iBwave
www.ibwave.com

iBwave
Design

TECHNICAL NOTE

System Connection in iBwave Design
TE Connectivity Prism – Spectrum Product Line

Product: iBwave Design
Version: 5.3 and higher
Published: 2015-01-27

iBWAVE SOLUTIONS INC.

© 2011 – All Rights Reserved

The information contained herein is the property of iBwave Solutions and is strictly confidential. Except as expressly authorized in writing by iBwave Solutions, the holder shall keep all information confidential, shall disclose it only to its employees with a need to know, and shall protect it, in whole or in part, from disclosure and dissemination to third parties with the same degree of care protect its own confidential information, but with no less than reasonable care. Except as expressly authorized in writing by iBwave Solutions, the holder is granted no rights to use the information herein. Information is subject to change without notice. iBwave Solutions reserves the right to make changes in design or components as progress in engineering and manufacturing may warrant.

TABLE OF CONTENTS

OVERVIEW **1**

BASIC CONFIGURATION **2**

HOST UNIT **3**

SINGLE-BAND and MULTI-BAND REMOTE UNITS **5**

REMOTE UNITS AVAILABLE *7*

UPDATING iBWAVE DESIGN FILES WITH ADC INTERREACH PRISM COMPONENTS **8**

PRISM COMPONENTS – iBWAVE DESIGN DATABASE **9**

CONTACTING CUSTOMER CARE **11**

OVERVIEW

This document explains the procedure required to use the new components for the TE Connectivity InterReach Prism™ products. It applies to iBwave Design 5.3 and higher.

The following topics are covered:

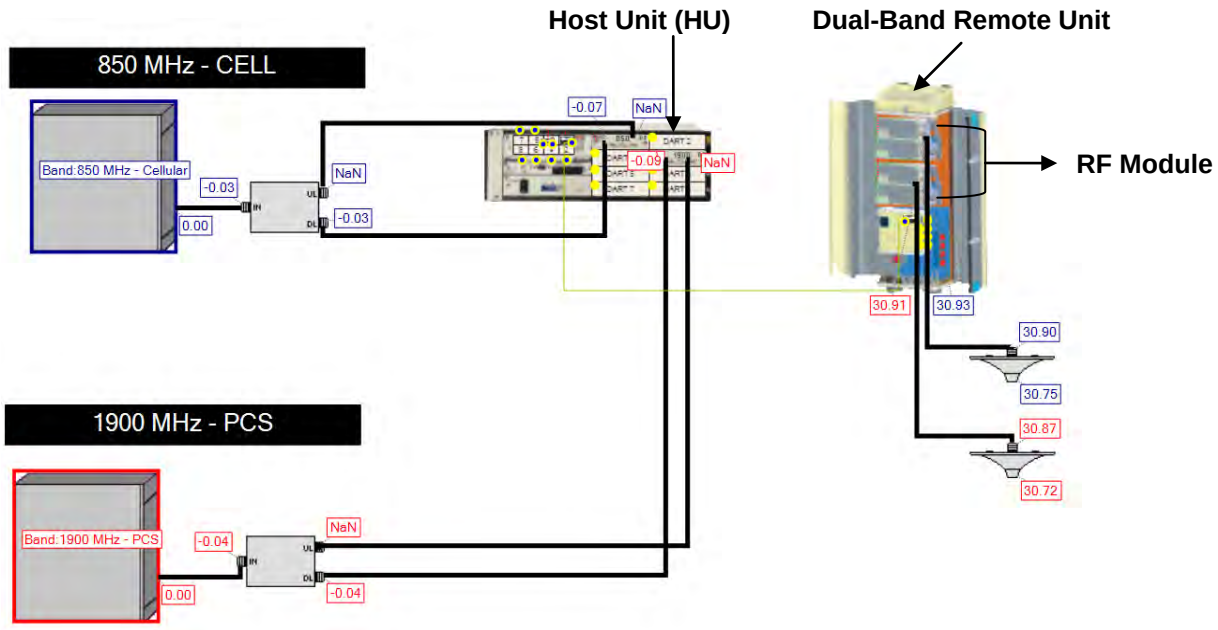
- BASIC CONFIGURATION
- HOST UNIT
- SINGLE-BAND and MULTI-BAND REMOTE UNITS
- UPDATING iBWAVE DESIGN FILES WITH TE CONNECTIVITY INTERREACH PRISM COMPONENTS
- PRISM - SPECTRUM COMPONENTS – iBWAVE DESIGN DATABASE
- CONTACTING CUSTOMER CARE

BASIC CONFIGURATION

A basic InterReach Prism™ configuration includes the following units:

- 1 Host Unit (HU)
- Remote Units Chassis
- RF Module(s)

InterReach Prism configurations can be expanded also as described below.



