kalx 90.7 fm

Operator's Manual

Berkeley, CA, USA Last updated: 30 September 2014



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control room rules

NEVER REMOVE THIS BINDER FROM THE AIR STUDIO

You may check out a copy of this manual from the Training Director or Program Director, or perhaps get it on line.

Any questions or concerns about the content should be addressed to the station engineer.

STUDIO RULES

► No Smoking

This means tobacco, weed, incense, candles, or other

smoke producing material. Any substance producing smoke could easily set off alarms and devices that will render the station unusable.

No Liquids

Coffee, Calistoga, beer, soda, vases of flowers, fish bowls, etc. Leave it on the floor or table outside the studios.

No Food

Leave it outside the studios on a counter, table, or floor.

NEVER REMOVE THIS BINDER FROM THE AIR STUDIO



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emergency phone numbers

General Manager (GM) Sandra Wasson	510-530-1860
Operations Coordinator (OC) Lena Ghazarian	818-304-4520
Chief Operator (Engineer) Joe Tysl	510-529-5078
UCB Physical Plant 24-Hour Line	510-642-1032
KALX Studio Air Studio/Request Line Main Office Staff Hotline	510-642-5259 510-642-1111 510-642-0264

glossary

CAPCON	Common Alerting Protocol Converter
DJ	Disc Jockey
EAS	Emergency Alert System
FCC	Federal Communications Commission
GM	General Manager
OC	Operations Coordinator
ID	Identification
RF	Radio Frequency
RFL PWR	Reflected Power [in the antenna]
RMT	Required Monthly Test
ТХ	Transmit
UCPD	University of California Police Department
VLT	Voltage
VU	Volume Unit
XMTR	Transmitter



all programmers must know...

KALX OPERATOR'S MANUAL

All operators must know the location of the following items:

- ▷ Operator's Manual (Blue loose-leaf binder)
- Station License (Yellow folder)
- EAS Checklist (White folder)
- Old Operation Logs (Engineering Office)
- Public File (Operation Coordinator's Office)
- EAS Receive Shutoff (Rack Unit)
- EAS Send Buttons (Rack Unit)
- ▷ EAS Cart (Purple label)
- Transmitter On Cart (Purple label)
- Transmitter Off Cart (Purple label)
- Transmitter Remote-Control Unit (Rack Unit)

If you do not know the location of each item, please ask an engineer or another operator for help.

block diagram - broadcast



If you do not know the location of each item, please ask an engineer or another operator for help.

All operators must know how and when to:

- Monitor air (not Program) over the big speakers and in your headphones
- ▷ Keep VU peaks on the board at, but not over 100%
- Take meter readings at least once during every shift ie. shift = each person who signs on
- Calculate %RF power of the Operating Log from tables in the Op Manual or manually with the calculator
- ▷ Monitor the transmitter power limits, and correct, if necessary
- ▷ Turn the transmitter on and off
- Send an EAS test or forward an alert
- ▷ Receive an EAS test or an EAS alert
- ▷ Log all of the above in the Operating Log

The operations listed above are required of you as an operator of this radio station. All operators should be familiar with the information in the FCC inspections section of the Operator's Manual, and should periodically review this and all other information.

emergency preparedness procedures

KALX OPERATOR'S MANUAL

Emergency Preparedness for DJs & Other Air Personnel

KALX participates in the UC Berkeley Emergency Preparedness Plan. We are responsible for making announcements over the air when there is a disaster. You will be provided with information to read by the General Manager (GM) or the Operations Coordinator (OC), or someone from the campus emergency operations team (they will have ID).

For fire alarms, you must exit the building until you are allowed back in by the fire department. (See *In Case The Fire Alarm Goes Off [Evacuation instructions]*) For building emergencies, such as power failures, there is a building plan which can be found at the front desk at the back of the black binder.

Call 911 immediately

In an Emergency

- ▷ Call 911 immediately.
- Call 642-6760 for non-life threatening emergencies.
- Let the person you call know where, what, how, when & who you are, do not hang up until told to do so.

When & How to Evacuate

- A fire alarm requires evacuation (by law). Also evacuate when instructed to do so by emergency personnel.
- ▷ The Barrows Hall Assembly

Area is the west side of Barrows lane and in front of Anthony Hall (the Pelican Building).

- Please inform emergency personnel that everyone has evacuated or if anyone needing help (e.g. a disabled person requiring assistance) was left behind.
- The General Manager or Operations Coordinator will be responsible during business hours. At other times, it will be the DJ's responsibility.

\$1000 fine for false alarms

Evacuation Route

Use the west side or east side stairs; do not use the elevators. See *In Case The Fire Alarm Goes Off [Evacuation instructions]* in the next section.

Fire Extinguishers Location

- Next to women's restroom
- ▷ Next to room 74
- Next to west side lockers
- At east end of main hall

Pull Fire Alarms Locations

- Next to east elevator
- ▷ Next to west elevator
- At service entrance stairwell
- NB: \$1000 fine for false alarms.

On Dad Pro, play the "Fire Alarm CD"...

In Case the Fire Alarm Goes Off [Evacuation Instructions]

When a fire alarm sounds you are required to evacuate the building.

AS YOU ARE LEAVING:

1. On Dad Pro play the "Fire Alarm CD" which is a button on the bottom right of the screen. Make sure that nothing is loaded in the Dad1 Player. Pot up channel Dad1, press on and then click on the

Check to make sure everyon else has left KALX...

"Fire Alarm CD" button. [It will not remote start.]

2. Take the index card labeled "Emergency Contact Information" on the side of the rack with the EAS unit with you. It contains a list of station emergency numbers.

3. Take the index card labeled "Emergency Contact Information" on the side of the rack with the EAS unit with you. It contains a list of station emergency numbers.

4. Check to make sure everyone else has left KALX. IF someone is disabled and cannot evacuate, make a mental note of this information. They should go and wait for help near the West end of the building near the service entrance stairs or the East end of the building near the stairs.

IF IT IS DURING BUSINESS HOURS:

If the GM, the OC or the Chief Operator (Engineer) is present they will check in with the Building Monitor outside of the building, and let them know of the status of 26 Barrows.

