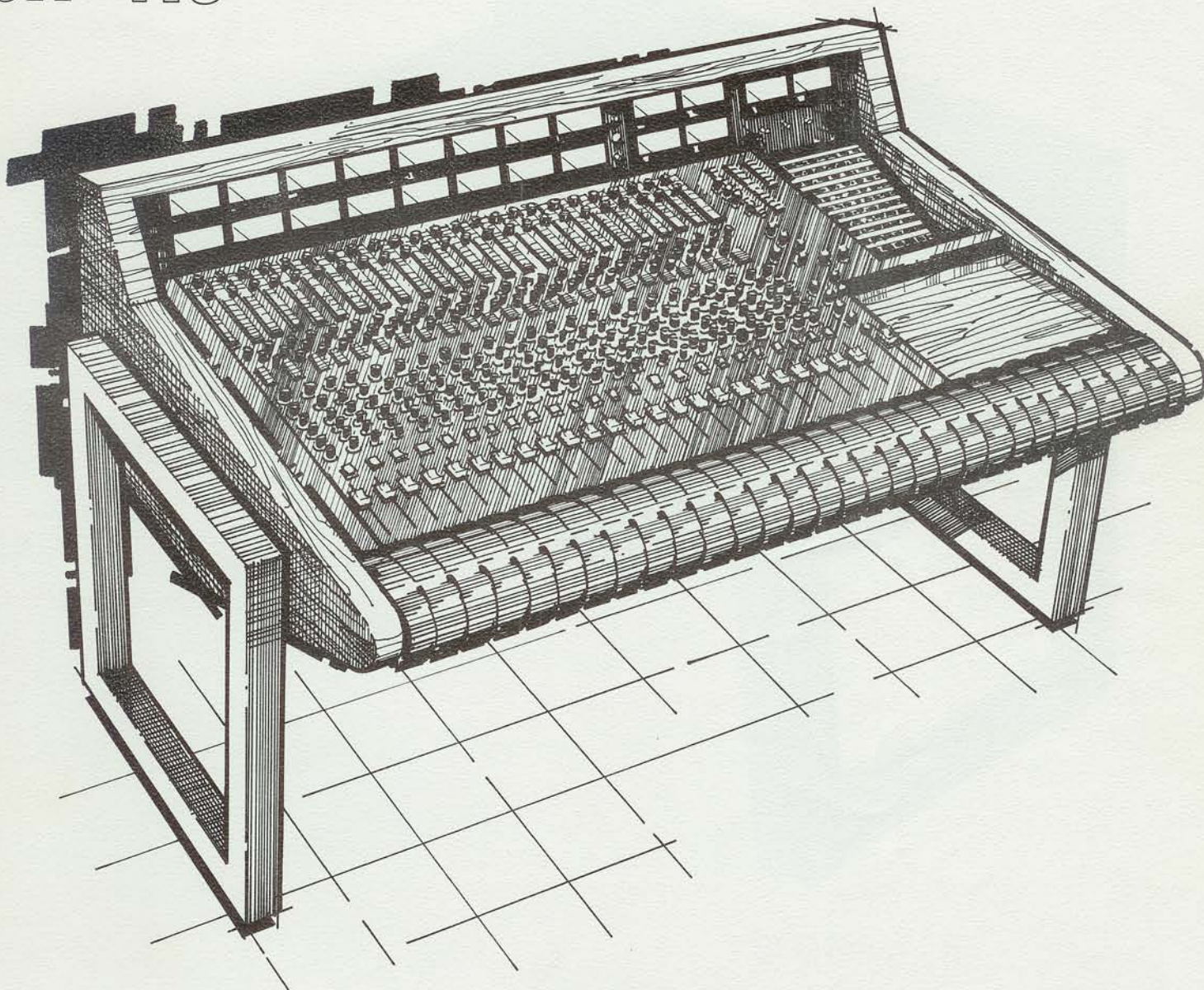




PROFESSIONAL STUDIO EQUIPMENT

JH-416



PROFESSIONAL RECORDING CONSOLES



4007 N. E. 6th Avenue, Ft. Lauderdale, Florida 33308
Phone: (305) 566-2853 Telex: 51-4362

V.U. METERS



FEATURES:

- AVAILABLE WITH 8-24 CHANNELS
- ALL CONSOLES WIRED FOR 24 CHANNELS
- ALL ELECTRONICS ON PLUG-IN MODULES
- IC OP AMPS FOR QUICKER REPAIRS – NO DISCRETE TRANSISTORS
- ILLUMINATED CONDUCTIVE PLASTIC FADERS
- SOLID STATE RELAY DRIVERS
- QUAD CONTROL ROOM MONITOR
- WIRED FOR PHANTOM MIKE POWER
- SIMULTANEOUS QUAD, 2 CHANNEL, AND MONO OUTPUTS
- 3 BAND BOOST/CUT EQUALIZER WITH 16 FREQUENCIES

LIGHT METERS



FEATURES:

- ILLUMINATED MUTE SWITCH WITH CHANNEL NUMBER
- FULL QUAD PANNING — BOTH L-R AND F-B FOR 360° QUAD POSITIONING ON ALL INPUT MODULES AND ECHO RETURNS
- EACH LIGHT METER WILL DISPLAY EITHER PEAK OR V.U. BALISTICS SELECTED BY A SWITCH ON ITS FRONT PANEL
- SMALLER SIZE PERMITS EACH METER TO BE DIRECTLY OVER THE TRACK IT MONITORS
- EASIER TO READ DUE TO RANGE OF COLOR CHANGES AND PERIPHERAL VISION EFFECTS

CONNECTOR BLOCKS

ON REAR COVERED BY METAL BACK PANEL PROVIDES HIDDEN CONNECTIONS FOR ALL INPUTS AND OUTPUTS.

CHANNEL METERS

CHANNEL 17-24 SHARE METERS WITH 9-16 (SEE CHANNEL METER SELECT.)

SUBMASTER CHANNEL GAIN

PROVIDES CHANNEL ATTENUATION DURING RECORDING WHEN MANY INPUTS ARE MIXED TOGETHER AND MIX MUST BE HELD WHILE THE GROUP IS ATTENUATED.

MIKE TRIM

PROVIDES 24-60db MIKE GAIN THROUGH AN EXTREMELY LOW NOISE AMPLIFIER WITH BALANCED TRANSFORMER INPUT.

MIKE PAD

PROVIDES 0 OR 20 DB OF ATTENUATION IN FRONT OF THE MIKE INPUT TRANSFORMER.

TRACK SELECT

PERMITS EACH INPUT TO BE FED INTO ANY OF THE 16 SUMMING BUSSES WHICH THEN FEED THE FIRST 16 CHANNELS. THE DIRECT BUTTON ON EACH STRIP FEEDS THE MODULE INPUT DIRECTLY TO ITS CHANNEL OUTPUT.

CUE AND ECHO LEVELS

THESE 4 BUSSES ARE IDENTICAL AND MAY BE USED INTERCHANGEABLY. (SEE ALSO MASTER ECHO AND CUE LEVELS.)

ECHO SWITCH

THIS BUTTON OVERRIDES THE STATUS SELECT BUTTONS IN MIKE AND TAPE MODE. IN MIKE AND TAPE MODE DEPRESSING BUTTON CONNECTS ECHO SEND 1 DIRECTLY TO CHANNEL EQ. OUTPUT. IN REMIX MODE DEPRESSING BUTTON CONNECTS ECHO SEND 1 PRE-FADER.

O DUB SWITCH

DEFEATS BOARD STATUS COMMAND AND PLACES MODULE IN MIKE STATUS. A RED LIGHT INDICATES USE OF THIS BUTTON. (SEE STATUS SWITCHES.)