Configuration

HOST UNIT

The HU supports up to 8 BTSs through DART (Digital/Analog Radio Transceiver) cards. DARTs are swappable, which allows upgrades to additional bands by adding its DART card.

The following RF DARTs are supported by the HU:

- 800 SMR Classic RF DART
- 850 Cellular Classic RF DART
- 900 SMR Classic RF DART
- 1900 PCS Super RF DART
- 2100 AWS Super RF DART
- 700 Lower ABC Super RF DART
- 700 Upper C Super RF DART

Each of these RF DARTs has an input UL, DL ports and an output RF dummy port. The output port is used to connect the RF DART to the HU chassis using a dummy fiber connector (TE Connectivity "Dummy Fiber"). Once all the RF DARTs are connected to the HU, their services are available at the 8 output fiber ports on the HU. Then, by connecting one or more of those output fiber ports to their fiber modules, the RF signals can be transported to the DRU (DART Remote Unit).

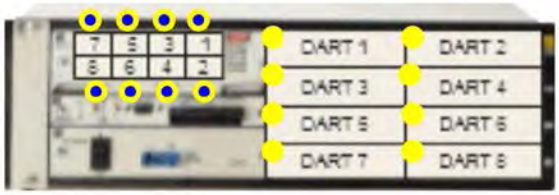


Figure 1 – HU Chassis
(Type = Misc, Model FWP-00000HUII)

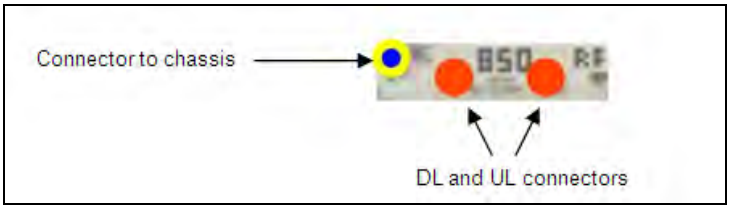


Figure 2 – 850-CELL RF DART
(Type = Media Converter, Model FWU-20000HUDART)

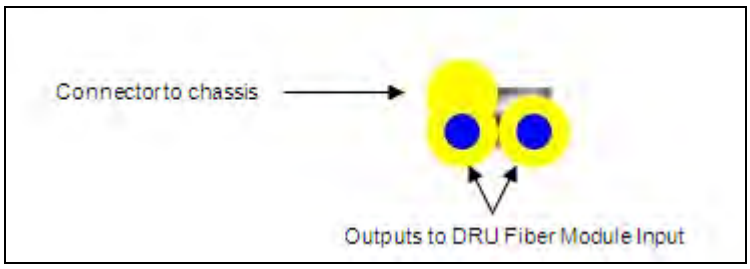


Figure 3 – A fiber module with 1 input and 2 output ports (Example: Type = Misc, Model FWU-SMCW1470XVR)

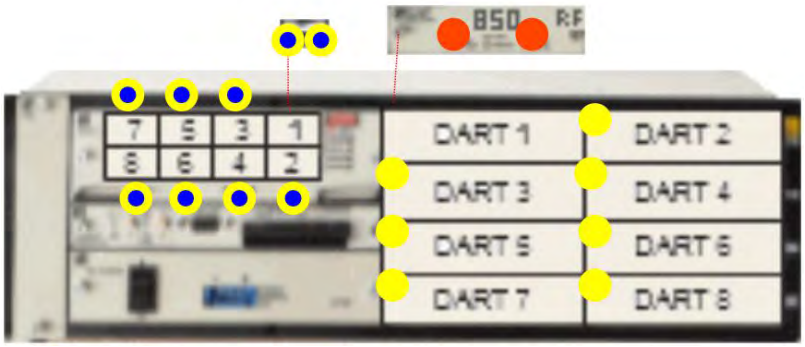


Figure 4 – Connection of the DART and fiber module to the chassis with TE Connectivity "Dummy Fiber" cables

