



# 2025 PRODUCT GUIDE

***500 Pine Street, Suite 3-A,  
Holmes, PA 19043  
TEL: 610-522-0106  
email: [info@tti-narctech.com](mailto:info@tti-narctech.com)  
<http://www.tti-narctech.com>***

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BATTERY PACK:	<i>EC-GCEL 6 Ah rechargeable for Echo 5 or others</i>

#### ACCESSORIES

ANTENNA SPLITTER	<i>Use vehicle antenna for Joey, Citation, Echo - Covert</i>
AUDIO AMPLIFIER	<i>Microphone to Line Level amplifier - small</i>
PTX-100	<i>Joey and other TX frequency programmer</i>
COAT HANGER	<i>Dipole antenna with coat hanger for disguise</i>

#### VEHICLES

*Surveillance Vans, Mobile Platforms*



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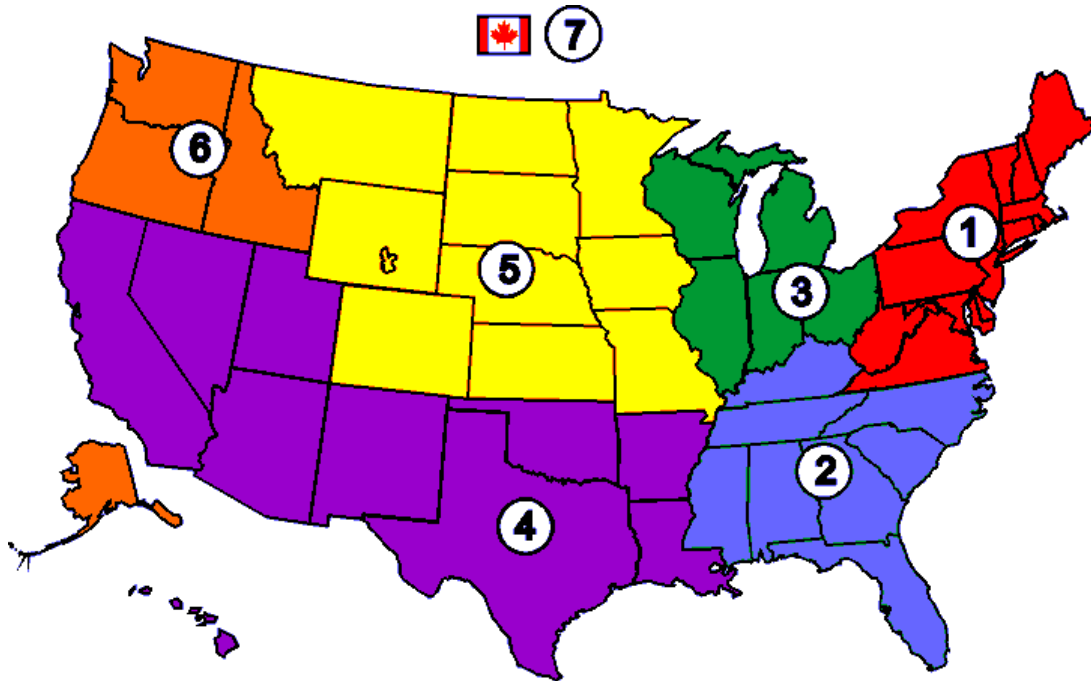
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## SALES STAFF

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### CORPORATE HEADQUARTERS

500 Pine St., Suite 3A  
Holmes, PA 19043  
TEL 610-522-0106  
info@tti-narctech.com



**REGION 1 NORTHEAST**  
CORPORATE HEADQUARTERS  
TEL 610-522-0106  
info@tti-narctech.com

**REGION 2 SOUTHEAST**  
ADVANCED COVERT TECHNOLOGY  
www.act-sales.com  
CONTACT: Ryan Mitchell  
TEL 877-233-2523 FAX 800-308-6105  
rpmact@aol.com

**REGION 3 GREAT LAKES REGION**  
PRO-TECH SALES  
<https://www.protechsales.com>  
CONTACT: Joe Jaracz  
TEL 440-973-0263  
jjaracz@protechsales.com

**REGION 4 SOUTH CENTRAL / SOUTHWEST / WEST**  
ADVANCED COVERT TECHNOLOGY  
www.act-sales.com  
CONTACT: Ryan Mitchell  
TEL 877-233-2523 FAX 800-308-6105  
rpmact@aol.com

**REGION 5 HEARTLAND OF AMERICA**  
CORPORATE HEADQUARTERS  
TEL 610-522-0106  
info@tti-narctech.com

**REGION 6 PACIFIC NORTHWEST / ALASKA**  
CORPORATE HEADQUARTERS  
TEL 610-522-0106  
info@tti-narctech.com

**REGION 7 CANADA**  
metOcean Telematics / Nautics Group  
Contact: Dan Boyd  
dboyd@metocean.com /  
sales@metocean.com  
TEL 904-468-2505

**INTERNATIONAL SALES**  
CORPORATE HEADQUARTERS  
TEL 610-522-0106  
info@tti-narctech.com

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## IP Video Equipment

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## TCV-514SBT TigerCam<sup>®</sup> 514 Stealth Black Tiger Wireless Cellular Broadband / WiFi Covert IP Camera

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IP Video



### IP Cellular Broadband PoleCam

*Built to withstand the rigors of constant deployment.*

*Stealth BLACK color - 3 viewing windows blend right into the box without added disguising graphics.*

*Custom mounting bracket allows mounting to a pole, corner, or flat service using lags, gear clamps, etc.*

*Sierra Wireless RV55x cellular LTE-A-Pro broadband modem, First Net Certified, with access point WiFi. Operates on Verizon, AT&T, T-Mobile/Sprint, FirstNet.*

*4G/5G + Diversity external antenna plus internal WiFi antennas*

*Canon VB-M44 IP PTZ camera standard. VB-H45 or VB-M50 optional.*

*Edge recording option with best in the industry NVR/DVR unit complete with removable 1 TB hard drive standard..*

*TTI's Enviro system option adds cooling fans, heating element, programmable climate control on/off timers and programmable timed full system resets.*

*Operates on 110 VAC.  
12 VDC operation optional. Optional streetlight photo sensor power adapter available.*

*11.5" x 13.25" x 6" overall, 16lbs w/ pole mnt.*

*View Commander NVR Software optional.*

*TTI TigerCams - built to last, built to service, and built with future upgrades in mind.*



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**IP Video**

**TCV-514/C TigerCam<sup>®</sup> 514 Gray**  
**Wireless Cellular Broadband / WiFi Covert IP Camera**

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**Exterior with  
V2 Graphics  
and Bronze Glass**



**Exterior with  
V1 Vision Tape  
Graphics and  
Clear Glass**



**Interior view with  
all available options**

*IP Cellular Broadband PoleCam*

*Built to withstand the rigors of constant deployment.*

*GRAY standard outdoor electrical box - with 3 viewing windows available in clear or bronze glass.*

*Custom mounting bracket allows mounting to a pole, corner, or flat service using lags, gear clamps, etc.*

*Sierra Wireless RV55x cellular LTE-A-Pro broadband modem, First Net Certified, with access point WiFi. Operates on Verizon, AT&T, T-Mobile/Sprint, FirstNet.*

*4G/5G + Diversity external antenna plus internal WiFi antennas*

*Canon VB-M44 IP PTZ camera standard. VB-H45 or VB-M50 optional.*

*Edge recording option with best in the industry NVR/DVR unit complete with removable 1 TB hard drive.*

*TTI's Enviro system option adds cooling fans, heating element, programmable climate control on/off timers and programmable timed full system resets.*

*Operates on 110 VAC.  
12 VDC operation optional. Optional streetlight photo sensor power adapter available.*

*13" x 11" x 6.5", 20 lbs w/ pole mnt.*

*View Commander NVR Software optional.*

*TTI TigerCams - built to last, built to service, and built with future upgrades in mind.*



TCV-IPDKQ QUAD IP CAMERA DROP KIT



Rapid Deployment  
 Quad IP camera system  
 Use a combination of 4 IP cameras, IP PTZ and/or IP fixed position cameras

POE for IP cameras

Can mix in analog camera with optional mini video encoders

Superior NVR/DVR: HDVR-203/D

Phone APP for NVR/DVR included.

