Appendix 12: MCU COMPUTER AND DIGITAL OPERATIONS

Turn On Procedures

Before turning any of the computers on, first be sure the generator has been turned on long enough to warm up and settle down. The Power Frequency Meter should stabilize around 60 Hz +/-. We want the generator to run smoothly before firing up the computers.

Log-On

Once booted, you will be required to sign on. The basic sign-on screen asks for a username and a password. The common username and password are located on the keyboard and subject to security updates.

Log-Off/Shutdown

When operations are complete, the computers should always be shut down properly (files saved / closed / forwarded via required / programs exited). Please ensure that you Log Off and Shutdown before turning off the generator.

Any problems with the computers should be reported to Bob Hollister (N7INK) or Lee Ilse (K7OED) as soon as possible to ensure that maintenance issues can be addressed prior to the next mission. Write down any error messages encountered as completely as possible to aid in troubleshooting.

General Information

The MCU is equipped with four computers to support a variety of tasks:
- Creating/maintaining the mission communications log (ICS 309),
- Creating/Maintaining the Unit Activity Log (ICS 214)
- Control of the Audio Control Unit (ACU) -2000,
- ACU radio programming,
- Map support, (SAR Topo, TopoUSA (on W7 Computer))
- Digital operations (APRS, PACTOR, VARA and Packet),
- Internet Connectivity,
- Control of the Mast Camera.

They are loaded with software including MS Office 365 (MS-Word, MS-Excel, MS-Access), and Notepad for ASCII text. During normal operations the ACU/Mission Support laptop is used primarily for maintaining the Communications Log (ICS Form 309), Internet (email via Gmail account) connectivity and for ACU support if required. This the laptop closest to the Desktop Public Safety Radios (Motorola 7500 on wall and Tait TM9100 on desktop). The Mapping Operations laptop is used to track location of deployed resources, operate the camera, and display products on the front flat screen monitor. Digital Operations Computer (DOC) also has SARTOPO installed and located

on the curbside of the shelter. The Wi-Fi router on the MCU local area network to can also provide connectivity for external customers (SAR team command van, etc.). Each computer will be discussed separately and in more detail below.

ACU/Mission Support Computer (MCU #1)

The ACU/Mission Support Computer is a Dell laptop with Windows 11 installed that is stored in its case in the street side overhead compartment for security and basic physical protection during travel. This laptop should be plugged into one of the network connections with a Cat 5 Network cable and to the AC power adapter before operation.

Communication Log

As mentioned in Appendix 11, perhaps the single most important and common form used by all operators is the ICS Form 309 (Communications Log). One of the first tasks upon arriving on the scene of the incident or mission is establishing a log of the communications activity. Using the MS Word program, open the ICS Form 309 template. Immediately save and rename the template file to avoid overwriting the Blank Template. The file naming convention is: Mission Date (year-month-date), Mission Name. Here is an example: **2025-01-25-TurkeyCreek Search Comm Log.docx**
If it is a SAR mission, save it in the **SAR Mission Log Folder** on the computer or other appropriate folder for other type missions. Sample of blank template below:

COMMUNICATIONS LOG		Task #	DATE PREPARED: TIME PREPARED:
FOR OPERATIONAL PERIOD #		Task Name:	
RADIO OPERATOR NAME:		STATION ID:	
LOG			
TIME	STATION I.D.		Subject / Activity
	FROM	TO	

DATE PREPARED: Self Explanatory
TASK #: This will generally be the mission number assigned. You don't always have this at the time you create the log. Check with the Incident Commander.
TIME PREPARED: Time Log Opened / Established
FOR OPERATIONAL PERIOD #: Identifies which operation period this log is for. On short missions it may only be one. If a second or additional periods are required, identify which log this is for.
TASK NAME: The title assigned by the Incident Commander to the incident or mission.
RADIO OPERATOR NAME: Name or names filling out the log. e.g. (Ilse R50/ Yarbrough R119, Hollister R70)
STATION ID: Usually, **MCU**
TIME: Current local time of the conversation/activity being logged
STATION ID
     FROM: ID or callsign of station initiating the call

TO: ID or callsign of station or stations being called

SUBJECT / ACTIVITY: A Gist or Transcript of the conversation. A Gist is an edited version of the conversation, whereas a transcript is a word for word record of what was said. A Gist is more common but some things like grid coordinates, names, key points should be a complete transcript.

