T3RRA™ and John Deere™ Components Quick Reference Guide

Touchscreen Tablet Option 1: Hardware for PX501 RuggON tablet

Windows 11 - 64 bit
Minimum requirements:
128GB SSD, Intel Core i5 processor, 8GB RAM

12V Vehicle charger
with Optional 3PIN convenience adapter

AE3070: Harness used to T into StarFire receiver harness to connect GPS to T3RRA for field survey (iGrade not required)

AE3166: Harness to connect T3RRA Cutta to iGrade

Tablet mount & VESA plate

Touchscreen Tablet Option 3: Hardware for Microsoft Surface Pro 9

Windows 11 - 64 bit
Minimum requirements:
256GB SSD, Intel Core i5 processor, 8GB RAM

Gearmo
USB-C to Serial Cable adapter

AE3070: Harness used to T into StarFire receiver harness to connect GPS to T3RRA for field survey (iGrade not required)

Surface pro 9 tablet with protective case & screen protector

12V Vehicle charger
For Surface

Ram mount

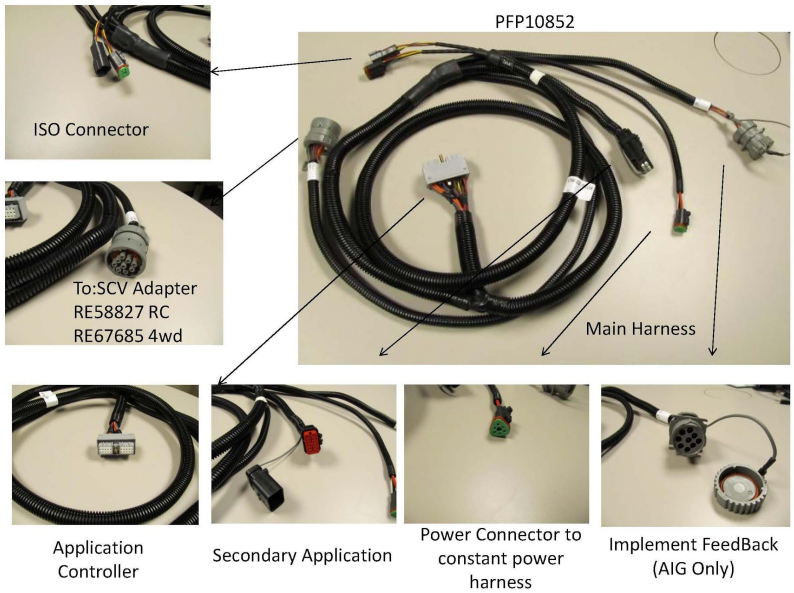
AE3166: Harness to connect T3RRA Cutta to iGrade

