

# SOFTTEL



**1U Rack Dual Channels In**



**Portable Single Channel In**



**Multiple Encoding interface optional**

## Product Overview

SFT3542 series products are SOFTEL's all-in-one devices which integrate encoding, multiplexing and modulation to convert V/A signals into digital RF output. It adopts inner drawer-type structural design which greatly facilitates the change of encoding modules (HDMI/CVBS/SDI/YPbPr/...) as needed. To meet customers' various requirements, SFT3542 is also equipped with 1 ASI input for re-mux, and output with 2 ASI ports and 1 IP port.

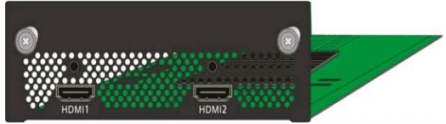
The signals source could be from satellite receivers, closed-circuit television cameras, Blue-ray players, and antenna etc. Its output signals are to be received by TVs, STB and etc with corresponding standard.

With its various inputs available, our SFT3542 series products are wildly used in public places such as metro, market hall, theatre, hotels, resorts, and etc for advertising, monitoring, training and educating in company, schools, campuses, hospital... It's a good choice to offer additional info channels.


## Key Features

- HDMI/CVBS/SDI/YPbPr... inputs, 1\*ASI in for re-mux; 1\*RF in for RF mix
- MPEG2 HD/SD & MPEG4 AVC H.264 HD/SD video encoding
- 1\* channel in (portable case); 2\* channels in (19" rack case)
- MPEG4-AAC; MPEG2-AAC; MPEG1 Layer II and **Dolby Digital AC3 2.0 (Optional)** audio encoding
- **Dolby Digital AC3 passthrough**(for HDMI of HDMI/YPbPr/CVBS 3-in-1)
- **Huge video buffer (for SDI interface), free to switch video sources**
- **Dialog Normalization(Optional)**
- **Support CC (closed caption ) for SDI and CVBS interface (Optional)**
- **Support low delay encoding mode(Optional)**
- Support VBR/CBR rate control mode
- Support PSI/SI editing
- Support PCR accurate adjusting
- Support PID re-mapping and passthrough
- Digital RF out (DVB-C/T/ATSC/ISDB-T RF Optional) and ASI out; IP out
- LCN (Logical Channel Number) support – for DVB-C/T/ISDB-T modulating module
- VCT (Virtual Channel Table) support – for ATSC modulating module
- Modular design, pluggable encoding modules
- LCD display, Remote control and firmware
- Web-based NMS management; Updates via web
- Lowest cost per channel


## Technical Specifications

|   |              |            |   |
|---|--------------|------------|---|
| <b>HDMI Encoding Input</b><br><br> | <b>Video</b> | Input      | Option 1: HDMI*1<br>Option 2: HDMI*2  |
|   |              | Encoding   | MPEG2; MPEG4 AVC/H.264 (for option 1: HDMI*1)<br>MPEG4 AVC/H.264 (for option 2:HDMI*2)  |
|   |              | Bitrate    | 1-19.5Mbps  |
|   |              | Resolution | 1920*1080_60P, 1920*1080_50P,<br>(-for MPEG4 AVC/H.264 only)<br>1920*1080_60i, 1920*1080_50i,<br>1280*720_60p, 1280*720_50P<br>720*480_60i, 720*576_50i |
|   |              |            |   |

|  |              |              |   |  |
|--|--------------|--------------|---|--|
|  |              | Low Delay    | Normal, Mode 1, Mode 2 (for option 1: HDMI*1)   |  |
|  |              | Rate Control | VBR/CBR   |  |
|  |              | Chroma       | 4:2:0   |  |
|  |              | Aspect Ratio | 16:9,4:3  |  |
|  | <b>Audio</b> | Encoding     | MPEG1 Layer II; LC-AAC; HE-AAC and Dolby Digital AC3 2.0 ( Optional) (for option 1: HDMI*1) |  |
|  |              |              | MPEG1 Layer II(for option 2: HDMI*2)  |  |
|  |              | Sample rate  | 48KHz   |  |
|  |              | Bitrate      | 64/96/128/ 192/256/320kbps  |  |