ONCE YOU HAVE LEFT THE BUILDING: Make sure the GM, OC or Chief Operator (Engineer) is informed...

IF IT IS OUTSIDE OF BUSI-NESS HOURS OR THE GM, OC AND CHEIF OPERATOR (ENGINEER) ARE OUT:

The DJ should let the Police Officer stationed at the entrance of the building that KALX has been evacuated and whether or not anyone is left in the space, and whether a disabled person needs assistance.

ONCE YOU HAVE LEFT THE BUILDING:

Make sure that the GM, OC or Chief Operator (Engineer) is informed of the evacuation. If they are not present, use the numbers on the index card and call them to inform them that the studio is un-attended. The Engineer will make sure that someone is on the way to the transmitter site to monitor the station.



KALX OPERATOR'S MANUAL

DO NOT LET IN PEOPLE WHO DO NOT WORK AT KALX!

...unless they have a legitimate reason for being here—like picking up tickets or an interview.

If someone has a question, please invite them to the couch if you are looking for someone to help them.

Remember, if you do not recognize someone who comes to the door as a KALX volunteer, please ask them what they have come for. We have this policy for **YOUR SAFETY**, as we don't want any kooks we don't know personally to come in.

The UCPD non-emergency number is 2-6760...In an emergency call 911.

KALX Safety/Security Reminder

- Never give out another staff member's phone number, no matter who the caller claims to be.
- Never give out a DJ's real name, or provide the last name or personal information on any staff member.
- If someone wants to be let into the station, always find out who he/she/it is, and why he/she/it is here.
- Everyone should sign in and out after 6 p.m. on weekdays and all day on weekends and holidays. DJ checklists should be completed during those same times.
- KALX is closed to the public after business hours. Only station staff members are allowed in the music library.

The University of California Police Department (UCPD) nonemergency number is 2-6760 (or 510-642-6760 from an off-campus phone). In an emergency call 911.

in case of an fcc inspection

KALX OPERATOR'S MANUAL

The Federal Communications Commission (FCC), which licenses all radio stations, comes around to inspect stations from time to time. The inspection is performed without warning, and can occur during the day, the night, and on weekends.

Do not panic.

Here's what to do if an inspector walks through the door:

Receptionist

1. Do not panic.

2. You absolutely MAY NOT send the inspector away by asking him or her to, "Come back when the General Manager, or Chief Operator (Engineer) are here." The inspector cannot be refused or put off.

3. Ask the FCC person for identification, if they haven't already flashed their badge. Write down the person's name and home office.

4. ASK POLITELY IF THE INSPECTION CAN BE POSTPONED UNTIL THE CHIEF OPERATOR (ENGINEER) ARRIVES.

- 5. Escort the person to the on-air control room.
- 6. Calmly inform the DJ that an FCC inspector has arrived.
- 7. Go back and make sure the Engineer has been called, or call them yourself.
- 8. Notify the GM and/or the OC.

Even if you think you know how to do it, USE THE BOOK.

Board Operator

9.Do not panic. The FCC official expects you to be a human being, who may need to take a minute or two to collect her/himself, or cue up another record before being able to talk.

10. At this point, you're it—you cannot substitute another DJ to go through the FCC exam for you. If you fail, it can cost the station thousands of dollars in fines. Your ignorance could even endanger the station's license.

11. Be polite. You don't have to say "Yes sir" or "Yes ma'am" all the time. Do conduct yourself with normal civility—especially coming from someone with a purple mohawk can be appropriately disarming.

12. During an FCC inspection you are on your own... BUT...

YOU ARE ALLOWED TO READ THIS MANUAL WHILE PERFORMING ANY TASK ASKED OF YOU.

Do not panic...USE THE BOOK...

In fact, it is station policy to "GO BY THE BOOK", that is, to actually read the instructions in this manual while performing any operator's task.

Even if you think you know how to do it, **USE THE BOOK**. Why pass up an opportunity to take this test open-book?

13. The FCC officer will undoubtedly ask to see the Operating Log (Are you signed on?), the station license, and the EAS checklist. These are all located on the small table behind the position. The FCC officer will ask you, the operator signed on the Operating Log, to perform various functions, such as sending a Required Weekly Test (See page 34)

14. At this point, you may want to get someone to substitute for you on the board, so you can give your full attention to these tasks. (Try to choose someone who is capable of running the board well and who will not play any "of the 7 no-nos" in songs.) Remember that

... ASK IF THE INSPECTION CAN BE POSTPONED UNTIL THE CHIEF OPERATOR (ENGINEER) CAN GET TO THE STATION...

you are still the person signed in on the log.

15. The inspector may ask to see other station documents, such as the EAS calendar, the last year of station operation logs, public file, etc. These are in the possession of the Engineer and/or the GM.

16. The FCC officer will ask you, the operator signed on the Operating Log, to perform a number of functions. They will probably include:

- ▷ send an EAS test
- ▷ what to do when you receive an EAS test or alert
- ▷ which station our EAS unit monitors
- calculate power (the tables in the operating manual or with the calculator), and to
- ▷ increase or decrease power.

Perform each of the functions as you are requested, logging them as appropriate.

17. If you are asked to turn the transmitter off, ask if you may explain how to do it rather than actually doing it. This may be good enough; if not, do as the inspector requests. Don't forget to log the

...they do expect you to know where the operator's manual is, and be familiar with the procedures...

sign-off and sign-on times.

18. Remember that the FCC does not expect every operator to have every procedure memorized. But, they do expect you to know where the Operator's Manual is, and be familiar with the procedures in this document. The idea is that you are in control of the transmitter, the station management is in control of you, and the station licensees (the Regents) are in control of the station management.

REMEMBER: WHEN THE FCC INSPECTOR ARRIVES, ASK IF THE INSPECTION CAN BE POSTPONED UNTIL THE CHIEF OPERATOR (ENGINEER) CAN GET TO THE STATION.

Joe the Chief Operator's (Engineer's) cell: 510-529-5078

reading the dorrough meters

KALX OPERATOR'S MANUAL

The meters show two parameters of our audio signal—the average audio levels, much like the VU meters on the board, and the audio peak levels, which are the instantaneous sound levels much like you see on European peak meters. These meters are highly accurate, and give a nice indication on general loudness, so each track is easier to match with the last.

