



Packet Type III

Part B



Santa Clara County ARES®/RACES/ACS
Last Updated: 18 October 2025

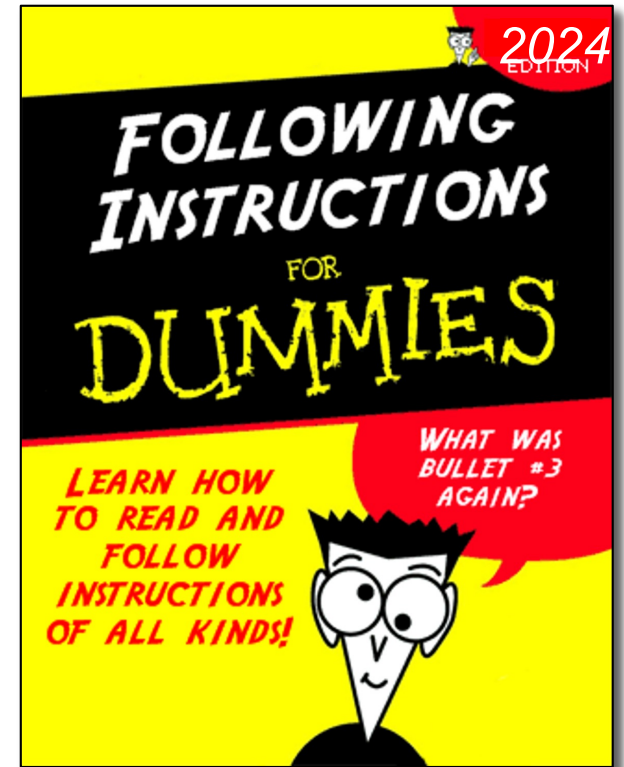
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Housekeeping

- Introductions
- Pen/pencil & paper
- Cell phones on silent or vibrate
- Side conversations
- Questions
- Breaks
- Restrooms
- In case of emergency
- No wandering or exploring other areas of the building.



Overview: Packet Classes

Packet Type III, Part A

- Packet operator credentials
- Packet radio overview
- Packet network components
- Packet software
- Standard workflow
- Standard packet forms

Packet Type III, Part A+

- Packet Operations Self-Paced Exercise workbook

Packet Type III, Part B

- Starting Up a Station
- Packet Operations
- Shift Changes
- Shutting Down a Station

Packet Type II: Advanced Techniques, such as County EOC Packet Station Setup & Operations, Operating without Outpost.

Learning Objectives

At the end of this class, you should know how to:

- Verify the setup of an existing packet station
- Select a BBS and connect to it
- Create a message with Outpost and PackItForms
 - Properly format the subject line
 - Send a proper check-in message
- Retrieve SCCo notices and send local notices
- Produce event documentation for archiving
- Conduct packet messaging field operations

Fictitious Examples

- We use fictitious call signs in this presentation to avoid SPAM

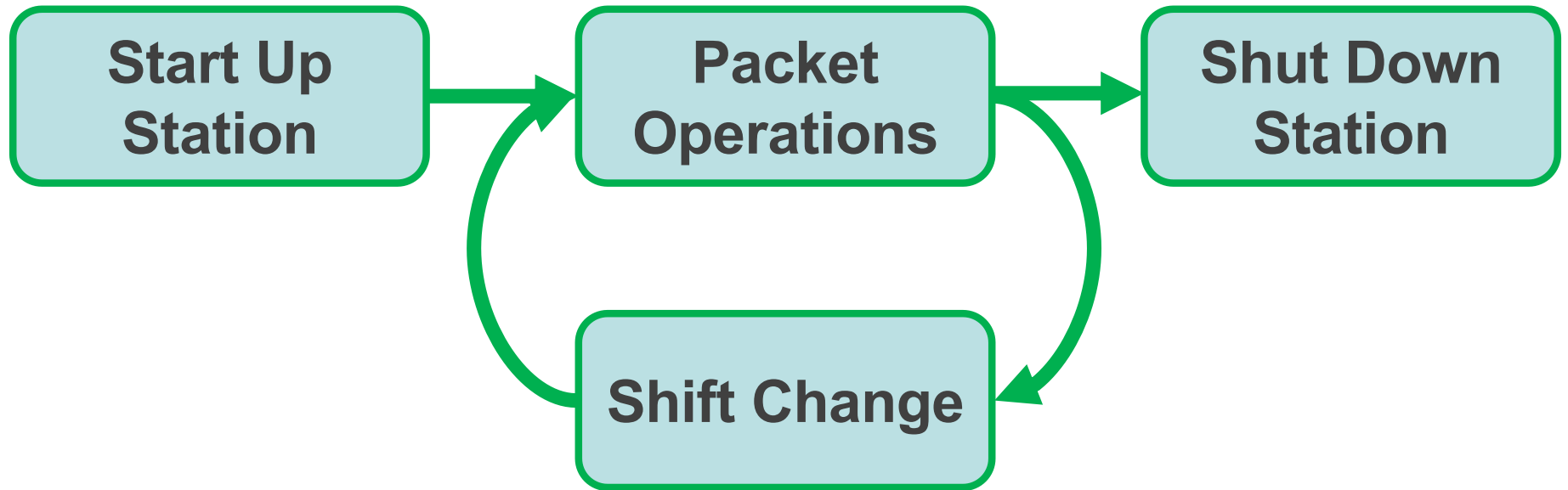
- W6XRL4: Herman Munster



- XNDEOC: City of Xanadu Emergency Operations Center

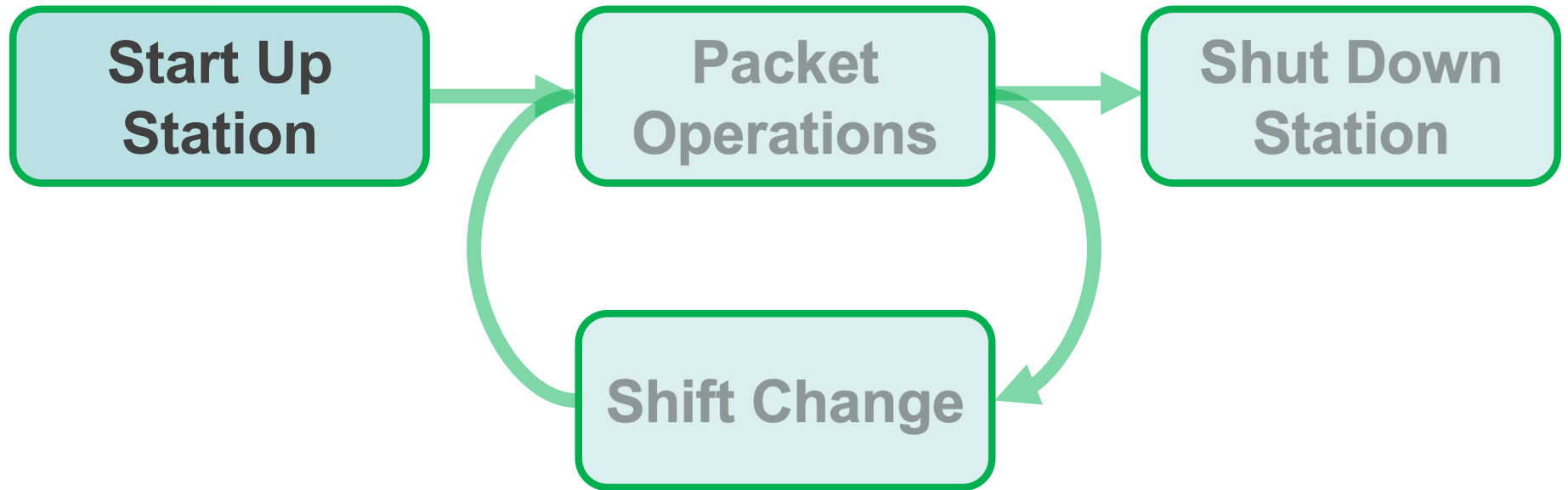


Packet Field Deployment



This class covers only packet-specific procedures.

For general assignment procedures, see the Performance Standards and Best Practices manual and the Field Operations Type III classes.



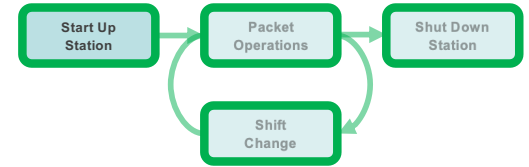
START UP STATION

Initial Setup – Scenario

- Upon arrival at your assignment, your supervisor explains that someone from the local ham club tried to get the packet station working. They were unsuccessful and had to leave.
- He takes you over to the hardware:



Start Up Station



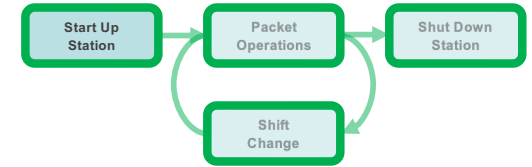
1. Get a briefing
2. Set up equipment and operating area
3. Set up software
4. Download and review current bulletins
5. Send yourself a test message and verify connectivity
6. Notify shift supervisor that you're ready to start

All of the above should be done before scheduled start time.

7. Send a check-in message *when instructed by supervisor*

Start Up Station

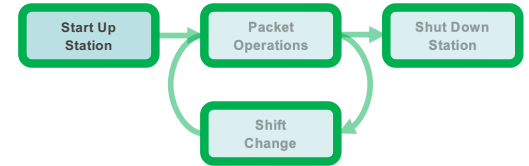
1. Get a briefing



In addition to the usual non-packet information: (PS&BP 12–13)

- What tactical call sign, BBS, and frequency band to use
- Equipment setup quirks (e.g., proper transmit level)
- Message ID prefix and message numbering range(s)
- Changes to packet addresses for other stations

Start Up Station

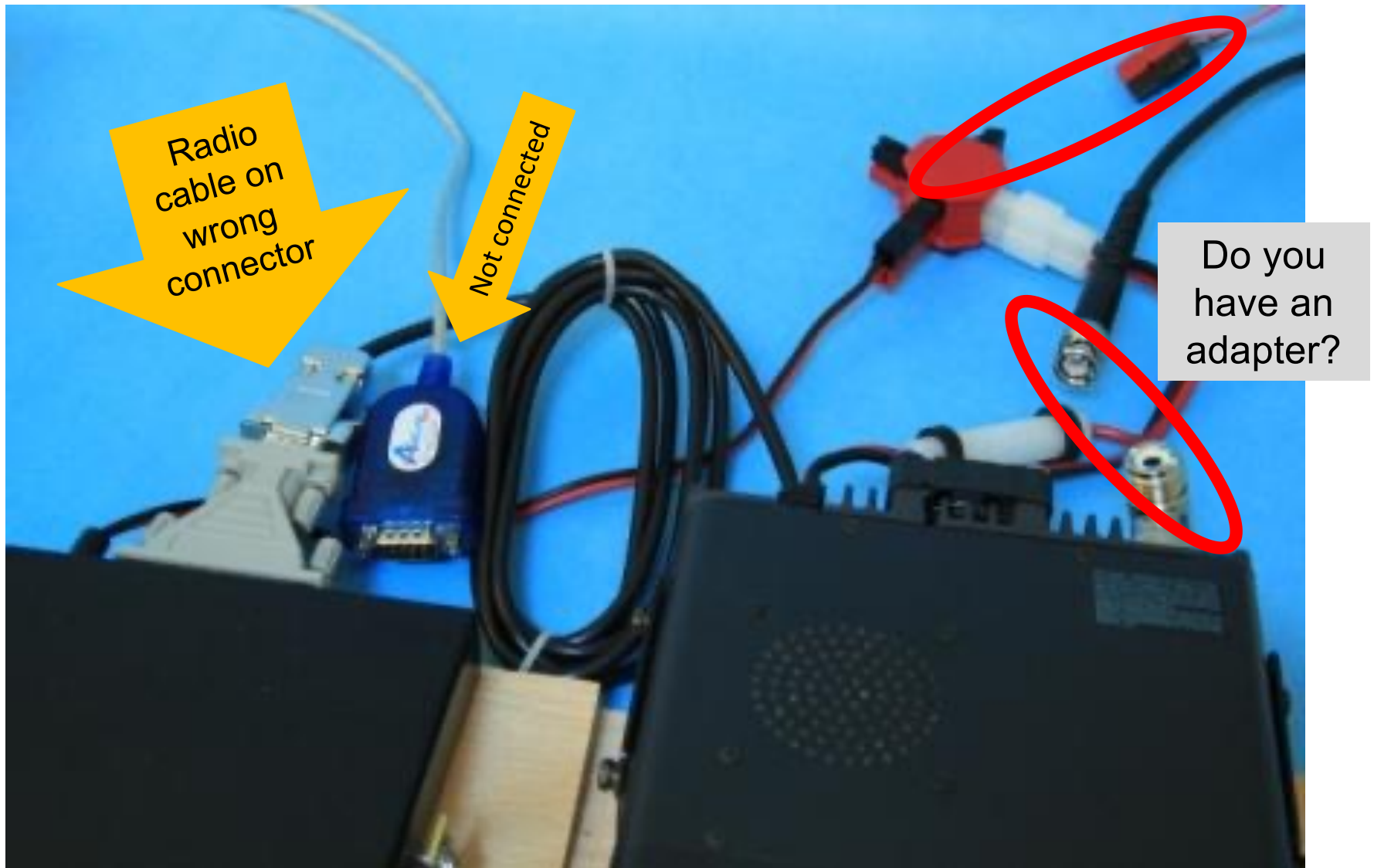


2. Set up equipment and operating area

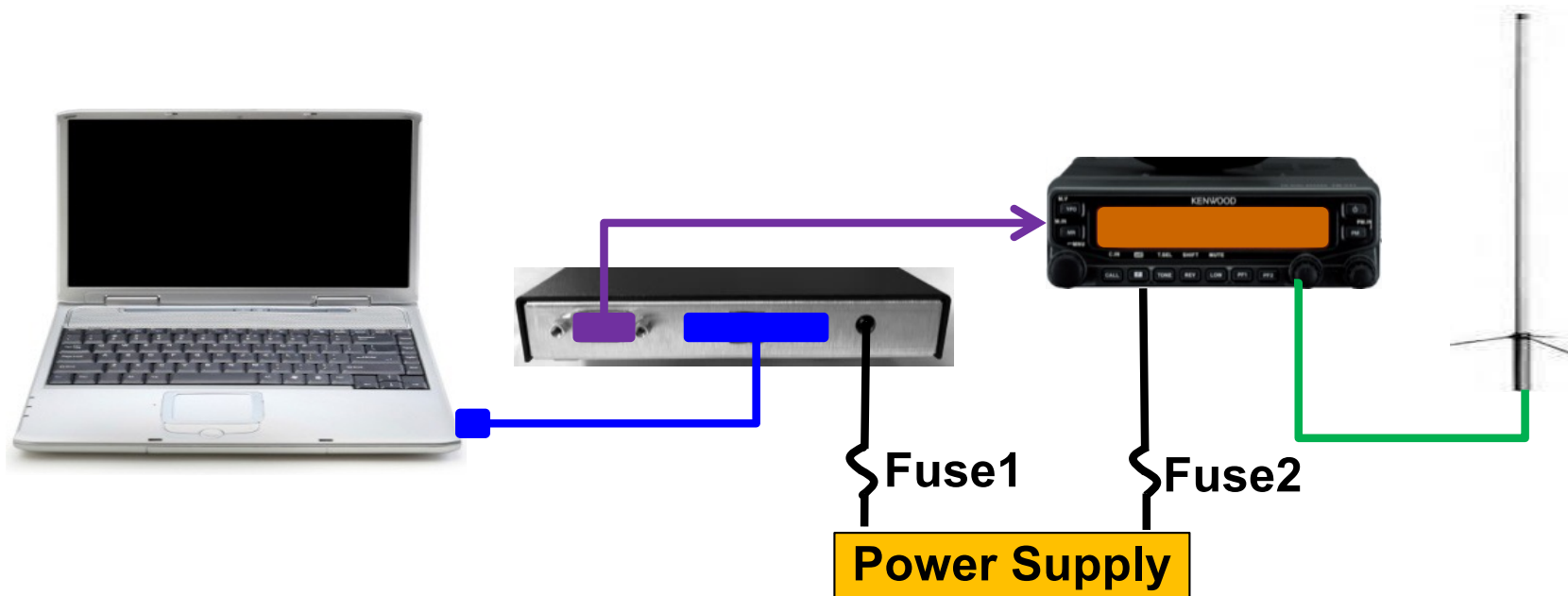
- Connections
- Initial Power Up
- Equipment Settings
 - PC to TNC
 - TNC
 - TNC to Radio
 - Radio

Connections – What You May See

Here is what you see when you find the hardware...