We should log, not only the conversations between stations calling the command center but also capturing details of all other conversations and events overheard on the channel between other stations. At least two operators should be working together on these logs in the MCU and comparing notes to ensure accuracy and completeness. If there are other operators or monitoring locations such as Home Units and maintaining communications logs we should compare notes after the event is complete before we turn our paperwork into the Incident Commander. We have these forms on all three computers in the MCU. Depending on your typing skills, it is frequently easier to make a hand log first and then type the information onto the computer form when there is a break in the action. When mission is complete, be sure to save the log and send it to the RACES Officer (lee.ilse.az@gmail.com) or to n7ink@cox.net. We like to perform a quality check before submitting it to the Incident Commander of the mission. You can practice your logging skills on a regular basis by just listening to some of the law enforcement channels periodically during their responses to accident scenes or other emergencies. Amateur contesting is also good practice for developing these critical listening skills.

Mapping Operations Computer (MCU #2)

This laptop computer is stored on the street side overhead compartment and setup on the operating bench near the rear street side of the MCU. The primary software used is called SARTOPO. This program allows the Command Post to track our SAR Teams as they conduct operations in the field. The MCU, members of the Command staff or SAR Team to post clues/sign as they maneuver around the search area. Those tracks or clues are shared automatically across the network (computers and mobile phones) as long as our Wi-Fi and the Starlink satellite links are functioning correctly. The techniques using SARTopo are best learned as an "On the Job Training" (OJT) and practice during a mission or training activity. The large screen monitor located on the front wall may be attached using the HDMI port on the side of the computer. This may used for displaying mission products, or if connected to the HDMI port on the mapping computer displaying mapping products or mast camera output.

Digital Operations Computer (MCU #3)

This laptop computer is stored on the curb side overhead compartment and setup on the operating bench curb side near the rear of the MCU next to the IC-7300 radio.

An additional flat screen monitor is affixed to the wall with security screws.

Digital Software - This computer is also configured to operate VHF APRS with the Yaesu FT-2600 radio and KAM Terminal Node Controller (TNC). It is also used with the ICOM IC 7300 HF radio and SCS PTC PACTOR TNC for other over-the-air digital operations.

Mapping Software – We currently have installed SARTopo. The best way to learn this application is a one-on-one session with a more experienced operator.

MCU iPad

The iPad is used primarily for control of the mast camera. It is stored in the cabinet above the Motorola APX 7500 Public Service Radio. It is an Apple device and uses the same controls/motions you would on our Apple cell phone.

To turn on iPad – When looking at the screen, the power button is on the upper right side, press and hold about 4-5 seconds, the Apple Logo will appear on the screen during the boot process. The Logon PIN is written down on the inside cover of the MCU Service record black book stored on wall under clock. Once you have it turned on, be sure you are connected to MCU Wi-Fi.

To turn the iPad off, it is similar to the iPhone, press Lower Volume button and power button on upper right side of the unit simultaneously, a "Slide to power off" window will pop-up at the top of the screen.

The iPad can also be used to access a wide variety of Internet resources.

Mast Camera Operations

The camera installed on the pneumatic mast is made by Sony. The mast should be deployed at least 10 ft up to use the camera. It is live on the local area network whenever the AC power is active. The preferred method for controlling the camera is via the iPad. To access the mast camera on the iPad you must go through the Internet using the "SAFARI" application (Compass logo): On the iPad you have an active touchscreen for controls. On the laptop you will use the touchpad or mouse for control. If needed, the IP address for the camera is: 192.168.1.2. To close camera window, slide up from bottom.

