AN OVERVIEW OF THE HISTORICAL, TECHNOLOGICAL AND STYLISTIC ASPECTS OF ELECTRONIC DANCE MUSIC WITH SPECIFIC REFERENCE TO THE TRANCE GENRE

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STATEMENT

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I, THE UNDERSIGNED, HEREBY DECLARE THAT THE WORK CONTAINED IN THIS
THESIS IS MY OWN ORIGINAL WORK AND THAT I HAVE NOT PREVIOUSLY SUBMITTED
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ABSTRACT

The present thesis provides a broad overview of a number of important aspects of electronic dance music (EDM), however with a more specific focus on the trance subgenre. Although the latter subgenre only started to gain a significant following since the early 1990s, its popularity has since grown with such rapid strides that it currently represents one of the dominant forces in the EDM sphere. In contrast with many studies that have focussed on the use of narcotics often associated with EDM and specifically trance music, the present study takes as its focus the music itself. This is done in the hope of providing a basis for further, more detailed research on the present tropic.

As such, the study first looks at the historical development of EDM and the consequent rise of trance music and its various subgenres. With this having provided a suitable context, the study then examines more closely some of the technological means that play an important role in EDM and trance music. Additionally profiles are provided of three representative trance music disc jockeys (DJs), namely Paul van Dyk, Armin van Buuren and Tiësto, also making mention of their views regarding EDM and trance music and the equipment they use in producing their music.

The study lastly examines some of the more general, yet characteristic musical elements of EDM and specifically trance music, and proceeds to illustrate some of these by providing an analysis of a chosen trance music track, namely Paul van Dyk's *E-Werk Club Mix* of *For An Angel*.

OPSOMMING

Die onderhawige dissertasie bied 'n breë oorsig oor 'n aantal belangrike aspekte aangaande elektroniese dansmusiek (EDM), en fokus in hierdie verband spesifiek of die *trance*[1] subgenre hiervan. Ondanks die feit dat laasgenoemde subgenre eers in die vroeë 1990's noemenswaardige aanhang begin geniet het, het die gewildheid daarvan sedertdien 'n wêreldwye omvang aangeneem wat dit verhef het tot een van die heersende rolspelers in die huidige EDM-milieu.

In teenstelling met verskeie studies waarin die klem val op die gebruik van verdowingsmiddels wat dikwels met EDM en trance-musiek verbind word, vorm die musiek self egter die kern van hierdie studie. Dit word gedoen in 'n poging om moontlik die fondasie te lê vir verdere, meer diepgaande navorsing oor hierdie onderwerp.

As sodanig stel hierdie studie in die eerste instansie ondersoek in na die historiese ontwikkeling van EDM en die latere opkoms van trance-musiek en sy onderskeie subgenres. Dit dien vervolgens as konteks vir die nadere bestudering van party van die tegnologiese middele wat 'n belangrike rol speel met betrekking tot EDM en trance-musiek. Bykomend word 'n profiel geskets van elk van drie verteenwoordigende trance-musiek *DJ*'s[2], by name Paul van Dyk, Armin van Buuren en Tiësto, en word daar melding gemaak van die sieninge wat hulle ten opsigte van EDM en spesifiek trance-musiek huldig, asook van die toerusting waarvan hulle gebruik maak in die vervaardiging daarvan.

Laastens word daar gekyk na die meer algemene tog kenmerkende musikale eienskappe waaroor EDM en spesifiek trance-musiek beskik, en word van hierdie eienskappe dan toegelig by wyse van 'n analise van 'n gekose trance-musiek snit, naamlik die *E-Werk Club Mix*-weergawe van *For An Angel* deur Paul van Dyk.

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[1] In hierdie geval word die Engelse term gebruik by gebrek aan van 'n algemeen aanvaarde en -gebruikte Afrikaanse ekwivalent.

[2] Ook hier word die Engelse term aangewend by gebrek aan 'n algemeen aanvaarde en -gebruikte Afrikaanse weergawe.

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DEDICATED

TO

THE ONE WHO MADE THIS POSSIBLE
MY LORD AND SAVIOUR
JESUS CHRIST

Psalm 150 v 6

"Let everything that has breath praise the Lord"

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CHAPTER 1:   INTRODUCTION

1.1   Motivation of the study

Since the early 1990s the popularity of trance music has steadily been growing and currently this electronic dance music (EDM) genre and its various subgenres enjoy a truly global popularity. Extensive database searches undertaken as part of the research done for the present thesis has shown that, while a significant amount of research has been done on the use of various narcotic substances often associated with trance music, research focussing on the music itself has been rather scant. It further appears that the academic community and the EDM community have thus far been rather at variance with one another with respect to the systematic investigation of EDM. This can probable be greatly attributed to the difference of perspective and motivation in this regard, with latter group being more interested in the functionality of the music while the former groups strives to study the various aspects EDM as a musical phenomenon.

What is needed to address this deficiency is research that concentrates more on the historical, technological and stylistic aspects of EDM and trance in order to further a better understanding of these genres, the way in which they are created, the people responsible for producing them and the way in which they are received. Cognisance of this need, combined with a particular interest in trance music on the part of the researcher, has been the main source of motivation in undertaking the present study.

1.2   Purpose of the study

It is hoped that the present thesis will contribute to the general understanding and greater appreciation of EDM and trance music by providing a clear overview of the topic, possibly serving as the basis for further research in this field.

1.3   Research methodology

In approaching the present research topic the first aim was to get a firm grasp on the existing material addressing this subject. For this an extensive literature study was undertaken that looked at the wider spectrum of material regarding EDM and trance. This meant that material was examined that ranged from more academic texts on the one hand, to the numerous popular publications dedicated to the relevant topic.

Despite an existing familiarity with EDM and trance music on the part of the researcher at the onset of the research project, the literature study was complemented by listening to a great many examples of this music in a much more focused and specifically analytical way. This undertaking had the further aim of aiding the researcher in establishing the extent to which the existing literature regarding EDM and trance music can be reconciled with the music itself.

Ultimately, the literature study and extensive listening to EDM and trance music formed the foundation for an analysis of a specific trance track, with the aim of establishing in more detail how the music is compiled and what means are employed to this end.

1.4   Problems associated with the study

As mentioned earlier, one of the most prominent problems in researching the topic of EDM and trance music is the poignant lack of substantial material on the subject. From the literature study it became clear that very little academic text has indeed been written on the subject and that a very great part of the relevant popular material lacks the credibility that would make them acceptable for use in an academic thesis. It was, for example, discovered that many popular sources contain essentially the same text without providing adequate references as is required by accountable academic practice.

Furthermore, while more popular sources were identified that contain useful information about EDM and trance music, it proved very difficult to transform the style in which these are written into a text of sufficient academic stature. Such popular text are also frequently lacking in precise chronological information, which made it extremely difficult in many cases to establish a clear chronological context for important developments and events with regard to the topic. The very casual spirit in which many of these popular texts are written, lastly caused significant difficulties in verifying statements, confirming claims and identifying truly important recordings within the masses of releases annually generated by the EDM- and trance music industry.

With regard to the various technological means employed in the production of EDM and trance music, it proved a great challenge in limiting the discussion to a number of means that is both relevant in the context of the present thesis and broadly indicative of what pieces of equipment are being used in practice. Ultimately, in view of the profusion of technological means that have been used throughout the history of EDM and trance music, criteria had to be devised in order to limit this section of the present thesis. These criteria are set out in finer detail in Chapter 4.

Lastly, similar problems as in the case of the technological means used in EDM and trance music were encountered in deciding which recordings to include in the appendices providing discographies of the three representative trance music DJs discussed in the present thesis. In the end an expedient also had to be decided upon in this case in order to restrict the number of recordings that are listed. The approach settled on in this regard is explained at the beginning of each relevant appendix.

1.5   Scope and structure of the study

Concerning the scope of the present study, it must first and foremost be emphasised that the aim of this thesis is restricted to providing an overview of the chosen topic. While some aspects of EDM and trance music are discussed in greater detail, this thesis is only intended to form the basis for further, more in-depth research in this field.

The structure of the present study can more or less be regarded as a result of the methodology followed in the course of research. Firstly, the literature study resulted in Chapters 2 and 3, which provide an overview of the origins, development and current position of EDM and trance music as set out in the existing literature on the topic. Likewise, the literature study gave rise to Chapters 4 and 5, with the former examining the technological means used in producing EDM and trance music, and the latter profiling three representative trance music DJs. Chapter 6 then combines the findings of the literature study and the analytical listening undertaken as part of the research in order to provide an overview of the more generic elements that characterise EDM and specifically trance music. This then acts as a basis for the analysis of a chosen representative trance track with the aim of illustrating how a trance track is compiled in practice.

The thesis is then brought to a close in Chapter 7 which summarises the findings of the preceding chapters and makes brief mention of possible areas for further research.

CHAPTER 2: ELECTRONIC DANCE MUSIC (EDM) AND EDM SUBGENRES

EDM represents a powerful force in the current popular music culture. With multitudes of supporters around the globe and millions of recordings being released annually, it is an enormous, complex and constantly evolving field that has given rise to a great many genres. The development of EDM to what we know today would, however, not have been possible without the startlingly rapid rise of technology that has characterised both the twentieth and twenty-first century. Before engaging in a discussion of EDM itself, it will therefore be useful to look briefly at the growth of electronic music as precursor of EDM.

2.1 The origin and development of electronic music

Electronic music[3] can be defined as music that utilises electronic technology in order to generate and configure sound materials primarily aimed at transmission by means of loudspeakers. Although not dependent on computers throughout most of its history, electronic music has developed into what is currently a strongly computer-based approach to music production (Online Source 4) In discussing the means that have been and are used in producing electronic music, it is useful to distinguish between electromechanical instruments and electronic instruments. The former combines electrical and mechanical parts, while the latter relies solely on electronic, non-mechanical means to produce sound (Online Source 1; Online Source 2; Online Source 3).

The origins of electronic music can be traced as far back as the end of the nineteenth century. One of the first notable electromechanical instruments to be constructed was the so-called *Telharmonium*[4] that was developed by Thaddeus Cahill (1867-1934) between 1894 and 1911. This instrument, however, never achieved great popularity due to its tremendous weight, with just the prototype weighing over 6 tons[5] (Weidenaar 2006:1; Online Source 1). A more successful and entirely electronic, monophonic instrument was the so-called *Theremin*[6], which was developed by Lev Sergeyevich Termen (1896-1993) and first demonstrated in 1920. This instrument is unusual

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[3] In this regard, Emmerson & Smalley use the term *electro-acoustic music*. They do, however, emphasise that other terms are in use to denote the same type of music, with notable examples being *elektronische Musik, musique concrète, tape music, computer music* and even *sonic art* (Online Source 4).

[4] Also called the *dynamophone* (Weidenaar 2006:1).

[5] In the 1930s the American engineers Laurens Hammond and John Marshall Hanert patented an instrument that was in many ways similar to the Telharmonium, namely the *Hammond organ*. This instrument attained immense popularity in a number of genres (Davies 2006a:1).

in the sense that the player does not actually touch it in order to produce sound. It emits a single frequency which is manipulated by moving the hands in proximity to the two antennae with which the instrument is fitted. Pitch control is provided by the vertical antenna while a horizontal loop antenna allows control of the volume (Orton & Davies 2006a:1; Montague 2006:1; Online Source 1). Also of some importance is the *Ondes Martenot*[7], which is a monophonic electronic instrument invented by Maurice Martenot (1898-1980) and unveiled in 1928 (Orton & Davies 2006b:1; Online Source 1). While its means of sound production was similar to that employed in the theremin, the ondes martenot could provide great timbre variation through the use of filters (Verderosa 2002:8; Bloch 2006:8).

While instruments like the theremin and ondes martenot did exert a significant influence on consequent attempts at sound synthesis and synthesiser interface design, they did not succeed in establishing any new musical genres (Emmerson & Smalley 2006:1). Of greater influence in this regard was the development of magnetic tapes and the tape recorder, which marked an important step in the evolution of electronic music. Although earlier inventions had used magnetisation in order to capture sound, it was only in the 1930s that a more practical tape based recording medium and –recorders were developed. *BASF* exhibited their first tapes and their so-called *magnetophon* recorders at the *Berlin Radio Fair* in 1935. Tapes and tape recorders opened the field for what became known as *musique concrète*, especially since tapes allowed for increased length of playing time, greater ease of editing and the possibility of recording a number of tracks simultaneously and synchronously. Through the editing possibilities opened up by tapes, recorded material from either existing recordings or from material recorded specifically for this purpose, could now be manipulated and/or combined as desired (Borwick {Section II, No. 9} 2006:1; Online Source 4; Online Source 1).

Although musique concrète was originally used in reference to the composer's direct involvement in the sound material, it has since come to be used to refer to the manipulation and/or combination of sounds recorded from non-electronic sources. It must be noted, however, that the theory behind musique concrète never excluded the use of recorded electronic sounds (Online Source 4; Online Source 1). Amongst the leading figures in the musique concrète movement were Pierre Schaeffer (1910-1995), Pierre Henry (1927-), Pierre Boulez (1925-) and Karlheinz Stockhausen (1928-) (Dhomont 2006a:1; Dhomont 2006b:1; Hopkins & Griffiths 2006:1; Toop 2006a:1).

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[6] The instrument was originally called the *Étherophon*, but was demonstrated in the Soviet Union under the name *termenvoks*. For demonstrations in the United States this was changed to *thereminvox*, which was later truncated to just *theremin* (Orton & Davies 2006a:1).
[7] Originally called the *Ondes Musicales* (Orton & Davies 2006b:1).

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In the years after the inception of musique concrète and the development of magnetic tapes and magnetic tape recorders, two distinct approaches evolved towards the application of electronic music in live performances. On the one hand an approach arose in which live instrumental and/or vocal performance was combined with pre-recorded tape. This approach became known as *mixed music*. On the other hand, and of greater significance in connection with the later development of electronic dance music (see Section 2.2), was the phenomenon of *live electronic music*. In such instances, electronic sounds produced by the performer/performers were modified electronically at the time of production. This modification was either effected by the instumentalist/instrumentalists or by an additional performer, often making use of a mixer[8]. By the latter part of the 1960s this approach to the application of electronic sounds in live performances had developed to the point where performance groups were typically using devices that could change many of the qualities of such sounds. This modification of electronic sounds could take the form in a number of ways: (1) changing the spectral characteristics of sounds through, for example, filtering[9], ring modulation[10], flanging[11] and phasing[12]; (2) modifying the spatial positioning of sounds, that is panning[13]; (3) applying envelopes[14] to sounds; and (4) using echo and delay systems, which were at that time still tape-based, to effect the superposition and repetition of material. Many of these devices became more readily available after the introduction of voltage control in the mid-1960s (Emmerson & Smalley 2006:1).

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[8] Also know as a *mixing console*, this term refers to a device that makes it possible to combine several signals into one signal. A mixer contains a number of channels for signal inputs (e.g. microphones), normally with an individual gain control for each channel, a master gain control, and a low-impedance output circuit. More intricate mixers that also provide equalisation are often referred to as *recording consoles* (White 2002:206).

[9] This term refers to the use of devices called *filters*. A filter is a type of equaliser, originally analogue but more recently also digital, that is designed to effect a reduction of energy at a certain frequency or within a certain frequency band (White 2002:130-131).

[10] Ring modulation refers to the application of a ring modulator to a signal. The latter is a circuit that makes it possible to use one signal to amplitude modulate another signal. The result is a complex series of sum and difference frequencies between the two input signal frequencies (White 2002:285).

[11] Flanging is a special effect that first gained popularity in the 1960s. It is a "swooshing" sound obtained when a signal is combined with a delayed version thereof (White 2002:131).

[12] Phasing refers to the use of a device called a phaser or phase shifter, which is a device used to combine a signal with a version thereof of which the phase has been shifted. This results in partial cancellation at frequencies where the phase shift is in the vicinity of 180° and produces an effect similar to flanging, but with less depth (White 2002:244).

[13] Panning refers to the use of a panoramic potentiometer, or panpot for short. This is a device in which two volume controls are connected and wired in such a way that, when adjusted via a shared control knob, the one effects an increase in volume while the other effects an equal decrease in volume. If two stereo channels are adjusted by means of a panpot, the impression is created of the sound moving from left to right or vice versa (White 2002:236).

[14] This term is usually used in terms of the attack-decay-sustain-release (ADSR) of a given signal. ADSR thus refers to time constants associated with signals, whether generated by a synthesiser or other device. Attack indicates the time it takes a signal to rise from zero to its maximum level. Decay indicates the time it takes the signal to fall from its peak attack level to a sustain level, with the sustain time being the length of during which the signal level is then kept constant. The release then refers to the time it takes for the signal level to fall again to zero from the sustain level (White 2002:10).

In the 1950s the production of electronic music expanded into the sphere of computer science. The earliest attempt in this regard was made in Australia using a computer designed by Trevor Pearcey and Maston Beard, called the *Radiophysics Mark 1 Automatic Computer*[15]. The Mark I was first publicly demonstrated in 1951 at the first Australian Computing Conference and was programmed to give the first performance of digital music, notably playing *Colonel Bogey* (Saunders 2006:1; Online Source 1). At this time Harry Olson and Herbert Belar were working at the RCA Laboratories in Princeton. Between 1951 and 1952 they developed an electronic composition machine that was called the *RCA Electronic Music Synthesiser*. This was, however, not a synthesiser in the current sense of the word, but rather an electromechanical system that was controlled by means of punched paper tape (Davies 2006b:2; Online Source 5).

Another early attempt to create electronic music by using a computer was that of Max Mathews who worked at *Bell Telephone Laboratories*. In 1957 Mathews demonstrated music synthesis on a digital computer by using the programme *Music I*. This was later followed by *Music II* through *Music V*. (Online Source 6; Online Source 1). Some of the first composers who started to make use of computers were Edgard Varèse (1883-1965) and Iannis Xenakis (1922-2001) (Griffiths 2006:1; Hoffmann 2006:1; Online Source 1).

While musique concrète was still much in use during the 1960s and 1970s, this period witnessed an increasing trend towards designing playable electronic synthesisers[16]. One of the earliest examples of this was the *Buchla*, which was designed by Donald Buchla and unveiled in 1963. In this he collaborated closely with the musique concrète composer, Morton Subotnick. Commercially released in 1964, this and subsequent synthesisers produced by Buchla all presented control by means of capacitative pressure-sensitive fixed touch-plates. On this account Buchla was a pioneer with regard to the development of the sequencer[17] (Davies 2006c:1; Online Source 1).

A second notable synthesiser, the first modular synthesiser to employ a piano styled keyboard, was developed by Robert Moog in collaboration with Herbert Deutsch and commercially released in 1964. This was Moog's first voltage-controlled[18] synthesiser with the oscillator, filter and amplifier

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[15] It was later renamed the *CSIRAC* after its manufacturer, the *Council for Scientific and Industrial Research* (Johnson 2001:1; Saunders 2006:1-2).
[16] This term refers to an electronic instrument that is capable of producing more complex sounds than electronic instruments that essay to emulate traditional acoustical equivalents. In most cases such an instrument incorporates a keyboard (Davies 2006e:1).
[17] This term refers to an electronic device that can create automated repeatable sequences of sound (Davies 2006f:1).
[18] This term refers to the control of electronic devices by means of the application of external voltages. In such an instance, adjustment of the voltage effects a change in the behaviour of a signal-producing or signal-processing device.

all being controlled in this way (Davies 2006d:1; Online Source 7; Online Source 1). Lastly, Paolo Ketoff, a sound engineer working with RCA Italiana, designed and constructed a synthesiser called the *Synket* in 1964. This synthesiser allowed for the generation and modulation of frequency, timbral spectrum, amplitude and duration. It also permitted pre-setting of sound combinations and could be operated with as many as three keyboards for live performances (Swift 2006:1; Online Source 1).

In the late 1960s the early synthesiser was greatly popularised through the efforts of Wendy (formerly Walter) Carlos. In 1968 she released the landmark album, *Switched-on Bach*, which sold over a million copies. All the works on this album are works by J.S. Bach (1685-1750) that were reproduced on a Moog synthesiser. However, this synthesiser only generated one note at a time, which necessitated a substantial amount of studio editing (Rosen 2006:1; Online Source 1). As synthesisers became less expensive as well as more robust and portable, they began being adopted by rock bands, a notable example being Pink Floyd. It was not until the 1970s, however, that synthesisers came to define the electronic music style through the efforts of the German electronic pop band, *Kraftwerk*, who's music was uncompromisingly electronic (Buckley 2006:1; Online Source 1).

The sound of electronic music was further popularised by musicians such as *Tangerine Dream*, Klaus Schulze, Brian Eno, *Vangelis*, Mike Oldfield, Jean-Michel Jarre, Ray Buttigieg as well as by the Japanese composers Isao Tomita and Kitaro. Importantly, the film industry began making extensive use of electronic music in soundtracks. An example of this is the soundtrack prepared by Wendy Carlos for Stanley Kubrick's film, *A Clockwork Orange*, in 1971 (Rosen 2006:1; Online Source 1).

In the 1970s and 1980s the analogue processes that characterised the 1950s and 1960s were rapidly being replaced by digital equivalents.[19] This was greatly due to the development of increasingly faster microprocessors, a phenomenon that also led to the extensive adoption of personal computers in the 1980s. While the use of computers for the purposes of sound synthesis and manipulation was at the time no longer a novelty, the earlier computers were impractical for live application in light of their size and slower processing capabilities. The constantly increasing processing speed offered

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The most common application of this principle is in the voltage controlled oscillator (VCO) and the voltage controlled amplifier (VCA) (Orton & Davies 2006c:1).

by digital devices, however, ultimately made it possible to hear the results of digital sound creation or processing instantaneously, something that came to be referred to as *real-time*[20] processing (Emmerson & Smalley 2006:1). The shift from analogue to digital technology could also be seen in the increasing preference for digital synthesisers and samplers[21] in favour of their bulkier and more expensive analogue precursors. Although such digital equipment was originally quite expensive, the rapid development of the technology soon enabled the production of low-cost pieces of equipment (Online Source 1).

The digital technology that developed during the 1980s and 1990s came to be applied primarily in two ways, respectively for *event processing* and *signal processing*. The former entails representing music digitally in streams or channels of *note events* that are principally defined in terms or their pitch, duration and dynamic level. This approach was standardised after 1983 with the introduction of MIDI[22] protocol in which case the latter three parameters are still applied, with duration and dynamic level being respectively defined in terms of *note on/note off* and *velocity of attack*. Importantly, the use of MIDI makes it possible to create and store note files that can be be triggered during live performances in order to activate and control sound-production devices such as synthesisers and samplers (Emmerson & Smalley 2006:1).

By the mid-1980s, when technology succeeded in making it relatively easy to define note relationships in computer terms and enabled the manipulation of notes in real time, the computer itself came to the fore as a *de facto* performer on stage. This, in turn, led to the rise of so-called *interactive composition* wherein the performer and computer could in fact choose different possible responses or develop event material while a performance is underway. For the computer to achieve this, however, the composer/performer had to define a structure within which such choices could be made by the computer. By the mid-1990s systems like this had been refined to the point of being able to 'learn', as it were, and devise such structures during performances. Such systems became so flexible that they allowed real-time manipulation of the dynamics, timing and even timbre of electronic sounds by the performer (Emmerson & Smalley 2006:2).

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[19] With the increasing use of computers in the production of electronic music, the use of magnetic tapes gradually waned, ultimately to be largely replaced by digital samplers and hard-disk, computer-based recording and editing systems (Verderosa 2002:11).

[20] This term has come to be adopted as a replacement of the term *live* in instances such as *real-time electronic music* as opposed to *live electronic music* (Emmerson & Smalley 2006b:1).

[21] This term refers to an electronic instrument which does not generate its own sound or sounds as such, but makes use of sounds entirely derived from recordings (Davies 2006g:1).

[22] This acronym stands for *Musical Instrument Digital Interface*, and refers to a hardware and software standard protocol established in 1983 to enable the real-time exchange of musical data between devices such as synthesisers, drum machines and computers (Burnand 2006:1; Online Source 8).

Despite these rapid advancements in digital technology, the progress made in the field of real-time digital signal processing[23] was somewhat more sluggish. This is due in part to the far more strenuous demands it places on a computer or similar device's processing abilities, and it took some time before technology had advanced enough to be able to meet these processing demands. Until the mid-1990s the task of real-time digital signal processing was still restricted to the realm of stand-alone devices that could be controlled in real time either by the performer or by a separate computer. That state of affairs, however, soon changed when the processing speed of personal computers began matching that of stand-alone units, thereby making it possible to integrate event- and signal processing into a single control environment. This had important implications for both studio composition and electronic performance practice. Importantly, the development of sound-recording systems based on computer hard disk storage also made it possible for sound files, which had previously been restricted to a fixed form on tape, to be triggered and even mixed during performances. This made it possible for performers to exercise greater control over timing. (Emmerson & Smalley 2006:2).

In recent years electronic music has developed to a point where it is not always possible any more to discern the presence of a live performer in recordings thereof. This even extends to live performances where there is no longer necessarily a visible link between human gesture and the sound result achieved thereby. The fact of the matter is that a human performer is still influencing the streams of computer data that is processed in real time, but the resulting music gives no clear indication of human involvement (Emmerson & Smalley 2006:2).

Surprisingly, this apparently absolute computerisation of electronic music has not hindered the development of what can certainly be termed the cult following enjoyed by many DJs. It would seem that, although many DJs rely exceedingly heavily on computers and other pieces of electronic processing- and performance equipment, the inclination to associate the resulting music with the persona of the individual DJ still strongly persists and at present looks unlikely to desist.

2.2 Electronic dance music (EDM)

Since its inception, electronic dance music has developed into a global and intricately varied phenomenon incorporating a myriad of different genres (Peel 2006a:1). EDM is, nonetheless, defined by distinctive practices with reference to the production and consequent consumption

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[23] This term refers to the transduction of the spectral and temporal aspects of sound quality into digital form (Emmerson & Smalley 2006b:2).

thereof, as well as by distinct shared musical characteristics. With reference to the latter, the most prominent is the use of electronic means such as synthesisers, drum machines[24], sequencers and samplers. While consequently relying heavily on electronic equipment and recorded sounds[25], both in studio work and live performances, the DJ notably still maintains a central position in this style of music.[26] (Butler 2003:6-7).

Furthermore, most EDM genres also possess a steady, relatively fast tempo. The average tempo ranges between 120 and 150 beats per minute (BPM), although some genres present tempos as fast as 180 BPM. With the exception of certain more ambient genres, most EDM genres are also characterised by the presence of a repeating bass pattern. While currently being encountered in a number of different environments, historically EDM has primarily been created with performance in dance environments as its objective. Although vocals are used in EDM, the greater part of currently produced EDM is notably predominantly instrumental, that is not making use of recorded vocals (Butler 2003:7-9). Butler maintains that this strongly instrumental nature distinguishes EDM from virtually all other commercial popular music genres being produced at present.

