

Technical conditions of Grand Magix

As Grand Magix evolves the technical conditions might be changed but most of the requirements below would probably remain.

A Site visit. Suggested location or locations will be studied. The site must be large enough for the performance. A large city square, park, or derelict spaces are possibilities. The site needs to be studied for opportunities and problems, wind effects, overhead electrical lines, entries and exits. There may need to be a street linking two sites. The sites must have **Security** from the night before the day of preparation and performance, so as to ensure an early and uninterrupted start for the montage. The sites must be **dedicated** to NWSI. This means that no other performances can take place there on the day of montage and performance.

B Aerial firing site. A safe firing site for aerial pyrotechnics must be located and made **Secure**. For shows outside the UK we would normally expect the promoter/organizer to buy in locally a pyrotechnician plus pyrotechnics for the battery of mortars and aerials. There are a number of other possibilities, and we do have a specific UK pyrotechnician that we would like to work with wherever possible. Security will be required but if a hired in a pyrotechnician is used it will be that person's responsibility to define their own security requirements, with regard to their own safety and insurance regime. Making a firing site secure may mean providing 24-hour security. Ideally this firing site would be on a roof with good visibility of the finale area so that the (hired in) pyrotechnician can work with visual cues from NWSI. The checking of the validity of the insurance and qualifications of the hired in pyrotechnician will be the responsibility of the organizer. NWSI would require copies of all the authorizations, and qualifications.

C. Pyrotechnic installations by NWSI

1. **Security** for pyrotechnic installations set up by NWSI will be needed from the beginning of the time that fireworks are set up until the start of the performance.
2. A cherry picker or high forklift plus driver needs to be continuously available for the day of montage i.e. the day of the performance for the mounting of pyrotechnic effects (curtains, wheels, pigeons, crackers and fire drawings)
3. A constructed scaffold shape (built from our diagram) for mounting pyrotechnics for the best display and maximum visibility.
4. Two high cranes for hanging special curtains of fire, and other pyrotechnic effects.

NB 3 and 4 can be avoided if we can either utilize existing structure or make do with our own lower scaffolding towers and stands, If cranes and special scaffolding raises the budget too high. It should be stressed however that these effects look far better mounted high in the manner recommended or by making special solutions utilizing the advantages of certain sites with roof access etc.

5. Weights and sandbags to secure pyrotechnic stands against possible wind problems 15 x 50 kilo.
6. Sand to protect civic stone -work from burning debris under installations such as the curtain of fire (6x50 kilo sacks) and large plastic sheets to go under the sand.
7. An active water hydrant with hose attached, plus operator, during the show. Four fire extinguishers. Four buckets of water.

8. A secure indoor dry and waterproof space to rig the special effects for two days including the day of the evening show. (15x10m minimum - e.g. school hall) If this is a marquee it needs a raised floor to prevent rain getting in and destroying fireworks. The indoor space will preferably be near the event site, have good vehicle access and be large enough to house a team of 18 working on a number of large structures. NWSI needs to be provided with keys so that our access is unimpeded and the space must have good security
9. Up to 400 barriers may be needed to define the technical areas.

D. Sound and lighting

1. Power supply for lights and sounds.
2. A good quality sound system of at least 12k plus operator for the finale site plus a set of radio mikes for drums
3. Smaller sound system plus operator for the beginning of the show. N.b. This is the split site model it may be that in some cases we adopt a single site model; in that case we will not need two sound systems.
4. Two CD's will be made available in advance to the sound operators and a video will be available for the lighting company to study to see the effects that we are trying to achieve.
5. A lighting rig utilizing several powerful tower mounted color changing open air follow spots plus operators and architectural floods to create the lit aerial effects of the witch and the moth and to illuminate the giant puppets.

E. Inflation and tether site for the Helium balloons and helikites.

1. The inflation site for the balloons must be at least a 12x12 meter, clear flat area with no overhead obstacles, electric lines or sharp protuberances and good vehicle access.
2. It should also be a convenient and secure site for the delivery of the helium. A power supply and operational lighting should be supplied
3. There must be a (preferably short) carefully studied viable route (minimum dimensions of the entire route 12x12metres) from the site to the performance zone.
4. The inflation site should be enclosed with high barriers, to conceal our preparations from the public. The barriers should not have any sharp edges or spikes on top, as the balloon will pass near them and may touch.
5. The inflation may take place early in the morning, as this is usually a time of minimum wind. The balloon will be inflated and remain tethered by weights, ready for the evening performance, preferably in a wind shadow or sheltered area. It will be topped up in the late afternoon. Well-mounted civic fixtures can be useful to help with this tethering process.
6. The Helium should be ordered well (a month or more) in advance. In the UK deliveries and pick up of the canisters (when they have been used) is usually only possible from Monday to Friday. You may need to fill in a form and possibly to open an account to arrange delivery. Outside the UK we need to check compatibility of fittings between the canisters and our diffuser inflation mechanism.
7. The bottles should be delivered to the actual inflation site by the carrier the night before or earlier and security for the bottles should be provided until time for the carrier to pick them up
8. Note the gas bottles are very heavy. In the UK these are known as L size and have 9 cubic meters inside each one. Separate bottles are more convenient and it is possible to manhandle the individual bottles with a trolley but when they are piped

