

## D&R's Broadcast console Scorpius:

### Digital with a an analogue face

**Digitalisation becomes more and more interesting for the Broadcaster in our country (the Netherlands). As the National Broadcast is already fully busy by installing Digital studios with centralised matrixes, D&R surprises the market with the Scorpius, an affordable Digital Broadcast console with a standard s&ap of the analogue and digital-land outputs.**

D&R is back at the Dutch Broadcast market . By Jan Leerschool the "old man ", D&R again wants to give more attention to the Dutch Broadcast market. The past years D&R has given their full attention to the export of, especially, the big Film- and studio consoles. However the analogue Broadcast consoles were sold in big quantities, Dateq was dominating the home market with the BCS-series. Several known dealers stopped selling the D&R products. Niehoff High Tech Sound in the eastern part of Holland however was one of the few that kept his faith in D&R.

Owner of the company, Gerard Niehoff was the first to have the Digital Broadcast console Scorpius during his annual Broadcast show, Sales & Marketing Manager Jan Leerschool (ex-general manager from TEAC Nederland and Sales Director for Maycom) made a few things clear. The Scorpius is the " little "brother of the Sirius. The Sirius is available in all required configurations. The control surface is connected to a separate I/O rack in which also the embedded computer, PC and DSP's are housed. The Sirius is characterised with great flexibility and wide functionality (processing, routing, networking, management). The Scorpius does not have a separate I?O rack and looks more like an analogue mixer with 16 faders. Next to the connections for mouse, keyboard and monitor, the first impression is, this is not a digital console. At the backside of the console you find the inputs for six analogue microphones having an analogue insert on each input. Furthermore you find the inputs for eight analogue stereo sources and eight digital inputs, all with build in sample rate converters.



Next to this there are two analogue inputs for external sources (ON AIR -tuner etc.). The important outputs are analogue as well as Digital. The two N-1's are analogue and made up for Telco's and ISDN-codecs. Also the six busses (master, sub, aux, cue and the N-1's) are analogue however they are also available in the Digital domain via the output matrix through the 14 outputs. There are 6 AES/EBU outputs, six coaxial and two optical Outputs. The CRM, the studio monitors and the external peak meters can be connected to the analogue stereo outputs and the output for external meters. This is sufficient for all Broadcasters. The internal sample frequency can be selected within the software to work on 32, 44,1 or 48kHz. The resolution is from beginning to end always 24-bit floating point. The Scorpius can be "slaved" by using the word-clock input. The Scorpius is using the latest state in technology for DSP and FPGA (Field Programmable Gate Arrey). In practice this means we are talking about a "system on a chip". Even those who do not want to have a monitor at the console is considered of. The Scorpius can be run without monitor or keyboard, at that time an external VU or PEAK meter should be connected as these meter are available on the monitor.

