

CRX Installation Guide

This guide provides an overview of CR7™ and CR12™ field computers connections as well as drawings that illustrate the cab connections for various machine configurations.

Important Safety Information

This is a safety-alert symbol. When the symbol below appears on the device, be alert and attentive because there is the potential for personal injury.



Follow the recommended precautions and safe operation practices.

Install the Display

1. Mount the antenna on the centerline of the tallest point of the vehicle (usually on the top of the vehicle cabin) using the magnetic mount. Make sure that the antenna has a clear, 360° view of the sky.

Note: *If the mounting location is non-magnetic, use a mounting plate to mount the antenna.*

2. Route the Power/GPS cable to the back of the field computer and connect it to the Power/GPS connection.

CR7™ Back

The image below shows the connections on the back of the CR7™ that will be used for installation. Note that, depending on machine configuration, some of these connections may not be used.



See "System Diagrams" on page 4 for additional information on cabling.

CR12™ Back

The image below shows the connections on the back of the CR12™ that will be used for installation. Note that, depending on machine configuration, some of these connections may not be used.



See "System Diagrams" on the next page for additional information on cabling.

3. Use the provided RAM® Mount arm to install the field computer inside the cab.
4. For additional cabling and connection assistance, refer to the CR7™ and CR12™ Installation Guide and "System Diagrams" on the next page.

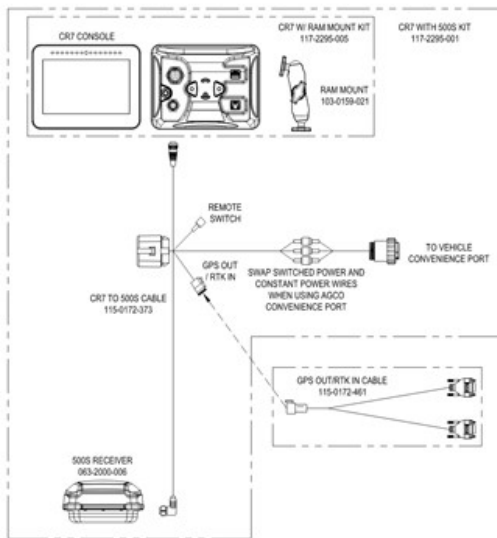
<http://portal.ravenprecision.com/>

System Diagrams

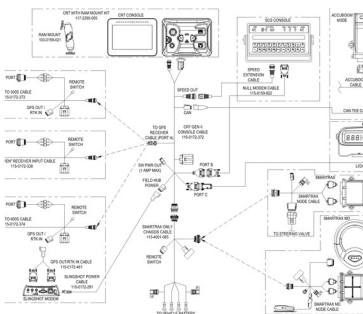
CR7™ System Diagrams

The illustrations below show CR7™ wiring diagrams for various cabling generations with optional accessories and are for reference only.

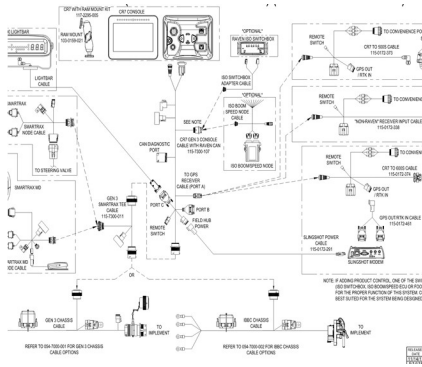
CR7™ With 500S Smart Antenna Kit



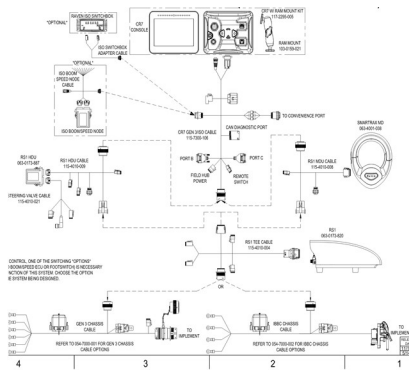
Gen II Cabling CR7™ SmarTrax™/AccuBoom™ Only