On the left side of each meter is a filled line of LEDs representing the average. The single LED that jumps around on the right side of each meter is the peak or instantaneous level.

The **AVERAGE** level relates directly to perceived loudness, like the VU readings. The PEAK level relates to transmitter over-modulation.

...make sure...the peak signals only touch the peak red occasionally.



The idea is to simply make sure your audio levels have the average signal in the average lower red area, and that the peak signals only touch the peak red occasionally. This will keep the transmitter from having to overly compress the audio, giving the most open and accurate audio to the listeners.



The difference between the average and the peak reading is the "crest factor". This represents the peakiness or spikiness of the sound. Snare drum hits over steady narration would be an example of peakiness. A steady drone sound would have very little crest factor.

obscenity, indecency & profanity

KALX OPERATOR'S MANUAL

The FCC ruling on obscenity, indecency and other sensitive language, Section 1464 of Title 18 of the United States Code reads:

Whoever utters any obscene, indecent, or profane language by means of radio communication shall be fined up to \$325,000 per utterance or imprisoned not more than two years, or both.

Safe Harbor (times of night when you are permitted to air otherwise illegal content) **is not honored** at KALX.

Obscene, indecent and profane language enjoys no constitutional "free speech" protection when broadcast by radio communication. Nor can it be redeemed solely by the argument that a work has serious literary, artistic, political or scientific merit.

...any obscene, indecent, or profane language... shall be fined up to \$325,000 per utterance...

The definitions of each follows:

OBSCENITY

All three of the following elements must be present for a program to be considered obscene:

1. whether the average person, applying contemporary community standards, would find that the work, taken as a whole, appeals to the prurient interest;

2. the work depicts in a patently offensive way sexual conduct defined by the applicable state law

3. the work, taken as a whole, lac;ks serious literary, artistic, political or scientific value.

INDECENCY

Indecent language describes "sexual or excretory activities and organs," including innuendo and double entendre. Indecent language includes, but is not limited to, the following seven words: **cocksucker, motherfucker, cunt, fuck, piss, shit,** and **tit.**

...seven words: cocksucker, motherfucker, cunt, fuck, piss, shit, and tit.

PROFANITY

The FCC has defined profanity as "including language that denote[s] certain of those personally reviling epithets... denoting language so grossly offensive to members of the public who actually hear it as to amount to a nuisance." In announcing this definition, the FCC ruled that the single use of the "F-Word" and/or "S-Word" in the context of a live program was profane. The FCC further stated that it would consider other comparable words or phrases to be profane, analyzed "on a case-by-case basis".

Historically, court cases have stated that in the case of language which might be characterized as profane—hell, damn, god damn, etc.—**the key factor is the intention of the speaker.** If the speaker's language was meant as "an imprecation of divine vengeance or implying divine condemnation, so used as to constitute a public nuisance", then the language is considered profane. This interpretation also covers gratuitous or repetitive use.

THERE ARE NO EXCEPTIONS

...programmers may be suspended and/or expelled for repeated offenses.

Obscene, Indecent, or Profane content cannot be excused because a disclaimer was read before the program aired. Courts have consistently upheld the notion of radio communications as an "uninvited guest" into the home of the listener where right to privacy supersedes any right to broadcast offensive material. At KALX, there are no exceptions at any time, even during late-night hours.

To protect itself, a station must have a sensitive-language policy, enforce it, and show that programmers are complying with it. Since the broadcast of such material jeopardizes the license of the station, programmers may be suspended and/or expelled for repeated offenses.

KALX's policy concerning the broadcast of all illegal material is clear and simple: since the broadcast of illegal material jeopardizes the license of the station, management can and will take action against those individuals who broadcast illegal material on KALX.

4. KALX management will make every effort to notify

...management can and will take action against those individuals who broadcast illegal material on KALX.

programmers of program material which might be considered obscene, indecent, or profane. This includes the marking of recorded material as it is reviewed.

5. When a programmer has broadcast obscene, indecent, or profane material and knows or should have known that the material was objectionable, that programmer will receive a written warning notifying the programmer that if s/he broadcasts such material again on KALX, s/he will be suspended and unable to apply for another show for one month.

6. If a programmer broadcasts such material a second time after receiving a warning, that programmer will be suspended and unable to apply for another show for a period of one month. The programmer will also receive a warning that if s/he broadcasts such material a third time on KALX s/he will be expelled from the station. 7. If a programmer broadcasts such material a third time after receiving a warning, that programmer will be expelled from the station.

what to do if the next dj doesn't show up

KALX OPERATOR'S MANUAL

Put on a longer track and take a deep breath!! Then...

 Call the DJ. Maybe they've forgotten or overslept and can still come in. The Staff Phone List is posted outside of Operations Coordinator's office, and the DJ Trainee list is on the Training bulletin board. Try their number multiple times and wait 5-10 minutes.
 If you can't reach that DJ, note on the calendar that they did not show up. Then try calling for substitues. Check the posted schedules to find other DJs that program similar shifts. Refer to the current Sublist for contact information.

- 3. Decide if you can stick it out until the next DJ shows up.
- 4. If the missed shift is a training shift, call the Training Director(s):
 - ▷ Menghsin Horng (269) 779-0622 or
 - ▷ Kelly Archer (714) 699-6735

Make sure you get ahold of a LIVE PERSON... you must talk to a human...

5. For all other shifts, call the Operations Coordinator, Lena at 818-304-4520 for other shifts, or if you can't get ahold of anyone else. Make sure you get ahold of a LIVE PERSON, so they can help.
6. As a last resort, take the station off the air. Make sure you have contacted the Training Director, Operations Coordinator, or the General Manager, PERSONALLY! You must talk to a human, because once you leave, the building will be locked, and KALX is off the air until someone with a key lets the next DJ in.



what is the eas?

KALX OPERATOR'S MANUAL

The Emergency Alert System (EAS) is the system whereby Federal, State, and Local authorities can send safety alerts to various geographic areas by way of public media.

The EAS is a web-like system of communication interlinks utilizing both analog radio, and digital information via the internet. EAS signals come directly from KCBS (AM) and KQED (FM). The third source is from a computer in the engineering room that listens constantly for messages coming over the internet (CAPCON).