Components - Tractor

GS3/4600 display

StarFire™ 6000 Receiver with RTK*

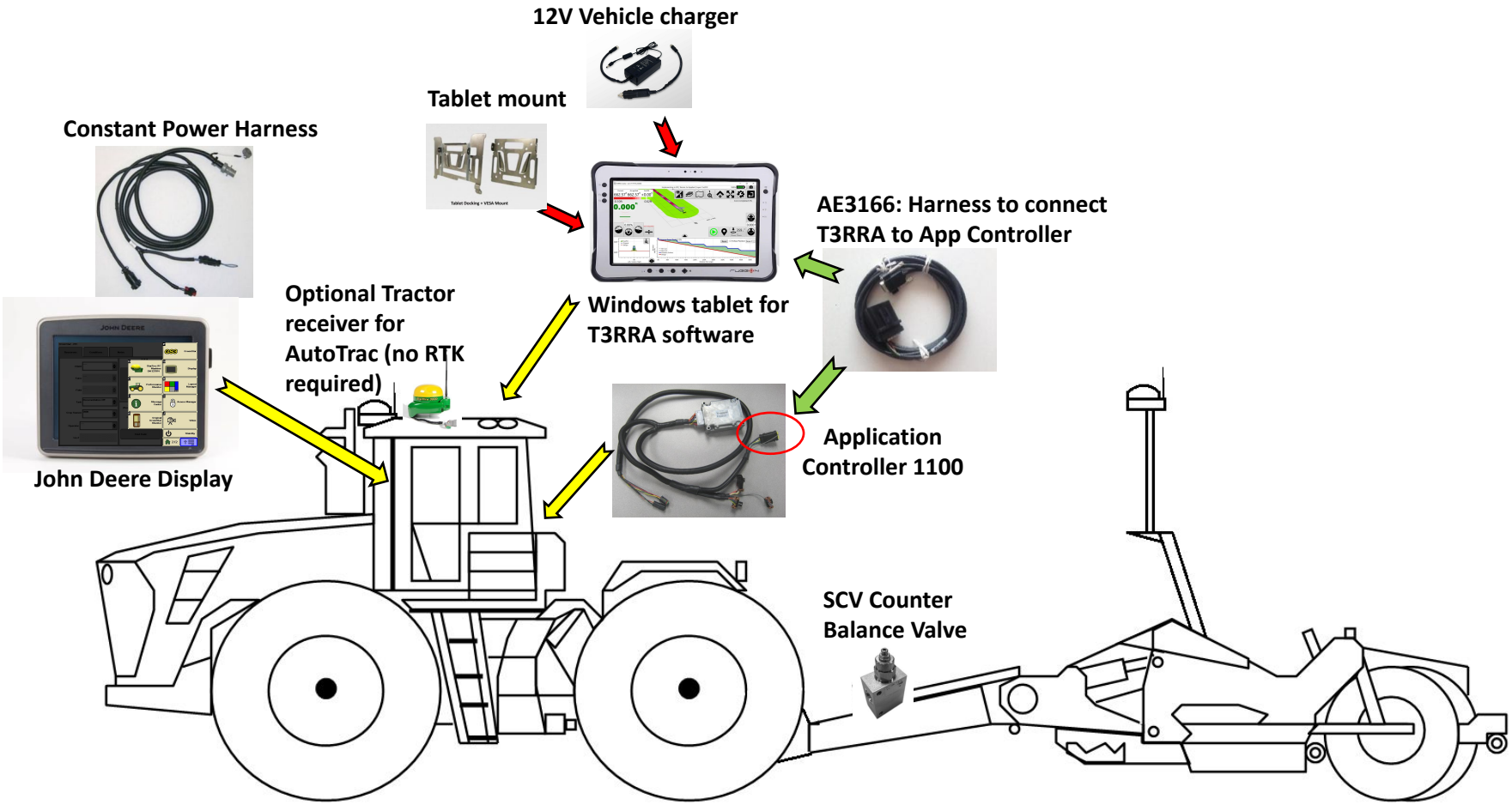
Constant Power Harness



iGrade Controller™

ISO connector

T3RRA™ & iGrade™ & Tractor Components



Components - Implement

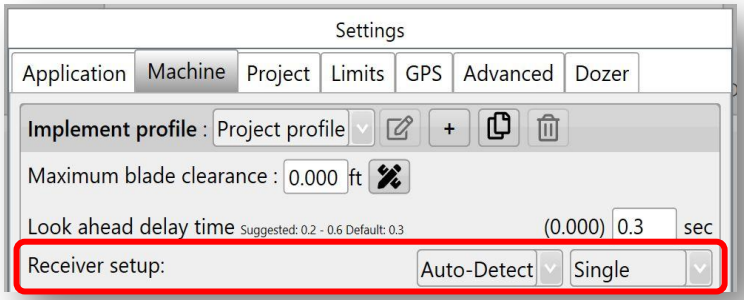
StarFire™ 6000 Receiver with RTK

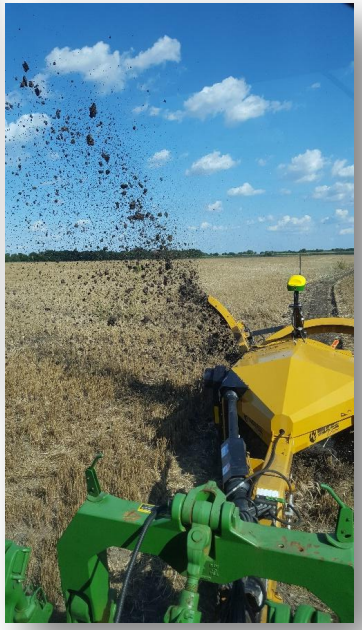
Implement Mast

Implement Receiver Harnessing (set up specific)