500gb removeable microSD card for recorded video is standard

Sierra Wireless RV55x cellular LTE-A-Pro broadband modem, First Net Certified, with WiFi

GPS mapping and tracking of kit

Monitor for viewing cameras during setup or operation

Quad viewable on monitor / NVR records Quad

Internal switchable cooling fan

Power requirements: 110VAC or external 12VDC

Current draw: Approx 3.8 amps using 4 IP PTZ cameras - under 2 amps w/ 1 camera on, monitor and fan both switched off

Includes input power cables, Cat 6 cable, broadband cellular, mag mount fin antenna, GPS antenna, IR remote

Housed in Pelican 1500 case



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TPP-G31WC 12VDC Group 31 size Battery Box and Charger



Group 31 size battery box

Prewired to include:

- a. SAE socket for battery charger and power output
- b. On demand volts/amp meter for instant viewing of battery voltage level and number of amps being drawn from the battery during operation.
- c. 15 amp internal fuse
- d. Battery ring terminals for easy battery hookup.
- e. 3 stage battery charger/desulfater/maintainer also SAE prewired for quick connection to battery and battery box
- f. Power output cable included
- g. Use one or two to power TTI TCV-IPDKQ system

**OPTIONS:**

- G31Battery - Adds 105 aH deep cycle AGM Group 31 size 12vdc battery installed
- TPP-G31NC - Deletes battery charger from the battery box as described above



## TPP-50IP TigerPack™ 12VDC 20 aH Portable Power Pack with Cellular Broadband Modem and WiFi Access Point



20 aH AGM battery pack  
“No Maintenance” batteries

Use to power IP video gear  
or audio surveillance equipment or any  
device needing 12 VDC - PLUS, it's an  
IP Connectivity Drop Kit - use to  
rapidly deploy an IP Camera get get it  
on the air via the built in broadband  
cellular modem or via it's local  
WiFi Access Point

Ground plane built into the lid  
in case you can't find a suitable  
one in your deployment

On demand volts/amp meter for  
instant viewing of battery voltage level  
and number of amps being drawn from  
the battery pack during operation.



10 amp thermal circuit breaker

Anderson PowerPole connections for  
each hookup

13.07" x 11.62" x 6.0"  
22 lbs

3 amp, 3 stage battery charger with  
float stage

Can chain kits together in parallel for  
longer output

### Accessories:

- 3 amp battery charger with screw-on connector and LED charge indicator
- 10' PowerPole to flying leads power cable
- 20' Cat6 cable to connect IP camera to the kit
- 20' power extension cable for IP camera



## TPP-50 TigerPack™ 12VDC 20 aH Portable Power Pack



20 aH AGM battery pack  
"No Maintenance" batteries

Use to power IP video gear  
or audio surveillance  
equipment or any device  
needing 12 VDC

On demand volts/amp meter  
for instant viewing of battery  
voltage level and number of  
amps being drawn from the  
battery pack during operation.

10 amp thermal circuit breaker

Anderson PowerPole  
connections for each hookup

13.07" x 11.62" x 6.0"  
20 lbs

3 amp, 3 stage battery charger  
with float stage

Can chain kits together in  
parallel for longer output



### Accessories:

- 3 amp battery charger with screw-on connector and LED charge indicator
- 10' PowerPole to flying leads power cable



# TCV-VCMK VEHICLE CAMERA MOUNT KIT



*Rapid Deployment  
Camera mounts for vehicles*

*IP PTZ cameras, IP Cameras,  
Analog Cameras, etc*

*4 90 degree window slide-in  
mounts*

*Bogan/Manfroto Magic Arm  
w/ SuperClamp and  
versitile camera mount -  
Clamps to door handles, seats,  
TTI slide in mounts, or the  
optional TTI Vertical Camera  
Mount.*



*2 Bogan/Manfroto Magic Ball  
Camera Mounts - use with the  
Bogan arm or the Slide-in  
mounts*

*Headrest camera mount with  
2 lightweight arms - will hold  
many style PTZ or fixed view  
cameras*

*Housed in Pelican case*



*Grab your cameras and this  
Pelican case housed kit  
and rapidly deploy up to 6  
camera in a vehicle or even  
some indoor rooms*



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## TCV-VVCM Vehicle Vertical Camera Mount System



*Mount any IP PTZ camera practically anywhere in a vehicle with the VVCM System*

*Ratchet bar extends vertically from floor to ceiling anywhere with useable floor space and a clear path to the ceiling.*

*The Bogan Magic Arm System mounts to the Ratchet Bar and the IP PTZ (or any) camera mounts to the unlimitedly adjustable Arm to place the camera in any position, and viewing out any porthole.*

*The Bogan Arm can also mount to door handles and other places inside a vehicle.*

*Fast mounting - quick deployment - simple and very effective.*



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# iRecord Covert (HDVR-203)

High definition digital video recorder/player with built-in WiFi and 2nd ethernet port capability (with dongle)



## Full High Definition IP Camera Support - with full QUAD camera support

Simultaneously record, monitor and stream up to 4 IP high definition cameras. All 4 IP cameras can be viewed on a screen divided into 4 quadrants, or 2 IP cameras streams on a side by side view or a single IP camera on a full screen. Video and Map can be also be displayed side by side.

## Dual Ethernet Ports

One built in and one via USB dongle gives Network and Single Camera direct connectivity without an additional hardware IP switch.

## WiFi Connectivity

Built-in 2.4 GHz WiFi for easy configuration. Security through password and ability to turn off the WiFi lends itself for covert application.

## Store-and-Forward

Enhances the functionality of IP cameras using store-and-forward; store the IP camera A/V contents as well as live stream it for remote viewing with PTZ control.

## Audio/Video

Stores the IP cameras MJPG and H.264 video streams along with MP3 audio in the industry-standard AVI file format. Evidence extraction in .mp4 file format.

## Multiple Quality Streaming

For high-bandwidth connections, high-quality MJPG is streamed. For low-bandwidth connections, a highly compressed H.264 video is streamed.

## Storage

- USB disk drive (upto 2TB) and/or Micro SD card
- Automatically select available device
- Automatically switch to next available device upon error (disk full or pulled)



## DTMF Controller

DTMF keypad on the web-interface to remotely control DTMF enabled devices. Keeps history of commands for repeat and review.

## Remote Sync

The remote sync provides the exact replica of box recordings on local hard disk of Windows PC/laptop.

## Battery Monitoring

Continuously monitors input voltage. Shuts down application gracefully for data consistency upon a preset voltage value.

## Archiving

Evidence can be extracted from main storage media onto removable media.

## FTP Upload

Supports scheduled FTP uploading of recorded files.

## Monitor & Control Via Mobile and Web Applications

Provides customized User Interface (UI) for computers, tablets & smart phones on a standard web browser and via mobile application.

## Event Analytics (Camera Agnostic)

Features camera independent suite of audio / video analytics that include detection of motion, camera tampering, video loss and audio monitoring.

