

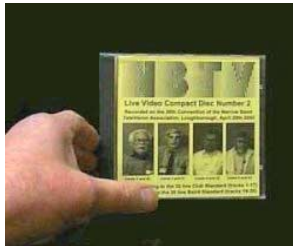
# CD's produced by the NBTVA

The easiest and fastest way to generate NBTV video signals of various and very attractive types is to run one of the club CD's in your CD player. CD-R Compact Disc has proved to be the almost ideal medium to reproduce and record NBTV video signals. The available bandwidth of 20 kHz exceeds the necessary bandwidth for NBTV, the signal to noise ratio is much better than we need, the waveforms are precisely reproduced in a fixed polarity and the speed of play back is crystal stable. John Logie Baird would have been dreaming of a recording medium with properties that are standard nowadays in the Compact Disc.

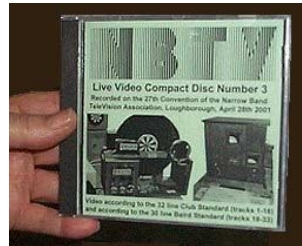
The club CD's contain video on the left channel and audio on the right channel. Live moving video with accompanying sound! In the days of J.L. Baird this was only possible when you had two radio receivers. Now with one CD player and the club CD's this is easily attainable. So far there are three discs.



CD number 1



CD number 2



CD number 3

The NBTV-CD's are pre-recorded CD-R discs and come with a printed label and inlay cards that explain the contents of the disc.

## CD player

Use a Hi-Fi type of CD player to run the discs. You need the line output or Hi-Fi output of your player. Only that type of output provides you with the signal qualities that you need for NBTV and is almost always available on two separate phono connectors. The left channel for video is coloured white or black, the right channel for audio is coloured red. You can connect the left channel output of the CD player directly to your monitor. It will give you 1 volt of video from black to white, with negative sync pulses. Headphone outputs and CD-ROM players in computers are only suitable for monitoring the sound.

## Warning!

Be very careful when listening to an NBTV-CD on a Hi-Fi audio installation. The video signals and especially the audio test signals as recorded on NBTV-CD number 1, contain high levels and high frequencies. When fed into Hi-Fi loudspeaker systems, even at a moderate level, these high tones may damage or even burn out your high tone tweeter loudspeakers. So always turn the volume to a very low setting.

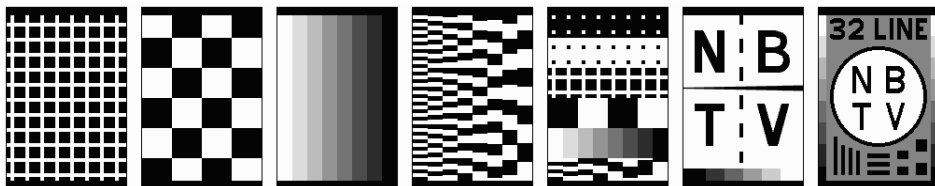
## **NBTV-CD number 1**

Total playing time: 69m:00s

Number of tracks: 63

Standard: 32 line club standard

This first disc gives you test pictures and live moving video. It was produced as a result of recordings made at the NBTV Convention held the 17<sup>th</sup> of April 1999 in Loughborough, UK. You will see and hear members of the club interviewed and telling about their experiences with NBTV. This disc is recommended when you put your first NBTV monitor into operation.



Test pictures like the ones shown here were added to fill up the available space of the disc. Twelve still pictures, one alternating sequence and one photograph are recorded. Each has a duration of 3 minutes. Then three repeating 10 seconds long moving video sequences are recorded. They were taken with a vidicon NBTV camera built by Graham Lewis and edited into EPROM files by Grant Dixon.

The sound track during the test pictures holds test tones and test signals. They are computer generated in the highest degree of perfection and are very useful in measuring the performance of your Compact Disc player. You can also use these tracks as a source of audio test signals for measurements on audio equipment. Each test tone has a duration of one minute. The inlay card informs you about the track number of the different test pictures and test tones. Starting track 47 to the end there is real live moving video with sound as recorded at the Convention in 1999. The taking has been done as a kind of experiment and you will witness the spontaneous behaviour of the clubmembers. A normal TV camera is used and a scan converter built by Peter Smith, G4JNU. Jeremy Jago acted as ad hoc cameraman. Editing is kept to a minimum, only a subdivision in tracks is made to provide fast access to certain scenes.

All NBTV signals on this disc are according to the club standard, i.e. vertically scanned upwards with 32 lines, frame scanning from right to left, 12½ frames per second with an aspect ratio of 3:2, portrait oriented. At the moment of recording of the live video tracks Peter Smith' scan converter was still aligned to an aspect ratio of 7:3 in stead of 3:2. When reproduced on a 3:2 monitor pictures may appear vertically compressed.

The level of the video is 1 volt black to white, with negative (sub black) going sync pulses of 0,4 volt. A missing sync pulse indicates the start of a new frame. The video sequences are assembled in a way that the sync continues seamlessly from one track to the other.

