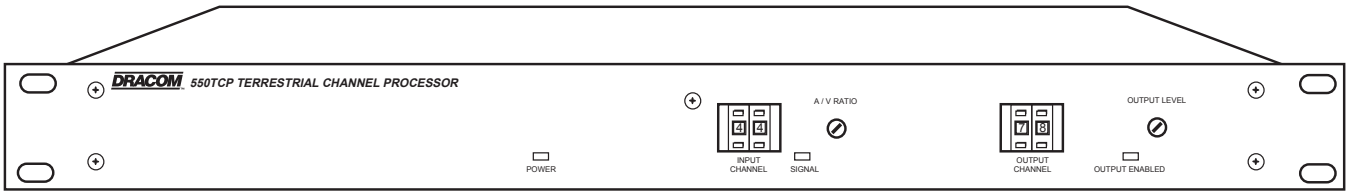
550 TCP Agile Channel Processor



DESCRIPTION

The DRACOM 550TCP is a quality, frequency agile channel processor capable of converting any VHF or UHF, off-air signal to any standard output channel between 54 and 550 MHz. Input and output frequency are easily set with front panel pushwheel switches. A/V ratio and output level controls are also provided along with IF loop-through connections to offer exceptional flexibility.

The synthesized input tuning permits reception of off-air TV channels 2 through 69. A front panel signal indicator lights for input signal strengths greater than a threshold value. RF output level is front panel adjustable to +60 dBmV maximum.

IF loop-thru capability in the 550TCP supplies a padded IF output prior to channel conversion. This feature provides the capability to replace the standard internally generated IF output with an alternate source of composite IF, or allows the insertion of IF scrambling equipment.

Coaxial connectors are provided for the RF Input, the IF Loop-out and Loop-in, and the RF Output. All of the mentioned features, combined with a carefully designed low intermodulation output stage, provide reliable operation in a densely crowded SMATV or cable environment.

The 550TCPT is a 550TCP with a built-in "T" channel upconverter. See page 5 for details.

SPECIFICATIONS

INPUT SECTION

Frequency Range:	54 - 806 MHz: Off-Air TV channels, CH 2-69.
Input Impedance:	75 Ohms.
RF Input Level :	-10 dBmV to + 35 dBmV.
Noise Figure:	VHF: 8 dB; UHF: 10 dB.
Tuner Image Rejection:	VHF: 65 dB; UHF: 50 dB.

OUTPUT SECTION

Frequency Range:	82 channels, 54 to 550 MHz; Channels 2 to 78 and 95 to 99.
Output Level:	+60 dBmV (typically adjustable from +50 to +60 dBmV).
Video Frequency Response:	20 Hz to 4.2 MHz, ±3 dB.
L-C Delay:	±50 nSec.
Frequency Stability:	±5 PPM of frequency difference between input and output signals.
A/V Ratio Adjustment:	Typically -2 to -12 dB relative to input A/V ratio.
Spurious Outputs:	-58 dBc minimum, -60 dBc typical, (measured at an input level between 0 to +20 dBmV).
Broadband Noise:	-75 dBc typical, (4 MHz noise bandwidth @ ±12 MHz).

GENERAL

AC Power Input:	115 VAC (±10%), 60 Hz, 30 Watts.
Operating Temperature:	0^0 C to $+50^0$ C, ambient.
Size:	19 in. (481 mm) W x 1.75 in. (44 mm) H x 8.75 in. (222 mm) D.
Weight:	7.0 lbs. (3.2 Kg).

Order From: MULTICOM
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Front Panel Controls/Rear Panel Connections

Front Panel Controls and Indicators

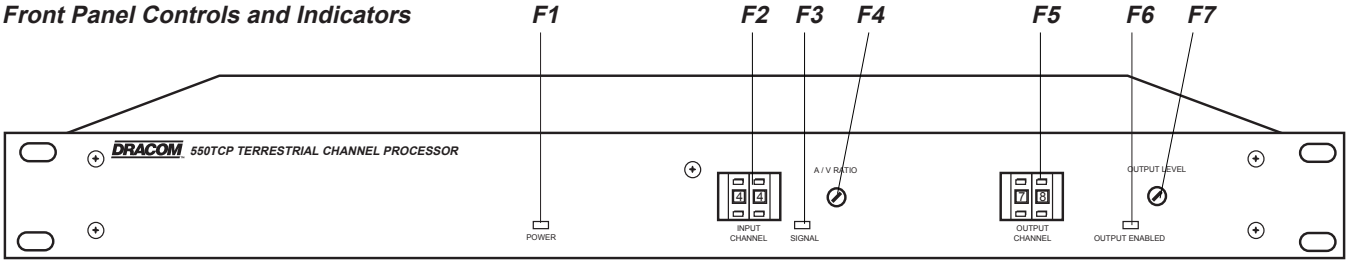

Figure 1

F1 POWER Indicator - Lights when the unit is connected to a source of AC power.