## Dual Stream (H264 + MJPG) Recorder

Continuous, event, external triggered, schedule recordings in MJPG only, H264 only or MJPG + H264 dual streams.

## Email/SMS and Alarm (Event notification)

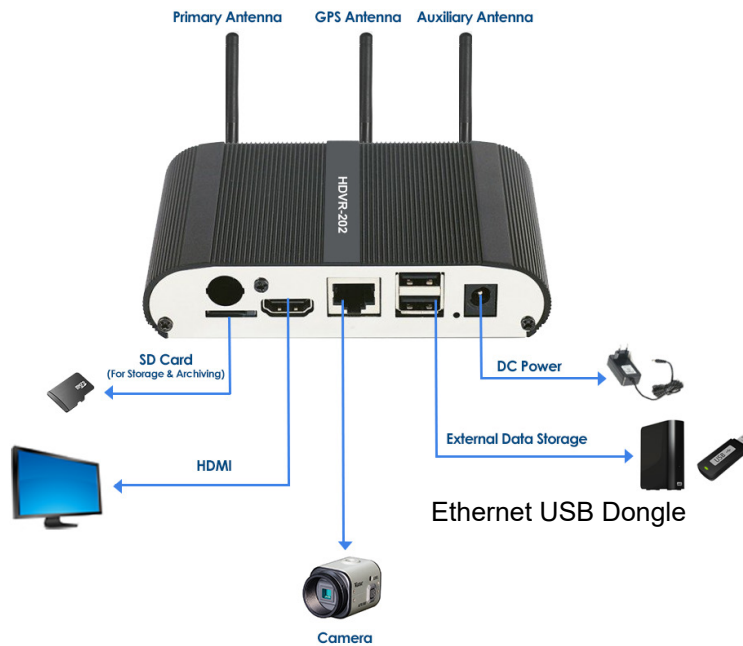
Starts recording immediately, in response to an analytic event, with pre-history and can also send email/SMS notification or alarm to remotely connected PC. Email can have an event snap and system URL for quick access.

## Playback and Video Management

Provides powerful playback and video extraction features. Patented trick-modes and event filtered playback provides quick and efficient access to recorded contents for local/remote viewing and analysis. Can extract video clips from a single/multiple recording in various resolutions. Files can also be archived to preserve them for future use.

## Offline Mode Playback

Offline playback of recordings on a computer is possible through an offline-mode player application available on the USB device.



### HDVR-203 SPECIFICATIONS

SOFTWARE	
Video encoding	MJPEG, H.264
Transcoding	Real time conversion of MJPG to H.264 for streaming; audio transcoded to MP3
Resolution	High Definition (HD): 1920x1080; 1280x960; 1280x720 Standard Definition (SD): 720x480; 640x480; 480x320; 320x240
Frame rate	Upto 30 fps
Audio encoding	MP3 Stereo (32/64kbps at 8KHz, 96/128/256/320kbps at 32KHz); MP3 mono (16kbps, 8KHz)
Multiplexing	AVI container for video and audio data, MP4 conversion supported
Recording	Continuous, Event, Scheduled, Manual
Circular / Linear mode	Non-stop recording (overwriting the oldest data first), recording stops when storage media is full
Event recording mode	Event-based recording start/stop (motion detection, video signal loss, audio level detection & camera tampering)
Event recording history	Pre-event buffer (0–3 seconds), Post-event buffer (1–10 seconds)
Event email notification	Event email notification with a JPEG image attachment and url address of the iRecord Covert
Streaming	Location-free monitoring (live view); Simultaneous streaming and storing; File playback
Tape mode	Seamless transition between recorded files Playback—Play till end of recording Rewind—Traverse backwards to the beginning of the recording Forward—Traverse forward to the end of the recording
Computer	Playback on PC using off-the-shelf media players like VLC and via flash-enabled web browsers
Smart search & play	Timestamp-based and event-based search and video playback
Protocols supported	HTTP, TCP, UDP, DHCP, SMTP, RTP, RTSP, RTMP & FTP
Web server	File management (delete/download/update list)
HARDWARE	
Video output	HDMI
Audio input	Stereo line-in or Mono line-in (3.5mm jack)
Network connectivity	One 10/100/1000 Base Ethernet port (RJ45); Supports built in WiFi for communication
USB connectivity	Two USB 2.0 host port (Type A connector) for external USB storage devices and USB Ethernet dongle
Dimensions	4.92" x 3.14" x 1.14" and 0.6 lbs
Power input	8 to 30 V DC range (2mm Barrel connector)
Max. power consumption	6 watt(s)

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## RF Audio Equipment

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**TTI** 500 Pine Street, Suite 3-A, Holmes, PA 19043  
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## CTR-1300 SERIES VARIABLE POWER JOEY TRANSCORDER

**SELECTABLE POWER: 1/4, 1/2, OR 1 WATT**  
**FULLY SYNTHESIZED VHF HI-BAND**  
**2 MEMORY CHANNELS**  
**DOWNLOAD DIRECT TO PC OR CD**  
**INTERNAL AND EXTERNAL MICS**  
**KEYFOB REMOTE CONTROL**  
**AUTHENTICATING SOFTWARE**



**SPECIFICATIONS:**

Frequency Range (PLL Synthesized):	150 - 174 MHz
Power Output:	1/4 Watt (250mW), 1/2 Watt (500mW) or 1 Watt Selectable
Battery Life:	1 Watt: 2.5 Hours; 1/2 Watt: 3.5 Hours; 1/4 Watt: 4.5 Hours
Modulation, Deviation, Stability:	F3E    2.5 kHz    2.5 ppm    0° C to 50° C
Harmonic and Spurious Output:	>43 dBc
Size, Weight, Casework:	2.43" x 1.31" X 0.68"    1.9 oz    Aluminum
Operational Controls (On Case):	System Power On/Off; Channel Select (F1 or F2)
Operational Controls (Keyfob):	Transmitter AND Recorder On/Off; Recorder ON, Transmitter OFF
Keyfob Programming:	Control ALL full featured JOEY's, or Control just one JOEY; Feedback ON/OFF
Frequency and Power Level Programming:	Citation Receiver or Optional PTX-100 Programmer
Microphone:	Internal and external electret, auto switching
Battery:	Lithium-Polymer
Operating Temperature:	-20° C to +55° C
Antenna Connector:	Type 27 – SMC
Microphone Connector:	2.5 mm TR2A locking jack
Recorder:	Digital - GEONAUTICS Dingo Platform

**ACCESSORIES FURNISHED:**

17" Antenna; Keyfob Remote Control (Except LITE Version)  
 Storage case  
 Charger: AC, 12VDC, USB  
 Programming Cable and Software; Authenticating Software  
 External Microphone

**OPTIONS:**

PTX-100 Field Programmer, Voice Scrambling, Microphone Color Flesh or Black; AR-703 "Foldover" Antenna, Extended Memory: See Chart Below  
 TX Only, No Embedded Recorder: Model CTR-1300/NR. See Chart

Model	Memory Size	Recording Times
CTR-1300/256	256 MB	6.6 to 18.2 hours
CTR-1300/512	512 MB	13.2 to 36.4 hours
CTR-1300/1024	1024 MB (1 GB)	26.4 to 72.8 hours
CTR-1300/2048	2048 MB (2 GB)	52.8 to 145.6 hours
CTR-1300/LITE (No Remote Control)	256 MB	6.6 to 18.2 hours
CTR-1300/NR TX Only, No Embedded Recorder	NA	NA



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# CELL-JOEY MODULAR AUDIO INTERCEPT SYSTEM