SOLO SWITCH

ROUTES ITS CHANNEL SIGNAL TO THE CONTROL ROOM MONITOR WITHOUT DISTURBING PROGRAM CIRCUITS. IT CAN BE USED DURING RECORDING.

PAN MUTE

THIS BUTTON MUTES THE PAN FEED FROM ITS CHANNEL.

MONITOR AND PAN CONTROLS

THE MONITOR FADER CONTROLS THE PERCENT OF CHANNEL OUTPUT SENT TO QUAD BUSSES. IN REMIX STATUS THE SLIDE FADER CONTROLS TAPE RETURN LEVEL. THE PAN CONTROLS PROVIDE F-B, L-R PANNING.

EQUALIZER

H. F. EQUALIZATION IS THROUGH A 2 FREQUENCY SELECT PUSH BUTTON AND AN 11 POSITION ± 12 db SHELF WITH CENTER OFF.

MID RANGE EQUALIZATION IS THROUGH A 12 FREQUENCY SELECT SWITCH, AN 8 POSITION 14db PEAK WITH AN OFF POSITION AND A BOOST-CUT SWITCH.

LOW FREQUENCY EQUALIZATION IS THROUGH A 2 FREQUENCY SELECT PUSH BUTTON AND AN 11 POSITION ± 12 db SHELF WITH CENTER OFF.

ILLUMINATED CHANNEL MUTE

PROVIDES MUTING OF CHANNEL INPUT AFTER EQ. SOLO WILL STILL PERMIT FADER AND EQ. ADJUSTMENT WITHOUT GOING ON TAPE OR TO MONITOR.

ILLUMINATED CONDUCTIVE PLASTIC FADER

IS IN FRONT OF THE EQUALIZER CIRCUIT AND WILL ACCEPT ITS INPUT EITHER FROM THE MIKE PREAMP OR TAPE. (SEE STATUS BUTTONS.)

PLEATED AND ROLLED 6" ARMREST

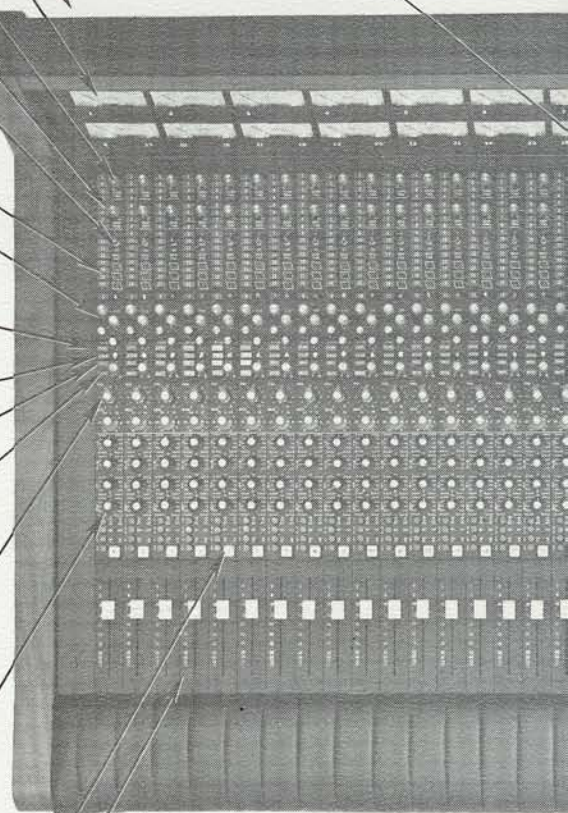
ECHO RETURNS

TO QUAD MIX

EACH CHANNEL HAS 20db BOOST, LEVEL CONTROL AND PAN CONTROLS IDENTICAL TO AN INPUT STRIP. THEY FEED DIRECTLY INTO THE QUAD MIX BUSSES AND EACH ALSO HAS A SOLO BUTTON.

TO TRACKS

PROVIDES LEVEL CONTROL ON 20db BOOST AMPLIFIER 16 TRACK SELECTS, SOLO, AND CUE FEEDS FOR ONE ECHO RETURN.