For all alerts, our broadcast is interrupted and the official message is passed on from the originator of the message, through KALX to our listeners. Tests that are received are not re-broadcast by KALX, except for the Required Monthly Test (RMT), which happens only

...the Required Monthly Test (RMT) which occurs on the second Tuesday of the month.

on the second Tuesday of the month.

The EAS signal begins with the buzzy burst of information repeated three times. If the signal is a test, there is the familiar two-tone attention signal, a short test message, and then the end tones. An alert follows the same program, but the voice message is specific to whatever the alert is about, a Child Abduction Emergency (CAE), a Shelter in Place, etc.

When the signal is detected, the EAS receiver turns on, decodes the information, prints the log tape, and, if warranted, interrupts our broadcast with the alert or RMT message.

.. TESTS ..

We broadcast weekly tests on a random schedule. Once a month, these tests are coordinated with all the other participating radio, television and cable stations in the Bay Area; this is the RMT. All stations will re-broadcast this test within 15 minutes of receiving the test from KCBS, KQED, or CAPCON. These RMT tests received on a monthly basis are **automatically forwarded by KALX.** This is why your show may be interrupted in the middle of a cut.
...an alert will immediately interrupt the show that is on the air.

.. ALERTS ..

The receiver in Air is programmed to receive alerts and digitally process the information that is received. The receiver filters the messages and **automatically forwards the ones that apply to our local counties.** Again, an alert will immediately interrupt the show that is on the air.

when you receive an eas signal

KALX OPERATOR'S MANUAL

Any time a message is received, the red alarm light will begin blinking. The only way to clear the blinking light is to go to the rack on the rear wall and press the identical red light switch. This light is only there to let the operator know that a message has been received. Clearing the light will NOT do anything further. See *About the Red Blinking Light (BRL).*

- The Required Weekly Tests (RWT) that we receive from KCBS, KQED, and CAPCOM (the federal government) are not forwarded.
- All alerts and all Required Monthly Tests (RMT) are automatically forwarded.

KALX forwards alerts and tests for Alameda, Contra Costa, San

KALX forwards alerts and tests for Alameda, Contra Costa, San Francisco, and Marin counties.

Francisco, and Marin counties.

The types of alerts we forward are:

- ADR Administrative Message
- CAE Child Abduction Emergency
- CEM Civil Emergency
- EVI Immediate Evacuation Order
- FFW Flash Flood Warning
- FLW Flood Warning
- SPW Shelter In Place
- SVR Severe Thunderstorm Warning
- TOR Tornado Warning
- TSW Tsunami Warning

All incoming and outgoing messages **MUST BE LOGGED**. If there are several messages arriving from one event, the all must be logged individually. See *Logging an EAS Message*.

DO NOT REMOVE the paper tape from the unit.

When the message light comes on or you see the EAS printer printing:

1. PRESS the flashing red button on the rack panel.

2. **PRESS** the flashing green **Msg. Waiting** button on the EAS box.

3. MAKE the proper entries on the operating log.

4. **RESUME** what you were doing.

DO NOT REMOVE the paper tape from the unit. Engineering will remove it once a day (except weekends) and reconcile it with the written logs.

The indicator light will blink until it is cleared by going to the actual EAS box and pressing the other, blinking red light.

About the Blinking Red Light (BRL):

All incoming EAS messages will now blink this red light. This is designed to let the operator know that something has happened.

The indicator will blink until it is cleared by going to the actual EAS box and pressing the other, blinking red light. Then, since you are already at the EAS box, you might as well log the TEST/ ALERT in the log as you would normally do. Don't forget to hit "Msg. Forward" if necessary.

The two lights have no other function that to get you out of your chair to log the EAS event.



SECTION THREE - EAS

...do not forget to press the "MSG WAITING" button if it is lit.

NOTE: After a message to forward is received, do not forget to press the "MSG WAITING" button if it is lit. If it stays on, the next message to send may be delayed, or not sent at all.



Blinking "Message Waiting" light

to send a weekly test

KALX OPERATOR'S MANUAL

NOTE: A test should only be sent if it is scheduled in the Program Log.

TO SEND A WEEKLY TEST

1.LOAD the EAS Test Spot into DADPro and have it ready to

play. 2.

2. PRESS

PASSWORD

- The green screen will light up and ask, "PASSWORD?"
- The number buttons will also light up
- 3. ENTER the password 907

using the number buttons.

- ▷ The unit will beep
- The screen will show "SELECT EVENT"
- ▷ The event buttons will flash
- 4. PRESS

WEEKLY TEST

- The screen will show RWT
- The words, "REQUIRED WEEKLY TEST" will scroll across the screen
- ▷ The READY button will flash

DO NOT remove the paper tape from the EAS unit.

5. PRESS

READY

- ▷ The unit will beep
- The display will show "SEND HEADER"
- The SEND HDR button will flash WAIT for your song to end
- 6. PRESS



- You will hear 3 bursts of noise over the air
- The screen will read "SEND END OF MESSAGE"
- The SEND EOM button will flash

7. PLAY the EAS TEST spot in DADPro.

8. PRESS

SEND EOM

- You will hear 3 short bursts of noise over the air
- The screen will return to the normal time and date display
- 9. **RESUME** programming

10. MAKE a proper entry in the LOG.

11. If you are doing this to practice: **PRESS**

PRACTICE

on the EAS box before you begin.

NOTE: Do not remove the paper tape from the EAS unit. Engineering will remove it when



appropriate and reconcile it with the logs.

receiving & sending a monthly test

KALX OPERATOR'S MANUAL

Required Monthly Tests (RMTs) are received from KCBS and KQED on the second Tuesday of each month, at approximately 0450 in even numbered months, and approximately 1050 in odd numbered months.

The tests cut right into your programming, so you should be prepared.

EAS REQUIRED MONTHLY TESTS ARE AUTOMATICALLY FORWARDED WHEN RECEIVED.

NO ACTION IS REQUIRED BY THE OPERATOR

DO NOT remove the paper tape from the EAS unit.