## NBTV-CD number 2

Total playing time: 54m:48s

Number of tracks: 35

Standard: 32 line club standard and 30 line Baird standard.

This disc contains only live moving video that was recorded on the 26<sup>th</sup> Annual NBTVA Convention in Loughborough on April 29<sup>th</sup> in the year 2000. Members are telling you what attracts them in the NBTV hobby. Some of them are shown on this page in the 32-line NBTV-quality as extracted from the disc.

A special feature of this disc is that all the contents are recorded on tracks 1 to 17 in the 32-line club standard mode, and then also they are duplicated on tracks 19 to 35 in the



Doug Pitt



David Gentle



Grant Dixon



Peter Smith

30 line Baird standard mode. This is especially useful for those people who are restoring old Baird Televisors and want to bring them in a working state. Klaas Robers, PAØKLS, converted the video signals from 32 lines to 30 lines with the aid of his computer. The 30-line video has no missing frame sync pulse like the club standard video signals have. Track 18 is a cross over from 32-line to 30-line video.

All video signals of this disc are time base corrected. At play back the timing accuracy of the video signals will be only dependent on the frequency accuracy of your CD player. In all players this is crystal controlled and almost perfect.



Jeremy Jago



Garth Porter



Graham Lewis



Denis Asseman

At the moment of recording this disc Peter Smith' scan converter was aligned to an aspect ratio of 7:3. When reproduced on a club standard 32-line 3:2 disc

monitor pictures may appear vertically compressed. However the NBTV test cards and captions in the leaders and the trailers are designed to have an aspect ratio of 3:2. When they are reproduced on a 30-line Baird monitor with an aspect ratio of 7:3 they will appear vertically expanded.

Recordings were made in a room adjacent to the main convention room. The door between the rooms was opened now and then for new actors to come into the "studio". This door made a loud squeaking noise that is also recorded on this disc. Occasionally you will hear lots of background noise through the open door, made by members and visitors of the Convention.

### NBTV-CD number 3

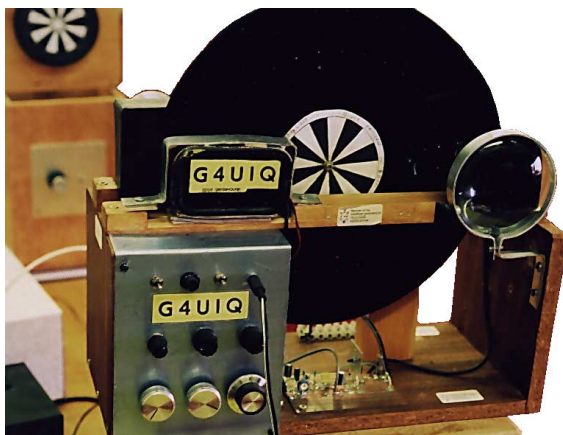
Total playing time: 67m:15s

Number of tracks: 36

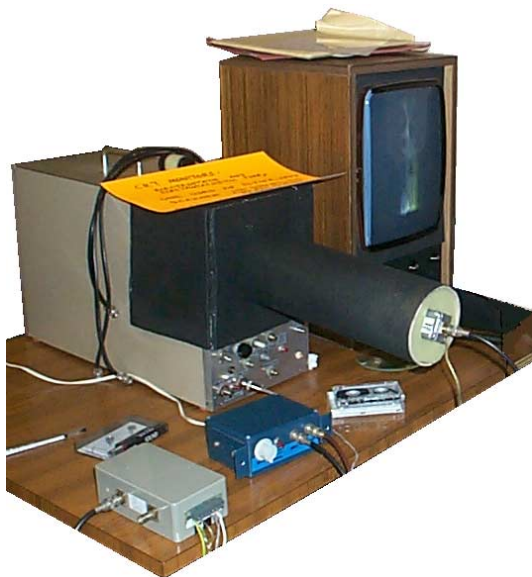
Standard: 32 line club standard and 30 line Baird standard.

This disc contains live moving video and was recorded on the 27th Convention in Loughborough on April 28<sup>th</sup> in 2001. The members demonstrating their equipment were interviewed and answered to the question: "What are you showing us here at the Convention". A normal TV camcorder is used and Peter Smith' NBTV scan converter. In some interviews video is inserted that has been directly recorded from the shown equipment,

e.g. in Eddie Greenhough's interview video is inserted from his Nipkow disc camera / monitor (photo on the right). This video originally had no sync and was not gamma corrected. Before insertion sync was added by means of computer processing and gamma correction is done as well. Please observe the fine quality pictures of Eddie's camera.



In Jeremy Jago's interview video is inserted from the flying spot scanner that he demonstrated (photo on the left) and in Pedro's interview video is inserted from his Nipkow CD-disc camera. His sync signals were smoothed by computer processing. For experimental purposes the unprocessed video signals are also recorded at the end of this disc.



The geometry is aligned optimal for the 32-line club standard. The 30-line video when displayed on a Baird standard monitor shows a 3:2 picture as well. Black bars compensate for Baird's original aspect ratio of 7:3 and a new interpolation algorithm makes all 32 lines visible.