OSC. FEED

PERMITS OSC. TO FEED INTO 24 CHANNEL OUTPUTS OR QUAD MIX BUSSES

OSC. FREQ. SELECT

SELECTS FOUR RANGES: OFF, 20-200 HZ, 2002 KHZ - 20KHZ.

OSC. FREQUENCY TUNING

VARIES THE OSC. FREQUENCY OV SELECTED RANGE.

OSC. LEVEL

SETS THE OSC OUTPUT LEVEL FROM -60DB +10DB. THE SELECTED LEVEL WILL REMAIN CONSTANT REGARDLESS OF FREQUENCY.

SLATE SELECT

PERMITS SLATE SIGNAL TO BE FEED TO 24 CHANNEL OUTPUTS OR QUAD MIX BUSSES

METERS LIGHT

ACTIVATES IF CHANNEL METERS 9-16 ARE BEING USED TO MONITOR TRACKS 17-24. (SEE TRACKS METER SELECT.)

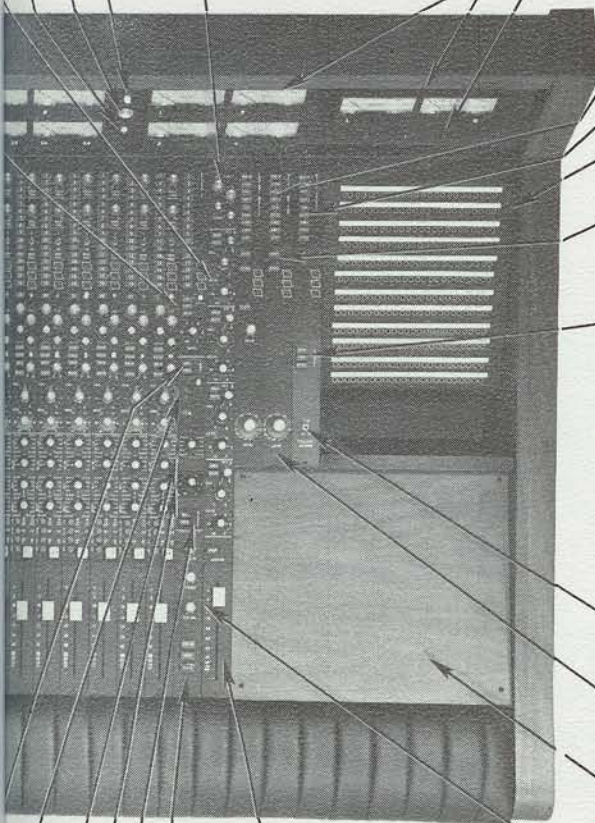
TALKBACK MIKE

SOLO LIGHT

ACTIVATES IF ANY SOLO BUTTONS ARE PUSHED

SUBMASTER CUE AND ECHO

THESE PERMIT ADJUSTMENT OF CUE MIX LEVELS AND ECHO MIX LEVELS.



QUAD FADER

T. B. BUTTONS

SLATE BUTTON - ACTIVATES 20 HZ OSCILLATOR SIGNAL AND THE TALKBACK MIKE. THESE ARE MIXED AND FED TO CHANNEL OUTPUTS AND QUAD MIX BUSES.

TALKBACK BUTTON - FEEDS THE TALKBACK MIKE TO THE STUDIO MONITORS.

COMMUNICATE BUTTON - FEEDS THE TALKBACK MIKE TO THE CUE BUSES. IT CAN BE USED DURING RECORDING.

QUAD METERS

CONTINUOUSLY MONITOR THE QUAD MIX BUSES

2 TRACK METERS

(SEE METER SELECTOR)

POWER SENSE LIGHTS

SENSE ANY BIPOLAR VOLTAGE IMBALANCE OR FAILURE AND GIVES WARNING TO OPERATOR.