There is a shortcut on the laptop computers "desktop" that allows direct access. If you have difficulty accessing the camera, you may have to shut both computers down and reboot them. There may be a short delay as the camera is accessed over the network

and another popup menu with several options comes up. Select "ActiveX Viewer". The camera view will now appear on the screen. To control the camera view and manipulate it, select the "Control" icon. You will now be able to move the camera up/down, right/left, and zoom in/out using various controls. The current camera gives you the ability to rotate 360 degrees, unlike the older camera, there is no "Stop" prohibiting continuous left to right or right to left in the direction of the mast. And since the camera is physically mounted below the top of the mast, there is also a blind spot trying to look through the mast itself. You will need to consider that when parking the MCU and the direction of the primary incident from the vehicle. In other words, don't point the front of the truck directly at the incident.

Video Capture

To capture video as a still for transmission (email), select the "Capture" icon. A thumbnail of the shot will appear on the screen. If that is what you want, right click the mouse to save the photo as a JPG file. You will now be able to attach that JPG and send it as an email attachment using the MCU Gmail account. Videos are of such size that they can usually NOT be sent via email. In the event that the laptop has trouble controlling the camera, you can access the camera with the iPad using the internet address on the white board. You may also access the camera on your personal mobile phone using the internet address posted on the white board.

Audio Control Unit (ACU) 2000 Operations

As might be imagined from its title, the secondary function for this computer is providing computer control of the ACU-2000. The ACU is a communications linking/bridging device used to allow communication between remote users who are using different types of communication devices, such as radios with different frequencies and/or modes. For example, the ACU can be used to enable communication between VHF radios in FM or P25 Digital Voice mode and HF radios in SSB mode or between radios and telephones, either in the public telephone system or local phones. Transmitting and receiving by the ACU are performed by physically attached communication devices (radios, phones, etc.). The ACU's function is simply to pass audio signals from the receiving device to the other linked devices which then retransmit the signals. For example, one attached radio might be set to a police frequency while another might be set to a fire department frequency. This would allow personnel on the two disparate frequencies to communicate with each other. Another example would be the linking of Forest Service, Department of Public Safety, National Guard and State Emergency Services communications. The ACU may also be attached to the public telephone network when available and to local phones to allow phone users to call or be called by radio users. Link (net) control is performed primarily by the ACU control operator. However, links and phone patching may be carried out by remote users without the involvement of the control operator. Whereas the control operator may use either a computer (i.e. laptop) or the ACU's keypad, remote users are restricted to DTMF (keypad) use only. Currently the ACU is equipped with 4 VHF, 2 UHF, and 2 700/800 trunked radios.

Operations carried out by the control operator fall into two general categories: those carried out prior to use of the ACU in normal operations (e.g. setup) and those carried out during normal linking operations. Both types of operations are usually performed through the use of a laptop computer attached to the ACU. Before describing these operations, this guide will first discuss the screen display which the operator will be working with as the functions are performed.

Once you turn on the computer and it is booted up, Log On using the username and passwords on the computer.

The Windows screen contains a menu (or task) bar at the top with the names of the various dropdown menus (i.e. File, Options, etc.). The body of the screen is black and has seven horizontal light green lines, spaced so that the bottom line is near the bottom of the screen. These are Net Lines. The left margin of the screen shows the Net Number to the left of each Net Line. Above the top net line is another such line called the Idle Line. Along the idle line are icons arranged representing the LP-1 module and the other interface modules present in the module cage.

Above each icon is the module's slot number (00-12), referred to as the Module Number. An empty slot is represented by a blank space where the module's icon would appear. Each icon bears the module type name at the top (e.g. DSP-1). When modules are connected (linked), their icons drop to a net line. All icons placed on a given net line represent a net. Those on a different net line represent a separate net and may not communicate with those not on their net line (unless via a Priority Net).

