



AIRLINE INFO.



Don KRETZSCHMAR

INTER-OFFICE MEMO

TO: J. Calmes, J. Maxson, K. Wyatt, B.J. Schiller, J. Rea  
L. McKenzie, C. Powell, G. Sawyer, G. Casebeer

FROM: R. Brutsche

DATE: January 28, 1977

RE: 1977 LED ZEPPELIN TOUR REQUIREMENTS

SOUND SYSTEM:

DRIVE BOX FOR PMC

The sound system proposed is shown on the attached list. The basic speaker system will be system #6 which is 1-1/2 systems. The two additional long throws and super highs shown should come from the 1/2 system that has no drivers and Crowns. We should have enough 2482's in stock for the long throws. To power these extra horns we will put three horn cabinets on 1/2 Crown.

I would like for the backfill system to be amp rack. There is a 1/2 system in the shop that was with system #8. The Crown amp racks, 4 radials, 2 long throws, 2 super highs, 4 mid bass and 2 F Horns will be used from this 1/2 system. The two long throws will be used in place of four radials. The two additional super highs required should come from an existing backfill system and converted to amp rack if necessary. The regular backfill hanging baskets will be used and should require no modification to use the one long throw instead of two radials. No scrim will be used for any of the hanging baskets.

SUPERBOARD AND ACCESSORIES:

I plan to use Superboard D since we need the record outputs. When this board returns from Steve Miller Tour it should be thoroughly checked out and cleaned up. The accessory rack will be placed to the left of the board and will contain in addition to standard accessories:

single?

1. 2 - 1176LN Limiter 1-BASS 1-BACKFILL
2. 1 - 527A Graphic
3. 2 - M4 Master Panels for Frontfill M4's
4. 1 - Aphex unit WHAT?
5. Special unit to feed buss outputs into Aphex

To the right of the board will be a double accessory rack containing the following:

- Zeppelin {
1. Maxson Special Mixer ✓
  2. 1 - DDL - Showco ✓
  3. 1 - Phaser - Showco ✓
  4. 1 - Flanger - Showco ✓
  5. 1 - DDL - Zeppelin
  6. 2 - Harmonizer - Zeppelin
  7. 1 - Phaser - Zeppelin
  8. ~~1 - Patch Bay we will need to install a patch bay in this rack for these units.~~
  9. 2 - Drawers ✓

MORRIS (512) 836-0268

DIP. BOARD



In addition we will use:

1. 1 - Roland Space Echo IN SYS #6
2. 1 - Old Gray Tube Echoplex - this will need service
3. 1 - Special Organ Bench 1' longer than usual made of aluminum with foam padding.
4. 1 - Stevenson 8 x 8 mixer ✓

#### SYSTEM ACCESSORIES AND MIC STANDS:

We will use the black mic stands that were used on the McCartney Tour. For Roberts' vocal mic stand we need a Beyer stand with about 6" cut off each leg to make it lighter and easier to swing around.

The drum riser (which is motorized to move forward) will have built-in threads for the stands so we won't need any bases. Shure A55M shock mounts are essential on all the drum mics.

#### To Summarize:

1. Black Mic Stands
2. 15 - Shure A55M Shock Mounts - ORDER
3. 6 - Direct Boxes
4. 3 - Black Beyer Stands with 6" cut off each leg
5. 6 - SM58 Mics for vocals COUNT
6. 1 - RE20 for bass drum

SHORE FRANCHISE

1) LAND  
2) SAWER

#### TRUNKS:

In addition to the audio trunk and snake trunk there should be a stage left and stage right trunk that holds the hanging cables and any other related accessories.

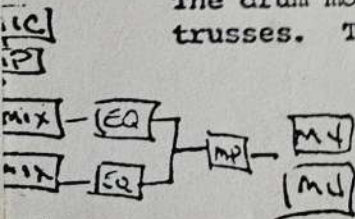
#### MAIN MONITOR SYSTEM:

The main monitor system will consist of four M4's hung -- two on each side of the stage. We will take along the floor monitors for possible use on the front stage apron or on John Paul's riser if necessary. The automatic dip filter system and the silver Stevenson board will be used. The monitors will be mixed on stage right. Robert wants to hear the vocal effects in the monitors. Since the effect returns will be on buss 8, we will send the buss 8 output down to the stage on the MonA line (which will be disconnected from the MonA output). This signal will be balanced and line level and will need to be padded down before going into the Stevenson board.

