

CHAPTER 5

Advancing the Show

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Before a tour has even started, part of your job as an enthusiastic audio engineer is to *advance the shows*, which means that you create documents of your band's technical specifications (or "tech specs") and then send them over to your tour or production managers so they can send them to the venues and/or promoters, along with any other documents they need. You need to make sure you have received the tech specs from each of the venues or the PA companies that are supplying the gear. This process needs to start sometime before the first show.

As part of advancing the show, it is also your responsibility to go through the venue specs and make sure everything you will have at the venue will work with your band's setup. For example, are there enough channels in the multicore (snake) for you to send all your mic signals to the front of house? Do you have enough tie lines (which are a way of sending a signal from FOH) to send everything you need to stage? Have you used the console before, and are you familiar with this kind of PA system, if you aren't touring your own? And even if you *are* touring your own PA system and consoles, you need to liaise with the PA company to make sure it has everything from you that it needs to put the whole system together.

BUDGET

Although you won't be expected to prepare a budget for your kit, and you probably won't be involved in that process at all, everything comes down to budgets at the end of the day. If you want something, someone has to pay for it. On smaller tours there is usually not even enough cash to get you around the country, let alone pay for the latest gear. So, when there is something you need, speak to the people who write the checks, and get them to sort out who is paying for it.

Remember: a big part of your job is to get the best out of what you are given.

TOUR AND PRODUCTION MANAGERS

Most of the time, you'll have a tour or production manager who will be dealing directly with venues and promoters. Create your channel list, stage plan, equipment rider, and so on, and send them over to the tour or production

manager to send off to the promoters with the rest of the rider. All of this content is part of the contract for the show, so it's really important that everything gets sent over in full and together.

Tour and production managers are your direct contact, and you will work closely with them. Everything you do should be run through them, unless you've been told otherwise. It is also their responsibility to get you the tech specs for the venues you are going to be working in. If you don't have them, let your *tour manager* (TM) or *production manager* (PM) know so that they can get them for you. They are very busy people, and a tech spec from a gig in Birmingham isn't going to be at the top of their priority list—so sometimes a gentle reminder is necessary.

CHANNEL LISTS AND STAGE PLANS

As part of any good advance, you are going to need to put together what we call a *channel list*. This is the list of channels that you require on the mixing console to be able to get everything on stage through the PA system. The other thing that needs to be put together is a *stage plan*. This is a top-down view of all the positions of the band and their instruments on the stage.

Channel Lists

I added two examples of channel list I've made in the past (Figures 6.1 and 6.2). One of the key points when piecing your channel list together is to remember that you know what is happening on stage; the venues won't, so adding as much information as you can, in as simplified a form as possible, will help everyone involved. Always include your name, position, phone number, and e-mail address—there are always questions that need to be answered. You should also include a version number and/or a date on the document. You may also want to take advantage of systems that allow you to share documents, enabling multiple people to edit them without creating multiple versions (for example, Google Docs). This way you'll be sending out the most up-to-date version of the document every time. I can't count the number of times we've turned up at a show and the venue has a channel list that is 9 months old because the agent didn't send over the latest version. This procedure should hopefully eliminate this problem.

As you can see from the figures, these documents are split up into columns listing channel number, instrument, type of microphone, any inserts required, whether phantom power is required, what type of stand you need, and any other notes that might be relevant to your setup. On the La Roux channel list, you can see that I have color-coded a section called *La Roux loom*. Now that we carry our own mics cables and looms (we also use the term *lines* to mean the line from the mic to the console) for the stage, we have a patch bay on the back of the equipment that runs straight to our own stage box for the mic lines. This is really just for our benefit because of the ways the lines have had to be labeled. But having your stage positions labeled on your channel list will help

