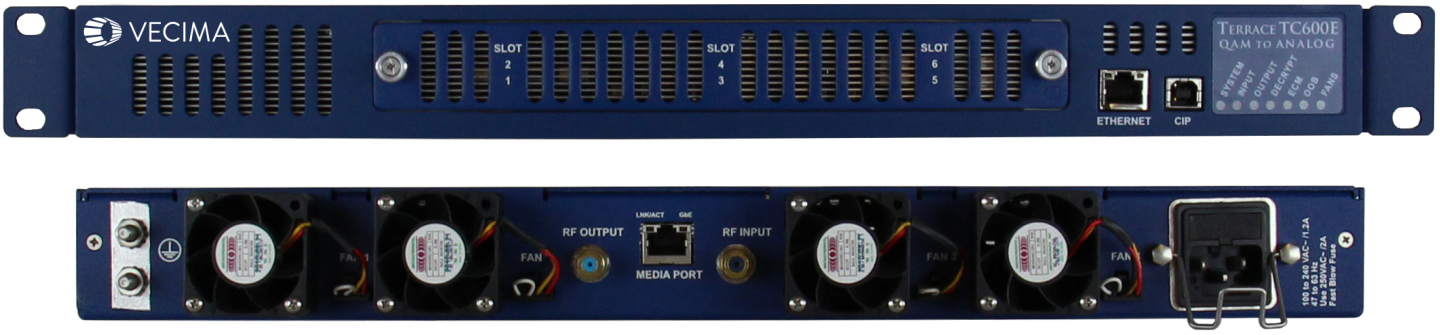
TERRACE TC600E MDU GATEWAY

TERRACE

The **Terrace TC600E** MDU gateway is a multi-channel digital to analog RF converter that produces a 36 NTSC analog channel broadcast lineup. The TC600E supports decoding and HD downscaling of MPEG-4 AVC / H.264 and MPEG-2 content from QAM and/or IP sources. Decryption of QAM content is supported using 6 Multi-Stream CableCARDs™. The Terrace TC600E is a flexible, compact and cost effective way to bring a digital lineup back into the analog realm for a commercial or MDU bulk account.



Features

- Highly integrated - Combines QAM demodulation, IP input, decryption, NTSC modulation and RF upconversion
- Supports MPEG-2 and MPEG-4 AVC / H.264 video decoding
- Demodulate up to 36 QAM channels
- Receive up to 36 IP streams
- Output up to 36 channels from any combination of QAM and/or IP inputs
- Convert up to 36 MPEG-2 HD/SD, 36 MPEG-4 AVC / H.264 SD, or 24 MPEG-4 AVC / H.264 HD programs to analog channels
- Supports up to 6 Multi-Stream CableCARDs to decrypt up to 36 QAM streams
- SCTE-18 Force Tune EAS Support
- SCTE-20,21 Closed Captioning / VBI support
- Supports OOB-SI (VCN or Source ID) and QAM Static Mappings
- Integrated DOCSIS 3.0 cable modem with DSG support
- Supports IPv4 and IPv6 on Ethernet Management Port
- Supports unencrypted Unicast and Multicast IP Input
- Scalable – Generate up to 90 contiguous channels with 3 co-located units
- Compatible with HITS QT+
- Compact 1RU design saves space and power
- Compatible with Terrace View for Global Monitoring

Terrace: TC600E - Specifications

RF Input Port

Connector	F-Connector, female
Input Impedance	75 Ω
Return Loss	15 dB (5 - 42 MHz and 54 - 1002 MHz)
Modulation	64, 256 QAM (Annex B)
Frequency	54 - 1002 MHz (Band Edges)
Channels	36
Number of QAM Tuners	36 discrete
Input Level	-12 to 15 dBmV

Conditional Access System

Type	MediaCipher®, PowerKEY™
Format	CableCARD™

Video

Format	MPEG-2, MP@ML MPEG-2, HP@HL H.264, High Profile, Level 4.0
Bitrate	Up to 17 Mbps

Audio

Audio Formats	MPEG1 layer 2 (MUSICAM) Dolby® Digital (AC3) Advanced Audio Coding (AAC)
Bitrate	Up to 512 kbps
Sample Rates	32 kHz, 44.1 kHz, 48 kHz
Downmix	Multichannel downmix to stereo or mono