After the first test from either KCBS or KQED is received:

1. The red blinking EAS alarm light will go off, and if you are monitoring Program, you will hear the audio cut away.

2. The first test received automatically forwards.

- You will also receive a second Required Monthly Test from either KQED or KCBS, whichever arrives second.
- The second test is not forwarded, but still must be logged.
- 3. LOG the receipt of both

tests in the Operations Log. **4.** LOG the forwarding of the test from KALX in the Operations Log.

▶ **PRESS** the flashing

MSG. WAITING

button. This will reset the EAS box.

5. **PRESS** the blinking red button above the EAS box to clear the message received alarm.

NOTE: DO NOT remove paper tape from the EAS unit. Engineering will remove it at least once a week (more often if necessary) and include it with the logs.



logging an eas message

KALX OPERATOR'S MANUAL

Steps for logging an EAS message follows:

1. For each Required Weekly Test (RWT), there will be one message received or sent at random times, and one log entry for this event.

2. For each Required Monthly Test (RMT), or each Alert (CAE, TOR, etc.) there will be three messages; two received and one sent. Therefore, there must be three log entries.





transmitter status light chart

KALX OPERATOR'S MANUAL

The layout of the Burk Technology (AKA The Burk) transmitter remote control system and the light chart status alarm descriptions are viewable on the next page.



SECTION FOUR - TRANSMITTER CONTROL

how to take meter readings

KALX OPERATOR'S MANUAL

Meter readings are taken at least once per shift and recorded in the station operating log. These readings are the only way we can reliably monitor the health of our transmitter.



SECTION FOUR - TRANSMITTER CONTROL

An additional set of readings must be taken:

- if you have been instructed to turn the transmitter on or off, or
- to make any changes to operating parameters.

To take a meter reading from The Burk:

1.PRESS one of the white [**CHANNEL**] buttons to wake up the remote control display.

- The LCD display should have the word "XMTR" in the lower left corner.
- If it reports "Studio" see the note at the end of this section.)

2. **PRESS** the white

[CHANNEL] buttons until A1

appears in the upper left corner of the display.

The display should read "A1 TX VLT", followed by a number. This is the transmitter output voltage, about 28 volts.
 Enter this number in the TX
 VLT column of the log.

3. PRESS the right **CHĂNNEL** key once.

- The display should read "A2 F PWR", followed by a number.
- This is the output power in percent. Enter this number in the FWD PWR column of the log.
- The reading should be close to 100%. If it is below 90% or above 105%, you must CALL the GM, OC or the Engineer, and attempt to adjust the output power of the transmitter. See page X-X [formerly 4-6].
- 4. **PRESS** the right
- [CHANNEL] key again.
 - The display should read
 "A3 TX AMP", followed by a number.



This is the transmitter output current in amps. It should be around 27.5 amps. Enter this number in TX CURR column of the log.

5. **PRESS** the right

[CHANNEL] button again.

- The display should read "A4 REVPWR", followed by a number.
- This is the reflected power, and indicates the health of the antenna.
- ▷ It must be very close to zero.
- Enter this number in the RFL
 PWR column of the log.

NOTE: If the display has the word "**STUDIO**" in the lower left corner:

6. **PRESS** the [MODE] button;

its red LED will come on.

7. PRESS the green [**UP**] button so the word "**XMTR**" appears in the display.

8. **PRESS** and **HOLD** the [**MODE**] button until its red LED goes out.

9.PROCEED to Step 2 on the previous page.



alarm conditions

KALX OPERATOR'S MANUAL

Out of Tolerance Alarm



If the rotating red light turns on, it means that the transmitter or some associated system is in a fault mode, but that power and communication between the studio and the transmitter are normal.

1. The red LED in the **CLEAR** button goes on in the event of an alarm.

2. **PRESS** the **CLEAR** button once and the display will tell you what the fault is.

3. WRITE the fault and the time of the alarm in the log.

4. CALL the Chief Operator (Engineer) and/or the General Manager and explain the situation.

5. **PRESS** the **CLEAR** button once more and the alarms will stop.

6. At his point you may be directed to increase or decrease the transmitter power (page 4-6), or shut the transmitter down altogether (page 4-7)

Loss of Electrical Power at the Transmitter

7. Normally, if there is a loss of power at the transmitter a

generator will kick in to keep the system going.

8. In the event of the generator not providing power, there will be signs that are obvious:

- No audio from "AIR" monitor switch on Control Room module. Audio will be normal if "PROGRAM" is selected.
- The Burk remote control at the Air Studio rack will be flashing all its LEDs randomly.
- Burk readings will all be
 "zero". No amount of trying to raise the power will work, so don't try.
 - In this case, call the Chief Operator (Engineer).

If the Studio-to-Transmitter fiber optic link fails

9. All the same signs as above. 10. Make sure the console is monitoring **AIR**, and listen for any static noise where there should be audio. If there is no static, the transmitter might still be on, but will have lost its audio feed.

In this case, call the Chief Operator (Engineer).

11. To switch to the alternate source for the transmitter:

- PRESS the white
 CHANNEL buttons on the
 Burk until you get to Channel
 13.
- PRESS the red DOWN button.
- ▷ WAIT a slow 5 seconds.
- The LED on Alarm 13 will come on.
- The transmitter is now being fed from the alternate audio

path.

12. To switch back to the regular fiber optic path:

- PRESS the white CHANNEL buttons until you get to Channel 13.
- PRESS the green UP button
- ▷ WAIT a slow 5 seconds.
- The LED alarm on Channel 13 will go off.
- You are now back on the normal audio path.

turning off the transmitter from the studio

KALX OPERATOR'S MANUAL

Call the General Manager or the Chief Operator (Engineer) immediately if there are indications of a major problem or fault in the transmitter. Look at the Emergency Phone List on the rack for the contact numbers.

The transmitter MUST be shut down if...

1. The following red LED alarms are on:

Alarm 3 – High Transmitter Temperature Alarm 4 – High Reflected Power at Antenna Alarm 5 – Output Fault Alarm 6 – Power Supply Fault

The transmitter is operating out of its power range (90%-105%) as shown on A2 of the Burk Remote Control display, and cannot be corrected by adjusting the power output level as directed on page 4-3.
 You are directed to do so by the General Manager, Operations

Coordinator, or the Chief Operator.