With regard to the origins of EDM, Peel (2006a:1) maintains that it can be regarded as a corollary of both *disco*[27] and the rapid development of the synthesiser in the latter half of the twentieth century. Butler (2003:12) points out that the disco era was of great importance for later developments of EDM. In the first instance, this era popularised the idea of spending an evening dancing in a club. Secondly, many of the practices of musical creation currently still associated with EDM, had their origin in the disco era. A notable example of this is the technique that became common practice amongst DJs of mixing and overlapping records in order to produce a continuous flow of sound.

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[24] This refers to an electronic instrument that can synthesise percussion sounds or store and reproduce the sound of percussion instruments (Davies 2006:h). Notable examples are the Roland TR-808 (see Section 4.2.1) and TR-909 (see Section 4.2.2).

[25] EDM is almost entirely structured around dancing to recorded music. Although this is no longer an unusual phenomenon, it must be emphasised that dancing to recorded sound is a uniquely modern practice (Butler 2003:9-10).

[26] Virtually all EDM genres also share the involvement of three specific roles in production. These are: (1) the DJ; (2) the producer; and (3) the people who dance to the music. In this sense term *producer* should be understood to include responsibility for or involvement in the composition process itself. In the past decade, notably, there has been a growing trend for the producer to undertake performing activities and for the DJ to engage more in production as well. The manipulation of the music by the DJ during a performance also means that DJing has developed a strong compositional component (Butler 2003:7 & 25-28).

[27] The term refers to a form of dance music that played a dominant role in popular music during the late 1970s. It is characterised by regular kick drum accents on every beat, frequent use of orchestral instruments and synthesisers, Latin percussion and lyrics relating to dancing, romance and a lifestyle dominated by parties (Brackett 2006:1).

Although synthesisers were used in disco to some extent, they did not yet represent the predominant form of instrumentation in this strongly vocal genre (Butler 2003:14-15). An important force in expanding the application of synthesisers in EDM and, as such, a significant influence on the development of the latter, was the New York *hip hop*[28] scene[29] of the late 1970s. The genre of music that came to be associated with this scene was in essence a fusion of early DJing techniques, *rap*[30], *break dance*[31] and the so-called graffiti culture (Peel 2006a:1). Hip hop underwent an important development when the American DJ, *Afrika Bambaataa*, incorporated synthesisers and drum machines that were then being used by Kraftwerk and the early *synth-pop*[32] artist in the United Kingdom in his record, *Planet Rock*, which was released in 1982 (Peel 2006a:1; Toop 2006d:1).

The late 1980s witnessed the development of a genre that became known as *house*. A key figure in this regard was the DJ, Frankie Knuckles, who began working at the Warehouse club[33] in Chicago in 1977. Knuckles began playing a mixture of disco and *garage*[34], but soon started remixing music and ultimately began adding his own material in the process. As Knuckle's experimentation came to take the form of a more consolidated, distinct style, the term *house* came into use in referring to his music (Butler 2003:16). A notable aspect of the house scene was that, unlike disco and rock, it was inclined to draw a significantly more heterogeneous following, both with reference to race and sexual orientation (Peel 2006a:1).

Other important role players in the development of house were the Detroit-based DJ, Derrick May, and his friends Juan Atkins and Kevin Saunderson. May began combining hip hop with elements from funk and soul as well as the use of $\frac{4}{4}$-beat based drum machines and early sampling techniques. Significantly the work of May along with that of his two friends laid the foundations

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[28] Although the term *hip hop* is often used as a collective term for the African American urban art forms that emerged in the late 1970s, it is also more specifically a style of music that makes use of spoken rhyme placed over a rhythmic background that is characterised by the manipulation of pre-existing recordings (Toop 2006b:1).

[29] This term is used in the present thesis to refer collectively to the musical activities within a specific sphere or genre.

[30] This term refers to a primarily African-American music style characterized by the use of rhyming lyrics that are declaimed rather than sung (Toop 2006c:1).

[31] This term refers a street dance style that developed out of the hip hop movement that originated among the African American youth in the South Bronx of New York City during the early 1970s (Online Source 9).

[32] This refers to a style of popular music in which the synthesiser as instrument takes a predominant position. As a movement it was most prominent between the end of the 1970s and the early and mid 1980 when the synthesiser started to become a more practical and affordable commodity (Online Source 10).

[33] The name the house genre is in all probability derived from the name of this club (Butler 2003:16; Peel 2006a:1).

[34] Garage takes its name from its place of origin, namely the Paradise Garage club in New York. As was the case with house, it developed out of disco and retained the simple, rigid $\frac{4}{4}$-beat tracks and pulsating bass lines. Garage, however, differs from disco in the sense that it is entirely electronic. Compared to house, garage is generally slower and possesses a smoother, more melodic quality and frequency (Fulford-Jones 2006a:1).

for a style that later evolved into what became known as *Detroit techno*[35] (Peel 2006a:1; Peel 2006b:1). It must be noted, however, that the music scenes in Detroit and Chicago initially remained relatively isolated and underground. It was only in the mid-1980s in the United Kingdom that these styles first became widely popular (Butler 2003:21).

Since its inception, house has remained a field characterised by continuous experimentation and, as such, has given rise to a number of different genres, most notably *acid house* and *techno*. The former of these terms was adopted to refer to the unique bass effects that could be achieved by means of the Roland TB-303 synthesiser[36]. A pioneering single in this regard was *Acid Trax*, which was released by the group, *Phuture*, in 1987 with Marshall Jefferson as producer. Acid house gained substantial popularity in the United Kingdom at illegal rave parties[37] that were notably combined with use of the narcotic *methylenedioxy-N-methylamphetamine* (MDMA), more generally referred to as *ecstasy*[38] (Eisner 1994:xi; Peel 2006a:1; Peel 2006c:1). In the early 1990s acid house gave rise to a style of EDM that became known as *rave*[39]. The latter grew into such a widespread phenomenon that for a time it even merged with traditional rock and guitar music (Peel 2006a:2). In the early 1990s rave events spread to the United States where it ultimately came to play an important role in popularising EDM (Butler 2003:21).

Acid house also left its mark on the jazz scene in the United Kingdom, specifically resulting in the development of a style that came to be called *acid jazz*[40]. More importantly, however, acid house came to be subsumed under the rave scene in the United Kingdom in the early 1990s. Activities in this regard encountered significant opposition from the British authorities who, in response, passed the *Criminal Justice Bill* that was worded in such a way as to declare large outdoor parties illegal, in particular targeting the use of ecstasy on such occasions.[41] While not succeeding entirely in

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[35] The term *techno* refers to a type of music that is mostly electronic and is derived from a combination of Chicago house music, funk, early hip hop and electro. It possessed an even more relentlessly percussive and artificial quality than contemporary house music (Fulford-Jones 2006a:1).

[36] This is a monophonic analogue bass synthesiser manufactured by Roland from 1982 to 1984 (Online Source 11). Also of importance were the Roland TR-808 (see Section 4.2.1) and TR-909 (see Section 4.2.2) drum machines. *TB* is an acronym for *transistor bass*, while *TR* is an acronym for *transistor rhythm* (Butler 2003:16).

[37] Such parties are generally one-time events that take place at a one-time location, normally lasting throughout the night. This distinguishes rave parties from club events that take place at fixed locations (Butler 2003:7).

[38] For a more detailed discussion of the history and effects of this narcotic, see Eisner (1994).

[39] Rave music is characterised by simplistic, anthem-like electronic melodies that are placed over a high-tempo, electronic techno foundation (Peel 2006d:1).

[40] Acid jazz was, in essence, a fusion of African-American musical styles such as funk, soul and hip-hop which was combined with a visual aesthetic that depended heavily on both British popular culture of the 1960s and African-American street style of the 1970s (Online Source 12). Notable characteristics of acid jazz are as follows: (1) strong rhythms; (2) short, catchy motives that are repeated often (also referred to as *hooks*); (3) instrumentation that favours the Hammond organ, congas and other percussion instruments; and (4) powerful, raw saxophone solos (Adams 2006:1).

[41] Butler (2003:7) points to the more recent tendency of holding rave-like events on hired premises, that is in strong contrast to its more clandestine and illegal roots. He also emphasises that drug use varies considerably from one such

suppressing rave gatherings, the bill has driven such events and their concomitant drug use underground. Rave nonetheless grew into such a widespread phenomenon that for a time it even merged with traditional rock and guitar music. Furthermore, despite achieving greater commercial success than acid house, rave ultimately developed into two further, more pounding styles, respectively *happy hardcore*[42] and *gabba*[43] (Peel 2006a:1-2; Peel 2006d:1).

The development of techno roughly coincided with that of house. Originally taking shape in Detroit, techno developed out of a number of different influences then current in the city. Of particular importance in this regard was the radio programme, *Midnight Funk Association*, which was hosted by Charles Johnson, known on air as the *Electrifying Mojo*. Johnson's programme was broadcast between 1977 and 1985 and he often featured works by Kraftwerk. This exposed the Detroit music scene to the music of a group that has often been identified as one of the most important precursors of techno. As such, Johnson's programme was an important influence on three of the most prominent pioneers of techno as stated earlier, namely Derrick May, Juan Atkins and Kevin Saunderson (Butler 2003:18-19). Together house and techno were the two main EDM genres of the 1980s and, as such, they still make up an essential part of EDM (Butler 2003:23).

In what could be described as an attempt to counterbalance the highly charged sphere of acid house parties and raves, a number of so-called 'chill-out' DJs began playing calmer music ranging from ambient music, environmental sound effects to *Motown soul*[44]. This resulted in the development of what became known as *ambient house*[45], with the British studio group, *Orb*, as its main exponent (Peel 2006a:2; Peel 2006e:1). In a subsequent development that first took place on the Balearic Islands[46], ambient house and acid house were combined to create what became known as *Balearic beats*. These islands have since formed an important testing ground for new styles and clubs. In

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event to the next and maintains that it is difficult to draw conclusions about drug use at modern rave, specifically as opposed to their often illicit precursors.

[42] As an offshoot of rave, happy hardcore took over many of the former's characteristics, for example extremely fast tempos, rapid synthesiser and/or piano runs, and significantly altered vocal samples (Bogdanov *et alii* 2001:xi).

[43] This EDM genre is the hardest form of hardcore techno and, as such, is characterised by extremely fast tempos often exceeding 200 BPM. Its popularity is mainly centred in the Netherlands and Scotland (Bogdanov *et alii* 2001:x).

[44] Although this term is in the first instance the name of an American record company specialising in black soul music, it has come to be used to denote the distinctive musical style associated with this company (Bowman 2006:1).

[45] Although largely electronic like most forms of club dance music, ambient house departs from most such styles in the sense that it is not intended for dancing. Music that falls into this genre is often arrhythmic and in instances where clearer rhythm is applied, it is usually approached with restraint. Furthermore a clear diatonic centre is often absent, being replaced by perpetual atonality and prolonged waves of chords executed on synthesiser (Fulford-Jones 2006b:1).

[46] This term refers to a group of Mediterranean islands near the coast of Spain. The main islands are Majorca, Minorca, Formentera and Ibiza (Online Source 14), of which the latter has developed strong connections with the trance (see Section 3.1) style of EDM.

the early 1990s Balearic beats drew on diverse sources that ranged from *teen pop*[47] to *industrial music*[48], but in the late 1990s it underwent a significant transformation into what became known as the Ibiza scene which played an important role in regenerating *trance* (see Section 3.1; Peel 2006a:2).

Concurrent with these developments in the various house styles and rave, techno started to establish a more visible presence than before. Compared to house, this style developed a harder sound with more edge and was to a greater extent influenced by funk. Within techno itself there soon arose two divergent streams of development. On the one hand there was the mainstream techno scene, while Derrick May, who had played such an important role in establishing the style, veered increasingly in the direction of subliminal *deep house*[49] (Peel 2006a:2). By the mid-1990s techno had transcended its American origins and was the focus of experimentation by Europeans, most notably under the Berlin-based label, *Teutonic Beats*, and the Belgian label, *R&S*. (Peel 2006a:2; Online Source 13).

As their popularity increased, a number of EDM genres became more and more subject to the influence of commercialism. This paved the way for the rise of a new style in Bristol in the mid-1990s, called *trip hop*[50]. This was to a certain extent an attempt to reach back to the hip hop and rap roots of many EDM genres (Peel 2006a:2). Trip hop developed in an atmosphere that was characterised by a mixture of the slower, darker *indie*[51] attitude on the one hand, and the dance breaks, beats and samples as found in the music of bands like *Portishead* and *Massive Attack*. Ultimately, trip hop followed a similar path of development as ambient house in that it became a subgenre of EDM that is not primarily aimed at providing music for dancing (Peel 2006a:2; Peel 2006f:1).

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[47] This refers to a genre of popular music aimed at and often made by teenagers. It can often be connected with the phenomenon of so-called *boy bands* and *girl groups*. It should be noted, however, that the majority of these bands are essentially manufactured purely with the aim of generating income from them, and they are quite often short-lived (Online Source 15).
[48] This term refers to a very dissonant and harsh genre that developed out of the tape-music and electronic experiments of bands like *Cabaret Voltaire* and *Throbbing Gristle* in the late 1970s. It is mostly electronic, distorted and was considered quite avant-garde in the rock scene of the time (Bogdanov *et alii* 2001:xi).
[49] Deep house is a form of house music characterised by relatively slow tempo, sustained chords and other tonal elements often spanning a number of bars, increased use of effects like reverb and delay, frequent use of vocals and considerably less emphasis on percussion (Online Source 16).
[50] This is a club dance genre that derives part of its character from hip hop, but is significantly slower and generally uses more melancholy, flowing $\frac{4}{4}$-rhythms. It was also influenced to some extent by electro, jazz and techno (Fulford-Jones 2006c:1).
[51] Short for *independent*, this is a collective term used in referring to the many independent record labels that were established when proponents of *punk* rebelled against the effective monopoly exercised by the record labels *CBS/Sony, Warner, MCA, Polygram, EMI* and *BMG*. Indie openly flouted commercialism and generally relied more on dense, overdriven guitar chords rather than riffs (Moore 2006:1).

Shortly after the inception of trip hop, London was the scene for the development of two further EDM subgenres, namely *breakbeat*[52] and *jungle*[53] (Peel 2006a:2). This was the result of a trend amongst producers and DJs of using increasingly faster drum beats in their music (Butler 2002:23; Peel 2006a:2). In the indie milieu this rhythmic tendency, in turn, resulted in the development of the so-called *big beat* sound of artists such as the *Chemical Brothers* and *Bentley Rhythm Ace*. The big beat sound combined hardcore drum machine effects with rock vocals and arrangements. Along with these unfoldings, garage music began to undergo a rebirth in the form of a subgenre that came to be called *speed garage*[54] (Peel 2006a:2).

In the United States, meanwhile, rap had been battling to gain mainstream acceptance in spite of a campaign in the late 1980s that attempted to ban, or as least bring under the public's attention the explicit lyrics associated with this EDM subgenre. On the other hand, the rhythm and blues (R&B) 'label' has succeeded in becoming a *force majeur* with artists such as *TLC* and *R. Kelly* and producer-artists like *Puff Daddy* and *Babyface* having gained international prominence. An important factor in this achievement has been R&B's success in being able to reconcile street credibility with a multi-million Rand industry, something also notably achieved by the so-called *superclubs*[55] in the United Kingdom. The success of these superclubs has been greatly aided by the growing fascination among the media and public with acclaimed DJs that have left their mark on most areas of pop music through remixes and production work. Some of the more illustrious DJs, such as *Sasha, Paul Oakenfold, Carl Cox* and *Paul Van Dyk* indeed enjoy a cult following with virtually limitless possibilities with regard to the remuneration they can demand (Peel 2006a:2). In approximately the past decade EDM has again managed to give rise to a great number of newer styles, with trance being a notable example (Butler 2003:24).

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[52] Although this term is often used to denote to any electronic music that uses drum breaks, it originally referred to a solo drum pattern as played on the kick drum, snare drum or hi-hat. Though first employed by rappers in the 1980s, this device has since been applied in a great many different styles (Furniss 2006:1).

[53] Jungle, also called *drum 'n' bass*, is a form of hardcore techno that began to emerge in the early 1990s. Of all the different types of techno, it is the most rhythmically complex and relies on extremely fast polyrhythms and breakbeats. While exhibiting influences from reggae, dub and R&B, jungle music almost entirely dominated by fast drum machines and deep bass (Bogdanov *et alii* 2001:xii; Fulford-Jones 2006d:1).

[54] Speed garage developed as a revival of garage techno in United Kingdom in the late 1990's. To the original garage genre were added ragga vocals, rewinds and DJ scratching along with the occasional use of drum 'n' bass rhythms. Additionally the tempo was increased to a level more or less equal to that of house (Bogdanov *et alii* 2001:xii; Fulford-Jones 2006a:1).

[55] This term is mostly associated with the superclubs *Cream, Ministry of Sound* and *Gatecrasher*, based respectively in Liverpool, London and Sheffield. These companies have established themselves as prominent brand names through the use of aggressive marketing in the form of, amongst other products, compilation albums and magazines. Notable precursors of these superclubs were the *Paradise Garage*, the *Warehouse*, and the *Hacienda* club in Manchester. The latter was the first club in the United Kingdom to devote entire nights to dance music and it was partly owned by *New Order*, one of the earliest synthesiser bands in the United Kingdom (Peel 2006a:2).

In conclusion it must be noted that the development of EDM and its division into distinct subgenres took place at a far more rapid pace than is the case in most other styles of music. Peel (2006a:1) goes as far as postulating that this continuing capacity to proliferate subgenres, in conjunction with frequent artistic collaborations, may well be regarded as having played a particularly significant role in the wide dissemination and consolidation of EDM.

CHAPTER 3:   TRANCE AND TRANCE SUBGENRES

Trance represents one of the most diversified EDM genres currently enjoying popularity. Snoman (2004:219) points to the fact that the many different forms trance has adopted and the many subgenres to which it has given rise, make it difficult to find agreement as to what exactly constitutes trance music. In response to this dilemma he suggests the following general circumscription of trance:

> … it can be roughly generalized as the only form of dance music that's constructed around glamorous melodies which are either incredibly vigorous, laid-back or pretty much anywhere in between.

Snoman (2004:219) consequently suggests that these characteristics lend the music a particular quality or "feel" that can, as such, form the basis for distinguishing between various trance subgenres. He nonetheless emphasises strongly that, in practice, the use of specific labels in referring to individual subgenres is very often inconsistent. The situation is compounded by the fact that differences in the application of subgenre nomenclature are found not only amongst clubbers, but even amongst DJs as the producers of such music.

In spite of this apparently inscrutable murkiness that characterises trance, Snoman (2004:219) suggests that it is possible to attain greater clarity concerning the nature of the genre in general and its various subgenres by examining trance's historical development. Consequently, it is exactly this that must now be more closely examined.

3.1   The trance genre

In retracing the development of trance and the evolution of its various subgenres, it would appear that all roads indeed do not lead to Rome, but in fact to Germany (Snoman 2004:219). Trance originally sprouted forth from the German techno and hardcore scene of the early 1990s (Snoman 2004:xiv). It was during this period that the German musicians Rolf Ellmer (Jam El Mar) and Dag Lerner (DJ Dag) formed the group *Dance 2 Trance*. This group's first released track, *We Came in Peace*, has come to be considered by many as the earliest example of club trance music (Snoman 2004:219; Online Source 17; Online Source 18). Although this track consisted entirely of repetitive patterns and, as such, appears somewhat roughcast compared to trance tracks of today, it did lay the foundation for trance as a genre with the exclusive purpose of rendering listeners into a trancelike state (Snoman 2004:219).

In general, trance as a broader genre came to be characterised by an emphasis on succinct synthesiser lines that are repeated throughout tracks. It was done with only slight rhythmic adjustments being made and the occasional addition of more atmospheric synthesiser sounds (Bogdanov *et alii* 2001:xiv). While most forms of trance tend to employ a tempo of between 137 and 145 BPM, extremes such as 125 BPM and 150 BPM are not unheard-of (Snoman 2004:220). This forms the quintessence of trance's aim of inducing a trancelike, almost hypnotic state in the listener, a pursuit that ultimately led to the adoption of the use of various narcotic substances in conjunction with the music as a means of achieving ever more intense states of euphoria. Conjointly, the music began to be more and more structured in such a way as to mimic the peaks and drops of such narcotics (Bogdanov *et alii* 2001:xiv; Snoman 2004:219-220).

While the reach of trance's earlier stages of development was limited, the genre was to a great extent consolidated by the founding of two record labels, namely *R & S Records* in Ghent, Belgium, and *EYE Q Records/HARTHOUSE*[56] in Frankfurt, Germany (Bogdanov *et alii* 2001:xiv; Online Source 19). R & S Records played an important role in establishing the trance genre through singles such as *Energy Flash* by Joey Beltram, *The Ravesignal* by C.J. Bolland and others like Robert Leiner, *Sun Electric* and *Aphex Twin.* HARTHOUSE was begun in 1992 by Sven Väth, Heinz Roth and Matthias Hoffman. This record lable exerted an unmistakable influence on the trance sound through *Hardfloor*'s 'Hardtrance Acperience', Väth's own *L'Esperanza*, and releases by *Arpeggiators* and *Spicelab* (Bogdanov *et alii* 2001:xiv).

Väth, however, did not succeed in securing a firm place for trance in the EDM mainstream and by the mid-1990s the genre had to a great extent been ousted by breakbeat dance genres such as trip hop, jungle and drum 'n' bass (Bogdanov *et alii* 2001:xiv & 639). In spite of this, the genre experienced a significant reawakening during the late 1990s, ultimately reaching an apex in the dance scene in the United Kingdom and eventually globally supplanting house as the most popular EDM genre. While still based on the classic German trance sound, the trance music that flowed forth from this resurgence underwent certain changes and came to be referred to as *progressive trance* (see Section 3.2.3; Bogdanov *et alii* 2001:xiv).

These developments were to a great extent given momentum by the various superclubs[57], such as *Gatecrasher*, that had arisen across the United Kingdom, by the activities of leading international

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[56] It should be noted that the parent company of these two labels is *EYE Q Music*, which currently maintains three record labels, namely *EYE Q Records, HARTHOUSE*, and *RECYCLE OR DIE* (Online Source 19).

DJs such as Paul Van Dyk and Tall Paul, and by the renewed popularity the Ibiza scene enjoyed at that time (Peel 2006g:1). By 1998 trance music was being played by on a considerable scale in various superclubs, in due course spreading to the United States, which soon began producing home-grown trance DJs (Bogdanov *et alii* 2001:xiv). Trance ultimately succeeded in expanding its reach into the commercial sphere through hit singles by DJs of the likes of André Tanneberger (*ATB*) and Nick Bracegirdle (*Chicane*) (Bell 2000a:1; Peel 2006g:1; Online Source 20).

The various subgenres to which trance has given rise now needs to be examined.

3.2   Trance subgenres

A great many subgenres have come to be grouped under the banner of trance. Despite resulting in a rich and diverse body of trance music, it also makes delineating these subgenres a somewhat nettlesome undertaking. This is further compounded by a number of important factors, namely: (1) the fact that trance and its many subgenres are dynamic in nature and are therefore characterised by a great degree of fluidity, making it a constantly changing and evolving phenomenon that is still giving rise to new subgenres; (2) the degree in which the characteristics of different subgenres often overlap; (3) the inconsistencies present in the application of subgenre nomenclature among adherents of trance and its subgenres[58]; (4) the fact that, while some of trance's subgenres have achieved a significant global following, others enjoy a far more limited popularity or are restricted to a smaller, more specific target audience; and (5) the great shortage of academic publications focussing specifically on this topic. Notwithstanding, it is useful to examine the way in which the different subgenres of trance evolved as the general trance genre developed into the great force it has come to represent with regard to EDM.

In general, the development of trance and the emergence of its various subgenres to the present can be divided into three stages.

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[57] It is important to note that, as trance music is almost always played in nightclubs at popular vacation spots and in inner cities, it can, in addition, be regarded as a form of club music (Online Source 21).

[58] A great variety of nomenclature is currently in use in referring to the various more specialised trance subgenres. Some examples are the following: (1) *acid trance*; (2) *anthem* or *uplifting trance*; (3) *classic trance*; (4) *electro trance*; (5) *Euro trance*; (6) *Goa trance*; (7) *hard trance*; (8) *hardstyle trance*; (9) *Ibiza* or *chill* or *ambient trance*; (10) *progressive trance*; (11) *psychedelic trance*; (12) *progressive psytrance*; (13) *tribal trance*; (14) *vocal* or *epic trance* (Online Source 21).

3.2.1   The emergence and coalescence of trance

In the early 1990s trance succeeded in establishing itself as a genre separate from techno and rave. In what can be described as a reaction against the ever increasing euphoria that accompanied the commercial rave scene of the time, German, Belgian and British producers began producing more minimalistic, essentially Teutonic techno tracks that eschewed such rave trademarks as breakbeats, whistles, ragga chatters, novelty concepts and pitched-up divas. A number of DJs in the United States followed suit, notable examples being Joey Beltram and Richard Melville Hall (*Moby*) (Bogdanov *et alii* 2001:638; Online Source 22).

This paved the way for the consolidation of the early trance genre in the period from approximately 1991 to 1993 with releases by the record labels R & S records and HARTHOUSE as mentioned earlier. In general, the character of early trance ranged between the extremes of despondent on the one hand, as is the case in *Moby*'s 'Go' and *Jam & Spoon*'s 'Stella', and quite ominous on the other, examples being Joey Beltram's 'Energy Flash', *Hardfloor*'s 'Hardtrance Acperience' and C.J. Bolland's 'Horsepower'. Naturally, these qualities were also intermingled to various degrees as is illustrated in *Aphex Twin*'s 'Digeridoo' and Sven Väth's 'Barbarella' (Bogdanov *et alii* 2001:638-639).

As stated earlier, this first stage in trance's development was followed by a stage in the mid-1990s when its popularity and influence was restricted to a rather small following of producers and fans that was concentrated mainly in Germany and Belgium (Bogdanov *et alii* 2001:638).

3.2.2   Psychedelic- or Goa trance

Although trance experienced a significant slump in popularity during the mid-1990s, this period ushered in a second stage in the development. It was to a great extent a period of fusions between trance and various other genres such as house, ambient, acid and Detroit techno. Most notably, these fusions resulted in the emergence of two closely related[59] trance subgenres that would

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[59] It should be noted that, as in the case of many other trance subgenres, these subgenre names are not always applied in a consistent manner. While some sources do make a distinction between psychedelic trance and Goa trance, others use these terms interchangeably to refer to one and the same type of trance.

ultimately secure a significant following, respectively *psychedelic trance* and *Goa trance*[60] (Bogdanov *et alii* 2001:639).

