

General Characteristics

- Modulator : Multi Standard from separated modular concept
(Option : DVB-T, DVB-C, ATSC, OpenCable, DTMB(DMB-TH, ADTB-T), ISDB-T(SBTVD), DVB-H)
- RF Upconverter : 50 ~ 870MHz (VHF/UHF),
- MPEG2 TS Generator : Internal Generation
- MPEG2 TS Generator : External DVB-ASI/SPI Output (Option: FM-20X)
- Analogue I/Q & IF output (Option: FM-205)
- TS Checker module
- TS Decoding Information
- Easy Channel Selection by World-wide Channel Table DB
- A/V Decoding
- * Partial standard or codec cannot be supported in some case.
- Automatic Modulator setting (NIT Base) * DVB System Only
- Automatic Modulator setting (PCR bitrate Base/Dynamic Mode)
- Manual Modulator Setting (Parameter Setting : ISDB-T only)
- Manual Bitrate Setting
- Jitter Injection (TR 101 290 Level Error)
- C/N Noise Generation (AWGN Option: FM-203)
- Fading Simulator (Option: FM-204)
- Real-Time Signal Capture function (Option: CO-XXX * In preparation)
- TS Packet Size : RAW/188/204/188+16 (Option: FM20X)
- Insertion of Null Packets (Static Mode, (Option: FM20X))
- Stream & System Monitoring
- TS File Play List
- Memory Play on RAM Cache memory
- Touch Screen & Easy Operation GUI (Patent Registered)
- MPEG2 TS Analyzer (*In preparation)

PRBS Pattern Test

- Pseudo random signal (PN-9)
- $2^9 - 1$, ITU-T 0.150/0.153: $X^9 + X^5 + 1$
- Pseudo random signal (PN-15)
- $2^{15} - 1$, ITU-T 0.150/0.151: $X^{15} + X^{14} + 1$
- Pseudo random signal (PN-23)
- $2^{23} - 1$, ITU-T 0.150/0.151: $X^{23} + X^{18} + 1$

Modulator Options

DVB-T Module (MM-501)

- Broadcasting system
- Digital Terrestrial TV : DVB-T
- Transmission Parameter
- Modulation : COFDM
- IFFT : 2K, 8K
- Guard Interval : 1/4, 1/8, 1/16, 1/32
- Modulation Modes : QPSK, 16, 64QAM
- Coding Rate : 1/2, 2/3, 3/4, 5/6, 7/8

ATSC Module (MM-502)

- Broadcasting system
- Digital Terrestrial TV : ATSC
- Transmission Parameter
- Modulation : 8VSB

DVB-C(Annex-A/C) Module (MM-503)

- Broadcasting system
- Digital Cable TV : DVB-C
- Transmission Parameter
- Modulation : QAM (Annex - A/C)
- Modulation Modes : 32, 64, 128, 256QAM
- Symbol rate : 5~7.1 MS/S

OpenCable Module (MM-504)

- Broadcasting system
- Digital Cable TV : OpenCable
- Transmission Parameter
- Modulation : QAM (Annex - B)
- Modulation Modes : 64, 256QAM

DTMB Module (DMB-TH, ADTB-T) (MM-506)

- Broadcasting system
- Digital Terrestrial TV : DMB-TH
- Transmission Parameter
- Modulation : TDS-OFDM
- Modulation Modes : 4QAM(QPSK), 16, 64QAM
- Guard Interval : PN420, PN595, PN945
(Frame Header)
- Coding Rate : 0.4, 0.6, 0.8
- Bandwidth : 5, 6, 7, 8
- Time Interleaver : 240, 720
- Broadcasting system
- Digital Terrestrial TV : ADTB-T
- Transmission Parameter
- Modulation Modes : 4QAM NR, 4QAM, 16QAM, 32QAM
- Guard Interval : PN420, PN595, PN945
(Frame Header)
- Bandwidth : 5, 6, 7, 8
- Time Interleaver : 240, 720

ISDB-T Module (SBTVD) (DMM-507)

- Broadcasting system
- Digital Terrestrial TV : ISDB-T
- Transmission Parameter
- Modulation : BTS-OFDM
- Modulation Modes : DQPSK, QPSK, 16QAM, 64QAM
- Guard Interval : 1/4, 1/8, 1/16, 1/32

(Frame Header)

- Coding Rate : 1/2, 2/3, 3/4, 5/6, 7/8
- Time Interleaver : 0, 4, 8, 16
- 1 Seg., Full Seg. Supported

DVB-T/H Module (MM-508)

- Broadcasting system
- Digital Terrestrial TV : DVB-T/H
- Transmission Parameter
- Modulation : COFDM
- IFFT : 2K, 4K, 8K
- Guard Interval : 1/4, 1/8, 1/16, 1/32
- Modulation Modes : QPSK, 16, 64QAM
- Coding Rate : 1/2, 2/3, 3/4, 5/6, 7/8

Function Options

ASI Out Module(FM-201)

- Output bit rate : 0 ~ 214Mbps
- Packet Size : 188/204Byte
- Null Packet Insertion from H/W

GPIO Module (FM-203)

- IEEE 488.2

I/Q Module(FM-204)

- Internal Base-band I/Q
- Output Connector Type : BNC
- Output Impedance : 50Ohm
- Output Voltage : 0.5 V (VP)

AWGN Module(FM-205)

- C/N range : 0 ~ +45dB
- C/N resolution : 0.1 dB Steps
- Noise Band Width : 0 ~ 10MHz

ETC Function Options

HDD 320G(EF-301)

- SATA 5400RPM

Upgrade Service(EF-305)

- S/W & H/W

LAN(EF-307)

- Ethernet 10/100 Local Area Network

RF Specifications

- Output Connector : N Type
- RF Output Frequency : 50~870 MHz (VHF/UHF)
- RF Frequency Resolution : 1Hz
- Frequency Accuracy : 3×10^{-6} / 25 °C
- RF Power Level : -110 ~ 0dBm
- RF Level Resolution : 0.1dB steps
- RF Level Accuracy : ± 0.5 dB relative to the level at 18-33 °C
- RF Impedance : 50 Ω

Operating Specifications

- Power supply : AC 100 to 240V, 50/60Hz
- Power consumption : Less than 300W
- Operating temperature : 10 to 40 °C
- Operating humidity : 40 to 85% RH (No Condensation)
- Guaranteed temperature : 15 to 35 °C
- Guaranteed humidity : 20 to 85% RH (No Condensation)
- Storage temperature : -40 to +70 °C / 20 ~ 85% RH
- Operating environment : Indoor
- Operating attitude : Around 2000m
- Over-voltage category : II
- Pollution degree : 2
- Dimensions : 330.5(W) x 209(H) x 377.5(D) mm
- Weight : Approx.13Kg (Without options)

OS system

- Embedded OS

Storage & User interface system

- 2.5inch SATA 120G HDD(5400RPM)
- 8.4 inch TFT color LCD (800 x 600)
- Touch Screen

External Interface system

- USB Interface : USB HDD, USB Stick
- Remote Control : RS-232C

