

OPERATION DESCRIPTION

FORTECSTAR MERCURY II

<< General features >>

1. High Speed NEC Chipset Technology(166Mhz,200MIPS)
2. Quick Channel Changing Time
3. Quick Channel Find Function
4. High Speed Blind search (Power Scan, Dish Pro LNB Supported)
5. Multi Picture Functions(4/9/13/16)
6. Automatic Channel Name Display
7. Support 7 Days EPG
8. Blind Search (Power scan)
9. 6,000 Channels of TV and Radio programmable
10. Auto DiSEqC Search
11. Audio Beep for Channel Locking
12. Picture in Graphics
13. Closed Caption Supported
14. Support RS-232 port for S/W Upgrade (115,200bps) & Set-to-set Copy
15. Professional Zoom-in function
16. S/W Loader and Channel Editor (SatcoDX data transferable)
17. Support DiSEqC 1.0,1.1,1.2 and USALS
18. Channel Save and Restore Function
19. Radio Channel Background Display, Equalizer Dancing Display
20. Universal Remote Controller
21. S-Video Output
22. 6 RCAs for Video, Audio L/R, Y, Pb, Pr
23. Optical SPDIF Output
24. AC Power Switch
25. 4 Digit 7 segment LED Display
26. MPEG-2 Digital and Fully DVB Compliant
27. MP Layer I and II ,CD Quality Audio Sound
28. Capable of receiving both SCPC and MCPC channels
29. LNB Power Overload Protection
30. Editing channels (Rename / Add / Delete)
31. Advanced Channel List Sorting Function (Favorite,Lock,Move,Skip, Transponder,Network,Satellite, A to Z)

1. Tuner & Demodulator

Input Connector	1 X F type (IEC 169-24)
Output connector	1 X F type (75ohm)
Frequency Range	950 – 2150MHZ
Input Impedance	75ohm Unbalanced
Input signal Level	-65dBm to -25dBm
Demodulation	QPSK
Input symbol Rate	2 to 45Ms/s
LNB Power	Vertical : + 12.5V ~ + 14V Horizontal : + 17.5V ~ + 18.5V
22Khz Tone	Frequency : 22Khz(+/- 2Khz) Amplitude : 0.7V _{p-p} (+/- 0.2V _{p-p})
FEC Decoder	Convolutional Code Rate 1/2,2/3,3/4,5/6 and 7/8 with Constraint Length K=7
Tuner Operating voltage	+ 3.3V (+/- 0.165V DC) : (B2,B3,B4) + 1.8V(+/- 0.09V DC) : (VDD)

2. RF MODULATOR DESCRIPTION

1. Application

This specification application to RF modulator with an ANT ATT for NTSC M system

2. Rating

2.1 Supply Voltage : MOD + B : 5.0 +/- 0.2V

2.2 Output Channel : 3CH & 4CH

2.3 Current consumption : MOD : 35mA max / 21mA type

2.4 RF I/O impedance : F jack connector 75 Ohm unbalanced

2.5 Video input signal voltage : Statir step 1V_{p-p} +/-1%,

V/S : 7/3, APL = 50%

2.6 Audio input signal voltage : Sine wave of 1KHz +/- 5%,

-6dBs(1.1V_{p-p} +/-2%)

2.7 Operating temperature range : 0 - 60 deg-C

2.9 External shape : As per product specification drawing

3.Video_carrier_frequency:3CH:61.25MHz

4CH : 67.25MHz

4. Sound_carrier_frequency : 4.5MHz

3. A/V & DATA IN/OUT

S-Video Jack(1 x 4pin DIN)	1.Video Output(Y,C) TERM:75ohm 2.Bandwidth : 5MHZ
RCA JACK Component Outputs	Y, Pb, Pr TERM:75ohm
RCA JACK	Video, Audio(L/R) Output
RS-232C	Transfer Rate 9600-115200bps 9 Pin D-sub Type

4. MPEG TRANSPORT STREAM A/V DECODING

Transport Stream	MPEG-2 ISO/IEC 13818 Transport Stream Specification
Profile Level	MPEG-2 MP@ML
Input Rate	Max,60Mbit/s
Aspect Ratio	4:3 , 16:9 (Letter Box)
Video Resolution	720 X 576(PAL), 720 X 480(NTSC)
Audio Decoding	MPEG Layer I @ II
Audio Mode	Stereo Channel / Dual Channel

	Joint Stereo / Dual Mono
Sampling Rate	44.1 & 48KHz

5. CPU & MEMORY

CPU	UPD61114 (166Mhz, 200MIPS)
Flash Memory	2 Mbytes
System Memory(SDRAM)	16 Mbytes

6. POWER SUPPLY

Input Voltage	AC 100 – 120V(60Hz)
Type	SMPS
Power Consumption	30W Max.

7. PHYSICAL SPECIFICATION

SIZE(W x H x D)	300mm x 60mm x 210mm
Weight	About 2Kg

8. ENVIRONMENT

Operating Temperature	0 ~ + 50 deg-C
Storage Temperature	-20 ~ + 65 deg-C

9. SMPS POWER SPEC

Voltage	Load Current			Range	Ripple & Noise
	Min	Nor	Max		
+ 8V	0.2A	0.6A	0.8A	7.6V- 8.4V	50/100mVp-p
+ 3.3V	0.2A	0.9A	1.2A	3.2V- 3.6V	50/100mVp-p
+ 5V	0.2A	0.4A	1A	4.75V- 5.25V	50/100mVp-p
+ 12V	0.1A	0.2A	0.5A	11.4V- 12.6V	100/200m Vp-p
+ 22V	0.1A	0.4A	0.6A	21.5V- 25V	200/300mV Vp-p

10. SMPS CONNECTOR & OUTPUT PIN ASSIGNMENT

PIN NO.	Voltage	WIRE COLOR	
1	GND	BLACK	
2	+5V	WHITE	
3	+12V	WHITE	
4	+22V	WHITE	
5	+5V	WHITE	
6	+8V	WHITE	
7	+3.3V	WHITE	
8	GND	WHITE	

11. DIGITAL AUDIO OUTPUT (SPDIF)

11-1. Connector type : 1 x Optical

11-2. Output type : SPDIF Encoded signals with AC-3

11-3. Sampling frequency rate : 32,44.1 or 48KHz

12. RCA JACK AUDIO OUTPUT SPEC

12-1. Output impedance : 600 ohm unbalanced

12-2. Level : 0.6V rms+/-2dB into 10K ohm

13. PHYSICAL CHARACTERISTICS

13-1. FRONT PANEL

-. KEYS : 8KEYS

-. Indicators : Power on/off

-. Remote control input : Infra-red receiver

-. Display : 4Digit (7segment)

13-2. REAR PANEL

0. 1 LNB Input / 1 Loop through output (2F-type : IEC169-24)

0. 1 X RS-232 (9 – PIN D-sub male)

0. 6 RCA JACK : VIDEOE,AUDIO(L/R), Y, Pb, Pr

0. 1 X S-VHS (4 – PIN MINI-DIN)

0. 1 X Digital Audio Output

0. 1 X AC Power Switch

0. 1 X AC Power Cord