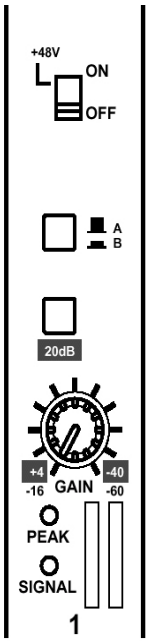
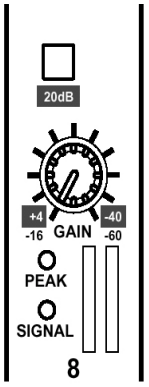
MI 3120 Pre-midterm Quiz **Name:**_____

Wednesday, March 12, 2003 **E-Mail:**_____



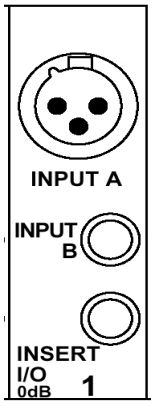
1. (6 points) Describe this control element found on the O2R. For each of the controls provide a brief, but sufficiently and accurately detailed, description of operation and/or function:

2. (2 points) How much total gain is available in this functional element? Why are there two values listed for each side of the control?



3. (2 points) This control element is different from the one above. Outline the basic differences.

4. (2 points) How many total ANALOG inputs does the O2R have? Why are there only a limited number of them?



5. (2 points) This element corresponds with #1 above, what does it indicate concerning the overall configuration? What is the INSERT I/O for and why is it noted at 0dB?

6. (2 points) How many TOTAL inputs does the O2R have?

7. T / F The O2R uses interface cards, which are Yamaha options, to connect with the TASCAM DA-88s in the studio.

8. TDIF means

    a. Total digital interface frequency
    b. Total digital interface format
    c. Time-based digital interface format
    d. Tascam digital interface format
    e. Typical digital interface format

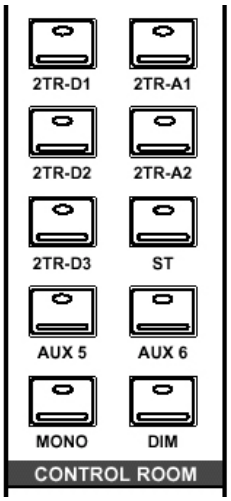
9. T / F The O2R is a fully dynamic automated mixing console which is referenced to SMPTE (or MIDI) timecode.

10. Snapshot memory refers to

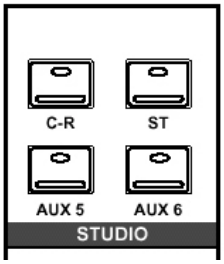
    a. Saving all parameters for later recall
    b. Controlling mix parameters in real-time
    c. Information for parameters stored on digital tape
    d. Mix control information stored for analog output
    e. Saving console information to floppy disc

11. The O2R features dynamic automation using a combination of _____ and automated "flying" faders.

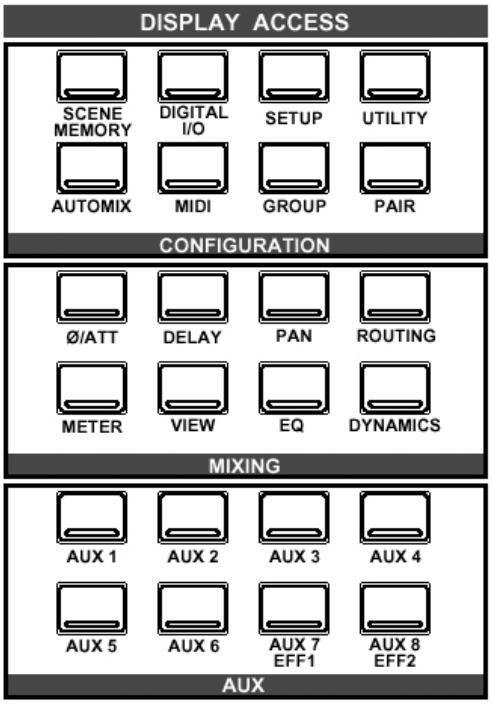
12. T / F It is not possible to use the O2R at any other sampling rate other than 44.1KHz or 48KHz.



13. (5 points) Describe the function of this module on the O2R interface. There are five 2-track inputs shown, what are the salient differences between them and what kinds of signals would be appropriate to apply to them? Further, where will you find the various patch points in Studio A?



14. (2 points) Describe the function of this module on the O2R interface.