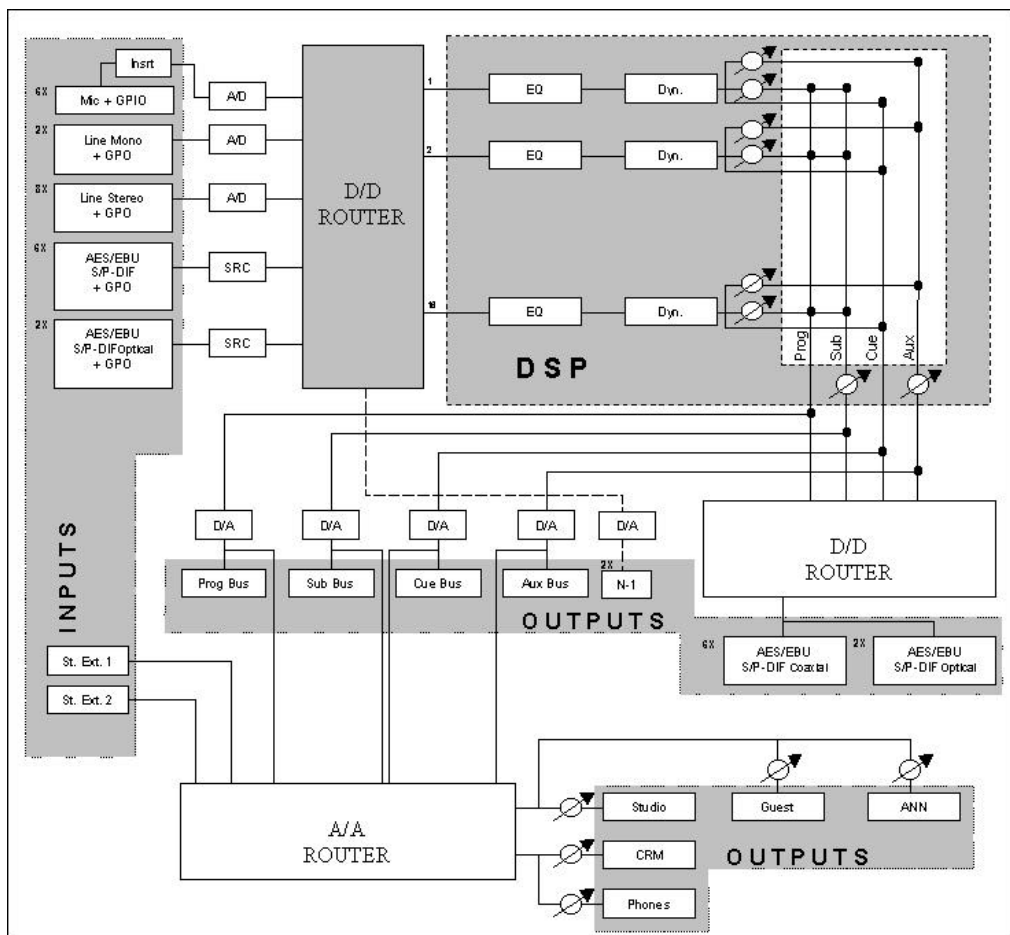


### **Once only configuration**

Above the faders a LCD-text matrix is positioned offering the selection of the requested audio-source by the up- and down switches on the master section. The fader section is very simple but due to this convenient. Above the faders you find two big knobs for ON and CUE, for which the text tells their use. Next to this a smaller but definitely not less important button. With this SEL-button the potentiometers and knobs in the master-section can be accessed. In this way the tone adjustments and other parameters physically only once have to be adjusted on the console instead of at each fader. Above the fader module five leds show the status of the extra's. Two big leds shows whether the selected channel is routed to the sub- or program-bus. Three smaller leds show you in one spot whether the tone adjustment, compressor/limiter or aux-bus is selected. The master-section in the centre of the console looks very convenient. The upper buttons offer, from left to right, the gain, High, Mid and Low, compressor, Aux (*adjustable in the software for pre- and post fader*) and balance adjustments. Traditionally, these knobs are available above the fader, now together grouped at the master-section. Below the knobs, seven switches are situated for (from L/R) down, up, mono, equaliser and dynamics but also whether the channel has to be routed to the program- or sub-bus.

By using the up- and down buttons it is possible to scroll through the pre-programmed audio inputs. The configuration of the console (input/output and GPI/O's) takes place in the "In/Output set-up" with the Windows NT-software so all changes can be displayed on the monitor, even ON-AIR. Even the pre-programmed text such as mic 1 or stereo-line 3 can be changed by the engineer. Also the selection for fader-start or knob-start can be selected per fader. The selection option for the monitor speakers in the control-room en studio are situated at the master-module in the middle of the console. The volume controls for control- and studio-room but also for the headphones for the presenter, guest and DJ are situated on the control surface. Four independent talk-back-knobs offer the technician to communicate independently with the presenter or guest but also giving comments via the speakers studio area. The fourth knob offers the opportunity of tb-communication to the external out-bus. To this, a codec or external loudspeakers can be connected.