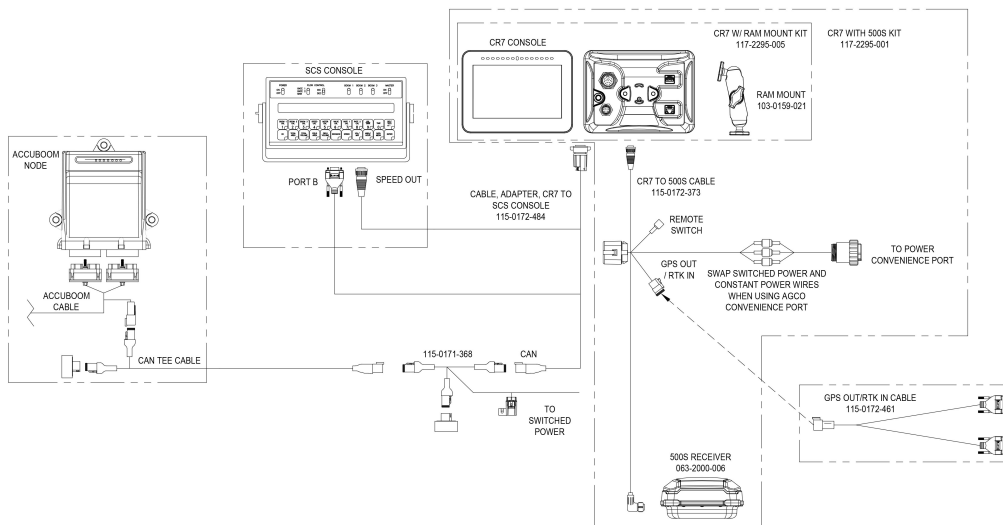
Full Gen II Cabling CR7™SmarTrax™/AccuBoom™



Gen 3 or IBBC Cabling CR7™SmarTrax™/AccuBoom™



Gen 3 or IBBC Cabling CR7™SmarTrax™ ISO Product Control



Glossary

A

APN

Access Point Name

AprilTag

A specific system of fiducial markers used in robotics with visual or perception systems. OMNiDRIVE™ utilizes an AprilTag marker on the hood of the tractor with the Perception Controller.

B

baseline

In RTK correction systems, the baseline is the range between the base and rover. A maximum baseline defines the range between the base and the rover before RTK corrections begin to lose precision. Alternatively in some Raven field computers, a baseline is a segment of a boundary that can be used to create guidance lines and application zones.

C

COG

Course Over Ground

controlling combine

The combine that may assign paths to, and may sync with, the OMNiDRIVE™ tractor. One controlling combine is required for all OMNiDRIVE™ locations.

D

dBm

decibel milliwatt

DGPS

Differential Global Positioning System is an enhancement to standard GNSS/GPS messages to provide better position accuracy.

Differential

Differential Global Positioning System is an enhancement to standard GNSS/GPS messages to provide better position accuracy.

DTC

Diagnostic Trouble Code

E

E-Stop

Emergency stop button or switch.

ECU

Electronic Control Unit

ESN

Electronic Serial Number

ESRI

Environmental Systems Research Institute

EULA

End User License Agreement

F

FNRP

Forward, Neutral, Reverse, Park

G

GFF

Grower, Farm, Field

GIS

Geographic Information System

GLONASS

Global Navigation Satellite System

GNSS

Global Navigation Satellite System

H

HDOP

Horizontal Dilution of Precision

HDU

Hydraulic Drive Unit

homologation

Approval or certification of devices (especially electrical and communications devices) for use in specific regions or countries.

I

IBBC

Implement Bus Breakaway Connector. Connects to the IBIC on the towed implement.