Psychedelic and Goa trance resulted from a combination of the entrancing sequencer patterns and rapid tempos of trance on the one hand, and hallucinogenic samples and sounds drawn from traditional Indian music on the other (Bogdanov *et alii* 2001:xi). Bogdanov *et alii* make note of the strong tie that developed between Goa trance and use of the psychedelic drug, *lysergic acid diethylamide*, more commonly referred to as *LSD* (Online Source 23). While the specific nature of this narcotic played an important role in strengthening the psychedelic nature of Goa trance, the subgenre also embraced the mystical aspects of traditional Indian music and culture. The latter resulted in the frequent use of traditional Indian instruments such as the sitar and sarod or electronic emulations of these, in this subgenre (Bogdanov *et alii* 2001:xi). It should also be noted that Goa trance has generally lent itself more to outdoor parties and festivals and is therefore not usually regarded as a club trance genre (Online Source 24).

Bogdanov *et alii* (2001:xi) maintains that it was only in the late 1990s that Goa trance really succeeded in attaining global popularity. This is attributed to the fact that early Goa trance was not as turntable-orientated, and consequently not as DJ-orientated, as other forms of trance at the time[61]. This meant that for some time Goa trance lacked effective proliferation through the work of itinerant DJs (Bogdanov *et alii* 2001:xi). Before long, however, success was achieved in popularising Goa- and psychedelic trance through the ministrations of a number of record labels that specialised in these subgenres. Among these were *Dragonfly*, *Blue Room Released*, *Flying Rhino* and *Platipus*. Importantly, popular British DJs like Paul Oakenfold, *Sasha* and John Digweed, as well as Pete Tong began playing music from these subgenres in their sets, thereby securely pushing Goa- and psychedelic trance into the EDM mainstream (Bogdanov *et alii* 2001:639).

While Goa itself is no longer the centre of Goa trance production, the subgenre has secured a significant footing in Israel. It was brought to this country by Israeli soldiers who went to Goa during periods of leave from the army during the early 1990s. Although a great amount of Goa

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[60] The name of this trance subgenre is taken from the name of a region on the southwestern coast of India which is a renowned location for clubbing, notably with strong connotations of drug use (Bogdanov *et alii* 2001:xi & 639); (Online Source 25).

[61] Bogdanov *et alii* (2001:xi) interestingly postulates that this was a result of the adverse effects the high temperatures experienced in Goa have on vinyl records. This led to a preference for digital audio tapes (*DATs*) as a medium for audio storage in the early stages of the development of Goa trance (Bogdanov *et alii* 2001:xi; White 2002:85).

trance is currently being produced in Israel, its adherents are spread out across the globe with notable hotspots being Brazil, Japan, South Africa and Mexico (Online Source 24).

3.2.3   Progressive trance

By the late 1990s trance had proliferated with such energy that it eventually succeeded in supplanting house as the most prominent EDM genre. By this time, however, both the classic German trance sound and the psychedelic trance sound had been pushed aside by a newer trance subgenre that was making significant headway at the time (Bogdanov *et alii* 2001:638-639). This neophyte, which later came to be referred to as *progressive trance*, was a form of trance that had absorbed elements from the mellower side of house and Euro dance[62] (Bogdanov *et alii* 2001:xvi, 638 & 640). At the vanguard of this development were producers like *BT, François K, BBE* and *Faithless*, who softened the driving trance rhythms through the addition of dreamy melodies and atmospheric sounds (Bogdanov *et alii* 2001:640). Progressive trance shifted the focus to more anthemic elements, in particular concerning melodies, and gradually moved away from arpeggiated analog synth patterns (Online Source 26).

Snowman (2004:219-220) postulates that the increased use of the drug ecstasy can be regarded as having played a notable role in the changes trance underwent after the Goa- and psychedelic stage in its development. He maintains that the use of the aforementioned narcotic has not given rise to many new forms of trance, but has also impacted on the way trance music is structured, specifically with reference to the increased prominence afforded to the melody in newer trance subgenres. While trance music originally attempted to render the listener into a trancelike state through the use of rhythm, these newer trance subgenres, he asserts, can be regarded as being structured in such a way as to mimic or provoke the peaks and dips generally associated with ecstasy.

By around 1998 Britains superclubs were buzzing to progressive trance music presented under the auspices of Europe's most lionised DJs such as Paul Oakenfold, Sasha, Digweed, Pete Tong, Danny Rampling, Tony De Vit, Paul van Dyk and Judge Jules. Despite initially being greatly dominated by DJs of British origin, with Paul van Dyk as a prominent exception, their ranks were soon joined by DJs from the United States, such as Christopher Lawrence, Sandra Collins and Kimball Collins (Bogdanov *et alii* 2001:640), and from the Continent, with Tiësto and Armin van Buuren being

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[62] This refers to a specific club- and dance music genre that was produced in Europe during the 1980s and 1990s. It was notably influenced by disco, hi-NRG and house music, and was in general wholly performed in the recording studio using synthesisers and drum machines. It is characterised by simplicity, lightness and repetitive, catchy lyrics (Bogdanov *et alii* 2001:x).

notable examples. Further testament to the great popularity trance is currently enjoying, is found in the many annual trance events held across the globe, such as the *Sensation White* dance event that has been held in Amsterdam 2000 (Online Source 27), and the fact that a number of prominent trance DJs have successfully expanded their activities to the sphere of film music.

3.2.4 Summary

Ultimately it would seem that the name applied to a given trance subgenre is to a great extent dependent on the ear of the listener, a state of affairs that may well result in one man's *psy* being another man's *Goa*. Such terms seem to hold different meanings, not only amongst the many adherents of EDM and trance, but even amongst DJs producing EDM. Paul van Dyk, who is considered by many as one of the foremost progressive trance DJs, has notably used the term *progressive* in describing EDM in general as opposed to just trance music. Van Dyk considers EDM to *progressive* on account of its openness to new elements and its continued evolution as it absorbs new influences, (Online Source 28) but has expressed a reluctance in applying such terms to his particular style of EDM (see Section 5.1.2).

While much research has already been done with regard to the more sociological aspects of EDM and in particular the use of narcotics along with such music, there is still much scope for more detailed musicological examination and analysis of the trance genre and its subgenres. While it is hoped that such research may be able to clarify the nature and characteristics of trance music and its subgenres, it would undoubtedly be difficult to approach research in this regard without greater historical perspective, particularly in view of the constantly evolving nature of trance and its subgenres.

CHAPTER 4:   TRANCE AND TECHNOLOGY

While a thoroughgoing and detailed examination of the technological means used in producing and performing trance music could certainly make a valuable contribution to research in this field, such a vast undertaking would be at variance with the primary topic and intent of the present thesis. In trying to limit the extent of the present chapter, it was, in the first instance, decided to limit the discussion to the technological means formerly and/or currently[63] used by three chosen representative DJs, namely Paul van Dyk, Armin van Buuren and Tiësto. Examination, comparison and integration of the equipment lists[64] of these three DJs resulted, however, in a list that still proved too extensive.

Consequently, as an expedient, a further criterion was introduced in order to distil from the abovementioned list a more practically viable collection of technological means for discussion. This entailed restricting selection of the technological means to be discussed to those utilised by at least two of these chosen representative DJs. Although this proved successful in obtaining a more concentrated list, it resulted in the omission of a number of technological means that, although only used by one of the three chosen representative DJs, would justify discussion on the grounds of either forming part of a prominent equipment series by a specific manufacturer[65] or playing an important role in current DJing practice[66]. This deficiency is, however, tempered by providing discussion of technological means that can be grouped under either of the latter two categories, despite their being excluded by application of the fundamental discussion criteria as outlined above. Instances of this will be indicated under the relevant sections. It should additionally be noted that, although almost all of the technological means discussed hereunder can be classed as hardware, treatment is divided into specific categories based on differing functions within the DJing context.

Butler (2003:6-7) notes that the most ubiquitous items of equipment used by DJs during live performances are turntables, headphones, twelve-inch vinyls and mixing consoles. In addition to these there are, however, a great many other technological means are currently being used by DJs. This includes equipment and software used both to produce music in the studio, for example synthesisers (see Section 4.1), and during live sets, for example *Stanton FinalScratch* (see Section

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[63] In regarding these lists, one must not lose sight of the somewhat mercurial nature of both trance and DJing. The implication of this is that such lists can only provide an indication of the equipment used by a given DJ at a given point in his/her career. It must be born in mind that DJs often experiment with new equipment and that the adoption of the use of vintage equipment not formerly used by a given DJ, can also not be discounted.

[64] It must be noted that these lists are only available online. See Sections 5.1.3, 5.2.3 and 5.3.3 for the website addresses of these respective lists.

[65] An example of this is the *Access Virus A, B* and *C* (see Section 4.1.1).

[66] A prominent instance of this is *Ableton Live 5* (see Section 4.7.3).

4.7.4). Such pieces of equipment are discussed hereunder in view of there importance in EDM in general, and in particular to the trance genre.

4.1 Tone generators and synthesisers

Synthesisers play a very important part in DJing. They are mainly utilised in two ways:

(1) Firstly, DJs use various synthesisers to create sounds that will be used in the tracks they produce, either for use in sets or to be released in recorded form. In many such cases, the role of the synthesiser is then restricted to the studio and is not itself used when playing a live set.

(2) Secondly, however, a number of DJs do make use of one or more synthesisers on stage at live sets. This not only gives the synthesiser a more important role in the live musical experience, but also gives the DJ a greater degree of freedom as to the material that can be played.

4.1.1 Access Virus synthesisers

The *Access Virus* series has been manufactured by the German company *Access Music GmbH* since 1997 (Online Source 29; Online Source 30). Since then this series of virtual analog synthesisers[67] (VASs) has undergone frequent upgrades with new models being released almost biannually. Most recently *Access Music* has released the *TI* series (Online Source 29; Online Source 30). An important expansion of the Virus series has also been the addition of time-division multiplexing (TDM) plugins[68] specifically designed for use with *Pro Tools* (Online Source 29).

Examination of the equipment used by the three chosen DJs shows that they mainly use a number of the older Access Virus synthesisers, in particular the *Virus A* (see Figure 1), *Virus B* (see Figure 2) and *Virus C* (see Figure 3).[69] The Virus A was the first Access Virus synthesiser that was produced with the B and C models representing revisions of the former. Although the certain features were added both with the Virus B and Virus C, the engine used remained mostly the same for all three models. They all make use of a single *Motorola* digital signal processing (DSP) chip (Online Source 29; Online Source 31; Online Source 32) and they are all capable of producing the same

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[67] This is a term coined by Clavia to refer to a synthesiser that uses digital signal processors to emulate analogue synthesis (Cronje 2005:22).
[68] This term refers to a computer programme that is designed to interact with a main application in order to fulfil a specific function (Online Source 32).

sounds when the additional hardware and firmware upgrades of the two revisions is not taken into account (Online Source 29).

Of the original Access Virus series, only the Virus C is still currently being produced (Online Source 33).

Figure 1   Virus A
(Online Source 34)

Figure 2   Virus B
(Online Source 35)

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[69] References to the sources used in this examination are provided with the equipment listing for each individual DJ in Chapter 6.

Figure 3   Virus C
(Online Source 36)

4.1.2   Alesis Andromeda A6 synthesiser

The USA-based company, *Alesis*, released the *Andromeda A6* in 2000 (Online Source 37; Online Source 38). Although Alesis was later acquired by *Numark Industries*, they still manufacture the Andromeda A6 under the Alesis name (Online Source 37; Online Source 39). The Andromeda A6 is one of the most ambitious analogue synthesisers on the market and boasts a pure analogue signal path with modern and comprehensive digital control (Online Source 37; Online Source 39). Reid (2001: 1) describes the Andromeda A6 as a "hybrid analogue/digital synth", but adds that the digital effects section is located in a side chain making it possible to obtain a pure analogue output. The Andromeda A6 further uses a high-speed *Motorola Coldfire* microprocessor and has both polyphonic and multitimbral capabilities (Online Source 39).

The Andromeda A6 is currently still being produced by Alesis (Online Source 39).

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Figure 4　　　Andromeda A6
(Online Source 40)

4.1.3　Clavia Nord Lead synthesiser

The *Nord Lead* series of VASs is manufactured by the *Clavia* company which is based in Sweden. (Online Source 41). The first synthesiser in this series, the *Nord Lead*, was released in 1995 already sporting the distinctive red colour that has come to characterise the series (Online Source 42); (Reid 1995:1). This has since been followed by the *Nord Lead 2*, the *Nord Lead 3* and the *Nord Lead 2X* (Reid 1996:1; Nagle 1997:1; Trask 2001:1; Nagle 2004:1).

The Nord Lead signified Clavia's entry into the synthesiser market (Reid 1995:1). It came out with a Motorola 56002 DSP chip and a Motorola 68331 host processor (Reid 1995:1; Reid 1996:1) and was both polyphonic and multitimbral (Online Source 43).

The Nord Lead 2 was essentially an updated version of the first Nord Lead. Apart from a number of upgrades, it retained the Motorola 56002 DSP chip and Motorola 68331 host processor as well as the analogue controller interface (Reid 1996:1). The latest models in the Nord Lead series are the Nord Lead 3, which boasts enhanced FM synthesis capabilities (Trask 2001), and the Nord Lead 2X, which is basically an expanded version of the Nord Lead 2 (Nagle 2004:1). Like their predecessors, both of these models are polyphonic and multitimbral (Online Source 44; Online Source 45).

It should be noted that of the four models thus far produced in the Nord Lead series, only the Nord Lead 3 and Nord Lead 2X are currently still being manufactured (Online Source 41).

Figure 5   Nord Lead
(Online Source 43)

Figure 6   Nord Lead 2
(Online Source 46)

Figure 7   Nord Lead 3
(Online Source 47)

Figure 8   Nord Lead 2X
(Nagle 2004)

4.1.4   Moog Music Minimoog Voyager Synth

The *Minimoog Voyager* is a monophonic analogue synthesiser that was designed by Robert Moog (1934-2005) and released in 2002 by *Moog Music* (Online Source 48; Online Source 49; Online Source 50). It is modelled on the original *Minimoog* synthesiser that was manufactured from 1970 to 1981 by what was first the *R.A. Moog Inc.* and became *Moog Music Inc.* in 1971 (Online Source 48; Reid 2003:1).

The Minimoog Voyager, however, was also updated with a few more contemporary additions like fully implemented MIDI and a three-axis touch surface, but with all audio paths remaining completely analogue (Online Source 48; Online Source 51; Online Source 52).

The full name of the Minimoog model currently being produced by Moog Music, which is based in Asheville in North Carolina in the USA, is the *Minimoog Voyager Performer Edition* (Online Source 51; Online Source 53). Moog Music also produced a limited edition *Signature Edition* Minimoog. Only 600 of these were produced and all were personally inspected and signed by Robert Moog (Online Source 54).

Figure 9   Minimoog Voyager
(Online Source 55)

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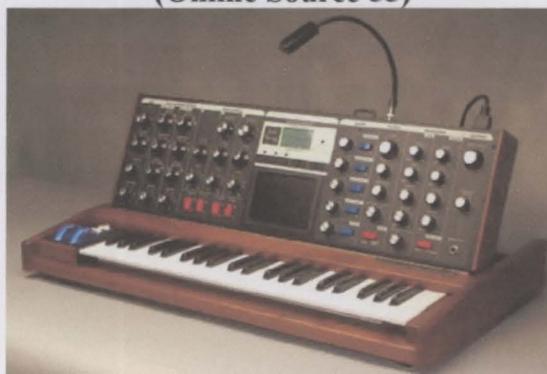
4.1.5   Novation SuperNova and Supernova II sound modules

Novation released the *SuperNova* in 1998. It represented their first real venture in producing a serious polyphonic, multitimbral digital synthesiser. For this they made use of their custom Analogue Sound Modelling digital technology (Trask 1998:1). The latter enables them to more accurately recreate the non-linear irregularities and artefacts, that is the warmth and character associated with genuine analogue circuitry (Online Source 56). Novation later replaced the SuperNova with the updated *SuperNova II* (Ward 2000:1) which brandished improved polyphony and expanded sonic possibilities (Online Source 57).

Figure 10   SuperNova II, rack version
(Online Source 57)

Figure 11   SuperNova II, keyboard version
(Online Source 57)

It should be noted that Novation has discontinued production of both the SuperNova and the SuperNova II (Online Source 58).

4.1.6   Roland Juno-60, Juno-106 and Alpha Juno 1 & 2 synthesisers

Roland released the *Juno-60* in 1983, just a year after the release of the first synthesiser in the *Juno* series, the *Juno 6*. Although it was fitted with a few digital enhancements, like its single digitally

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controlled oscillator (DCO)[70], it is essentially an analogue synthesiser that is polyphonic, but not multitimbral. The DCO did, however, represent an important improvement on account of its greater pitch stability when compared to the older voltage controlled oscillators (VCOs) (Online Source 59); Reid 1998:1).

Figure 12   Juno-60
(Online Source 60)

It is important to note that the original Juno-6 and Juno-60 synthesisers were not yet MIDI-enabled (Reid 1998:2). The Juno-60 could be controlled by sequencers by means of proprietary *digital control bus* (DCB) protocol, but Roland later discontinued DCB support in favour of MIDI. Roland addressed the need for MIDI-compatibility in 1984 with the *Juno-106* (Online Source 59; Online Source 61). Like its predecessors, this was an essentially polyphonic, non-multitimbral analogue synthesiser that even retained many of the internal components and features of the earlier models, for example the single DCO. The MIDI capabilities of the Juno-106 were quite remarkable compared to other analogue synthesiser of that time, and it could be completely controlled by a sequencer (Online Source 62; Online Source 63; Online Source 64).

Figure 13   Juno-106
(Online Source 63)

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[70] Reid (1998:3-4) explains that both a VCO and DCO are analogue oscillators, the latter is controlled by a digital circuit which is the reason for its greater pitch stability.

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Roland unveiled the four-octave *Alpha Juno 1* and the five-octave *Alpha Juno 2* in 1985 (Reid 1998:3). Although also polyphonic like their predecessors, the Alpha Juno models were fitted with three DCOs and offered even greater programming and MIDI capabilities (Reid 1998:3); (Online Source 65); (Online Source 66). Another notable feature was the velocity- and aftertouch-sensitive keyboard with which the Alpha Juno 2 came equipped (Reid 1998:3).

Figure 14   Alpha Juno 2
(Online Source 66)

4.1.7   Roland JD-800 and JD-990 synthesisers

The JD-800 was released in 1991 (Solaris 2006:1; Strapazon 2006:1). Although fitted with a control surface like that found on many analogue synthesisers, it is a ROM based, fully digital synthesiser equipped with 108 PCM waveforms as well as a digital filter (Solaris 2006:1; Strapazon 2006:1-2; Online Source 67). The JD-800 is also both polyphonic and multitimbral (Strapazon 2006:1).

Figure 15   JD-800
(Online Source 67)

While production of the JD-800 was discontinued in 1993 (Online Source 67), Roland brought out the *JD-990*, later named *JD-990 Super JD*, in the same year (Solaris 2006:1-2; Online Source 68). It was a much improved version of its predecessor and its rackmount design, greater power, and functionality made it eminently suitable for studio use. It went on to achieve extraordinary

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popularity in the digital synthesiser milieu (Online Source 68). Like the JD-800, the JD-990 is a ROM based, digital synthesiser (Online Source 68). The latter was, however, released with expanded ROM with 195 PCM waveforms and the control layout was changed and simplified significantly by fitting it with a large LCD screen which indicates the parameters that are being used and also facilitates editing (Solaris 2006:1; Online Source 69).

Despite its tremendous popularity, the JD-990 was surpassed just a year later by the JV-1080 (Online Source 70).

Figure 16   JD-990
(Online Source 68)

4.1.8   Roland JP-8000 and JP-8080 synthesisers

Roland released the *JP-8000* in 1997 (Online Source 71). It was the first synthesiser in which they implemented their newly developed analogue modelling sound source. As in the case of Clavia's Nord Lead virtual analogue synthesisers, the first of which was released two years before the JP-8000, Roland's aim with this was to integrate the characteristic sounds and functionality of vintage analogue synthesisers with the flexibility of digital technology and MIDI (Online Source 72; Online Source 71; Online Source 42; Reid 1995:1).

Figure 17   JP-8000
(Online Source 72)

The JP-8000 is a polyphonic synthesiser and is fitted with two *Roland Analog Modeling DSP oscillators* (Online Source 72). At the time of its release the high level and great flexibility of real-time control it offered, was quite extraordinary. The JP-8000 is fitted with onboard *Motion Control*, which records all sequential slider and knob movements. All front-panel knobs and sliders can further both receive and transmit their own MIDI controllers, making it possible to record real-time changes into a sequencer. These attributes made the JP-8000 eminently suitable as a performing instrument (Online Source 72). Of particular significance, however, is the fact that the JP-8000 soon became a popular piece of equipment in the production of trance music (Online Source 73; Online Source 74; Online Source 75).

Figure 18   JP-8080
(Online Source 76)

In 1998 Roland released the *JP-8080*, which was in essence a rack version of the JP-8000. For this model, however, a number of features were added to the original analogue sound modelling engine (Ward 1998:1; Online Source 73; Online Source 76). Amongst these is a powerful onboard *Voice Modulator* which makes it possible for external line and microphone inputs to be processed in real-time. While the JP-8080 possesses onboard *Motion Control* as in the case of its predecessor, its patch storage and retrieval approach makes it even more performance friendly than the JP-8000 (Ward 1998:2-4; Online Source 76).

It should be noted that only the JP-8080 is currently still available from Roland (Online Source 77; Online Source 78).

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4.2 Drum machines

The drum machines used by Paul van Dyk, Armin van Buuren and Tiësto are all members of the Roland TR-series. This is a long line of drum machines that started over three decades ago with the release of the TR-66 in 1973 (Online Source 79). Although a great number of models have since followed in this series, only two of these are used by at least two of these DJs as specified in the equipment selection criteria on page 25, namely the *TR-808* and *TR-909* (see Sections 5.1.3, 5.2.3 and 5.3.3). Because the models in the TR-series span such a long period of time and are so strikingly varied concerning design and capabilities, the following discussion will be restricted to the latter two models which appeared in close succession in the 1980s and are substantially similar as far as conception, design and capabilities are concerned.

4.2.1 Roland TR-808 Rhythm Composer

Roland first released the TR-808 in 1981. It was one of the earliest programmable drum machines and makes use of analogue synthesis to produce 16 basic sounds or drum voices, all of which can be further edited and tuned. These sounds, each of which is provided with an individual output with a level control, are as follows (Carter 1997:6-7; Online Source 80; Online Source 81)[71].

- Kick drum[72]
- Snare drum
- Low tom or low conga (selectable)
- Mid tom or mid conga (selectable)
- High tom or high conga (selectable)
- Rim shot or claves (selectable)
- Handclap or maracas (selectable)
- Cowbell
- Cymbal
- Open hi-hat or closed hi-hat (selectable)
- Accent

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[71] For a more detailed discussion of a number of these sounds, see Meijer (2004).
[72] It should be noted that the terms *kick drum* and *bass drum* and are used interchangeably to denote one and the same sound.

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While many other drum machines of the time were trying to emulate acoustic drum sounds, the TR-808 produces sounds that are overtly electronic in quality, though very much unique at the time (Carter 1997:2).

The TR-808 is polyphonic and, although not MIDI-compatible, it makes use of *DIN Sync in/out*, an interface Roland developed in the 1980s for the synchronisation of sequencers, drum machines, arpeggiators and other such devices (Carter 1997:6; Online Source 80; Online Source 82). It also featured various analogue clock-outputs for slaving other devices (Online Source 82). The programming capabilities of the TR-808 further make it possible to programme up to 64 rhythmic patterns. For each such pattern a number of more detailed parameters can be adjusted for further refinement (Carter 1997:3).

While production of the TR-808 was discontinued in 1984, it gained favour towards the end of the 1980s, ultimately achieving great popularity within electronic music and hip-hop genres. An important factor in this development was TR-808's kick-drum sound, characterised by an ability to produce a very deep sub-bass (Online Source 81).

Figure 19   TR-808 Rhythm Composer
(Online Source 80)

4.2.2   Roland TR-909 Rhythm Composer

In 1984, the year production of the TR-808 was discontinued, Roland released its successor, the TR-909 (Online Source 80; Online Source 83; Online Source 84). Unlike the fully analogue TR-808, the TR-909 is partly analogue and partly sample-based. Notably, only ten thousand units of this model were produced (Online Source 84).

The TR-909 is polyphonic and features the following sounds (Carter 1997:4; Online Source 80; Online Source 84):

- Kick drum
- Snare drum
- Low tom
- Mid tom
- High tom
- Rim shot
- Handclap
- Hi-hat (open or closed, but not simultaneously)
- Cymbal (ride or crash, but not simultaneously)

With the exception of the hi-hats and cymbals, all of the TR-909's drum sounds are synthetically generated. The analogue circuitry used to synthesise sound, allows for a number of modification of the sounds, while the 8-bit samples used for the hi-hats and cymbals only allow very slight modification. As in the case of the TR-808, the TR-909 is fitted with the *Accent* feature as discussed above (Johnson & Poyser 1995:3); (Online Source 84). It comes with ten individual audio outputs that make external processing possible (Johnson & Poyser 1995:2). Although still fitted with *DIN Sync in/out*, Roland also fitted the TR-909 with MIDI as a standard in order to meet the growing demand in this respect (Carter 1997:4; Online Source 80).

The TR-909 is further equipped with an onboard 16-step sequencer and a drum kit. Its MIDI-capabilities make it possible for the sequencer to be used to control other pieces of equipment (Johnson & Poyser 1995:2; Online Source 84). The programming capabilities of the TR-909 allow for up 96 rhythmic patterns to be programmed. For each such pattern a number of more detailed parameters can be adjusted for further refinement (Online Source 84).

Despite the discontinuation of production of the TR-909 in 1985, its popularity steadily expanded in the mid-1980s (Johnson & Poyser 1995:1; Online Source 80). It was adopted by the Chicago house movement and used by the Chicago DJ, Frankie Knuckles in his live mixing shows at the *Power Plant* club. Before long use of the TR-909 spread to the Detroit techno scene, and ultimately found its way into pop music (Johnson & Poyser 1995:1).

Figure 20   TR-909 Rhythm Composer
(Online Source 83)

4.3   Turntables

Although numerous turntable models are currently available from various manufacturers, Paul van Dyk, Armin van Buuren and Tiësto all use turntables that fall within the *Technics* SL-series. This is a series of turntables[73] including over 100 models[74] stretching as far back as the early 1970s. Only two of these models, however, are used by the chosen representative DJs, namely the *SL-1200 MK2* and the *SL-1210 MK2* (see Sections 5.1.3, 5.2.3 and 5.3.3). In view of the substantial similarities between different models in the SL-series[75], only the aforementioned two models will be discussed hereunder.

4.3.1   Technics SL-1200 MK2

Technics first released the SL-1200 MK2 in 1978[76]. It is is an updated version of the SL-1200, which was first released in 1972[77]. Technics fitted it with an improved motor and greater shock resistance, provided it with a ground wire, and changed the rotary pitch control to a slider (Online Source 85).

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[73] The first of these was the SL-1100, which was released in 1971. This model was the predecessor of the SL-1200, which was later upgraded and released as the SL-1200 MK2 (Online Source 90).