Also the Windows-software makes clear the Scorpius is the small brother of the Sirius. The users- and configuration software are designed in the same perfect way, logically the adjustments are a bit less. On screen several parameters can be "fine-tuned". For the equaliser, the band-width and central frequencies can be adjusted per band. This is done by clicking the screen or by dragging the adjustments in the parametric display. The adjustments for the compressor 'fit', just the threshold is adjustable. The settings for the in- and outputs are stored once on the hard disc. An advantage of a digital system is the storage and re-call of all parameters. Also the Scorpius is offering the possibilities to store and re-call pre-sets (including labels, routing and all other settings). Standard the Scorpius is provided with a chip-card offering the user to log in and recall his personal settings. It is a bit strange, the knobs at the non-motorised potentiometers have an indication line which show the position that is not corresponding with the actual position in that specific channel. By having a look at the monitor the actual settings are in view. D&R informed us this was a pre-production failure as there were no knobs without these lines available. The screen layout of the software showing the channel settings of the equaliser, Aux, and balance is very smooth.



The sixteen inputs fit perfectly on one screen offering the engineer or DJ's a clear and total view of all settings. Furthermore the user has two level meters, a clock and a timer that can be assigned to a fader. For those that prefer it is possible switch to a screen with two huge level-meters.

## **Big brother Sirius**

The modular Sirius system, shown at the AES and IBC tradeshows, has been distributed already for several months. In the meantime this digital console using a 64 to 64 router is already "Live in Moscow, Thailand and China. Also D&R is one of the three remaining candidates for the digitalisation of the ABC studios in Australia. Together with Klotz and DHD (see the previous issue of Pro Audio Visie) D&R is still in this race. This is conspicuous is still a stand-alone console offering a lot of configuration possibilities and very flexible in use. In the networking field, D&R is little behind but they are busy in to solve this time-lag. D&R has chosen for Cobranet in contemporary to Madi (Klotz and DHD) Cobranet is real network oriented. Using the standard Ethernet hardware (even the switchers) the implementation cost will not be high and the infrastructure can locally be bought, so the customer is not dependant of the console manufacturer. Cobranet is offering more positive features. The protocol, designed by an American company, Peak Audio, (part of Cirrus Logic) is already in use by other audio companies, such as Rane, QSC, Peavey, Digigram and Yamaha. This makes it very well possible to connect for example a Rane Mic-box and a Digigram PC-card via Cobranet on one or more Sirius systems. This is the specific strength of a stand-alone console. "You always know how much processing power is available" Leerschool pointed out. The network is only used as the "big" matrix to share in- and outputs without conflicting any other connected systems and to configure the in- and outputs. Looking for continuity this structure could be very attractive. Of course this way of networking has his negative parts. Consider for example the 5ms propagation delay over the network, which is less with Madi. Jan Leerschool pointed out, D&R agrees on this and informs they soon also will have a Madi I/O interface. In the meantime they are working on the connectivity with the ADAT lightpipe for making the connection to PC-application easier. During the IBC 2002, D&R expects to show a working Cobranet system. D&R's expectation is the connection with Cobranet will not be difficult. (especially as the protocol is already in use by several other manufacturers) The struggle like with Seem Telecast at "Broadcast Zeeland" is not to be expected, says Leerschool. However he confirms, the regional and national Broadcasters are not yet very well know D&R's Sirius. At the time of orientation, the study group technique of the 'ROOS', the covering organisation for regional Broadcasters, D&R showed hardly interest in the Dutch market. Nor was the Sirius ready for the network philosophy of the regional Broadcasters. He expects Sirius to be very interesting for the big, commercial, Broadcasters.

## **Conclusion**

The Scorpius is a user-friendly digital mixer with the face of an analogue console. The synopsis is very convenient and at the centre section the user has direct access to the equaliser, Aux, bus and routing to the busses. Next to this the monitor operation is perfectly ok for a Broadcast console. The software oriented adjustments are viewed directly and are easy to change without being found in a mess of different screens. Only for the equaliser a pop-up screen appears. Furthermore the menu structure is reduced to simplify the usage for the DJ's. Considering the price range, D&R is looking for the "richer" local public-and commercial Broadcasters. The Scorpius is available in one configuration at the price of € 11.500,- excluding VAT, monitor and keyboard.