LA ROUX

Updated:
1st July 2010

Channel List

Ch	Instrument	LR Notes	Input	La Roux Loom	Insert FOH	+48v	Stand
1	Kick	HD 1	Own DI	Key Rack - 1	Comp		
2	Snare	KIT	DI	DRUMS - 3	Comp	Y	
3	Sn + Hts	HD 2	Own DI	Key Rack - 2	Comp		
4	KIT L	KIT	Own DI	DRUMS - 1	Comp	Y	
5	KIT R	KIT	Own DI	DRUMS - 2	Comp	Y	
6	Perc L	HD 5	Own DI	Key Rack - 5			
7	Perc R	HD 6	Own DI	Key Rack - 6			
8	Elly Perc	KIT	Own DI	DRUMS - 4			
9	Bass	HD 3	Own DI	Key Rack - 3	Comp		
10	Moog		Own DI	Key Rack - 11	Comp		
11	Bass	Lap 1	Own DI	Key Rack - 12	Comp		
12	Bass Guitar		DI	Key Rack - 19	Comp		
13	Acoustic Guitar		DI	Key Rack - 21	Comp		
14	Melody	HD 4	Own DI	Key Rack - 4	Comp		
15	Track L	HD 7	Own DI	Key Rack - 7	Comp		
16	Track R	HD 8	Own DI	Key Rack - 8	Comp		
17	Synth U/S	LAP 2	Own DI	Key Rack - 13			
18	Nord U/S		Own DI	Key Rack - 14			
19	Synth S/L	LAP 3	Own DI	Key Rack - 15			
20	Nord S/L		Own DI	Key Rack - 16			
21	Elly Vox Centre		Radio Mic	Straight to Split	Comp		Own Stand
22	BV	HD 9	Own DI	Key Rack - 9			
23	BV	HD 10	Own DI	Key Rack - 10			
24	Mickey Vox U/S		e935	Key Rack - 20			Own Stand
25	Spare Radio Vox Centre		e935	Straight to Split			
26	Click		XLR	Key Rack - 17			
27	Click 2		DI	Key Rack - 18		Y	
28	AMBIENT		Cond	DRUMS - 12			Short Boom
29	AMBIENT		Cond	Key Rack - 24			Short Boom

We will be carrying all our own Mics, DI's and Stands where stated.
 We are carrying our own In Ear Monitor Systems for each member of the band.
 We will be carrying our own monitor console. Please provide XLR tails to patch into this.

FIGURE 5.1
The La Roux Channel List.

the in-house techs run the satellite boxes or looms of mic cables to the right place on stage. (This is especially useful when doing festivals with quick changeovers, so that everybody knows exactly what is supposed to be going on.) Remember: Communication is key to having the whole day running easily and well.

AMY WINEHOUSE

Updated:
30th June 2007

Channel List

Ch	Instrument	Mic		Insert FOH	FOH VCA	Insert Mons	Stand	Notes
1	Kick (Con)	AE2500DE	(Own)	Gate	1 + 7	Gate	Short Boom	
2	Kick (Dyn)	"		Gate	1 + 7	Gate		
3	Snare Top	ATM650	(Own)		1 + 7		Short Boom	
4	Snare Bot	AE3000	(Own)	Gate	1 + 7	Gate	Short Boom	
5	Snare 2	ATM350	(Own)				Clip (Own)	
6	Hi Hat	AT4041	(Own)		7		Short Boom	
7	Rack Tom	ATM350	(Own)	Gate	2 + 7	Gate	Clip (Own)	
8	Floor Tom	AE3000	(Own)	Gate	2 + 7	Gate	Clip (Own)	
9	Floor Tom	AE3000	(Own)	Gate	2 + 7	Gate	Clip (Own)	
10	OH (SR)	AT3060	(Own)		7		Tall Boom	
11	OH (SL)	AT3060	(Own)		7		Tall Boom	
12	Bass Di	Active DI		Comp	3 + 7	Comp		
13	Bass Mic	ATM250	(Own)		3 + 7	Comp	Short Boom	
14	Guitar	AT4050	(Own)		4 + 7		Short Boom	
15	Guitar	AT4050	(Own)		4 + 7		Short Boom	
16	Keys L	Active DI		Comp	5 + 7			
17	Keys R	Active DI		Comp	5 + 7			
18	Whurlitzer	Active DI		Comp	5 + 7			
19	Baritone Sax	Pro 25AX	(Own)	Comp	6 + 7		Short Boom	
20	Tenor Sax	Pro 25AX	(Own)	Comp	6 + 7		Short Boom	
21	Trumpet	Pro 25AX	(Own)	Comp	6 + 7		Tall Straight	
22	Flute	AE5100	(Own)		7		Tall Boom	
23	Key Vox	ATM610	(Own)	Comp	8		Tall Boom	
24	BV1	ATM610	(Own)	Comp	8		Tall Boom	
25	BV2	ATM610	(Own)	Comp	8		Tall Boom	
26	Amy Vox	ATM710	(Own)	Avalon 737 + BSS DPR901	8	Comp	Tall Straight with Round Base	Long Cable
27	Spare	ATM710	(Own)	Comp	8	Comp		Long Cable