Module Settings

Prior to linking operations, the control operator enters settings information as necessary for each DSP-1 and PSTN-1 interface module. To enter a module's settings, the operator double (left) clicks on the module's icon. This causes the module's settings entry screen to be displayed. The screen format (what is shown or asked for) depends on whether the module is a DSP-1 or PSTN-1. As a rule, factory settings should be used except when necessary to improve performance. For the purposes of this guide it is assumed that most set-up steps have already been completed.

Operations carried out by the control operator include the following:
- Device Connections: The linking together of two or more attached communications devices. Individual groups of links (nets) may be established. For example, Police might be linked to Fire.
- Net Connections: The linking together of two or more nets (groups of links).

- Priority Nets: The linking together of external devices which have been assigned to different nets. These devices are then isolated from all devices not in the priority net.
- Monitoring: Enabling one external device to receive signals from other specified external devices, regardless of whether they are in the same or different nets.

Control Operator Operations

Linking Two Modules (Establishing a Net)
      1. Left click on first module (icon), on the idle line, to be linked.
      2. Left click on second module icon to be linked.

Both modules will fall to the next free net line and will be linked for communication. The first module will not drop to the net line until the second module has been clicked.

Adding another Module to a Net
      1. Left click on the icon of the module to be added to the net.
      2. Left click on the net line's Net Number or on one of the icon's on the line.
The new icon will fall to that line and join the other modules in the net.

Deleting a Module from the Net
      1. Right click on the module to be deleted from the net.
The module will move back to the idle line and will no longer be linked.

Deleting a Net
      1. Right click on the net line's Net Number. Or right click on all icons in the net line. All icons in that net line will be unlinked and will move back to the idle line.

Moving a Module to a Different Net
      1. Left click on the icon of the module to be moved.
      2. Left click on the target net line's Net Number.
The icon will move to the new net line. It will no longer be linked to the modules in the former line.

Linking Nets
      1. Left click on the first net line's Net Number.
      2. Left click on the second net line's Net Number.
The color of the two net lines will change to show that both nets are linked. Any module in the first net may communicate with any module in the second net. Up to three such nets can be established.

Adding Another Net to Linked Nets
      1. Left click on the Net Number of the net to be added to the link.
      2. Left click on the Net Number of one of the nets already in the link.
The color of the net line added to the link will change to the same color as that of the lines already in the link.

Deleting a Net from Linked Nets
      1. Right click on the Net Number of the first net to be deleted.
If only two nets were in the link. They will be unlinked and the color of their net lines will return to green.

Establishing a Priority Net

Modules in a priority net need not be on the same net line. That is, they may be in different nets. Members of a priority net are isolated from all other modules. They may communicate with each other but cannot communicate outside that net. Likewise, other modules cannot communicate with those in the priority net. Priority nets are used only when the modules are already in established nets.

1. Left click on a module icon that is already in a net line.
2. Left click on the second module icon. It may be in the same or in a different net line.

A small red box containing a white Priority Net Number will appear in both icons indicating that they are now in a priority net.

Adding Modules to a Priority Net

1. Left click on the module (icon) to be added to the priority net.
2. Left click on a module that is already in the net.

A small red box containing that Priority Net Number will appear in the icon of the module that was added.

Deleting Modules from a Priority Net

1. Right click on the icon of the module that is to be deleted from the priority net.

The small red box within the icon will disappear showing that the module is no longer a part of the net. To delete the entire priority net, right click on all but the last icon.

Enabling Monitoring

This function allows the user(s) of a module to monitor communication by one or more other modules. The monitoring module "hears" what the monitored modules hear. The monitored modules may be in different nets (net lines) and/or in the idle line. The monitoring module is unable to transmit to monitored modules unless they are in the same net (as the monitoring module) or share a priority net.