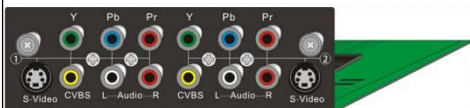
|  |                            |              |   |  |
|--|----------------------------|--------------|---|--|
| <h2>HDMI/YPbPr/CVBS</h2> <h3>3-in-1 Encoding Input</h3>  | <b>Video (HDMI)</b>        | Encoding     | MPEG2; MPEG4 AVC/H.264  |  |
|  |                            | Input        | HDMI*1  |  |
|  |                            | Bitrate      | 1-19.5Mbps  |  |
|  |                            | Resolution   | 1920*1080_60P, 1920*1080_50P, -for MPEG4 AVC/H.264 only) 1920*1080_60i, 1920*1080_50i, 1280*720_60p, 1280*720_50P         |  |
|  |                            | Low Delay    | Normal, Mode 1, Mode 2  |  |
|  |                            | Rate Control | VBR/CBR   |  |
|  |                            | Chroma       | 4:2:0   |  |
|  |                            | Aspect Ratio | 16:9,4:3  |  |
|  | <b>Audio (HDMI)</b>        | Encoding     | MPEG1 Layer II ,MPEG2-AAC, MPEG4-AAC and Dolby Digital AC3 2.0( Optional)   |  |
|  |                            | Input        | HDMI*1  |  |
|  |                            | Sample rate  | 48KHz   |  |
|  |                            | Bitrate      | 64/96/128/ 192/256/320kbps  |  |
|  | <b>Video (YpbPr/ CVBS)</b> | Encoding     | MPEG2; MPEG4 AVC/H.264  |  |
|  |                            | Input        | YpbPr*1 / CVBS *1   |  |
|  |                            | Bitrate      | 1-19.5Mbps  |  |
|  |                            | Resolution   | <b>CVBS:</b> 720x576_50i (PAL); 720x480_60i (NTSC) <b>YpbPr:</b> 1920*1080_60i, 1920*1080_50i; 1280*720_60p, 1280*720_50P |  |
|  |                            | Low Delay    | Normal, Mode 1, Mode 2  |  |
|  |                            | Rate Control | VBR/CBR   |  |
|  |                            | Chroma       | 4:2:0   |  |
|  | <b>Audio (YpbPr/ CVBS)</b> | Encoding     | MPEG1 Layer II; MPEG2-AAC; MPEG4-AAC and Dolby Digital AC3 2.0( Optional)   |  |
|  |                            | Interface    | 1*Stereo/2*mono   |  |
|  |                            | Sample rate  | 48KHz   |  |
|  |                            | Bit rate     | 64/96/128/ 192/256/320kbps  |  |

|                           |              |          |                        |
|---------------------------|--------------|----------|------------------------|
| <b>SDI Encoding Input</b> | <b>Video</b> | Encoding | MPEG2; MPEG4 AVC/H.264 |
|                           |              | Input    | SDI*1                  |
|                           |              | Bitrate  | 1-19.5Mbps             |

|   |              |              |  |
|---|--------------|--------------|--|
|  |              | Resolution   | 1920*1080_60P, 1920*1080_50P, (-for MPEG4 AVC/H.264 only)<br>1920*1080_60i, 1920*1080_50i,<br>1280*720_60p, 1280*720_50P<br>720*480_60i, 720*576_50i |
|   |              | Low Delay    | Normal, Mode 1, Mode 2   |
|   |              | Rate Control | VBR/CBR  |
|   |              | Chroma       | 4:2:0  |
|   |              | Aspect Ratio | 16:9,4:3   |
|   | <b>Audio</b> | Encoding     | MPEG1 Layer II ,MPEG2-AAC, MPEG4-AAC<br>and Dolby Digital AC3 2.0( Optional)   |
|   |              | Sample rate  | 48KHz  |
|   |              | Bitrate      | 64/96/128/ 192/256/320kbps   |

## 2\*(S-Video/YPbPr/CVBS)

### 3-in-1 Encoding Input



#### Video

|              |   |
|--------------|---|
| Encoding     | Option 1: MPEG-2 MP@ML(4:2:0)               |
|              | Option 2: MPEG-2 & MPEG-4 AVC/H.264 (4:2:0) |
| Input        | S-Video/YPbPr/CVBS*2                        |
| Bitrate      | 1-19.5Mbps                                  |
| Resolution   | 720*480_60i, 720*576_50i                    |
| Low Delay    | Normal, Mode 1, Mode 2(For option 1)        |
| Rate Control | VBR/CBR                                     |
| Chroma       | 4:2:0                                       |
| Aspect Ratio | 16:9,4:3                                    |

