

KKFI remote broadcasting procedure

Needed:

3 people: (1) a "remote" person at the remote site. (2) a "studio" person at the studio in addition to (3) the on-air board operator. This document describes setup and problem diagnosis of the Comrex ACCESS Portable unit. The companion "Studio-side Equipment Use Guide" is available at "<https://kkfi.org/wp-content/uploads/Comrex-Studio-Use-Procedure-for-KKF11.pdf>".

KKFI's Comrex Access Portable unit with accessories. The accompanying image shows the portable unit with a mixer attachment sitting on top of the Access Rack unit.



from "<https://www.comrex.com/products/access-portable-2usb/>"

Preparation:

Well before the event, it's wise to test the system at least three times: at the station, from the home of the person who will be at the remote location, and at the remote location. The system worked when tested in December, 2018, but not in January 2019. In mid-February, we called Comrex. They confirmed that our unit was defective. They sent us a loaner, which we used for a March 9 event while they serviced our unit.

Don't wait to the last minute to familiarize yourselves with the equipment.

Each time the connection between the Comrex Access Rack unit and the internet changes, the public Internet Protocol (IP) address of the unit likely also changes. We describe here two ways to get that new IP address: (1) Connect a monitor and keyboard to the Comrex Access Rack unit and run its software. It should give you the number. [NOT tested.] (2) From another computer on the same network, open "comrex.com" in a

browser > Products > Tools > "Device Manager" > [scroll down to "Click here to download Device Manager for Windows / MAC": Double click to download then install and run the software. NOTE: On 2020-02-21, the "Device Manager" was installed on the Windows 7 computer in the Public File room. Running that software identified the Comrex Access Rack unit at

[Click here to download Device Manager for Windows](#)

How to use:

1. Coordinate with the sound engineers regarding where you can get an audio signal. Don't just ask where the sound board will be: At Kansas City's 2019 Reggae Music & Jerk Festival, an all-digital sound board was in the middle of a parking lot, with a digital line to the stage at the far side of the lot. We ran Ethernet cable to the sound board in the middle of the parking lot. A few hours later, we were told that we had to connect with an audio cable to the main sound controllers next to the stage. If we had known in advance, we could have planned to set up the Comrex ACCESS Remote closer to the stage, nearer the main sound controllers.
2. Remove the unit, power supply, and Ethernet LAN cable from the metal Comrex case labeled "KKFI".
3. Connect the power cord from a standard 110 volt outlet into the "POWER SUPPLY" that converts 100-240 v to 1.5v, 1 A with a 5-pin male mini-DIN connector (https://en.wikipedia.org/wiki/Mini-DIN_connector, 9 mm = a third of an inch in diameter).



4. Connect the 5-pin male mini-DIN connector output from the power supply to the corresponding female labeled "Power" at the top left end of the Comrex Access Portable unit. Plug into wall outlet.



5. Plug an Ethernet LAN cable between the Ethernet connector in the unit and an Ethernet female, typically found in a wall in the location from which you want to broadcast. *(NOTE: There is a red light below a lightning bolt icon at the left of the Ethernet female on the unit that lit up when I plugged the 5-pin mini-DIN connector into the Power socket when the power supply was plugged into a 100 volt outlet. That indicates "Battery charging state," and is supposed to turn green when the battery is fully charged.)* << In KKFI's conference room, you'll find an Ethernet LAN female in the west wall under the west end of the conference table. That's a great place to do a first test, because we've made that work before, and when it didn't work, it was not the LAN connection.>>

CHECK: If you have a proper Ethernet connection to the LAN, the green light top left of the male Ethernet jack should light. Also, the orange light top right of that jack should blink, indicating data are be exchanged with the Comrex rack unit.

USING WIFI: There is a white USB WiFi adapter in the Comrex case. This will NOT work with WiFi units using the IPv6 standard, which are represented with up to eight sets of up to four hexadecimal digits separated by colons like "fe80::200:ff:fe00:0". It will only work with the IPv4 standard, which are represented as four sets of decimal digits separated by periods like "208.87.156.78". Using the WiFi requires special configuration for the local WiFi. For that, it may be wise to carry a USB keyboard, so both the keyboard and the WiFi adapter can be connected to the Comrex remote unit at the same time. A photograph of the product shows the WiFi adapter plugged into the USB outlet at the top left of the unit (www.comrex.com/products/access-portable-2usb). This leaves the USB port at the lower left available for a keyboard. Obviously, if you can connect using an Ethernet cable, that would usually be much easier.