**CELLULAR AND VHF OFFICER SAFETY TX  
ALL IN ONE UNIT**

**LISTEN AND RECORD ANYWHERE WITH PC, TABLET  
OR SMARTPHONE**

**MULTIPLE LISTENER CAPABILITY**

**VHF TRANSMITTER FOR DIRECT RF USE  
Cellular LTE 4G Wallaby UNITS**

**BUILT IN MICROPHONES AND  
REMOTE CONTROL KEYFOB**



Keyfob Remote Control

**SPECIFICATIONS:**

Cellular Coverage:	J-CELL1/xx Units	North America LTE 4G Cellular - MetOcean/Nautics C4 Wallaby
VHF Officer Safety Frequency Range (PLL Synthesized):		150 - 174 MHz in 12.5 kHz steps, PLL Synthesized
Power Output:		1/2 Watt (500mW)
Modulation:		F3E
Deviation:		2.5 kHz
Stability:		2.5 ppm 0° C to 50° C
Harmonic and Spurious Output:		>43 dBc
Size, Weight, Casework:		2.49" x 1.34" x .61"    1.9 oz    Aluminum
RF Frequency Programming:		Any TTI Citation Series Receiver, PTX-100 Programmer
Microphone:		Internal
Battery / Charging Time		Lithium-Polymer / 2 Hours from Full Discharge
Operating Temperature:		-20° C to +55° C
Antenna Connector:		Type 27 – SMC
Recorder:		Digital - MetOcean/Nautics Dingo Platform
Dimensions:		3.875" x .75" x 1.56"
Casework:		ABS

**ACCESSORIES FURNISHED:**

- Storage case
- Charger
- Programming Cable and Software
- Downloading Cable and Software

**OPTIONS:**

- PTX-100 Field Programmer, Microphone Color (Flesh or Black)
- AR-703 "Foldover" Antenna for RF use

Model	Memory Size	Recording Times
J-Cell1/20M or J-Cell2/20M	2048 MB (2 GB)	52.8 to 145.6 hours
J-Cell1/16K or J-Cell2/16K	16384 MB (16 GB)	432 to 1189 hours
J-Cell1/NR or J-Cell2/NR	No Recorder	No Recorder
J-Cell/TXR	VHF TX Module ONLY— (add to your existing Nautics Wallaby	No Recorder - recorder is housed in your Wallaby



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# CTR-1W SERIES 1 WATT JOEY TRANSCORDERS

**1 WATT POWER FOR GREATEST RANGE**

**“DINGO” RECORDING TECHNOLOGY**

**STANDARD 9 VOLT BATTERIES**

**FULLY SYNTHESIZED**

**AUTHENTICATION SOFTWARE**

**KEYFOB REMOTE CONTROL**



Frequency Range (PLL Synthesized):	150 - 174 MHz
Power Output:	1 Watt +/- 1dB
Battery Life, Transmitter and Recorder On:	Up to 2.5 Hours with 2 MN1604 or Equivalent Alkaline 9 V
Modulation:	F3E, Deviation 2.5 kHz
Harmonic and Spurious Output:	>50 dBc
Stability:	2.5 ppm 0° C to 50° C
Operational Controls:	Master Power Switch – turns power ON/OFF to Recorder and the independent Transmitter switch. TX ON/OFF Switch – controls TX when Master Power Switch is ON Keyfob Remote
Frequency Programming:	Citation Series Receiver, Optional PTX-100 Programmer
Size and Weight:	2.25" x 3.25" x .75" 7.oz without batteries
Microphone:	Internal and external electret, auto switching
Power Source:	2 MN1604 9 volt or equivalent (Optional Remote Power Adapter)
Recorder:	Digital - GEONAUTICS modified Dingo A3 Platform
Operating Temperature:	-20° C to +55° C
Connectors:	Antenna, Programming, Microphone, Downloading

**ACCESSORIES FURNISHED:**

Antenna, External Microphone  
Cables: Programming, Downloading  
Software: Downloading, Authenticating  
Storage and Transit case

**OPTIONS:**

PTX-100 Field Programmer; Voice Scrambling  
Microphone Color (Flesh or Black)  
Extended Memory (See Chart Below for Model Numbers)  
RPA-586S Remote Power Adaptor  
TX Only, No Recorder: Model CTR-1W/NR (See Chart)

Model	Memory Size	Recording Times
CTR-1W/256	256 MB	6.6 to 18.2 hours
CTR-1W/512	512 MB	13.2 to 36.4 hours
CTR-1W/1024	1024 MB (1 GB)	26.4 to 72.8 hours
CTR-1W/2048	2048 MB (2 GB)	52.8 to 145.6 hours
CTR-1W/LITE (No Remote Control)	256 MB	6.6 to 18.2 hours
CTR-1W/NR TX Only, No Embedded Recorder	NA	NA



TTI 500 Pine Street, Suite 3-A, Holmes, PA 19043  
TEL: 610-522-0106 email: info@tti-narctech.com  
<http://www.tti-narctech.com>

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# B1 "BELT-JOEY" COVERT 1/2 WATT JOEY™ TRANSCORDERS

**DISGUISED AND FULLY COVERT WEARABLE JOEY**

**RAPID DEPLOYMENT AND EASY TO USE**

**1/2 WATT TX**

**OUTSTANDING AUDIO INTERCEPT TRANSMISSION**

**KEYFOB REMOTE CONTROL OF ON/OFF FUNCTION**

**RECORDING AUTHENTICITY  
AND INTEGRITY SOFTWARE**



**SPECIFICATIONS:**

Frequency Range (PLL Synthesized):	150 - 174 MHz
Power Output:	½ Watt (500mW)
Battery Life:	Up to 2.5 Hours (External Power Regulator Optional)
Modulation, Deviation, Stability:	F3E      2.5 kHz      2.5 ppm 0° C to 50° C
Harmonic and Spurious Output:	>43 dBc
Styles	Leather (specify Black or Brown) or Web (Black, Brown, Gray, Tweed, or Tan)
Operational Controls:	Master Power Switch – turns power ON/OFF to Recorder Keyfob Remote Control
Sizes	Web Style: 58 inch long as delivered, user down sizable Leather: from 30 to 48 - order 2 sizes larger than agent's waste size
Frequency Programming:	Any Citation Series Receiver, Optional PTX-100 Programmer
Microphone:	Internal electret
Battery / Charging Time	Lithium-Polymer / 2 Hours from Full Discharge
Operating Temperature:	-20° C to +55° C
Recorder:	Digital - GEONAUTICS Dingo Platform

**ACCESSORIES FURNISHED:**

Storage Case  
AC/DC Charger w/ Cable  
TX Programming Cable  
Recorder Programming Cable  
Joey Software for Recorder

Operations Manual

**OPTIONS:**

Recorder memory size  
LITE version - no remote control  
No Recorder version

Model	Memory Size	Recording Times
CTR-B1/256	256 MB	6.6 to 18.2 hours
CTR-B1/512	512 MB	13.2 to 36.4 hours
CTR-B1/1024	1024 MB (1 GB)	26.4 to 72.8 hours
CTR-B1/2048	2048 MB (2 GB)	52.8 to 145.6 hours
CTR-B1/LITE (No Remote Control)	256 MB	6.6 to 18.2 hours
CTR-B1/NR TX Only, No Embedded Recorder	NA	NA



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**CST-703V "TINY TOT" VOICE TRANSMITTER**