FIGURE 5.2

The Amy Winehouse Channel List.

Stage Plan

The key to a well-put-together stage plan is to keep irrelevant information out and retain just the basic information needed for the stage. On the two examples of stage plans above, you can see that everything is clearly labeled; you can see where the power drops are, what AC mains voltage is required (this

information is important if you are traveling internationally), what risers are required and how tall they need to be, and whether wheels are needed.

The circle with the X through it is the technical drawing symbol for a microphone, so I have used this symbol to show the location of the vocal mics on stage. You don't need to add the rest of the microphones on here because they are written on your channel list; as long as you have the placement for your kit, the engineers should know where to run the lines and how many you need.

PA SPECIFICATIONS

Whether you are working for a band, venue, or PA company you should be able to put together a *PA Spec*. A PA Spec is a document that holds all the key information about what type of equipment you would like to use and/or bring into the venue (if you are traveling with the band), or what type of equipment is in the venue (if you are working in house).

From a touring artist's point of view, you should be specifying what equipment you want to use or are bringing into the venue like desks and PA system, and how much and what type of outboard equipment, such as gates, compressors, delays, and reverbs you need to run the show. Putting this information together will help the venues and promoters get the right equipment for every night, and if there is going to be a problem getting hold of certain elements, they can find out if you have any alternatives.

The way the PA spec should be split up is the same no matter if you are the band's audio engineer or the in house PA tech. It's always a pretty good idea to start with the loudspeaker section: List what type of box you have, how many there are, and what they are used for.

Here is the PA spec I used for Amy Winehouse:

FOH

System: D&B Q1 / J8, L.Acoustics V-Dosc / Funktion One Res5

The System must be capable of producing up to 120dB SPL in a frequency range of 30 Hz–20 kHz and must be able to produce equal sound dispersion throughout the auditorium. The system must be electronically crossed over.

Unacceptable PA Systems: Peavey, Old Martin, and Home Made Boxes

Desk: MIDAS H3000
MIDAS H2000
MIDAS XL4

A fully working Parametric EQ is required for each channel, with Q, pads, Hpf, Phase Reversal, Phantom Power, and 8 Auxiliaries.

Must NOT be on a riser, on, or under a balcony.

It must have at least 48 mono channels and 6 stereo channels with fully functional parametric eqs on all channels, 8 VCAs, 8 subgroups, and 8 mute groups.

Unacceptable Desks: Yamaha, Allen & Heath, TAC, Crest, Mackie, Hill Audio

Control: Lake Contours on all outputs to the speaker system (will require separate control for flown, ground, delays and infills).

Stereo Graphic EQ KT DN370 inserted on masters L & R, Sub included

Klark Technic DN6000 with calibrated Microphone

8 Channels of Compression: DBX 160A

6 Channels of Gates: 3 × Drawmer DS501

2 × TC Electronic M2000

1 × Roland SDE 3000

1 × CD Player

Coms To Monitors

Talk to Stage (Mic with Switch)

NO BEHRINGER or SAMSON ANYWHERE IN THE SYSTEM!!