4. You are instructed to by an FCC inspector who is in the process of inspecting the station. See page 2-X.

Be sure to initialize the entry.

To Turn Off The Transmitter from the BURK

1. PLAY the "Transmitter Off" cut #30004.

2. TURN OFF all the board

inputs spot on DAD – FCC_BUS aroup.

group. 3. TAKE READINGS and enter them into the log.

4. NOTE the time.

5. **PRESS** one of the white

[CHANNEL] keys until the display reads "A 1".



Keys under the white flap of paper.

6. **PRESS** and **RELEASE** the

red [LOWER] key.

- Reading number 2 (power) should read 0% instead of 100%.
- The transmitter is now off the air.
- The number 2 red alarm LED should be off.

7. ENTER the time off in the Comments section of the log. Be sure to initialize the entry.

raising & lowering transmitter power

KALX OPERATOR'S MANUAL

IF YOU CANNOT CONTACT AN ENGINEER, and are still out of power, even though you have carefully followed all the steps outlined here, you must manually bring the output power to legal levels.

The transmitter power reading must be between 90% and 105% of normal to be legal. To adjust the output power levels:

1. Press white CHANNEL button until display reads A2 F PWR. Using the RAISE and LOWER buttons, change the display to read



The transmitter power reading must be between 90% and 105% of normal to be legal.

approximately 100% e.g. 100.1, 100.2.

2. Be sure to log the change and state the reason in the comments section of the operating log, and try again to contact an engineer. We consider this an abnormal situation that requires immediate corrective action.

3. If you are unable to bring the transmitter to within the specified range of 90% - 105%, YOU MUST TURN OFF THE

TRANSMITTER.

4. To turn off the transmitter, turn to page 49 in this manual.
5. Keep trying to contact the General Manager (GM), the Chief Operator (Engineer), or Operations Coordinator (OC).
6. Do not forget to log the time you took the transmitter off-line.

air studio - phone-ins

KALX OPERATOR'S MANUAL

Use the following procedure for managing phone-ins to the On Air Studio.

1. ASSIGN TELCO module output to [UTILITY] (blue dot).



except the caller's voice itself.

 ASSIGN all mics to [PROGRAM] and [UTILITY].
 SELECT phone module input to [PHONE], which is Input B.

4. **ASSIGN** phone module output to [PROGRAM].... NOT UTILITY (this will cause

This signal is what is known as "Mix Minus", where the audio feed to the caller includes all the audio

PLACE or RECEIVE call on 642-5259 or 642-5556.

feedback).

5. PLACE or RECEIVE CALL on 642-5259 or 642-5556.

6. After connection is established, **PLACE** call on [HOLD] using the phone set.



The line on hold will flash red on the little interface box



7. **PUSH** corresponding [LATCH BUTTON]

 \triangleright Color then goes solid green.



8. **PUSH** [ON] on the phone console module and bring fader up.

▷ The caller is now on the air.
 9. To end the call, PUSH console phone module [OFF] and PRESS the [OFF] button on little box.

To end the call, PUSH console phone module [OFF] and PRESS the [OFF] button...



10. If you want to talk to the caller off line at that point,PRESS [HOLD] instead of [OFF].



SECTION FIVE - PHONE-INS

news - studio phone-ins

KALX OPERATOR'S MANUAL

Use the following procedure for managing news phone-ins to the On Air Studio.

Before Making the Call

ADJUST the engineer's microphone fader to a nominal level on the board, and turn it on.
 ASSIGN the engineer's microphone output to both PROGRAM and AUDITION (AUD).

3. On the telephone fader, under MXM Feed, **SELECT** AUD by pressing the ET button until



SECTION FIVE - PHONE-INS

Some bla bla here...

the AUD light goes on.

4. **ADJUST** the CALLER 1 fader on the telephone module to a nominal level.

- Make sure the module is ON
- Make sure the module is set to PROGRAM

To Make or Take the Connection

It is preferable that we make the call, but the system works the same in either direction.

5. CALL the other party on the top phone, using 0993. Dial 9 to

reach an outside line.

6. After speaking with the other party, place the call on **HOLD**, using the normal phone.

The green button light on the phone set will begin to blink

You can replace the handset if you wish.

7. PRESS the ON button on the TELOS hybrid.

▷ The green LED should light.

8. Put on the headphones.

9. The line which is being used for the call will be blinking red on the taped phone on the bottom shelf of the little phone stand.

Some bla bla here...

PRESS this light.

- The light will turn solid green.
- **10.** Begin the conversation, and
- ADJUST levels as need be.

To Break the Connection

11. PRESS the yellow OFF
button on the phone module.
12. PRESS the OFF button on the TELOS.

To have the other party remain on the line

Before you break the connection, **PLACE** the call on HOLD, using the taped phone on the lower shelf. You can then pick up the call again using the regular phone on the upper shelf.

production studio - phone-ins

KALX OPERATOR'S MANUAL

Use the following procedure for managing production phone-ins to the On Air Studio.

NOTE: All controls mentioned are on the 'Telco' module unless otherwise noted.)

DO NOT, under any circumstances, press the ON switch on the Gentner Hybrid. It is switched ON automatically from the board.

1. The 'Telco,' module (on the left hand side of the board) should have the buttons

depressed that have the BLUE dots (except the ON/OFF button), and the other buttons should not be depressed.

2. ADJUST Caller In #1 pot and SEND to CALLER pot to BLUE dots.

3. ADJUST appropriate MIC MIX pot to approximately 5 on the setting. **MIC MIX** pots are for the same microphone as the main microphone input modules,

The 'Telco' module is just another input...controlled by the Caller IN #1 Pot.

except button on the Callers IN section.

4. PLACE the call on the regular telephone and PLACE it on HOLD once the call has been established.

5. Use the telephone with the taped handset to the left of the rack (the control telephone) to put the 642-KALX lines on the air.

6. When the line selector button on the control telephone is pressed, the flashing red light above the button should turn steady green and the caller can hear whatever you have in Program. But, they cannot speak on the air until you press the ON/ OFF button on the 'Telco' module and the button lights up. Aside: The Telco module is just another input, whose level is controlled by the Caller IN #1 Pot. Any other sources you want programmed are handled just like normal, including microphones.

