1
KEY_SEL2
KEY_SEL3
LED_DATA
+3.3V
+3.3V
GND
GND

KEY

CN3

## KEY BOARD



KEY_SEL0 — R1 220R — FREEZE 1 2 | ZOOM 1 2

KEY_SEL1 — R2 220R — BACKUP 1 2 | UP 1 2 | DOWN 1 2

KEY_SEL2 — R3 220R — LEFT 1 2 | ENTER 1 2 | RIGHT 1 2

KEY_SEL3 — R4 220R — SETUP 1 2 | CAPTURE 1 2 | SEARCH 1 2

KEY_DATA0

KEY_DATA1

KEY_DATA2

LED1  R1  +3.3V
KLR03(RED)  220R
(GND)
**POWER**

LED2  LED_DATA
KLR03(GREEN)
(GND)
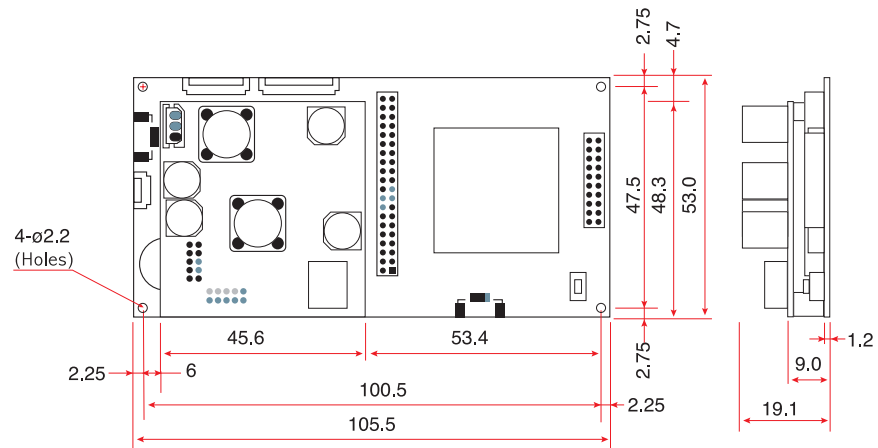**MEMORY**

- POWER:Indicate the status of Power
- MEMORY:The LED blink, whenever saving
  some Image by detecting Motion or Manually

## 7. Dimensions



4-ø2.2 (Holes)

2.75  4.7  47.5  48.3  53.0  2.75

45.6  53.4  1.2  9.0

2.25  6  100.5  2.25  19.1

105.5

## Warranty

| PRODUCT | COLOR VIDEO MEMORY | | MODEL | HMU-840N/P |
|---|---|---|---|---|
| DATE OF PURCHASE | YEAR | MONTH | | DATE |
| TERMS OF WARRANT | | | | |
| SALES AGENT | | | | |
| ADDRESS OF SALES | | | | |
| AGENT | | | | |

Be sure to fill in the blank when the unit is sold.

### ■ HOW TO REQUEST FOR AFTER SALE SERVICE

1) It is required reading manual very carefully to avoid unessential calling warrantee center for false defective and minor defects.
   As minor defects by an unauthorized or improper handing of the unit are solved, many of defects can be solved by the users themselves with only a simple application after studying the instructions and cautions in the manual.
2) Request warrantee service.
   Please describe problems in detail on this card when you ask warrantee service.
   After presentation of this warranty card with the details, you can get the service at free of charge or with some expenses according to the contents of the written details.

3) Following cases should be paid for warrantee even within the warranty period.
   a. When defects are caused by the careless handling of the user.
   b. When improper or unauthorized repairs are done or when the inside is modified or  damaged.
   c. Defects caused by natural disaster or power problem.
   d. When the warranty card is not filled in or corrected unconfirmed or lost.
4) Please be careful of keeping this warranty card as it won't be reissued.
5) Please surely present the warranty card in warrantee request.

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