[74] For a complete list, see the following website: (Online Source 91).

[75] For comparative lists of SL-models, see the following two websites: (Online Source 92; Online Source 91).

[76] There appears to be some discrepancies concerning the exact year in which the SL-1200 MK2 was released. The following source indicates this as being 1972: (Online Source 85). On the other hand this date is given as 1975 on the following website: (Online Source 91). For reasons of simplicity, it has been decided to use the earlier of the two dates in the present thesis.

[77] There appears to be some discrepancies as to the exact year in which the SL-1200 was released. The following source indicates this as being 1972: (Online Source 85). On the other hand this date is given as 1979 on the following website: (Online Source 91). For reasons of simplicity, it has been decided to use the use the earlier of the two dates in the present thesis.

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The SL-1200 MK2 has a die-cast aluminium body fitted with a heavy rubber base. The manufacturer maintains that this, combined with conscious efforts to restrict the internal components and empty spaces inside the body to a minimum, allows the SL-1200 MK2 to absorb vibrations that could interfere with the sound. In addition, this model makes use of quartz direct drive and is fitted with a low-speed Brushless DC motor that produces 1.5 kg/cm of torque, enabling fast start-ups and stops. The SL-1200 MK2 provides for both 33 ⅓ and 45 rpm and offers a pitch adjustment range of ±8 %. The SL-1200 MK2's standard set of accessories includes a rubber mat[78] (Online Source 86; Online Source 87; Online Source 88; Online Source 89).

Figure 21   SL-1200 MK2
(Online Source 88)

The SL-1200 MK2 with its silver casing currently enjoys wide use amongst DJs and can be regarded as the industry standard turntable for DJing and scratching. It is the oldest model in the series still in production and can be considered to be the baseline model of the range (Online Source 90; Online Source 85). It has also been released with a matte black casing as the *SL-1200 MK2PK* (Online Source 85; Online Source 92).

4.3.2   Technics SL-1210 MK2

The SL-1210 MK2 was released in 1979[79] (Online Source 91). It should be noted that this model shares all its specifications with the SL-1200 MK2 as outlined above, including the silver casing

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[78] It is important to note that DJs more commonly make use of so called *slipmats*. This is briefly discussed in Section 4.4.
[79] It should be emphasised that the release dates provided in this source differed from other sources in the case of the SL-1200 MK2. Consequently, because corroboration could not be found, this date will be taken as an expedient.

and the rubber mat (Online Source 85; Online Source 92; Online Source 86; Online Source 87; Online Source 88; Online Source 93; Online Source 94). It was, however, released in the United States as the piano black *SL-1210 MK2PK* model (Online Source 85).

Figure 22   SL-1200 MK2
(Online Source 95)

Although the SL-1210 MK2 model itself is no longer being produced, it was followed by a number of later models in the SL-1210 MK-series. The most recent of these, is the *SL-1210 MK5* (Online Source 92). Nonetheless, it can still be considered as an industry standard turntable (Online Source 94).

4.4 Slipmats

While not specifically listed in the equipment lists of the three chosen representative DJs, *slipmats* play an important role in a number of DJing techniques. Although not strictly conforming to the search criteria as stipulated on page 25, slipmats are briefly discussed here in order to provide a clear context for some of the DJing techniques discussed in Chapter 6.

A slipmat is a circular disc used on a turntable by DJs in place of a rubber mat. They are made from a variety of natural and/or synthetic materials and allow the DJ to manipulate a record independently of the turntable platter (Online Source 96). This means that, when a slipmat is being used and the DJ manually holds the vinyl in place, the turntable's platter will continue to turn at a fixed speed (Online Source 97). Without the ability to do this, a number of prominent DJing techniques (see Chapter 6) would not be possible.

4.5 CDJ[80]

Only one CDJ is listed in the equipment lists of the three chosen representative DJs, and in all three cases the model used is the Pioneer *CDJ-1000* which was first released in 2001 (Online Source 97). The aim with this product was to combine the response and type of control associated with traditional turntables with more typically digital capabilities (Rovito 2002:3). Since its release, the CDJ-1000 has generally come to be regarded as the first CD player that could accurately emulate a vinyl turntable and is still one of the top of the range players currently in use. The original CDJ-1000 has been followed by newer models in the *CDJ-1000 MK2* and the *CDJ-1000 MK3*[81] (Online Source 97; Online Source 100).

The CDJ-1000 utilises a large touch sensitive platter, referred to as a *jog dial*, fitted with a digital display in its centre indicating the position on the CD. This platter is not itself driven like that of a vinyl turntable, but can function in one of two modes, namely: (1) vinyl mode; or (2) CDJ mode. In the latter case the CDJ-1000 will function like a traditional CD player, while in the former mode the jog dial can be used to mimic a vinyl turntable (Rovito 2002:1; Online Source 97). When set in vinyl mode, pressing down on the CDJ-1000's jog dial as one would on a vinyl will result in playback being halted, while resuming again as soon as the pressure is released. For this it is further possible to adjust and set the speed of braking and starting from as much as a few seconds to an almost instant brake or start. The jog dial can also be used to effect scratching[82] (Rovito 2002:1).

A particularly notable aspect of the jog dial, however, it its two-layered construction, with the upper layer acting as a vinyl, while the lower layer corresponds more or less to the platter of a vinyl turntable. This makes it possible to emulate the vinyl turntable effects of either speeding up or slowing down the platter, respectively by manually increasing its rotation speed or by slowing it down through the application of a degree of pressure to its side. The CDJ-1000 further possesses a *Reverse* button permitting instant alternation between forward and reverse play. Of some importance is also the *Master Tempo* button, which makes it possible to adjust the tempo fader whilst leaving the recordings playback pitch in tact (Rovito 2002:1-2, Duwe 2002:2; Online Source 98).

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[80] This term refers to a CD player which has been designed to allow DJs to manipulate CD recordings as they would a vinyl on a turntable.

While the CDJ-1000 and CDJ-1000 MK2 support playback from CD, CD-R and CD-RW, the CDJ-1000 MK3 additionally supports playback from *mp3*[83] CDs and *mp3*s stored on removable memory cards[84]. All three of these models do, however, accept 12 and 8 cm discs and each of these is fitted with both an analogue and a digital output. Furthermore, all three models provide for the storage of wave data and other parameters, either in the players' internal memory or on removable memory cards (Online Source 97; Online Source 98; Online Source 99; Online Source 101; Duwe 2002:1). Importantly, the CDJ-1000 possesses a substantial memory buffer making it possible to move seamlessly between different tracks (Duwe 2002:2).

Figure 23   CDJ-1000
(Duwe 2002)

4.6 Headphones

Although no specific mention is made of headphones in the equipment lists of the three chosen representative DJs, thus excluding it from discussion in the present text, it must be stressed that headphones play an indispensable role in DJing, both in the studio and in particular in live sets.

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[81] From here onwards the term "CDJ-1000" is used to refer collectively to all three CDJ models, unless otherwise indicated.

[82] This term refers to a number of effects achieved by pushing and pulling vinyls whilst they are being played on a turntable (Peel 2006h:1).

[83] *MPEG-1 Audio Layer 3* (mp3) refers to a digital audio encoding format that is designed to compress the data used to represent audio (Online Source 102).

[84] The CDJ-1000, CDJ-1000 MK2 and the CDJ-1000 MK3 all provide for use of *MultiMediaCard* (MMC) storage. The CDJ-1000 MK3 is, however, also compatible with *Secure Digital* (SD) cards (Online Source 99, Online Source 99; Online Source 103).

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4.7 Digital Audio Workstations (DAWs) and DJing software

4.7.1 Emagic Logic

Logic was designed by the German software developer, *Emagic*[85]. First released in the 1980s, it started out as a MIDI sequencer and gradually developed into a programme with both music notation and audio processing capabilities. After the early addition of music notation capabilities, the software's name was changed to *Notator Logic*, but this was later truncated to just *Logic*. Over time a number of versions of Logic[86] have been released that can be run on both Macintosh and Windows, but support for the Windows versions was discontinued after Emagic was taken over by *Apple Computer* in 2002 (Online Source 104; Online Source 105).

In 2004 Apple Computer released *Logic Pro 7* (White 2004a:1). Designed to run on the Mac OS X platform, it is a combination of a MIDI sequencer and a digital audio workstation (DAW) software application. A powerful aspect of this version of Logic is the provision it makes for dividing processing among a number of computers. This is done by using a piece of software called *Logic Node*, and makes it possible to send data to other computers for processing via a high-speed *Giga Ethernet*. Logic Pro 7 has also been expanded to make it possible to import and export *QuickTime*, OMF, Final Cut/XML, AAF, mp3, Open TL and *Advanced Audio Coding* (AAC) audio. Apple has also released a toned down version of the full Logic Pro package, called *Logic Express*. Logic Pro provides for 16- and 24-bit resolution and is capable of a sampling rate of up to 192kHz (White 2004b (May):3; White 2004c (November):2-3; Online Source 106).

While still providing the user with many of the capabilities of Logic Pro, it is intended to provide a less expensive option for more general users of the software. Although support for a number of more specialised audio file formats, for example XML, is not provided in Logic Express, it can still handle WAV, SDII, AIFF, mp3 and AAC formats and supports *Apple Lossless* import and export as well as QuickTime movies. While Logic Pro supports multichannel surround sound, Logic Express is limited to two-channel stereo mixdown. Logic Express nonetheless provides high-resolution audio of up to 24-bit/96kHz (White 2004b (May):3; White 2004c (December):5 & 10; White 2005:1-2; Online Source 105; Online Source 107; Online Source 108).

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[85] This company started out under the name *C-Lab*, but this was later changed to *Emagic* (Online Source 109).
[86] Some of these are *Micrologic AV*, *Logic Silver*, *Logic Gold* and *Logic Platinum* (White 1998:1). It must be noted that the present discussion of *Logic* software will be restricted to the latest versions. This is done because a discussion of the numerous versions that have been released, would be too extensive and would not have specific relevance to the topic of the present thesis.

**Figure 24   Arrange view in Logic Pro 7
(White 2004c)**

The latest version of Logic Pro , is *Logic Pro 7.2*, which was released in 2006. It includes software instruments, synthesisers, audio effects and recording facilities for music synthesis and was the first professional *Universal Binary* application to be released by Apple Computer. It can both receive inputs from MIDI keyboards and control surfaces and provide for processing of such inputs and its music notation capabilities provide for real-time scoring which supports guitar tablature, chord abbreviations and drum notation. Notably, this version is also compatible with *Pro Tools HD* (see Section 4.7.2; Online Source 107; Online Source 105).

4.7.2   Digidesign Pro Tools

Digidesign's *Pro Tools* system is a digital audio workstation (DAW) that was developed for the purposes of music production and digital audio editing (Online Source 114). Pro Tools started out as a simple software sample editor that developed into the software used in the *Sound Designer* system. This in turn became the front end of Digidesign's *Sound Tools*, a computer-based hardware system released in 1987 that was capable of both recording and editing stereo digital audio. The system underwent further development in *Pro Edit* and *Pro Deck* and ultimately took form as Pro Tools. With the latter system Digidesign shifted their focus in the direction of modular systems making use of time division multiplexing (TDM)[87] technology (Price 2001a(February):1); (Robjohns 2002:1; Online Source 114).

In a Pro Tools system a computer, such as an Apple Mac or PC with Windows NT, carries responsibility for running the software involved in the system, that is the Pro Tools application itself. This is then connected to dedicated external hardware by means of one or more PCI cards

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[87] This technology makes use of *peripheral component interconnect* (PCI) or PCI Express cards in order to perform processing on the DSP chips that provides the processing power for Pro Tools TDM systems. This makes it possible for data to be sent between different Pro Tools PCI cards and their onboard DSP chips (Price 2001a:1; Online 114).

which, in turn, are or can be connected to a variety of audio interface hardware (Price 2001a(February):1; Sams 1999:143). Importantly, the processing power required by Pro Tools is mostly provided by dedicated DSP chips that are built into the PCI cards and are responsible for analogue to digital (A/D) and digital to analogue (D/A) conversion. By implication external hardware is utilised in recording, mixing and processing audio, thereby freeing the processing capabilities of the computer itself to be applied to other tasks (Price 2001a (February):2; Online Source 110).

Digidesign currently boasts a wide range of hardware peripheral units dedicated to signal processing, the latest of which is the *Pro Tools | HD* series. Naturally, Digidesign hardware is designed to function with the Pro Tools software, the latest version being *Pro Tools 7.2* which has only very recently been released. The *Pro Tools | HD* system possesses the potential to process 24-bit signals at sampling rates of up to 192 kHz. Digidesign offers different configurations of the HD system, respectively *HD 1*, *HD 2 Accel* and *HD 3 Accel*. In all three configurations provision is made for up to 256 MIDI tracks. (Online Source 111; Online Source 112; Online Source 113; Online Source 114; Online Source 115. Although Pro Tools | HD can be effectively controlled by means of standard computer peripheral devices, a number of alternative hardware controllers have also been designed for use with this system. Amongst these are two fader control surfaces, *Control | 24* and *Command | 8*, and two customised keyboards, respectively for use with Windows and a Mac. Particularly notable is the *ICON* integrated console system, which comes in a larger *D-Control* and a smaller *D-Command* version (Online Source 116; Online Source 117).

Figure 25   Pro Tools | HD
(Online Source 118)
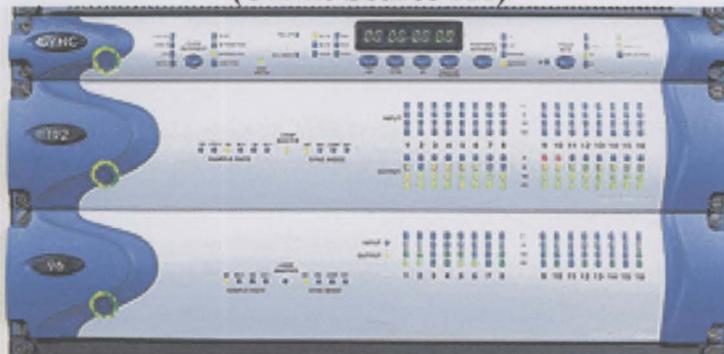
It must be noted that the products in the Pro Tools | HD series only represent the most recently developed Pro Tools hardware designed for the latest Pro Tools systems. Earlier Pro Tools systems, many of which are still widely in use, are Digidesign's *Toolbox* and *Digi 001*, both of

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which were designed for host-based systems, and *Pro Tools 24*, *Pro Tools 24 Mix* and *Pro Tools 24 MixPlus*, all of which are DSP-based (Price 2001a (February):3-5).

As far as the Pro Tools software is concerned, it should first be noted that the structure of Digidesign's software is dissimilar to that of musical sequencing applications like *Logic* and *Cubase* (Price 2001b (March):2). Pro Tools is structured around two basic windows or work areas, namely (1) the *Mix* window and (2) the *Edit* window. Pro Tools design has always been approached in such a way as to keep all production work within the confines of these two main windows. While the former window takes the form of a virtual mixer configuration, the latter is similar to the main Arrange pages of a MIDI sequencer. A pertinent deviation from other popular sequencing programmes is that, in Pro Tools, all active regions of MIDI and audio in a given session are placed at the user's disposal in the same display area. This means that editing of audio or MIDI tracks always takes place within the context of surrounding tracks, thereby presenting the user with a global picture of what is going on in the session (Price 2001b (March):2).

4.7.3   Ableton Live

The first version of *Ableton Live* was released in 2001. Since then a number of different versions have been released, the latest of which is *Ableton Live 5* which was released in 2005 (Online Source 119; Online Source 120). Live is essentially a hard disk-based audio player and recorder as well as a loop-based software music sequencer. Described by its manufacturer as a *sequencing instrument*, it was designed to function both as a tool for composing and arranging music and as an instrument for live performances.[88] As such it allows the play-back of what is referred to as *clips*, a term that encompasses anything from small sections of sound and MIDI data to fully mixed and mastered recordings. Live's graphical interface further enables the user to make more or less improvised rearrangements of audio data. Although the number of tracks that can be created on Live is not limited, the number of tracks that can be played simultaneously will be limited by a given computer's processing power (Sellars 2002:1-2; Vauk 2004:1 & 5; Online Source 120).

The conception of Live as a performance orientated programme has exerted an influence on a number of its design characteristics. In the first instance it has been equipped with a relatively compact interface, thereby allowing easy use on just one screen. To a certain extent this has been achieved by hiding certain sections of the interface that can, however, be easily called forth by means of clicking on the relevant arrows. Secondly, and more concretely, the performance

orientated design of Live has necessitated the ability to process audio data in real-time. This places Live in juxtaposition with more typical sequencers and sample editors in which case a given effect has to be applied to audio data prior to playback (Online Source 120).

Furthermore, the interface has been designed to provide two views on the material being worked with, namely *arrangement view* and *session view*. While the latter view is employed to organise and trigger sets of sounds called *clips*, the former view more resembles a traditional software sequencer interface and is used to record tracks from the session view, also allowing further manipulation[89] of such audio data. The abovementioned clips can be based either on an audio sample or one of the default instruments that accompany live, namely *Impulse* and *Simpler*. In broad terms the former instrument is a traditional drum sequencing instrument, while the latter is a sampling instrument (Online Source 120).

A notable aspect of the functioning of Live is that nearly all parameters therein, for example volume, track panning etc., are controlled by means of envelopes[90]. These can be applied either to an individual clip, with the result that they will be effective on such a clip in any performance making use thereof, or in the arrangement, which in turn means that they will only take effect at specified points. It is possible to map envelopes to knobs on MIDI controllers and with the fourth version of Live, Ableton Live 4, MIDI sequencing capabilities were also introduced (Online Source 120).

With Live 5, Ableton has also added mp3 support to the package, thereby making all such files instantly accessible (Vauk 2005:1; Online Source 119). This version of Live also signalled a serious attempt by Ableton to become an important contender with regard to DAW recording software. Coupled with this, Live is still a strong performance tool, and this has prompted Ableton to endow the system with significant stability (Vauk 2005:2). An even newer version, *Ableton Live 6*, is due for release in September 2006. While it is expected to be fitted with a number of expanded or added features, a notable feature will be the addition of support for QuickTime video which will expand Live's capabilities into the sphere of post-production (Online Source 121; Online Source 122).

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[88] The manufacturer goes as far as maintaining that Live was developed to address a need among musicians for a better way of performing live improvisational music through the use of a computer (Sellars 2002:1).

[89] Live features a number of effects that cater specifically for electronic musicians and DJs, including a number of MIDI-only effects (Online Source 121). For a list of the effects available with the latest version of Live, currently *Live 5*, see the following website: (Online Source 121).

[90] It must be noted that such use of envelopes was only introduced in the third version of Live, *Ableton Live 3* (Vauk 2004:1).

Figure 26   Arrange view in Live 5
(Online Source 123)

4.7.4   Stanton FinalScratch

The Stanton *FinalScratch* hardware/software system was first introduced to the public in 1998. Developed by the Amsterdam based company, *N2IT*, it was specifically designed as a DJing tool that would make it possible to manipulate and play back digital audio sources through the use of vinyls and turntables (Eisengrein 2005:1; Online Source 124; Online Source 125).   As such, it essays to integrate the direct physical interaction and -control associated with the operation of a vinyl turntable with the greater degree of versatility offered by digital audio (Online Source 124).

In a FinalScratch setup, a turntable is connected to a computer on which the FinalScratch software has been installed via an analogue/digital interface called a *ScratchAmp*[91]. This interface plays an important role in the FinalScratch setup as it allows the DJ to connect any turntable or CD player to a computer without having to make hardware alterations.   In conjunction with the FinalScratch software, special vinyls[92] or CDs are then employed that have been impressed with digital timecode in stead of music. When using a FinalScratch vinyl, for example, the software can use the signal from the turntable to determine the position of the stylus on the vinyl, the direction in which the vinyl is turning, as well as its revolution speed. This information is then employed to play back a digital audio file that has been mapped to the vinyl. The FinalScratch system thus allows the DJ to apply techniques to digital audio files that are traditionally effected manually on a turntable, such as

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[91] There appears to be some inconsistency concerning the exact orthography of this name, with both *ScratchAmp* and *Scratchamp* being used. The former will be used here.

changing the direction of revolution (Faust & Shortee 2003:1; Online Source 124; Online Source 126; Online Source 127).

Using a system like FinalScratch holds a number of advantages for the DJ. In the first instance, the involvement of a computer removes the necessity of having to transport a great many vinyls and CDs to different sets, with all the files on the computer in addition being easily and instantly accessible. Secondly it also makes it easy for producers to load remixes and edited tracks onto computer directly after completion in the studio without having to write them on vinyl or CD first, thus making them immediately available for playing. In conjunction with the latter, FinalScratch makes it possible to purchase audio files online that can then be used instantly. Lastly, FinalScratch can be used effectively when playing in clubs because the ScratchAmp can simply be connected to a mixer to be ready for performing. Because the signal from the turntable can effectively be routed directly from the ScratchAmp to a mixer, the DJ can also play normal vinyls without having to work through the FinalScratch software. It is notable that a number of clubs[93] around the globe have already taken the step of installing FinalScratch equipment in their DJ booths, thus only requiring the DJ to bring his laptop computer and FinalScratch vinyls to be able to perform (Faust & Shortee 2003:1-2; Cross & LaFrance 2005:2; Online Source 124; Online Source 127). Many thousands of audio files in a variety of file formats can be stored on the computer in a FinalScratch setup, thereby making the necessary material instantly accessible (Online Source 124). The FinalScratch software is additionally accompanied by a specialised audio player called *SoundPlay*[94], which places some mixing capabilities at the DJ's disposal (Online Source 125).

The first version of FinalScratch, *FinalScratch 1.0* [95], was only intended for use on a personal computer (PC) and was released on a specially modified distribution of *Debian Linux*[96]. The ScratchAmp of this and subsequent versions of FinalScratch 1.0 is connected to the other

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[92] Two types of these vinyls are available, respectively the thicker *Standard* version and the thinner *Scratch* version with added cue marks (Online Source 126; Online Source 127).

[93] For a list of clubs in which FinalSratch equipment is currently installed, see the following website: (Online Source 128).

[94] SoundPlay supports a significant variety of audio formats, including *WAV, AIFF, MS-ADPCM, IFF-8SVX, MOD, MIDI, mp2, mp3* and *Ogg Vorbis*. A particularly notable feature of SoundPlay is its ability to decode mpeg in reverse, that is, to play such files backwards (Online Source 129).

[95] It must be noted that some inconsistency is present in the numbering used to indicate the various versions of FinalScratch. This discrepancy appears to extend even to the manufacturers website (see: Online Source 127; Online Source 31), where, for example, the second version of FinalScratch is respectively referred to as *FinalScratch 2.0* and *FinalScratch 2* in one and the same document. Due to the significance of the suffix added to the version number, for example 'FinalScratch 1.5', in distinguishing between individual versions, version numbers will be used here with the suffix.

[96] This term refers to the *Linux* operating system as distributed by the so-called *Debian Project*, which is a project aimed at the development and distribution of an operating system solely comprised of free software (Online Source 131). For more detailed information in this regard, see the following website: (Online Source 132).

components of the FinalScratch system by means of *USB*[97] and *RCA*[98] connections. The next version of FinalScratch to be released, was *FinalScratch 1.1*, which could also be run on a system using *Linux* as its operating system, but was additionally ported to be able to run on a system using *Mac OS X*[99] (Online Source 124). The software aspect of the latter version of FinalScratch benefited from a partnership formed in 2004 between its manufacturer, *Stanton Magnetics*, and *Native Instruments* (Online Source 124; Online Source 133). The result of this was the *Traktor FinalScratch*[100] software, which accompanies all subsequent versions of FinalScratch in a number of upgraded forms (Online Source 124; Online Source 134; Online Source 130). Stanton next released *FinalScratch 1.5*. This version possesses the added ability of allowing the DJ to keep the pitch of recorded material constant while altering the tempo and supports the playback of mp3, WAV, AIFF and Audio CD file format. Notably, a *Windows XP*[101] edition of this version of FinalScratch was also released (Online Source 124; Online Source 134).

The latest version of FinalScratch to be released, is *FinalScratch 2.0*. It is fitted with a new software engine as well as an updated version of the ScratchAmp, namely the *ScratchAmp 2*. This is a *FireWire*[102] audio interface that replaces the USB connections used in earlier FinalScratch versions and allows for maximum audio throughput while minimising latency, thereby placing 24-bit/96kHz digital playback and recording at the DJ's disposal. Importantly, the ScratchAmp 2 is a passive component[103] of the FinalScratch 2.0, which means that audio can be sent through it without requiring power. It also possesses a *FireWire Thru* port which makes it possible to connect an *iPod*[104] or external hard drive to the computer, and has been fitted with an *ASIO*[105] driver, a microphone input, an auxiliary (Aux) input and a *MIDI IN* and *MIDI OUT* port. Like FinaleScratch 1.5, FinalScratch 2 supports playback from mp3, WAV, AIFF audio file formats, but adds to this support for AAC and WMA audio file formats and the ability to play files directly from a

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[97] This acronym stands for *Universal Serial Bus* and denotes a standard serial bus used as an interface between electronic devices (Online Source 135).

[98] This acronym, which is derived from the name *Radio Corporation of America*, more specifically denotes connections between pieces of equipment by means of standardised RCA cables and -jacks (Online Source 136).

[99] This term refers to a number of graphical operating systems developed by *Apple Computer* for use on *Apple Macintosh* computers (Online Source 137).

[100] There appears to be some inconsistency concerning the exact orthography of this name, with both *Traktor FinalScratch* and *Traktor Final Scratch* being used. The former will be used here.

[101] This term refers to a number of operating systems produced by *Microsoft* for use on general-purpose computer systems (Online Source 138).

[102] This term refers to a standardised serial bus interface for personal computers and digital audio/video which enables high speed data transmission between connected devices (Online Source 139; Online Source 140).

[103] This term refers to electronic components that do not require a source of energy to perform their intended function (Online Source 141).

[104] This is a type of portable media player that was released by *Apple Computer.*

[105] This is the acronym for *Audio Stream Input Output*, and refers to a protocol for the transmission of low-latency digital audio (Online Source 139).

computers CD-ROM drive or from an external FireWire hard disk (Online Source 142; Online Source 124; Online Source 130).

Figure 27   FinalScratch 2
(Online Source 130)

Currently only FinalScratch 1.5 and FinalScratch 2 are still being produced (Online Source 127).

CHAPTER 5: THREE REPRESENTATIVE TRANCE DJS

The DJs discussed hereunder were chosen on the grounds of the prominent position they currently maintain on EDM charts. Although they are, as such, not to be construed as the only important figures in trance music, they certainly can be seen as leading figures in this regard.

5.1 Paul van Dyk

5.1.1 Biography

Figure 28 Paul van Dyk
(Leuthold 2005)

Paul van Dyk (see Figure 28) was born on 16 December 1971 in Eisenhüttenstadt, in what was then the German Democratic Republic. Although he grew up in communist East Berlin, which at that time lacked a true club culture, he was able to gain some insight into the West by means of the cross-border radio broadcasts. In this way he came into contact with the music of artists such as The Smiths and New Order (Online Source 143; Schiller 2005:1).