7. When you are finished with the call:

- RELEASE the ON/OFF button so the light is out, then
- PRESS the lighted ON button on the Callers In section of the Telco modules to disconnect the line.
- 8.
- If you need to talk with the

Turn down the Send to Caller pot, so you can be heard over the program material.

caller after going off air:

- PRESS the HOLD button on the control telephone before pressing the lighted ON button on the Callers IN section, then
- You will be able to pick the call up on the regular telephone.

Conversing Off-Air

If it is necessary to converse Off-Air with the telephone guest, use the following procedure.

9.RELEASE the ON/OFF button

so the light is out. 10. PRESS the yellow CUE

button under the Caller In #1 pot, so the light is on.

11. PRESS the **OFF** button on the main mike module, but leave the Mic Mix pot up.

12. At this point, you should be able to talk to the telephone guest and hear them in the headphones on Cue. It may be necessary to turn down the Send to Caller pot, so you can be heard over the program material.

sports - broadcast [overview]

KALX OPERATOR'S MANUAL

Home Games

Home games come over the Campus Loop (baseball and basketball) or phone line (football). The Campus Loop appears as an input on either of the two far right faders (**SELECT 1 or SELECT 2**). What comes over those lines is selected by the two rows of buttons on the upper far right. The phone line comes in over the regular phone lines and is treated like a call-in. See the section on Home Games Phone-ins.

Phone numbers:

- Haas Pavilion (basketball) is 642-2181
- Evans Diamond (baseball) is 642-2181
...Haas Pavilion (basketball) is 642-2181...Evan Diamond (baseball) is 642-2181.

Don't hesitate to call the sportscaster over the telephone, or his/her cell phone, if something goes wrong.

If you have a problem with the sports line, the broadcast can be done over the telephone. Follow the procedure for Home Games Phone-ins.

Road Games

The sportscaster will call about an hour before the game. Your first responsibility is to get the phone number where the event is occurring. Normally you will call the sportscaster back to take advantage of the cheaper university phone line rates.

To put the call on the air, see the instructions for Air Studio Phoneins. You can listen to the line in cue to make sure you're still connected and to check the quality of the line, If the line has lots of static or sounds very far away, keep calling back until you get a reasonably good line. Be careful when setting levels on the board. Peaking at zero but not going into the red is very often is a good

...your first responsibility is to get the phone number where the event is occurring.

place to start.

If you are broadcasting via the production or news studio, a trained, certified and signed-on board operator must babysit the air studio at all times.

News and Baseball Broadcast Policy

As News is produced on a daily basis and is time sensitive, the following will apply to News when Baseball games broadcast by the Sports department run past 5:30pm Monday through Friday.

News broadcasts will occur if the baseball game ends by 6:15pm. If the game ends at 6:15pm, News will broadcast for 15 minutes (that is until 6:30pm.)

If the game ends before 6:15pm but after 5:30pm, News will broadcast up to 30 minutes, but end not later than 6:30pm. Efforts will be made to keep only relevant news stories and to keep the cast short.



sports - home games phone-ins

Use the following procedure for managing home games over the phone for for basketball and baseball broadcasts.

Local Broadcasts Connected Over the Phone

Local broadcasts connected over the phone include:

- Games at Memorial Stadium
- Games from Haas or Evans Diamond, where the regular Campus Loop is not working

All phone originated broadcasts will use the 5556 line (line 2) in order to go through the board and onto the air.

1. In the Music Library wait for the phone call from on-site

Broadcasters dial 2-5556...

broadcasters.

2. Broadcasters **DIAL 2-5556** (no need to dial 1-510-64) from the JK Audio Box in order to call into the station.

3. PICK UP the 5556 line (when it rings) in the Music Library. After speaking to the broadcasters (i.e. coordinating when to play the Big C before the pre-game intro), **PRESS** the orange **HOLD** button.



 When the phone is on hold the broadcasters will be able to hear whatever the DJ is playing over the air.

4. In the Air Studio above the console meter bridge and to the left of the CD players,

there is a small (2" by 5") black box with three little LED lights and two rows of buttons (5 buttons total).



5. **PRESS** the middle black

SECTION FIVE - PHONE-INS

If program is not pushed down, whatever you play on that fader will go on the air.

button (2nd / middle row). This turns the flashing red light into a solid green light.



6. The broadcaster's audio will now be available at the console.

Getting The Signal On the Air

7. ASSIGN each fader on the console to **PROGRAM (PGM)** by pushing the "PROGRAM" button down from the left to the right hand side of the board. These buttons are located above the faders. There are three rows of black buttons. PGM is the top

row.

If program is not pushed down, whatever you play on that fader will not go on the air. Avoid complications by pushing all the black buttons down.

8. ASSIGN each fader on the console to UTILITY (UTIL) by pushing each "UTILITY" button down except for the utility button above the phone fader, which stays up. The UTIL buttons are located on the bottom of the three rows of black buttons above the faders.

The phone fader has a white lable next to the B button...

- This allows the broadcasters to hear what is being played in the studio during breaks. That way, when the broadcasters call for it back, they hear the music fade out and know exactly when to begin speaking.
- The phone fader has a white label next to the B button at the very top of its fader strip. The phone module is located near the middle of the board.



9. Once all the buttons with blue dots are pushed down, **ASSIGN** the phone module by pushing down the B button at the top of the phone module.

- Make sure the module is OFF or the broadcasters will be on the air.
- ▷ Then, all you need to do is play the Big C (CD) at the

Make sure the module is OFF or the broadcasters will be on the air...

appropriate time (1 min 12 sec) and fade the broadcasters up using the phone fader until the first break.

10. The outcue the broadcasters will use before breaks (the majority of the time) will be...

"You are listening to Cal ____ (baseball, basketball, or football) on KALX Berkeley 90.7 FM"

OR

"You are listening to Cal ____ (baseball, basketball, or football) on KALX Berkeley, your best source for Cal Sports."

sports - home games using campus loop

KALX OPERATOR'S MANUAL

Use the following procedure for managing home games using the Campus Loop for for basketball and baseball broadcasts. Ensure everyone involved arrives to their posts very early. Leaving time for problem solving will benefit everyone, making KALX look more professional on the air.