MONITOR SELECT

THE STUDIO AND CONTROL MONITORS HAVE INDEPENDENT SELECTORS, BOTH GIVING THE CHOICES OF: MONO TAPE; 2 TK TAPE; AUX 1,2; CUE 1,2; ECHO 1,2; 2 TRACK MIX; QUAD MIX; AND QUAD TAPE RETURN.

THE CONTROL ROOM MONITOR HAS QUAD OUTPUT. THE STUDIO MONITOR COMES WITH 2TK OUTPUT. A QUAD STUDIO MONITOR IS ALSO AVAILABLE. THE STUDIO ALSO HAS AUTOMATIC MUTING WHEN 2TK OR QUAD MIX IS MONITORED WHILE THE CONSOLE IS IN MIKE MODE.

2 TK METER SELECT

FEEDS THE LEFT AND RIGHT CHANNEL METERS. THE SELECTION IS: MONO OUT/MONO TAPE; 2 TK TAPE; AUX 1, 2; CUE 1, 2; ECHO 1, 2; 2TK MIX; QUAD TAPE FRONT; AND QUAD TAPE REAR.

288 JACK PATCH BAY

PROVIDES INTERFACE FOR INPUTS, OUTPUTS, AND INNER ELECTRONICS

MONITOR MODE SELECT

THESE DETERMINE WHETHER THE MONITOR ACTS AS MONO, 2 CHANNEL OR QUAD OUTPUT. IN ADDITION, THE CONTROL ROOM MONITOR ALSO HAS A 1-2 SPEAKER SWITCH USED IN MONO MODE.

STATUS BUTTONS

THREE BUTTONS WHICH FEED TRANSISTOR DRIVERS PROVIDING NON-TRANSIENT OPERATION OF STATUS AND MIX RELAYS IN EACH MODULE THUS PROGRAMMING THE CONSOLE IN 3 CONDITIONS.

(THE FOLLOWING GIVES ELECTRICAL FLOW THROUGH 1 INPUT MODULE)

MIKE STATUS-MIKE SIGNAL ROUTED THROUGH PREAMP, PATCH BAY, CONDUCTIVE FADER, EQUALIZER BOOSTER, SOLO AND ASSIGNMENT BUTTONS, SUBMASTER LEVEL CONTROL, CHANNEL SUMMING AMPLIFIERS TO THE PATCH BAY AND OUT TO TAPES AND ALSO TO THE MONITOR LEVEL QUAD MIX AND ECHO, CUE BUSES.

TAPE STATUS-IDENTICAL TO THE FIRST EXCEPT TAPE RETURN SIGNAL IS ROUTED TO THE MONITOR LEVEL BY A STATUS RELAY. THIS ALLOWS A MULTI TRACK MASTER TO BE PLAYED THROUGH THE SAME MIX CIRCUITS USED TO MONITOR CHANNEL OUTPUTS DURING RECORDING. (ALSO SEE O-DUB BUTTON)

REMIX STATUS-ROUTES THE TAPE RETURN FROM PATCH BAY THROUGH THE MAIN FADER, EQUALIZER, QUAD PAN, AND CUE, ECHO FEEDS.

CHANNELS METER SELECT

SWITCHES TRACK METERS 9-16 TO TRACKS 17-24.