1. For the module that will monitor, left click on the module (slot) number above the icon. The module numbers are above the icons on the idle line at the top of the screen. A green box containing an "M" will appear in the icon and the word MONITOR will appear vertically in the left margin of the screen. All other icons in net lines will contain a black disk.

2. For each module to be monitored, left click on the module's icon and then left click on MONITOR. That module's number will appear in a white box along the bottom of the monitoring module's icon.

3. Continue step 2 until the module numbers of all modules to be monitored appear beneath the icon of The monitoring module. Monitoring links remain in force even if a monitored module is moved to another net or back to the idle line where it is no longer linked to any other module. To enable monitoring for another module, repeat steps 1-3 for the new module.

Ending Monitoring

1. Repeat the same steps that were performed to enable monitoring but right click on MONITOR (see step 2).

Establishing a Phone Patch

This function involves the control operator establishing communication with another person via the public telephone network. The MCU needs to be connected via cable to the PSTN or by satellite using the Starlink Voice Over Internet Protocol (VOIP) system. The operator connects (links) from HSP-2 module to the PSTN-1 phone system module, dials the remote user's phone number and establishes communication with the remote user. At this time, the operator may also add other modules (radio and/or local phone) to the link. When communication is ended, the operator ensures that the PTSN-1 link is terminated and that all other modules are unlinked.

     1. Left click on module 00 (HSP-2) icon.
     2. Left click on the PSTN-1 module's icon. The phone number entry screen is displayed.
     3. Enter the telephone number.
     4. Left click on DIAL. The ACU 2000 dials the phone number.
     5. Communicate with the remote user. Advise him/her that each "transmission" should be ended with OVER to avoid confusion and that he/she should press *# before hanging up (this will disconnect the PSTN-1).
     6. If the called person neglects to transmit *# before hanging up, the PSTN-1 module will remain linked. If this occurs, right click on the PSTN-1 module's icon to disconnect it. If other modules are added to the link, the control operator may enable monitoring by the HSP-2 module.

Other ACU Operator Control Options

There may be instances where power to the ACU 2000 is interrupted or where the laptop computer is inadvertently disconnected from the ACU. When this happens, the configuration / links may be lost. This section describes how the ACU configuration may be restored and how a given configuration may be saved and reloaded at a future time if desired.

Power Lost or ACU Temporarily Powered Down

When power is restored to the ACU 2000, the modules present in the module cage are recognized, but they will all appear on the idle line above the net lines.
     1. Click on the File dropdown menu at the top of the screen.
     2. Select and click on "Restore Last Config.".

Laptop Disconnected
     1. Click on the File dropdown menu at the top of the screen.
     2. Select and click on "Retrieve Current Config.".

Saving and Recalling Configurations

     A given configuration may be saved and recalled at a later time. However, when it is recalled, the module arrangement in the ACU must be the same as when the configuration was saved.

Saving the Configuration
     1. Click on the File dropdown menu at the top of the screen.

2. Select and click on "Save Configuration".
3. When prompted, enter the save name and complete the save.

Loading the Configuration
1. Click on the File dropdown menu at the top of the screen.
2. Select and click on "Load Configuration".
3. When prompted, enter the save name and complete the load.

Linking all Modules
The operator may link all modules for the purpose of making a general announcement (QST) or some other reason. Afterward, this link can be terminated and the original configuration re-established.
1. Click on the Options dropdown menu at the top of the screen.
2. Select and click on "Connect All".
3. Carry out announcement and any necessary communication.
4. In the Options menu, click on "Revert" (immediately below "Connect All").

Unlinking all Modules.
The operator may terminate temporary links to carry out a control function and then revert to the pre-existing configuration.
1. Click on the Options dropdown menu at the top of the screen.
2. Select and click on "Disconnect All".
3. Carry out the control function(s).
4. In the Options menu, click on "Revert" (immediately below "Disconnect All").