As you can see from this spec, it's fairly basic. It states what I would like, alternatives if they don't have what I am after, and what I'm really not willing to use.

If you are putting together PA specs for a venue, then you need to list all the equipment you have in the venue so that this can be sent off to all the bands that are going to be coming through the venue. Take a look at the following layout; you'll see how I've split each part of the whole PA system up into sections. This will help whoever is looking through the spec to quickly see what you have and how much of it there is. If anyone is looking for a piece of equipment, then it's easy to find.

FOH Loudspeakers

D&B Audio Q1 Line Array

5 × Q1 Mid/Hi – Main PA

1 × Q7 Infill

6 × Qsub

FOH Speaker Management System

BSS FDS 366 Omnidrive Compact Plus

FOH Amplification

5 × Camco Vortex 6 Amplifiers

2 × Camco Vortex 4 Amplifiers

4 × Camco DX 24 Amplifiers

6 × Camco DX 12 Amplifiers

FOH Console

1 × Midas XL200 Console, 44 mono, 6 Stereo

FOH Processing

1 × BSS FCS-966 Dual 31 Band Graphic EQ

2 × BSS DPR502 Quad Gate

- 2 × BSS DPR402 Dual Comp/De-esser
- 2 × XTA C2 Stereo Compressor
- 1 × XTA G2 Stereo Gate

FOH Effects

- 1 × TC Electronic D2 Multitap Digital Delay
- 1 × Yamaha SPX1000 Multi Fx
- 1 × Yamaha SPX 990 Multi Fx

Monitor System

- 8 × Martin LE400C Floor Monitors In Matched Pairs
- 2 × Martin H3 Sidefills
- 2 × Thunder Ridge Tri-Amp Drumfills

Monitor Speaker Management

- 1 × Yamaha DME 32 Configured for 8 Way Bi-Amp Foldback System

Monitor Amplification

- 4 × Yamaha PC4800 2 X 800W Power Amp
- 4 × Yamaha PC9500 2 X 1400W Power Amp

Monitor Console

- 1 × Soundcraft MH3 40ch Console

Monitor Processing

- 4 × BSS Fcs-966 Dual 31 Band Graphic EQ
- 2 × Drawmer Quad Gate
- 2 × BSS DPR402 Dual Comp/De-esser
- 2 × Behringer MDX440P Multicom Pro
- 1 × Behringer XR440P Multigate Pro

Monitor Effects

- 1 × Yamaha SPX1000 Multi Fx
- 1 × Yamaha SPX 990 Multi Fx

Line System

- 1 × 40+10 Multicore
- 1 × 16 Way Satellite Box
- 1 × 12 Way Satellite Box
- 1 × 12 Way Tie Line (FOH – Stage)

Microphones

- 1 × SHURE BETA 91
- 2 × SHURE BETA52
- 6 × SHURE SM57

- 6 × SHURE SM58
- 4 × SHURE BETA 57a
- 7 × SENNHEISER E604
- 2 × SENNHEISER E606
- 1 × AKG D112
- 3 × AKG C418PP Clip on drum condenser
- 4 × AKG CK391 Condenser
- 1 × BEYERDYNAMIC M88
- 8 × BSS AR133 Active DI

Microphone Stands

- 11 × Beyerdynamic Tall Boom Stands
- 11 × Beyerdynamic Short Boom Stands

After you have written your spec, you should include any other additional information you think might be important, such as how the PA system might be split up into zones and what type of DJ equipment you have.

Venue Specifications

So that takes care of the PA systems, but sometimes, if you are an in-house tech, it could fall on your shoulders to put the other specs together for the venue. Your PA spec can be expanded to include information about lights, catering, merchandise, and other details.

When you're putting together venue specs, there are some very key things you should include, so that artists know what to expect well in advance of a show. For example, you should include all the equipment you have, information about any pieces of equipment that are going in for maintenance, and details about whether there are any changes to anything else that matters (such as load-in or the capacity of the venue).

