



PROFESSIONAL STUDIO EQUIPMENT

**JH 416**

## **RECORDING CONSOLE**



- Formica Cabinet with Steel Mainframe
- Available with 1-24 Tracks
- All Consoles Wired for 24 Tracks
- All Electronics on Plug-in Modules
- IC Op Amps for Quicker Repairs
- Illuminated Conductive Plastic Faders
- Full 240 Jack Patch Bay
- Solid State Relay Drivers
- Quad Control Room Monitor
- Wired for Phantom Mike Power
- Cue Pick-Up Before or After Monitor Level
- Simultaneous Quad, 2 Channel, and Mono Tape Outputs
- 3 Band Equalizers with 12 Midrange Frequencies



4007 N. E. 6th. AVE. FT. LAUDERDALE, FLORIDA 33308



## TALKBACK MIKE

## METERS LIGHT

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

## TRACK METERS

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

## CONNECTOR BLOCKS

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

## SUBMASTER TRACK GAIN

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

## TRACK SELECT

PERMITS EACH INPUT TO BE FED INTO ANY OF THE 16 SUMMING BUSSES WHICH THEN FEED THE FIRST 16 TRACKS. THE DIRECT BUTTON ON EACH STRIP FEEDS THE MODULE INPUT DIRECTLY TO ITS TRACK 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 CONNECTS ECHO TO THE OUTPUT OF THE EQUALIZER (THUS ONLY THE SINGLE INPUT CAN BE USED.) INSTEAD OF THE MONITOR BOOSTER. (ANY SIGNALS ENTERING THE TRACK ARE USED.)

## 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 TRACK SIGNAL TO THE CONTROL ROOM MONITOR WITHOUT DISTURBING PROGRAM CIRCUITS. IT CAN BE USED DURING RECORDING.

## MONITOR AND PAN CONTROLS

THE MONITOR FADER CONTROLS THE PERCENT OF TRACK OUTPUT SENT TO QUAD BUSSES. IN REMIX STATUS THE FADER CONTROLS TAPE RETURN LEVEL. THE PAN CONTROL PROVIDES L-R PANNING THROUGH A FRONT -BACK MUTE SWITCH.

## EQUALIZER

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

MID RANGE EQUALIZATION IS THROUGH A 12 FREQUENCY SELECT SWITCH AND AN 8 POSITION  $\pm 14$ db SHELF WITH AN OFF POSITION.

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

## MIKE TRIM

PROVIDES 24-50db MIKE GAIN THROUGH AN EXTREMELY LOW NOISE AMPLIFIER WITH BALANCED TRANSFORMER INPUT.

## 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

## SOLO LIGHT

ACTIVATES IF ANY SOLO BUTTONS ARE PUSHED.

## 4 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.

## SUBMASTER CUE AND ECHO

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

## QUAD METERS

CONTINUOUSLY MONITOR THE QUAD MIX BUSSES

## 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; 2TRACK 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.

## 2TK METER SELECT

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

## 240 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, TRACK SUMMING AMPLIFIERS TO THE PATCH BAY AND OUT TO TAPES AND ALSO TO THE MONITOR LEVEL QUAD MIX AND ECHO, CUE BUSSES.

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 TRACK FEEDS DURING RECORDING. (ALSO SEE O-DUB BUTTON)

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

## TRACKS METER SELECT

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

## MONITOR LEVEL CONTROLS

THE CONTROL ROOM MONITOR COMES WITH A 4 CHANNEL DETENTED 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.

## QUAD FADER

## ECHO RETURN TO TRACKS

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

## OSC. SELECT

PERMITS OSCILLATOR FEED FROM PATCH BAY INTO THE 16 TRACK BUSSES AND THE QUAD MIX BUSSES.

## SLATE SELECT

PERMITS SLATING SIGNAL TO BE FED TO 16 TRACK BUSSES, OR QUAD MIX BUSSES.

## MIKE LEVEL CONTROLS

FOR TALKBACK, SLATING, AND COMMUNICATE.

## TB MIKE BUTTONS

CONVENIENTLY LOCATED NEAR ARM REST AND JUST OFF CENTER OF CONSOLE. THE TALKBACK BUTTON FEEDS SLATING AND THE STUDIO MONITOR WHILE MUTING THE CONTROL ROOM TO PREVENT FEEDBACK. THE COMMUNICATE BUTTON FEEDS ONLY THE CUE BUSSES. IT CAN BE USED DURING RECORDING.



## CONSOLE SPECIFICATIONS

### PATCH BAY FACILITIES--WIRED INTO CONSOLE:

These are Normalized Pairs Where Applicable:

24 Tape Returns, 24 Status Relay Inputs  
24 Track Outputs, 24 Tape Inputs  
24 Status Relay Outs, 24 Fader Inputs  
40 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 Microphone Input to Quad Outputs.

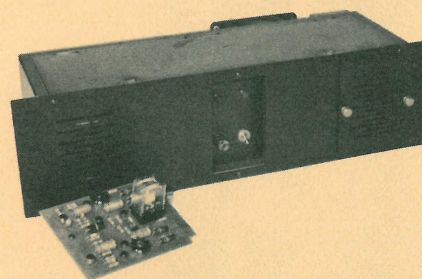
HEAD ROOM: +24DBM  
NOISE: Below +4DBM at Program Output Exceeds -75DBM  
OVERALL GAIN: Exceeds 75DB  
DISTORTION: With -50DBM Input into Mike Preamp  
IM: Less than .1%  
THD: Less than .05%  
COOLING: Convection

### CONSOLE POWER REQUIREMENTS:

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

### 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.  
Shipping Weight: 513 Lbs.



## POWER SUPPLY SPECIFICATIONS

### ELECTRICAL:

Three Interchangeable Power Supplies are Used.  
Voltage Outputs are Determined by Connecting Appropriate Power Cable from Console.

VOLTAGE:  $\pm 21V$  DC or  $\pm 24V$  DC Bipolar  
Regulated to Less than  $\pm 1\%$  for Inputs of 95-135V AC and Outputs up to 3 Amps Less than .005% 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: 6.70"  
Width Behind Front Panel: 17.00"