- together in a rack for a faster inflation it takes a forklift to lift them so we prefer them separate.
9. 200 cubic meters of balloon purity Helium (i.e. 180 cubic meters plus contingency of 20) will guarantee lift off for the number one balloon. A further 36 cubic meters of Helium 4 L size tanks (9 cubic meters in each tank) (33 cubic meters is the exact requirement +3 cubic meters contingency) will be required for the spider and the color changing glowing orb with which we plan to enhance the performance
 10. Variation in temperature and dryness are not a problem, but high wind and or cumulonimbus activity are. We will be consulting every few hours with the nearest airport and watching out for difficult gusting 9+ miles per hour winds or predictions of high meteorological electrical activity. In conditions like these NWSI reserves the right to cancel this part of the performance with no loss of fee. It is potentially very dangerous to our performers and the general public if a balloon is behaving like a sail or a lightening attractor. However in these conditions very few open-air performances of any kind are possible.
 11. Dimensions The main lifting balloon is 7 meters diameter when inflated and it is 10.6 meters from the top of the balloon to the bottom of the butterfly puppet or the Witch. The balloon in its black envelope has a maximum up wards pull of 90 kilos before weights are attached. The moth has a five-meter wide wingspan.
 12. Station sites. We will need to arrange 2 smaller station sites for the balloon. These are sub sites within the performance site, where the balloon can safely descend and change its load. One of these will need to be secured with barriers for changing from the witch to the moth the other should be a small raised plinth 5x5metres say 30cms above ground in the middle of the audience performance site. This is where the witch dons her special dress in the middle of the performance. As the performer's life could depend on the operators not being impeded, stewards will be needed to ensure that the operators can move smoothly through the site. The number of stewards required will depend on the density and the nature of the crowd. Two are the minimum.

F. Deployment of stewards. We would like a minimum of 16 dedicated stewards in total, who will attend a meeting earlier in the day and take various responsibilities. These will be deployed with the performers and will help with the performances, the Drumming Robots, the inflatable giants, the caterpillar, the aerial balloon operators etc, that pass straight through the crowd. This close up interaction of characters with the audience is an important part of the performance.

NB these stewards do not include site **Security** or the management of large crowds. Security for pyrotechnic installations must be professional security. You will need additional stewarding in relation to crowd size (see 'Rock and Pop Code' for that function).

Security will be needed as outlined above and numbers timing and exact arrangements will be finalized after the site visit, when a site plan is drawn up showing all the pyrotechnic sites and other sites requiring security.

G. Parking permits for five vehicles. NB, the group tends to work from the back of the vehicles, which need full vehicle access to the performance area, plus parking nearby outside the performance area.

Transport and hospitality requirements

1. Travel and transport expenses for cast and equipment (if flights then vegetarian meals in-flight)

2. A good quality hotel for the cast of 18 plus breakfast, for a minimum of three nights.
 3. A meal on the night of arrival.
 4. Cheques dejeuner or per diems in local currency, or, two good quality vegetarian meals and refreshments per member of cast per day with good choice.
 5. Drinking water and athletic drinks on site.
- Fee quotation or current price structures available given on demand.

Insurance

NWSI carries a full third party public and products and performers liability up to £5 million sterling, has a registered store for pyrotechnics and has a record of no claims from 1993-2001.

Checklist of main cost elements

1. Site visit
2. Fees are always charged net all local taxes are the responsibility of the organiser.
3. Additional fireworks from a firework company.
4. 236 cubic metres of helium balloon lifting gas.
5. Cast of 18 people for 2.5 days per diems / food and Hotel 3 nights
6. 2 Sound systems one large and one small PA.
7. Lights for two sites including spots on towers (There is an extensive lighting specification)
8. Large secure site - see additional document on security requirements.
9. Transport for equipment and cast.
10. Up to 400 barriers.
11. Site security.
12. Continuous availability of a cherry picker plus driver for high rigging.
13. A scaffolding structure to be built from a diagram (Optional).
14. Two cranes (optional).
15. 16 helpers.
16. Workshop- large space for dry firework preparation must be very secure.

For performances involving long haul (E.g. Asia or USA) this show must be booked **at least** three months in advance to give us time to work out the best way to transport our equipment and solve the pyrotechnic issues.

NB in USA it can also take that amount of time to sort out the Visa issues.