#### DRUM MONITORS:

The drum monitors will be two M4's hung from the center and rear lighting trusses. The mixing console should be a half rack containing:

1. 2 - Showco Mixers with combining network
2. 2 - UREI 527A
3. 1 - UREI Dip Filter for bass drum mic only ON ORDER
4. 1 - M4 4-Way Master Panel
5. 1 - Male 27 pair snake breakout





The mic inputs Bonzo wants are:

1. Bass Drum
2. Floor Tom 1
3. Floor Tom 2
4. Top Snare
5. Bottom Snare
6. Hi-Hat
7. Tymp 1
8. Tymp 2
9. Robert Vocals

The drum monitor mixer will be located next to the drum riser but behind the amp line on stage right.

PIANO MONITOR SYSTEM:

John Paul wants a speaker system for his keyboards: Grand Piano, Rhodes, Clavinet and Mellotron. I plan to use a 15" Model M4 (take from system #8 after Mason). I want to modify all the keyboards so that each has a built in balanced mic output for the PA. To drive the M4, the high impedance outputs of all the keyboards should be fed into a mixer, then to an Aphex and then to an M4 Master Panel. A single amp rack should be used to house the electronics. We will either buy a mixer or modify a Showco mixer to have all high impedance inputs. It is also possible that one or two graphics will be needed.

CABLING SYSTEM:

We are building a transformer split J-Box for this tour. This unit will give four isolated splits at no loss off each microphone. The four outputs will be snake connectors so the main monitor board and the drum monitor console will be fed with 27 pair snakes.

DRUM RISER:

Bonzo's drum riser will be 12' wide by 12' deep by 2' high. Landing lights will be built in around the perimeter and pars built in as before. It will be motorized to move to the front of the stage during Moby Dick and the beginning of Kashmir. A 12-input 50' extension J-Box is required and we need to be able to fasten it to the riser so the riser can move easily. As stated before, we will install threaded plates permanently in the riser for the mic stands so bases won't be needed.

ADD: 1 - 600 W CROWN  
1 - DRIVE BOX  
1 - M-4 MASTER PANEL  
1 - F. HORN

BACKFILL SYS.

1. 1.4-WAY MASTER PANEL
- 2.



SOUND SYSTEM PROPOSAL

A. Main Speaker System

1. 12 - F Horn Bass Cabinets
2. 12 - Mid Bass Horn Cabinets
3. 12 - Radial Horn Cabinets
4. 8 - Long Throw Radial Horn Cabinets
5. 8 - High Frequency Horn Cabinets
6. 4 - Piezo Tweeter Arrays
7. 6 - Crown Amp Racks

B. Frontfill System

1. 6 - M-4 Speaker Cabinets
2. 6 - M-4 Crown Amp Racks

C. Backfill System

1. 2 - F Horn Bass Cabinets
2. 4 - Mid Bass Horn Cabinets
3. 4 - Radial Horn Cabinets plus 2 Long Throws
4. 4 - High Frequency Horn Cabinets
5. 2 - Crown Amp Racks

D. Mixing Board and Accessories

1. 1 - Superboard
2. 1 - Superboard Accessory Rack - Standard
3. Superboard Special Accessories
  - 1 - Roland Space Echo
  - 1 - Eventide DDL
  - 1 - Eventide Flanger
4. 1 - Mic and Cable Trunk
5. 1 - Snake and J-Box Trunk
6. 2 - AC and Cable Trunk
7. 1 - Mic Stand Trunk

E. Monitor System

1. 1 - Monitor Board - 24 Input
2. 1 - Monitor Accessory Rack
  - a. 1 - M-4 Crossover Unit
  - b. (2) - UREI 527A Graphic Equalizers
  - c. 1 - Patch Bay
3. 1 - 12 Channel Mixer for Drum Mix
4. 1 - Drum Monitor Accessories
  - a. 2 - M-4 Master Panels
  - b. (1) - UREI 527A Graphic Equalizer
  - c. 1 - Dip Filter
5. 6 - M-4 Speaker Cabinets
6. 6 - M-4 Crown Amp Racks
7. 1 - M-r Speaker Cabinet (15" Model) for Piano Monitor
8. 10 - Floor Monitors
9. 2 - Floor Monitor Amp Racks