Amateur Contact Log (Found on Computer #3 by Icom 7300 HF station)
The N3FJP. Amateur Contact Log is an easy to use general logging program that has many great features including tracking of worked all states, counties and countries. It is quite easy to use and we use it regularly at Paradise, Field Day, or other contest type activities. If you have used paper logs in the past, you will quickly recognize the typical data items that are filled in to document our contacts. The logs can also be uploaded to the Internet, downloaded or printed as necessary.

Once the AC Log icon is activated you will see the basic operating screen. Fill in the fields on the lower part of the screen starting with the Callsign of the station worked. Use the <TAB> key to move to the next data element. A copy of the QRZ callsign data base is linked to the software and will display the name and basic information associated with the callsign. Once you have all the information and completed the contact, click the "Log Contact" button or the enter key and the information will be added to the database.

AIRMAIL/PACTOR/HF Email Operations
The software application we use to access the Amateur Winlink HF email network:

WinLink Express software using PACTOR III, ARDOP, or VARA modes by radio or TelNet Winlink (via Starlink).

HF PACTOR operations use the ICOM IC 7300 transceiver and the Pactor III licensed SCS PTC-IIex terminal node controller (TNC). There are a variety of antennas available for this radio. At least one needs to be selected from the antenna patch panel and connected as there are normally none directly connected to the radio. You may select from a roof mounted vertical, the Near Vertical Incident Skywave (NVIS) long wire, or the military surplus NVIS inverted V (Antenna Products HT-20B Antenna (AS-4096/G)) that is stored in the RACES shelter at Green Acres. Please select the appropriate antenna for the band you wish to operate on and be sure the radio is connected to the correct antenna on the patch panel. The default setting is for the roof mounted (HamStick) vertical.

Turn on the IC-7300. This will normally automatically power up the Terminal Node Controller (TNC) as well. If the SCS PTC-IIe TNC did not come on with the radio, turn it on now using the power switch toggle on the right rear of the unit. It is easy to feel. You are now ready to activate the Winlink Express software.

First, what is Winlink? Winlink, or formally, Winlink Global Radio Email (registered US Service Trademark), also known as the Winlink 2000 Network, is a worldwide radio messaging system that uses amateur-band radio frequencies and government frequencies to provide radio interconnection services that include email with attachments, position reporting, weather bulletins, emergency and relief communications, and message relay.

Winlink operates through a network of radio stations and volunteers who provide the infrastructure and the software to make this service possible. The network consists of Common Message Servers (CMS) that are connected to the internet, and Radio Message Servers (RMS) that are connected to the CMS via radio or internet links. Users can access the network via RMS stations using various modes and frequencies, depending on their equipment and location.

Winlink uses a store-and-forward system to exchange messages between users and the internet. When a user wants to send a message, they connect to an RMS station using their radio and client software, such as Winlink Express. The RMS station receives the message and forwards it to a CMS station via radio or internet link. The CMS station then delivers the message to the intended recipient, either via another RMS station or via standard internet email protocols.

When a user wants to receive a message, they connect to an RMS station and request a mailbox check. The RMS station queries the CMS station for any messages addressed to the user, and downloads them via radio or internet link. The RMS station then sends the messages to the user's radio and client software.

Winlink can operate completely without the internet, using smart-network radio relays. If the internet connection is down or unreliable, the RMS stations can relay messages to each other via radio links until they reach a CMS station or the intended recipient. This way, Winlink can ensure reliable and resilient communication in any situation.

Using the Winlink Express software is similar to using Outlook or Outlook Express. It is used to prepare, send, and receive messages. There are two primary modules, the Message Index module for message preparation and processing and a separate Terminal module for actually sending and receiving (connecting to a WinLink 2000 (WL2K) station) messages.

Once you have opened to the first screen you are ready to prepare a message for transmission. Begin by selecting "File", then "New" from the drop down menu. The WinLink application has an address book that has already been populated with our most commonly supported agencies and it will automatically open. Select the name from the address book you wish to send the message to by highlighting your choice and clicking on "OK". If your choice is not there, you will have to add it to the address book by selecting "New" from within the Address Book.

