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System Components

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The X20 console is a Windows XP based computer system contained within an ABS housing. The console has no internal moving parts and the housing is designed to ensure long life in even the toughest conditions.

The X20 console has a 8.4” VGA touch screen display, a stylus pen is included for making screen selections and an external speaker.

The console is supplied with the Bourgault SRC and Topcon guidance programs installed. Optional software can be added for other applications.

X20 Console

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X20 power manager button. Press and hold for 5 seconds to activate. This bring up the X20 power manager menu on the screen.

X20 Console

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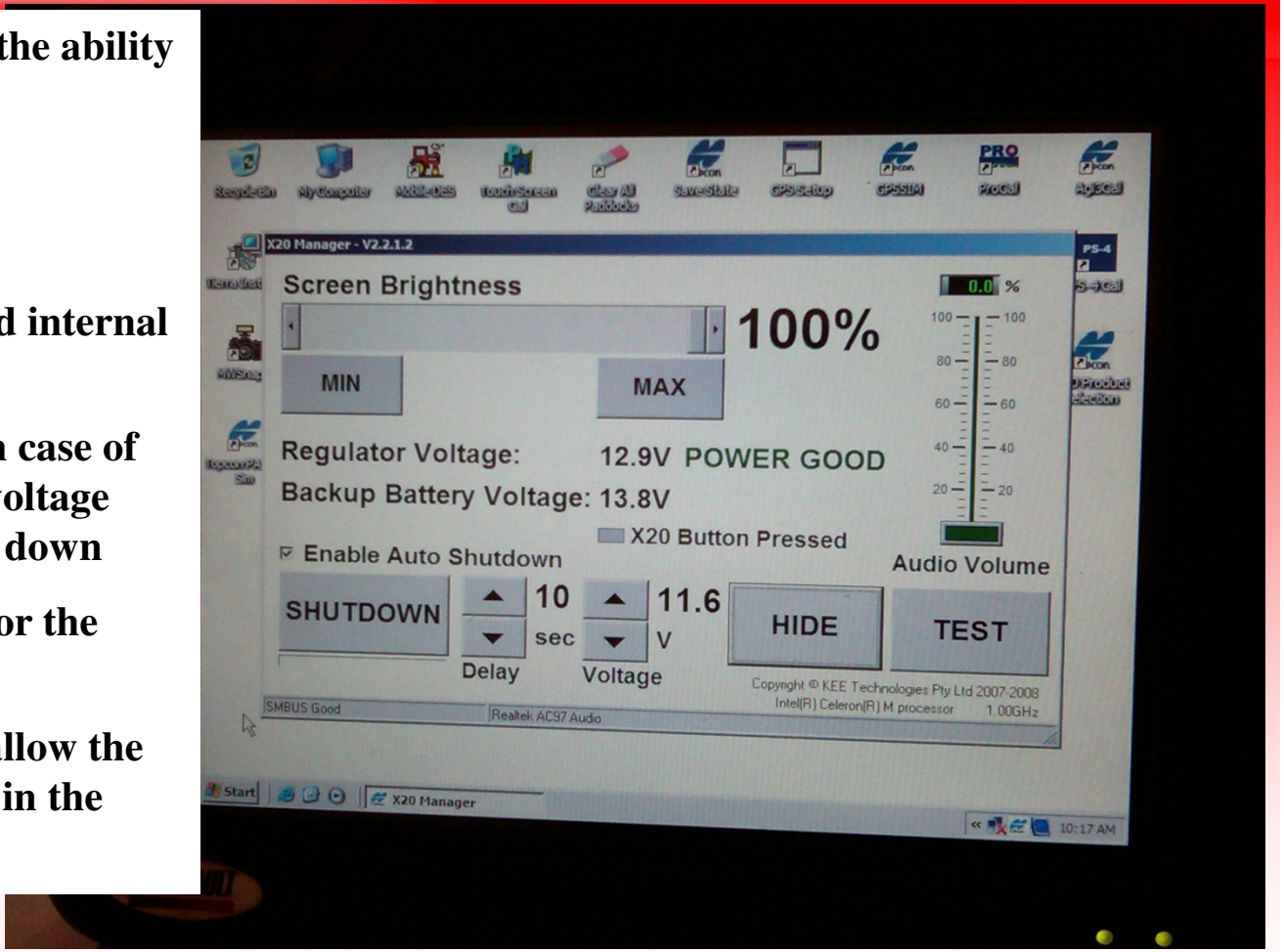
The power manager gives you the ability to

- **Adjust screen brightness**
- **Adjust speaker volume**
- **Check both the external and internal power for the monitor**
- **Set up an auto shut down in case of power failure and at what voltage you want to shut the power down**
- **There is also a test button for the volume**
- **The hide button is used to allow the X20 power manager to run in the background.**



X20 Console

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There are 2 USB ports on the left hand side of the case that can be used for

- **USB mouse and keyboard**
- **Importing and exporting field data and VR maps**
- **Updating the monitor software and component firmware.**

X20 Console

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The back of the console is where the power supply goes into the monitor.