Connections



PC/Laptop

- Comm Port, or
- USB port and a USB-to-Serial adaptor
- ***Windows USB Driver***

TNC

- Serial (or USB) cable
- ***Custom*** TNC/radio cable
- Power cable, fused, to power supply or battery
 - Fuse1 = 1A (typical)

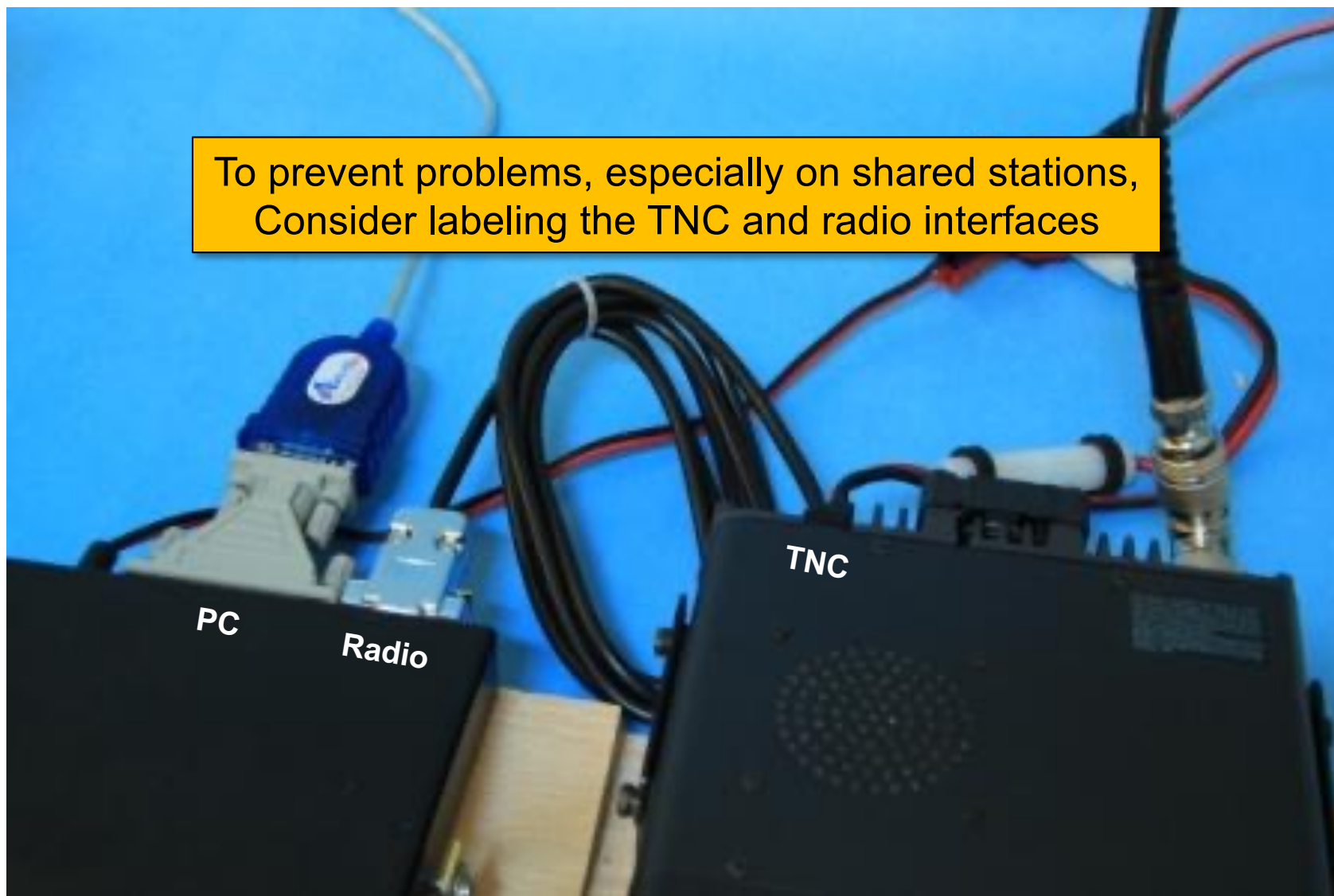
Radio

- Antenna coax connected
- Power cable, fused, to power supply or battery
 - Fuse2 = 15-20A (typical)

Connections – After Correct Assembly

You've straightened out the hardware and cabling

To prevent problems, especially on shared stations,
Consider labeling the TNC and radio interfaces



Connections — Tips

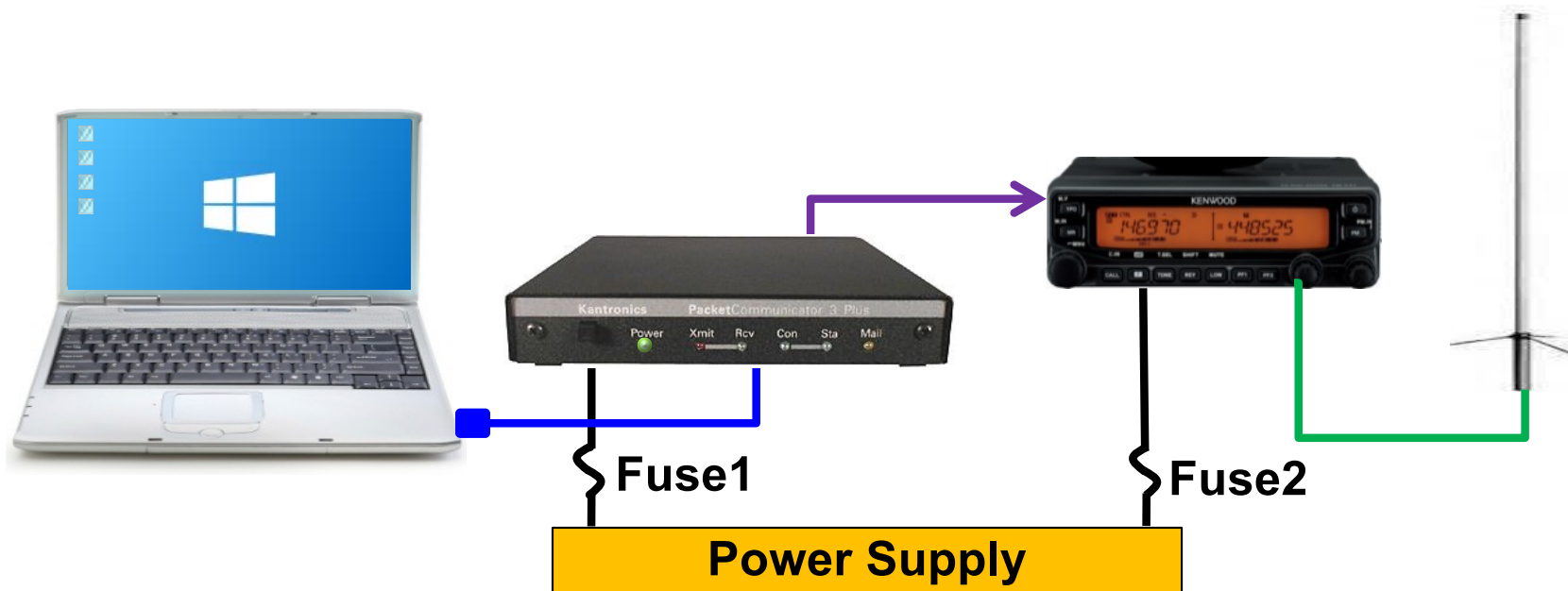
Interference between cables

- Avoid having data cables run parallel to antenna cables
- Prefer using shielded data cables, or add ferrite cores

Don't forget the antenna

- Transmitting without an antenna can damage the radio
- Before connecting power, verify antenna connection
- Before disconnecting antenna, disconnect power

Initial Power-Up



PC/Laptop

- Battery is charged, or a power adaptor is plugged in
- Laptop boots up

TNC

- Apply power
- Power LED lights up

Radio

- Apply power
- Radio turns on correctly

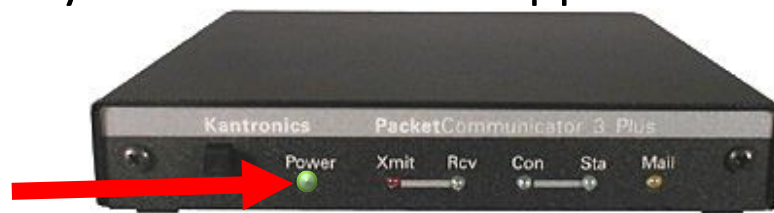
Initial Power-Up

Known Problem: TNC, RigRunner, blown fuse

- **IF:** TNC power cable is plugged directly into a RigRunner



- **AND:** TNC's power light is on
 - You may or may not notice that it appears a little dimmer than usual.



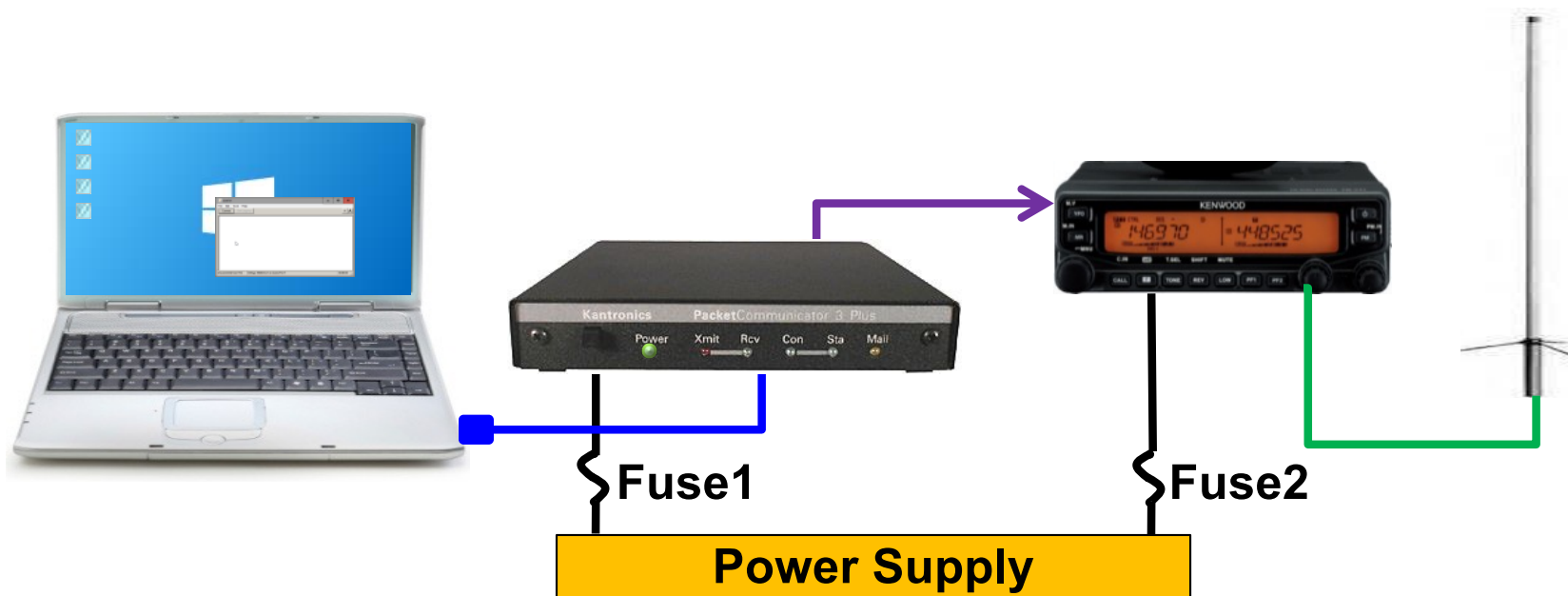
- **BUT:** No response from the TNC via a serial connection; it behaves like it's turned off.

Initial Power-Up

Known Problem: TNC, RigRunner, blown fuse

- **THEN:** It probably *IS* off!
- Check the RigRunner. Is there a red light on behind the fuse?
 - Replace the fuse
 - RigRunner lights an LED behind the fuse when the fuse is burned out
 - But the current needed to power the fuse LED is just barely enough to light the power light on the TNC (dimly)!
- Or, try another port on the RigRunner.
 - Your model may not have an LED light or it may not be working
- Or, try another power cord
- Avoid blowing a fuse:
 - ALWAYS plug the power cord into the TNC first, then into the power source.
 - This avoids the chance of the TNC power connector plug tip touching the TNC chassis, thereby shorting positive to ground, and blowing the fuse

Equipment Settings



PC/Laptop Settings

- Terminal Program:
Comm Port Setting
 - Com Port #
 - 9600 baud
 - 8 data bits
 - No parity
 - 1 stop bit
 - RTS/CTS flow control

TNC Settings

- Comm Port Settings
 - 9600 baud, 8-N-1
- Older KPC-3s default to 7-E-1 (update them)
- Carrier Detect settings
 - INTERFACE TERMINAL
 - CD SOFTWARE

Radio Settings

- Correct frequency
- No Tone
- No offset
- Squelch open
- High power
- Correct 'side' of radio is selected for packet

Equipment Settings — PC to TNC

Use a terminal program to verify the PC can talk to the TNC.

- Find the COM Port for the TNC
- Set PC-to-TNC communications speed
- Disable KISS mode

If the PC cannot talk to the TNC, do not proceed!

Equipment Settings — PC to TNC

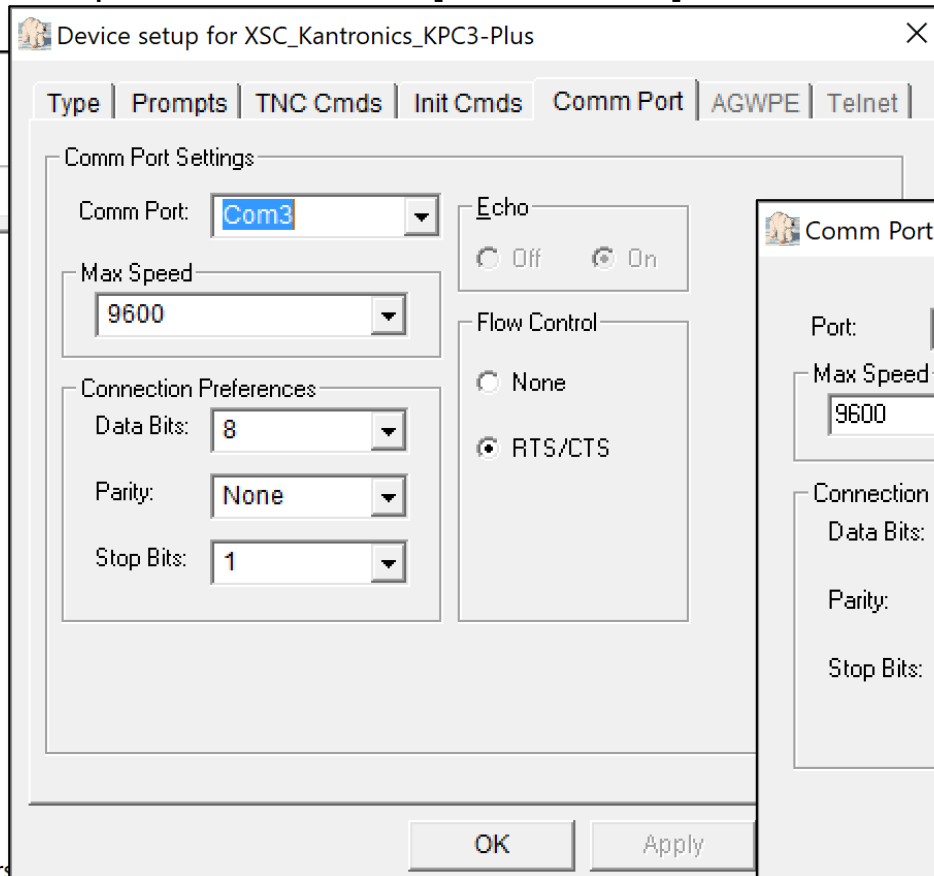
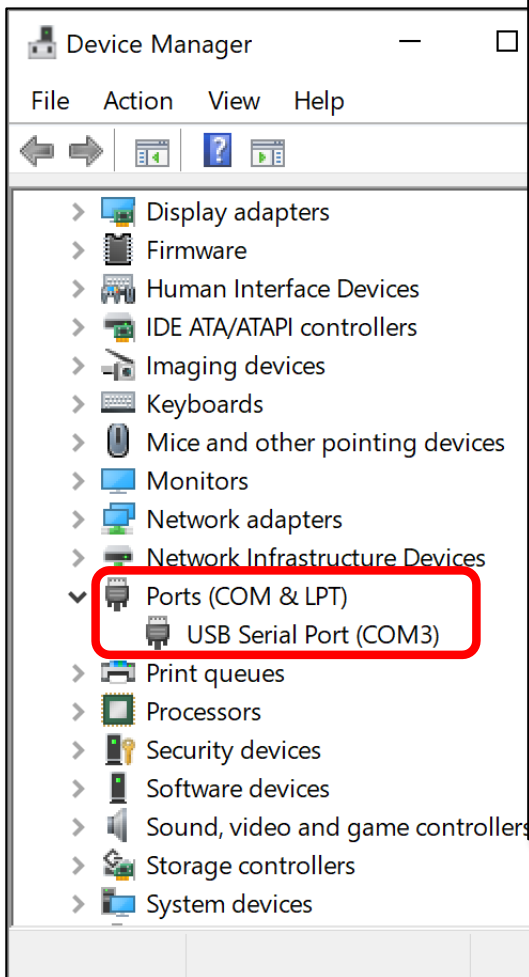
Find the COM port for the TNC

Most TNCs use: 9600 baud, 8-N-1, RTS/CTS

Outpost:

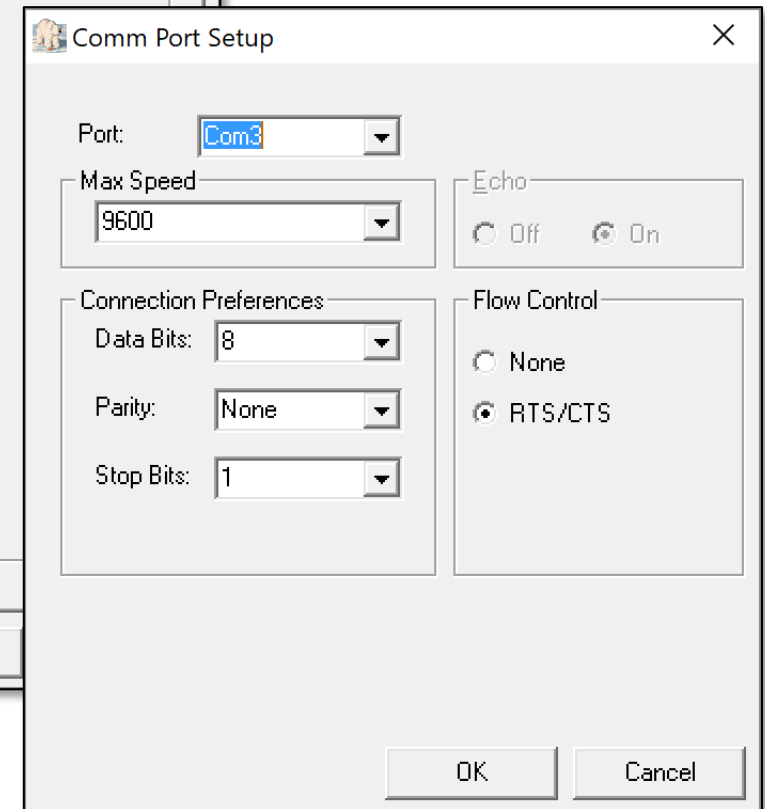
Setup > Interfaces ... > [Choose TNC] > Comm Port