The collapse of the Berlin wall in 1989 left the way clear for the greater development of a broad club culture throughout Berlin. Although this time was characterized by the rise of techno, Van Dyk strove to find a style that was different and that possessed a more unique sound. He started out by compiling tapes using two old turntables, and in March of 1991 his unique style débuted at the Berlin club, *Tresor*. This period also bore witness to Van Dyk's first ventures into writing his own original compositions. The result was the 1992 release of his first production, *Perfect Day*, which was produced in collaboration with Cosmic Baby under the banner of *Visions of Shiva* (Online

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Source 143). It was released by the Berlin underground label, *MFS* (Online Source 144; Schiller 2006:1).

In 1993 Van Dyk's remix of Humate's *Love Stimulation* enjoyed great success in clubs. Riding on the success of this remix, his first album, *45RPM*, was recorded and released in 1994. While still working on this album he was also active as a DJ at the acclaimed Berlin club, *E-Werk*, ultimately becoming somewhat of an institution there, with guest appearances by other pre-eminent DJs such as Nick Warren, BT, Dave Seaman and Sasha (Online Source 143). In the ensuing years, Van Dyk managed to increase his standing by remixing tracks of eminent artists such as Inspirational Carpets, Sven Väth, Curve and New Order. This paved the way for the release of his second album, *Seven Ways*, in 1996 (Online Source 143).

The release of *Seven Ways* resulted in a flood of national and international interviews, which in turn propelled Van Dyk into the Top 100. The album confirmed his status as one of the leading electronic artists at that time, even receiving great praise from the English music media generally known for their protective attitude towards their native DJ contingent (Online Source 143). In addition, the album was voted the number one album of the year by readers of *DJmag*, with singles such as *Beautiful Place*, *Forbidden Fruit* and *Words* securing Van Dyk a prominent position in the British and European dance charts (Online Source 143).

45 RPM was released in the United Kingdom in 1998 with the new remix of the single *For an Angel*[106] sweeping across dance floors worldwide. The album maintained a number one dance chart ranking for two weeks in the United Kingdom and for four weeks in Germany, complimented by high rankings on charts in the United States, Australia, the Netherlands, Belgium and Scandinavia. In the same year *Deviant Records*, the company that still manages Van Dyk's output in the United Kingdom, brought out a triple CD set called *Vorsprung Dyk Technik*. This set boasts 33 tracks, making it the most exhaustive collection of Van Dyk's remixes up to that time. Just a year after its release this set officially reached Silver status with over sixty thousand copies sold in the United Kingdom, something rarely achieved by a triple CD. Following the remarkable success of these releases, Van Dyk became a resident DJ at the famed New York club, *Twilo*, as well as at the renowned Sheffield club, *Gatecrasher* (Online Source 143).

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[106] An analysis of this single is provided under 6.5.

In 1999 Van Dyk and the team then working with him founded a new record label called *Vandit Records*, with the later addition of the sub-label *Energie Berlin* (Online Source 143; Online Source 145). Although this then became the label under which he released his own material, it also provides for releases by other new and innovative artists (Online Source 143). In the same year Van Dyk received the "Best International DJ Award" at the London Music Awards (Online Source 143; Online Source 146) and was named "Best International DJ" by *Ministry of Sound Magazine.* He was also elected "Man of the Year" by *Mixmag* and named "Leader of the Trance Nation" by *Muzik Magazine* (Online Source 143).

Van Dyk's next album, *Out There & Back*, which was released in 2000 brought confirmation of the fact that he had more to offer than just his signature club sets and the remixes that had already established him as one of the most influential German DJs and producers of his generation (Online Source 143).

Van Dyk's latest album, *Reflections*, was released in 2003 along with a number of hit singles. An example of the latter is *Nothing But You*, which rapidly found its way onto mainstream radio stations globally. Notable is also the single *Time Of Our Lives* which was the product of his first collaboration with the rock band *Vega 4*. This was soon followed by a collaboration with Peter Heppner, member of the band *Wolfsheim* which resulted in the hit single *Wir sind Wir* (Online Source 143).

2004 was a particularly eventful year in Van Dyk's career. Apart from being voted "America's Favorite DJ" for the year by *BPM Magazine* and receiving a Mexican Oscar for his soundtrack for the film *Zurdo*, he was the winner of three awards at the *Dancestar Awards*. At the latter he received an award for "Best International DJ", "Best Event" and "Best Music in a Commercial". He was also nominated for a Grammy Award by the *National Academy of Recording Arts and Sciences*. This marked the first appearance of the category " Best Electronic/Dance Album" at the Grammy Awards and established Van Dyk as one of the most highly regarded leaders of this genre (Online Source 143; Online Source 147).

Furthermore, in 2004 Van Dyk expanded his political activities by participating in the "Rock the Vote" campaign in the USA aimed at encouraging the American youth to exercise their right to vote in the presidential election. In doing this he joined the ranks of other artists like Bono, Mary J.

Blige, Lenny Kravitz and the Black Eyed Peas (Online Source 143). Van Dyk has also publicly stated that he does not support the use of drugs and other illegal stimulants (Brooks 2005:7).

Apart from engagements at local clubs and his involvement in managing his own record label, Van Dyk is currently maintaining an extremely busy international touring schedule that includes major events in London, Tel Aviv, Mexico, New York and Singapore. He also hosts a weekly radio show, called *Soundgarden,* which airs on the German radio station *Fritz*[107] (Online Source 143). After being listed at number 42 in *DJmag*'s first public-voted DJ Top 100[108] ranking in 1997, Van Dyk has steadily risen in eminence until finally reaching the number 1 position 2005 and 2006 (Online Source 148; Online Source 149; Online Source 193).

One of Van Dyk's most recent innovative ventures is the creation of the website *vonyc.com*. This website is a combination of a radio station and a music download shop that offers internet users legal electronic music downloads. It is overseen by experts in the field of electronic dance music and allows users to listen to a vast range of music which Van Dyk has specifically selected from the latest music that has become available. Files available for downloading are mainly offered almost exclusively in mp3 format, although uncompressed WAV format is also available (Online Source 150; Online Source 151).

5.1.2   Style and views with regard to trance

Van Dyk has stated that he prefers not use the label "Trance" to refer to the style of his music. Although he has made it clear that he is disinclined to categorise his music, he has suggested the term "Electronic Dance Music" as an expedient. He regards his music more as being his "language" and in broader term as a "universal language" that transcends national and cultural boundaries (Schiller 2006:1).

Although Van Dyk is active as a recording artist and producer on the one hand, and as a performing DJ on the other, he has strong views that guide his work in these different spheres. He regards communication with his listeners as being an important force in shaping his music, and he places great emphasis on the significance of inspiration and emotional content in his music. In this regard he has made the following statement: (Schiller 2006:1).

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[107] See: www.fritz.de
[108] For the full list see: (Online Source 150)

I mean, simply spinning or producing some tracks without feelings, without communication, without inspiration, this isn't enough. My music grows with the reactions of the listeners, there's communication between us.

In addition he has indicated that, although he is active as a producer, he does not favour limiting himself to working only in a studio, that is to say detached from his audience. He regards himself as a performing DJ to a great extent, a view that is strengthened by his belief in the importance of communication between the DJ and a live audience. Van Dyk maintains that he moulds his music in response to the reaction of his audience, and has made the following statement in this regard: (Schiller 2006:2).

As I began my career as a DJ I discovered that there is a really deep communication between DJ and people. I learned to observe the different vibrations, learned how to move the crowd, and how to create atmosphere.

To this he has added the following comment on how he approaches any given set and how he experiences his work as a performing DJ: (Schiller 2006:2)

…because while spinning, an interaction takes place between the people and me. I never come into a club and spin just a ready set. It is also a very new experience for me every time, and nobody knows in advance how it will end.

As far as the motivation behind Van Dyk's music is concerned, he has affirmed that he does not make music in pursuit of success of financial gain. He has added that people are important to him and that he gains delight from hearing positive feedback from his audience in reaction to his music. For Van Dyk, making music is also a very personal experience and he has said the following in this respect: (Schiller 2006:2).

I make music for myself, it (the music) comes directly from my stomach, my music springs from an intense feeling. And every track has its own little story...

It is in this context that Van Dyk still strives to maintain a style that is unique and highly personal, without breaking his close bond with his audience.

5.1.3   Equipment

The following list represents a selection of the equipment used by Van Dyk as listed on the following website: (Online Source 152). This list, however, should in no way be construed as being exhaustive:

Computer

Apple G4 Titanium PowerBook, custom-built w/60 GB hard drive and 1,024 MB of RAM

Mixers

Mackie Digital d8b 8-bus mixer

Rane MP 2016 rotary mixer

Rane XP 2016 mixer

Sequencers

Digidesign Pro Tools 24/Mixplus

Emagic Logic Platinum 6 DAW

Sequencing Software

Stanton FinalScratch

Vestax DGE-X2 graphic EQ

Tone generators and synthesisers

Alesis Andromeda A5 keyboard

Clavia Nord Lead synth

Korg Prophecy synth

Korg Trinity Synth

Kurzweil K2500 Synth

Novation SuperNova sound module

Roland JD-800 rackmount synth

Roland JP-8000 synth

Roland Juno-106 synth

Roland Juno-60 synth

Synthtecno TeeBee sound module

Drum machines

Roland TB-303 Bass Line

Roland TB-808 Rhythm Composer

Roland TR-909 Rhythm Composer

Turntable

Pioneer CDJ-1000 CD turntables

Techniques SL-1200MK2 turntables

5.2   Armin van Buuren

5.2.1   Biography

**Figure 29   Armin van Buuren
(Learmouth 2006a:1)**

Armin van Buuren (see Figure 29) was born in Leiden in the Netherlands on 25 December 1976. From a very young age he was exposed to music, on the one hand through his father's taste for styles as varied as punk and electronica, and on the other through his brother's guitar playing. At an early stage he developed a strong interest in records, soon followed by a growing interest in computers and programming from about the age of ten (Learmouth 2006a:1).

One of his earliest activities in connection with recordings and mixing, was compiling tape recordings for his friends on a simple tape deck set. Although this provided him with his first experiences of mixing music, a creatively more important influence was coming into contact with various sequences his uncle had created on computer. The latter was a source of great wonder to him at that time and was instrumental in bringing about what he terms his "addiction to creating music" (Learmouth 2006a:1).

Although still too young to frequent the pre-eminent clubs of the Dutch dance milieu in the early nineties, Van Buuren was able to acquaint himself thoroughly with the music then in vogue, mostly

by listening to them on the radio. He was strongly captivated by the dance music of that time and found it rebellious in its departure from what he terms the "beautiful songs of the eighties. From here on his career grew by leaps and bounds. He was soon producing consistently outstanding dance tunes while maintaining an increasingly busy schedule as DJ. At this seemingly blossoming stage of his musical career, Van Buuren nevertheless began studying law as a contingency option, finishing his degree in 2002 (Online Source 153; Learmouth 2006a:1).

Two specific influences can be identified that had a significant impact on Van Buuren's works at this time. In the first instance, Jean Michel Jarre (1948-), acclaimed for his striking use of visuals and ground-breaking synthesised sounds. Secondly the Dutch producer, Ben Liebrand (1960-), who was later to become Van Buuren's mentor with regard to mixing and producing (Learmouth 2006a:1; Online Source 154; Online Source 155).

Van Buuren's music career continued to expand unabatedly. Apart from engagements at various clubs he had an ever increasing list of productions and remixes to his credit. The single *Blue Fear*, which was released in 2004, heralded his signature style, characterised by layering of sounds, lush chords and a constant, driving beat. This was naturally followed by numerous productions, remixes and collaborations with his peers (Learmouth 2006a:1).

In 2003 (Online Source 156) Van Buuren was rated number 3 in DJ's Top 100 poll. This achievement excited the interest of record labels, which soon enabled him to begin doing studio work. Van Buuren's venture into the sphere of production was additionally motivated by his preference for the freedoms afforded by production as opposed to the more clearly defined working environment of DJing. He was thus able to refine his work with his debut album, *76*, which was released in 2003. This album was nominated for a Dancestar Award for Best New Artist Album in 2004 and can be regarded as the culmination of his works and his experimentation with technology during the preceding decade (Learmouth 2006a:2).

2003 also saw the founding of Van Buurens own record label, *Armada*. This was done in response to a combination of his desire to showcase more of the available music relative to his field, and the ever growing number of tracks that he had received from various artists wishing to have them released. In taking on this enterprise, Van Buuren joined forces with Maykel Piron, who was then head of Artists and Recording at Warner Music, and David Lewis, a former manager of Van Buuren. Their goal was to create an environment where greater control would be available to the

artists involved. *Armada* has since grown and currently incorporates thirteen sub-labels, with Van Buuren releasing his work under the main *Armada* label, as well as under one of its sub-labels, *Armind* (Learmouth 2006a:2) and the Armada website: (Online Source 157; Online Source 158).

Van Buuren released his second album, *Shivers*, in 2005 (Gregory 2005). Where *76* was more a compilation of his earlier works, *Shivers* represents a careful selection from a body of works produced over a period of two years for the purpose of his second album release. Apart from the title track of the latter achieving a great deal of success on the charts, the second single *Serenity* (Online Source 159) was adopted as the theme song for the well-known Dutch trance event, *Sensation White*, in the same year that the album was released. With *Shivers* Van Buuren not only made his debut as a songwriter, but also departed from the style of his first album by incorporating influences of rock and pop music within the trance framework (Learmouth 2006a:1-2).

An important result of the rapidly growing popularity Van Buuren was experiencing at this stage in career, were the increasing amount of collaborations with celebrated DJs from across the globe as well as the growing number of remix opportunities that came his way. After four years of fronting his own weekly radio show called *A State of Trance*, Van Buuren signed a deal with *The Radio Department* to distribute this show internationally. Since then it has become available online and on various FM radio stations[109], thereby making it possible for Van Buuren to reach a far greater audience thanks to the significant online trance presence (Learmouth 2006a:2).

After first being listed at number 27 in *DJmag*'s prestigious public-voted DJ Top 100[110] ranking in 2001, Van Buuren has climbed the hierarchy and is currently still holding firmly at number three (Learmouth 2006a:1); DJmag (Online Source 160). At present he is also working on his third album and in his work on the latter he has been taking a greater part in the process of song-writing than in his earlier work. In addition, Van Buuren has been collaborating with various people in order to pay greater attention to aspects of his work like song structure, arrangement and composition (Learmouth 2006a:2).

5.2.2   Style and views with regard to trance

With regards Van Buuren's style, it should first be noted that he has clearly stated that he tries not to limit his music to just one style. Labels that have been used to describe his style include the

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[109] For a list of radio stations currently broadcasting Van Buuren's show see: (Online Source 161).
[110] For the full list see: (Online Source 150).

following: "progressive"; "tribal progressive"; "techno"; "trance"; "euphoric trance"; "vocal trance"; and "melodic progressive". In response to such labels Van Buuren has stressed that it is difficult to attach a specific label to a given style of trance in view of the constant processes of mutation and evolution therein. To this he has added that trance, in itself, incorporates a myriad of different types of music. It is his opinion that the name is more and more becoming a broader term that refers to a number of different kinds of music within the dance sphere (Learmouth 2006a:1).

Within the context of these broader views about his own style and about trance, Van Buuren has adopted a very specific approach as far as the material with which he is prepared to work is concerned. In the first instance he has affirmed that, with respect to remixes, he only works with melodies that really appeal to him and that he wishes he had written himself. Testament to this is found in the awards he won at the *Winter Music Conference* (WMC) in 2004[111] and 2005[112] as well as in his continued participation in this event since he was first nominated for an award in 2003 (Learmouth 2006a:1; Online Source 162; Online Source 163; Online Source 171). Van Buuren also applies the abovementioned approach when selecting material for compilations. For these he only uses what he considers to be the best of his favourite tracks and mixes at a given time (Learmouth 2006a:2).

As far as his position as a DJ and an artist is concerned, Van Buuren has stated that he regards it as being important to take his audience into consideration. Nonetheless he likes to keep a balance between the tastes of his audience and the freedom he likes to exercise as an artist (Learmouth 2006a:2).

5.2.3   Equipment

The following list represents a selection of the equipment used by Van Buuren in his studio. It is based on the virtual studio found on his website (Online Source 164). This list, however, should in no way be construed as being exhaustive:

Computer
Apple G5 Mac dual 1.8 GHz
PC

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[111] Best Dance Radio Mixshow DJ for *A State of Trance,* and Best Full Length DJ Mix for *Ultra.*
[112] Best Dance Radio Mixshow DJ for *A State of Trance*

Samplers

Akai S5000

Sequencer

Akai Ak.sys

Emagic Logic Audio Pro 6.4

Protools HD2 with 96 I/O

Propellerhead Reason 2.5

Propellerhead ReCycle

Soundforge

Sequencing Software

Native Instruments Absynth 2

Emagic EXS24

Emagic ES1 Synth

Emagic ES2

Emagic EVP88

Native Instruments FM7

Spectrasonics Trilogy,

Spectrasonics Atmosphere

Spectrasonics Stylus

Waves GOLD

Tone generators and synthesisers

Access Virus A

Access Virus C

Alesis Andromeda

Clavia Nordlead 3

Dbx 266XL Compressor/Gate

Drawmer DL 241 compressor

Electrix Filterfactory

Electrix Warpfactory

Korg MS2000R

Lexicon MPX1

Moog Voyager

Novation Supernova II

Roland JD-800

Roland JD-990

Roland JP-8080

Roland JV-2080 expanded

Roland JX-8P

TC Electronic Fireworks

TC Electronic M.One

TC Electronic Spark XL 2.8.2

Virus Indigo

Yamaha FS1R

Yamaha TX81Z

Drum machines

Roland TR-909

Turntable

Technics SL-1210 MK11

CDJ

Pioneer CDJ 1000

Headphones

Sony MDR V700 DJ

Microphones

AKG 414

Neumann

Mixers

Signex tiny palladium patchbay

Soundcraft analog 32 channel mixer

Digital Audio Workstation (DAWs) and DJing software

Ableton LIVE

Datex XTC

Emagic Sounddiver

Sonic Foundry Soundforge

5.3 Tiësto (Tijs Verwest)

5.3.1 Biography

Figure 30   Tiësto
(Online Source 165)

Tiësto (full name: Tijs Verwest) (see Figure 30) (Learmouth 2006b:1; Online Source 166) was born in Breda in the Netherlands on 17 January 1969 (Online Source 167). From about the age of eight he started developing a strong interest in music (Online Source 168). He was exposed to music by listening to the radio, with a show called the *Soul Show* as an important favourite (Learmouth 2006b:1).   Another influence was Ben Liebrand's mix show for which the latter would remix various tracks. This show was an important force in steering Tiësto towards a career as a DJ (Learmouth 2006b:1). Other important influences identified by Tiësto include *Eye-Q Records* from Germany and Belgium and labels such as *Bonzai* and *Music Man* (Online Source 169).

After starting out by putting on a mobile show around the country, Tiësto went on to providing music at student parties and subsequently at a club in Breda called *The Spock* for three nights per week (Learmouth 2006b:1; Online Source 168; Online Source 170). This time in his career represented an important period during which he was able to learn and improve his art. Although initially unsure about the feasibility of a career as DJ, Tiësto has affirmed that he considers music to be his "first love", played an important part in his choice of career. As a result of his increasing desire to produce music that he could use for his sets, Tiësto started buying samplers, computer programmes and set to work honing his skill (Learmouth 2006b:1).

Tiësto's style soon caught the attention of the general manager at the company, *Basic Beat Recordings*, which is based in Rotterdam. It was under this label that his first CD, *Forbidden Paradise*, was released in 1994 (Online Source 168; Online Source 170; Online Source 171). The first major productions, however, only appeared in 1995, but since then his work has consistently succeeded in securing prominent positions on the charts and frequently reaches the number 1 position on European charts (Learmouth 2006b:1).

1997 saw the creation of the record label, *Black Hole Recordings*, with Tiësto and Arny Bink as founders (Learmouth 2006b:1). According to Tiësto this move was motivated by a desire for more freedom with regard to the material he works with on the one hand, and for more control over his music on the other (Online Source 172). Under this label the acclaimed compilations *Magik*, *In Search Of Sunrise* and *Nyana* were later released. The subsequent success enjoyed by *Black Hole Recordings* label led to the creation of a sub-label, *Magik Muzik*. These labels provide for releases of records by Tiësto himself, as well as by other artists in which Tiësto recognises the necessary potential. In the latter case Tiësto decides upon music that more of less conforms to the style of his own sets, thereby keeping a hand on the label and its contents. Among the most successful material released under the *Magik Muzik* label is *Flight 643*, the album *In My Memory*, and tracks by *Umek*, *Mark Norman* and *Mojado* (Learmouth 2006b:1).

In 1999 Tiësto, in collaboration with DJ Montana, set up a project they called *Space Age* (Online Source 170). The mixes Tiësto did for the first two volumes released under the banner of this project, along with mixes he did for the first three compilations released in under the series name *In Search Of Sunrise*, played an important part in securing him substantial popularity in the United States (Online Source 168; Online Source 173). Tiësto, however, only made his actual debut in the United States in 2000 with the release of the compilation *Summerbreeze* in 2000 (Online Source 168; Online Source 174). One of his tracks on this compilation, *Silence* with vocals by Sarah McLachlan, enjoyed particular success in the club milieu and the compilation in general played a significant role in helping Tiësto to gain ground in the United Kingdom. In 2001 Tiësto played for *Godskitchen* in Ibiza, but in 2002 he switched to a residency at Amnesia alongside Paul van Dyk under the *Cream* organization (Online Source 168).

Along with these developments, Tiësto gradually moved away from exclusively playing in clubs towards establishing himself as a more mainstream figure (Learmouth 2006b:2). His first DVD, *Tiësto in Concert*, was released in 2003 and reached Gold status in the Netherlands (Online Source 175; Online Source 176; Online Source 177). His growing popularity has further been confirmed

by the numerous awards and distinctions he has received over the years. In the first instance he was voted the number 1 DJ in *DJmag*'s Top 100[113] ranking for three consecutive years, namely 2002, 2003 and 2004 (Learmouth 2006b:2; Online Source 178; Online Source 156; Online Source 179). Tiësto has affirmed that these particular accolades were a great source of personal elation (Learmouth 2006b:2). Furthermore he has won a number of important awards, including TMF Awards in both Belgium and the Netherlands every year since 2003, WMC Awards in 2002, 2003 and 2004, an MTV Europe Music Award 2003, and an Edison Music Award in 2005 (Learmouth 2006b:2; Online Source 180; Online Source 181; Online Source 163; Online Source 175; Online Source 182).

2004 was a notable year in Tiësto's career. It bore witness to his first appearance at the *Berlin Love Parade*, an event which was soon followed by the official release of his DVD, *Tiësto in Concert* which reached Gold status in the Netherlands (Online Source 175; Online Source 176). His album, *Just Be*, was released with the title song in particular enjoying substantial success, and was soon followed by the worldwide release of the album, *Parade Of The Athletes* (Learmouth 2006b:2). The latter album contained the music Tiësto had played at the opening ceremony of the 2004 Olympic Games in Athens (Learmouth 2006b:2; Online Source 183). According to Jordan (Online Source 184) the Athens Olympic Committee first approached Tiësto in this regard in 2003. He adds that their decision to ask Tiësto was strongly motivated by the influences from Classical music then apparent in his music. This year also saw Tiësto gaining official recognition for his contribution and achievements when he was made Officer of the Order of Orange-Nassau[114] by the Dutch monarchy (Online Source 185; Online Source 186; Online Source 187). This was soon followed by the Dutch release of his second DVD, *Tiësto In Concert 2*, in 2005 (Online Source 188).

In 2006 *Disney* released the soundtrack of the film, *Pirates of the Caribbean: Dead Man's Chest*. Included on this CD is an additional track featuring the song, *He's A Pirate*, as remixed by Tiësto (Online Source 189). In the same year Tiësto was made an ambassador of *Dance4Life*, which is a worldwide project that aims to combat HIV and AIDS through the medium of dancing (Geerling 2006; Online Source 190). At present, he is experimenting with new sounds in the studio and is focussing on writing more vocals himself.

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[113] For the full lists see: (Online Source 179; Online Source 157).
[114] *Officier in de Orde van Oranje-Nassau* in the original Dutch.

5.3.2 Style and views with regard to trance

Although Tiësto is generally well known for his trance music, his style at present represents a mixture of elements from trance, house and techno. He has stated that although he started out essentially as a trance DJ, his many travels have introduced him to new styles and that influences from across the globe have found their way into his music (Learmouth 2006b:1). Although he still regards himself as a trance DJ, Tiësto believes that he has given the trance music he creates "his own flavour" (Online Source 191). To this he has added that he regards music as a powerful and universal medium of communication (Online Source 192).

In reaction to discussions around his style and the various changes it has undergone, Tiësto has expressed the opinion that the music world itself has changed in recent years. He maintains that, on account of this, he could not have continued producing music in the same style over the years and adds that he tries to find new sounds and tracks that he thinks can make a difference. To this Tiësto has added that, in his opinion, the only way for a DJ to progress is to play a "diverse mix of sounds" (Learmouth 2006b:1). However, he takes cognisance of the fact that he has certain responsibilities towards his audience and he has expressed his continued desire to entertain his audience. He admits that he cannot merely play music for his own satisfaction, but he believes that he has been able to find a middle way between his personal preferences and that of his audience (Online Source 191).

Tiësto's style of trance is characterised by "soaring vocals" and in this regard he has worked with vocalists such as Sarah McLachlan and Kirsty Hawkshaw. Influences in his music can be found as far afield as Classical music (Learmouth 2006b:1), with his version of Samuel Barber's *Adagio For Strings*, which appears on the album *Just Be*, being a notable example. More recently Tiësto has also expressed a renewed interest in remixing. He has made the following statement in this regard (Learmouth 2006b:1):

> I like to hear a track and right away know what I want to do with it, what I can make different, and whether it'll work for me in my sets – all my remixes have to be tried and tested.

With reference to his role as a DJ, Tiësto has stated that he does not consider the DJ's task to limited to just playing records. He believes the DJ to be someone who is also a performer who has to provide the audience with both familiar music and music that is surprising and new (Online Source 192). Tiësto's approach to his sets begins with selecting the vinyls and CDs he will be using for the given set. It should be noted that he makes substantial use of vinyls and he has stated that he

normally takes about a 100 vinyls to a set while only taking a few CDs. However, he prefers to lend more spontaneity to his playing at sets and tries to align his music to the type of event, the venue and the response he receives from the crowd (Online Source 172).