The green button is for power simply press for 3 seconds and the monitor will power up.

The small orange button is a reset button and should not be pressed unless instructed to by service.

One ether net port, 2 USB ports, a speaker port and PS2 mouse and keyboard port

4 com ports, a can port (not used) and a VGA plug that can be used to export screen onto a second screen.

The large finned panel is a heat sync and will be warm during operation.

X20 Console

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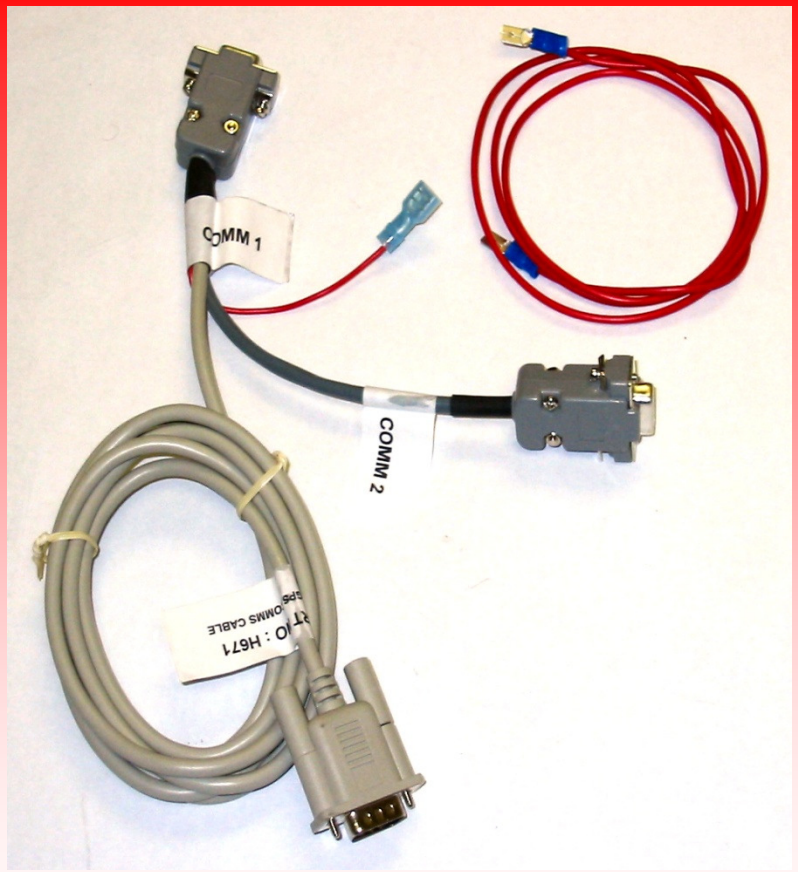

- **The ZYNX GPS serial cable has two connectors that go to the console. This allows for ZYNX guidance and the optional ZYNX Maplink/VRC program to use the GPS signal. The ZYNX GPS serial cable is always used regardless of the cables included with the GPS receiver.**
- **When ZYNX guidance is used, the ZYNX GPS serial cable will occupy COM1 and COM2 ports, and COM3 port will be used for the SRC interface cable.**

GPS Serial Cable

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External speaker and adapter cable

9 pin communication cable used to tie the monitor to the SRC interface

X20 Console

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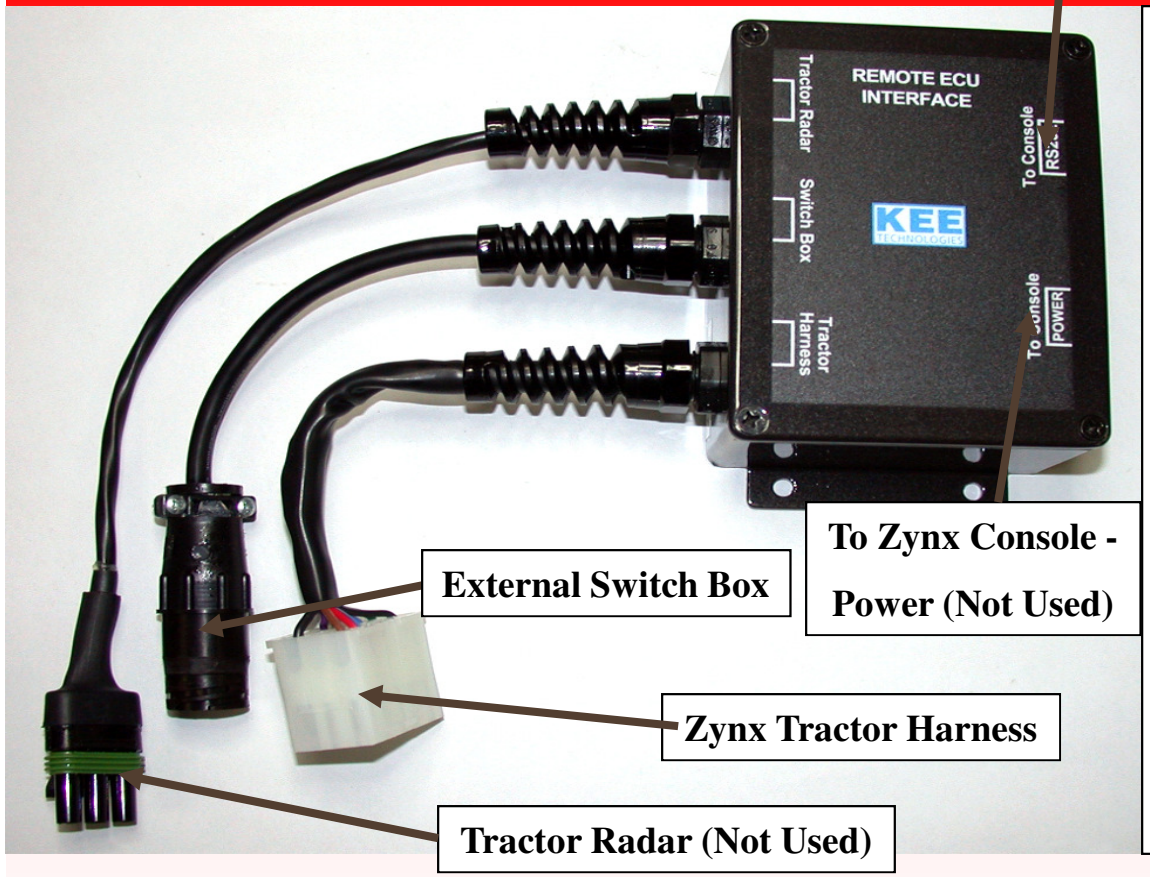