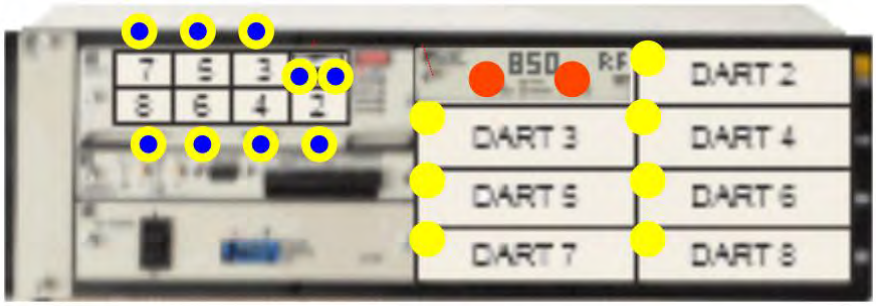


Figure 5 – HU Chassis populated with an 850-CELL RF DART and a fiber module

SINGLE-BAND and MULTI-BAND REMOTE UNITS

The output port of the Host unit needs to be connected to the optical port of the Remote unit. Each Host unit supports up to 8 Remote units. The Host unit is connected to the Remote units through the Fiber Transceiver(s). Each Remote unit can be cascaded up to 8 more Remote units.

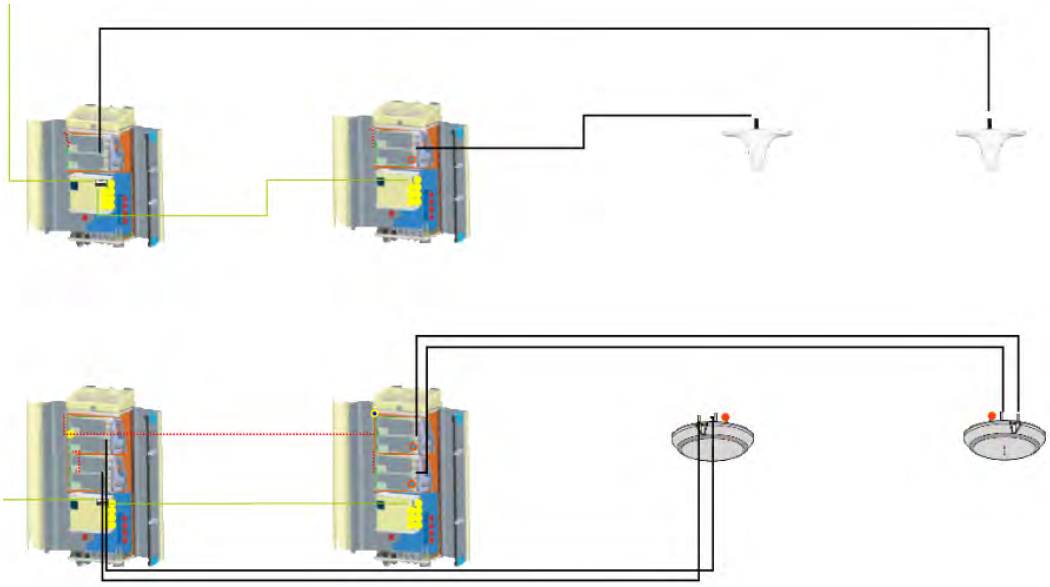


Figure 7 – A Host Unit connected to 1 Single-Band and 1 Dual-Band Remote Units then cascaded to 2 more Remote Units

There are four different sizes of chassis: Single-Band, Dual-Band, Tri-Band, and Quad-Band.