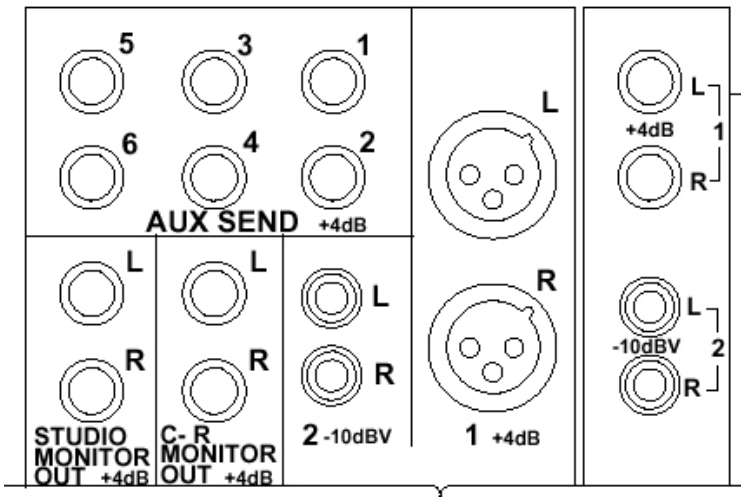


15. (2 points) Describe the function, in general terms only, of DISPLAY ACCESS controls on the O2R interface. In a way, it is possible to say that this is the "heart" of the O2R, why?

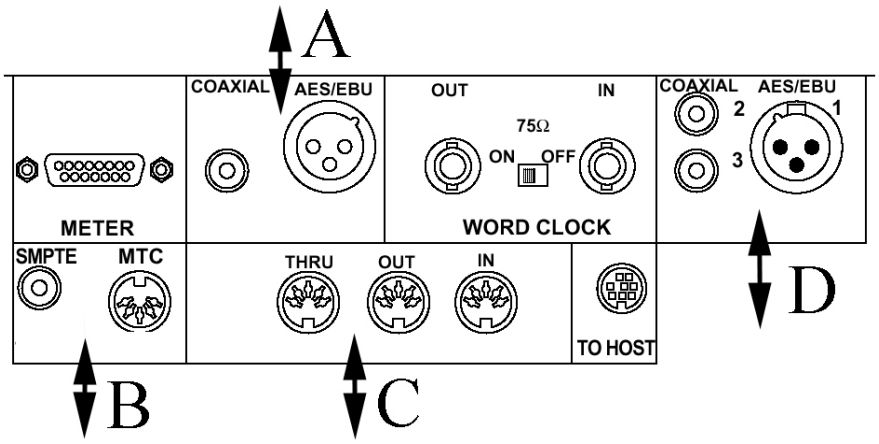
16. (2 points) Describe, in general terms, the CONFIGURATION group of controls and the kinds of things they are used for in specific terms of the O2R? Are these controls more related to system functions of typical audio recording functions?

17. (2 points) Describe, in general terms, the MIXING group of controls and the kinds of things they are used for in specific terms of the O2R? Are these controls more related to system functions of typical audio recording functions?

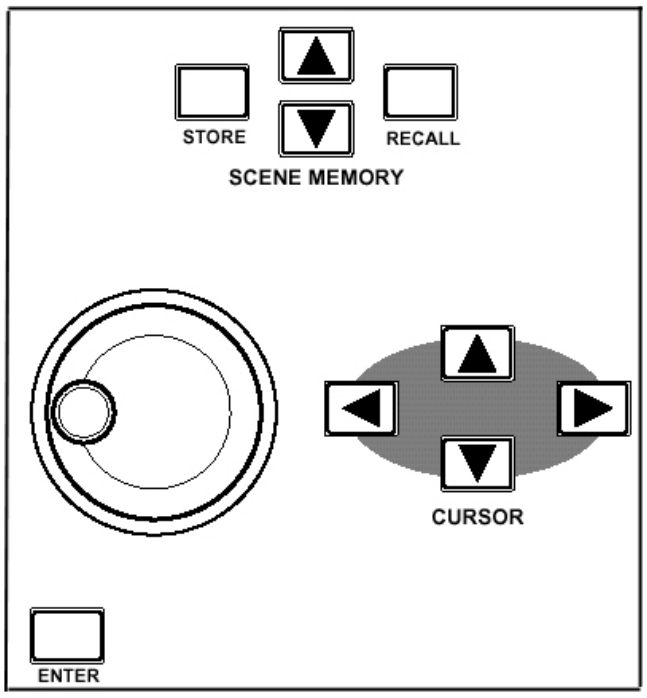
18. (2 points) AUX 7 and AUX 8, in the AUX section of the DISPLAY ACCESS are double-labeled as EFF1 and EFF2, why?



19. (2 points) The output section of the console has both analog and digital aspects. This part is concerned with which of these? Why are there only six AUX sends shown here when the DISPLAY ACCESS panel shows a total of eight?



20. (8 points) Label the I/O connections shown above and briefly describe their function in the space provided.



21. (4 points) These controls are essential to the operation of the O2R. What do they do? In our first discussion of the O2R this semester, certain properties of the switches were discussed, what comments were made? In general how should one approach working the O2R from a physical and ergonomic point of view?