F2 INPUT CHANNEL Number Switch - Sets the input channel number for off air TV channels 02 through 69.

F3 SIGNAL Indicator - Lights to indicate that an input signal is being received as set by the input channel switches and is of a signal strength greater than approximately -10 dBm. Note that if this indicator is off (no received signal), the RF output is switched off. See also Item F6.

F4 A/V RATIO Control - This screwdriver adjustment varies the level of the output aural carrier over a range from -2 to –12 dB relative to the input A/V ratio. The output aural carrier level should be adjusted to approximately 15 dB below the visual carrier level (normal operation). Clockwise rotation increases the output aural carrier level and thus decreases the output A/V ratio.

F5 OUTPUT CHANNEL Number Switch - Sets the output channel number for standard CATV channels 02 through 78 and 95 through 99. See Table 2 - "OUTPUT CHANNEL" in the Installation section of this manual for the corresponding operating frequency, and offset, if any, for each channel number.

F6 OUTPUT ENABLED Indicator - Lights to indicate that a valid channel is selected and an input signal is being received. The RF output is switched off for any invalid output channel settings, no received input signal as set by the input channel switches ('SIGNAL' indicator is off), or other conditions that would cause the unit to operate on an invalid frequency. See also Item F3.

F7 RF OUTPUT LEVEL Control - This screwdriver adjustment varies the RF OUTPUT level. Clockwise rotation increases the level.

Rear Panel Connections

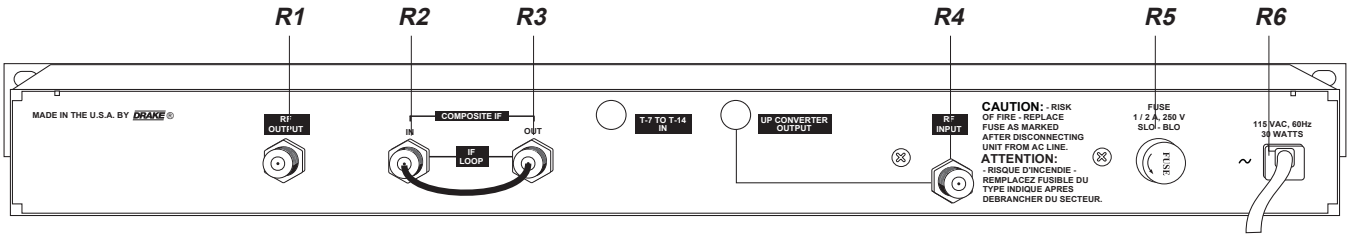

Figure 2

R1 RF OUTPUT - This is the converted channel output.

R2 COMPOSITE IF IN Connector - This is the composite IF input to the output channel circuits. The composite IF has both the aural and visual IF combined. This connection is normally cabled directly to the "COMPOSITE IF OUT" connector (see Item R3). This external IF loop allows the use of accessories such as scramblers or alternate video sources. Note that accessory equipment must also have the visual carrier at 45.75 MHz and the aural carrier at 41.25 MHz. Both input carriers must be at their nominally specified levels.

R3 COMPOSITE IF OUT Connector - This is the composite IF output from the IF circuits. The composite IF provides a vestigial sideband filtered visual carrier at 45.75 MHz (plus or minus any input signal offset) combined with a level controlled aural carrier at 41.25 MHz (plus or minus any input signal offset). This connection is normally cabled directly to the "COMPOSITE IF IN" connector (see Item R2).

R4 RF INPUT Connector - This is the input to the channel processor circuits for all signals with video carrier frequencies in the range of 54 through 806 MHz.

R5 FUSE Holder - Always replace this fuse with one of the same type and rating: 1/2 Amp, 250 V, SLO-BLO, 5 x 20 mm type.

R6 LINE CORD - This is a three-wire power cable. When the cable is connected to a properly wired AC power line outlet, this cable grounds the instrument cabinet. Connect to a nominal 115 VAC ±10%, 60 Hz source. Do not defeat the safety purpose of the attached line cord plug.