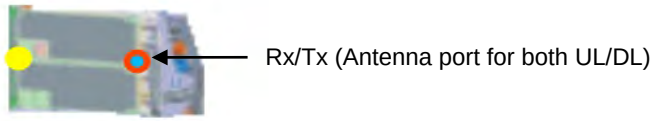
Single-Band Remote | Dual-Band Remote | Tri-Band Remote | Quad-Band Remote

DIVERSITY and NON-DIVERSITY RF MODULES

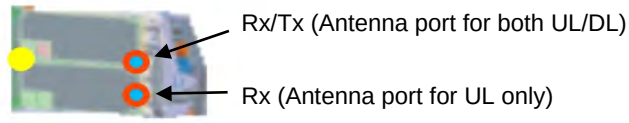
The Prism Remote comprises from 1 to 4 RF Module slots. Each RF module will have up to two Classic DARTs or Single SuperDARTs, or one Dual SuperDART, and there can be up to:

- one RF Module in a Single-Band chassis
- two RF Modules in a Dual-Band chassis
- three RF Modules in a Tri-Band chassis
- four RF Modules in a Quad-Band chassis

There are two types of Remote units, Diversity and Non-Diversity Prism Remotes. The Non-Diversity RF module will have one RF connector for Rx/Tx. The Diversity RF module will have two RF connectors Rx/Tx and Rx only.



Non-Diversity RF module



Diversity RF module

REMOTE UNITS AVAILABLE

The following remote units are available.

TYPE	MODEL #	DESCRIPTION
Media Converter	FWP-5210000MOD	FlexWave Prism - 6.5 W 900 ESMR Module - Non-Diversity
Media Converter	FWP-6210000MOD	FlexWave Prism - 6.5 W E-GSM Module - Non-Diversity
Media Converter	FWP-7410000MOD	FlexWave Prism - DCS1800 Module - Non-Diversity
Media Converter	FWP-7426000MOD	FlexWave Prism - 20W DCS1800 Module - Diversity
Media Converter	FWP-8410000MOD	FlexWave Prism - 20 W PCS1900 - Non-Diversity
Media Converter	FWP-8420000MOD	FlexWave Prism - 20 W PCS1900 Module -Diversity
Media Converter	FWP-8810000MOD	FlexWave Prism - 40 W PCS1900 - Non-Diversity
Media Converter	FWP-8820000MOD	FlexWave Prism - 40 W PCS1900 Module -Diversity
Media Converter	FWP-9410000MOD	FlexWave Prism - 20 W UMTS2100 Module - Non-Diversity
Media Converter	FWP-9426000MOD	FlexWave Prism - 20 W UMTS2100 Module - Diversity
Media Converter	FWP-A410000MOD	FlexWave Prism - 20 W AWS2100 Module - Non-Diversity
Media Converter	FWP-A420000MOD	FlexWave Prism - 20 W AWS2100 Module - Diversity
Media Converter	FWP-A810000MOD	FlexWave Prism - 20 W AWS2100 Module - Non-Diversity
Media Converter	FWP-A820000MOD	FlexWave Prism - 40 W AWS2100 Module - Diversity
Media Converter	FWP-B410000MOD	FlexWave Prism - 40 W CELL850 - Non-Diversity
Media Converter	FWP-B420000MOD	FlexWave Prism - 20 W CELL850 Module - Diversity
Media Converter	FWP-B810000MOD	FlexWave Prism - 40 W CELL850 - Non-Diversity
Media Converter	FWP-B820000MOD	FlexWave Prism - 40 W CELL850 Module - Diversity
Media Converter	FWP-K220000MOD	FlexWave Prism - 6.5 W P-GSM Module - Diversity
Media Converter	FWP-U416000MOD	FlexWave Prism - 20 W 700 LTE-UPPER C / SISO Module - Non-Diversity

UPDATING iBWAVE DESIGN FILES WITH TE CONNECTIVITY INTERREACH PRISM COMPONENTS

According to the product specs received from TE Connectivity, we have modeled this new version in the best possible way with the components types that are currently available in iBwave Design. This version benefits from the new component type called "Media Converter" that allows to associate the component with one or several systems, which are used for the DART cards.

Unfortunately, it is not possible to automatically replace the previous version of TE Connectivity Prism components by the new ones as the components have been modeled with other categories.

Once the new components have been imported to the database, you can update iBwave Design files that include TE Connectivity Prism components in the following manner:

1. Delete the TE Connectivity Prism components in your design.
2. Add the new TE Connectivity Prism components

   A quick way to find the new components is to use the Components Browser. Select **TE Connectivity** as the manufacturer, and type Prism as the filter criteria (see screen capture below), then drag the components to the design.