Windows:



Ipserial:

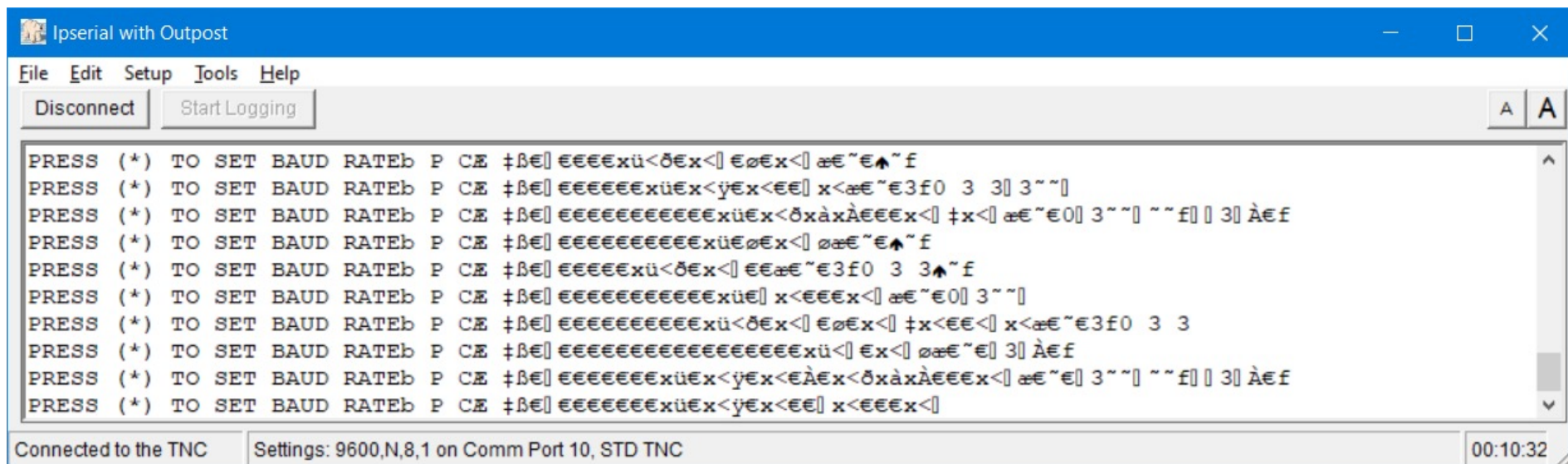
Setup > Comm Port Settings



Equipment Settings — PC to TNC

Set PC-to-TNC Communications Speed: Autobaud Routine

- With everything properly connected and powered on, you might see this...



```
PRESS (*) TO SET BAUD RATEb P CÆ þ ß€[] €€€€xü<ð€x<[] €ð€x<[] æ€~€^~ f
PRESS (*) TO SET BAUD RATEb P CÆ þ ß€[] €€€€€€xü€x<ÿ€x<€€[] x<æ€~€3f0 3 3[] 3~[]
PRESS (*) TO SET BAUD RATEb P CÆ þ ß€[] €€€€€€€€€€€xü€x<ðxàxÀ€€€x<[] þx<[] æ€~€0[] 3~[] ~f[] 3[] À€f
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PRESS (*) TO SET BAUD RATEb P CÆ þ ß€[] €€€€€€xü<ð€x<[] €€æ€~€3f0 3 3^~ f
PRESS (*) TO SET BAUD RATEb P CÆ þ ß€[] €€€€€€€€€€€xü€[] x<€€€x<[] æ€~€0[] 3~[]
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PRESS (*) TO SET BAUD RATEb P CÆ þ ß€[] €€€€€€€€€€€€€€€€xü<[] €x<[] ðæ€~€[] 3[] À€f
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PRESS (*) TO SET BAUD RATEb P CÆ þ ß€[] €€€€€€€xü€x<ÿ€x<€€[] x<€€€x<[]
```

Connected to the TNC Settings: 9600,N,8,1 on Comm Port 10, STD TNC 00:10:32

- This is the **KPC-3 Autobaud** routine that assures that the KPC-3 Plus baud is the same for the communication software you are using.
- AUTOBAUD sends and resends the message “PRESS (*) TO SET BAUD” at one baud after another.
- When the KPC-3 baud matches that of your terminal program, you can read the text.
- When the two bauds do not match, the message appears garbled, if it appears at all.

Equipment Settings — PC to TNC

Set PC-to-TNC Communications Speed: Autobaud Routine

This happens:

- **The first time** your KPC-3 Plus is ever used (from the factory)
- **Dead TNC memory battery**
- After a **hard reset** with the **RESTORE DEFAULT** command

When it happens:

- When you see **PRESS (*) TO SET BAUD RATE**, immediately press the “*” key.
- Then, enter the following commands:

ENTER YOUR CALLSIGN=> **W6XRL4**

(your call sign or tactical call)

cmd: **INTERFACE TERMINAL**

(enables the full TNC command set)

cmd: **CD SOFTWARE**

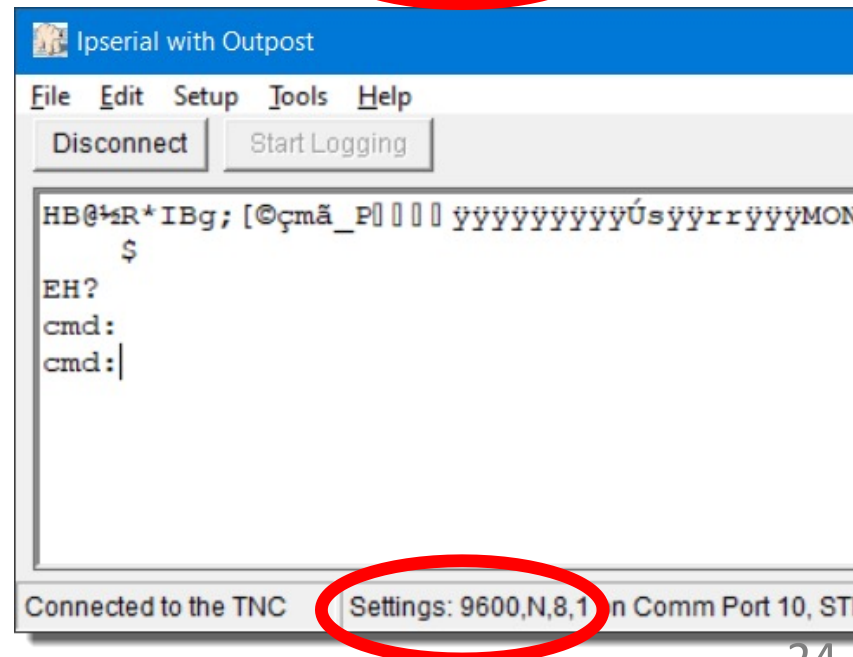
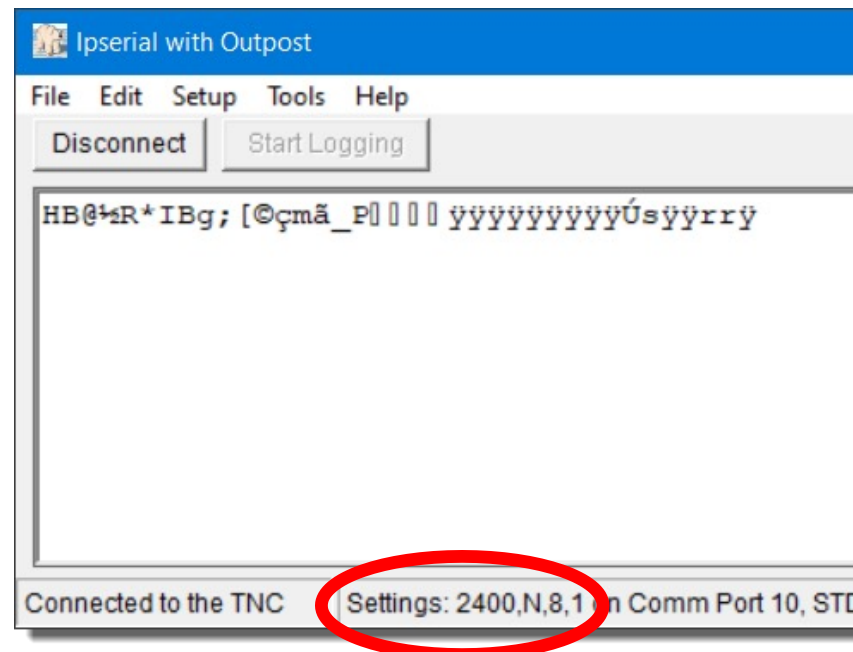
(TNC Carrier Detect is performed in software; lets you keep the radio squelch open)

Equipment settings — PC to TNC

Set PC-to-TNC Communications Speed

Back at Ipserial.exe...

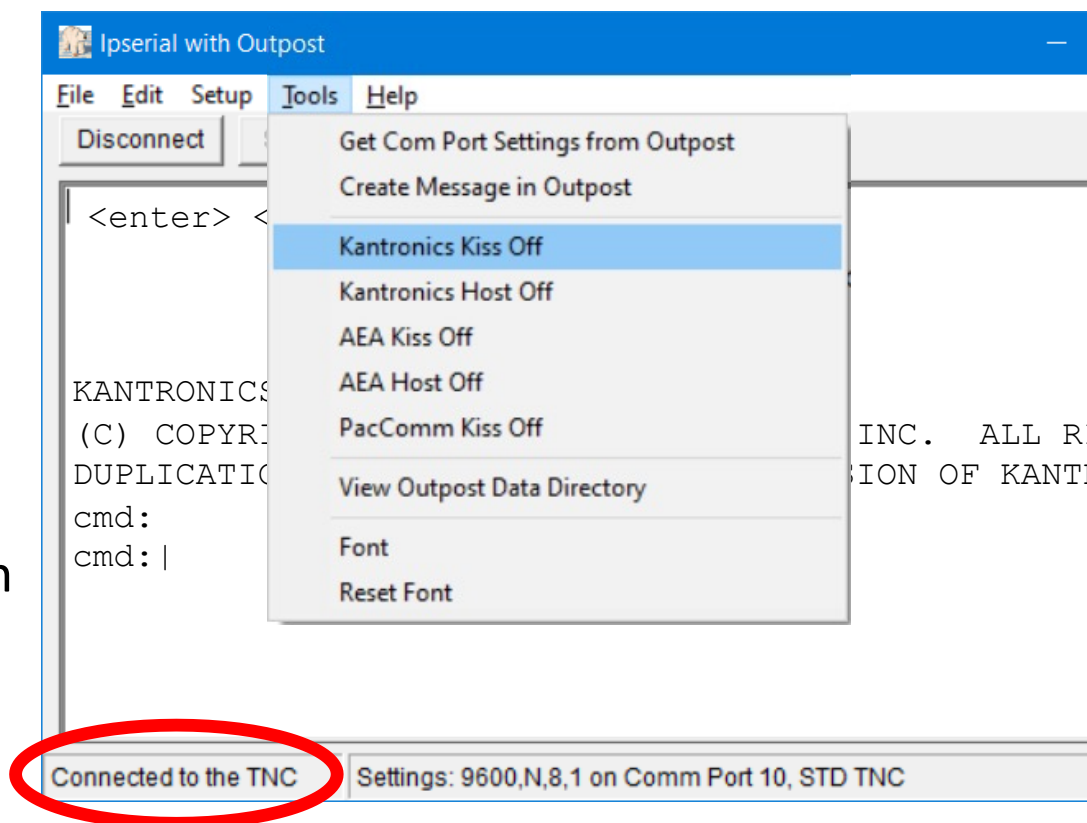
- **What you see:**
 - Press a key, see garbled text.
- **WHEN** does this occur:
 - TNC previously worked great!
 - But someone changed the program's baud rate
- **HOW** to fix:
 1. TNC baud is likely 9600
 2. **Change** the program baud
Setup > Com Port Settings,
change baud to 9600...
 3. **Disconnect, Reconnect**, press
any key.
 4. Try other baud rates if this
does not fix it.



Equipment settings — PC to TNC

Disable KISS mode

- **What you see:**
 - TNC previously worked great!
 - The cable, USB drivers, and power are good, and no blown fuse
 - But Press any key and I get no reply
- **WHEN** might this occur:
 - Someone or some program put the TNC in **KISS mode**
- **HOW** to fix:
 1. Start Ipserial
 2. Verify the TNC Com Port and baud rate
 3. Verify Com Port Connect, then
 4. **Tools > Kantronics Kiss Off**
 5. TNC is restored to **TERMINAL** mode



Equipment settings — PC to TNC

Can't communicate with the TNC



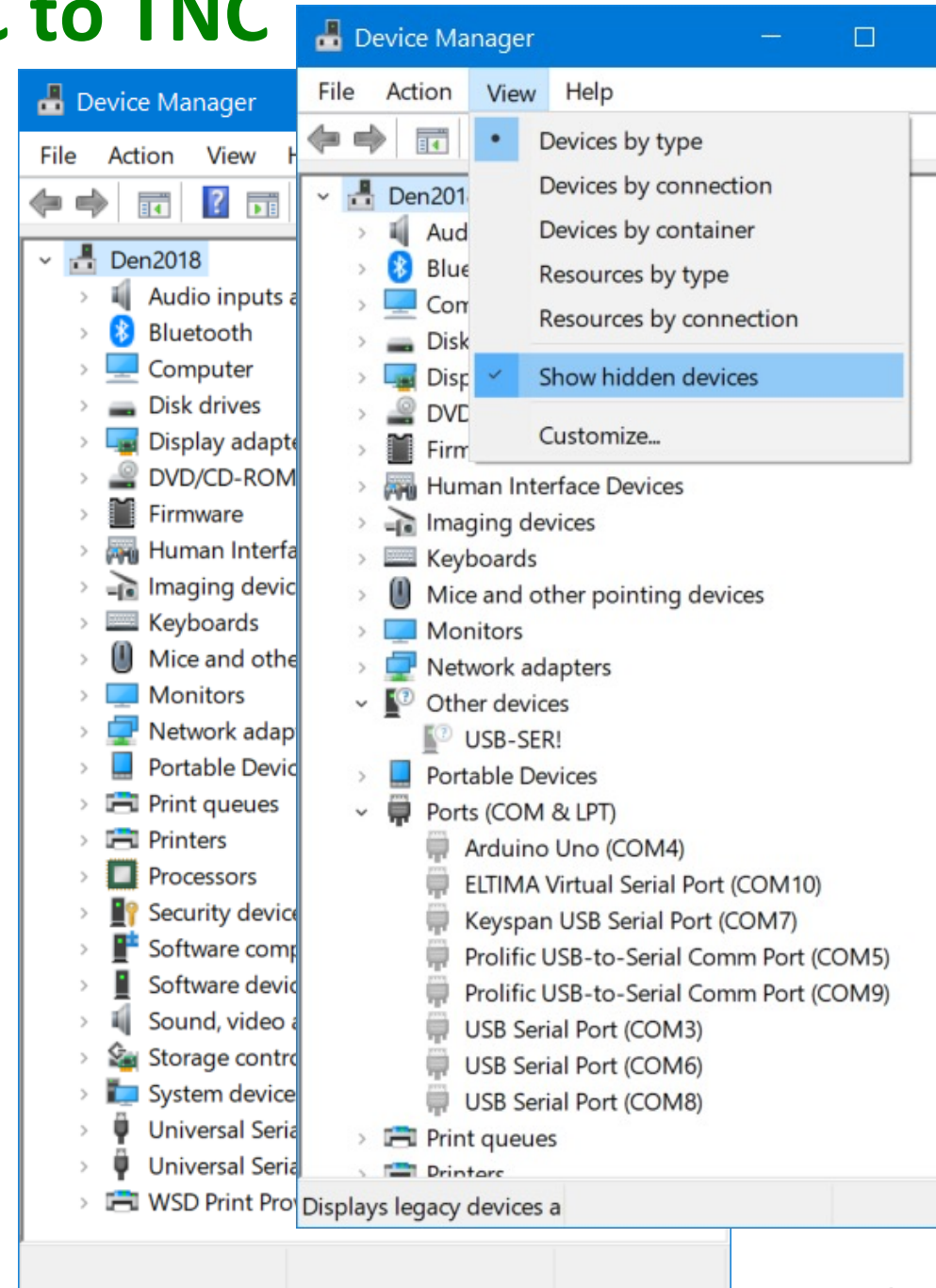
Windows Device Manager is next.

- Device Manager is a Microsoft Windows O/S tool.
- It allows users to view and control the hardware attached to the computer.
- When a piece of hardware is not working, the offending hardware is highlighted for the user to deal with.
- To run Device Manager...
 1. Press **Windows** key + **R** key together to open a Run box.
 2. Type **devmgmt.msc**, press **OK**. Device Manager opens.
 3. Or, enter **device manager** in the Windows Search field on the task bar... Device Manager opens.