**INTERNAL / EXTERNAL MICROPHONES**  
**6 - 9 VOLT DC OPERATING VOLTAGES**  
**250 - 500 MW POWER OUTPUTS**  
**EIA102 "ANALOG" COMPLIANT**  
**THE ORIGINAL TINY TOT, NOT A COPY**  
**SCRAMBLING SOFTWARE SELECTABLE**  
**2.11 IN. X 1.10 IN. X .435 IN.**



AR-703  
Antenna option

**SPECIFICATIONS:**

Frequency Range (PLL Synthesized):	150 - 174 MHz
Number of Channels:	One standard - Two channel unit optional
DC Power Input/RF Power Output:	6 VDC / 250 mW +/- 1 dB 50 ohm load 9 VDC / 500 mW +/- 1 dB 50 ohm load
Frequency Stability:	2.5 ppm (0° C to 50° C)
Modulation Type:	F3E
Harmonic Output:	>43 dBc
Spurious Output:	>43 dBc
Deviation:	2.5 kHz
Antenna:	Remote 50 ohm, flexible wire
Microphone:	Internal electret and external (auto switching)
Battery Leads:	3" 9 VDC connector
Current Drain:	80 - 130 mA depending on RF output
Battery Life:	2 hrs. to -3 dB using fresh 9 VDC "Ultralife" battery
Operating Temperature:	-20° C to +55° C
Size:	2.11" x 1.10" x .435"
Weight:	.7 oz.

**ACCESSORIES FURNISHED:**

Battery  
 Storage Case  
 Software and Programming Cable  
 External Microphone  
 Battery Power Leads

**OPTIONS:**

Voice Scrambling  
 Long Power Leads  
 Microphone Color (Flesh or Black)  
 AR703 "Foldover" Antenna  
 PTX100 Field Programmer  
 RPA-703 Remote Power Adaptor  
 Two Channel Unit - CST-703vC2



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**CITATION 22 SURVEILLANCE RECEIVER/RECORDER****SD CARD AUDIO STORAGE AND TRANSFER****16 CHANNEL MEMORY****FIELD SECURE MODE****PROFESSIONAL GRADE DIGITAL RECORDER****PROGRAMMING PORT FOR TRANSMITTERS****SPECIFICATIONS:**

Case:	Pelican 1200
Frequency Range:	150 - 174 MHz in 2.5 kHz steps
Channel Memory:	16, user programmable
Sensitivity:	< .15 microvolts @ 12 dB SINAD
Power:	2 9V MN1604 Alkaline or equivalent; External 12 VDC
Adjacent Channel and Spurious Rejection:	> or = to 80dB
RF and IF Image:	> or = to 80dB
IM2 Distortion:	> or = to 75dB
Audio Output Power:	1/4 Watt
Field Secure Mode:	Hides frequency, prevents unwanted reprogramming
Connectors:	Antenna: BNC Line Out: RCA Headhone: Mini-Jack Power In: PTO DB9: for Transmitter Programming
Recorder:	DIGITAL Professional Grade
Audio Recording Storage and Transfer:	SD Card
Sample Rates:	44kHz, 48kHz, 96 kHz
Dynamic Range (Line In)	>90dB
Frequency Response:	20Hz~40kHz, +/- 0.5dB
Recorder Brand and Manufacturer	Subject to Change

**ACCESSORIES FURNISHED:**

1/4 Wave Magnetic Mount  
Cigarette Lighter Cord  
MFGs Recorder Accessories

**OPTIONS:**

Descrambling  
Memory SD Cards  
AC 110 Volt Adaptor



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## CITATION 20/R RACK MOUNT SURVEILLANCE RECEIVER

### 19" EIA RACK MOUNT

USER FIELD PROGRAMMABLE

SWITCHABLE BW: 12.5 - 25 KHZ

DIGITAL SIGNAL PROCESSOR FILTERS (DSP)

FIELD SECURE OPERATION MODE

SOFT KEY OPERATION AND BACK LIT LCD



### SPECIFICATIONS:

Receiver Case:	19" 1U Rack Mount Aluminum Housing
Frequency Range:	150 – 174 MHz
Channel Memory:	100 – User Programmable in 2.5 kHz steps
Sensitivity:	< .18 Microvolt's @ 12dB SINAD
Bandwidth:	12.5 kHz or 25 kHz (Field Switchable)
Modulation Acceptance:	6 kHz (Wide) – 3 kHz (Narrow)
AF Response:	+/- 3dB, 6dB/octave de-emphasis 300 Hz – 3 kHz
Audio Distortion:	Less than 5%
Digital Filter:	3 Position, 0/8/14dB
Received Signal Strength: (RSSI)	Bargraph
Antenna:	External 50 Ohm – BNC (on rear)
Power:	12VDC
Spurious and Adjacent Channel Rejection:	>= to 80dB Narrowband, 85dB Wideband
RF Image and IF Image:	>= to 80dB Narrowband, 85dB Wideband
Im <sup>2</sup> Distortion:	>= to 75dB Narrowband, 80dB Wideband
Audio Output:	RCA Jacks – Rear of Unit

### ACCESSORIES FURNISHED:

DC Power Cord w/ flying leads  
Field Secure Tool  
Operating Manual

### OPTIONS:

1/4 wave Mag Mount Antenna  
110 VAC to 12 VDC power brick and cable



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ICOM

COMMUNICATIONS RECEIVER

IC-R6

## A Diverse and Flexible Wideband Scanner



**100 kHz — 1309.995 MHz Wideband Coverage\***

\* Frequency range depends on version. Cannot decode digital modes.

**Fast Scanning Speed —**

**100 Channels per Second\*** \* VFO mode.

**1300 Memory Channels with  
PC Programmable Capability**

**Wide Variety of Scan Types for  
Searching New Stations**

**Compact, Drip-Resistant Construction  
with Large Internal Speaker**

**15 Hours of Continuous Receive Capability\***

\* With rechargeable Ni-MH cells (1400 mAh x 2) using 50 mW external speaker.

OTHER FEATURES

- Built-in audio low pass filter
- ±1.0ppm high frequency stability (at 25°C)
- Earphone cord antenna for AM aviation as well as FM broadcast
- Ferrite bar antenna for AM broadcast
- 150mW loud audio with internal speaker
- DTCSS and CTCSS tone squelch and reverse tone squelch
- Priority watch function with priority beep function
- Optional CT-17, CI-V level converter for remote control
- PC programmable with optional CS-R6
- Receiver-to-receiver cloning (optional OPC-474 required)
- Auto power OFF (0.5–2 hours and end of busy signal)
- Compact, drip-resistant construction
- Duplex operation monitoring
- Automatic LCD backlight
- Dial speed acceleration

- Built-in RF attenuator
- Auto memory write scan stores the detected frequency, mode and tone into a specified memory
- Reversible up/down buttons and dial knob for volume, frequency, memory channel, scan direction and set mode settings
- Optional new tube earphone, SP-27
- Weather channel receive with weather alert (USA version only)

SPECIFICATIONS

GENERAL

- Frequency coverage : 0.100–1309.995MHz\*  
(\* Cellular blocked in the U.S.A. version.)  
France 0.100–29.995, 50.200–51.200, 87.500–107.995, 144–146, 430–440, 1240–1300MHz
- Mode : AM, FM, WFM
- No. of memory channels : 1300 regular, 50 scan edges and 200 auto memory write
- Usable temperature range : –10°C to +60°C ; +14°F to +140°F
- Frequency stability : ±1.0ppm (at 25°C)
- Tuning steps : 5, 6.25, 8.33\*, 9\*, 10, 12.5, 15, 20, 25, 30, 50, 100, 125, 200kHz  
(\* Selectable depending on operating bands.)
- Battery requirement : 2×R6 (AA) size Ni-MH or alkaline cells
- External power supply : 4.5V DC rated (4.5–6.3V with BC-196SA/SD, CP-18A/E)
- Current drain Rated audio : 130mA typ. (Ext. SP, backlight off)  
at 3.0V DC Standby : 65mA typ.  
Power save : 30mA typ. (1:4 duty)
- Antenna impedance : 50Ω (SMA)
- Dimensions (W×H×D) : 58×86×29.8 mm;  
(Projections not included) 2<sup>9</sup>/<sub>32</sub>×3<sup>3</sup>/<sub>16</sub>×1<sup>1</sup>/<sub>16</sub> in
- Weight (approx.) : 200g; 7.1oz