#### Audio

|             |   |
|-------------|---|
| Encoding    | Option 1: MPEG1 Layer II  |
|             | Option 2: MPEG1 Layer II; LC-AAC; HE-AAC and Dolby Digital AC3 2.0( Optional) |
| Sample rate | 48KHz   |
| Bitrate     | 64/96/128/ 192/256/320kbps  |

## VGA/HDMI

### Encoding Input



#### Video (HDMI)

|              |  |
|--------------|--|
| Encoding     | MPEG2; MPEG4 AVC/H.264   |
| Input        | HDMI*1   |
| Bitrate      | 1-19.5Mbps   |
| Resolution   | 1920*1080_60P, 1920*1080_50P, (-for MPEG4 AVC/H.264 only)<br>1920*1080_60i, 1920*1080_50i,<br>1280*720_60p, 1280*720_50P<br>720*576-50i, 720*480-60i |
| Low Delay    | Normal, Mode 1, Mode 2   |
| Rate Control | VBR/CBR  |
| Chroma       | 4:2:0  |
| Aspect Ratio | 16:9,4:3   |

#### Audio (HDMI)

|             |  |
|-------------|--|
| Encoding    | MPEG1 Layer II; MPEG2-AAC; MPEG4-AAC, and Dolby Digital AC3 2.0( Optional) |
| Sample rate | 48KHz  |
| Bitrate     | 64/96/128/ 192/256/320kbps   |

#### Video (VGA)

|              |                             |
|--------------|-----------------------------|
| Encoding     | MPEG2; MPEG4 AVC/H.264      |
| Input        | VGA(SVGA/XGA/UXGA/SXGA)     |
| Bitrate      | 1-19.5Mbps                  |
| Resolution   | 1920*1080_60P, 1280*720_60p |
| Low Delay    | Normal, Mode 1, Mode 2      |
| Rate Control | VBR/CBR                     |
| Chroma       | 4:2:0                       |
| Aspect Ratio | 16:9,4:3                    |

#### Audio (VGA)

|             |  |
|-------------|--|
| Encoding    | MPEG1 Layer II; MPEG2-AAC; MPEG4-AAC, and Dolby Digital AC3 2.0( Optional) |
| Sample rate | 48KHz  |
| Bit rate    | 64/96/128/ 192/256/320kbps   |