Equipment settings — PC to TNC

Can't communicate with the TNC

- Find and expand the **Ports (COM & LPT)** group.
- Don't see it? Then check:
 - USB-Serial connector is attached to the PC
 - For KPC3+ USB, make sure KPC3 is powered on
- Also, try
 - **View > Show hidden devices**



Equipment settings — PC to TNC

Can't communicate with the TNC

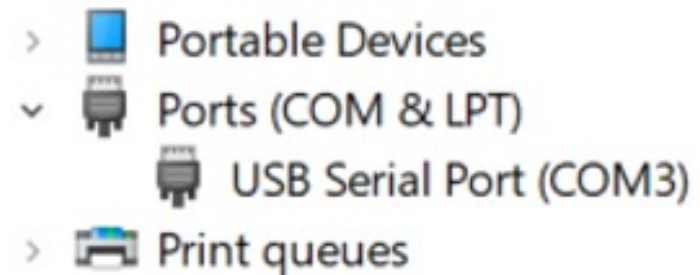


1. Find and expand **Ports (COM & LPT)** dialog.

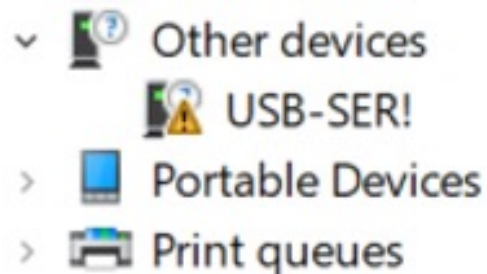
2. You should see something like this...



...or...



3. You do not want to see anything like this...



...or...



Equipment settings — PC to TNC

Can't communicate with the TNC: USB-Serial adaptor

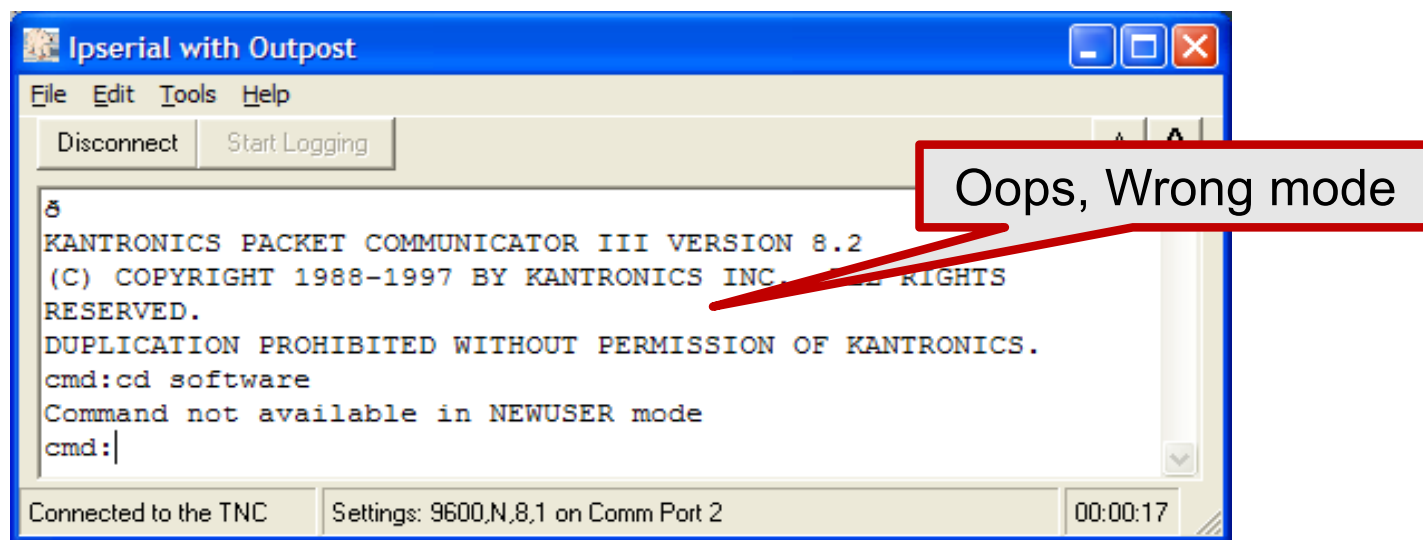


- Troubleshooting USB-Serial driver problems is a class by itself... we do not have time to cover it here.
- However, here are 5 (not all) things you can do:
 1. Review the SCCo RACES USB-to-Serial Adapter page... **Data Networking > AX.25 over VHF > Equipment and Software > [USB-to-Serial Adapter](#)**
 2. Post your problem or questions to the packet email list. It is likely there is an SCC RACES packet op who has encountered and solved this problem before.
 3. If you know the USB-Serial adaptor chipset, try searching, downloading, and installing its Windows driver.
 4. Buy yourself a new USB-Serial Adaptor, then label it, practice with it, get comfortable with it, put it in your packet kit, and deploy with it.
 5. Lastly, if you have a bunch of old, unknown, or confirmed non-working USB-Serial Adaptors in your junk box, then throw them out NOW and save yourself from future headaches.

Equipment Settings — TNC

Full Command Set

- After a hard reset, the Kantronics TNC puts you in **NEWUSER** mode.
- NEWUSER mode allows only the most basic commands. As a result, you might see this:



```
Ipserial with Outpost
File Edit Tools Help
Disconnect Start Logging
8
KANTRONICS PACKET COMMUNICATOR III VERSION 8.2
(C) COPYRIGHT 1988-1997 BY KANTRONICS INC. ALL RIGHTS
RESERVED.
DUPLICATION PROHIBITED WITHOUT PERMISSION OF KANTRONICS.
cmd:cd software
Command not available in NEWUSER mode
cmd:|
Connected to the TNC Settings: 9600,N,8,1 on Comm Port 2 00:00:17
```

Oops, Wrong mode

To fix, at the cmd: prompt, you type:

cmd: **INTERFACE TERMINAL** (allows all commands)

Equipment Settings — TNC to Radio

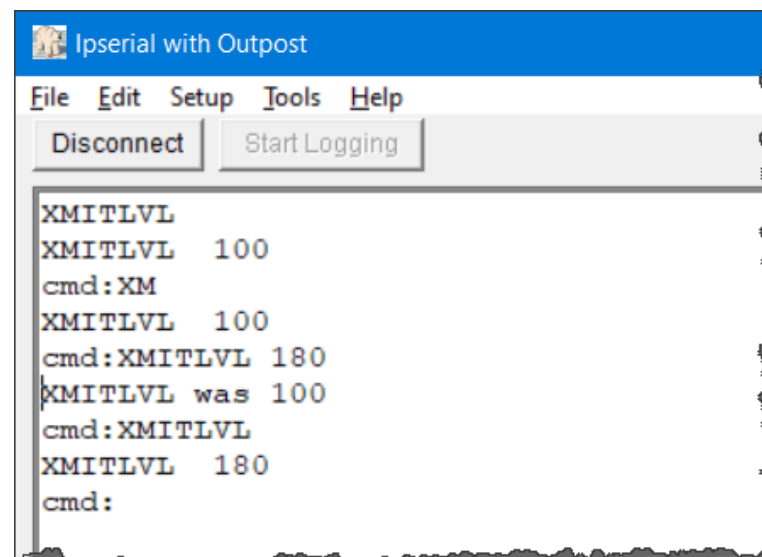
Software Carrier Detect

- We recommend letting the TNC, not the radio, determine when there is a packet signal being transmitted.
- If your radio applies squelch to its TNC output, turn the squelch all the way open.
- If the TNC's "Receive" light is on all the time, then the TNC needs to be set for software carrier detect.
- To do that for a Kantronics TNC, at the TNC Prompt, enter:
 - cmd: **CD SOFTWARE**
 - Other TNCs default to this option (Timewave) or have a different command for this option; check your TNC manual

Equipment settings — TNC to Radio

Audio Output Level

- The TNC sets the audio output level (transmit drive audio) for your radio.
- The transmit drive level can be set from the command line, but it implies you know to what value it should be set.
- While calibrating the drive level is beyond the scope of this course, being able to view and set a previously determined value is in scope.
- To view the currently set transmit drive level:
`cmd: XMITLVL` (**XM** for short command)
`XMITLVL 100` (displays the value. Default=100, range is 0 to 502)
- To set the transmit drive level:
`cmd: XMITLVL 180` (example)
`XMITLVL was 100`
- Most packet station owners will have the XMITLVL written down. If you cannot find it, ask your Shift Supervisor.



Equipment Settings — Radio

BBS Frequency

- Use the correct frequency for your primary or secondary BBS
- Ask your supervisor which frequency band to use.

SCCo ARES/RACES Packet BBSes					
AX.25	Internet/ BBS [1]	2m	1.25cm	70cm	Location
W1XSC-1	w1xsc	145.750	223.620	433.570	San Jose
W2XSC-1	w2xsc	145.730	223.560	433.590	Crystal Peak
W3XSC-1	w3xsc	144.310	223.540	433.450	Palo Alto
W4XSC-1	w4xsc	145.690	223.600 [2]	433.550	Frazier Peak

<http://www.scc-ares-races.org/operations/packet/bbs>

- The same information is available as a packet notice

Frequencies are in MHz.

Call Sign	AX.25 Connect	User Access	BBS-BBS Forwarding
W1XSC	W1XSC-1	145.750, 223.620, 433.570	
W2XSC	W2XSC-1	145.730, 223.560, 433.590	
W3XSC	W3XSC-1	144.310, 223.540, 433.450	
W4XSC	W4XSC-1	145.690, 223.600*, 433.550	223.600

*223.600 is primarily for BBS forwarding; user access should be limited to emergency/backup situations. Interference to/from other BBSs will be significant.

Equipment settings — Radio

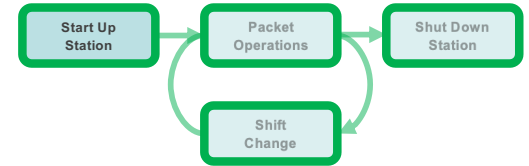
- High Power
- Correct Frequency
- Squelch is open (BUSY)
- Correct side is set for packet
 - Some radios “force” packet to a particular side



Start Up Station

3. Set up software

- Start with a clean slate
- Station ID
- PC clock
- TNC and BBS selections



Start with a Clean Slate

When you start a new assignment, you want:

1. Current versions of Outpost and PackItForms
2. SCCo-standard settings for Outpost
3. No messages in Outpost other than permanent bulletins

If the system you are given is not clean, you should:

1. Install current versions of Outpost and PackItForms*
2. Verify all Outpost settings against the standard
<https://www.scc-ares-races.org/operations/packet/std-outpost>
3. Archive and remove all messages from Outpost*

* Take these steps only with supervisor approval

Station ID

- You get to the Outpost Station ID screen....

Station ID is W6XRL4 as XNDEOC

Identification | BBS Logins | Signatures

Current Profile: Outpost

Legal

User Call Sign: W6XRL4

User Name: Herman Munster

Message ID Prefix: HXM (3 Characters max)

Tactical

☒ Use Tactical Call for all BBS interaction

Tactical Call Sign: XNDEOC

Additional ID Text: Xanadu EOC

Message ID Prefix: XND (3 Characters max)

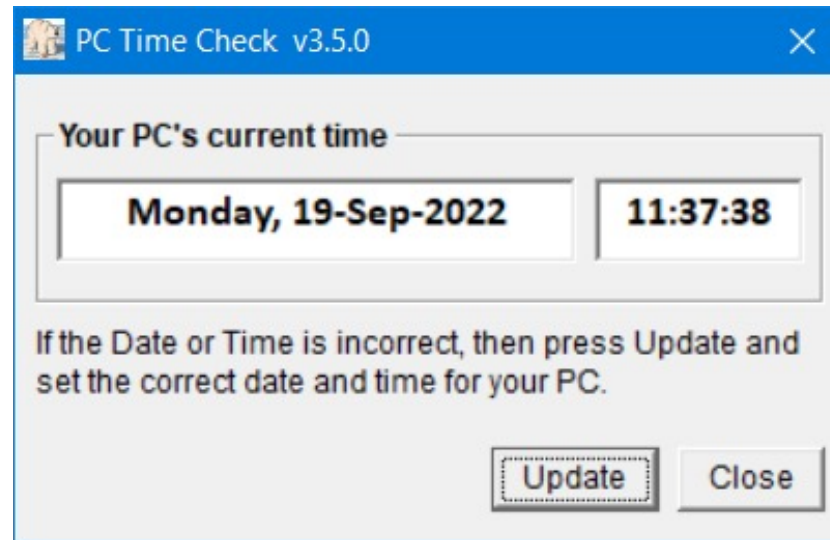
☒ Show this form on startup

OK Apply Cancel

Have you been
assigned a tactical
call sign?

Is this your call sign,
name, initials?

PC Clock

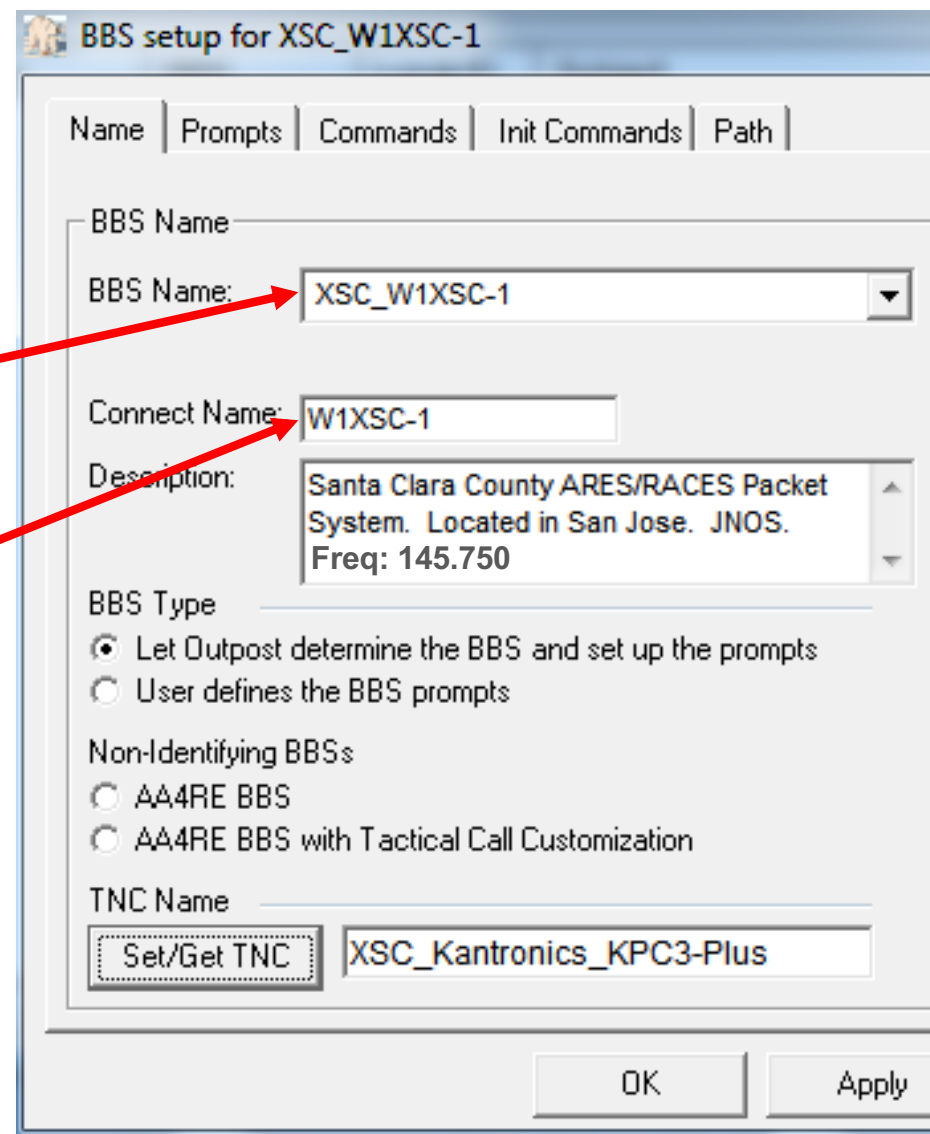


Is the date and time correct?