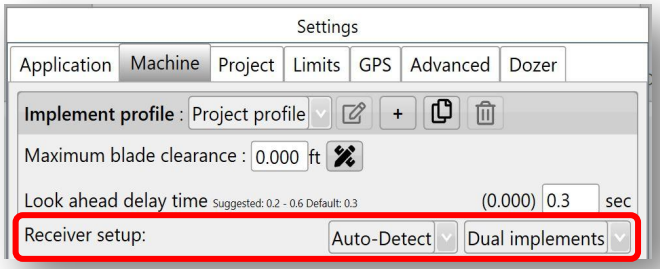
RTK Base Station

Components – Single Implement



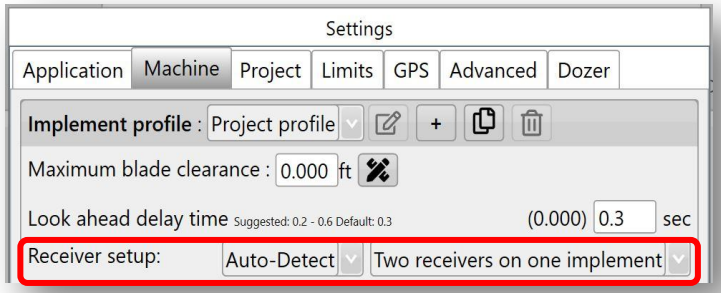


Components – Dual Implements



Check the serial numbers of the receivers. The receivers should be placed on the loom in order of their serial number, from lowest to highest. Ensure the lowest serial number is on the Tractor, the next serial number is on the front scraper and the highest serial number is on the rear scraper.

Components –
Two receivers on one Implement



Check the serial numbers of the receivers. The receivers should be placed on the loom in order of their serial number, from lowest to highest. Ensure the lowest serial number is on the Tractor, the next serial number is on the left side of the implement and the highest serial number is on the right side.

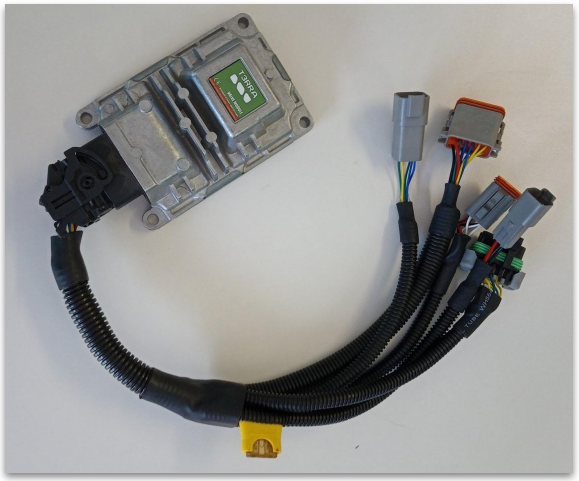
Optional - provides capability for iGrade to use various different types of external hydraulic valves