# Zeppelin Tour Requirements

5-

## MIC CHART

INPUT #	SOURCE	MIC TYPE	MIC STAND
1	Bass Drum	RE 20	Desk - Black - No Base
2	Ride Tom	548	Small Boom - Black - No Base
3	Floor Tom 1	548	Small Boom - Black - No Base
4	Floor Tom 2	548	Small Boom - Black - No Base
5	Top Snare	548	Small Boom - Black - No Base
6	Bottom Snare	548	Small Straight - Black - No Base
7	Hi-Hat	548	Small Boom - Black - No Base
8	OH Left	C451E	Reg. Boom - Black - No Base
9	OH Right	C451E	Reg. Boom - Black - No Base
10	Tymp 1	548	Sm. Boom - Black - No Base
11	Tymp 2	548	Sm. Boom - Black - No Base
12	Gong	548	Small Boom - Black - No Base
13	Grand Piano	Direct	--
14	Rhodes	Direct	--
15	Mellotron	Direct	--
16	Clavinet	Direct	--
17	Bass	Direct	--
18	Guitar	548	Reg. Straight - Black
19	Sonic	548	Sm. Straight - Black
20	Jimmy Acoustic Guitar	Barcus Berry	--
21	John Paul Acoustic	Barcus Berry	--
22	Robert Voc	SM58	Beyer Straight - Black - Legs Cut Down
23	John Voc	SM58	Reg. Boom - Black - Atlas
24	Jimmy Voc	SM58	Reg. Boom - Black - Atlas
25	Bonzo Voc	SM58	Reg. Boom - Black - Atlas
26	Harmonizer 1	--	--
	Return		
27	Harmonizer 2	--	--
	Return		
28	DDL 1 Return	--	--
29	DDL 2 Return	--	--
30	Echoplex Return	--	--

check stands

18 MICS

MARK ALL

STANDS!  
MICS!  
LINES!  
D.I. BOYS!



MASTER CHECKLIST - SOUND

1. Use system #6 - 1-1/2 speaker systems
2. 2 - Extra Long Throws - old 1/2 system #7 - need 2482's
3. 2 - Extra Super Highs - old 1/2 system #7 - need 2420's
4. 1/2 system from system #8 for backfill - I think the Crowns for this are being used in the #8 floor monitor system which isn't needed at this time so we'll need to put them back for use here.
5. 2 - Extra Super Highs for Backfill - these can be radials if square horns aren't available
6. Hanging Baskets - we should modify ~~four~~ <sup>3</sup> of the layer sections to have extra large casters so when stacked the units will go up the ramp easier.
7. Figure out how to hang side monitors
8. Superboard Extras
  1. 1 - 1176LN
  2. 1 - 527A
  3. 2 - M4 Master Panel
  4. 1 - Aphex
  5. 1 - Special feed unit for Aphex
  6. 1 - New Bench
9. Special effects double rack
  1. 1 - DDL
  2. 1 - Phaser
  3. 1 - Flanger
  4. 1 - Maxson Special Mixer
  5. ~~1 - Patch Bay plus cables~~
  6. 2 - Drawers
  7. 1 - Roland Space Echo
  8. 1 - Old Gray Echoplex
  9. 1 - 8 x 8 Stevenson Mixer
10. Mics and Accessories
  1. All Black Stands \*
  2. 15- A55M Shock Mounts
  3. 6 - Direct Boxes
  4. 3 - Beyer Stands Modified
  5. 6 - SM58 Mics — NEW ?
  6. 2 - RE 20
  7. 1 - 50' 12-Input Drum Snake
  8. 15- Threaded Plates for Riser
  9. 2 - Barcus Berry Guitar Pick — NEW ?
  10. 4 - C451E AKG Condensers
11. Main Monitor System:
  1. 1 - Silver Stevenson Board — C.A.# 30 NEEDS ATTN. + ECHO + PAN
  2. 1 - 8 x 8 Matrix — check!
  3. 1 - Automatic Dip Filter — check!
  4. 1 - Floor Monitor Crossover Unit
  5. 1 - New M-4 Crossover Unit — ? for main Mon. sys.
  6. 2 - UREI 527A Graphics
  7. 10 - Floor Monitors plus Amp Racks
  8. 4 - M-4 plus Amp Racks