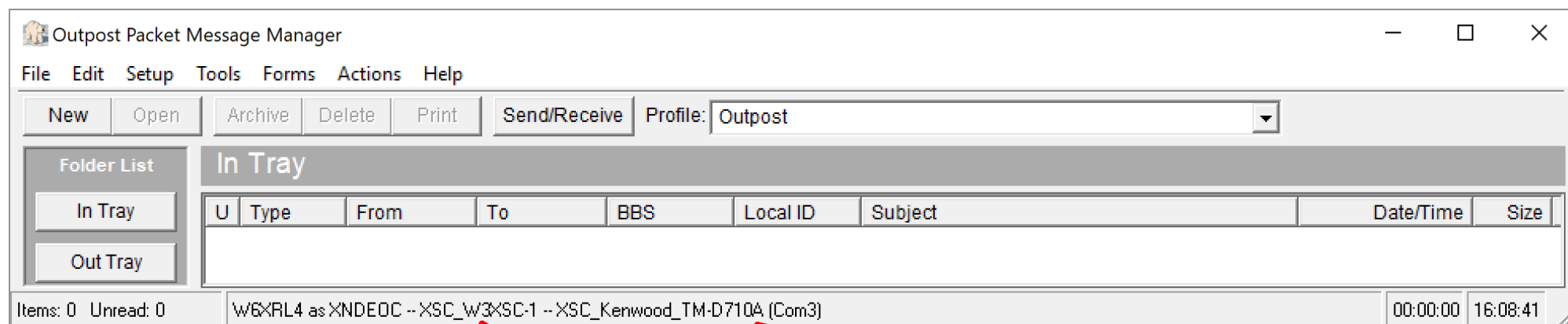
**Correct date and time is important!
It will be used in a variety of places.
Verify each time you start up.**

BBS Selection

- Setup > BBS ...
- The SCCo Installer includes setups for all SCCo BBSs
- All SCCo-supplied setup names start with “XSC_”
- For the W1XSC BBS, you will connect to W1XSC-1



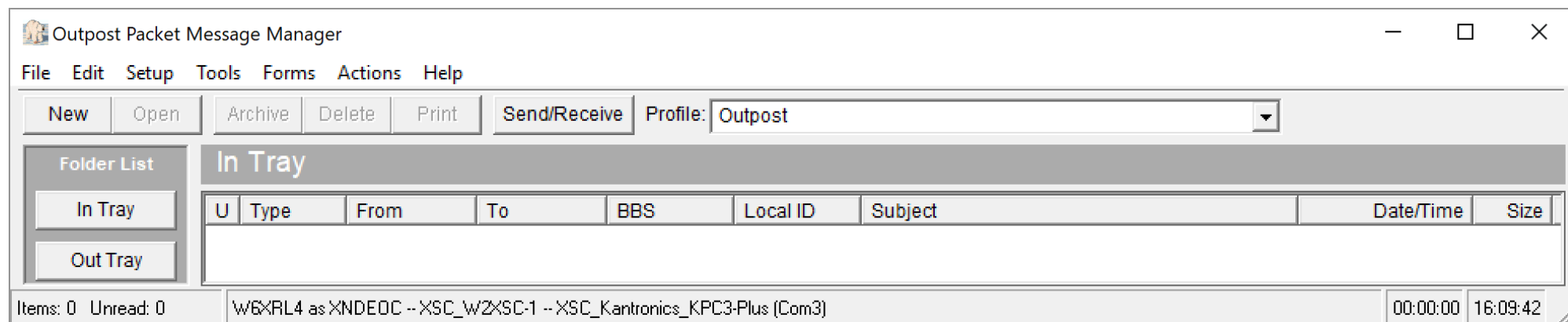
TNC and BBS Selections



... but you were assigned to W2XSC

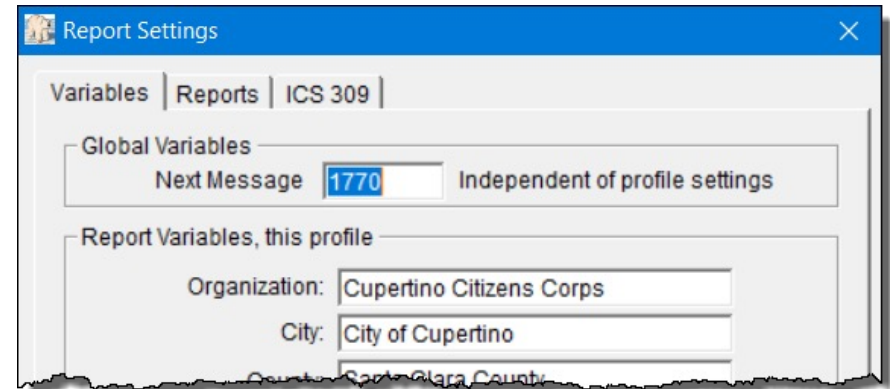
... and you have a KPC-3+ TNC

- After setting the BBS and TNC, we are ready to go.



Starting Message Number

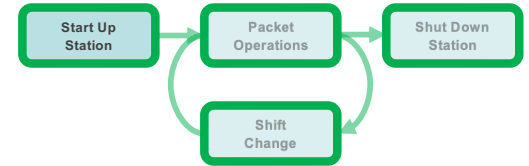
- Set the Starting Message Number
 - In Outpost, **Tools > Report Settings**
 - Change the **Next Message** value.



Start Up Station

4. Download and Review Bulletins

- Overview of Notices and Bulletins
- SCCo Notice Areas
- City Bulletins



Notices and Bulletins: Overview



- Bulletins and notices are intended for a broad audience
 - They are a great way to get information out to everyone
 - Better than a mailing list; no need to know all the desired addresses
 - When configured, Outpost will take care of retrieving them for you
- **SCC Notices** are a special type of message specific to Santa Clara County BBSs
 - Only distributed to SCCo BBSs (W*XSC)
 - Simple to address
 - SCCo uses 3 special **Notice** categories
- **Bulletins** are used for wider (local to worldwide) distribution
 - Organized by general *categories* (e.g.: “quake”, “ARES”), and
 - *Distribution* ID defining distribution area (e.g.: “XSC”, “BAY”, “NCA”, etc.).
 - Outside the scope of this class (will cover in the Packet Type 2 Class!)
- Outpost will automatically download both when properly configured

SCCo Notice Areas

NOTICE

- SCCo ARES/RACES has three notice categories:
 - xscperm
 - Used for notices that do not expire
 - examples: standard county procedures
 - xscevent
 - Notices posted here automatically expire after 8 days
 - examples: Drills, public service events, incidents, other activations
 - xsctest
 - Used for testing. Feel free to post a notice here!
- Advantages
 - Limits on-air time required to check bulletins
 - Focuses readership so important information is not missed
 - Outpost only downloads a notice once

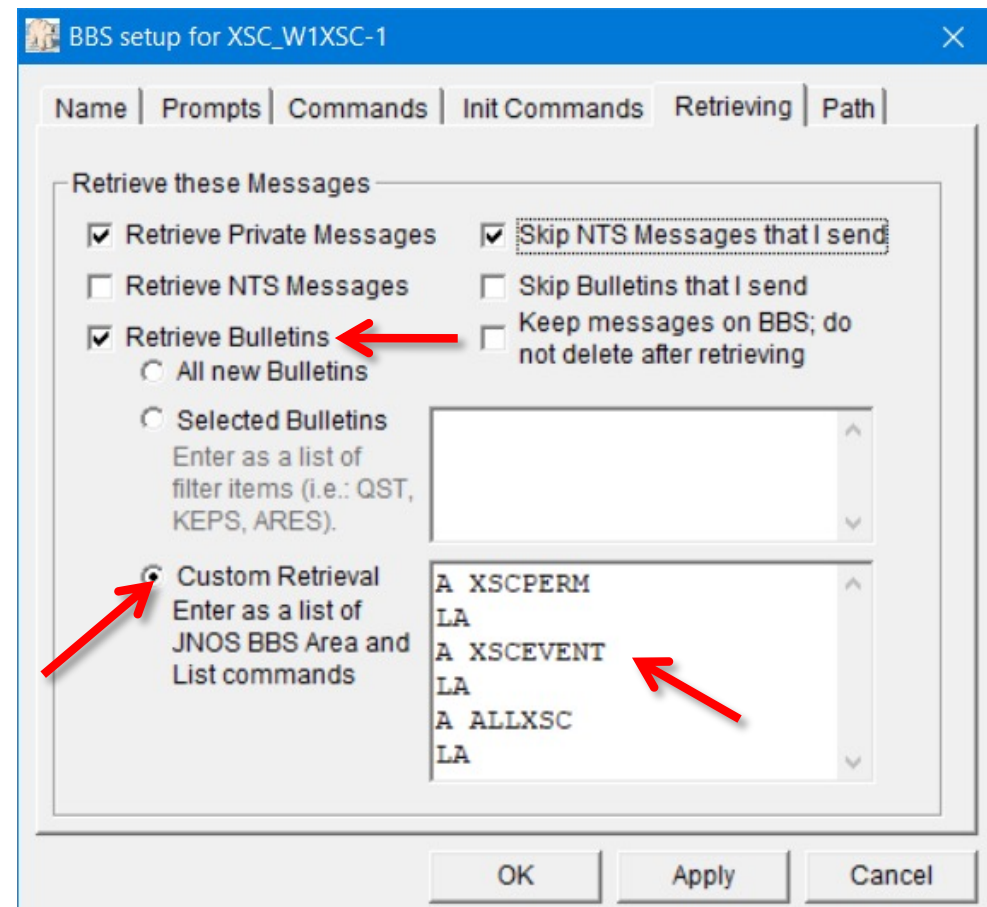
City Bulletins

- SCCo ARES/RACES pays attention to bulletins that are sent to:
 - A *category* that is the three-letter code for a city or jurisdiction, and
 - A *distribution* of “xsc” — that is, Santa Clara County
- These are called “city bulletins”
 - Used for city and jurisdiction notes
 - Bulletins posted here automatically expire after 8 days

Example: Mountain View bulletins are sent to `mtv@xsc`

Outpost is Pre-Configured for SCCo Notices

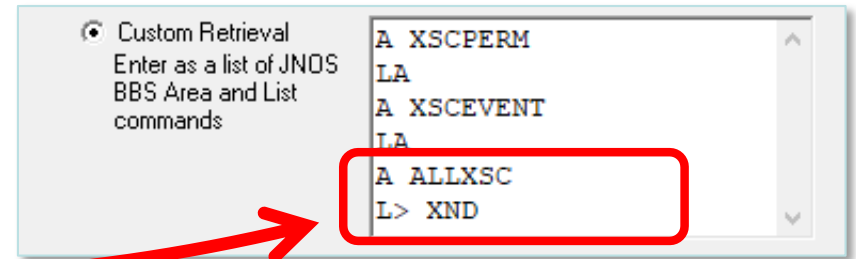
- The SCCo Packet Installer pre-configures Outpost to download SCCo notices and city bulletins
 - XSCPERM
 - XSCEVENT
 - ALLXSC
- In Outpost:
 - Setup > BBS, Retrieving Tab
 - Check “Retrieve Bulletins”
 - Check “Custom Retrieval”
- City bulletins are retrieved for all cities



Using City Bulletins

Setup

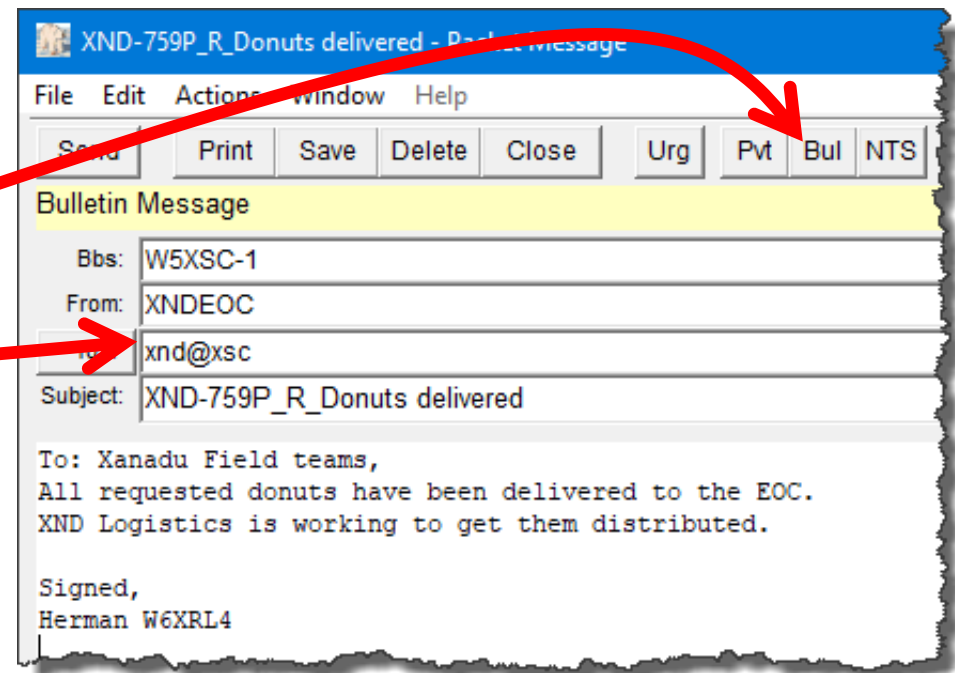
- **Setup > BBS > Retrieving**
- Change to your city's three char prefix (ex: "XND", "SJC", "MTV", etc.)



NOTE: only one City entry is allowed.

Create, send a city bulletin

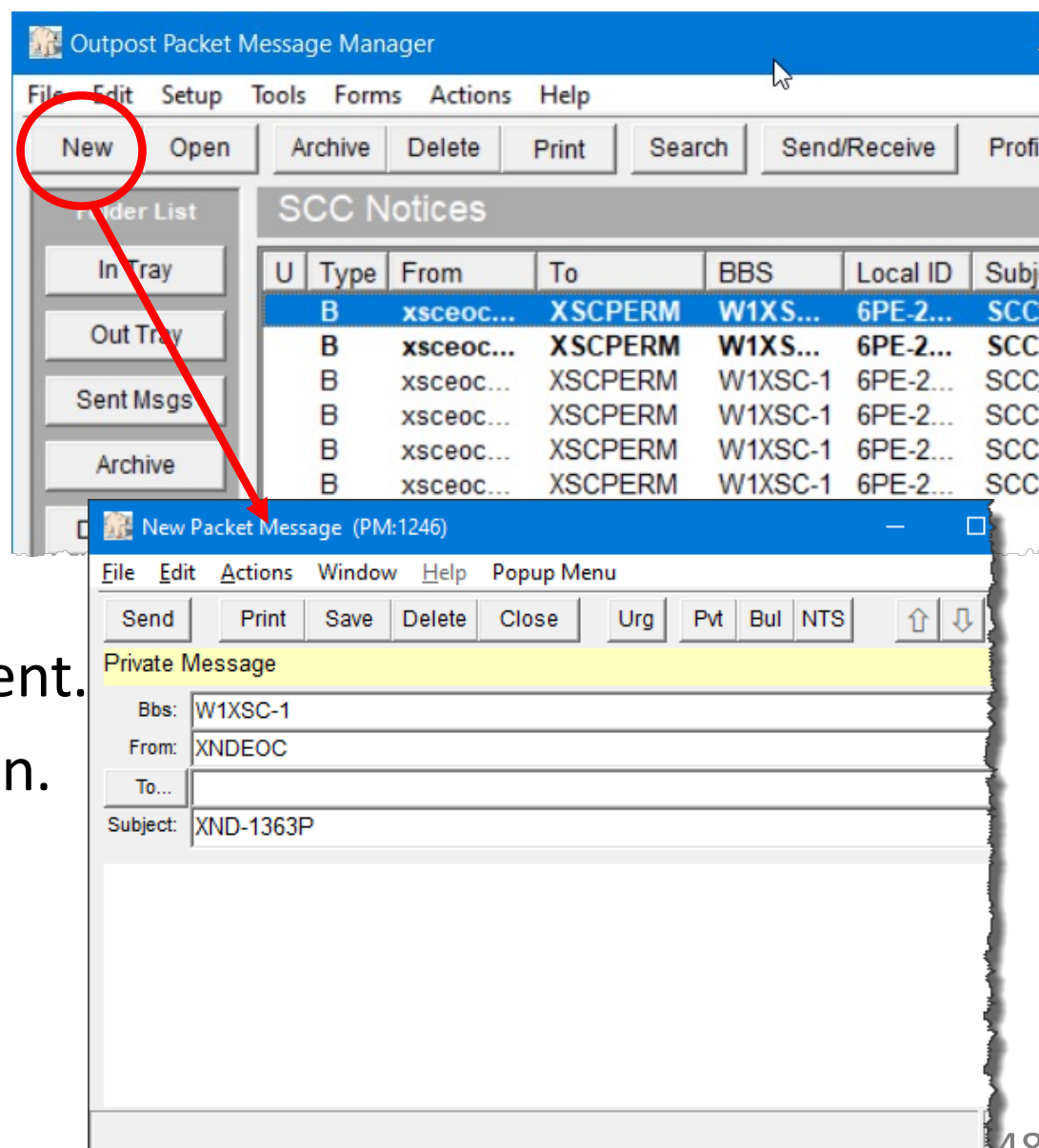
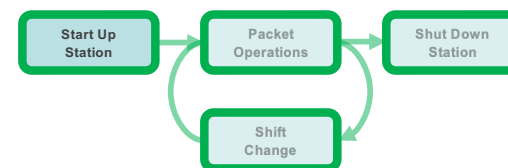
- Start a new message
- Click the **"Bul"** button
- Address it to **"xnd@xsc"**
- Enter your message and click Send
- Addressing it to **@xsc** distributes to all XSC (Santa Clara County) BBSs.



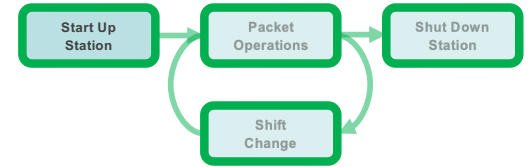
Start Up Station

5. Send Yourself a Test Message

1. Open a New message
2. Address it "To:" your own TACCALL@BBS.
3. Give an appropriate subject and text.
4. Click "Send"
5. Click "Send/Receive"
The message should be sent.
6. Click "Send/Receive" again.
The message should be received, and a delivery receipt sent.



Start Up Station



1. Get a briefing
2. Set up equipment and operating area
3. Set up software
4. Download and review current bulletins
5. Send yourself a test message and verify connectivity
6. Notify shift supervisor that you're ready to start

All of the above should be done before scheduled start time.