Using the Campus Loop for Local Broadcasts of Basketball and Baseball

The Campus Loop is a direct connection from both Haas Pavilion and Evans Diamond. This is not a phone connection, so:

- ▷ it has no dial tone.
- it has no ability to allow the On-air Broadcasters to hear the studio directly.

The Campus Loop signal is treated as just another input on the console.

The advantage of the Campus Loop is it does not sound like a phone line, with limited bandwidth and lots of noise.

The Campus Loop signal is treated as just another input on the console.

Broadcasters

1. SET UP the JK Audio box as normal.

2. CONNECT the PHONE LINE jack to the 812-2181 modular jack on the panel under the desk.

3. CONNECT the MASTER OUTPUT jack to the CAMPUS LOOP jack on the same panel

using the special cord.

- For Haas Pavilion, the cord is a 3 pin XLR female plug to modular phone jack.
- For Evans Stadium, the cord is a 3 pin XLR female to 3 pin XLR male plug.

4. Each headset will be able to select from the local signal with its switch in MIX, or the on-air broadcast when the switch is in RETURN.

Evans Diamond...642-2181...Haas Pavilion...642-0982

Studio Engineer/Broadcaster

1. INITIATE a call to the Broadcaster(s) using the 5556 line.

- Evans Diamond phone number is 642-2181.
- Haas Pavillion phone number is 642-0982.

2. After speaking to the broadcasters (i.e. coordinating when to play the Big C before the pre-game intro), **PRESS** the orange HOLD button. You may



then hang up the phone. 3. In the Air Studio above the console meter bridge and to the left of the CD players, there is a small (2" by 5") black box with three little LED lights and two rows of buttons (5 buttons total).



4. **PRESS** the middle black



...both SELECT modules are OFF. ...PHONE module is OFF.

button (2nd / middle row). This will turn the flashing red light into a solid green light.



5. The Broadcasters will now be able to hear the On-Air signal when their headphones are switched to RETURN.

 If for some reason this connection does not work, you may be forced to use one of the Broadcaster's cell phones.

Getting the signal on the Air

6. Make sure both **SELECT**

modules are **OFF**.

7. Make sure the PHONE module is **OFF**.

- 8. **ASSIGN** the Campus Loop to either one of the SELECT 1 or SELECT 2 modules.
 - On the top right of the board there are two columns of buttons.
 - The left column refers to SELECT 1 and the right column is SELECT 2.
 - PRESS the CAMP button down on either SELECT column.

ADJUST the fader level... Leave yourself some headroom.

Then when you use the corresponding SELECT fader module the signal will come up like any other console input

9. With the Broadcasters talking, SET appropriate SELECT module into either CUE or SOLO and ADJUST the fader level.

- Remember that the Broadcasters will be much louder should Cal do something important.
- Leave yourself some headroom.

sports - remote, on the road broadcasts

KALX OPERATOR'S MANUAL

Use the following procedure for managing remote, on the road broadcasts. Road Broadcasts are handled the same as Local Broadcasts, except the Studio Engineer is the one to contact the Broadcasters over the phone.

- Engineers will use the KALX dial out code (for anything outside of the 510 area code) to call the JK Audio Box at the road stadium.
- ▷ The line used is still 2-5556 (Line 2).

The Engineer must know the remote phone number which the Broadcasters are plugged in to. The Engineer can either call them on their cell phone to get the remote number, or there may be a fax that has the number as well. Either way, it should be pre-arranged.

...the dial out code (from the 5556 line or line 2) is 78...

1. From the station, the dial out code (from the 5556 line or line 2) is 78 (pause and wait for a dial tone) -77572 (longer pause, but still wait for the dial tone) -9-1-

(enter in the phone number that the broadcasters have provided you

 You do not need to dial the Broadcasters from the Air Studio. Any 2-5556 location will do.

2. After speaking to the broadcasters (i.e. coordinating when to play the Big C before the pre-game intro), **PRESS** the orange "hold" button before

hanging up the phone.



 At this point, broadcasters should be able to hear whatever the DJ is playing over the air

3. In the Air Studio above the console meter bridge and to the left of the CD players,there is a small (2" by 5") black box with three little LED lights and two

If program is not pushed down, whatever you play on that fader will go on the air.

rows of buttons (5 buttons total).



4. **PRESS** the middle black button (2nd / middle row). This will turn the flashing red light into a solid green light.



5. The broadcaster's audio will now be available at the console.

Getting The Signal On the Air

- 6. ASSIGN each fader on the console to **PROGRAM (PGM)** by pushing the "PROGRAM" button down from the left to the right hand side of the board. These buttons are located above the faders. There are three rows of black buttons. **PGM** is the top row.
 - If program is not pushed down, then whatever you play on that fader will not go on the air. Avoid complications by pushing all of them down.

The phone fader has a white lable next to the B button...

7. ASSIGN each fader on the console to UTILITY (UTIL) by pushing each "UTILITY" button down except for the utility button above the phone fader, which stays up. The UTIL buttons are located on the bottom of the three rows of black buttons above the faders.

This allows the broadcasters to hear what is being played in the studio during breaks. That way, when the broadcasters call for it back, they hear the music fade out and know exactly when to begin speaking.

The phone fader has a white label next to the B button at the very top of its fader strip. The phone module is located near the middle of the board.

- Notice that there are blue dots next to all A (and some B) buttons above every fader at the top of the board.
- The blue dots indicate which buttons need to be pressed down.

8. Once all the buttons with blue dots are pushed down, assign the phone module by pushing down the B button at the top of the phone module.

Make sure the module is
OFF or the broadcasters will

Make sure the module is OFF or the broadcasters will be on the air...

be on the air. 9.Then, all you need to do is play the Big C (CD) at the appropriate time (1 min 12 sec) and fade the broadcasters up using the phone fader until the first break

10. The outcue the broadcasters will use before breaks (the majority of the time) will be,

"You are listening to Cal ____ (baseball, basketball, or football) on KALX Berkeley 90.7 FM"

OR

"You are listening to Cal ____

(baseball, basketball, or football) on KALX Berkeley, your best source for Cal Sports."