   NOTE
   Components tagged with the “Obsolete” description should no longer be used.

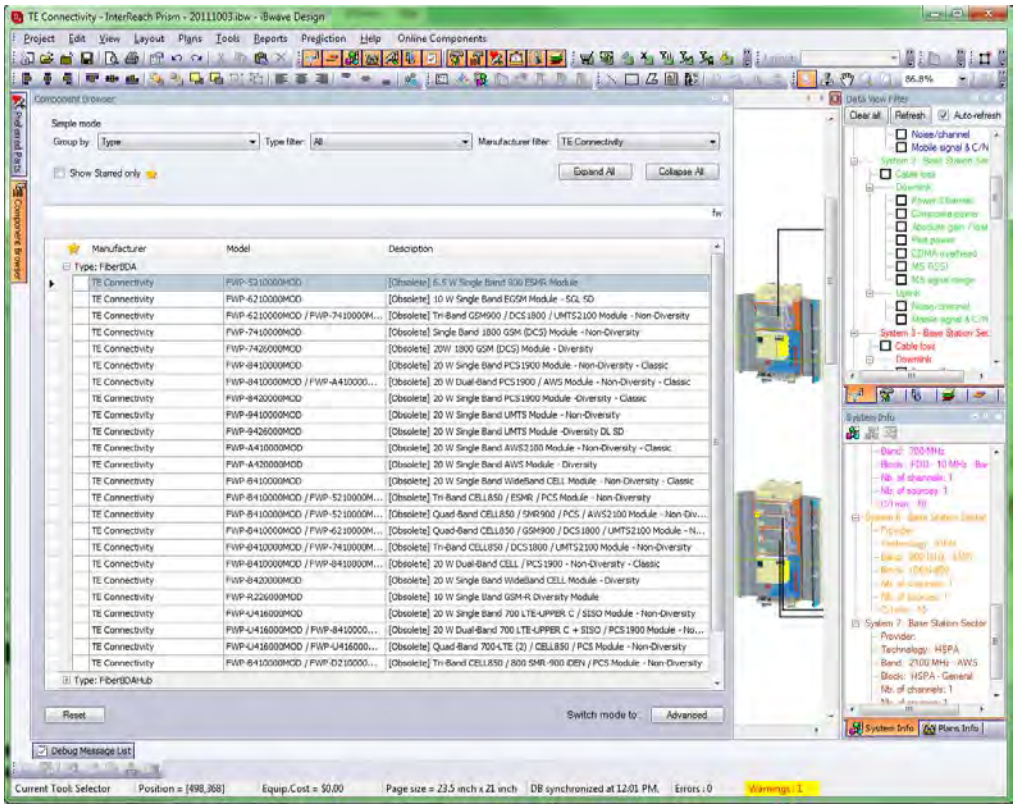


Figure 8 – Components Browser in iBwave Design

PRISM - SPECTRUM COMPONENTS – iBWAVE DESIGN DATABASE

The following components are available in the iBwave Design database.