7. Send a check-in message *when instructed by supervisor*

Check-In/Out Messages

- Properly formatted Check-In/Out messages are important
 - Recipient can easily find them among other messages in the In Tray
 - This informs the EOC which stations are ready
 - They are part of DSW supervision
- General rules during field assignments
 - Check in and out using your *assigned Tactical Call*, not your FCC call
 - Check in when your station is ready and your supervisor OKs it
 - Do not check out / check in for a shift change
 - Check out before shutting down the station
 - Always sent as a plain text message; using PackItForms makes it easy.
 - Handling order is always “Routine” (“_R_”)
 - Always follows the standard subject line format
 - With specific check-in/out details for subject and message body

Check-In/Out: PackItForms

- PackItForms includes a Check-In/Out message form
 - Option for both check-in and check-out messages
 - Handles FCC call signs and Tactical Calls
 - Correctly formats the subject line and message body

Station ID is W6XRL4 as XNDFS1

Identification | BBS Logins | Signatures |

Current Profile: Outpost

Legal

User Call Sign: W6XRL4 [New] [Delete]

User Name: Herman Munster

Message ID Prefix: RL4 (3 Characters max)

Tactical

☒ Use Tactical Call for all BBS interaction

Tactical Call Sign: XNDFS1 [New] [Delete]

Additional ID Text: Xanadu Station 1

Message ID Prefix: FS1 (3 Characters max)

☐ Show this form on startup [OK] [Apply] [Cancel]

← → ↻ 🏠 127.0.0.1:56732/form-2

Submit to Outpost **Submit via Email** Reset Form

Message number: FS1-1772P

☒ Check In ☐ Check Out

Your Call Sign: W6XRL4 Name: Herman Munster

☒ Use Tactical Call: XNDFS1 Name: Xanadu Station 1

FS1-1772P_R_Check-In XNDFS1, Xanadu Station 1 (PM:342)

File Edit Actions Window Help

Send Print Save Delete Close Urg Pvt Bul N

Private Message

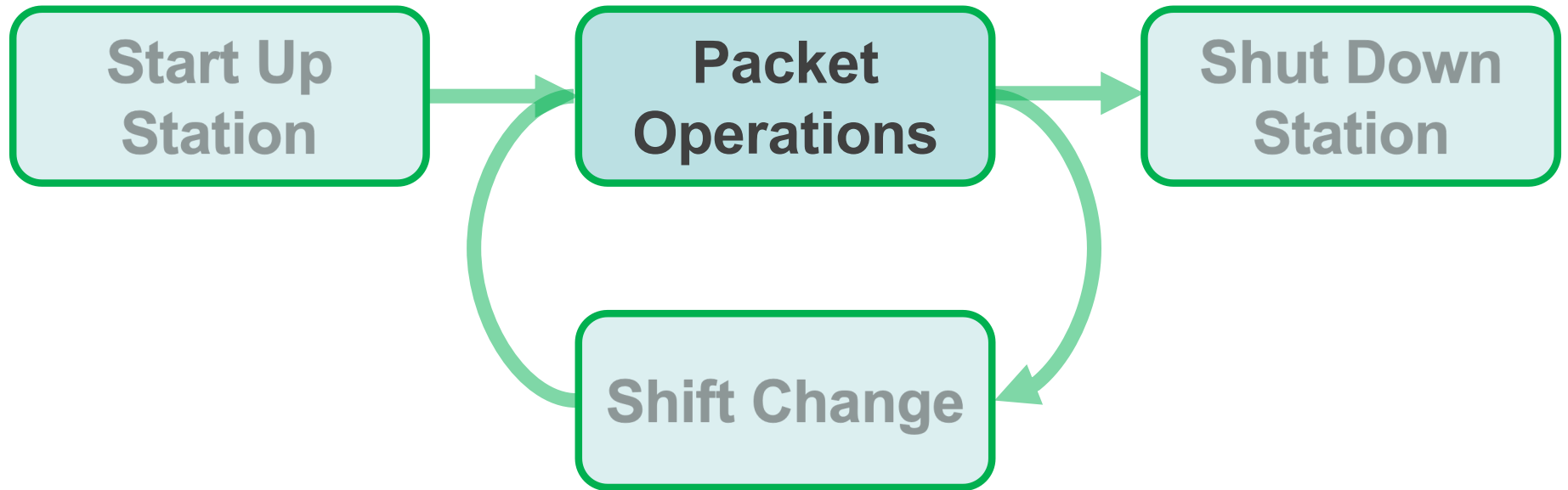
Bbs: W1XSC-1

From: XNDFS1

To... XNDEOC@W1XSC

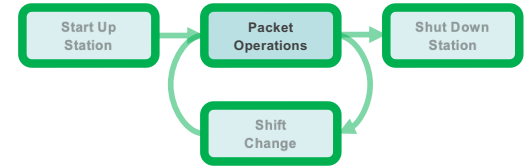
Subject: FS1-1772P_R_Check-In XNDFS1, Xanadu Station 1

Check-In XNDFS1, Xanadu Station 1
W6XRL4, Herman Munster



PACKET OPERATIONS

Packet Operations

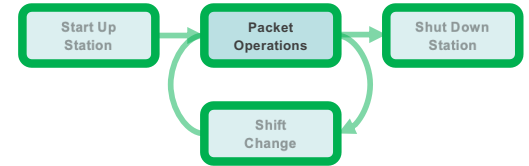


1. Sending messages
2. Receiving messages and bulletins
3. Tracking unresolved messages

Packet Operations

1. Sending messages

- We are not message authors
- Prioritize messages by handling order and date/time
- Creating plain text messages in Outpost
 - Standard subject line format
- Creating form messages with PackItForms
 - Recommended form routing
- Addressing outgoing messages
- Out Tray and Send/Receive
- Resending messages with corrections
- Logging outgoing messages



We are not message authors

- Your role is to send/receive messages on behalf of our served agencies
- We receive messages over the radio and give them to the served agency staff.
- The served agency creates messages that we send for them.
- We DO NOT create 3rd party messages, even during drills.
- Operator-to-operator messages such as check-ins, H&W checks, etc. are between operators.

MESSAGE FORM		Origin Msg #: ² _____	Destination Msg #: ³ _____
For paper: use ballpoint pen – blue or black ink only (See back for instructions)			
Date ¹ : ____/____/____ (mm/dd/yyyy)	Time (24hr): ____:____ (0001 to 2400)	Handling ⁵ (✓one): ☐ Immediate (ASAP) ☐ Priority (<1 hr) ☐ Routine (<2 hr)	
This Message Requests You To ⁶ : TAKE ACTION (✓one): ☐ Yes ☐ No REPLY (✓one): ☐ Yes, by _____ ☐ No			
T O	ICS Position: (required) ⁷ _____		F R O M
	Location: (required) ⁸ _____		
	Name: (optional) _____		
	Telephone #: (optional) _____		
ICS Position: (required) ⁷ _____ Location: (required) ⁸ _____ Name: (optional) _____ Telephone #: (optional) _____			
SUBJECT: ¹⁰ _____ REFERENCE (e.g., Number of earlier msg.): ¹¹ _____ MESSAGE: ¹² (what, when, where needed; how long; contact name and phone number - KEEP MSG BRIEF)			
ACTION TAKEN: ¹³ (For use by Originator / Recipient) USE SEPARATE MESSAGE FORM IF SENDING REPLY!			
CC: ☐ Management ☐ Operations ☐ Planning ☐ Logistics ☐ Finance			
Operator Use Only: ¹⁴			
Relay: _____		Rcvd: _____ Sent: _____	
How Received ☐ or Sent ☐ (✓one): ☐ Telephone ☐ Dispatch Center ☐ EOC Radio ☐ FAX ☐ Courier ☐ Amateur Radio ☐ Other _____		Operator Call Sign: _____ Operator Name: _____ Date: _____ Time: _____	
Outgoing (Sent): ¹⁵ Message Originator: Send the original to radio. Retain a copy for your reference. Radio: After reading, complete Operator Use Only and file in radio. Incoming (Received): ¹⁶ Radio: Complete Operator Use Only then route to the Addressee. Retain a copy in radio if directed by Supervisor. Addressee: Take appropriate action.			

SCCo RACES ICS Form 213 (01/19/2022)

Message Prioritization

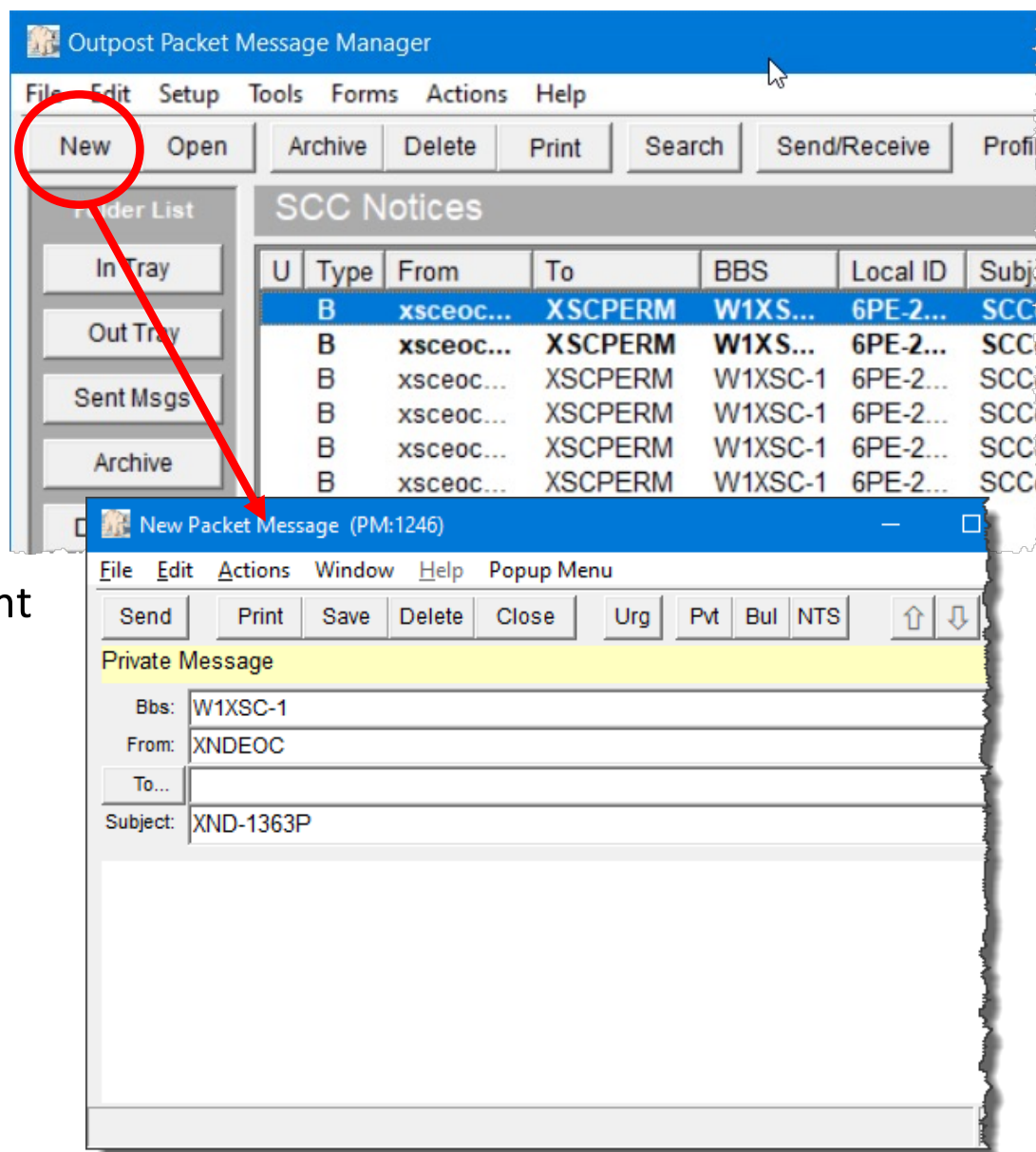
- Prioritize according to handling order, then date/time
 - Handling order: Immediate, Priority, Routine
 - Use Date/Time to prioritize between same handling order
 - Ultimately, the served agency decides the order

Resource Request				PDF: 20250811 PIF: 1.0
Message Numbers:		Origin: RSC-115P	Destination:	
Date: 08/02/2025		Time: 12:34	Handling: ☒ Immediate (ASAP) ☐ Priority (<1 hr) ☐ Routine (<2 hrs)	
T O	ICS Position: Resource Status & Tracking Unit		F R O M	ICS Position: From Position
	Location: County EOC			Location: From Location
	Name: To Name			Name: From Name
	Contact Info: To Contact			Contact Info: From Contact

- Immediate messages are usually sent by voice, not packet
 - If you do send one by packet, tell the recipient on a voice net
 - Generally use Command Net for this, fall back to Message Net
 - Include the message number

Creating Plain Text Messages in Outpost

- Start a new message:
 - Press **New**
 - Fill in all remaining fields
- Multiple source options
 - Free-form plain text
 - Supports TAB characters, reducing the character count
 - Cut and Paste from other apps, like Word, Excel
 - **File > Open a File**, then choose a .csv file
 - Import text files directly into the message form
- Press Send
 - Message goes to Out Tray



Creating Plain Text Messages in Outpost

Outpost Message Window Details

The screenshot shows the 'XND-1363P_R_JellyDonut Request - Packet Message' window. The title bar is blue with standard window controls. Below the title bar is a menu bar with 'Actions', 'Window', 'Help', and 'Popup Menu'. A toolbar contains buttons for 'Print', 'Save', 'Delete', 'Close', 'Urg', 'Pvt', 'Bul', 'NTS', and two arrow buttons. The main form is titled 'Private Message' and has the following fields:

- Bbs:** W1XSC-1 (Annotated: Autofilled from Tools > Report Settings > Next Msg Number)
- From:** W6XRL4 (Annotated: Autofilled from Setup > BBS)
- To...:** xndeoc@w2xsc.ampr.org (Annotated: Autofilled from Setup > Station ID)
- Subject:** XND-1363P_R_JellyDonut Request (Annotated: Filled in by you)

The message body contains the text: 'Please pick up 1 dozen jelly donuts. Thanks. Herman' (Annotated: Filled in by you). The bottom right corner shows the page number '53'.

Creating Plain Text Messages in Outpost

Standard Packet Subject Line

[OriginMsg#]_[HandlingOrder]_[MsgSummary]

Example: XND-200P_R_Packet 3B Class Exercise Instructions

[OriginMsg#]

- 3-character message prefix for the originator, a hyphen, and a message number.
- Generated by Outpost with a “P” suffix

[HandlingOrder]

- 1-letter indicator as follows:
 - **I = Immediate**
 - **P = Priority**
 - **R = Routine**

[MsgSummary]

- Short description of the contents of the message

Creating Plain Text Messages in Outpost

Why the Subject Line Matters

- The receiving station must process messages according to handling order, then date/time
 - Must be able to easily scan the subject lines
- Which is most important? What is handling order?

Subject
PTS-834P Urgent: Need bulldozer
PTS-835P Water distribution
PTS-836P Barricades

- How about now?

Subject
PTS-834P_P_Urgent: Need bulldozer
PTS-835P_P_Water distribution
PTS-836P_I_Barricades

Even a large In Tray is easily scanned

Creating Form Messages with PackItForms

MESSAGE FORM

SCCo ICS Form 213 (01/19/2022)

PIF 2.2

Origin Msg #: ² RSC-157P

Destination Msg #: ³

Allied Health Status Report Short Form (DEOC-9)

Version: February 2018

PIF: 2.6

CPOD Commodities Update Form

PDF: 20250730

PIF: 1.0

CPOD Site Information Form

PDF: 20250812

PIF: 1.0

Damage Assessment

PDF: 20250731

PIF: 1.0

Notable Report

PDF: 20250804

PIF: 1.0

Resource Request

PDF: 20250811

PIF: 1.0

Road Closure

PDF: 20250812

PIF: 1.0

Santa Clara County RACES -- Mutual Aid Request

Version: 20240711

PIF: 3.3

Shelter Form

PDF: 20250812

PIF: 1.0

Situation Report

PDF: 20250812

PIF: 1.0

Windshield Survey

PDF: 20250812

PIF: 1.0

Message Numbers: Origin: RSC-119P

Destination:

Date: 08/02/2025

Time: 12:34

Handling: ☐ Immediate (ASAP) ☐ Priority (<1 hr) ☒ Routine (<2 hrs)

Creating Form Messages with PackItForms

- Select the form on Outpost's **Forms** drop down menu
 - Default web browser will start
 - Form will be displayed with fields to be completed
 - Note the items highlighted in RED... these are all ***required fields***.

The screenshot displays the 'Outpost Packet Message Manager' application. The 'Forms' menu is open, listing various forms such as 'XSC 309 Communications Log', 'XSC Allied Health Facility Status', and 'XSC ICS-213 Message'. A red arrow points to the 'XSC ICS-213 Message' option. The 'MESSAGE FORM' is shown with the following fields and options:

- Profile:** Outpost
- Subject:** (empty)
- Date/Time:** (empty)
- Size:** (empty)
- Buttons:** Submit to Outpost, Submit via Email, Reset Form, Show PDF, and a red box indicating required fields.
- Origin Msg #:** 2 6PE-2342P
- Destination Msg #:** 3 (empty)
- Date 1:** 08/10/2023
- Time (24hr):** hh:mm
- Handling 5:** ☐ Immediate (ASAP) ☐ Priority (<1 hr) ☐ Routine (<2 hr)
- This message requests you to 6:**
 - Take Action:** ☐ Yes ☐ No
 - Reply:** ☐ Yes, by (empty) ☐ No
- TO:**
 - ICS Position: 7** (empty)
 - Location: 9** (empty)
 - Name:** (empty)
 - Telephone #:** (empty)
- FROM:**
 - ICS Position: 8** (empty)
 - Location: 9** (empty)
 - Name:** (empty)
 - Telephone #:** (empty)
- Subject: 10** (empty)
- Reference: 11** e.g. Number of earlier msg.

Creating Form Messages with PackItForms

Recommended Form Routing

- SCCo ARES/RACES Recommended Form Routing Cheat Sheet
- PackItForms auto-fills most forms with the recommended
 - *Handling Order*
 - *To Location*
 - *To ICS Position*
- **BUT...** That may not match what the message author wrote!
 - If not, you'll have to replace the auto-fill with the author's choice

Form Type	Handling	To Location **	To ICS Position **
General EOC			
ICS-213 Message Form	Author defined	Author defined	Author defined
CPOD Site Ino CPOD Commodities	Routine (<2 hrs)	County EOC	CPOD Unit Else: Mass Care & Emerg. Asst. Branch Else: Operations
Damage Assessment	Author defined Else: Routine (<2 hrs)	For city-managed: City EOC For county-managed: County EOC	Damage/Safety Assessment Group Else: Construction & Eng. Branch Else: Operations

<https://www.scc-ares-races.org/operations/forms/go-kit/routing>

Creating Forms Messages with PackItForms

Message Progression

- **Incomplete Message;**
controls are grayed out,
required or incorrect
fields in Red,
gray banner
- **Complete Message;**
controls are enabled,
ready to send,
green banner.
- **Submitted Message;**
controls are removed;
displayed success status,
purple banner.