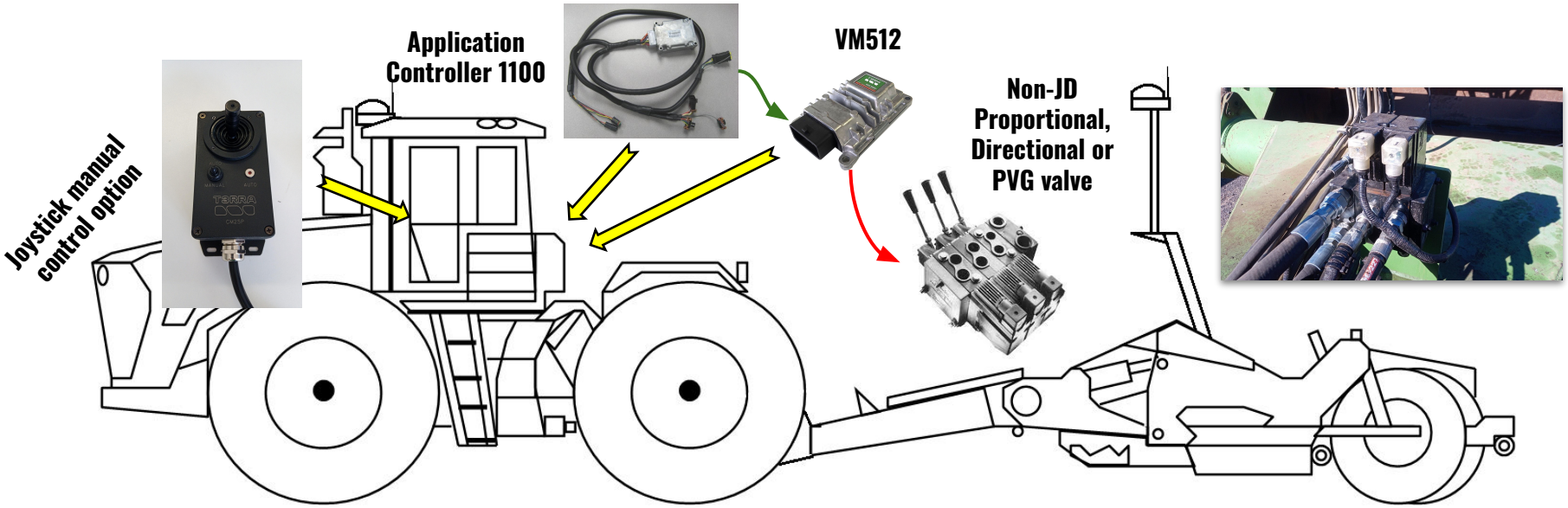
VM512 Conversion Module

Necessary harness components:

- VM512 main breakout harness
- VM512 power harness
- VM512 valve connection harness (machine/valve dependent)
- AMPAC power and auto indicator + proportion configuration
- Optional joystick accessories

Contact T3RRA for availability and more details.





iGrade™ Machine Configuration Guide

		Wheeled Tractors												Tracked Tractors							
		6J Series	7J Series	7R Series	8000** Series	8010** Series	8020 Series	8030* Series	8R Series	9000** Series	9020 Series	9030* Series	All 9R Series	8000** Series	8010** Series	8020 Series	8030* Series	8RT Series	9x00**/9x20 Series	9030* Series	All 9RT Series
Row-crop tractor ISO connector (RE174725)					✓	✓	✓	✓	✓					✓	✓	✓	✓	✓	✓	✓	✓
Articulated tractor ISO connector (RE174726)										✓	✓	✓	✓								
Constant power harness (BPF10403)					✓	✓	✓	✓	✓					✓	✓	✓	✓	✓	✓	✓	✓
Constant power harness (BPF10404)										✓	✓	✓	✓								
Application Controller 1100 (0271PC)					✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
iGrade activation (0311PC)					✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Row-crop vehicle side 9-pin implement harness (RE58827)					✓	✓	✓	✓	✓					✓	✓	✓	✓	✓	✓	✓	✓
Articulated vehicle side 9-pin implement harness (RE67685)										✓	✓	✓	✓								
Single counter balance valve (BPF10547)								Required for SN 40000 and above	✓			Required for SN 013000 and above	✓				Required for SN 90500 and above	✓		Required for SN 911000 and above	✓
Application Controller mounting hardware (BPF10731)													✓								✓
Application Controller mounting hardware (BPF10732)																					
Application Controller mounting hardware (BPF10041)																					
Application Controller mounting hardware (BPF10022)																					
Application Controller mounting hardware (BPF10042)																					
Application Controller mounting hardware (BPF10020)																					
Application Controller mounting hardware (BPF10021)																					
Application Controller mounting hardware (BPF10023)																					
iGrade/Active Implement Guidance CAN extension harness (BPF10018)																					

*XX30 Series Tractors do not require additional mounting hardware to be ordered. Hardware utilized is present on the tractor.

Some XX00 and XX10 may require an EPROM update. **SCO Version 9 or higher.

Note: To determine if your tractor has updated EPROMs installed, check address 87 (HCU/SCU or SCO). Look for version 005 or higher which indicates that the EPROM update is installed.

Note: Early 8000 Wheeled Tractors may have soldered (non-replaceable) EPROM sockets, resulting in a replacement SCU or SCO controller wedges. All 8000T and 9000 Series Tractors have replaceable sockets.

EPROM Information

8000W Series number Range with potentially non-replaceable sockets

Tractor Series Number	Tractor Serial Numbers
8100	6058 and below
8200	4209 and below
8300	7105 and below
8400	7775 and below

Tractors built after the listed serial numbers have updated EPROMs on both controllers

Tractor Series Number	Tractor Serial Numbers
8100	021246-
8200	021031-
8300	021781-
8400	022342-
8100T	902029-
8200T	902048-
8300T	902167-
8400T	902637-
9100	10366-

Tractors with Soldered Sockets, which require a new controller, orders:

Solutions	Kit
SCV's 1, 2 & 3	RE202676

Tractor controllers with removable EPROM sockets that require updated, order:

Solutions	Kit
SCV's 1, 2 & 3	RE203534

iGrade™ Implement Configuration Guide

		Choose one of the front extension harnesses (3-m or 10-m): 3-meter front extension harness (PF90586)	10-meter front extension harness (PF90587)	2-meter center extension harness (PF90588) **As needed**	8-meter center extension harness (PF90589) **As needed**	Implement receiver harness (PF90538)	iGrade / Surface Water Pro receiver mounting kit (PF90676***)	Implement Receiver bracket and deluxe shroud (PF90739)	RTK Radio bundle (PF90740)	CAN terminator	Rear extension harness (PF90591)	If order code 9020 was not ordered with the scraper, choose one of the following mast options**: Yellow implement mast - universal use on 7- and 8-in. frame tubes (PF90674)	Green implement mast - universal use on 7- and 8-in. frame tubes (PF90524)	Green implement mast - universal use on 3-, 4-, 5-, and 6-in. frame tubes (PF90523)
Implement Configurations	Single scraper	✓	✓	✓	✓	✓	✓	✓	✓	✓		Recommended	Optional	Optional
	Dual scrapers - utilizing blade automation for rear scraper only****	✓ x2	✓ x2	✓ x2	✓ x2	✓	✓	✓	✓	✓	✓	Recommended x2	Optional x2	Optional x2
	Dual scrapers - utilizing blade automation for both scrapers	✓ x2	✓ x2	✓	✓	✓ x2	✓	✓ x2	✓ x2	✓	✓	Recommended x2	Optional x2	Optional x2

** If scraper has been ordered with order code 9020, no additional receiver mast is required. If scraper has **not** been ordered with order code 9020 (GPS or laser receiver bracket), you will need to order one receiver mast per scraper.

*** Receiver mounting bracket not needed if ordering one of the following: PF90674, PF90524, or PF90523.

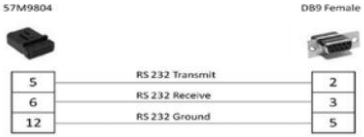
**** Dual pan with single blade is presumed to be utilizing the rear pan for automation: this will require you to wire up the front pan to extend harnessing to the rear.

iGrade™ third-party serial port control harness

John Deere Application Controller allows the ability to connect with third-party software through the use of a serial port connection. This functionality may be useful if you currently use an additional software package to provide capabilities such as cut/fill mapping and would like the John Deere Application Controller to connect and communicate with this software.

The complete harness is not available from Deere and must be built by the dealer using the following parts:

Part Number	Image	Description	Quantity
57M9804		Mating connector to controller harness	1
57M8164		Pins for 57M9804	3
N/A		DB9 female connector assembly	1
N/A		2.5-m (8-ft) of 0.5 mm² (20 AWG) wire	3



iGrade™ Component Compatibility

	Machine Receiver	Single Implement Receiver	Dual Implements Receivers (Compatible 2630 Display Only)
Surface Water Pro™ Plus Automation			
Single Scraper w/Load Limiting	X	X	
Plane Control/Slope Generation			
Single Scraper		X	
Single Scraper w/Load Limiting	X	X	
Dual Scrapers		X	X
Dual Scrapers w/Load Limiting	X	X	X
Grade Control/Linear Ditching			
Single Scraper		X	
Single Scraper w/Load Limiting	X	X	
Distance Trip			
Single Implement	X		

X = Required

iGrade Compatibility Guide	
Machine	**Compatible**
8000*/10*/20/30**/R**	X
8000T*/10T*/20T/30T**/RT**	X
9000*/20/30**/R**	X
9030**/RT**/Scraper Special(W and T)**	X
Guidance Product	**Compatible**
ATU/AT Controller	NO
Shared Signal	NO
GS2 2600/GS3 2630	X
StarFire 3000 or iTC	X
Surface Water Pro Plus	X
All Tracking Modes***	X
RTK****	X

* Machine may require EPROM Update, See EPROM Information on this document

**Requires the use of a Counterbalance valve, see the Ordering Guide on StellarSupport for more information

***Ditch or Levee tracking mode must be utilized to AutoTrac on Ditch and Levee Tracks created

****RTK Must be used on the Implement, SF1/SF2 may be used on the Machine if not utilizing Distance Trip or Max Cut

NOTE: iGrade is NOT compatible with AutoLoad on Scraper Special Machines