MONITOR LEVEL CONTROLS

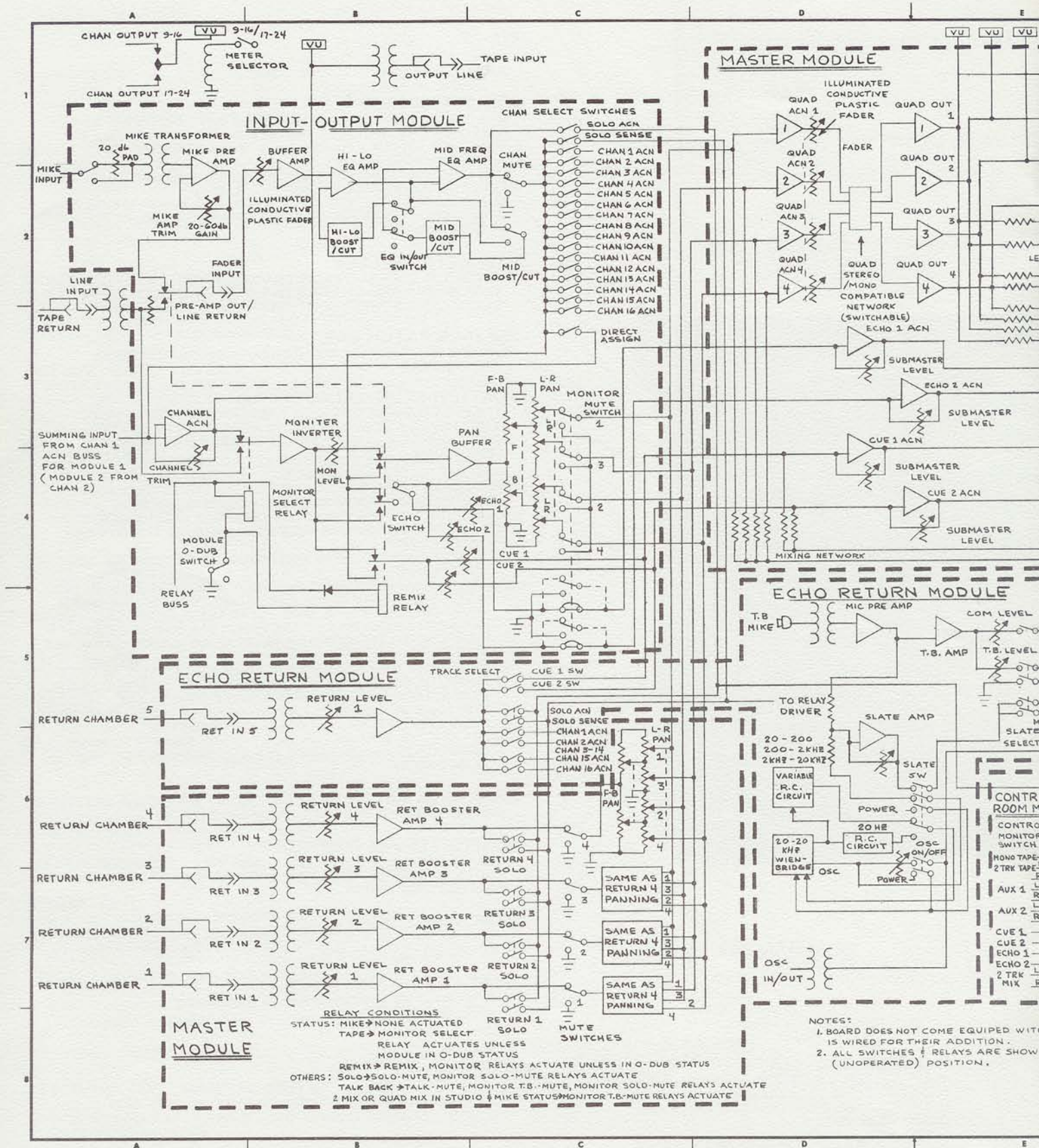
THE CONTROL ROOM MONITOR COMES WITH A 4 CHANNEL ROTARY FADER. THE STUDIO MONITOR COMES WITH A ROTARY 2 CHANNEL OR 4 CHANNEL FADER