File Edit View History Bookmarks Tools Help

FS1-1780P_R_IC213_sss XSC ICS-213 Message

127.0.0.1:56732/form-8

Submit to Outpost Submit via Email Reset Form Show PDF = required

MESSAGE FORM
SCCo ICS Form 213 (01/19/2022) PIF 2.2

Origin Msg #: 2 FS1-1780P Destination Msg #: 3

Date 1: Time (24hr): Handling 5: ☐ Immediate (ASAP) ☐ Priority (<1 hr) ☒ Routine (<2 hr)

File Edit View History Bookmarks Tools Help

FS1-1780P_R_IC213_sss XSC ICS-213 Message

127.0.0.1:56732/form-8

Submit to Outpost Submit via Email Reset Form Show PDF

MESSAGE FORM
SCCo ICS Form 213 (01/19/2022) PIF 2.2

Origin Msg #: 2 FS1-1780P Destination Msg #: 3

Date 1: Time (24hr): Handling 5: ☐ Immediate (ASAP) ☐ Priority (<1 hr) ☒ Routine (<2 hr)

File Edit View History Bookmarks Tools Help

FS1-1780P_R_IC213_sss

127.0.0.1:56732/form-7

✓ The message has been submitted to Outpost. You can close this page.

MESSAGE FORM
SCCo ICS Form 213 (01/19/2022) PIF 2.2

Origin Msg #: 2 FS1-1780P Destination Msg #: 3

Date 1: Time (24hr): Handling 5: ☐ Immediate (ASAP) ☐ Priority (<1 hr) ☒ Routine (<2 hr)

Creating Forms Messages with PackItForms

Submit the form message to Outpost

- Operator info is filled in automatically
 - Operator call sign and name
 - “Sent” by “Packet”
 - Date and Time (when Submit button is pressed)
- Click the Submit button to send to Outpost

Submit to Outpost **Submit via Email** **Reset Form** **Show PDF**

MESSAGE FORM
SCCo ICS Form 213 (01/19/2022) PIF 2.2

Origin Msg #: ² FS1-1780P Destination Msg #: ³

Date ¹: 09/19/2022 Time (24hr): 20:13

Handling ⁵: ☐ Immediate (ASAP) ☐ Priority (<1 hr) ☒ Routine (<2 hr)

This message requests you to ⁶:
Take Action: ☐ Yes ☐ No

CC: ☐ Management ☐ Operations ☐ Planning ☐ Logistics ☐ Finance

Operator Use Only: ¹⁴

Relay: Rcvd: Sent:

How Received ☐ or Sent ☒

☐ Telephone ☐ Dispatch Center
☐ EOC Radio ☐ FAX ☐ Courier
☐ Amateur Radio ☒ Other: Packet

Operator Call Sign: W6XRL4
Operator Name: Herman Munster

Date: {{date}} Time: {{time}}

Addressing Outgoing Messages

- An Outpost message window appears, containing a condensed and formatted message
- Subject line is correctly formatted
- Subject and message are not editable
- Enter the “To:” address
- Click “Send”
- Message goes to Out Tray

FS1-1780P_R_IC213_Replacement Generator (PM:354)

File Edit Actions Window Help Popup Menu

Send Print Save Delete Close Urg Pvt Bul NTS ↑ ↓ A A

Private Message

Bbs: W1XSC-1

From: XNDFS1

To... XNDEOC@W1XSC.SCC-ARES-RACES.ORG

Subject: FS1-1780P_R_IC213_Replacement Generator

!SCCoPIFO!
#T: form-ics213.html
#V: 3.9-2.2
MsgNo: [FS1-1780P]
1a.: [09/19/2022]
1b.: [20:13]
5.: [ROUTINE]
7.: [Logistics]
8.: [Radio Operator]
9a.: [Xanadu EOC]
9b.: [Xanadu Station 1]
10.: [Replacement Generator]
12.: [Generator has failed. Need a replacement of at least 5
KW as soon as possible.]
Rec-Sent: [sender]
OpCall: [W6XRL4]
OpName: [Herman Munster]
Method: [Other]
Other: [Packet]
OpDate: [09/19/2022]
OpTime: [20:47]
!/ADDON!

Subject line and message text fields are locked. 463

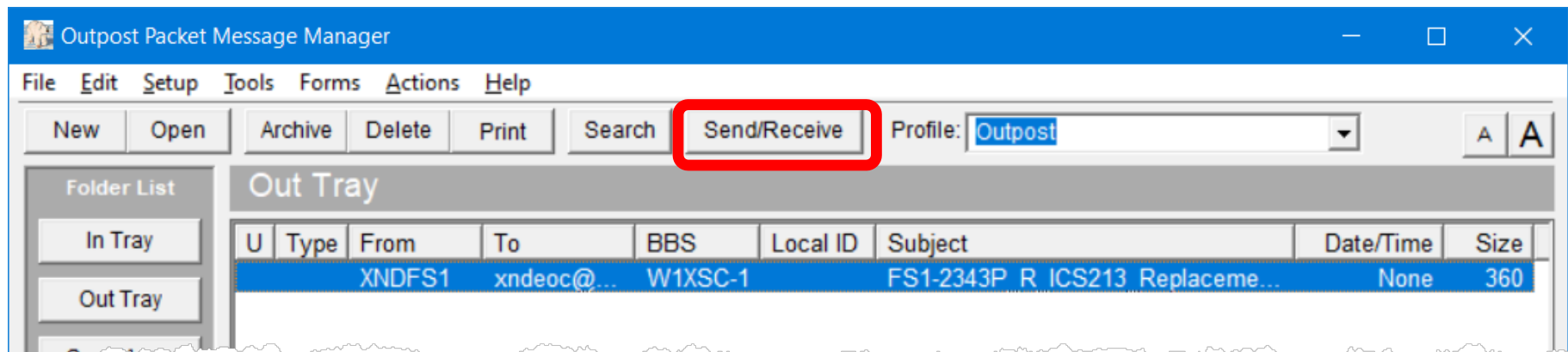
Addressing Outgoing Messages

To send within the SCCo packet network: *usercall@bbSCALL*

- Examples: *XNDEOC@w4xsc* *W6XRL4@w2xsc*
- This is a shorthand for usercall@bbSCALL.scc-ares-races.org
- Addresses are not case-sensitive
- Do not use a plain *usercall* without *@bbSCALL* — error-prone
- Do not include the “-1” suffix on the *@bbSCALL*.
- Always send to the user’s Primary BBS unless told otherwise
 - If you’ve been told that BBS is down, use their Secondary BBS
- There are other address options for outside our network.
<https://www.scc-ares-races.org/operations/packet/addresses>

Out Tray and Send/Receive

- After pressing “Send,” the message is in the Out Tray
- It doesn’t go to the BBS until the next Send/Receive session
- When you press “**Send/Receive**,” messages in the Out Tray are sent if...
 - message is from the currently configured user (Setup > Station ID), and
 - message is being sent to the currently configured BBS (Setup > BBS)



Resending Messages with Corrections

You did what?!?

- You just sent a message, but ...
 - it was addressed incorrectly, or
 - it was sent to the wrong BBS, or
 - you forgot to include all recipients, or
 - it was incomplete, or
 - it was the wrong message, or
 - any number of other problems!

And, you don't want to type it all back in! What now?

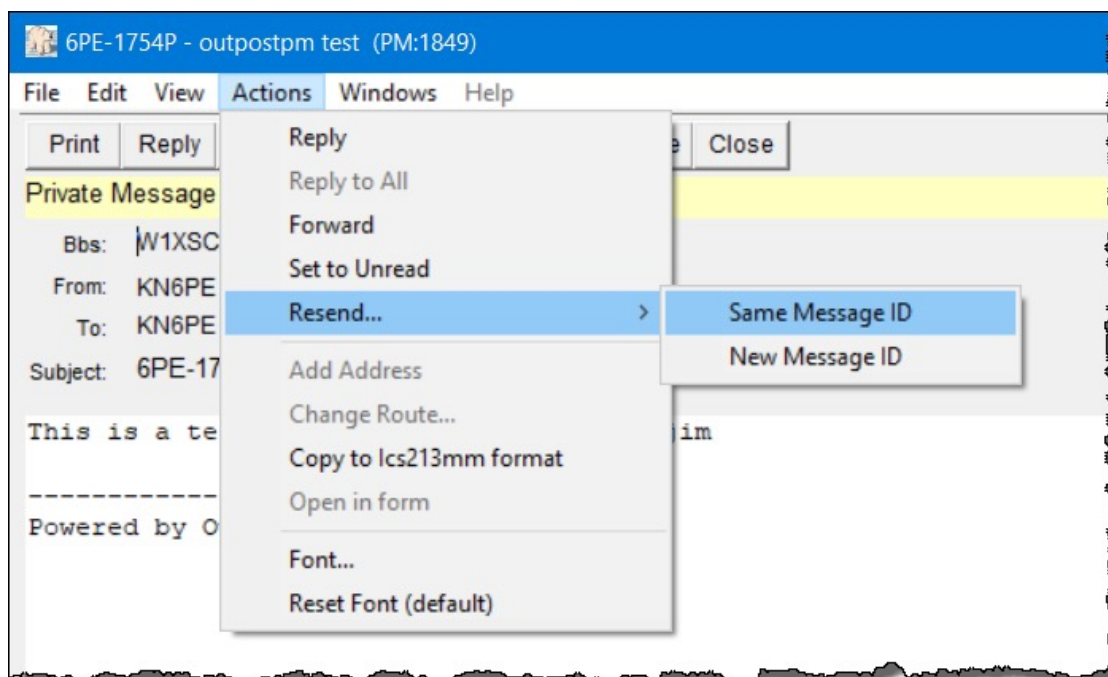


Resending Messages with Corrections

Plain Text Messages

Outpost's **Resend** option lets you resend a message previously sent. For **Plain Text Messages...**

- From the **Sent** folder, open the message
- Click on **Actions > Resend...** choose either option
- The message then opens in edit mode.
- Make whatever changes you need to make, then
- Press **Send**, then **Send/Receive** as usual.



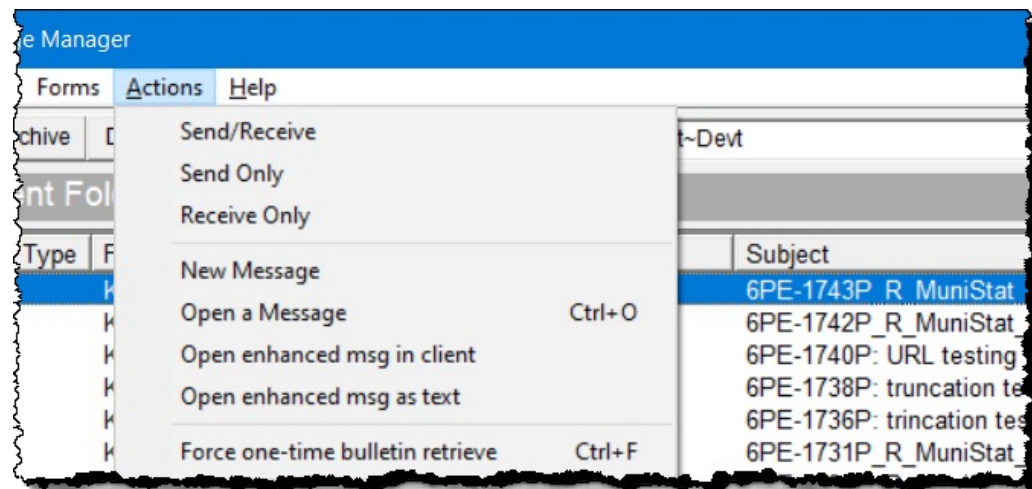
NOTE! If you select **Resend, Same Msg ID**, then manually change the Message ID -###P to -###R for **Resend**. This ensures no duplicate message confusion.

Resending Messages with Corrections

PackItForms Messages — Same Message ID

- From the Sent folder, **single-click** on the message to highlight it (not open it)
- Select **Actions > Open enhanced msg as text**
- Once the text version of the form opens, click on **Actions > Resend...** choose **Same Message ID**
- The PackItForm will open as a new copy of the message in the Browser, just as if it was a new message for editing.
- Make other changes and continue as usual.

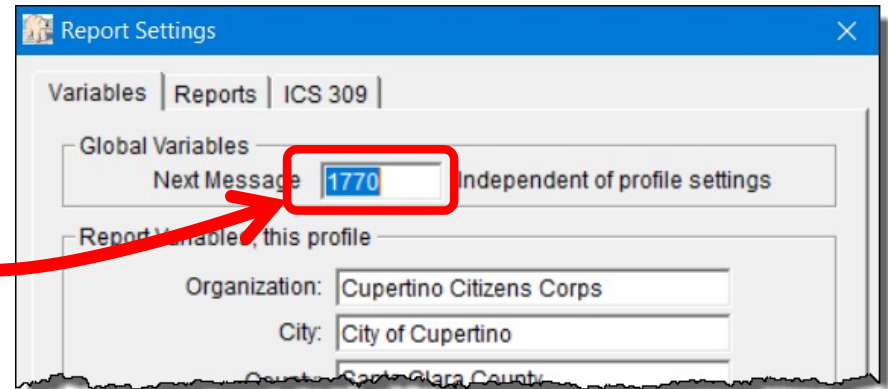
NOTE! If you select **Resend, Same Msg ID**, then manually change the Message ID -###P to -###R for Resend. This ensures no duplicate message confusion.



Resending Messages with Corrections

PackItForm Messages — New Message ID

- First get the Next Message Number
 - In Outpost, **Tools > Report Settings**
 - Note the **Next Message** value. This is the number to use. *Do not change it!*
- Then, from the Sent folder, **single-click** on the message to highlight it (not open it)
- Select **Actions > Open enhanced msg as text**
- Once the text version of the form opens, click on **Actions > Resend...**
- **New Message ID**
- The PackItForm will open in the Browser.
- Manually replace the PackItForm **Origin Message Number** with the number you noted above.
- Make other changes and continue as usual.



Logging Outgoing Messages

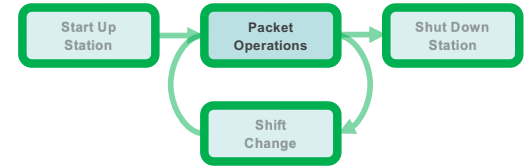
Outpost generates your ICS-309 Communications Log, BUT ... You still need to record your name and call sign, and the date and time sent, on the message form itself. Two options:

1. Write the information at the bottom of the original form, or
2. Print the message from your browser after pressing “Submit to Outpost,” and staple it to the original form.
(This method is preferred if the sent message might not match the original, for example due to bad handwriting.)

Either way, write your outgoing message ID on every page of the original form.

Packet Operations

2. Receiving messages and bulletins



Receiving messages:

- Run a Send/Receive at least every 10 minutes
- Deliver received third-party messages to your principal

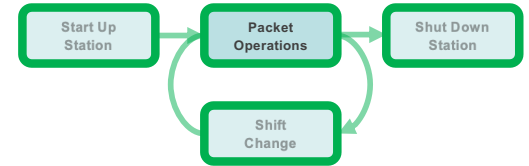
Receiving bulletins:

- Check for new bulletins at least every hour
- Deliver received bulletins to your principal unless they are operator-only information

Packet Operations

3. Tracking unresolved messages

- Delivery receipts
- Messages expecting a response



Tracking unresolved messages

Delivery receipts

Outpost sends a delivery receipt for every received message.

After sending a message, watch for a delivery receipt for it.

- For messages with multiple recipients, expect a receipt from each

When you receive the receipt:

- Record each recipient's message ID on your copy of the sent form

If you don't receive a receipt:

- Verify that you sent to the correct address
- Ask over a voice channel if the message was received
- Report problems to your supervisor

Tracking Unresolved Messages

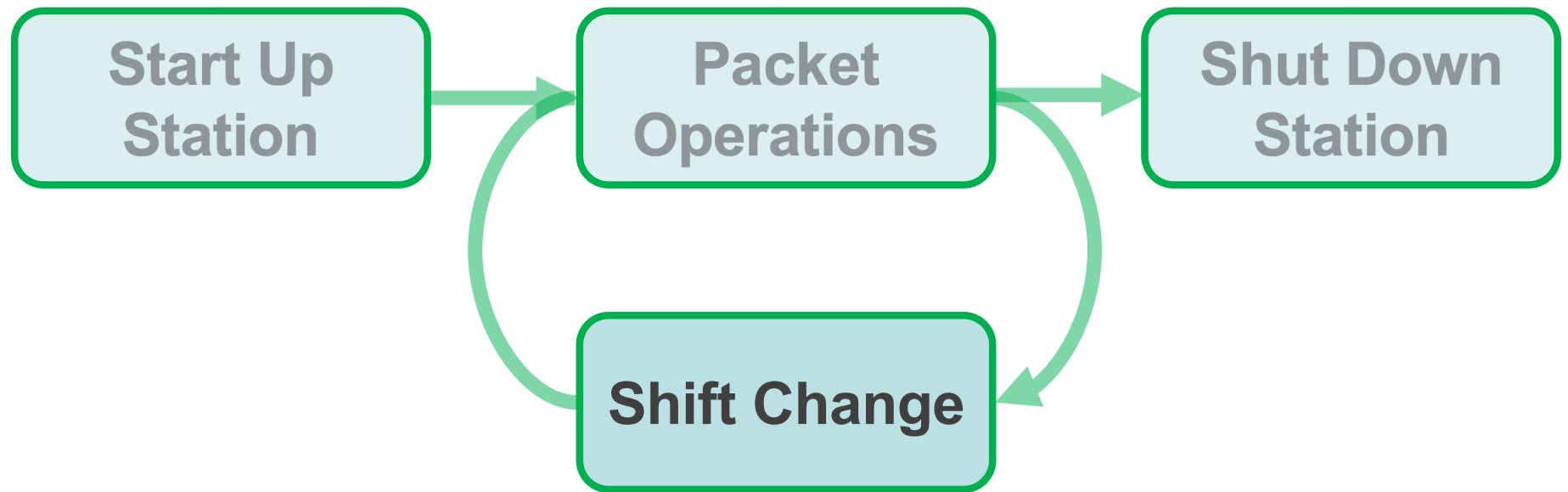
Messages expecting a response

If you send messages that expect responses:

- Watch for the incoming responses
- Be ready to answer “Have we gotten a response to ____ yet?” or “Which stations have replied to ____?”