IBIC

Implement Bus Implement Connector. Connects to the IBBC mounted on the tractor or tow implement.

IMEI

International Mobile Station Equipment Identity

IVT

Infinitely Variable Transmission

L

lightbar

(a.k.a. light bar) Provides guidance control and display for swathing applications.

M

mid-point

Mid-points are points through which the cart must pass on the way to the stage or unload points. Mid-points may be used during route planning to adjust the route to keep the cart away from obstacles or to help point the tractor in the desired direction at the stage or unload points.

multipath

error induced in GNSS corrections due to signals arriving at the GNSS antenna after reflecting off of or diffusing from objects around the vehicle.

N

NMEA

National Marine Electronics Association

non-controlling combine

A combine operating with the OMNiDRIVE™ tractor and controlling combine. A non-controlling combine may share harvest coverage data to the coverage map during a harvest job, but cannot sync with or plan routes for the OMNiDRIVE™ tractor.

O

object pool

The user interface for a system or feature connected to an ISOBUS UT.

OLAF

Online Activation Form

OTA

(Over the Air) Software updates and other information pushed from Slingshot® servers via the Slingshot® system.

P

prescription map

Variable Rate Application utilizes a prescription (Rx) map for a given field and product to automatically adjust the rate of application based upon the target rate zones within the field. The .shp, .shx, and .dbf files required to create a shapefile prescription map must be in a polygon shape format that complies with the ESRI (Environmental Systems Research Institute) shapefile specifications and must also be in the WGS (World Geodetic System) 84 datum.

PRN

Pseudo-Random Number

PST

PowerShift Transmission

R

RSSI

Received Signal Strength Indicator

RTK

Real-time Kinematic

Rx map

Variable Rate Application utilizes a prescription (Rx) map for a given field and product to automatically adjust the rate of application based upon the target rate zones within the field. The .shp, .shx, and .dbf files required to create a shapefile prescription map must be in a polygon shape format that complies with the ESRI (Environmental Systems Research Institute) shapefile specifications and must also be in the WGS (World Geodetic System) 84 datum.

S

scout map

A map of field features or areas of interest in a field. Field features may include, but are not limited to field boundaries, weed or insect infestations, tile lines or waterways, rocks and rock piles, trees, spray or no-spray zones, etc.)

shapefile

A shapefile is a vector format consisting of a .shp, .shx, and .dbf file and is used to store geospatial data and information such as field boundaries, product application coverage, and waypoints.

SHCS

Socket Head Cap Screw

SIM

Subscriber Identification Module

SNR

Signal to Noise Ratio

SOG

Speed Over Ground

SSID

Service Set Identifier

stage point

Location where the grain cart will stop and wait to sync with the combine. During harvesting, move the stage point to ensure the tractor is positioned conveniently for efficient syncing with the combine.

T

task controller

A software feature of an ISOBUS network which automates a system or logs data from various field operations. Capabilities of a task controller vary, but may offer

some simple control features such as automatic section control or more complex features for prescription rate control, etc.

U

unload point

Location where the grain cart will stop and wait to be unloaded into a grain truck. Move the unload point if the location where trucks will access the field changes.

UT

A Universal Terminal (formerly Virtual Terminal) is an electronic display or console capable of interfacing with ECUs on an ISOBUS network.

V

VRA

Variable Rate Application utilizes a prescription (Rx) map for a given field and product to automatically adjust the rate of application based upon the target rate zones within the field. The .shp, .shx, and .dbf files required to create a shapefile prescription map must be in a polygon shape format that complies with the ESRI (Environmental Systems Research Institute) shapefile specifications and must also be in the WGS (World Geodetic System) 84 datum.

VT

A Universal Terminal (formerly Virtual Terminal) is an electronic display or console capable of interfacing with ECUs on an ISOBUS network.

W

WGS

World Geodetic System

working set

The user interface for a system or feature connected to an ISOBUS UT.