6. Connect your sound source to one of the XLR female jacks in the 5-channel mixer board (https://en.wikipedia.org/wiki/XLR_connector). You should be able to use any or all of

the 5 XLR female jacks. For testing, you may want to use the microphone and XLR cable stored in the Comrex case.

7. Press the "power on" button, upper right of the Comrex Access Remote controls below the display. After roughly 10 seconds, the screen will say, "Comrex Access Portable: Please wait. System is booting..." on a blue background. After another roughly 35 seconds, the boot process will complete. As of 2019-05-11 the display at this point reads, "WARNING: It is strongly recommended that you change the remote control password for security reasons." <<We so far seem to have safely ignored this warning.>>



8. Send a signal into your input channel(s), e.g., speak into a microphone connected to one of the input channels on the mixer. There is space for 4 horizontal bars to display right below the green "Connect" button. The top two are left and right channels from the mixer. If you have something connected to one of the 5 input channels, you should see those top two bars move with variations in the input signal. For example, if a microphone is connected to one, you should see the bars jump as you make a noise that is picked up by the microphone. To adjust that input volume, turn the "Input" knob for that channel (third row from the top). When you turn that input knob to the right, the bars should jump higher. Turning the knob to the left should reduce how high it goes. *Adjust that input knob so that signal strength indicator maxes at roughly a third of the way from the left to the right.*

**** TROUBLESHOOTING:** If the volume is quite low or not visible, check the switch to the right of the SLR female in use with a choice of "Line" and "Mic", make sure this switch is "up" for "Mic".

**** CAUTION:** We had a problem with distortion when the operator of a mixing board from which we got our signal during a live broadcast increased the master volume to compensate for speakers who were not speaking loudly enough, so the volume in the room was too low. This drove our signal into distortion, and what we broadcasted sounded awful. Because the master board operator did this several minutes *after* we had set up our Comrex Portable, it took a long time to isolate and fix the problem. If we had set that volume lower to start with, it would have been less of an issue, if it had been a problem at all.



9. If you have two channels of input, and they are not balanced, you can adjust the "stereo pan" knob (bottom knob in the column of 4 knobs for each of the 5 local input channels).
10. Press the down arrow on the Comrex portable unit three times or whatever is needed to select "KKFI Comrex Access Rack" right of a green asterisk.



11. Press "Connect" with your finger or with the Stylus stored to the left of the screen. (Pressing the "Return" button in the middle of the four "left", "up", "right", "down" arrows may also work.) << However, I no longer have the unit with me as I'm writing these notes. Therefore, these notes should be edited after someone has had a chance to test that option. This description should probably be redone, including the images after steps 7 and 9, after further testing.>>



12. There should now be 4 horizontal bars dancing under the green "Connect" button. If not, please reread these instructions carefully and try again. If that fails, call for help, e.g., Spencer Graves, 408-655-4567, or Comrex tech support at 1-800-237-1776 (North America) or techies@comrex.com. <<Some explanation happening at this state/stage is needed, especially for novices, like Geoff. Example: What does it mean to be connected to KKFI Comrex Access Rack? Am I LIVE at this point? The instructions are pretty strong; however, they assume some level of understanding of some of the technical aspects of broadcasting. >>
13. You can listen to the signal on the bottom two of the four horizontal bars by plugging a 1/4 inch phone connector (to headphones) into one of the five channels at the top of the mixer. The bottom image shows an XLR connector hooked to channel 3 and a 1/4 inch phone connector to channel 1.



14. Ask the person operating the sound boards for the venue to notify you if they change the volume, because you should plug headphones into one of the Comrex ACCESS portable phone jacks to see if any increase drove the Comrex into saturation. If so, you need to reduce the local volume on the input and call the station to have one of the operators there check the sound level there. (2019-03-09 at a KCMO Mayoral Candidate debate at All Souls the board operator for the church increased the volume in the room after the first speaker started speaking and drove the Comrex into saturation.

It took Mike Murphy and Spencer Graves several minutes to diagnose and fix that problem. During that time the sound on 90.1 FM was unpleasant.)