The cab-mounted SRC (Seed Rate Controller) interface is connected in-line between the ZYNX console and the harness to the air seeder. This device is required for the console to communicate properly with the components on the air seeder.

To console (RS232) - port for the connection to the ZYNX console.

To console (power) - not used; power is supplied through the tractor harness

ZYNX tractor harness - connection to the harness running out the tractor to the air seeder.

Switch Box - connection to the external switch box.

Tractor Radar - not used.

Seed Rate Controller Interface

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The external switchbox is connected to the SRC interface.

- **will control up to 4 tanks (individual tank switches for control of 5 tanks (6450/6550ST with NH3 or Liquid tank) can only be accessed with the touch screen, not the external box);**
- **the master and guidance lock buttons can still be used with 5 tank control;**
- **alternate means of controlling the air seeder to the console touch screen;**
- **external switchbox can be placed near tractor controls for easy access;**
- **functions include: master on/off, tank on/off, rate increase/decrease, and guidance lock;**
- **must be enabled through the SRC program.**

External Switchbox

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The main ECU is located on the inside of the front transmission mount plate of the air seeder. It is capable of controlling;

- up to 4 transmission actuators;
- 4 tank clutches;
- the master drive clutch;
- signals from the various air seeder sensors to the console for display;
- can also control NH3 or monitor a liquid system tank clutch when used with 2 or 3 tank/meter air seeders.

Main ECU

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- The mini ECU is located on the front transmission mount plate of the air seeder (when required). It is capable of controlling/ monitoring;
- an NH3/ liquid system tank clutch when used with a 4 tank compartment Air Seeder.

Mini ECU

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- the 30S is located behind the MDECU on tanks that have the optional NH3/Liquid
- it can be used to control up to 6 sections for NH3/Liquid.

Mini ECU

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- A blocked head ECU (BHECU) and BH Sensor are available to use with the ZYNX/Bourgault SRC programs.
- The BHECU is installed on the secondary manifold stand and communicates with the BH sensor. The sensor is installed “in-line” on one tertiary line per secondary manifold. There is a maximum of 16 BH sensors per unit.
- The information from this BH sensor is then sent back to the ZYNX monitor and is displayedon the Bourgault SRC program.

BHECU (Blocked Head Electronic Control Unit)

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- There are speed sensors in several locations on the air seeder. These include fan speed, ground speed and metering auger speed. All of the sensors send a signal to the ECU when a magnet passes by them.
- The fan speed sensor picks up from a magnet installed on a bolt of the fan hub (one pulse per revolution).
- The ground speed sensor is located on the inner mount of the calibration shaft and picks up a single magnet clamped to the calibration shaft (one pulse per revolution).
- The metering auger sensors are on the non-driven end of each shaft and pick up from 16 magnets installed on a disk (16 pulses per revolution).
- The magnet must be oriented correctly with the south pole facing the sensor

Speed Sensor

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- Each air seeder compartment, with a metering auger installed on it, contains a single bin level sensor installed near the bottom. The sensor will trigger an alarm when there is no product in front of it. The sensor is mounted on an adjustable mount, so that the alarm point can be adjusted by the operator (1 pass prior to empty, right at empty, etc.)
- The Bourgault SRC program provides a second calculated (not actual) method of reporting the product remaining in the tank. This value is based on the metering auger output in relation to the product amount entered at the time of fill. This value should be used as reference only.

Bin Level Sensor