RECEIVER

- Intermediate frequencies :  
FM, AM 266.7MHz, 19.65MHz, 450kHz  
WFM 266.7MHz, 19.95MHz, 750kHz
- Sensitivity (except spurious points):  
FM 1.625MHz– 4.995MHz 0.32μV typ.  
(12dB SINAD) 5.000MHz– 29.995MHz 0.25μV typ.  
30.000MHz– 117.995MHz 0.18μV typ.  
118.000MHz– 246.995MHz 0.18μV typ.  
247.000MHz– 469.995MHz 0.18μV typ.  
470.000MHz– 832.995MHz 0.32μV typ.  
833.000MHz–1029.995MHz 0.28μV typ.  
1030.000MHz–1309.995MHz 0.35μV typ.  
WFM 76.000MHz– 108.000MHz 1.1μV typ.  
(12dB SINAD) 175.000MHz– 221.995MHz 1.1μV typ.  
470.000MHz– 770.000MHz 1.8μV typ.  
AM 0.495MHz– 4.995MHz 1.3μV typ.  
(10dB S/N) 5.000MHz– 29.995MHz 0.89μV typ.  
118.000MHz– 136.000MHz 0.63μV typ.  
222.000MHz– 246.995MHz 0.63μV typ.  
247.000MHz– 329.995MHz 0.79μV typ.
- Selectivity AM, FM : More than 12kHz/–9dB,  
Less than 30kHz/–60dB  
WFM More than 150kHz/–6dB

- AF output power (at 3.0V DC, 10% distortion) :  
Internal speaker (16Ω load) More than 150mW  
External speaker (8Ω load) 80mW typ.
- External SP connector : 3-conductor 3.5 (d) mm (1/8")/8Ω

Applicable U.S. Military Specifications & IP Rating

Standard	MIL 810 F	
	Method	Procedure
Low Pressure	500.4	I, II
High Temperature	501.4	I, II
Low Temperature	502.4	I, II
Temperature Shock	503.4	I
Solar Radiation	505.4	I
Humidity	507.4	–
Vibration	514.5	I
Shock	516.5	I, IV

Also meets equivalent MIL-STD-810-C, -D and -E.

Ingress Protection Standard	
Water	IPX2 (Drip resistant)

Supplied accessories

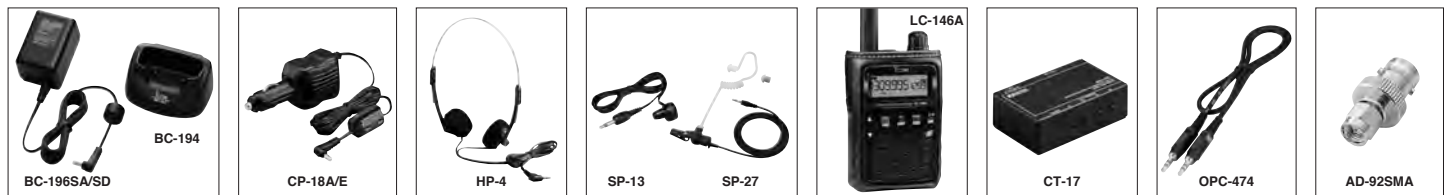
- Ni-MH cells\* ● AC adapter, BC-196SA/SD\*
  - Antenna ● Belt clip ● Handstrap
- (\* Not supplied depending on version)

All stated specifications are subject to change without notice or obligation.

OPTIONS

Some options may not be available in some countries. Please ask your dealer for details.

- **BC-196SA/SD AC ADAPTER**  
4.5V DC, 400mA output. Allows you to power the IC-R6 and charge the supplied Ni-MH battery cells installed in the IC-R6 in 15 hours (approx.). For exclusive use with the IC-R6 and BC-194 only.
- **BC-194 CHARGER STAND**  
Drop-in charger for use with BC-196S or CP-18A/E.
- **CP-18A/E CIGARETTE LIGHTER CABLE**  
6V DC, 1.5A output from 12V cigarette lighter socket.
- **HP-4 HEADPHONE**  
Light weight monaural headphone.
- **SP-13 EARPHONE**  
**SP-27 TUBE EARPHONE**  
Provides clear audio even in noisy environments.
- **LC-146A CARRYING CASE**  
Helps protect the receiver from scratches, etc.
- **CT-17 CI-V LEVEL CONVERTER**  
For receiver remote control from a PC.
- **CS-R6 CLONING SOFTWARE**  
**OPC-478 CLONING CABLE (RS-232C cable)**  
**OPC-478UC CLONING CABLE (USB cable)**  
Use a PC to easily edit stored memory channel data.
- **OPC-474 CLONING CABLE**  
Used for receiver-to-receiver data cloning.
- **AD-92SMA ANTENNA CONNECTOR ADAPTER**  
Allows you to connect a BNC-type antenna.



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Icom Inc.

1-1-32, Kami-minami, Hirano-ku, Osaka 547-0003, Japan Phone: +81 (06) 6793 5302 Fax: +81 (06) 6793 0013 www.icom.co.jp/world

Count on us!

Icom America Inc.

12421 Willows Road NE  
Kirkland WA 98034  
Phone: +1 (425) 454-8155  
Fax: +1 (425) 454-1509  
E-mail: sales@icomamerica.com  
URL: http://www.icomamerica.com

Icom New Zealand

146A Harris Road, East Tamaki,  
Auckland, New Zealand  
Phone: +64 (09) 274 4062  
Fax: +64 (09) 274 4708  
E-mail: inquiries@icom.co.nz  
URL: http://www.icom.co.nz

Icom (UK) Ltd.

Blacksole House, Altrra Park,  
Herne Bay, Kent, CT6 6GZ, U.K.  
Phone: +44 (01227) 741741  
Fax: +44 (01227) 741742  
E-mail: info@icomuk.co.uk  
URL: http://www.icomuk.co.uk

Asia Icom Inc.

6F No. 68, Sec. 1 Cheng-Teh Road,  
Taipei, Taiwan, R.O.C.  
Phone: +886 (02) 2559 1899  
Fax: +886 (02) 2559 1874  
E-mail: sales@asia-icom.com  
URL: http://www.asia-icom.com

Your local distributor/dealer:

Icom Canada

Glenwood Centre #150-6165 Highway 17,  
Delta, B.C., V4K 5B8, Canada  
Phone: +1 (604) 952-4266  
Fax: +1 (604) 952-0090  
E-mail: info@icomcanada.com  
URL: http://www.icomcanada.com

Icom (Europe) GmbH

Communication Equipment  
Auf der Krautweide 24  
65812 Bad Soden am Taunus, Germany  
Phone: +49 (6196) 76685-0  
Fax: +49 (6196) 76685-50  
E-mail: info@icomeurope.com  
URL: http://www.icomeurope.com

Icom France s.a.s.