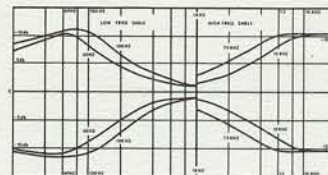
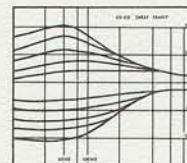
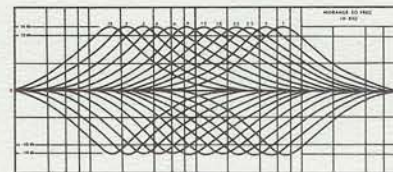
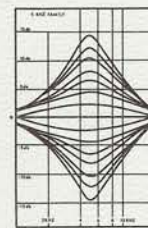
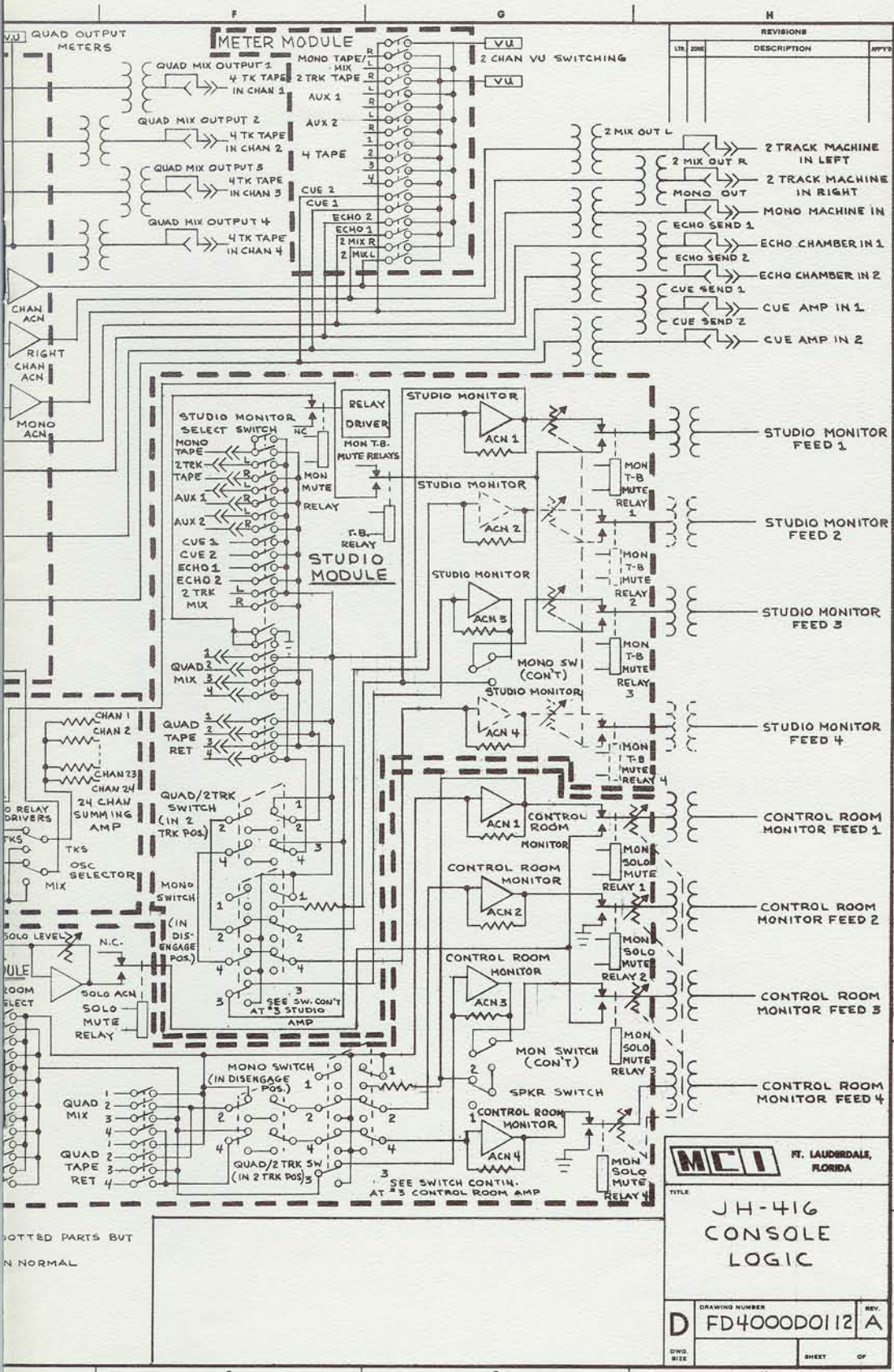
REMOVABLE PANEL

ACTS AS WRITING SURFACE BUT CAN BE REMOVED AND REPLACED BY OPTIONAL METAL INSERT FOR YOUR CUSTOM ELECTRONICS.