TYPE	MANUFACTURER	MODEL	DESCRIPTION
Connector	Generic	LC	LC Type Connector
Connector	LGC Wireless	FME Male	FME Male Connector for 75 ohm CATV Cable
Connector	Generic	QMA-M	QMA Male Connector
Connector	Amphenol	DIN 7/16 TWB4001	7/16 Male Connector-Straight for TWB4001 3/8" Cable
Connector	Generic	SC-APC	Fiber Optic Connector - SC-APC
Cable	TE Connectivity	300469-0	RG-6 Coax Cable
Cable	TE Connectivity	300479-0	CABLE, QMA RA TO QMA RA 2 FT
Cable	TE Connectivity	Coaxial	50 ohms - coaxial cable (used to connect DAS Integration Panel to Host Unit RF DARTS)
Cable	TE Connectivity	Dummy Fiber	Dummy Fiber - used for Spectrum (will not be shown in the report)
Cable	TE Connectivity	RG-11	75 Ohms Coax Cable - 14 AWG Solid Copper
Media Converter	TE Connectivity	FWU-20000HUDART	Spectrum-Prism, 850 CELL, Classic RF DART
Media Converter	TE Connectivity	FWU-40000HUDART	Spectrum-Prism, 800 SMR, Classic RF DART
Media Converter	TE Connectivity	FWU-50000HUDART	Spectrum-Prism, 900 SMR, Classic RF DART
Media Converter	TE Connectivity	FWU-86000HUDART	Spectrum-Prism 1900 PCS, Single Super RF DART
Media Converter	TE Connectivity	FWU-A6000HUDART	Spectrum-Prism 2100 AWS, Single Super RF DART
Media Converter	TE Connectivity	FWU-L6000HUDART	Spectrum-Prism 700 LTE Lower ABC, Single Super RF DART
Media Converter	TE Connectivity	FWU-U6000HUDART	Spectrum-Prism 700 LTE Upper C, Single Super RF DART
Media Converter	TE Connectivity	FWP-5210000MOD	FlexWave Prism - 6.5 W 900 ESMR Module - Non-Diversity
Media Converter	TE Connectivity	FWP-6210000MOD	FlexWave Prism - 6.5 W E-GSM Module - Non-Diversity
Media Converter	TE Connectivity	FWP-7410000MOD	FlexWave Prism - DCS1800 Module - Non-Diversity
Media Converter	TE Connectivity	FWP-7426000MOD	FlexWave Prism - 20W DCS1800 Module - Diversity
Media Converter	TE Connectivity	FWP-8410000MOD	FlexWave Prism - 20 W PCS1900 - Non-Diversity
Media Converter	TE Connectivity	FWP-8420000MOD	FlexWave Prism - 20 W PCS1900 Module -Diversity
Media Converter	TE Connectivity	FWP-8810000MOD	FlexWave Prism - 40 W PCS1900 - Non-Diversity
Media Converter	TE Connectivity	FWP-8820000MOD	FlexWave Prism - 40 W PCS1900 Module -Diversity
Media Converter	TE Connectivity	FWP-9410000MOD	FlexWave Prism - 20 W UMTS2100 Module - Non-Diversity
Media Converter	TE Connectivity	FWP-9426000MOD	FlexWave Prism - 20 W UMTS2100 Module - Diversity
Media Converter	TE Connectivity	FWP-A410000MOD	FlexWave Prism - 20 W AWS2100 Module - Non-Diversity

TYPE	MANUFACTURER	MODEL	DESCRIPTION
Media Converter	TE Connectivity	FWP-A420000MOD	FlexWave Prism - 20 W AWS2100 Module - Diversity
Media Converter	TE Connectivity	FWP-A810000MOD	FlexWave Prism - 20 W AWS2100 Module - Non-Diversity
Media Converter	TE Connectivity	FWP-A820000MOD	FlexWave Prism - 40 W AWS2100 Module - Diversity
Media Converter	TE Connectivity	FWP-B410000MOD	FlexWave Prism - 40 W CELL850 - Non-Diversity
Media Converter	TE Connectivity	FWP-B420000MOD	FlexWave Prism - 20 W CELL850 Module - Diversity
Media Converter	TE Connectivity	FWP-B810000MOD	FlexWave Prism - 40 W CELL850 - Non-Diversity
Media Converter	TE Connectivity	FWP-B820000MOD	FlexWave Prism - 40 W CELL850 Module - Diversity
Media Converter	TE Connectivity	FWP-K220000MOD	FlexWave Prism - 6.5 W P-GSM Module - Diversity
Media Converter	TE Connectivity	FWP-U416000MOD	FlexWave Prism - 20 W 700 LTE-UPPER C / SISO Module - Non-Diversity

CONTACTING CUSTOMER CARE

If you encounter any problems using iBwave Design, or if you have any questions, please send your inquiries to Customer Care:

- **Email:** support@ibwave.com
- **Phone:** 1 514 397-0606, extension 610

You can also:

- Log into the iBwave Customer Portal, and create a request in the **My Cases** section: http://www.ibwave.com/language/en-US/MyiBwave.aspx
- Check if your questions have been answered in the **Knowledge Base** section of the iBwave Customer Portal

iBwave Solutions Inc.
T +1 514 397 0606
F +1 514 409 2499
7075, Robert-Joncas, Suite 95
St-Laurent, Qc H4M 2Z2 Canada
info@ibwave.com
www.ibwave.com