Zac de la Plaine,  
1 Rue Brindejonc des Moulinais, BP 45804,  
31505 Toulouse Cedex 5, France  
Phone: +33 (5) 61 36 03 03  
Fax: +33 (5) 61 36 03 00  
E-mail: icom@icom-france.com  
URL: http://www.icom-france.com

Beijing Icom Ltd.

10C07, Long Silver Mansion, No.88, Yong Ding  
Road, Haidian District, Beijing, 100039, China  
Phone: +86 (010) 5889 5391/5392/5393  
Fax: +86 (010) 5889 5395  
E-mail: bjicom@bjicom.com  
URL: http://www.bjicom.com

Icom (Australia) Pty. Ltd.

Unit 1 / 103 Garden Road,  
Clayton, VIC 3168 Australia  
Phone: +61 (03) 9549 7500  
Fax: +61 (03) 9549 7505  
E-mail: sales@icom.net.au  
URL: http://www.icom.net.au

Icom Spain S.L.

Ctra. Rubi, No. 88 "Edificio Can Castanyer"  
Bajos A 08174, Sant Cugat del Valles,  
Barcelona, Spain  
Phone: +34 (93) 590 26 70  
Fax: +34 (93) 589 04 46  
E-mail: icom@icomspain.com  
URL: http://www.icomspain.com

Icom Polska

81-850 Sopot, ul. 3 Maja 54, Poland  
Phone: +48 (68) 550 7135  
Fax: +48 (68) 551 0484  
E-mail: icompolska@icompolska.com.pl  
URL: http://www.icompolska.com.pl

**ECHO™ 6 FREQUENCY AGILE SURVEILLANCE REPEATER****256 CHANNEL COMBINATIONS****16 MEMORY CHANNELS****“FIELD SECURE” MODE****TX OF LOW BATTERY WARNING****INTERNAL RECHARGEABLE BATTERY****NO COMPUTER NEEDED**

CONTROL PANEL

**SPECIFICATIONS:**

Case:	PELICAN 1200c
Size and Weight:	10.75" x 9.75" x 5.0" 12 lbs
Frequency Range:	150 -174 MHz
Frequency separation between TX and RX:	4.5 Mz minimum 10 MHz maximum
Channel Capacity:	16 Non-volatile, 256 channel combinations
Channel Separation:	+/- 200 kHz off center TX and/or RX frequency
Power:	External 12 to 14 VDC, 110 VAC, Internal battery
Antenna:	BNC connector, 50 ohms
Operating Temperature:	-30 °C to +55 °C
Low Battery Warn:	External LED, Periodic 'beep' tone on transmit
RF power output:	2 watts @ 12 VDC +/- 1 dB into a 50 ohm load
Frequency stability:	2.5 ppm from -30 °C to +55 °C
Modulation:	F3E Deviation +/- 3.5 kHz
Harmonic Output and Spurious Output:	Better than 50 dBC
Sensitivity:	< or = to .20 uV @ 12 dB SINAD
Modulation Acceptance:	+/- 3.5 kHz
Spurious Rejection:	> or = to 80 dB
Adjacent Channel, RF Image, IF Image:	> or = to 80 dB
IM2 Distortion:	> or = to 75 dB

**ACCESSORIES FURNISHED:**

1/4 Wave Magnetic Mount Antenna, Cigarette Lighter  
Power Cord, Charger

**OPTIONS:**

Scramble on Transmit, Coat Hangar Antenna, Line Input,  
AC Power Supply



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**ECHO™ 5 FREQUENCY AGILE MODULAR SURVEILLANCE REPEATER****256 CHANNEL COMBINATIONS****16 MEMORY CHANNELS****“FIELD SECURE” MODE****TX OF LOW BATTERY WARNING****OPTIONAL AGM BATTERY PACK****No Computer Needed to program**

With Optional Battery Pack

**SPECIFICATIONS:**

Size and Casework:	9" x 5.5" x 1.5" Heavy Duty Aluminum
Weight:	3 lb.
Frequency Range:	150-174 MHz, 138-162 MHz Optional (specify)
Frequency Separation:	4.5 MHz minimum, 10 MHz maximum between TX and RX
Current Draw	Approx 700 mA on Transmit, 150 mA standby
Channel Capacity:	256 channel combinations possible
Channel Separation:	+/- 200 kHz off center TX and/or RX frequency
Power:	External 12 VDC
Low Battery Warning:	Audible Signal at monitoring point
Antenna:	BNC connector, 50 ohms
Operating Temperature:	-30 °C to +50 °C
RF power output:	2 watts @ 12 VDC +/- 1 dB into a 50 ohm load
Frequency stability:	2.5 PPM
Modulation:	F3E
RX Sensitivity:	> or = to .20 uV @ 12 dB SINAD
Spurious Rejection:	> = to 80 dB
Adjacent Channel, RF and IF Image:	> = to 80 dB
TX Harmonic and Spurious Output:	Better than 50 dBC
RX IM <sub>2</sub> Distortion:	> = to 75 dB
FCC Certification:	Part 90

**ACCESSORIES FURNISHED:**

1/4 Wave Disguised Cellular Antenna  
Cigarette Lighter Power Cord

**OPTIONS:**

Scramble on Transmit  
Coathanger Antenna  
Line In  
Gel Cell Battery Pack



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*This is a custom, non-standard item*

## EC-GCEL RECHARGEABLE BATTERY PACK

**POWERS ECHO 5 SERIES REPEATERS**

**TWIST-LOCK CONNECTORS**

**MAY BE REMOTELY LOCATED**

**LARGE CAPACITY AGM type BATTERY**

**NO "MEMORY" EFFECT**



### **SPECIFICATIONS:**

Battery:	6 AH AGM Rechargeable Battery
Charger:	Wall Plug, 110-220 VAC
Protection:	Fuse
Casework:	Heavy Duty Aluminum
Size:	9" x 5.5" x 1.5"

### **ACCESORIES FURNISHED:**

AC Wall Charger  
 Echo 5 Repeater Power Connecting Cord - 6" long  
 Velcro Strap to Secure Battery Pack to Repeater



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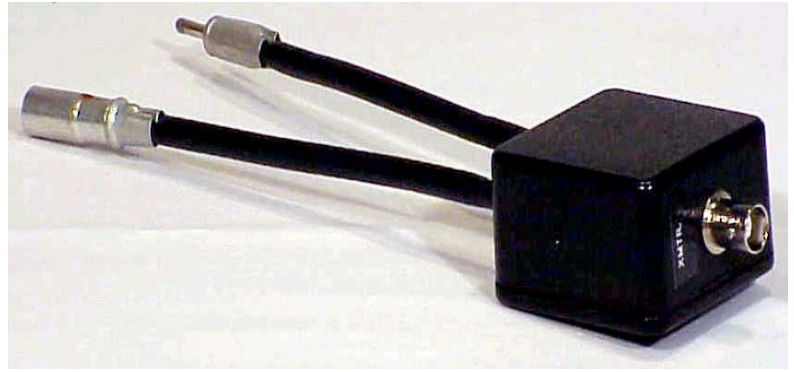
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Rev 44277

## A-VEHSPL ANTENNA SPLITTER

**MATCHES VEHICLE'S BROADCAST  
ANTENNA TO TRANSMITTER,  
REPEATER, OR RECEIVER**

**KEEPS ANTENNA COVERT**



### DESCRIPTION:

TTI's A-VEHSPL is a specially designed splitter/filter/matcher unit which allows the connection of a vehicle's AM/FM broadcast antenna to most of TTI's transmitters, transcoders, receivers, and repeaters: By using this splitter, you get the antenna outside the vehicle covertly! Must use adaptor cable between this device and your transmitter or receiver. Please specify connector configuration needed for adaptor cable when ordering, and call for compatibility with various TTI devices.