RF Output

Connector	F-Connector, female
Impedance	75 Ω
Return Loss	13 dB (54 to 600 MHz)
Video	NTSC
Audio	Licensed BTSC/SAP
Frequency	54 to 600 MHz (EIA channels 2 to 86, 95 to 99)*
Channels	36 channels within a 48 channel (294 MHz) frequency block
Output Level	26 dBmV ± 2.5 dB
Carrier-to-Noise Ratio	> 49 dB/4 MHz
Composite Triple Beat	< -52 dBc
Composite Second Order	< -55 dBc
Cross Modulation	< -52 dBc
Inband Spurious **(-0.75 to +4.2 MHz relative to video carrier)**	< -51 dBc

* FCC and per channel offsets supported

Management Ports

Ethernet	RJ45, 10/100BASE-T Ethernet
Embedded Cable Modem	DOCSIS 3.0, 8 DS x 4 US Channels

Craft Interface Port

Connector	USB Type B, receptacle

Ethernet Media Port

Connector	RJ-45, 10/100/1000 Ethernet
Format	MPEG-2 TS 188 byte TS packets Unicast, Multicast (IGMPv2, IGMPv3 with single source IP address)
Max Line Rate	940 Mbps
Max Program Bitrate	20 Mbps
Encryption	Clear only

Closed Captioning / VBI

Input Format	ANSI/SCTE-20 2004 ANSI/SCTE-21 2001
Output Format	CEA-608-E R-2014

Emergency Alert System (EAS)

EAS Compliance	ANSI/SCTE-18 2007 Force-Tune

Control & Management

Supported Protocols	HTTPS, SSH, DHCP, TFTP, TACACS+, SNMP IPv4/IPv6 (Ethernet Management Port), IPv4 (Ethernet Media Port)

Chassis / Power / Environmental

Dimensions (H x W x D)	4.5 cm x 48.3 cm x 55.9 cm (1.7 in. x 19 in. x 22 in.)
Weight	5.8 kg (12.75 lbs.)
Input Voltage	100 to 240 VAC, 47 to 63 Hz
Power Consumption	< 175 W
Temperature (Operational)	0 to 50°C (32 to 122°F)
Humidity (Operational)	5 to 95% non-condensing
Temperature (Storage)	-40°C to 70°C (-40°F to 158°F)
Humidity (Storage)	5 to 95% non-condensing
ROHS & WEEE Compliant	Yes

Regulatory Standards Compliance

Safety	CAN/CSA-C22.2 No. 60950-1-07, 2nd Ed. ANSI/UL Std No. 60950-1-2011, 2nd Ed.
EMC Emissions	FCC Part 15 Class B (ANSI C63.4: 2009) ICES-003 Issue 5: 2012

TC600E supports flexible channel plans as shown[1]

TC600E Channel Plan	Contiguous Encrypted Lineup (with FM)	Contiguous Encrypted Lineup (no FM)	Number of CableCARDs Required*
Single Unit	**36 Channels**		**6 Total**
TC600E (EIA = 2)	2-32, 95-99	2-37	6
TC600E (EIA = 33)	33-68 ... 42-77	33-68 ... 42-77	6
TC600E (EIA = 39)	42-77 ... 51-86	42-77 ... 51-86	6
Dual Stack	**72 Channels**		**12 Total**
TC600E (EIA = 2)	2-32, 95-99	2-37	6
TC600E (EIA = 33)	33-68	38-73	6
Triple Stack	**90 Channels**	**85 Channels**	**15 Total**
TC600E (EIA = 2)	2-32, 95-99	2-37	6
TC600E (EIA = 33)	33-68	38-73	6
TC600E (EIA = 39)	69-86	74-86	3

* CableCARDs required assumes fully encrypted channel lineup with 6 channels per CableCARD. Unencrypted channels are not counted against the CableCARD decryption limit.

[1] The TC600E supports flexible channel plans via web gui and console port. Select the lowest EIA number (EIA = 2, 33 or 39) of the desired Channel Plan and the TC600E will derive the appropriate channels for that plan.

The TC600E can output up to 36 channels within a 294 MHz (48 channel) frequency block allowing the user to enable 36 non-contiguous channels
For example: 2, 4-7, 9-15, 17-30, 33-41, 45

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Publish Date: 2021 Nov. 27