22. What is the typical dynamic range of the O2R?
    a. 96dB – digital maximum
    b. –60dB nominal
    c. +4dBm
    d. –10dB
    e. 105dB

23. T / F Once analog signals are introduced to the O2R by ADC (analog to digital conversion) they a often converted back to analog for various functions such as EQ, and effects processing, eventually they are converted back to digital again for final output at the highest level of audio quality.

24. The internal dynamic range of the O2R is determined by 32bit RISC processors and is in excess of
    a. 24bit
    b. +4dBm
    c. well above clipping levels, so input gain can be maximized
    d. 120dB
    e. 190dB

25. The O2R uses internal libraries for storing information concerning
    a. Scene memories
    b. Automixes
    c. EQ settings
    d. Effects settings
    e. All of the above

26. T / F the EQ section of the O2R is more advanced than the Mackie because it features a 4-band quasi-parametric EQ *sweepable* from 10KHz to 20KHz.

27. The O2R uses the term “scene memories” to describe information stored via _____ automation.

28. T / F They dynamic automix function allows the user to control a mix in real-time but also allows for complex mixing scenarios to be realized because all pertinent data will be handled by the onboard computers which are programmed in a logical and straightforward manner outside of real-time.

29. There are two MAIN methods for working with the O2R,

    a. in real-time and outside of real-time
    b. in the digital I/O and analog I/O streams
    c. at 44.1KHz and 48KHz
    d. using the CHANNEL SELECT controls and the DISPLAY ACCESS controls
    e. using the CONFIGUATION controls and the DISPLAY ACCESS controls

30. The EQ section of the O2R is best described as
    a. All digital
    b. User definable
    c. 4-band fully parametric with *sweepable* center frequency from 20Hz to 20KHz and adjustable Q
    d. 4-band quasi-parametric with shelving and adjustable Q
    e. all of the above

31. In general terms, describe the differences between using an analog console for recording production and an all-digital console such as the O2R. (Refer to the sidebar: Digital Differences in the "mixer topography" article). Please use the back of this page to answer this question.

32. Because many line-level sources, such as synthesizers, samplers and effects processors have stereo outputs it is increasingly common for mixers to have one or more _____. The O2R has _____ of these for a total of _____ channels.

33. Line-level inputs are _____ impedance while microphone-level inputs are _____ impedance. For the later it is common to use a _____ circuit.

34. Briefly describe what "step-up" and "step-down" transformers do.

35. Inadvertently routing phantom power to a non-condenser microphone usually results in _____.

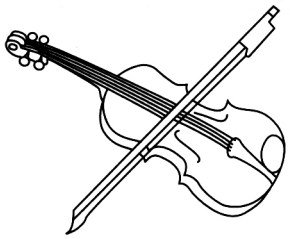
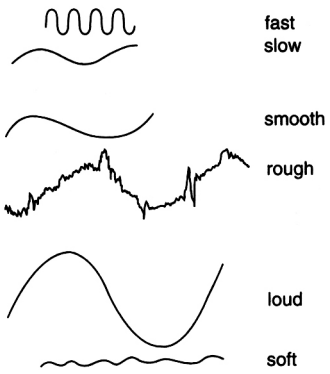
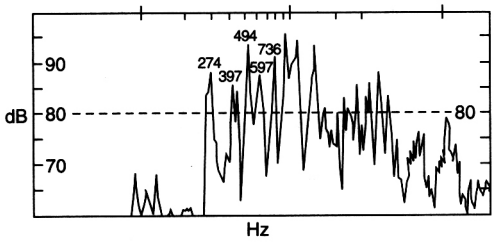
36. A inset point is comprised of and _____(send) and an _____(return) and usually requires a special _____ patch cable.

37. Normally, an effects send is _____ which means changing the overall channel level also changes the amount sent to the effects bus.

38. The _____ button is in some ways the opposite of the mute button, it turns off everything except the desired channel.

39. Solo-in-place allows you to hear an individual channel, but it taps the signal chain _____ the fader, panner and EQ and retains the _____ imaging.

40. (7 points) Provide appropriate information for captions listed ad ?A-?G in this graphic. Note that the graphic is about the important of various sound parameters in the development of timbre identity of sounds. Please use the back of this sheet for your answers.

1. A physical event such as bowing, striking, or plucking causes an object to vibrate, creating waveforms in the air. ↓	**Pliability** of object determines ? A **Contours (texture)** of object determine ? B **Force** of vibration determines wave ? C	
2. Wave qualities determine sound. ↓	Wave Speed determines ? D Shape determines ? E Height determines ? F	
3. ? G	**Vibration** is fast, smooth, weak. **Sound wave** is fast, smooth-shaped, and tall. **Sound** is of a high-pitched frequency, an even tone, and loud.	

fini