Equipment

The following list represents a selection of the equipment formerly and/or currently used by Tiësto as listed on the following website: (Swenson 2004). This list, however, should in no way be construed as being exhaustive:

Computers

Intel Pentium 4/3.2 GHz w/1,024 MB RAM

Samplers

Akai S6000 samplers

Sequencers

Steinberg Cubase SX 2.0

Tone generators and synthesisers

Access Virus B

Access Virus C

Akai MPC3000XL

Alesis Andromeda A6

E-mu Vintage Pro

E-mu Proteus 2000

Korg Triton synth

Lexicon 480 rackmount reverb

Moog Music Minimoog Voyager synth

Roland Alpha Juno 2

Roland JD-990

Roland JP-8000

Roland JP-8080

Roland MKS-80

Roland SDE-3000 digital delay

Roland XP-80

Roland XV-3080

TC Electronic M-One rackmount reverb

Waldorf MicroWaveXT (sound module)

Yamaha CS6R

Yamaha CS6x

Yamaha FS1R

Yamaha MSS1 SMPTE/MTC converter

Drum machines

Linn Electronics LinnDrum drum machine

Roland TR-909 drum machine

Turntable

Pioneer CDJ-1000 CD turntable

Technics SL-1200MK2 turntables

Mixer

Pioneer DJM-600 mixer

Digital Audio Workstation (DAWs) and DJing software

KRK 8000-series monitors

Sony DMX-R100 48-channel digital console

CHAPTER 6: AN INVESTIGATION OF THE MUSICAL QUALITIES OF TRANCE

The following section is based largely on an analytical discussion of the compilation of a trance track as found in Snoman (2004:47-51 and 219-236)[115]. Although the latter source takes what it refers to as *euphoric trance* as its point of departure, the definition it provides of this trance subgenre identifies it as being a form of progressive trance.[116] As such, Snoman's text can be regarded as also having a strong bearing on the trance genre in general, thus rendering it useful in the context of the present thesis.

6.1 General remarks on approaching the analysis of trance music

As stated before, the borders between different EDM genres, and by implication different trance subgenres, are often very vague. While this could represent a significant complication in approaching the analysis of such music, Snoman suggests a comparative analysis of a number of dance tracks as a means of being able to distinguish between different subgenres. Such an undertaking would make it possible to analyse both the macrostructure and the microstructure of different tracks, in turn enabling identification of the finer attributes placing a given track within the boundaries of what is perceived as being a specific subgenre.

It is, however, not the aim of the present thesis to undertake such an analysis. Although the discussion and analysis provided hereunder will make mention of the various elements involved in compiling a trance track, the purpose of the subsequent analysis of the track, *For an Angel* by Paul van Dyk, is intended to act in an illustrative rather than a comparative capacity. As such, its focus falls on illustrating some of the aspects of a trance track in light of a more analytical discussion of such a track that precedes it.

It must be stressed that the following discussion of the rhythmic, melodic and harmonic attributes and general aspects of the compilation of a trance track is only intended to provide a broader outline of the structure of trance music. In practice many deviations from these basic structures will of course be encountered, but is nonetheless useful to identify the core attributes shared by most forms of trance music.

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[115] Instances where information from additional sources is used, are indicated by means of references.
[116] Snoman identifies *euphoric trance* as being an anthemic type of trance with a fast tempo and a generally accessible and uplifting character. These are all attributes commonly attributed to progressive trance.

6.2 Rhythmic aspects of trance

Butler (2003:86-87) divides EDM genres into two categories, namely: (1) those that can be described as being *four-on-the-floor*[117] based; and (2) those that are *breakbeat-driven*[118]. Genres that can be classified under the former category are techno, house and trance, with most of the subgenres to which these genres have given rise also being based on this rhythmic practice. This is then applied within the context of a physical tempo that normally ranges between 137 BPM and 144 BPM. However, trance tracks sometimes move outside of this range with slower or faster tempos, although not normally slower than approximately 125 BPM or faster than approximately 150 BPM. While this cannot be seen as a fixed rule, trance generally has to be restricted to this tempo range, both to maintain its anthemic quality and to make it feasible for the listener to dance to.

6.2.1   The rhythm section

Rhythm plays a particularly important role in EDM. Butler (2003:3) refers to it as the reason behind the existence of EDM and describes it as one of the prominent aspects in this type of music, playing a major role in moving the audience through the music.[119] The role played by drums in EDM is, however, not restricted to just providing a beat to dance to. The fact of the matter is that the rhythm section not only sets the pace in trance music, but also forms the greater part of the texture through the use of various drum sounds (Butler 2003:99). The fact that EDM tracks, and more specifically trance tracks, are generally constructed almost entirely out of percussive elements further makes it difficult to distinguish clearly between rhythm on the one hand, and metre on the other within such tracks (Butler 2003:133).

The rhythm section of virtually all trance music is almost unfailingly approached with a degree of simplicity as the basic criterion. In light of this, the foundation of the rhythm section consists of a kick drum placed on every beat in conjunction with snare drum or claps placed on every second and

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[117] This term, sometimes given as *four-to-the-floor*, originated in kick drum practices associated with rock music, but has come to refer to a steady stream of crotchet notes played on this instrument (Butler 2003:86). As far as the metre is concerned, this generally translates into $\frac{4}{4}$ -time (Butler 2003:86), but Butler (2003:141) further emphasises that the metre of EDM cannot be viewed in the same light as that found in the more classical repertory on which theorists have tended to focus. This he substantiates by stating that the use of the term $\frac{4}{4}$ in EDM can have at least four different meanings, namely: (1) the time signature setting on the equipment used in producing the music; (2) the fact that such music can most easily be counted in $\frac{4}{4}$ -time; (3) the fact that most patterns used in EDM are groups of four, although generally at a number of different levels; and (4) the fact that four-on-the-floor genres generally possess a pure duple quality, that is as opposed to breakbeat genres that are characteristically more syncopated..

[118] This term refers to the use of sampled drum patterns called *breaks* (Butler 2003:87). For a more detailed discussion see Butler (2003:87-88).

[119] It is notable that many adherents of EDM refer to the music simply as *beats*, thus tying in with the fact that EDM is, at its core, based on percussion (Butler 2003:144).

fourth beat. As it constitutes the loudest and most resonant sound in the rhythm section, the kick drum is of cardinal importance in shaping a track's rhythmic and metrical profile. This even extends into passages where the kick drum is intentionally removed from the mix for a specific reason. An instance of this is generally referred to as a *removal of the bass drum*[120]. As to such removals, a further distinction can be made between so-called *breakdowns* or *breaks* on the one hand, and what Butler refers to as *withholding the beat* on the other (Butler 2003:106-107).

The terms *breakdown* and *break* are interchangeably used by EDM adherents to refer to a formal section of a track from which the kick drum is absent.[121] Although such sections can be as brief as four bars, they more usually extend to a minute or longer (Butler 2003:107). Butler (2003:108) notes that the use of breakdowns is often associated with particular EDM genres. Trance music, for example, often makes use of fairly long breakdowns that tend to introduce a more ambient feel to the concerned sections. This is often done in conjunction with synthesiser lines or strings without accompanying drumbeats, frequently with the added use of timbral manipulation.

Withholding the beat, on the other hand, is a term Butler (2003:108) has adopted to refer to a form of kick drum removal that is more specifically associated with the DJ within the context of a live performance. In this instance the DJ withholds the beat in what is more an interplay between him/her and the audience. The result of withholding the beat is the creation of anticipation of its return on the part of the audience who then expectantly turns to the DJ, as if awaiting his/her guidance. Sometimes an element of teasing is encountered on the part of the DJ, but this generally serves to intensify the audience's hunger for the return of the beat as representative of the music in its most concentrated form. It is important to note that withholding the beat impacts on both the textural and metrical aspects of a given track. In withholding the kick drum the texture is dramatically altered as it constitutes the loudest and most resonant component of the texture. As such, withholding the kick drum can also have the effect of casting doubt on the metrical organisation of a passage. This also points to the important role that the interplay between rhythm and texture plays in EDM.

The role of the snare drum, however, notably differs from that of the kick drum in that it is intended as a means of increasing the expressiveness of the kick drum beats. The basic beat pattern is often

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[120] Butler (2003:107) uses the term *bass* [i.e. kick] *drum removal* as a broader term covering any form of removal of the kick drum from the mix. While this can be restricted to a single beat for effect, he uses the more specific terms *breakdowns* or *breaks* and *withholding the beat* to refer to generally longer section in EDM.
[121] It is important to emphasise that Butler (2003:108) uses the term *breakdown* only in connection with a specific formal section within a track that is characterised by absence of the kick drum.

additionally enhanced by placing closed hi-hats on each semiquaver in a bar, and, in many instances, is further enriched by introducing syncopation to the rhythmic texture through the placement of closed hi-hats on every quaver in a bar.

Possible modifications of this structure would be: (1) the occasional addition of a set of triplet closed hats at the end of certain groups of bars; (2) the placement of the snare or clap on the semiquaver immediately preceding the kick drum on the last beat of the last bar in a group of four bars; (3) applying the kick drum in order to achieve variation; or (4) using a double kick at the end of the last bar in a group of four bars as a means of announcing a change in the music, for example the introduction of a new instrument into the mix.

The rhythmic configuration as outlined above essentially provides a fairly rudimentary rhythmic loop[122] as the basis of a trance track. Although this may seem somewhat simplistic, it is just this kind of rhythmic loop that forms the infrastructure of much of the trance music repertoire.[123] It is notable that other percussive sounds and instruments, such as congas, are not very frequently employed in trance tracks. The reasoning behind this is to a great extent the fact that the use of a more elaborate rhythmic loop will not only restrict the amount of room that can be allocated to the lead melody, but will also draw attention away from the latter. The importance of preserving the prominence of the lead melody in trance music is further reflected in the general practice of keeping both the kick drum and the snare drum constant at a high velocity[124] as opposed to following a more syncopated pattern such as *strong-weak-medium-weak*.

The hi-hats, on the other hand, are often applied at different velocities within the bar as a means to add greater rhythmic interest to the existing rhythmic patterns. In the event of this, the main emphasis is usually placed on the first and fourth semiquaver in a bar. The latter can be outlined as follows:

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[122] Butler (2003:103-104; Online Source 144) notes that this term is commonly used by adherents of EDM to refer to the latter's characteristic repeating patterns. The loop is central to the musical structure of EDM with most tracks being predominantly or even entirely composed of loops. Although non-looping patterns are sometimes encountered in EDM, loop-based structures are far more prevalent with loops being combined to form the textural framework of EDM. This implies that time in EDM is generally structured in a cyclical as opposed to a linear way. In creating an EDM track, various loops are then combined to form sequences, such sequences are combined to form the tracks that make out the basis of a DJ's set.

[123] Butler (2003:109) calls attention to the fact that, although the rhythmic patterns of the loops in EDM and trance music will tend to appear rather straightforward if not simple, great complexity can be achieved by combining these in different ways.

[124] Velocity refers to the rate at which a key is pressed (White 1997:328) or a given sound is articulated. Although often the case, this does not necessarily refer to loudness, as it more often has to do with the way in which a given note is attacked.

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1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
S	M	W	S	S	M	W	S	S	M	W	S	S	M	W	S
Kick				Kick				Kick				Kick			

In conclusion it must be emphasised that a supporting rhythmic structure with the various instruments as outlined above will, as such, not necessarily be able to adequately support a trance track. This structure will further need to be coupled with suitable timbres in order to endow it with the pounding beat that characterises most forms of trance music.

6.2.2 Rhythmic timbres

The rhythmic timbres currently being used in trance music are for the most part derived from those of the Roland TR-909 drum machine (see Section 4.2.2), often in the form of samples from the latter. The TR-909, however, should not be regarded as the exclusive source of material in this regard and a great many other drum machines and samplers, both analogue and digital, are currently being used with equal efficacy.

It seems that the kicks in trance music generally adhere more strictly to the metre of a given track. This is done in order to reinforce the rhythm section with the aim of consolidating the characteristic four-on-the-floor metre. Of some significance with respect to the effect of the kick drum sound is the decay parameter of the envelope applied to it. When a relatively fast decay is specified, the kick drum kicks will coincide more strictly with the metre. However, if the decay is too short there is a danger that the sound itself will be reduced to just a blip, that is the exact opposite of what it is supposed to be in the present context. A too lengthy decay, on the other hand, will result in a kick that is booming and therefore also inappropriate.

The application of compression[125] can also be quite useful in obtaining the desired kick drum sound The purpose of this is to give the kick greater energy and make it more clearly defined within the mix (Snoman 2004). Snoman advocates the application of compression to the $\frac{4}{4}$-kick loop on its own, that is before it is combined with the other loops that make out the rhythm section of a track.

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[125] This term refers to the application of a compressor to a given signal, thereby reducing the latter's dynamic range. A compressor attenuates the loudest elements of a signal while at the same time making the weaker/softer parts louder. As such it is extensively used in recording popular music and in radio broadcasting to prevent softer passages being lost in the background noise of the listening environment (White 2002:71). In such cases compression makes it possible to

He supports this by noting that using compression on the rhythm section as a whole can result in a loss of important high frequencies forming part of the mix. This would result in a dulling of the sound of certain elements in the rhythm section, for example the snare drum which would be bereft of certain high frequencies that form a vital part of its characteristic sound. When applied separately to the kick drum, however, compression will tame the transient[126] and remove some of the high-frequency content, thus providing a more substantial thud.

Once the desired kick drum sound has been achieved, the snare drum can be added and shaped as is required. When applying compression in this instance, the transients have to be taken into consideration as removal of the high frequencies that form part of these can have a detrimental effect on the characteristic sound of the snare drum. For this reason the compression of a kick drum sound is normally contrived in such a way as to only go into effect just after the transient. This will also result in a very distinctive sound that possesses more of a thwack-like quality. This sound is encountered quite often in trance music. It must, however, be noted that a snare drum is not always present in a trance track, as claps are sometimes used in lieu of this.

With the abovementioned in place, the closed and open hi-hat sounds can be added. These are of great importance concerning the rhythmic feel of a track, although these will require some adjustment in order to fit in with the bass- and snare drum. In view of the important role high-frequency content plays in achieving a characteristic hi-hat sound, compression is generally avoided in this case. Furthermore, in the case of synthesised hi-hat sounds, the perceived tempo of a track can be manipulated by altering decay parameter of such sounds. If the decay time is kept quite short, the tempo will be perceived as being faster than it actually is. Conversely, a relatively long decay time will create the impression that the tempo is slower than it actually is. In the majority of trance music a relatively short decay is applied to the closed hi-hats, with the decay time generally significantly greater in the case of open hi-hats.

With the rhythm section in place, the bass rhythm is generally the next part of a trance track that is attended to.

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achieve a more uniform dynamic range, thereby removing the necessity of constant adjustments to the volume for significantly louder and significantly softer section in the music.

[126] Also referred to as a starting-, onset- or attack transient, this term refers to the initial sound that is produced when one vibrating system begins to drive another system, for example a violin string that excites vibration of the soundboard. The starting transient notably plays an important role in distinguishing the sound of one instrument from another as it is one of the most readily recognisable aspects of a given instrument's sound (Campbell 2006:1; Campbell & Greated 2006:1).

6.2.3 Bass rhythm

In many trance tracks the bass rhythm consists of straightforward quavers that are generally not characterised by significant deviation with regard to pitch or timbre. The motivation behind the latter is to achieve a satisfying bass without creating a hindrance to other elements that generally enjoy more prominence in a trance track, such as intermelodic lines. This is, however, only substantially effective if the bass is placed off-beat. As such, the bass's usually short and simple rhythmic pattern will help to keep the focus on the melodic lead. If the bass were to be placed on the beat, a track would take on a rhythmic character that sounds more like that of a march on account of the lack of low-frequency content between kicks. The usual placement of the bass concerning the kicks can be illustrated as follows:

1	2	3	4	5	6	7	8
Kick		Kick		Kick		Kick	
	...Bass		...Bass		...Bass		...Bass

This also indicates that the bass is not necessarily placed exactly on the next quaver after a kick. By placing it more subtly on either side of the off-beat, the music can be made more intense or more relaxed. If the track itself is generally characterised by simplicity, the length of bass notes can be lengthened in order to give it a more evident place in the mix.

As with all of the melodic elements of trance music, the bass has an eight-bar loop as foundation. It is of great importance to emphasise that this is indeed a principle that guides all aspects of trance music, with melodies, chords and so forth all looping after every four or eight bars[127]. The end of such a four- or eight-bar loop is then normally indicated by means of a cymbal crash or a short snare. All these loops work together to maintain the repetition that forms the basis of trance music.

6.2.4 Bass timbres

In general, there appears to be a distinct preference for bass sounds produced by analogue synthesisers, or DSP equivalents such as virtual analogue synthesisers, over those created by means of digital synthesisers. This is most probably due to the fact that the bass is somewhat more exposed in a trance mix through not being placed together with the kicks, and analogue synthesisers

introduce distortion to the sound, thereby endowing it with greater warmth of tone. Although bass timbres are sometimes acquired from sample CDs, many artists have expressed that they prefer to create their own sound on a synthesiser. For the most part, velocity changes are not employed on the bass rhythm in trance music. Along with a general avoidance of timbral variations in the bass, this is aimed at keeping the bass simple so that is does not draw attention away from more prominent aspects of a track. As such, it is intended to provide a strong foundation for the counter-melodies.

The use of compression, distortion[128] and delay[129], on the other hand, is quite common with regard to the bass. While the controlled use of distortion can be useful in giving the bass more presence, the circumspect application of delay can provide rhythmic pattern that are ostensibly more complex, but do not undermine the dominant position of the lead. Compression can further be applied successfully to obtain bass sounds with different characters. This is achieved through adjustment of a compressor's release parameter. More importantly, however, the bass in general can be pumped by feeding the bass and drums simultaneously into a compressor that is set to activate on each kick. Nevertheless, the amount of compression that is used will be subject to the nature of the various timbres that are employed.

6.3   Melodic and harmonic aspects of trance music

With the rhythm section firmly in place as foundation, the next element of a trance track that will require attention is the lead melody. It is advisable to establish the latter before embarking on the addition of counter-melodies, particularly as the lead provides the structure within which such elements will have to function.

6.3.1   Trance melodies

The melodies employed in trance music are quite frequently based on a chordal structure and, as such, often characteristically alternate between two notes. As in the case of virtually all elements of trance music, the lead melody will be periodically repeated or looped with various alterations being made to it as a track progresses. Moreover, trance melodies will most usually be contrived in such a way as to effect a gradual rise in pitch towards a point of musical climax. The contour of this is

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[127] It must be noted that such a group of eight bars can be built on the repetition of smaller groups of bars, for example a two-bar group, that is repeated to make up the bigger loop.

[128] Within this context *distortion*, sometimes more specifically referred to as *harmonic distortion*, refers to the addition to a given signal of harmonics that were not initially present therein (White 1997:303).

intended to evoke feelings of upliftment, eventually leading the listener to a point of almost overwhelming emotional elation. This is then invariably followed by a gradual descent in pitch, thereby leading the listener back to a less intense state of euphoria.

As a means of maintaining the significant energy that is expected from trance music, melodies commonly make use of a mixture of shorter, more poignant note values such as demisemiquavers, semiquavers and quavers. In this context the decay and release envelope of the amplifier can then be utilised in order to modify the timbre in various ways. This in turn allows for greater control over a track, making it possible to make immediate changes to the feel of a track.

6.3.2 Melodic timbres

Timbre plays a significant role concerning the effectiveness of a lead melody. As the most prominent component of a track, the lead melody is most usually assigned to the middle and/or upper range of a track. Due to this exposed position, the timbre chosen to carry the lead melody should preferably not only be rich in harmonics, but should also be capable of character variations.[130] The aim of the latter is to prevent the onset of monotony by keeping it interesting for the listener.

With regard to the pursuit of greater character variations in the lead melody, a number of techniques are often encountered, for example *reverberation*[131] and delay. It should, however, be emphasised that the texture of EDM and trance music will normally be approached with the general aim of clarity in mind. This can be seen in the use of distinct timbres and registers for different voices/instruments/sounds so that, in conjunction with the unique rhythmic pattern assigned to each of these, each element of a track will be perceived as an individual layer rather something that forms a part of a larger group.

After the rhythm section and the lead melody have been finalised, the concluding step is the addition of chord progressions and motifs/counter-melodies.

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[129] This refers to the use of an audio signal processing device known as a delay line. It is used on a given signal to emulate the effect of an acoustic echo or acoustic reverberation (White 2002:92).

[130] It should be noted that trance music also occasionally makes use of recorded vocals in tracks for specific effects. Although the amount of vocals used in tracks varies greatly, there appears to be a general preference for using female vocals.

[131] This term refers to acoustic ambience that results from multiple reflections of sound in a confined space (White 1997:320). Within the context of EDM this is generally artificially replicated.

6.3.3   Chord progressions, motifs and rolls

While the addition of chord progressions is generally a more straightforward undertaking, being subject only to fitting in with the harmony as suggested by the bass and lead melody, the addition of counter-melodies warrants closer attention.

Counter-melodies are shorter riffs that serve to add variation to what would otherwise be somewhat repetitive music. They are often derived from the lead melody and are introduced at various stages in a track, but are most usually kept relatively simple. In order not to obscure the lead melody, counter-melodies are generally restricted to a rhythmic pattern on a single pitch and will ordinarily be played on every quaver, semiquaver of crotchet in a given section. While this may create the impression that counter-melodies, and the numerous percussion sounds used in a track for that matter, are not of such great consequence within EDM and specifically trance music, these genres are generally not characterised by the overwhelming dominance of just one voice/instrument/sound over all other elements in a given track. The texture will more usually be heterogeneous with all the concerned elements being placed more or less on equal footing (Butler 2003:109).

While counter-melodies will tend to interweave more with the bass than with the lead melody, it is still important to bear the timbre of the lead melody in mind. The timbres used for the counter-melodies generally differ markedly from that of the lead melody, the purpose again being not to let them merge with the melodic lead. As a general guideline the frequency content of the mix as a whole is taken into account when selecting timbres for the counter-melodies. The frequency range of the lead melody is of particular importance, as the frequency range assigned to counter-melodies should be chosen in such a way that they will not interfere with the lead melody, or indeed with any of the other important components within a mix.

Owing to the fact that most trance tracks utilise a lead melody that possesses a fairly rich frequency content, the frequency range in which counter-melodies can move, is generally limited. In order to ensure that the frequency range of the lead melody is kept free of interference, the counter-melodies are typically sent through a low-pass filter in instances where they occur concurrently with the lead melody. However, filtration is often programmed in such a way as to recede in places where the lead melody is not present and therefore runs no danger of being disrupted by high-frequency content in the counter-melodies.

An important remaining aspect of trance music that requires attention is the application of drum rolls, or rolls for short. Rolls represent a prominent means of achieving tension and dramatic effect within a trance track, and are mainly used to create build-ups in a track. As such rolls are of some significance in indicating the imminent arrival of a new section, the latter event subsequently being generally accompanied by a release of tension. The most prevalent timbre used to effect rolls is that of the snare drum, and this is most often accompanied by a increase in velocity as the roll reaches its apex.

6.4   The overall structure and dynamic contour of a trance track

As is the case in almost all forms of EDM, trance music is structured around emotional waves that alternate between building up the tension and subsequently effecting a release of tension. These undulations are, in turn, intended to move the listener through stages of emotional euphoria to states of more relaxed, though not unexcited, emotion. A very important characteristic aspect of EDM is, after all, the fact that it is structured in such a way as to promote active participation in creating the overall musical experience. This participation, however, often takes on a more individual shape which not only results in different interpretations of the same music, but also forms an essential component of the dancing that stands at the core of the reception and interpretation of EDM (Butler 2003:147).

Although trance tracks may differ significantly from each other, they generally tend to share a broadly standardised underlying structure. Trance tracks are also, to a great extent, governed by mathematical proportions in that new material is most usually introduced at standardised points in the track, such as after every four, eight, sixteen of thirty-two bars. As such, a trance track can start off with just a drum loop playing during the first sixteen bars with a second element of the track only then being added. The introduction of a new element to a track is also quite often announced by a cymbal crash or a short snare drum roll.

The second element introduced in a track will most commonly be another percussion sound intended to complement the drum loop. This is then generally left to play for another sixteen or thirty-two bars to allow the listener to become accustomed to the beat before the first motif is introduced. However, in order to prevent these initial sections of a trance track becoming too

monotonous, filters are frequently employed to achieve sound variation, nowadays most often by means of automation[132] of the filter settings.

After the metre of a track has been firmly established as outlined above, the lead melody itself will customarily be introduced. The latter event is sometimes preceded by a brief lull in the activity present in a track as a means of making the lead's entry more poignant. When the lead melody is first presented to the listener, it is usually done so using a simplified version of the whole lead or a smaller segment of it. This gives the listener a foretaste of what can be expected later in the track. The length of time this section of a trance track is allowed to play varies greatly and can range from sixteen to thirty-two bars.

Following this event another lull is often introduced in the track, commonly by means of a cymbal crash to which reverberation and delay are applied. From the subsiding crash the lead and/or pads that have been used thus far then emerge, often with the lead melody set forth in a significantly filtered down guise. The lead and/or pads will then be left to continue for four to eight bars while a snare roll of the same length effects a build-up in the music, thus leading in the track's reprisal. Such build-ups and lulls constitute an integral part of the general structure employed in trance music and make it possible to effectively link differing sections together whilst not disrupting the feel of a given track.

Like its beginning, the end of this less intense transitional passage is commonly announced by a cymbal crash that resounds through the initial bars of the reprisal. The latter is achieved by inundating the listener with the full track, including pads used earlier in the track. The aim of this is to obtain a surge of emotional energy, often heightened by the introduction of additional snare drum sounds, filter sweeps and one or more further counter-melodies. This peak is then sustained for anything from thirty-two to sixty-four bars, after which most elements of the track other than the basic drum loop are withdrawn from the mix one by one. This paves the way for bringing a track to a close with just the essential drum loop playing, generally for sixteen bars. In a live set this concluding drum loop also functions as a transitional passage used by the DJ to bring in the next track.

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[132] This term to a technique commonly applied in sequencing software and refers to predetermining changes of various parameters and settings of a track, for example volume, filtering, etc., thus leaving these changes to be performed automatically by the software during playback instead of having to repeat them manually.

