



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

Connector F-Connector, female Input Impedance 75 S D 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, MP@ML MPEG-2, MP@ML MPEG-2, MP@ML MPEG-2, MP@ML MPEG-2, MP@ML MPEG-3, HP@HL H.264, High Profile, Level 4.0 Bitrate Up to 17 Mbps Audio Audio Formats MPEG I layer 2 (MUSICAM) Dolby® Digital (AC3) Advanced Audio Coding (AAC) Bitrate Up to 512 kbps Sample Rates 32 kHz, 44, 144, 24 kHz Downmix Multichannel downmix to stereo or mono RF Output Connector F-Connector, female Impedance 75 D Return Loss 13 dB (54 to 600 MHz) Video NTSC Audio Licensed BTS-C/SAP Frequency S4 to 600 MHz (Bid Channels 2 to 86, 95 to 99)* Channels 36 channels 2 to 86, 95 to 99)* Channels 26 dBmV a 2.5 dB Composite Triple Beat -5.5 dBc Composite Second Order -5.5 dBc Composite Second Order -5.5 dBc Composite Triple Beat -5.5 dBc Composite Triple B	DE Innut Port		
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Frequency S4 to 600 MHz (EIA channels 2 to 86, 95 to 99)*			
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Embedded Cable Modem 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 DOCSIS 3.0, 8 DS x 4 US Channels NEG-2 TS 188 Type B, receptacle	Output Level Carrier-to-Noise Ratio Composite Triple Beat Composite Second Order Cross Modulation Inband Spurious (-0.75 to +4.2 MHz relative to video carrier)	frequency block 26 dBmV ± 2.5 dB > 49 dB/4 MHz < -52 dBc < -55 dBc < -52 dBc	
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	Output Level Carrier-to-Noise Ratio Composite Triple Beat Composite Second Order Cross Modulation Inband Spurious (-0.75 to +4.2 MHz relative to video carrier) * FCC and per channel offsets supported	frequency block 26 dBmV ± 2.5 dB > 49 dB/4 MHz < -52 dBc < -55 dBc < -52 dBc	
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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	Output Level Carrier-to-Noise Ratio Composite Triple Beat Composite Second Order Cross Modulation Inband Spurious (-0.75 to +4.2 MHz relative to video carrier) * FCC and per channel offsets supported Management Ports Ethernet Embedded Cable Modem	frequency block 26 dBmV ± 2.5 dB > 49 dB/4 MHz <-52 dBc <-55 dBc <-51 dBc RJ45, 10/100BASE-T Ethernet	
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	Output Level Carrier-to-Noise Ratio Composite Triple Beat Composite Second Order Cross Modulation Inband Spurious (-0.75 to +4.2 MHz relative to video carrier) * FCC and per channel offsets supported Management Ports Ethernet Embedded Cable Modem Craft Interface Port	frequency block 26 dBmV ± 2.5 dB > 49 dB/4 MHz < -52 dBc < -55 dBc < -51 dBc < Float dBc RJ45, 10/100BASE-T Ethernet DOCSIS 3.0, 8 DS x 4 US Channels	
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	Output Level Carrier-to-Noise Ratio Composite Triple Beat Composite Second Order Cross Modulation Inband Spurious (-0.75 to +4.2 MHz relative to video carrier) * FCC and per channel offsets supported Management Ports Ethernet Embedded Cable Modem Craft Interface Port	frequency block 26 dBmV ± 2.5 dB > 49 dB/4 MHz < -52 dBc < -55 dBc < -51 dBc < Float dBc RJ45, 10/100BASE-T Ethernet DOCSIS 3.0, 8 DS x 4 US Channels	
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	Output Level Carrier-to-Noise Ratio Composite Triple Beat Composite Second Order Cross Modulation Inband Spurious (-0.75 to +4.2 MHz relative to video carrier) * FCC and per channel offsets supported Management Ports Ethernet Embedded Cable Modem Craft Interface Port Connector	frequency block 26 dBmV ± 2.5 dB > 49 dB/4 MHz < -52 dBc < -55 dBc < -51 dBc < Float dBc RJ45, 10/100BASE-T Ethernet DOCSIS 3.0, 8 DS x 4 US Channels	
188 byte TS packets Unicast, Multicast (IGMPv2, IGMPv3 with single source IP address) Max Line Rate 940 Mbps Max Program Bitrate 20 Mbps	Output Level Carrier-to-Noise Ratio Composite Triple Beat Composite Second Order Cross Modulation Inband Spurious (-0.75 to +4.2 MHz relative to video carrier) * FCC and per channel offsets supported Management Ports Ethernet Embedded Cable Modem Craft Interface Port Connector Ethernet Media Port	frequency block 26 dBmV ± 2.5 dB > 49 dB/4 MHz <-52 dBc <-55 dBc <-52 dBc <-51 dBc RJ45, 10/100BASE-T Ethernet DOCSIS 3.0, 8 DS x 4 US Channels USB Type B, receptacle	