If you receive messages that expect responses:

- Remind your principal if they don’t respond in due course
- Be ready to answer “What messages do we still need to respond to?”



SHIFT CHANGE

Handing off to Another Operator

- Give a briefing
- Generate and sign the ICS-309 logs (packet and voice)
- Generate and save a complete message archive

Taking over from Another Operator

Before the time your shift is supposed to start:

- Get a briefing
- Review all outstanding packet bulletins
- Review all unanswered traffic, sent and received
- Change FCC call sign and operator name in Outpost

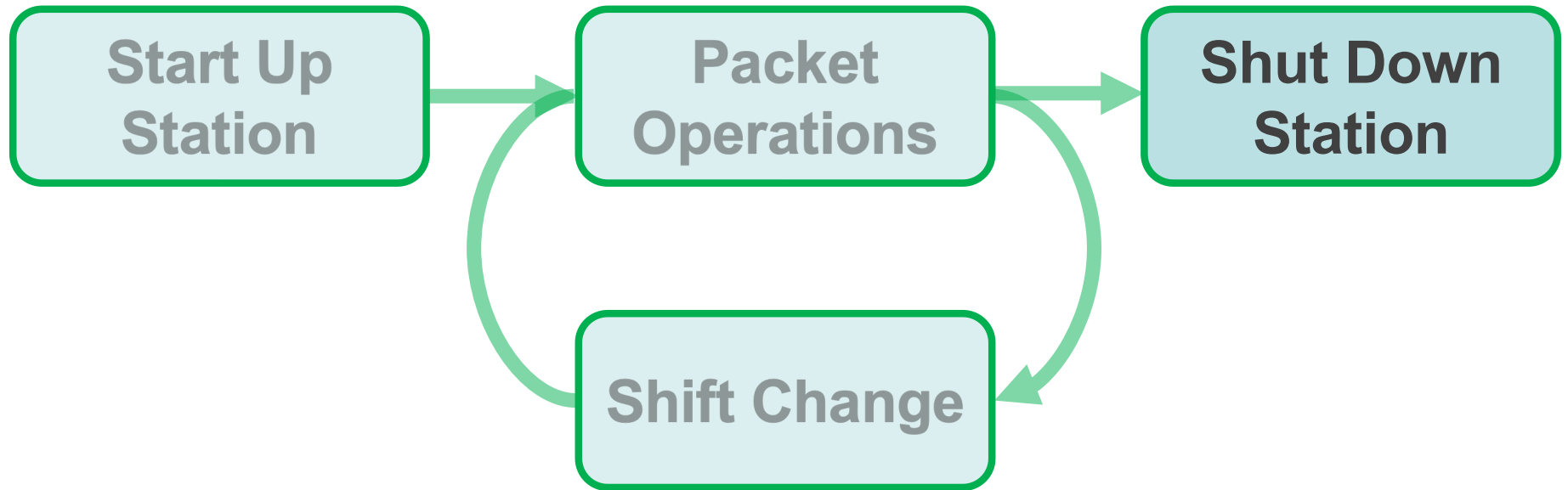
Packet Shift Briefings

In addition to the usual non-packet information: (PS&BP 12–13)

- What tactical call sign and BBS to use
- Equipment setup quirks (e.g., proper transmit level)
- Message ID prefix and message numbering range(s)
- Changes to packet addresses for other stations

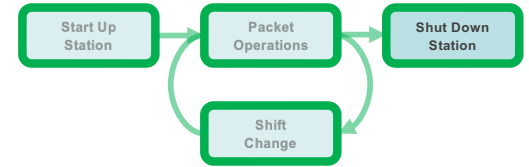
For shift changes:

- Any packet bulletins in effect
- Any received messages waiting for a response
- Any sent messages without a delivery receipt
- Any sent messages awaiting a response



SHUT DOWN STATION

Shut Down Station



- Wait to get delivery receipts for all sent messages
- Send a check-out message *when instructed by supervisor*
- Generate and sign the ICS-309 logs (packet and voice)
- Generate a complete message listing
- Generate a complete message archive
- Clean out Outpost messages *when instructed by supervisor*
- Shut down and (if appropriate) pack up all equipment
- Leave the site better than you found it

Accuracy and Completeness



FEMA

Excerpts from the FEMA | Office of Inspector General report titled “**Summary of Key Findings of Fiscal Year 2017 FEMA Disaster Grant and Audits**”

- *“In FY 2017, we identified \$2.08 billion in questioned costs, which represents 96 percent of the \$2.16 billion audited.”*
- *“... questioned costs that included Ineligible Work and Costs and Unsupported Costs, which we recommended FEMA disallow.”*

In cases where FEMA payments were made and claims later disallowed, recipients were required to repay these payments, with audits sometimes taking place years later.

Because our documentation could be used as part of the City’s justification for either an expense reimbursement or cost recovery request, ensuring the accuracy and completeness of what we submit is critical.

Ref: <https://www.oig.dhs.gov/sites/default/files/assets/2018-09/OIG-18-75-Sep18.pdf>

Archiving event documentation

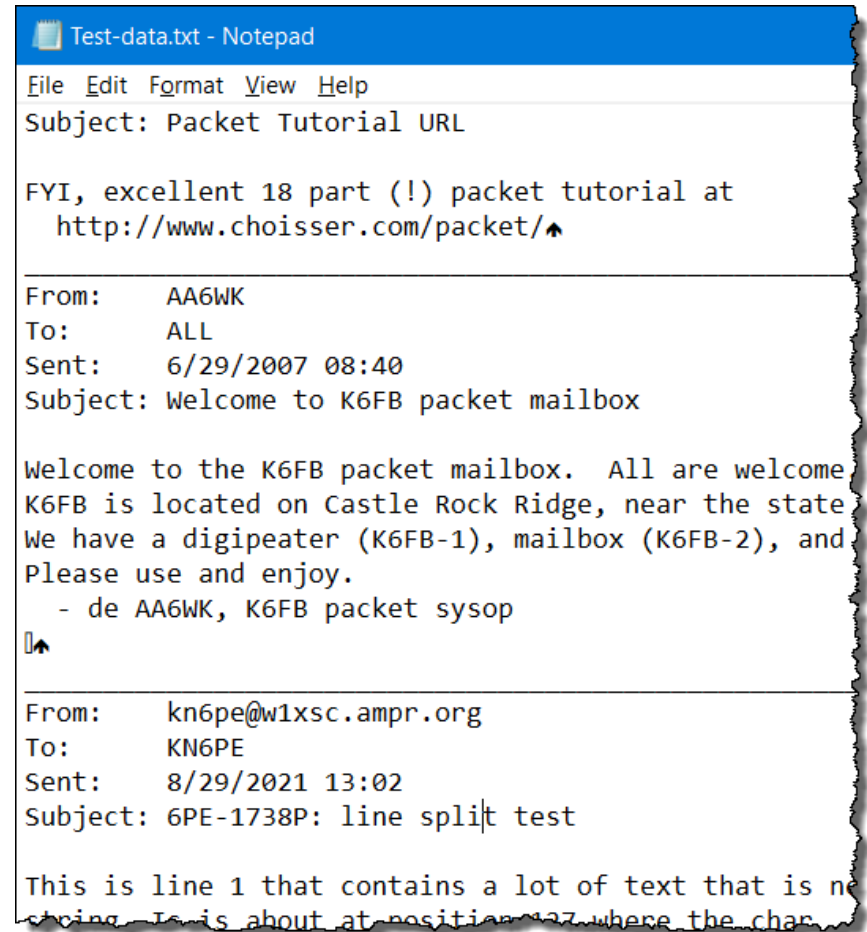
- The job is not done until the paperwork is complete... and submitted.
 - Every scrap of paper used during an activation is part of the event or incident and goes to the Documentation Unit (or your Supervisor)
 - It must be legible (print)
 - Use one side only
 - These are legal documents that may be needed to defend decisions
 - Most of this documentation is 'discoverable'
 - If it is not in the documentation, then it did not happen
 - Some documentation is specifically created after the event or incident, such as the After-Action Report
- All this applies to our packet operations

Archiving event documentation

Printable Message Listing

2. Create a printable message listing

- a) From Outpost, **File > Save All**.
- b) This will create an Ascii-formatted file of all messages in the current folder with a **Page Break** between each message. Use meaningful file names.
- c) Repeat this step for any other folder where event messages were stored.
- d) Later, this file could be printed to generate one message per page. Or, because the messages are in a .txt file, any message could be copied and pasted into another note pad, and printed for reference.
- e) ***Deliver this file to your supervisor (or as instructed).***



```
Test-data.txt - Notepad
File Edit Format View Help
Subject: Packet Tutorial URL

FYI, excellent 18 part (!) packet tutorial at
http://www.choisser.com/packet/▲

From: AA6WK
To: ALL
Sent: 6/29/2007 08:40
Subject: Welcome to K6FB packet mailbox

Welcome to the K6FB packet mailbox. All are welcome
K6FB is located on Castle Rock Ridge, near the state
We have a digipeater (K6FB-1), mailbox (K6FB-2), and
Please use and enjoy.
- de AA6WK, K6FB packet sysop
▲

From: kn6pe@w1xsc.ampr.org
To: KN6PE
Sent: 8/29/2021 13:02
Subject: 6PE-1738P: line split test

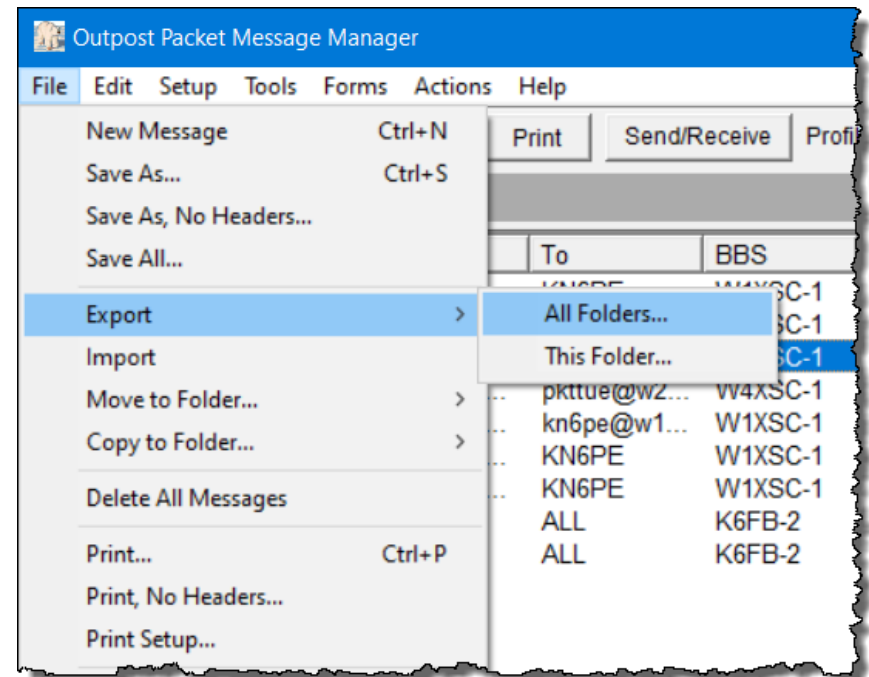
This is line 1 that contains a lot of text that is ne
choing. It is about at position 127 where the char
```

Archiving event documentation

Message Archive

3. Create a Message Archive

- a) From Outpost, **File > Export**, then select “**All Folders**” (for your entire system).
- b) Use meaningful file names.
- c) The Export process will create an Outpost Archive File (.oaf).
- d) This file later can be imported back into Outpost to restore the archived messages to their original folders.
- e) ***Deliver this file to your supervisor (or as instructed).***



Archiving event documentation

Reset Outpost for the next event

4. Reset Outpost for the next event (delete all messages)

STOP!

Do not proceed until you have created a **Message Archive>All Folders** first.

STOP!

Do not proceed until you have permission from your supervisor.

- a) If not already done, set up the SCC Notices message folder
 - a) **Tools > General Settings, Start** tab.
 - b) Set the name of one of the folders to **SCC Notices**.
 - c) Move or drag all SCC Notices into this folder.
- b) Export (backup) the SCC Notices folder:
 - a) click on this folder. Then **File > Export**, select **This Folder**
 - b) Give it a name, like “SCC_Notices-yymmdd”. Press **OK**.
 - c) Verify that all messages (currently 4) were exported.
 - d) FYI... your file is in the **C:\SCC Packet\archive** directory

Archiving event documentation

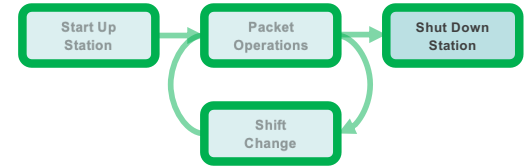
Reset Outpost for the next event

4. Reset Outpost for the next event (continued)

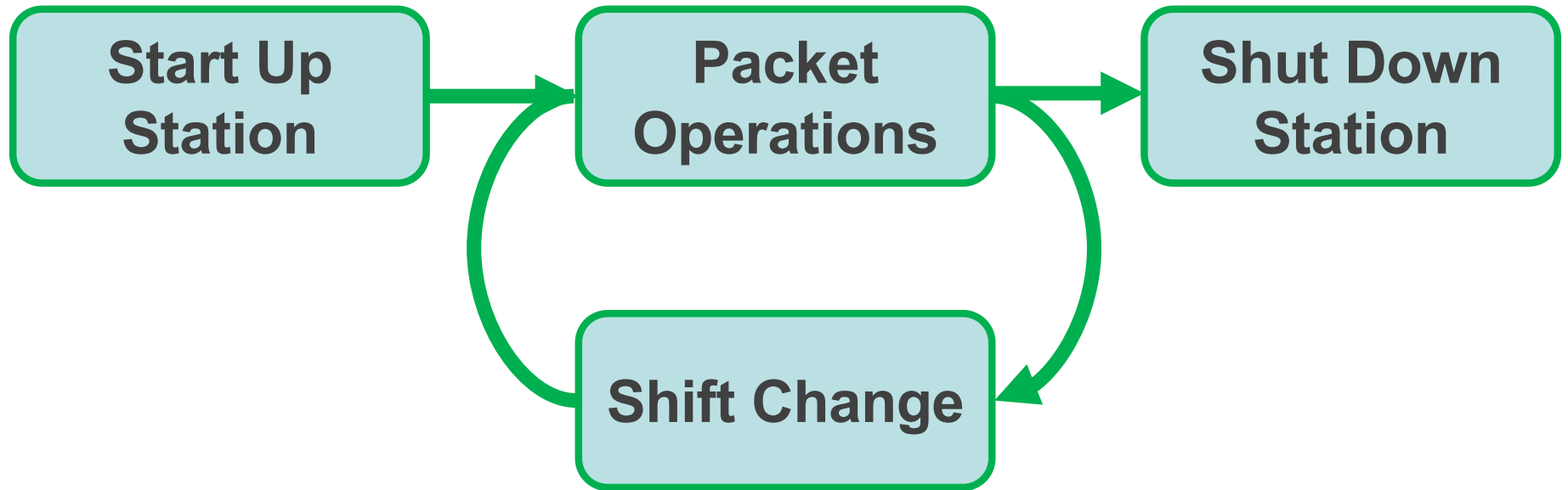
- c) Delete all Outpost messages:
 - a) Go to **File > Delete All Messages**, answer **Yes** at the prompt.
All your files are deleted.
- d) Restore the SCC Notices:
 - a) **File > Import**, select the file, press OK
- e) You now have a clean system for the next event or incident.
- f) Inform your supervisor that this task is complete.

Shut Down Station

(continued)



- Send a check-out message *when instructed by supervisor*
- Generate and sign the ICS-309 logs (packet and voice)
- Generate a complete message listing
- Generate a complete message archive
- Clean out Outpost messages *when instructed by supervisor*
- Shut down and (if appropriate) pack up all equipment
- Leave the site better than you found it



WRAP UP

Monthly Packet Practice



- Please sign up for the **Monthly Packet Message Passing Exercise** planned for Wednesday 22-Oct-2025.
- These exercises simulate participating in a real event as an experienced county packet operator who has been assigned for mutual aid support for Xanadu County and City.
- You will be asked to pass at least two 3rd party messages in each direction (PacketItForm) and at least two operator-to-operator messages in each direction.
- The exercise lasts for six days, starting at 09:00 on Wednesday 22-Oct-2024 and ends on Tuesday 28-Oct-2024 at 17:00. A zoom debrief follows.
- Please register for this event here:
<https://www.scc-ares-races.org/activities/eventdetail.php?id=1598>

Final Assignment

PLEASE COMPLETE THE CLASS EVALUATION
WITHIN ONE WEEK.

TO GET COURSE CREDIT YOU NEED TO:

- A) ATTEND AT LEAST 90% OF THE CLASS
- B) PARTICIPATE IN CLASS
- B) COMPLETE THE CLASS EVALUATION

IF YOU DO THESE, YOU WILL GET CREDIT FOR THE
COURSE.

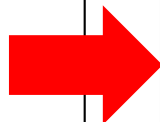
Online Class Evaluation

Activities Database

Home
Log Out
Activities Home
SCC ARES/RACES Home
Comments/Bugs
Events
List Events By Date
List Events I Joined
Submit Class Evaluation
My Profile
My Contact Info

Website Home Page

 Training & Practice	>
Classes <i>Emergency communications training curriculum</i>	>
Submit Class Evaluation <i>How can we improve?</i>	>
Voice Nets <i>City nets, SPECS/SVECS, hospital, training, HF</i>	>



Thank You!

If you have questions or feedback about this class or packet operations, you can join our Packet discussion group.

<https://scc-ares-races.groups.io/g/packet>

This is a moderated group.

Consider signing up for the advanced class:

Packet Operations Type II

November 8, 2025