In conclusion the generic structure employed in many trance tracks, with its characteristic build-ups and releases, can be graphically illustrated as follows:

Figure 31   Example of a song map
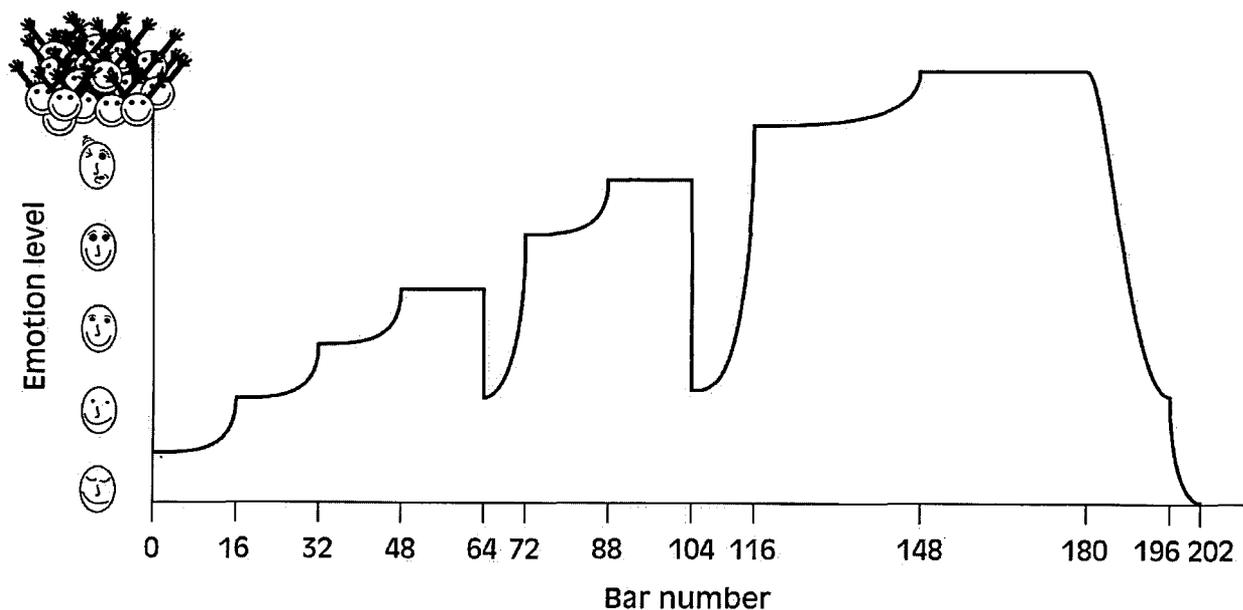
Although this only serves to provide a generalised indication of the different sections and intensity levels one is likely to encounter in a trance track, it does very aptly illustrate the basic intention behind most trance tracks. This is in essence to use the succession of musically intensifying sections in a track to conduct the listener through corresponding stages of emotional exhilaration, eventually leading to an exceedingly euphoric state followed by a discharge of emotion in anticipation of the succeeding track.

6.5   Analysis of a trance track

6.5.1   Introduction

While the previous sections of this thesis focused more on the characteristics of trance music in the broader sense, the present section is intended to illustrate some of these points regarding the structure and content of trance. This is done through an analysis of a chosen progressive trance track that can be regarded as representative of the subgenre. Although the selected track is therefore, to some extent, used as a means to an end, the main focus of the analysis will fall on the structure and content of the track itself.

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The progressive trance track selected for analysis is *For An Angel* by Paul van Dyk (see Section 5.1). The original version of this track was produced in 1994, but it was the remixed edition, *PvD's E-Werk Club Mix*, that achieved popularity in 1998 when it was released on the CD, *45 RPM*. With relation to the way in which the following analysis is approached, it must be noted that it is in part based on the guidelines provided in Snoman (2004), but departs from this in many respects. It must also be emphasised that it is not intended as a critical or comparative evaluation of this track and is, as such, not aimed at making value judgements.

The audio track *For An Angel* by Paul van Dyk has been attached at the end of the thesis in mp3 format to provide a further aid to the reader in establishing the various entry points of the different sections, to identify what sound textures are used, what equipment is utilised in the production of the song and to get a basic idea of the rhythm and groove of a progressive trance track.

6.5.2   Instrumentation and orchestration

The rhythm section

The rhythm section of the track involves the following components:

1. Kick drum
2. Claps
3. Closed hats 1
4. Closed hats 2
5. Open hats
6. Cymbals
7. Reverse cymbal
8. Cow bell
9. Shaker
10. Snare build-up
11. Tambourine

The kick drum embodies the fundamental beat of the track and, as such, already firmly establishes the beat as 138 BPM in the Introduction, also conforming to the four-to-the-floor time signature associated with trance music. This rather sparse beginning notably serves to accommodate the process of beat-matching, thus making it possible to achieve a smooth transition between different

tracks. Although the rhythmic pattern of the kick drum does not change throughout the length of the track, there are instances where it is temporarily removed for effect (see Section 6.5.3).

The clap sound is used throughout most of the track and is characteristically placed on the second and fourth beat in a bar. It is only occasionally temporarily withdrawn from the mix at certain points in the track, most notably in breaks. The cymbal, on the other hand, is mainly used to place emphasis on certain notes, indicate new sections in the music, and heighten the tension at the onset of a climax. The reverse cymbal is additionally employed to facilitate transitions, not only between individual blocks, but also between sections. It is employed as a means of enhancement of the various layers during build-ups, with delays often being applied for effect.

Moreover, closed- and open hats are employed to further enrich the texture of the track. The closed hats serve to add a stereo element to the track. This is achieved by using two different channels of sound, respectively panned left and right, with each being assigned a different rhythmic pattern. When applied, the open hats are placed on every second quaver. They are intended to add variety to the texture between kicks and to increase the density of the texture in climax sections by adding more complexity to it. As such they also serve to enliven the overall sound of the track.

Lastly, use is made of a cow bell sound and tambourine. The former serves to add timbre variety in conjunction with the closed- and open hats, thus helping to bind the various layers together. The tambourine is intended to supplement the timbre and layering of the rhythm section, but is notably not used in climaxes or build-ups.

Melodic and harmonic aspects

The following components are responsible for providing the melodic- and harmonic elements in the track:

1. Bass 1
2. Bass 2
3. Synthesiser 1
4. Synthesiser 2
5. Synthesiser 3
6. Synthesiser 4
7. Synthesiser 5

8. Arpeggiator 1
9. Arpeggiator 2
10. Pad 1
11. Piano pad

While all the various synthesisers are used for playing counter-melodies, only Synthesiser 1 and 2 are used to play the main melody of the track. These synthesiser sounds, the melodic material assigned to them and the way in which they are used in relation to each other are discussed in greater detailed in Section 6.5.3.

The piano pad is used to play material that is based on the main melody, although in a more condensed form with markedly longer, more sustained note values. It serves to provide a change of timbre in instances where it is employed. In general, however, both Pad 1 and the Piano pad are not employed very frequently.

The bass line act as a means of support for the general chord structure of the track, with the main section of the track having the following harmonic foundation:

Introduction	A section	B section	A section	Release
d minor	d – a – C – d	d minor	d – a – C – d	d minor

This is discussed in greater detail in Section 6.5.3. Lastly the two arpeggiators are used to provide binding material that is issued forth in semiquavers, and snare drum build-ups are applied to heighten tension, usually before a climax

Voice and FX

It should be noted that the track makes use of a number of different whoosh sounds and a whispered voice sound. Although the latter ties in with the title of the track by whispering the words "Angel" and "For An Angel", both this and the various whoosh sound are used mainly for effect are at certain points in the track.

6.5.3   Analysis of the formal structure

The track can broadly be divided into five sections, each being built up of smaller units or blocks consisting of eight bars each (see Appendix A). This division is inherent in the track itself as some

variation or other is introduced in each consecutive block. The broader sections can be outlined as follows:

Introduction	A section	B section	A section	Release
Blocks 1 to 7	Blocks 8 to 16	Blocks 17 to 21	Blocks 22 to 29	Blocks 30 to 33

The various sections are also contrived in such a way as to obtain a gradual build-up of energy, interspersed with breaks, that ultimately leads to the final climactic section of the track when the A section returns. As is the norm, the final climax is followed by a concluding section that acts as a means of releasing the energy of the track, thus paving the way for the beginning of the next track to be played. As such, the overall formal structure of the track ties in with a specific dynamic contour that can to a certain extent be seen by observing the way in which the distinct sections tie in with the track's wave pattern. This can be illustrated as follows:
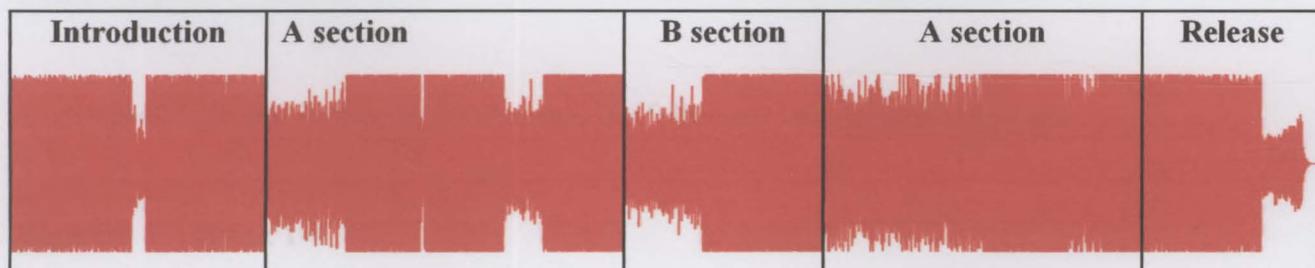
Striking about this representation is the seemingly constant level maintained during various spans in the track, the first of which is already at the beginning of the introduction. This, however, is due to the substantial amount of compression that has been applied to keep it within the dynamic headroom[133] that most audio equipment supports. Although this does not make the wave form an exact graphic representation of the dynamic contour of the track, it is very useful in delineating the various climaxes and breaks.

With regard to the following analysis it must, however, be emphasised that a thoroughgoing discussion of all the elements found in the track fall outside the scope of this thesis. Consequently, mention will only be made of some of the more salient points of each distinct section, with a more detailed representation of the elements of the track being provided in the analysis tables in Appendix A.

Introduction

The Introduction is of cardinal importance in giving the DJ room to match the track's beat to that of the preceding track. For this reason the present track begins with only the kick drum, bass line and claps being heard in Blocks 1 to 2. Here the claps play the two standard patterns that are used at various points in the track. These two patterns are as follows:

Claps 1

Claps 2

The Introduction can further be divided into the following two distinct segments:

Segment 1: Block 1-4

In essence this segment constitutes a gradual piling up of various elements, with a new element being added to the mix at the beginning of each block. Notably, the introductory character is strengthened by the insertion of the voice with the phrase "For An Angel", spanning bars 7 and 8 of Block 1.

Two important motifs are introduced in this segment. The first is *Bass 2 (1)*[134], which enters in Block 1. It is as follows:

Bass 2 (1)

---

[133] This refers to the ability of a power amplifier to handle short bursts of power without overloading. Thus an amplifier with a high headroom will sound louder than one with a lower headroom (White 2002:108).

[134] This nomenclature refers both to the instrument playing the relevant motif, Bass 2, and the specific motif being played, that is (1). In the case of the bass line, for example, Bass 2 has two distinct motifs throughout the track. These will thus be named *Bass 2 (1)* and *Bass 2 (2)* respectively, serving as a means to clearly distinguish between them. This format is also applied to all other motifs found in the track.

From Block 2 the closed hats are added to this, however simultaneously playing two different patterns. These two patterns are *Ch 1 (1)* and *Ch 2 (1)*, and appear as follows:

Ch 1 (1)

Ch 1 (2)

Notably, in all instances throughout the track where Ch 1 (1) occurs, it appears together with Ch 2 (1).

Also of great importance is the introduction of *Synth 1 (1)* in Block 3. This motif is derived from the main theme first stated in Section A, and later returns in Section B. It is as follows:

Synth 1 (1)

In Block 4 a short removal of the beat is encountered that spans from bar 30 to 32, with Bass 2 (1) and Synth 1 (1) also being withdrawn. On the one hand this serves as a means of briefly releasing the level of tension reached thus far, while on the other hand acting as a device to lead in the subsequent block. During this removal of the beat a descending glissando, ascending woosh noise and the voice with the words "For An Angel" appear simultaneously, with a rapidly ascending arpeggiator, in this case Arpeggiator 1, in bar 32 effecting a thrust towards the beginning of Block 5.

Segment 2:   Block 5-7

In this segment the beat is reintroduced with the simultaneous return of the kick drum, claps, closed hats, open hats, Bass 2 (1) and Synth 1 (1). Where Segment 1 introduced these elements one by one, Segment 2 introduces them all at once, thereby immediately establishing a greater level of energy than in the previous segment.

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Segment 2, however, also notably expands upon the material that was stated in Segment 1 by introducing a number of new motifs to the mix. These are *Bass 1 (2)*, *Synth 2 (1)*, *Synth 2 (2)* and *Synth 3 (1)*, and are as follows:

Like Synth 1 (1) these synthesiser motifs are all more or less based on the main theme of the track. Lastly, the percussion contingent of the mix is expanded in Block 5 by the addition of a cow bell playing the following pattern:

A section

The beginning of the A section is announced by the removal of the kick drum from the mix while the main theme and a number of counter-melodies are introduced. Like the Introduction the A section can be divided into a number of distinct segments:

Segment 1: Block 8-9

The main theme introduced in the first segment of the A section is *Synth 1 (2)*, which is as follows:

Along with this a counter-melody derived from the main theme, *Synth 2 (3)*, as well as two further motifs, *Bass 2 (2)* and *Arp 2 (2)*, are introduced at the beginning of Block 8. These are as follows:

The introduction of these motifs is then followed by the addition of *Synth 3 (2)* in Block 9. The latter is also derived from the main theme, and appears as follows:

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While Segment 1 of the A section acts as a vehicle for the first statement of the main theme, it also forms a gradual build-up towards a climax reached at the beginning of the following segment. Two important elements in effecting this build-up are respectively the addition of Synth 3 (2) as stated above and the insertion of a snare drum roll which changes to demisemiquavers in bar 72 after having maintained a semiquaver pattern in bars 65 to 71.

Segment 2: Block 10-13

This segment brings an end to the removal of the beat and, as such, introduces the first climax of the track based around the main theme. The fact that this climax has been reached is further underscored by the insertion of the voice repeating the word "Angel" a number of times at the beginning of Block 10.

The material found in Blocks 10 and 11 in essence represents a continuation of the material already present in Block 9, although with the restored presence of the beat as stated. A notable deviation, however, is found in bar 88 where the kick drum, claps, closed hats, open hats, Bass 1 (1) and Arpeggiator 2 (2) are removed from the mix for the duration of the bar, while Synth 1 (2), Synth 2 (3) and Synth 3 (2) are at the same time faded out towards the end of the bar. As such, bar 88 serves as a slight release which serves to increase the impact of the return of the beat immediately thereafter.

The beat is resumed in full force in Block 12, accompanied by the return of virtually the same material as in Blocks 10 and 11. Although Synth 1 (2) and Synth 2 (3) are reintroduced to the mix in Block 12, Synth 3 (2) does not return, but its place is taken by the Piano pad that plays a more sustained version of the main theme.

Segment 3: Block 14

After the climax reached in Blocks 10 to 13, Block 14 releases a great deal of energy in the track by introducing a short break. Although the kick drum and open hats are removed from the mix during this block, the claps remain up to the end of bar 108 and the closed hats and shaker are present during the full duration of the block.

During this break Synth 1 (2), Synth 2 (3) and the Piano pad continue to play, with the latter being restricted to the background for the duration of the block. Notable is also the return of Synth 3 (2)

to the mix at the beginning of the block, as well as a number of effects used toward the end of Block 14 as a means of again building up towards the following segment.

Segment 4: Block 15-16

With Blocks 15 and 16 another climax is reached in the track. The beat returns at the beginning of this segment along with virtually the same material as found in Blocks 12 and 13. This then paves the way for the beginning of the B section which starts in Block 17.

B section

Like the A section the start of the B section is announced by means of a removal of the beat. It is important to note that the B section plays a two-sided role within the context of the track. While it at first effects a release of energy after the last climax of the A section, it subsequently forms a long build-up towards the return of the A section. These functions of the B section can best be seen through looking at its distinct sections, which are as follows:

Segment 1: Block 17-18

In addition to the kick drum, the open hats, Bass 1 (1), Synth 1 (2), Synth 2 (3), Synth 3 (2), Piano pad, Arpeggiator 1 and Arpeggiator 2 are all removed from the mix at the beginning of Block 17. This effects a dramatic break from the A section and provides a powerful release of energy. Despite this thinning down of the texture, a number of new elements are introduced to the mix to lend the B section its own distinctive character. These are the cow bell, Synth 1 (1) which was first used in Block 3 and here replaces Synth 1 (2), and *Synth 4*, a slowly increasing whoosh sound in the form of Pad 1 and a snare build-up. Synth 4 plays the following motif:

Although Block 17 is the greatest point of release after the A section, a snare drum build-up is already introduced here that changes to demisemiquavers in bar 136 after having maintained a semiquaver pattern in bars 129 to 135. This leads to a heightened energy level in Block 18 where both Bass 2 (1) and Synth 3 (1) are reintroduced and the whoosh sound of Pad 1 gradually grows in intensity.

Segment 2: Block 19-21

Block 19 marks the return of the beat, thus reintroducing a great amount of energy to the mix. To this is added Bass 1 (2) and *Synth 5,* with the latter playing the following motif:

In conjunction with the ever growing whoosh sound of Pad 1, the addition of the above elements contribute significantly to augmenting the tracks momentum in building up towards the return of the A section. The build-up increases with the addition of tambourines and an additional growing whoosh effect in Block 20. Although the latter whoosh effect is then left out in Block 21, the intensity of the music is increased substantially by the insertion of *Cymb 2,* as well as a pad whoosh in bars 167 to 168. The pattern played by Cymb 2 is as follows:

Thus the B section leads in the final and most intense climax section of the track that begins with the return of the A section in Block 22.

A section

This section entails a return of the A section and presents essentially the same structure and content as in its original statement. While notably retaining the order in which the theme and various motifs were introduced, the A section is given here in a slightly more condensed form that spans eight blocks as opposed to the nine of its first appearance. As such, the present section can be divided into the following distinct segments.

Segment 1: Block 22-25

As stated above, the beginning of the return of the A section is reached after a significant build-up in the B section. Despite the great level of tension reached at the end of the B section, the return of

the A section is poignantly effected by a sudden removal of the beat along with most of the elements that were present in the mix at the end of the B section.

The first segment of the present section starts off with only three elements in Block 22. These are Bass 2 (2), Synth 2 (3) with the notable addition of delays, and a new pattern played by Closed hats 1, namely *Ch 1 (2)*. The latter pattern is as follows:

While Bass 2 (2), Synth 2 (3) continue in Block 23, Synth 1 (2) and Arp 2 (2) are here added to the mix along with a reversion of the closed hats pattern back to Ch 1 (1). Thus with Block 23 the track gradually begins to build up anew towards the reintroduction of the beat in Block 26.

This build-up continues in Blocks 24 and 25. To the former is added claps pattern 1 and Synth 3 (2), with the claps already hinting more strongly at the imminent return of the beat. Block 25 subsequently contains a reintroduction of the Piano pad and features a quite intense but brief build-up in bar 200. The latter is achieved by introducing of a cymbal at the beginning of the bar, followed by the addition of a reverse cymbal on the third and fourth beat of the bar

Segment 2: Block 26-27
A significant climax is reached in Block 26 with the reintroduction of the kick drum to the mix. This block also features a return of claps patterns 1 and 2, the open hats, the shaker, Bass 1 (1) which replaces Bass 2 (2), and Arp 1 (2). Block 27 then repeats the material stated in Block 26

Segment 3: Block 28
A small break in the tension of the track is achieved in this block by removing the kick drum from the mix. The beginning of this segment is further accentuated by introduction of the voice with the word "Angel" in bar 217, with a delay thereof up to bar 218. While the removal of the kick drum effects a decrease in energy, a snare drum build-up is also introduced at the beginning of the block as a means of building up to the final climax reached in Block 29. In this regard the snare drum plays semiquavers in bars 217 to 223 and then reverts to demisemiquavers in bar 224, thus bringing the build-up in the next block to a head.

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Segment 4:   Block 29

The final climax of the present section is reached in Block 29. Although Arp 1 (2) is removed in this block, the kick drum returns in all its glory and is reinforced by the addition of the cow bell and a whoosh effect that builds up towards the end of the block. Thus the return of the A section is brought to a close, flowing over into the Release section of the track which starts in Block 30.

Release

The aim of the Release section is to bring the track to a close by releasing the greater part of the energy present in the track at the close of the return of the A section. As such, it can be divided into the following two distinct segments:

Segment 1:   Block 30-31

This segment represents the first stage of the Release section. It is introduced by the voice stating the word "Angel" at the beginning with delays thereof lasting up to the end of bar 235. Furthermore Bass 1 (2) replaces Bass 1 (1), Bass 2 (1) is added to the mix, Synth 1 (1) replaces Synth 1 (2), and Synth 2 (3) and Synth 3 (2) are removed from the mix. Block 31 then essentially repeats Block 30, however, with the addition of a snare drum build-up leading up to Block 32. Once again the snare drum build-up consists of semiquavers in bars 240 to 246 and then changes to demisemiquavers in bar 247.

Segment 2:   Block 32-33

Although Block 31 in effect builds up towards Block 32, the latter effects an even greater release of energy than at the beginning of Segment 1 of the Release section. In Block 32 a number of elements are further removed from the mix. These include the shaker, open hats, Bass 1 (2) and Synth 1 (1). Thus the track reverts to a much more sparse texture and a significantly lower energy level, in turn serving to aid the DJ in beat matching a subsequent track to this material. In order to maintain interest, however, Pad 1 is added in Block 32, providing a whoosh sound that begins as a subtle underlying timbre and gradually opens up towards the end of Block 33.

In Block 33 the kick drum is removed from the mix, leaving only claps pattern 1, Ch1, Bass 2 (1) and the Pad 1 whoosh to bring the track to a close. While the Pad 1 whoosh opens up towards the

end of the block, another whoosh effect is added in bar 262 while the claps, Ch 1 and Bass 2 (1) are faded out in bar 263. Thus the track concludes with delays of bar 263 fading away after the end of Block 33.

CHAPTER 7: CONCLUSION

The present study first and foremost revealed that EDM, and even trance music on its own, represents an extremely broad and entangled area in which much research remains to be undertaken before a better understanding of this diverse field can be formed. Furthermore, while this study provides a glimpse of the technology involved in producing trance music, this is in itself an intricate field that still presents much scope for future research.

Lastly, the study revealed that it is indeed possible to identify not only general characteristics shared by a number of EDM subgenres, but indeed to isolate more specific characteristics that distinguish one trance subgenre from the next. However, it became acutely evident that more thoroughgoing academic analysis will still have to be done in order to shed more light on the intricacies in this regard.

APPENDIX A: TABLES OF ANALYSIS - FOR AN ANGEL

List of abbreviations used in the analysis tables:

Kick:	Kick drum
Claps:	Claps
Cymb:	Cymbal
Rev cymb:	Reverse cymbal
Ch1:	Closed hats 1
Ch 2:	Closed hats 2
Oh:	Open hats
Shaker:	Shaker
Cb:	Cowbells
Tamb:	Tambourine
Bass 1:	Bass 1
Bass 2:	Bass 2
Arp1:	Arpeggiator 1
Arp2:	Arpeggiator 2
Synt1:	Synthesiser 1
Synt2:	Synthesiser 2
Synt3:	Synthesiser 3
Synt4:	Synthesiser 4
Synt5:	Synthesiser 5
Pad 1:	Pad 1
Piano Pad:	Piano Pad
Voice:	Voice
FX:	Effects
Sb:	Snare build-up

Block no.	1								2							
Bar no.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Kick																
Claps	1	1	1	2	1	1	1	2	1	1	1	2	1	1	1	2
Cymb																
Rev cymb																
Ch 1																
Ch 2																
Oh																
Shaker																
Cb																
Tamb																
Bass 1																
Bass 2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Arp 1																
Arp 2																
Synth 1																
Synth 2																
Synth 3																
Synth 4																
Synth 5																
Pad 1																
Piano pad																
Voice							For an Angel									
FX																whoosh
Sb																

Block no.	3								4							
Bar no.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
Kick																
Claps	1	1	1	2	1	1	1	2	1	1	1	2	1			
Cymb																
Rev cymb																
Ch 1									1	1	1	1	1	1	Ch 1	1
Ch 2									1	1	1	1	1	1	Ch 2	1
Oh																
Shaker																
Cb																
Tamb																
Bass 1																
Bass 2	1	1	1	1	1	1	1	1	1	1	1	1	1			
Arp 1																d
Arp 2																
Synth 1	1		1		1		1		1		1		1			
Synth 2																
Synth 3																
Synth 4																
Synth 5																
Pad 1	e															
Piano pad															↓ glissandi	
Voice															For An Angel	
FX															↑ whoosh	
Sb																

Block no.	5								6							
Bar no.	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
Kick																
Claps	1	1	1	2	1	1	1	2	1	1	1	2	1	1	1	2
Cymbal	1								1							
Rev cymb																
Ch 1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		1
Ch 2	1	1	1	1	1	1	1	1	1	1	1	1	1	1		1
Oh	1	1	1	1	1	1	1	1	1	1	1	1	1	1		1
Shaker																
Cb																
Tamb																
Bass 1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Bass 2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Arp 1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		1
Arp 2																
Synth 1	1		1		1		1		1		1		1			1
Synth 2	1			2	1			2	1			2	1			2
Synth 3		1		1		1		1		1		1		1		1
Synth 4																
Synth 5																
Pad 1																
Piano pad																
Voice																
FX																whoosh	whoosh
Sb																

Block no.	7								8							
Bar no.	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64
Kick	▓	▓	▓	▓	▓	▓	▓	▓								▓
Claps	1	1	1	2	1	1	1	2								
Cymb	1															
Rev cymb																
Ch 1	1	1	1	1	1	1	1	1								
Ch 2	1	1	1	1	1	1	1	1								
Oh	1	1	1	1	1	1	1	1								
Shaker																
Cb	▓	▓	▓	▓	▓	▓	▓	▓								
Tamb																
Bass 1	2	2	2	2	2	2	2	2								
Bass 2	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2
Arp 1	faster modulation															
Arp 2									▓	▓	2	▓	▓	▓	2	▓
Synth 1	1		1		1		1		▓	▓	2	▓	▓	▓	2	▓
Synth 2	1			2	1			2	▓	▓	3	▓	▓	▓	3	▓
Synth 3		1		1		1		1								
Synth 4																
Synth 5																
Pad 1																
Piano pad																
Voice									Angel	Angel	Angel	Angel				
FX																
Sb								▓								

Block no.	9								10							
Bar no.	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
Kick																
Claps	1	1	1	2	1	1	1	1	1	1	1	2	1	1	1	2
Cymb																
Rev cymb																
Ch 1									1	1	1	1	1	1	1	1
Ch 2									1	1	1	1	1	1	1	1
Oh																
Shaker																
Cb																
Tamb																
Bass 1											1				1	
Bass 2			2				2									
Arp 1																
Arp 2			2				2				2				2	
Synth 1			2				2				2				2	
Synth 2			3				3				3				3	
Synth 3			2				2				2				2	
Synth 4																
Synth 5																
Pad 1																
Piano/pad																
Voice											Angel					
FX				noise whoosh												
Sb			16 beat					32								