Unicast, Multicast (IGMPv2, IGMPv3 with single source IP address) Max Line Rate 940 Mbps Max Program Bitrate 20 Mbps	Output Level Carrier-to-Noise Ratio Composite Triple Beat Composite Second Order Cross Modulation Inband Spurious (-0.75 to +4.2 MHz relative to video carrier) * FCC and per channel offsets supported Management Ports Ethernet Embedded Cable Modem Craft Interface Port Connector Ethernet Media Port Connector	frequency block 26 dBmV ± 2.5 dB > 49 dB/4 MHz < -52 dBc < -55 dBc < -52 dBc < -51 dBc RJ45, 10/100BASE-T Ethernet DOCSIS 3.0, 8 DS x 4 US Channels USB Type B, receptacle	
IGMPv3 with single source IP address) Max Line Rate 940 Mbps Max Program Bitrate 20 Mbps	Output Level Carrier-to-Noise Ratio Composite Triple Beat Composite Second Order Cross Modulation Inband Spurious (-0.75 to +4.2 MHz relative to video carrier) * FCC and per channel offsets supported Management Ports Ethernet Embedded Cable Modem Craft Interface Port Connector Ethernet Media Port Connector	frequency block 26 dBmV ± 2.5 dB > 49 dB/4 MHz < -52 dBc < -55 dBc < -52 dBc < -51 dBc RJ45, 10/100BASE-T Ethernet DOCSIS 3.0, 8 DS x 4 US Channels USB Type B, receptacle RJ-45, 10/100/1000 Ethernet MPEG-2 TS	
Max Line Rate 940 Mbps Max Program Bitrate 20 Mbps	Output Level Carrier-to-Noise Ratio Composite Triple Beat Composite Second Order Cross Modulation Inband Spurious (-0.75 to +4.2 MHz relative to video carrier) * FCC and per channel offsets supported Management Ports Ethernet Embedded Cable Modem Craft Interface Port Connector Ethernet Media Port Connector	frequency block 26 dBmV ± 2.5 dB > 49 dB/4 MHz <-52 dBc <-55 dBc <-52 dBc <-51 dBc <-51 dBc RJ45, 10/100BASE-T Ethernet DOCSIS 3.0, 8 DS x 4 US Channels USB Type B, receptacle RJ-45, 10/100/1000 Ethernet MPEG-2 TS 188 byte TS packets	
Max Program Bitrate 20 Mbps	Output Level Carrier-to-Noise Ratio Composite Triple Beat Composite Second Order Cross Modulation Inband Spurious (-0.75 to +4.2 MHz relative to video carrier) * FCC and per channel offsets supported Management Ports Ethernet Embedded Cable Modem Craft Interface Port Connector Ethernet Media Port Connector	frequency block 26 dBmV ± 2.5 dB > 49 dB/4 MHz <-52 dBc <-55 dBc <-52 dBc <-51 dBc <-51 dBc RJ45, 10/100BASE-T Ethernet DOCSIS 3.0, 8 DS x 4 US Channels USB Type B, receptacle RJ-45, 10/100/1000 Ethernet MPEG-2 TS 188 byte TS packets Unicast, Multicast (IGMPv2,	
	Output Level Carrier-to-Noise Ratio Composite Triple Beat Composite Second Order Cross Modulation Inband Spurious (-0.75 to +4.2 MHz relative to video carrier) * FCC and per channel offsets supported Management Ports Ethernet Embedded Cable Modem Craft Interface Port Connector Ethernet Media Port Connector Format	frequency block 26 dBmV ± 2.5 dB > 49 dB/4 MHz <-52 dBc <-55 dBc <-52 dBc <-51 dBc <-51 dBc RJ45, 10/100BASE-T Ethernet DOCSIS 3.0, 8 DS x 4 US Channels USB Type B, receptacle RJ-45, 10/100/1000 Ethernet MPEG-2 TS 188 byte TS packets Unicast, Multicast (IGMPv2, IGMPv3 with single source IP address)	
Clear only	Output Level Carrier-to-Noise Ratio Composite Triple Beat Composite Second Order Cross Modulation Inband Spurious (-0.75 to +4.2 MHz relative to video carrier) * FCC and per channel offsets supported Management Ports Ethernet Embedded Cable Modem Craft Interface Port Connector Ethernet Media Port Connector Format Max Line Rate	frequency block 26 dBmV ± 2.5 dB > 49 dB/4 MHz <-52 dBc <-55 dBc <-52 dBc <-51 dBc <-51 dBc RJ45, 10/100BASE-T Ethernet DOCSIS 3.0, 8 DS x 4 US Channels USB Type B, receptacle RJ-45, 10/100/1000 Ethernet MPEG-2 TS 188 byte TS packets Unicast, Multicast (IGMPv2, IGMPv3 with single source IP address) 940 Mbps	
	Output Level Carrier-to-Noise Ratio Composite Triple Beat Composite Second Order Cross Modulation Inband Spurious (-0.75 to +4.2 MHz relative to video carrier) * FCC and per channel offsets supported Management Ports Ethernet Embedded Cable Modem Craft Interface Port Connector Ethernet Media Port Connector Format Max Line Rate Max Program Bitrate	frequency block 26 dBmV ± 2.5 dB > 49 dB/4 MHz <-52 dBc <-55 dBc <-52 dBc <-51 dBc <-51 dBc RJ45, 10/100BASE-T Ethernet DOCSIS 3.0, 8 DS x 4 US Channels USB Type B, receptacle RJ-45, 10/100/1000 Ethernet MPEG-2 TS 188 byte TS packets Unicast, Multicast (IGMPv2, IGMPv3 with single source IP address) 940 Mbps 20 Mbps	

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 / Environment	al	
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 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.

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

 $^{^{(1)}}$ 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.