A new "Address Properties" window will open for you to fill in. Use a short name such as first name and callsign (Bob -N7INK) or an abbreviated Agency name (i.e. SV ARC) for the "Name:" field. The "To:" field should contain the correct email address for the individual or agency (n7ink@cox.net or SVARC@XXX.org). This next step is critical, you must also fill in the "Post Via:" field with "WL2K". Accept this address by clicking on the "OK" button. This will return you to the "Address Book" to now select your address.

You should now see a screen to prepare your message on. You could also select a station to send a Courtesy Copy (Cc:) to using the same process as selecting your To: address. Type in a "Subject:" and proceed to type the message. You can type it directly or import from a text file. Once you have the message complete, Click on the icon that looks like a "letterbox" to post it for sending. You are not done yet. The window will close and take you back to the Message Processing window. Your message will now show up in the Outbox ready to be sent. If you have no further messages to prepare, click the "Terminal Window" icon (looks like a Yagi Antenna on a blue background) to switch to the "Terminal Window".

Caution: You must be a General Class or higher licensee or have a General Class or higher present as a control operator to proceed as the Winlink gateways are generally found in the 20M or 40M bands. We are working on installing an FM Winlink station at the club site. That station will be a VHF (2 Meter) RMS and available to Technician class operators also.

The next step requires knowledge of the various WL2K Remote Message Servers (RMS)) as well as propagation characteristics to reach them based on time of day and distance. These are the essential "bridges" or "gateways" to the Internet. Along the top

of the Terminal Window you will see two important pull-down windows. One window will allow you to select from a drop down menu shows the callsigns of the various RMS's currently available, the second shows the frequencies that the station scans for connection. It will also show you Path Reliability Estimate using a percent and also a color code (Red / Yellow/ Green) The list is updated on a regular basis. The table below identifies some of the US based stations. Locations identified with a "+" sign indicate "express stations" that restrict their connect protocols to PACTOR II (400 to 800 bps) and PACTOR III (1400 to 3600 bps.) Our station is PACTOR I/II/III capable. The table below shows a couple examples

Callsign	Frequency	Mode	Grid Square	GROUP	Bearing	Path Reliability
AC6LS	10148	V2750	DM04WD	EMCOMM	294	93
K4DND	3568	V500	FM08TE	EMCOMM	067	0
AB0DK	14100	V2750	EN30RE	EMCOM	54	4
AJ7C	3597	V2750	DM04TA	PUBLIC	293	76

When you select a specific frequency to use from the second drop down window, the dial frequency at the bottom of the screen will show you exact frequency to dial in to ensure connection. Check to see if the system is in "Handshake mode" (the two hands shaking icon). Press the antenna tune button on the front of the radio to be sure you have an appropriate SWR match for the radio. You are now ready to try to make a PACTOR connection. Next move your cursor to the "Green" light. It will momentarily turn yellow as a caution to be sure you have a clear frequency, assuming you do have a clear frequency, click on it.   The computer/TNC will now attempt to connect to the station. If after 8-9 attempts, the connect fails and times out, you may want to try again. Most mailbox stations scan several frequencies so if it gets busy with another station on another frequency, it may not hear you the first few times you attempt to connect. If after a few minutes you are unable to connect, try another station. Remember that you will have to change the antenna if you select another band. I typically have had good luck with N0IA/FL or K4CJX/TN on 20 meters during the day. I have also connected with them, TX and CA stations on 40 meters in the evening. A little experience goes a long way when determining time of day and best propagation.

Once you have connected, the system will auto detect what you have in the "Outbox" and what is waiting to send you from the system. It will normally make the connection, send and receive the traffic and disconnect without further interaction. Once it has disconnected, you may return to the Message window to read any new traffic. Closing the application is as simple as clicking on the red "X" in the upper right hand corner.