#### **VEH-CBL/27 Adaptor Cable For Antenna Splitter BNC TO SM TYPE 27 Connector**

10 foot adaptor cable for A-VEHSPL use with Transmitters or Transcoders using Type 27 Antenna Connector. (Consult with your sales representative for applicable types)



#### **VEH-CBL/BNC Adaptor Cable For Antenna Splitter BNC TO BNC Connector**

10 foot adaptor cable for A-VEHSPL use with Citation Series Receivers and Echo Series Repeaters.

TTI manufactures this device with a "Motorola" style auto antenna connector. You may need an adaptor to fit your late model foreign automobile. Be sure to check your vehicle for proper antenna connections. Adaptors are widely available from car stereo resellers.



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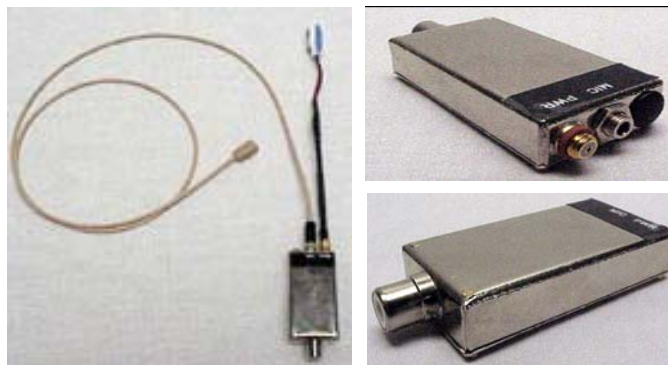
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**CAA-892 AUDIO AMPLIFIER**

*Takes microphone audio,  
tailors it for excellent recording,  
and translates it into line level audio*

*Used with any equipment (recorders, cameras,  
amplifiers) that only has line level audio inputs.*

**SPECIFICATIONS:**

Size:	1" x 1.75" x .35"
Antenuation:	4 oz.
Connectors:	TR-2A locking sub-mini jack (mic-in), RCA jack (line out)
Power Required:	9 VDC Alkaline battery
Maximum Recommended Cable Length:	30'

**ACCESSORIES FURNISHED:**

Power Cable/Battery Connector  
Battery  
Microphone

**OPTIONS:**

Microphone Color (Flesh or Black)  
Audio Cable (Specify Length)



TTI 500 Pine Street, Suite 3-A, Holmes, PA 19043  
TEL: 610-522-0106 email: [info@tti-narctech.com](mailto:info@tti-narctech.com)  
<http://www.tti-narctech.com>

Prices and Specifications Subject to Change without Notice  
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Rev 44277



## PTX-100 TRANSMITTER PROGRAMMER

**READ/WRITE FREQUENCY TO TRANSMITTERS  
AND TRANSCORDERS**

**NO COMPUTER NEEDED**

**ENABLE/DISABLE ENCRYPTION , SCRAMBLING**

**CHANGE RF OUTPUT POWER ON SELECT EQUIPMENT**

**UTILIZES PROGRAM CABLE OF TRANSMITTER**

**BUILT IN FIELD STRENGTH METER**



### **SPECIFICATIONS:**

Size	5" x 3" x 1.5"
Weight:	9.2 oz with battery
Power	9 VDC Alkaline Battery MN1604 or Equivalent Auto Shutoff
Data	Serial - Proprietary
Data Display	LCD, Illuminated, 2 lines x 8 characters
Data I/O	9 pin male, "D" type connector
Data Entry	Keypad, raised, tactile, 4 X 4 Matrix



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## A-CHV COATHANGER ANTENNA

**IDEAL FOR VEHICLE CONCEALMENTS**

**USE WITH TRANSMITTERS, RECEIVERS, OR REPEATERS.**

**USE A GARMENT BAG AND PUT THE ENTIRE REPEATER INSIDE! CHANGE LOCATION WITH REPEATER RUNNING!**



### **SPECIFICATIONS:**

Cable:	RG-58 (50 Ohm)
Connector:	Male BNC
Power Rating:	Up to 2 Watts
Compatibility:	All TTI Receivers, Repeaters, and Transcoders operating in the VHF High Band (150-174 MHz) with external antenna connection (Adaptors required for transmitters or transcoders, (consult your sales representative) .

### **OPTIONS:**

No Coathanger, 1/2 Wave Dipole Antenna for your custom applications. Contact your TTI representative



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## Vehicles and Other Equipment

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## TTI Surveillance Vehicle Division



*TTI's Vehicle Division is the industries foremost authority on designing and building mobile surveillance platforms.*

*Our design and building team has been doing this for over 35 years. You won't find a group with more experience - and more success.*

*TTI can take almost any vehicle and turn it into a rolling covert audio and video surveillance platform. The public will not know what's going on inside after we complete your vehicle.*

*Today's vehicles can be fully digital and IP controlled so you can drop it and leave it un-manned. Control the cameras and scope from HQ.*

*In addition to a brand new build, if you have assets already in place that are old and worn out, consider a full refurb.*

*Some of the overhaul can include replacing CRTs and VCRs with new lightweight digital monitors and digital DVR/NVRs. Upgrade to our new compressor driven Tiger-II Air Conditioning system to replace old wet ice systems. Update the periscope to today's optics and fully IP controllable. New inverter/charger and batteries to keep the equipment running. You can also update cabinets, carpet, seats, and more.*

*Ask your TTI Representative to start the conversation today for your custom vehicle quote.*



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## WHY SHOULD YOU USE TTI EQUIPMENT ?

Our Corporate Motto is ***“SUPERIOR IN RF...BECAUSE MORE THAN JUST OUR NAME IS ON THE WIRE”***. We believe that 100%. We totally get it. We completely understand the faith you need to have in us and our gear every time you strap on one of our products and go out to fight the good fight. We build and design gear with the feeling that we are right there with you every time you use something built by us. It's because of that level of understanding and our commitment to excellence that we are confident you will find TTI products, our continued support for them, and our continued support for you to be superior in their field.

Our History? TTI has been building industry leading electronic surveillance equipment since 1989. But TTI can trace it's lineage all the way back to 1969 through KEL Corporation and Bell and Howell's Special Operations Group. Those two names produced equipment that aided in investigations and arrests whose stories have spawned yesterday's legends in this industry.

And TTI will continue to design and build audio, video, and mobile products that will allow you to create your very own legends of tomorrow.

It's a combination of that strong history of proven successes and leadership coupled with a firm belief that what is good for you is ultimately good for us that has guided TTI into our FOURTH DECADE. And it has been the loyal support of our existing customers that has allowed us to continue to serve the law enforcement community with the enthusiasm, integrity, and commitment that our entire staff has every day.

Our ultimate show of that commitment to the industry is reflected by our strong suggestion that you compare competitive products in this market before you purchase. Touch them, feel them, and try them out - side by side if possible. Also compare product support, training, and the warranty for your gear. Make sure you are getting everything you pay for when you buy.

As TTI continues to design RF audio intercept gear, video, IP, digital, and other 21st century technologies, you can be confident in our diligent effort to continue to live up to the legends of our past as we push forward to help you create the legends of your future.

***Rich Snyder, President and CEO***

**COMPARE BEFORE YOU DECIDE**

***Request a demonstration***

***Test our equipment against ANYTHING our competition offers.  
You WILL find better recovered audio, better range, better video, better value,  
and better customer service right here at TTI. We Guarantee It.***

**Attn: Investigations / Surveillance / Narcotics**



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