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Block no.	11								12							
Bar no.	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96
Kick																
Claps	1	1	1	2	1	1	1		1	1	1	2	1	1	1	2
Cymb																
Rev cymb																
Ch 1	1	1	1	1	1	1	1		1	1	1	1	1	1	1	1
Ch 2	1	1	1	1	1	1	1		1	1	1	1	1	1	1	1
Oh																
Shaker								16 beat								
Cb																
Tamb																
Bass 1			1			1					1				1	
Bass 2																
Arp 1																
Arp 2			2			2					2				2	
Synth 1			2			2					2				2	
Synth 2			3			3					3				3	
Synth 3			2			2										
Synth 4																
Synth 5																
Pad 1																
Piano/pad											1				1	
Voice								for an..								
FX								Whoosh								
Sb				16 beat												

Block no.	13								14							
Bar no.	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112
Kick																
Claps	1	1	1	2	1	1	1	2	1	1	1	2				
Cymb																
Rev cymb																
Ch 1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Ch 2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Oh																
Shaker																
Cb																
Tamb																
Bass 1			1				1									
Bass 2											2				2	
Arp 1																
Arp 2			2			2				2				2		
Synth 1			2			2				2				2		
Synth 2			3			3				3				3		
Synth 3										2				2		
Synth 4																
Synth 5																
Pad 1																
Piano/pad			1			1				1				1		
Voice															Angel	
FX															Whoosh	
Sb												16beat				

107

Block no.	15								16							
Bar no.	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128
Kick																
Claps	1	1	1	2	1	1	1	2	1	1	1	2	1	1	1	2
Cymb	1															
Rev cymb																
Ch 1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Ch 2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Oh																
Shaker																
Cb																
Tamb																
Bass 1			1				1				1				1	
Bass 2																
Arp 1			2				2				2				2	
Arp 2			2				2				2				2	
Synth 1			2				2				2				2	
Synth 2			3				3				3				3	
Synth 3			2				2				2				2	
Synth 4																
Synth 5																
Pad 1																
Piano/pad																
Voice			Angel													
FX																
Sb																

Block no.	17								18							
Bar no.	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144
Kick																
Claps	1	1	1	2	1	1	1	2	1	1	1	2	1	1	1	2
Cymb	1								1							
Rev cymb																
Ch 1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Ch 2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Oh																
Shaker																
Cb																
Tamb																
Bass 1																
Bass 2									1	1	1	1	1	1	1	1
Arp 1																
Arp 2																
Synth 1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Synth 2																
Synth 3										1		1		1		1
Synth 4																
Synth 5																
Pad 1							slow whoosh									
Piano/pad																
Voice																
FX																
Sb								32 beat								

Block no.	19								20							
Bar no.	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160
Kick																
Claps	1	1	1	2	1	1	1	2	1	1	1	2	1	1	1	2
Cymb	1								1							
Rev cymb																
Ch 1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Ch 2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Oh																
Shaker																
Cb																
Tamb																
Bass 1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Bass 2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Arp 1																
Arp 2																
Synth 1																
Synth 2																
Synth 3																
Synth 4																
Synth 5																
Pad 1																
Piano/pad																
Voice																
FX												Whoosh				
Sb																

Block no.	21								22							
Bar no.	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176
Kick																
Claps	1	1	1	2	1	1	1	2								
Cymb	2	2	2	2	2	2	2	2								
Rev cymb																
Ch1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2
Ch 2	1	1	1	1	1	1	1	1								
Oh																
Shaker																
Cb																
Tamb																
Bass 1	2	2	2	2	2	2	2	2								
Bass 2	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2
Arp 1																
Arp 2																
Synth 1																
Synth 2									3 + (delay)				3 + (delay)			
Synth 3																
Synth 4																
Synth 5																
Pad 1	FM Whoosh															
Piano/pad																
Voice																
FX							pad whoosh									
Sb																

111

Block no.	23								24							
Bar no.	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192
Kick																
Claps									1	1	1	1	1	1	1	1
Cymb																
Rev cymb																
Ch 1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Ch 2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Oh																
Shaker																
Cb																
Tamb																
Bass 1																
Bass 2			2				2				2				2	
Arp 1																
Arp 2			2				2				2				2	
Synth 1			2				2				2				2	
Synth 2			3				3				3				3	
Synth 3											2				2	
Synth 4																
Synth 5																
Pad 1																
Piano/pad																
Voice																
FX																*
Sb																

* = whoosh

112

Block no.	25								26							
Bar no.	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208
kick																
Claps	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	2
Cymb								3	1							
Rev cymb																
Ch 1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Ch 2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Oh																
Shaker																
Cb																
Tamb																
Bass1											1				1	
Bass2			2				2									
Arp 1											2				2	
Arp 2			2				2				2				2	
Synth 1			2				2				2				2	
Synth 2			3				3				3				3	
Synth 3			2				2				2				2	
Synth 4																
Synth 5																
Pad1																
Piano/pad																
Voice																
FX																
Sb																

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Block no.	27								28							
Bar no.	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224
Kick																
Claps	1	1	1	2	1	1	1	2	1	1	1	2	1	1	1	2
Cymb									1							
Rev cymb																
Ch 1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Ch 2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Oh																
Shaker																
Cb																
Tamb																
Bass 1			1				1				1				1	
Bass 2																
Arp 1			2				2				2				2	
Arp 2			2				2				2				2	
Synth 1			2				2				2				2	
Synth 2			3				3				3				3	
Synth 3			2				2				2				2	
Synth 4																
Synth 5																
Pad 1																
Piano/pad																
Voice									Angel							
FX																
Sb									16 beat							32 beat

Block no.	29								30							
Bar no.	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240
Kick																
Claps	1	1	1	2	1	1	1	2	1	1	1	2	1	1	1	2
Cymb																
Rev cymb																
Ch 1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Ch 2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Oh																
Shaker																
Cb																
Tamb																
Bass 1			1				1		2	2	2	2	2	2	2	2
Bass 2									1	1	1	1	1	1	1	1
Arp 1																
Arp 2	2	2	2	2	2	2	2	2								
Synth 1			2				2		1		1		1		1	
Synth 2			3				3									
Synth 3			2				2									
Synth 4																
Synth 5																
Pad 1																
Piano/pad																
Voice									Angel	Angel	Angel	Angel				
FX					Whoosh ↑											
Sb																

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Block no.	31								32							
Bar no.	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256
Kick																
Claps	1	1	1	2	1	1	1	2	1	1	1	1	1	1	1	1
Cymb																
Rev cymb																
Ch 1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Ch 2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Oh																
Shaker																
Cb																
Tamb																
Bass 1	2	2	2	2	2	2	2	2								
Bass 2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Arp 1																
Arp 2																
Synth 1	1		1		1		1									
synth 2																
Synth 3																
Synth 4																
Synth 5																
Pad 1												d a slow whoosh				
Piano/pad																
Voice																
FX																
Sb	16 beat							32								

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Block no.	33								34							
Bar no.	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272
Kick																
Claps	1	1	1	1	1	1	1	1								
Cymb																
Rev cymb									delays							
Ch 1	1	1	1	1	1	1	1	1								
Ch 2	1	1	1	1	1	1	1	1								
Oh																
Shaker																
Cb																
Tamb																
Bass 1																
Bass 2	1	1	1	1	1	1	1	1								
Arp 1																
Arp 2																
Synth 1																
Synth 2																
Synth 3																
Synth 4																
Synth 5																
Pad 1	FM whoosh															
Piano/pad																
Voice						pad whoosh										
FX																
Sb																

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APPENDIX B: DISCOGRAPHY - PAUL VAN DYK

The following list of recordings released by Paul van Dyk should not be regarded as providing an exhaustive listing of his work. While a more comprehensive list of this artist's releases would certainly not be without merit, such an undertaking falls outside the scope of the present thesis. Consequently, the ensuing discography provides a list of recordings Van Dyk has released under his own record label, *Vandit Records*, in his country of residence and, as such, provides a broad overview of his works according to the format in which they were released, respectively vinyl, compact disc (CD) and digital video disc (DVD).

I.   Vandit Records

(1)   Vinyls

Title: Paul Van Dyk - Another Way (Germany)
Released: 1999

Title: Paul Van Dyk - Another Way / Avenue (Germany)
Released: 1999

Title: Paul Van Dyk - Out There And Back (Germany)
Released: 2000

Title: Thrillseekers, The - Synaesthesia (Vinyl One) (Germany)
Released: 2000

Title: Thrillseekers, The - Synaesthesia (Vinyl Two) Germany
Released: 2000

Title: Paul Van Dyk - Tell Me Why (The Riddle) Germany
Released: 2000

Title: Paul Van Dyk - Tell Me Why (The Riddle) Germany
Released: 2000

Title:	Paul van Dyk – Tell Me Why (The Riddle) (Promo)
Released:	2000

Title:	Paul Van Dyk - We Are Alive (Germany)
Released:	2000

Title:	Jam & Spoon - Be Angeled (Vinyl Two) Germany
Released:	2001

Title:	Jam & Spoon - Be. Angeled (Vinyl One) (Germany)
Released:	2001

Title:	Cirillo – Cristallo
Released:	2001

Title:	Paul Van Dyk - Columbia EP (Germany)
Released:	2001

Title:	Paul Van Dyk - Columbia EP (Germany)
Released:	2001

Title:	Paul Van Dyk - We Are Alive (Germany)
Released:	2001

Title:	Ghostland - Guide Me God (Germany)
Released:	2002

Titles:	Starchaser - "Falling Star" (edit)
Released:	2003

Title:	Paul van Dyk feat. Hemstock&Jennings 2003
Released:	2003

Title:	Paul Van Dyk - Nothing But You (Germany)
Released:	2003

Title: Paul Van Dyk - Nothing But You (Faithless Remix) Germany

Released: 2003

Title: Paul Van Dyk - Time Of Our Lives / Connected (Germany)

Released: 2003

Title: Paul Van Dyk - Crush

Released: 2004

Title: Agnelli & Nelson - Holding Onto Nothing (Germany)

Released: 2004

Title: Agnelli & Nelson feat. Aureas (Remix)

Released: 2004

Title: Techno-Punk - Energize / Saturday (Germany)

Released: 2004

Title: Nick Lunn & Y.O.M.C. Present Techno Punk (Remix)

Released: 2004

Title: Paul Van Dyk - Reflections (Special Edition)

Released: 2004

Title: Paul Van Dyk - For An Angel Germany

Released: 2005

Title: Kuffdam & Plant Remix 2005 "Summerdream"

Released: 2005

Title: Kuffdam & Plant - Summerdream (Germany)

Released: 2005

Title: Paul Van Dyk - The Other Side (Germany)

Released: 2005

Title: Paul Van Dyk - The Other Side (Germany)

Released: 2005

Title: Paul Van Dyk - The Other Side (Germany)

Released: 2005

(2)   CDs

Title: Paul Van Dyk - Another Way / Avenue Mixed (Germany)

Released: 1999

Title: Paul Van Dyk - Another Way / Avenue (Germany)

Released: 1999

Title: Paul Van Dyk - Another Way / Avenue Mixed (Germany)

Format: CDE (Enhanced CD), Mixed

Title: Paul Van Dyk - Out There And Back (Germany)

Released: 2000

Title: Paul Van Dyk - Out There And Back (Germany)

Released: 2000

Titles: Paul Van Dyk - Tell Me Why (The Riddle) (Germany)

Released: 2000

Title: Paul Van Dyk - We Are Alive (CD 2) (Germany)

Released: 2000

Title: Paul Van Dyk - We Are Alive (Germany)

Released: 2000

Title: Paul Van Dyk - We Are Alive (Germany)

Released: 2000

Title: Paul Van Dyk - We Are Alive (CD 2) (Germany)

Released: 2000

Title: Paul Van Dyk - Columbia EP (Germany)

Released: 2001

Title: Various - Vandit - The Sessions 01 (Germany)

Released: 2002

Title: Paul Van Dyk - Crush (Germany)

Released: 2003

Title: Various - Vandit - The Sessions 02 (Germany)

Released: 2003

Title: Freefall

Released: 2004

Title: Various - Vandit - The Sessions 03 (The Ibiza Session) (Germany)

Released: 2004

Title: Vandit   2004 "The Sessions 03"

Released: 2004

Title: GMF Berlin Double Mix CD (by Divinity & SuperZandy (CD1))

Released: 2006

Title: 10 Years Gmf Compilation CD

Released: 2006

Title: Various - 10 Years GMF Berlin Compilation (Germany)

Released: 2006

(3)   DVDs

Title: Paul Van Dyk - Global (DVD-CD Combo)

Format: DVD

Released: 2003

APPENDIX C: DISCOGRAPHY - ARMIN VAN BUUREN

The following list of recordings released by Armin van Buuren should not be regarded as providing an exhaustive listing of his work. While a more comprehensive list of this artist's releases would certainly not be without merit, such an undertaking falls outside the scope of the present thesis. Consequently, the ensuing discography provides a list of recordings Van Buuren has released under his own record label and its relevant sublabel, *Armada* and *Armind*, in his country of residence. As such, the list provides a broad overview of his works according to the format in which they were released, respectively vinyl, compact disc (CD) and digital video disc (DVD).

I. Armada Music

(1) Vinyls

Title:	Various - Universal Religion - Chapter One
Released:	2003

Title:	Jan Vayne - Classical Trancelations
Released:	2004

Title:	Jan Vayne - Classical Trancelations Sampler 001 (Netherlands)
Released:	2004

Title:	Jan Vayne - Classical Trancelations Sampler 002 (Netherlands)
Released:	2004

Title:	Jan Vayne - Classical Trancelations Sampler 003 (Netherlands)
Released:	2004

Title:	Jan Vayne - Classical Trancelations Sampler 004 (Netherlands)
Released:	2004

Title:	Various - A State Of Trance 2005 Sampler 001
Released:	2005

Title: Various - A State Of Trance 2005 Sampler 001 (Netherlands)

Released: 2005

Title: Various - A State Of Trance 2005 Sampler 002 (Netherlands)

Released: 2005

Title: Various - A State Of Trance 2005 Sampler 003 (Netherlands)

Released: 2005

Title: Various – State Of trance 2005 Sampler 002

Released: 2005

Title: Armin Van Buuren - Shivers (Netherlands)

Released: 2005

Title: Armin Van Buuren - Shivers (Album Sampler 01) (Netherlands)

Released: 2005

Title: Armin Van Buuren - Shivers (Album Sampler 02): (Netherlands)

Released: 2005

Title: Armin Van Buuren - Shivers (Album Sampler 03) (Netherlands)

Released: 2005

(2)   CDs

Title: Universal Religion - Chapter One (Import)

Released: 2000

Title: Armin Van Buuren - Sunburn (Walk Through The Fire) (Netherlands)

Released: 2003

Title: Various - Universal Religion - Chapter One (Netherlands)

Released: 2003

Title: Various - A State Of Trance 2004 (Netherlands)

Released: 2004

Title: Various - Armada Sampler December 2004 (Netherlands)

Released: 2004

Title: Various - Armada Sampler December 2004

Released: 2004

Title: Motorcycle - As The Rush Comes (Netherlands)

Released: 2004

Title: Various - Universal Religion 2004, Live From Armada At Ibiza (Netherlands)

Released: 2004

Title: Universal Religion - Chapter One (Import)

Released: 2005

Title: Armin Van Buuren - Hymne (Netherlands)

Released: 2005

Title: Armin van Buuren - Hymne

Released: 2005

Title: Armin Van Buuren - Serenity

Released: 2005

Title: Armin Van Buuren - Shivers (Netherlands)

Released: 2005

Title: Various - A State Of Trance 2006 (Netherlands)

Released: 2006

Title: A State Of Trance (Import)

Released: 2006

Title: Various - Miami Winter Music Conference 2006 Sampler (Netherlands)

Released: 2006

(3)   DVDs

Title: Various - Armin Only The Next Level (Netherlands)

Released: 2006

II.   Armind

(1)   Vinyls

Title: Alibi - Eternity (Remixes) (Netherlands)

Released: 2001

Title: Rising Star - Touch Me - Part 2 (Netherlands)

Released: 2001

Title: Shane - Too Late To Turn (Armin Van Buuren Remixes) (Netherlands)

Released: 2002

Title: Darkstar (4) - See Me, Feel Me (Netherlands)

Released: 2002

Title: Armin Van Buuren - Sunburn (Netherlands)

Released: 2002

Title: Armin Van Buuren - Yet Another Day (Netherlands)

Released: 2002

Title: Armin Van Buuren - Yet Another Day (Remix 2) (Netherlands)

Released: 2002

Title: Armin Van Buuren - Yet Another Day (Remixes) (Netherlands)

Released: 2002

Title: Motorcycle - As The Rush Comes (Netherlands)

Released: 2003

Title: Armin Van Buuren - 76 Album Sampler (1/3) (Netherlands)

Released: 2003

Title: Armin Van Buuren - 76 Album Sampler (2/3) (Netherlands)

Released: 2003

Title: Armin Van Buuren - 76 Album Sampler (3/3) (Netherlands)

Released: 2003

Title: Mark Otten - Mushroom Therapy (Netherlands)

Released: 2003

Title: Armin Van Buuren - Sunburn (Netherlands)

Released: 2003

Title: Armin Van Buuren - Blue Fear (Netherlands)

Released: 2004

Title: Armin vs. M.I.K.E. - Intruder / Pound (Netherlands)

Released: 2004

Title: Armin Van Buuren - 76 (Netherlands)

Released: 2004

Title: Fragile (4) - Inertia (Netherlands)

Released: 2005

Title: Armin Van Buuren - Sail (Netherlands)

Released: 2006

Title: Armin van Buuren - Serenity (Sensation White Anthem 2005)

Released: 2005

Title: Armin van Buuren - Serenity

Released: 2005

Title: Armin van Buuren - Serenity (Netherlands)

Released: 2005

Title: Armin Van Buuren - Shivers / Birth Of An Angel (Netherlands)

Released: 2005

Title: Armin Van Buuren - Shivers (The Mixes) (Netherlands)

Released: 2005

Title: Armin Van Buuren - Shivers (Tribal Feel Mix) (Netherlands)

Released: 2005

Title: Armin van Buuren - Who Is Watching (House Mixes)

Released: 2006

Title: Armin Van Buuren - Who Is Watching (Remixes) (Netherlands)

Released: 2006

(2)   CDs

Title: Eternity (CD-Single)

Released: 2000

Title: Perpetuous Dreamer - The Sound Of Goodbye

Released: 2001

Title: Perpetuous Dreamer - The Sound Of Goodbye (Netherlands)

Released: 2001

Title: Armin Van Buuren - Sunburn (Netherlands)

Released: 2003

Title: Armin Van Buuren - Sunburn (Walk Through The Fire) (Netherlands)

Released: 2003

Title: Armin Van Buuren - Yet Another Day

Released: 2003

Title: Armin Van Buuren - Yet Another Day (Netherlands)

Released: 2003

Title: Motorcycle - As The Rush Comes (The Remixes) (Netherlands)

Released: 2004

(3)   DVDs

Title: Armin-The Next Level (Import)

Released: 2006

APPENDIX D: DISCOGRAPHY - TIËSTO

The following list of recordings released by Tiësto should not be regarded as providing an exhaustive listing of his work. While a more comprehensive list of this artist's releases would certainly not be without merit, such an undertaking falls outside the scope of the present thesis. Consequently, the ensuing discography provides a list of recordings Tiësto has released under his own record label and its relevant sublabel, *Black Hole Recordings* and *Magik Muzik*, in his country of residence. As such, the list provides a broad overview of his works according to the format in which they were released, respectively vinyl, compact disc (CD) and digital video disc (DVD).

I. Black Hole Recordings

(1) Vinyls

Title: Various - Tales From The Album Magik (Story Of The Fall) (Netherlands)
Released: 1996

Title: Various - Tales From The Album Magik (Netherlands)
Released: 1997

Title: Various - Tales From The Albums Magik (The Remix Edition) (Netherlands)
Released: 1997

Title: Various - Magik Tales - Far From Earth (Netherlands)
Released: 1999

Title: Stray Dog - Mirror (Netherlands)
Released: 1999

Title: DJ Tiësto - Theme From Norefjell (Netherlands)
Released: 1999

Title: Suburban Train (CD-Single Import)

Released: 2001

Title: 643 (CD-Single Import)

Releases: 2002

Title: Lethal Industry (CD-Single Import)

Released: 2002

Title: Traffic (CD-Single Import) (Germany)

Released: 2003

Title: Traffic (CD-Single Import)

Released: 2003

(2)   CDs

Title: Magik 1: First Flight Magik One CD 1 (Import)

Released: 1997

Title: Various - Magik One - First Flight (Netherlands)

Released: 1997

Title: Various - Magik Two - Story Of The Fall (Netherlands)

Released: 1998

Title: Magik, Vol. 2: Story of the Fall (Import)

Released: 1998

Title: Space Age 2.0

Released: 1998

Title: Flight 643 (CD-Single Import)

Released: 1999

Title: Magik 4: A New Adventure

Released: 1999

Title: DJ Tiësto - Theme From Norefjel (Netherlands)

Released: 1999

Title: In Search Of Sunrise Vol. 2 (Import) (Australia; Germany)

Released: 2000

Title: In Search Of Sunrise Vol. 2 (Import)

Released: 2000

Title: Live At Innercity (Import)

Released: 2000

Title: Space Age 1.0

Released: 2000

Title: Space Age 2.0 (Import) (Netherlands)

Released: 2000

Title: DJ Tiesto - Sparkles

Released: 2000

Title: Space Age 2.0

Released: 2001

Title: Suburban Train (CD-Single Import)

Released: 2001

Title: Flight 643 (CD-Single Import)

Released: 2001

Title: In My Memory (Import) (Netherlands)

Released: 2001

Title: In My Memory

Released: 2001

Title: In Search Of Sunrise (Import) (Germany)

Released: 2001

Title: In Search of Sunrise

Released: 2001

Title: In My Memory (Import) (Netherlands)

Released: 2001

Title: Magik: Live in Amsterdam (Live)

Released: 2001

Title: Magik 1: First Flight (Import)

Released: 2001

Title: Magik Two: Story Of the Fall (Import)

Released: 2001

Title: Magik 2: Story Of the fall (Netherlands)

Released: 2001

Title: Magik 3: Far From Earth

Released: 2001

Title: Magik Three: Far From Earth (CD Import) (Netherlands)

Released: 2001

Title: Magik, Vol. 4: A New Adventure (Import)

Released: 2001

Title: Magik Four: A New Adventure (Import) (Netherlands)

Released: 2001

| Title: | Magik, Vol. 5: Heaven Beyond (Import) |
| Released: | 2001 |

| Title: | Magik 5: Heaven Beyond (Netherlands) |
| Released: | 2001 |

| Title: | Magik Six: Live In Amsterdam (Import) (Netherlands) |
| Released: | 2001 |

| Title: | Magik 6: Live in Amsterdam (Live Import) |
| Released: | 2001 |

| Title: | Magik 7: Live In Los Angeles (Import) (Netherlands) |
| Released: | 2001 |

| Title: | Space Age Inventions EP |
| Released: | 2001 |

| Title: | Space Age 1.0 (Import) (Netherlands) |
| Released: | 2001 |

| Title: | Space Age 1.0 (Import) |
| Released: | 2001 |

| Title: | 643 (CD-Single Import) |
| Releases: | 2002 |

| Title: | In My Memory (Import) |
| Released: | 2002 |

| Title: | In Search Of Sunrise 3 (Panama) |
| Released: | 2002 |

| Title: | In Search Of Sunrise 3: Panama (Import) |
| Released: | 2002 |

Title: Lethal Industry (CD-Single Import)

Released: 2002

Title: Nyana (Import)

Released: 2003

Title: Traffic (CD-Single Import)

Released: 2003

Title: Traffic (Import Single)

Released: 2003

Title: Traffic (CD-Single Import) (Germany)

Released: 2003

Title: Various - Black Hole: Special Collector's Edition 1 (Netherlands)

Released: 2004

Title: In Search of Sunrise Vol. 4: Latin America (Box Set)

Released: 2005

Title: In Search Of Sunrise 4: Latin America (Import) (Germany)

Released: 2005

Title: In Search of Sunrise Vol. 5

Released: 2006

Title: In Search Of Sunrise Vol. 5 (Import) (Germany)

Released: 2006

Title: Just Be (Import)

Released: 2004

Title: Love Comes Again (CD-Single Import)

Released: 2004

Title: Love Comes Again (CD-Single Import - enhanced)

Released: 2004

Title: Parade of the Athletes (Import)

Released: 2006

(3) DVDs

Title: DJ Tiesto - Another Day at the Office

Format: DVD

Released: 2003

Title: Tiesto In Concert

Format: DVD

Released: 2004

Title: Tiesto in Concert 2 (2004) (2005)

Format: DVD

Released: 2005

II.   Magik Muzik

(1)   Vinyls

Title: Allure - We Ran At Dawn (Netherlands)

Released: 2000

Title: DJ Tiesto - Lethal Industry/Suburban Train (Netherlands)

Released: 2001

Title: DJ Tiesto - Urban Train (Netherlands)

Released: 2001

Title: DJ Tiesto - Urban Train (UK)

Released: 2001

Title: DJ Tiesto - In My Memory (Limited Vinyl Edition) (Netherlands)

Released: 2001

Title: Umek - Gatex (UK)

Released: 2002

Title: DJ Tiesto - In My Memeory

Released: 2002

Title: DJ Tiesto - Lethal Industry (Netherlands)

Released: 2002

Title: DJ Tiesto - 643 (Love's On Fire) (Netherlands)

Released: 2002

Title: Tiesto & Junkie XL - Obsession (Netherlands)

Released: 2002

Title: Tiesto - Traffic (Netherlands)

Released: 2003

Title: Mojado - El Toro (Netherlands)

Released: 2004

Title: Tiesto - Just Be (Netherlands)

Released: 2004

Title: Tiesto - Just Be (Remix)

Released: 2004

Title: Tiesto - Love Comes Again (Netherlands)
Released: 2004

Title: Tiesto - Traffic (Netherlands)
Released: 2004

Title: Estuera - Tales From The South (Netherlands)
Released: 2004

Title: Tiesto - Adagio For Strings (Netherlands)
Released   2005

(2)   CDs

Title: DJ Tiësto - Flight 643 (Netherlands)
Released: 2001

Title: DJ Tiesto - Suburban Train (Netherlands)
Released: 2001

Title: Tiesto - Just Be (Netherlands)
Released: 2004

Title: DJ Tiesto - Lethal Industry (Netherlands)
Released: 2002

Title: DJ Tiesto - 643 (Love's On Fire) (Netherlands)
Released: 2002

Title: Tiesto - Traffic (Netherlands)
Released: 2003

Title: Tiesto - Love Comes Again (Netherlands)
Released: 2004

Title: Tiësto - Parade Of The Athletes (Netherlands)
Released: 2004

(3)   DVDs

No DVDs.

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On account of the significant number of anonymous online sources to which references are found in the above text, it has been decided to divide referenced sources into two categories, respectively those for which an author is specified, and those for which not specific author is identified. It should be noted that no distinction is made between printed and online sources, with all sources of known authorship being grouped together alphabetically and those of unknown authorship being numbered in order to facilitate referencing.

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