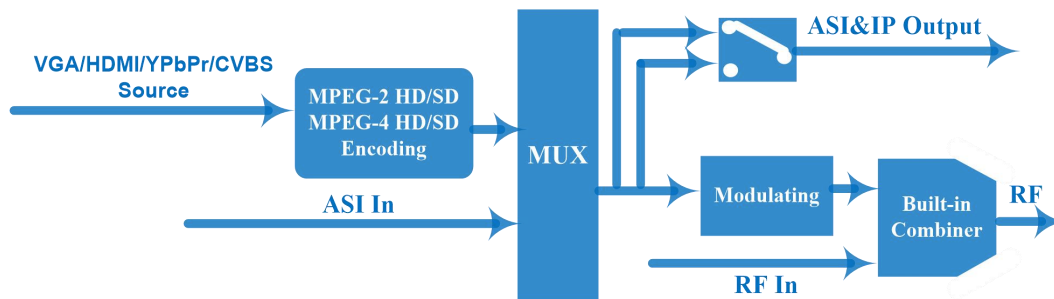
## Modulator Section

|                 |                              |                                      |   |              |              |
|-----------------|------------------------------|--------------------------------------|---|--------------|--------------|
|                 | <b>DVB-T<br/>(Optional)</b>  | Standard                             | DVB-T COFDM   |              |              |
|                 |                              | Bandwidth                            | 6M, 7M, 8M  |              |              |
|                 |                              | Constellation                        | QPSK, 16QAM, 64QAM                                    |              |              |
|                 |                              | Code rate                            | 1/2, 2/3, 3/4, 5/6, 7/8.                              |              |              |
|                 |                              | Guard Interval                       | 1/32, 1/16, 1/8, 1/4                                  |              |              |
|                 |                              | Transmission Mode                    | 2K, 8K  |              |              |
|                 |                              | MER                                  | ≥42dB   |              |              |
|                 |                              | RF frequency                         | 30~960MHz, 1KHz step                                  |              |              |
|                 |                              | RF Out                               | 1*DVB-T;<br>2*DVB-T carriers combined output (Option) |              |              |
|                 |                              | RF output level                      | -30~ -10dbm (77~97 dbμV), 0.1db step                  |              |              |
|                 | <b>DVB-C<br/>(Optional)</b>  | Standard                             | J.83A (DVB-C), J.83B, J.83C                           |              |              |
|                 |                              | MER                                  | ≥43dB   |              |              |
|                 |                              | RF frequency                         | 30~960MHz, 1KHz step                                  |              |              |
|                 |                              | RF output level                      | -30~ -10dbm (77~97 dbμV), 0.1db step                  |              |              |
|                 |                              | Symbol rate                          | 5.000~9.000Mpsps adjustable                           |              |              |
|                 |                              | RF Out                               | 1*DVB-C;<br>4*DVB-C carriers combined output (Option) |              |              |
|                 |                              |                                      | <b>J.83A</b>  | <b>J.83B</b> | <b>J.83C</b> |
|                 |                              | Constellation                        | 16/32/64/128<br>/256QAM                               | 64/ 256 QAM  | 64/ 256 QAM  |
|                 |                              | Bandwidth                            | 8M  | 6M           | 6M           |
|                 |                              | <b>ATSC<br/>(Optional)</b>           | Standard  | ATSC A/53    |              |
|                 | MER                          |                                      | ≥42dB   |              |              |
|                 | RF frequency                 |                                      | 30~960MHz, 1KHz step.                                 |              |              |
|                 | RF Out                       |                                      | 1*ATSC;<br>4*ATSC carriers combined output (Option)   |              |              |
|                 | RF output level              |                                      | -26~-10dbm (81~97dbμV), 0.1db step                    |              |              |
|                 | Constellation                |                                      | 8VSB  |              |              |
|                 | <b>ISDB-T<br/>(Optional)</b> | Standard                             | ARIB STD-B31  |              |              |
|                 |                              | Bandwidth                            | 6M  |              |              |
|                 |                              | Constellation                        | DQPSK,QPSK, 16QAM, 64QAM                              |              |              |
|                 |                              | Guard Interval                       | 1/32, 1/16, 1/8, 1/4                                  |              |              |
|                 |                              | Transmission Mode                    | 2K, 4K, 8K  |              |              |
| MER             |                              | ≥42dB                                |   |              |              |
| RF frequency    |                              | 30~960MHz, 1KHz step                 |   |              |              |
| RF Out          |                              | 1*ISDBT;                             |   |              |              |
| RF output level |                              | -30~ -10dbm (77~97 dbμV), 0.1db step |   |              |              |

|                |               |                   |                       |
|----------------|---------------|-------------------|-----------------------|
| <b>General</b> | <b>System</b> | Local interface   | LCD + control buttons |
|                |               | Remote management | Web NMS               |
|                |               | Stream Out        | 2 ASI out (BNC type)  |

|                               |                       |   |
|-------------------------------|-----------------------|---|
|                               |                       | DVB-C/ATSC: IP (1 MPTS & 4 SPTS) out over UDP, RTP/RTSP (4 RF out)<br>DVB-T: IP (3 MPTS or 4 SPTS) out over UDP, RTP/RTSP (2 RF out)<br>ISDBT: IP (1 MPTS) out over UDP, RTP/RTSP (1 RF out)<br>IP (1 MPTS) out over UDP, RTP/RTSP (only for 1 RF out, RTP/RTSP is just for 1 DVB-C/T RF) |
|                               | NMS interface         | RJ45, 100M  |
|                               | Language              | English   |
| <b>Physical Specification</b> | Power supply          | AC 100V~240V  |
|                               | Dimensions            | 482*300*44mm (19" rack)<br>267*250*44mm (portable)  |
|                               | Weight                | 4.5 kg (19" rack)<br>2.5 kg (portable)  |
|                               | Operation temperature | 0~45°C  |

## Principle Chart



## Typical Applications