MIKE LEVEL CONTROLS

CONTROL THE LEVELS OF SLATE, TALKBACK AND COMMUNICATE.





MCI FT. LAUDERDALE, FLORIDA

JH-416
CONSOLE
LOGIC

DRAWING NUMBER
D FD4000D0112

REV. **A**

DWG. WEEK SHEET OF

JH-416 CONSOLE SPECIFICATIONS

PATCH BAY FACILITIES—WIRED INTO CONSOLE:

These are Normalized Pairs Where Applicable:

Preamp Out/Line Return, Fader Input
Channel Line Output, Tape Machine Input
Tape Machine Return, Channel Line Input
84 Tie Lines
3 Mults
Quad Mix Out, Quad Tape In
2 Track Mix, Out, 2 Track Tape In

Mono Mix Out, Mono Tape In
Quad Output, Quad Return
2 Track Output, 2 Track Return
Mono Output, Mono Return
Auxillary 1, 2 Send and Return
Cue In, Cue Send
Chamber In, Echo Send

PROGRAM OUTPUT SPECIFICATIONS:

All Applicable Specifications Taken with Faders in Normal Operation Position and +4DBM Output at All Outputs. Signal Flow from Line Input to Quad Outputs.

HEAD ROOM: +24DBM Above 0
NOISE: Below +4DBM at Program Output Exceeds -75DBM
OVERALL GAIN: In Mike Mode: 80DB
CROSS TALK: Less Than -65DB Channel to Channel at 10KC +4DBM Output all Channels Assigned to Themselves.
DISTORTION: With -50DBM Input into Mike Preamp
IM: Less than .1%
THD: Less than .05%
COOLING: Convection

CONSOLE DIMENSIONS:

Overall Width: 63.60"
Overall Depth: 39.65"
Height to Arm Rest: 29.75"
Overall Height: 38.45"
(above floor)
Net Weight: 488 Lbs.
(approximately)
Shipping Weight: 513 Lbs.

CONSOLE POWER REQUIREMENTS:

LAMPS: 21V DC Bipolar @ 1.5 Amps
RELAYS: 24V DC Bipolar @ 2.3 Amps
AUDIO: 24V DC Bipolar @ 1.4 Amps

LIGHT METER SPECIFICATIONS

8 Segments: Indicating +2, 0, -1.5, -3, -6, -10, -15, -20DB.
V. U. Balistics: Matched to A. S. A. V. U. Specifications.
Peak Balistics: 10 M. S. Integration Time: 2 Seconds Fall Time.
Tracking Error Between Meters: ± 1 DB Accomplished by Use of a Single Reference for All Meters.
Frequency Response: 5Hz to 18.5 kHz.
Power: Separate Logic Supply of +5V DC and ± 15 V DC.
Audio Electronics Specifications: Same as JH-416 Metered Console.

POWER SUPPLY SPECIFICATIONS

ELECTRICAL:

Three Interchangeable Power Supplies are Used.
Voltage Outputs are Determined by Connecting Appropriate Power Cable from Console.
VOLTAGE: ± 21 V DC or ± 24 V DC Bipolar
Regulated to Less than $\pm 1\%$ for Inputs of 95-135V AC and Outputs up to 3 Amps Less than 1 mv Ripple.
CURRENT: 3 Amps Normal Output. Current Limited to 3.4 Amps—at this Point the Output Voltage goes to Zero.
COOLING: Forced Air

MECHANICAL:

Width of Front Panel: 19.00"
Height of Front Panel: 5.20"
Depth Behind Front Panel: 7.40"
Width Behind Front Panel: 17.00"