When putting the layout together, make sure that you have all the important information about your venue right at the top of the first page. These would be things like the name of the venue, address, and contact details. Also make sure that you state the address of the load in, in case it is different from the main venue address (for example, the street behind the venue or to the side of the venue), along with contact details of the person in charge of loading the gear in, and where to park the bus/van/truck. You should state whether they will have to tip and go, or if there will be adequate parking for the duration of the show. Another handy thing to do is use a footer on each page of the document with page number and venue name on it. That way anyone printing anything out knows if they have lost a page, or where it goes if they find the page.

After you've got that all laid out, split your spec into different sections. Contact details should be right at the top underneath the important load-in information. Include all production staff members that are necessary to the production—for example, promoter, production manager, head of sound, and head of lights in that section.

Next, provide all the venue details. Start by listing the capacity of the whole venue; then, if applicable, split it up into the capacity of the different sections of the venue (floor, balcony, bar, etc.). List any curfews that might be in place. For example, you may have a sound curfew until 5 p.m., or you may only have a venue license until 10.30 p.m. This type of information must be included and is vital for the touring personnel to know when they are planning load-ins and load-outs.

Next, look at the venue's dimensions. Adding the internal schematic drawings of the building is always a good idea, for this will help incoming production to fit into your space, but if you don't have them, you should at least include the dimensions of the room. Make sure to clearly indicate where the FOH mix position is (if you don't have drawings showing the mix positions, make sure you state whether it is audience left or stage left), and whether the mix position is fixed or can be moved. State the distance between the mix position and the stage.

Details for the stage should include its height, width, and depth, stage and floor clearance (the distance from the floor or the stage to the ceiling), and details on the wings of the stage (how big they are, whether anything is stored there, and information about the locations of permanent installations such as dimmers and monitor consoles). In addition, information about points is absolutely essential; *points* are where you hang PA, trusses, cables, and more—basically, anything that goes in the air is hung from points. You should state where they are, how many there are, and how much load they can take (adding a schematic drawing is best here). If you don't have points in your building, but gear still needs to go in the air, you'll probably need ground support. This should be handed over to the promoter and the production manager to sort out. After this, add any information you have about a crowd barrier at the front of the stage—that is, whether you have one and, if so, its distance from the stage.

Once that section is complete, you should address the practicalities of getting the artist's equipment in and out of the building. All the additional information about loading into and out of the venue should be written here. You should include how long the load-in is, whether there are stairs or an elevator, where the storage area is, and how much storage area there is (for empty cases, other equipment that might not be used during the show, etc.).

Power Specifications

I placed power specifications in an additional section because it's quite important to get this material right; otherwise you might end up in a cloud of smoke and with no equipment working. There are two sides to this: the power that is required from the venue as a touring production and what power the venue has.

Let's take a look at the touring side first.

Make sure you have specified exactly what power you need, including the voltage, amperage, and positions of the power sockets. It's a good idea to add this information to your stage plan, showing the exact position of the power drops. If you are writing a spec for a PA system, make sure that the venue has

the correct power to suit your needs and that you have enough adaptors and cabling to get the power where you need it.

This is the information we used to give on the Winehouse tour:

Power

P.A. 63A 3 Phase Stage Left, Camlocks or Cee Form.

Lighting 100A 3 phase Stage Right, 125A Camlocks or Cee Form.

Now let's look at the information you should have about power in the venue. State what circuits you have ready—for example, lighting, PA, on-stage, and any others. State what amperage each circuit is, how many phases each circuit has, and what type of connector it uses.

Flexibility

Everyone has budgets to work within and it isn't always possible to get the right kit. You should be flexible, and give two or three alternative choices of equipment. If something is so important that you absolutely must have it, you should probably bring it along yourself.

PICK UP THE PHONE

Even if you have read through all the specs and worked out that the production will be fine, you should still pick up the phone and speak to someone. It's all too easy for the spec to be sent but with no follow-up communication—and suddenly the band turns up to the venue to find that gear is missing because the band thought the venue was getting it and the venue thought the band was getting it.