Put  
ON  
HORN  
BASKETS  
E  
B.F.  
HORN



12. Drum Monitor System

1. 1 - Single Rack
2. 2 - Showco Mixers - one modified to insert Dip Filter into Bass Drum Mic
3. 2 - 527A
4. 1 - UREI Dip Filter
5. 1 - M-4 Master Panel
6. 1 - 27 Pair Snake Breakout
7. 2 - M-4 plus Amp Racks

13. Piano Monitor System

1. Modify all Keyboards for Built Direct Outputs
2. 1 - 6-Input HI-Z mixer with insertion points
3. 1 - Aphex
4. 1 - Stereo - UREI Octave Graphic
5. 1 - M-4 plus Amp Rack - 15" Model
6. 1 - M-4 Master Panel
7. 1 - Single ACC Rack

NEED:

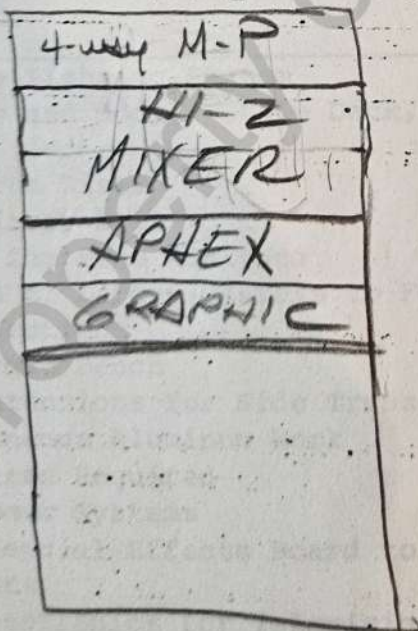
- 6 - UTC 0-1
- 6 - SPST CARLING
- 6 - KLR 3-32
- 6 - C-11 JACKS

14. Special Cabling

1. 1 - Transformer Split J-Box
2. 2 - Extra 100' or 150' Snakes

(GRAPHICS?)

PIANO MON





MASTER LIST - PRODUCTION

<u>PLANNING</u>	Person	Due
<u>ITEM</u>	<u>Responsible</u>	<u>Date</u>
1. Lighting Equipment Specified	Wyatt	1/31
2. Lightint Truss Loading Specified	Brutsche	1/31
3. Lighting Truss Structural Analysis	Whitright	1/31
4. AC Analysis and Specification - Parts Ordered	Maxson	1/31
5. Drawings of Show Layout & Specifications	Brutsche	2/1
6. Frontwork Itinerary Set	Branton	2/1
7. Lighting Equipment Inventory Analysis and List of Items to be Ordered	McKenzie	2/1
8. Stage Deck Designed	Brutsche	1/31
9. Stage Apron Designed	Brutsche	1/31
10. Piano Riser Designed	Brutsche	1/31
11. Drum Riser Designed	Brutsche/Casebeer	1/31
12. Floor Covering Specified & Inventory Checked	Brutsche	1/31
13. Mirror Ball Designed & Parts Ordered	Casebeer	2/4
14. Laser Effects Designed	Sommers	2/4
15. Special Effects Specified: Flash Pots, Projectors, Scrim, Smoke Machine, Fog Machine, Flash Pot Trough along front of stage for Bonzo	Wyatt	2/2
16. List of Cases to be Required	J. Rea/Casebeer	2/2
17. Find Method of Creating Flaming Gong	Wyatt	2/4
18. Television Requirements Specified	Squyres	2/4

<u>CONSTRUCTION</u>	Person	Due
<u>ITEM</u>	<u>Responsible</u>	<u>Date</u>
1. Assemble Lighting System	McKenzie	2/24
2. Assembly and Modify Stage Deck, Apron, Piano Riser	Casebeer	2/20
3. Build Drum Riser	Casebeer	2/20
4. Build Mirror Ball	Casebeer	2/20
5. Rigging for Side Monitors	Casebeer	2/22
6. Addition of Larger Casters to Four of Sound Basket Sections	Casebeer	2/22
7. Build Organ Bench	Casebeer	2/24
8. Build Extensions for Side Trusses and other Miscellaneous Aluminum Work	Casebeer	2/20
9. Build Cases Required	Casebeer	2/24
10. Build Laser Systems	Sommers	2/24
11. Modify Sepcial Effects Board to Control Projectors	Cobb	2/20
12. Build Electronics for Television Special Effects	Cobb	2/20
13. Build AC and Control System for new Chain Hoists	Maxson/J. Rea	2/20
14. Build additional AC Required	Maxson/J. Rea	2/20