Data Sheet

VIAVI
CT-4
Digital Leakage Channel Tagger
A Trilithic Series Leakage Solution

VIAVI
VIAVI Solutions

Overview

The CT-4™ is a 1U rack-mounted unit located in the headend that provides an uncompromising tagging solution for active analog or digital systems.

When several CATV systems operate in the same area, it is often difficult to determine which system is the source of a detected leak. The CT-4 is designed to deal with the problem of leakage identification in up to 8 overbuilt situations.

Used as a system with VIAVI leakage receivers, the CT-4 eliminates all "false alarm" triggers and increase leak detection sensitivity by four times over un-tagged systems.

Next-Gen Digital Tagging

The CT-4 works in conjunction with Seeker D™ and Seeker D Lite Digital Leakage Detectors to accurately detect and measure signal leakage within the LTE and aeronautical frequency bands at the same time.

Key Features

- Generates proprietary dual CW Carriers for use with the Seeker D and Seeker D Lite Digital Leakage Detectors
- Operates in both the aeronautical (135– 139 MHz) and LTE (610.5–615 MHz) frequency bands
- Adjustable output from 10 to 30 dBmV
- Carriers injected at ~30 dB below adjacent digital carriers, eliminating the risk of affecting digital services
- 8 available tag settings for digital leakage

The Seeker D detects the proprietary signal from the CT-4 with an unsurpassed sensitivity of 2 to 2000 µV/m (20 to 2000 µV/m for the Seeker D Lite) with measurements that are scaled to an analog or QAM carrier of your choice.

Consequently, readings taken from the existing Seeker meter and the new Seeker D and Seeker D Lite meters produce similar results in the aeronautical band, if the low band correlation of the Seeker D and Seeker D Lite is set to analog.

Whether testing for leaks in both digital and analog systems, or monitoring aeronautical or LTE bands, the CT-4 used in conjunction with the Seeker D and Seeker D Lite provides all of the capability to find and fix leaks quickly, accurately, and effectively.

Traditional Channel Tagging

The CT-4 can also act as a traditional CT-2 or CT-3 analog tagger. When used with the legacy Trilithic leakage detectors, this feature provides the ability to detect tagged leaks and ignore untagged leaks, saving time from false alarms from signals not originating in your system.

The CT-4 solves this problem by tagging the system video carrier (CT-2 operation mode) or an integrated carrier (CT-3 operation mode) with a low-frequency modulation.

With the tag function switched on, the Searcher Plus GT, Super Plus, Seeker Lite[2], Seeker, and Seeker SE leakage detectors are immune to false alarming.

These leakage detectors all contain special circuitry that is sensitive only to the tagged signal from the CT-4, and rejects any signals that do not contain it.

Warbling Identifier Tone

Searcher Plus, Searcher Plus GT, or Super Plus analog leakage detectors generate an audible tone that varies in pitch with leak strength. A leak that has been tagged using the CT-2 or CT-3 operation mode of the CT-4 causes the audible tone to "warble," rising and falling in pitch at the rate of three oscillations per second. If the distinctive warbling sound is not detected, the operator can be sure that the leak did not originate in his system.

Easy to Install

The CT-4 is very simple to install where RF signals reside. When being used in either the CT-4 or CT-3 operation modes, the CT-4 is simply installed in a rack location near a combiner. Otherwise, the CT-4 can be used with any type modulator in the CT-2 operation mode by simply feeding the analog carrier through the CT-2 and then out to the combiner.

Includes the Following	Part Number
CT-4 with 120 to 240 VAC Power Supply and AC Power Cable	TRI-LKG-CT4
CT-4 with -48 VDC Power Input	TRI-LKG-CT4-48V
Related Products	**Part Number**
Seeker D Digital Leakage Detector	TRI-LKG-SKR-D-W-MOUNT
Seeker D Lite In-Home Leakage Detector	TRI-LKG-SEEKER-D-LITE
Seeker MCA III	TRI-LKG-SEEKER-MCA-WIFI
LAW Integrated Server Package	TRI-LKG-LAW-SERVER-W-SW

General Specifications

Input / Output Impedance	75 Ω (nominal)
Controls	Front Panel Select and Enter Buttons
Display	Two-Line LCD, 16 Characters per Line
Communication	10/100 Base-T Ethernet (for factory use only)
Power	AC Power: 90 to 370 VAC, 47-440 Hz, 0.75 A or DC Power: -36.8 to -74.9 VDC, 3 A
Size	1U (1.75") Rack Enclosure
Operating Temperature	50 to 104 °F (10 to 40 °C)

General Specifications cont.

CT-2 Operation Mode

Compatibility	Searcher Plus, Searcher Plus GT, Super Plus, Seeker Lite², Seeker and Seeker SE Leakage Detectors
Modulation Type	Sine Wave
Tag Modulation Frequency	3 Hz Warble Tone, 10 to 23 Hz (excluding 16 Hz)
3 Hz Tag Depth of Modulation	0.0 to 3.0 dB
Input Return Loss	> 15 dB from 100 to 160 MHz
Output Return Loss	> 13 dB from 100 to 160 MHz

CT-3 Operation Mode

Compatibility	Searcher Plus GT, Super Plus, Seeker Lite², Seeker and Seeker SE Leakage Detectors
Carrier Type	Sine Wave
Tag Modulation Frequency	3 Hz Warble Tone, ±0.1 Hz
	10 to 23 Hz (excluding 16 Hz), ±0.1 Hz
3 Hz Tag Depth of Modulation	0.0 to 3.0 dB, ±0.2 dB
Carrier Frequency	107.0000 to 157.5000 MHz, ±2.5 ppm
	Adjustable in 3.125 kHz Steps
Carrier Output Level	40.00 to 60.00 dBmV, ±2 dB
Spurious Outputs	-60 dBc Minimum
Output Return Loss	> 13 dB from 100 to 160 MHz

CT-4 Operation Mode

Compatibility	Seeker D and Seeker D Lite Leakage Detectors
Carrier Type	Proprietary Dual CW for Low and High Bands
Tag Signatures	8 available carrier spacings
Carrier Frequency	Low Band: 135–139 MHz
	High Band: 610.5–615 MHz
	Adjustable in 12.5 kHz Steps
Carrier Output Level	10.00 to 30.00 dBmV, ±2 dB
Low Band Offset	–15.00 to 10.00 dB from High Band, ±1 dB
Spurious Outputs	-40 dBc Minimum
Output Return Loss	> 12 dB from 50 to 1000 MHz
	18 dB typical @ 138 MHz
	14 dB typical @ 612 MHz

VIAVI Care Support Plans

Increase your productivity for up to 5 years with optional VIAVI Care Support Plans:

- Maximize your time with on-demand training, priority technical application support and rapid service.
- Maintain your equipment for peak performance at a low, predictable cost.

For more Information: go to viavisolutions.com/viavicareplan

Features

*5-year plans only

Plan	Objective	Technical Assistance	Factory Repair	Priority Service	Self-paced Training	5 Year Battery and Bag Coverage	Factory Calibration	Accessory Coverage	Express Loaner
BronzeCare	Technician Efficiency	**Premium**	✓	✓	✓				
SilverCare	Maintenance & Measurement Accuracy	**Premium**	✓	✓	✓	✓*	✓		
MaxCare	High Availability	**Premium**	✓	✓	✓	✓*	✓	✓	✓